

# Kansas Board of Regents Voluntary Retirement Plan Detailed Investment Analysis



Prepared as of December 31, 2019



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**Searches: TIAA Voluntary Plan**

# TIAA Traditional - Retirement Choice Plus Contract

As of 12/31/2019



# TIAA Traditional Retirement Choice Plus Annuity (RCP)

Guaranteed

As of 12/31/2019

## Account Description

For over 100 years our flagship product, TIAA Traditional Annuity, has helped millions of participants build and prepare a solid retirement foundation. Our fixed annuity provides **Guaranteed Growth** which means the value of your retirement savings is guaranteed to increase every day even in the most volatile markets. It also provides **Dependable Lifetime Income** by allowing you to turn your savings into regular monthly income to meet your everyday living expenses in retirement. It's like getting a "paycheck" when you stop working. TIAA stands apart by offering **Exclusive Benefits**.

Our 'sharing the profits' approach seeks to reward you with additional growth and income.<sup>1</sup>

## Among the Highest-Rated Insurance Companies in the U.S.

**A++**  
A.M. Best  
Company  
(as of 6/19)

**AAA**  
Fitch Ratings  
(as of 5/19)

**Aa1**  
Moody's Investors  
Service  
(as of 8/19)

**AA+**  
Standard & Poor's  
(as of 12/19)

For its stability, claims-paying ability and overall financial strength, TIAA is one of only three insurance groups in the United States to currently hold the highest possible rating from three of the four leading insurance company rating agencies: **A.M. Best**, **Fitch** and **Standard & Poor's** and the second highest possible rating from **Moody's Investors Service**. There is no guarantee that current ratings will be maintained. The financial strength ratings represent a company's ability to meet policyholders' obligations and do not apply to variable annuities or any other product or service not fully backed by TIAA's claims-paying ability. The ratings also do not apply to the safety or the performance of the variable accounts, which will fluctuate in value.

## Learn More

For more information please contact:  
**800-842-2252**  
Weekdays, 8 a.m. to 10 p.m. (ET),  
Saturdays, 9 a.m. to 6 p.m. (ET),  
or visit [TIAA.org](http://TIAA.org)

## Performance

	Total Return		Average Annual Total Return				Since Inception
	3 Months	YTD	1 Year	3 Years	5 Years	10 Years	
Retirement Choice Plus Annuity (RCP)	0.80%	3.26%	3.26%	3.31%	3.41%	3.46%	3.68%
Inception Date: 06/01/06							

Accumulations are credited with interest based on when contributions and transfers are received, and your performance will reflect your pattern of contributions. The returns shown in the table reasonably represent what an individual making level monthly premiums would have historically earned over the time periods. Returns for different time periods are calculated in two steps: monthly performance returns are calculated from an accumulation created by a series of level monthly premiums over the prior 10 years (or the inception date of the product if later), and those monthly returns are linked together to determine historical performance for each of the return periods shown.

Retirement Choice Plus (RCP) TIAA Contract form Series - IGRSP-01-84-ACC and IGRSP-02-ACC / TIAA Certificate Series - IGRSP-CERT2-84-ACC and IGRSP-CERT3-ACC.

## Account Overview

TIAA Traditional is designed to be a core component of a diversified retirement savings portfolio. It has helped prepare millions of people like you with a solid foundation for retirement. Contributing to it gives you the peace of mind and certainty that you will have a "salary" in retirement that can help cover your basic, everyday living expenses without worrying about outliving your income. In up and down markets, TIAA Traditional preserves the value of your savings. In fact, your balance will grow every day – guaranteed. Our unique approach, consistent with TIAA's overall mission, may reward you with additional amounts of lifetime income the longer you have contributed to TIAA Traditional.

When you are ready, you can choose when and how much to convert to lifetime income so you can be certain you (and a spouse or partner you may choose to include) will have income you cannot outlive – a choice that only an annuity can provide. If you can cover your basic living expenses with TIAA Traditional, you will be able to use the other money you have saved for discretionary purposes.

For Retirement Choice Plus (RCP) contracts, a guaranteed rate is set each March 1st for amounts remitted through the last day of February. The floating guaranteed rate will be between 1%–3%, inclusive (based on the 5-year Constant Maturity Treasury Rate less 125 bps). The guaranteed rate is established each year for all accumulations and contributions. The current guaranteed rate is 1.30% through February 29, 2020. The account also offers the opportunity for additional amounts in excess of the guaranteed rate. When declared, additional amounts remain in effect for the twelve-month period that begins each March 1.

## Participant Transfers, Withdrawals and Income Options

For RCP contracts, and subject to the terms of your employer's plan, lump-sum withdrawals and transfers are available from the TIAA Traditional account without any surrender charges.

Certain RCP contracts impose a "90-day equity wash rule". Under those contracts, if your plan offers investment options known as "competing funds" (for example, a money market account, short-term bond funds, self-directed brokerage accounts, or the TIAA Real Estate Account), and you want to transfer money from TIAA Traditional to one of those options, the amount you transfer must first be directed to a non-competing option (for example, a stock fund or intermediate-term bond fund), where it must remain for 90 days before being transferred to the competing fund, including transferring back to TIAA Traditional. (TIAA Contract form IGRSP-02-ACC / TIAA Certificate form IGRSP-CERT3-ACC).

Irrespective of when your employer's RCP contract was issued, if you transfer out of TIAA Traditional and transfer back within 120 days, the amount up to the original transfer will be credited with the same interest rates that would have applied if the transfer out had not taken place. Such interest will be credited from the date the transfer in was made. Interest will not be paid for the period from the date of the transfer out to the date of transfer in.

After termination of employment additional income options may be available including income for life and IRS required minimum distribution payments. We provide a wide selection of income choices because we know that individual goals and needs differ. To find out more, call us at **800-842-2252**.



# TIAA Retirement Annuity Accounts TIAA Traditional

Guaranteed

As of 12/31/2019

## Retirement Choice Plus Annuity (RCP)

### Accumulating Stage Total Rate (Guaranteed Plus Additional Amounts)



Rates for premiums applied during the dates above.<sup>2</sup>

The dates above specify “vintages”—periods in which TIAA received a premium or transfer. The rates shown are currently in effect for each vintage and will remain so through February 29, 2020. For current information on rates credited to TIAA Traditional annuities, visit our website at [TIAA.org](http://TIAA.org). Additional amounts are not guaranteed for the future years.

## Contractholder Withdrawals

The Contractholder (typically your employer as the sponsor of your plan) has the right to request a transfer of the contract's entire TIAA Traditional accumulation. This might occur, for example, if your employer has elected to use a new recordkeeper and has also elected to terminate the contract with TIAA. If elected, your TIAA Traditional accumulations would be reinvested at the direction of your plan sponsor. Contractholder-initiated payments from TIAA Traditional accumulations will be paid in a series of 60 monthly installments, without any surrender charge. Please refer to your contract certificate for additional details.

## Important Information

<sup>1</sup> Interest credited to Traditional Annuity accumulations includes a guaranteed rate, plus additional amounts as may be established on a year-by-year basis by the TIAA Board of Trustees. The additional amounts, when declared, remain in effect through the "declaration year", which begins each March 1 for accumulating annuities and January 1 for payout annuities. Additional amounts are not guaranteed for periods other than the period for which they are declared. Withdrawals and transfers out will reduce account balances.

<sup>2</sup> Interest on accumulations credited to TIAA Traditional in the accumulating stage includes a guaranteed amount (1.30% through February 29, 2020 for current premiums in RCP), plus additional amounts that may be declared on a year-by-year basis and are not guaranteed for future years. For information about current rates on additional amounts, visit our website at [TIAA.org](http://TIAA.org). Guarantees under TIAA Traditional are backed by TIAA's claims-paying ability.

This material is for informational or educational purposes only and does not constitute investment advice under ERISA. This material does not take into account any specific objectives or circumstances of any particular investor, or suggest any specific course of action. Investment decisions should be made based on the investor's own objectives and circumstances.

TIAA Traditional is a guaranteed insurance contract and not an investment for Federal Securities Law purposes. Annuity contracts contain terms for keeping them in force.

**Investment, insurance and annuity products are not FDIC insured, are not bank guaranteed, are not deposits, are not insured by any federal government agency, are not a condition to any banking service or activity, and may lose value.**

Teachers Insurance and Annuity Association of America (TIAA), New York, NY, issues annuity contracts and certificates.

# CREF Money Market

As of 12/31/2019





# CREF Money Market R3

QCMMIX

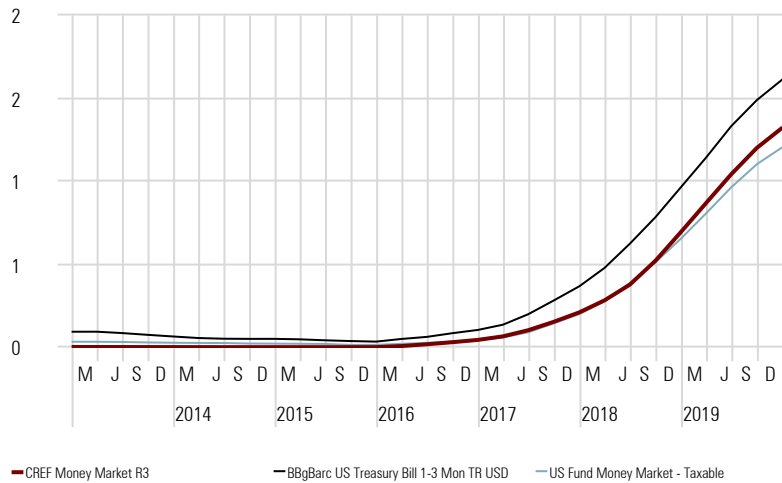
**Index:** BBgBarc US Treasury Bill 1-3 Mon TR USD  
**Category:** US Fund Money Market - Taxable  
 Return Date: 12/31/2019

## Trailing Returns

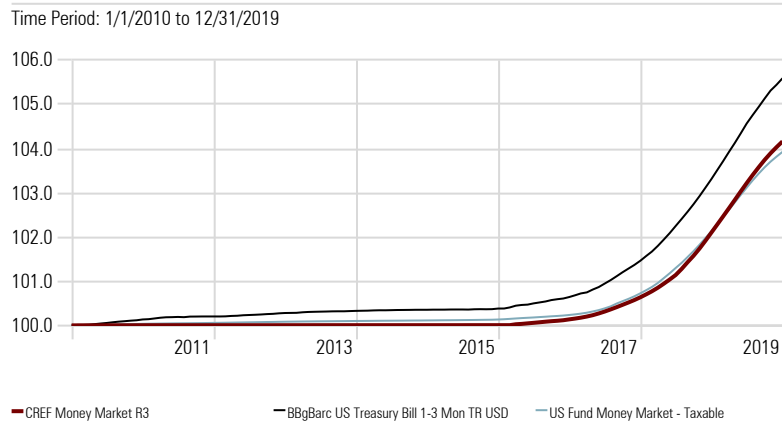
Data Point: Return Calculation Benchmark: BBgBarc US Treasury Bill 1-3 Mon TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
CREF Money Market R3	2.0	2.0	1.3	0.8	0.4	1.3
BBgBarc US Treasury Bill 1-3 Mon TR USD	2.2	2.2	1.6	1.0	0.5	1.3
US Fund Money Market - Taxable	1.8	1.8	1.2	0.7	0.4	1.2

## Returns (Rolling 36 Months)



## Investment Growth

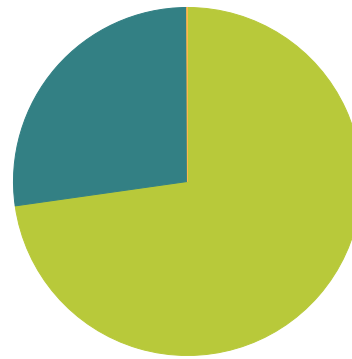


## Portfolio Characteristics

	Fund	Avg
Net Expense Ratio	0.23	0.46
Gross Expense Ratio	0.23	0.54

## Asset Allocation

Portfolio Date: 1/31/2020



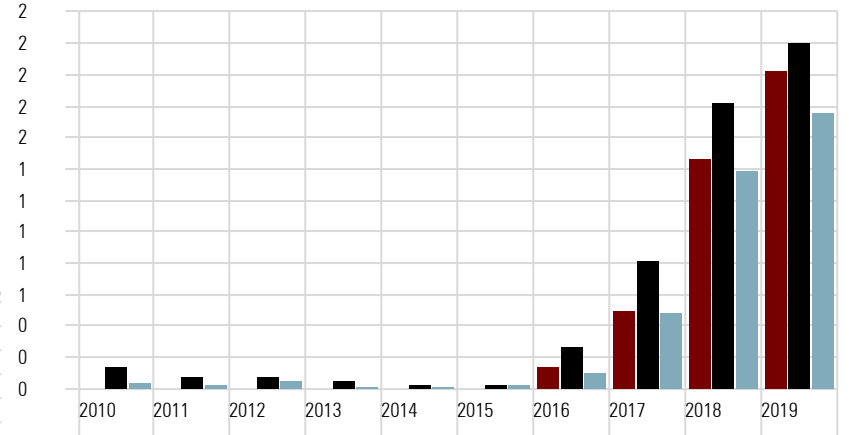
	%
Cash	72.8
US Equity	-
Non-US Equity	0.0
US Bond	27.2
Non-US Bond	0.0
Other	0.1

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: BBgBarc US Treasury Bill 1-3 Mon TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
CREF Money Market R3	100.0	0.0	0.2	0.0	0.6	0.0	74.8	-4.0
BBgBarc US Treasury Bill 1-3 Mon TR USD	93.3	6.7	0.2	0.0	0.6	0.0	100.0	100.0
US Fund Money Market - Taxable	99.2	0.8	0.2	0.0	0.5	0.0	70.1	-135.8

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	0.2	0.0	0.2	0.0
Down Deviation	0.1	0.0	0.1	0.0
Beta	1.0	0.4	1.0	0.2
Alpha	-0.3	0.2	-0.2	0.1
Sharpe	-1.9	1.0	-1.2	0.5
Sortino	-2.9	0.4	-2.6	0.3
Info Ratio	-5.7	6.4	-3.9	0.9
Down Capture			-10.9	118.4
Up Capture	82.1	7.3	80.0	7.1

## Top 10 Holdings

	Fund %
United States Treasury Notes 1.58%	1.0
Federal Home Loan Banks	1.0
United States Treasury Bills 0.01%	1.0
Federal Home Loan Mortgage Corporation	0.9
Federal Home Loan Banks	0.9
Federal Agricultural Mortgage Corporation 1.65%	0.8
Federal Home Loan Banks 1.6%	0.7
Federal Home Loan Mortgage Corporation	0.7
Federal Home Loan Banks	0.6
Federal Farm Credit Banks 1.65%	0.5

# CREF Bond Market

As of 12/31/2019



# CREF Bond Market R3

QCBMIX

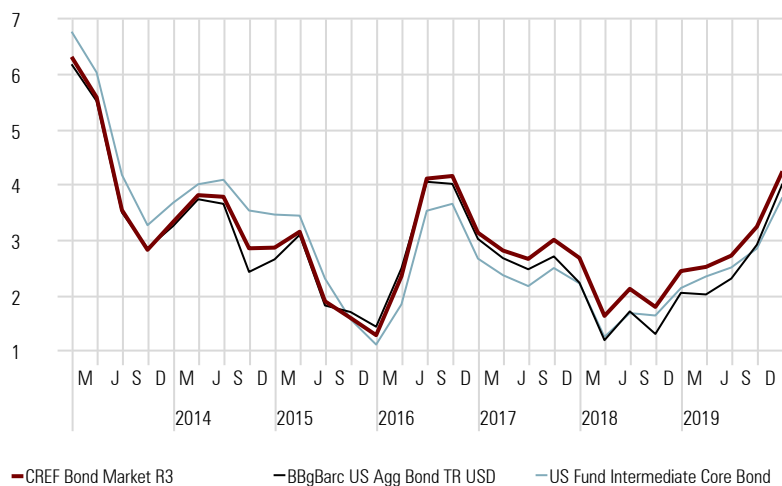
**Index:** BBgBarc US Agg Bond TR USD  
**Category:** US Fund Intermediate Core Bond  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: BBgBarc US Agg Bond TR USD

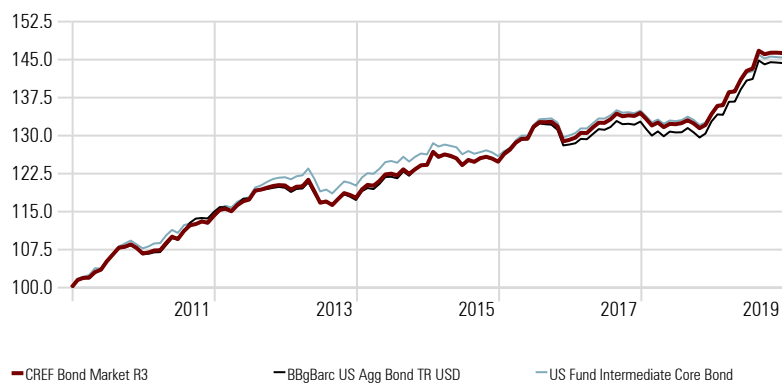
	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
CREF Bond Market R3	9.0	9.0	4.3	3.3	3.9	4.0
BBgBarc US Agg Bond TR USD	8.7	8.7	4.0	3.0	3.7	4.2
US Fund Intermediate Core Bond	8.3	8.3	3.8	2.9	3.8	3.7

## Returns (Rolling 36 Months)



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019

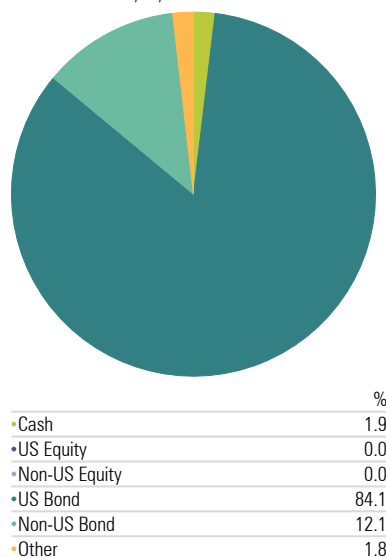


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.27	0.67	
Gross Expense Ratio	0.27	1.14	

## Asset Allocation

Portfolio Date: 12/31/2019

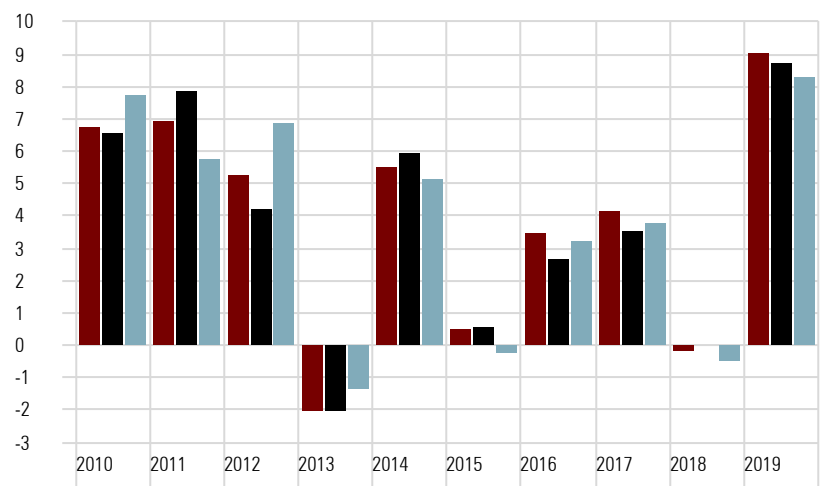


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: BBgBarc US Agg Bond TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
CREF Bond Market R3	69.2	30.8	2.5	-2.2	3.3	-2.7	100.1	94.1
BBgBarc US Agg Bond TR USD	65.0	35.0	2.6	-2.4	3.8	-3.0	100.0	100.0
US Fund Intermediate Core Bond	66.7	33.3	2.3	-2.2	3.3	-2.6	96.4	88.0

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	2.7	0.2	2.9	0.2
Down Deviation	0.3	-0.2	0.3	-0.3
Beta	0.9	0.1	0.9	0.1
Alpha	0.4	0.3	0.4	0.3
Sharpe	0.9	0.1	0.8	0.1
Sortino	1.9	0.3	1.4	0.3
Info Ratio	0.5	1.0	0.7	1.0
Down Capture	80.7	-0.8	89.1	2.9
Up Capture	97.2	7.4	100.1	9.9

## Top 10 Holdings

	Fund %
Federal National Mortgage Association 4%	1.2
Federal National Mortgage Association 3%	1.0
Federal National Mortgage Association 3%	0.8
Federal National Mortgage Association 3.5%	0.8
Federal Home Loan Mortgage Corporation 3%	0.8
United States Treasury Bonds 3.38%	0.8
United States Treasury Bonds 2.5%	0.7
United States Treasury Notes 1.75%	0.7
United States Treasury Bonds 3%	0.7
Federal National Mortgage Association 3.5%	0.7

# Amana Participation

As of 12/31/2019



# Amana Participation Institutional

AMIPX

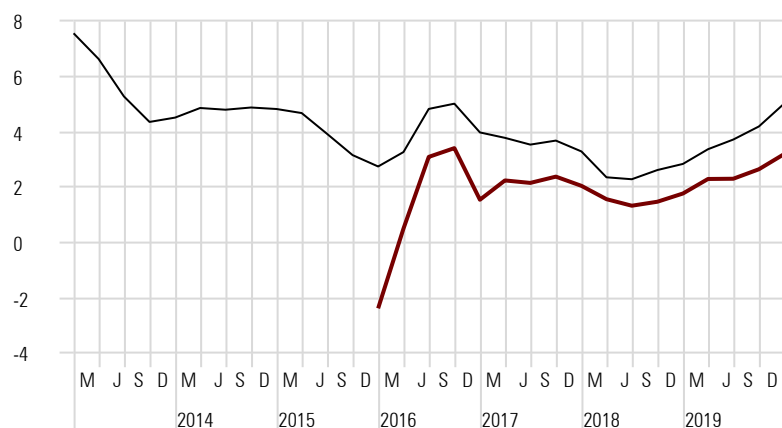
Index: DJ Sukuk TR USD  
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: FTSE Sukuk TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Amana Participation Institutional	6.9	6.9	3.2	2.7	2.7	2.7
DJ Sukuk TR USD	10.8	10.8	5.0	4.1	5.0	4.5

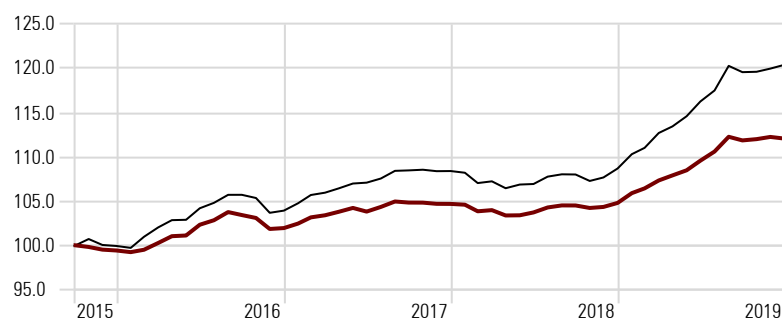
## Returns (Rolling 36 Months)



— Amana Participation Institutional — FTSE Sukuk TR USD

## Investment Growth

Time Period: 9/29/2015 to 12/31/2019



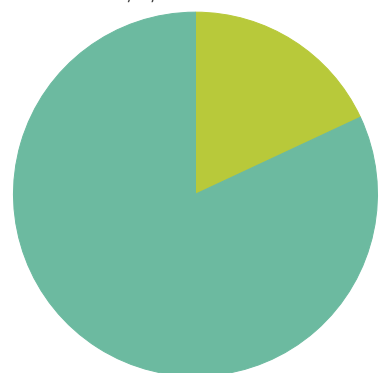
— Amana Participation Institutional — FTSE Sukuk TR USD

## Portfolio Characteristics

	Fund	Idx
Net Expense Ratio	0.64	
Gross Expense Ratio	0.64	

## Asset Allocation

Portfolio Date: 2/29/2020



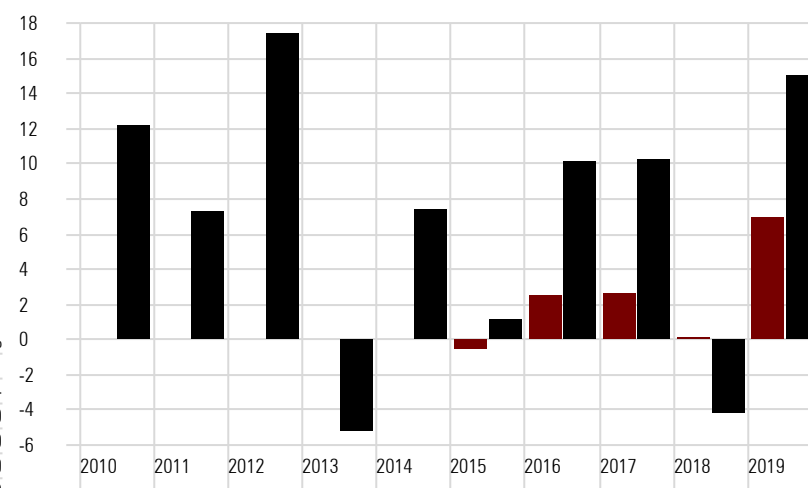
	%
• Cash	18.1
• US Equity	-
• Non-US Equity	0.0
• US Bond	0.0
• Non-US Bond	81.9
• Other	0.0

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: FTSE Sukuk TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Amana Participation Institutional	62.7	37.3	1.5	-1.2	2.4	-1.4	62.5	67.1
DJ Sukuk TR USD	76.7	23.3	2.4	-2.3	3.7	-2.4	100.0	100.0

## Calendar Year Returns



## Risk Statistics

	3 Year	5 Year
Std Deviation	1.7	1.8
Down Deviation	1.0	1.1
Beta	0.7	0.7
Alpha	-0.6	-0.7
Sharpe	0.9	0.8
Sortino	1.7	1.4
Info Ratio	-1.9	-1.6
Down Capture	62.9	67.1
Up Capture	63.9	62.5

## Top 10 Holdings

	Fund %
Soq Sukuk A Q.S.C 3.24%	4.5
KSA Sukuk Limited 3.63%	4.5
Icd Sukuk Co 5%	4.5
Almarai Co 4.31%	4.4
Difc Sukuk 4.32%	4.4
Qib Sukuk Ltd. 2.75%	4.2
Emg Sukuk 4.56%	4.0
Dp World Crescent Ltd Tr Ctf 3.91%	3.9
El Sukuk Company Limited 3.54	3.8
Dib Sukuk Co 2.92%	3.8

# Core Bond Search

As of 2/29/2020



# US Fund Intermediate Core-Plus Bond

## TIAA-CREF Bond Instl

### Investment Strategy

The investment seeks total return, primarily through current income. The fund invests at least 80% of its assets in bonds. For these purposes, bonds include fixed-income securities of all types. It primarily invests in a broad range of investment-grade bonds and fixed-income securities, including, but not limited to, U.S. government securities, corporate bonds, mortgage-backed and other asset-backed securities, senior loans and loan participations and assignments and notes. The fund may also invest in other fixed-income securities, including those of non-investment-grade quality.

### Manager Biography

Joseph Higgins since 8/24/2011

John Michael Cerra since 12/31/2003

### TIAA-CREF Bond Instl - Operations

Inception Date	7/1/1999
Fund Size (\$mm)	7,396
Annual Report Net Expense Ratio	0.30
Prospectus Net Expense Ratio	0.30
Prospectus Gross Expense Ratio	0.30
Ticker	TIBDX
Manager Tenure (Longest)	16.25
Manager Tenure (Average)	12.42
Morningstar Institutional Category	A-Rated

### Other Notes:

None

## TIAA-CREF Bond Plus Inst

### Investment Strategy

The investment seeks total return, primarily through high current income. The fund invests at least 80% of its assets in bonds. For these purposes, bonds include fixed-income securities of all types. Its portfolio is divided into two segments. The first segment, which makes up at least 70% of the fund's assets, is invested primarily in a broad range of investment-grade bonds and fixed-income securities. The second segment, which will not exceed 30% of the fund's assets, is invested in fixed-income securities and bonds with special features in an effort to improve the fund's total return.

### Manager Biography

William Martin since 8/24/2011

Kevin R. Lorenz since 3/31/2006

John Michael Cerra since 3/31/2006

Anupam Damani since 8/1/2019

### TIAA-CREF Bond Plus Inst - Operations

Inception Date	3/31/2006
Fund Size (\$mm)	5,038
Annual Report Net Expense Ratio	0.30
Prospectus Net Expense Ratio	0.30
Prospectus Gross Expense Ratio	0.30
Ticker	TIBFX
Manager Tenure (Longest)	14.00
Manager Tenure (Average)	9.29
Morningstar Institutional Category	BBB-Rated

### Other Notes:

None

# Portfolio Analysis

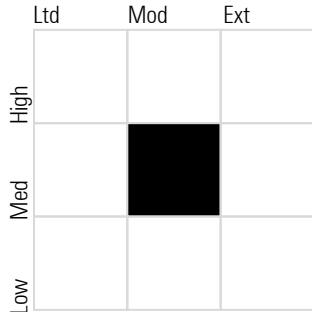
## TIAA-CREF Bond Instl

## TIAA-CREF Bond Plus Inst

### Style Allocation

Portfolio Date: 12/31/2019

#### Morningstar Fixed Income Style Box™



#### Credit Quality

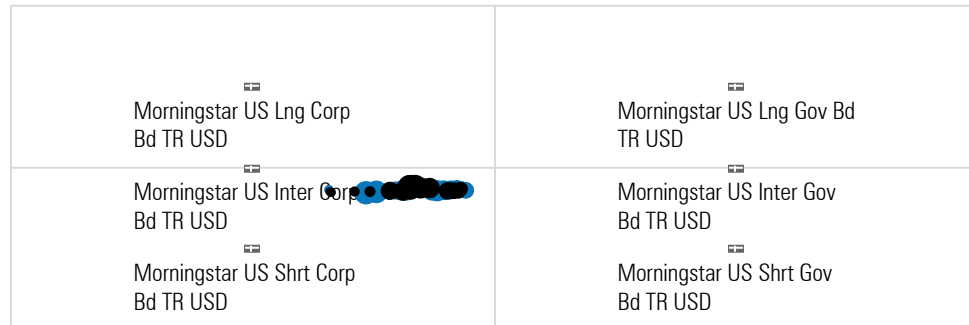
Credit Quality	%
Credit Qual AAA %	-
Credit Qual AA %	-
Credit Qual A %	-
Credit Qual BBB %	-
Credit Qual BB %	-
Credit Qual B %	-
Credit Qual Below B %	-
Credit Qual Not Rated %	-

### Portfolio Data

Average Credit Quality	BBB
Average Eff Duration	5.6
Modified Duration	
Average Eff Maturity	7.8
Average Coupon	3.6
Average Price	104.5
SEC Yield	2.4

### Returns-Based Style Map

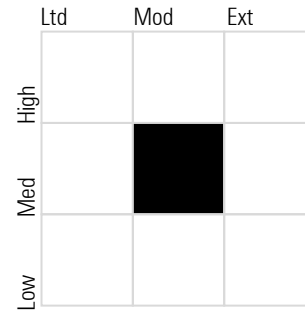
Time Period: 3/1/2015 to 10/31/2019



### Style Allocation

Portfolio Date: 12/31/2019

#### Morningstar Fixed Income Style Box™



#### Credit Quality

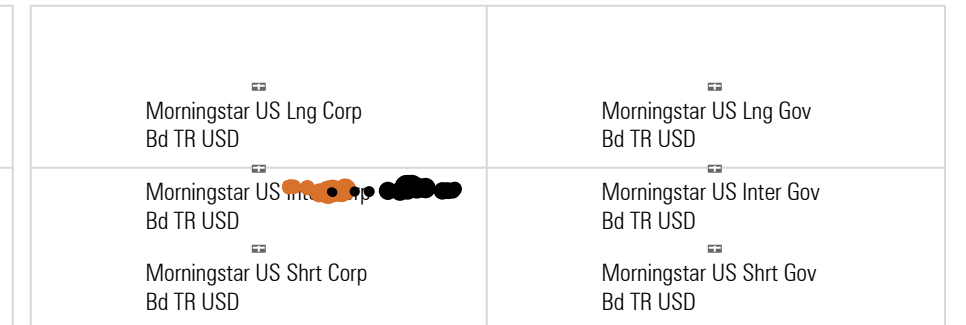
Credit Quality	%
Credit Qual AAA %	-
Credit Qual AA %	-
Credit Qual A %	-
Credit Qual BBB %	-
Credit Qual BB %	-
Credit Qual B %	-
Credit Qual Below B %	-
Credit Qual Not Rated %	-

### Portfolio Data

Average Credit Quality	BBB
Average Eff Duration	5.4
Modified Duration	
Average Eff Maturity	7.8
Average Coupon	3.7
Average Price	104.0
SEC Yield	2.5

### Returns-Based Style Map

Time Period: 3/1/2015 to 10/31/2019

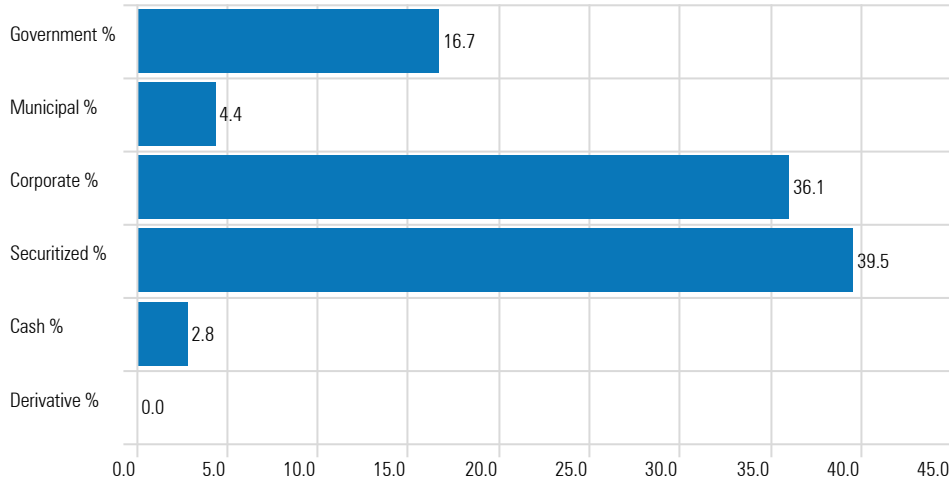




# Sector Exposure and Top 15 Holdings

## TIAA-CREF Bond Instl

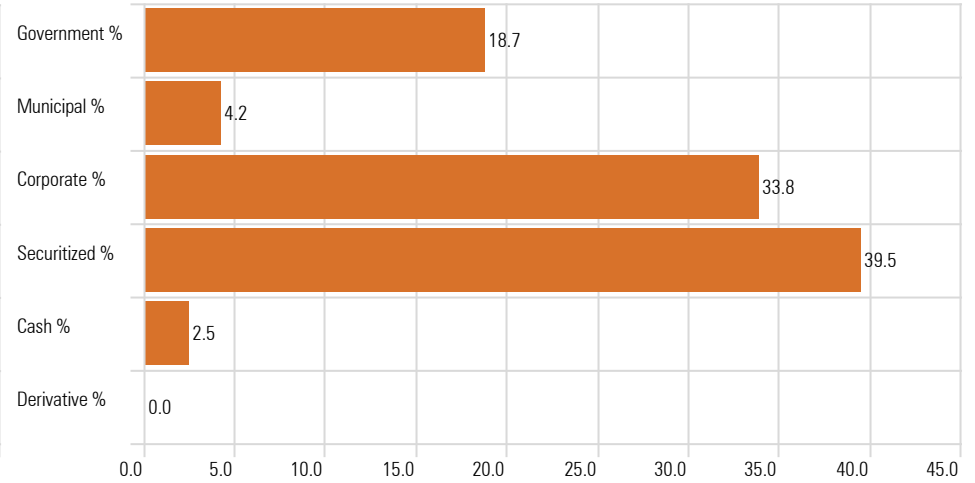
### Sector Allocation



■ TIAA-CREF Bond Instl

## TIAA-CREF Bond Plus Inst

### Sector Allocation



■ TIAA-CREF Bond Plus Inst

### TIAA-CREF Bond Instl - Top Holdings

Portfolio Date: 12/31/2019

	Portfolio Weighting %
United States Treasury Notes 2.62%	1.4
Federal National Mortgage Association 4%	1.3
Federal National Mortgage Association 3.5%	1.3
Federal National Mortgage Association 3%	1.3
United States Treasury Bonds 2.25%	1.2
Federal Home Loan Mortgage Corporation 3%	1.2
United States Treasury Bonds 3.38%	1.1
United States Treasury Bonds 3%	1.1
United States Treasury Notes 2.5%	1.0
United States Treasury Bonds 3.5%	1.0
United States Treasury Bonds 2.75%	0.7
United States Treasury Notes 1.75%	0.7
Federal National Mortgage Association 3.5%	0.5
United States Treasury Notes 1.62%	0.5
United States Treasury Notes 2.25%	0.5

Source: Morningstar Direct

### TIAA-CREF Bond Plus Inst - Top Holdings

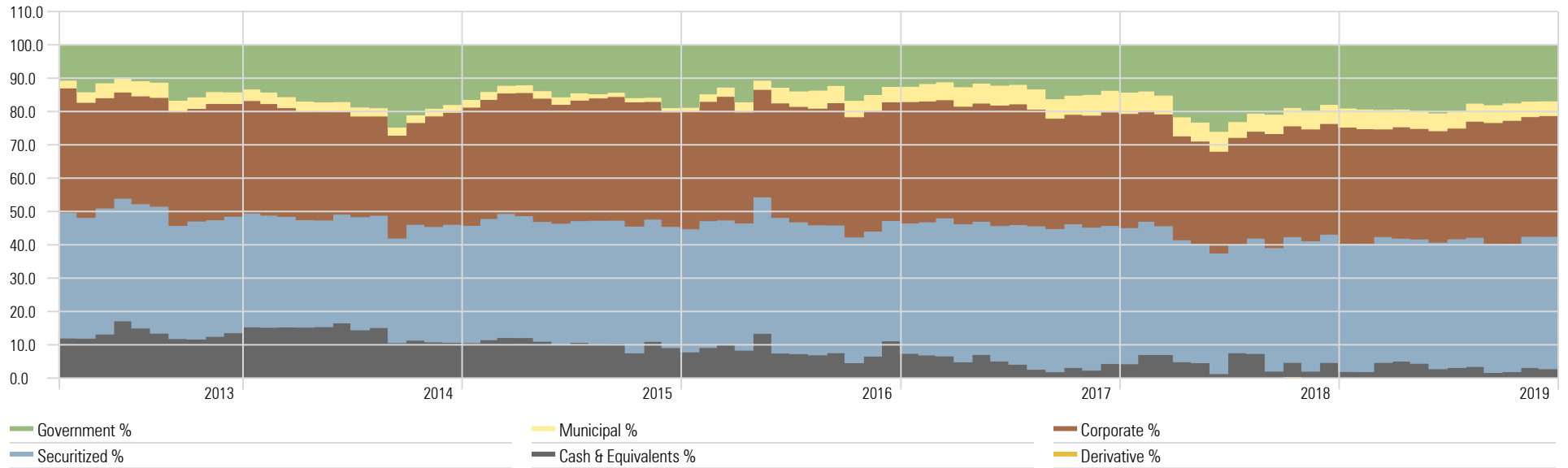
Portfolio Date: 12/31/2019

	Portfolio Weighting %
United States Treasury Notes 2.62%	1.9
United States Treasury Bonds 2.25%	1.7
United States Treasury Bonds 3%	1.6
Federal National Mortgage Association 3.5%	1.0
United States Treasury Notes 1.62%	1.0
Federal National Mortgage Association 4%	1.0
United States Treasury Bonds 2.88%	0.9
Federal National Mortgage Association 3%	0.9
United States Treasury Notes 1.62%	0.9
Federal Home Loan Mortgage Corporation 3%	0.9
Federal National Mortgage Association 3.5%	0.8
United States Treasury Bonds 3%	0.7
Federal Home Loan Mortgage Corporation 3.5%	0.7
Federal National Mortgage Association 3%	0.7
Federal Home Loan Mortgage Corporation 3%	0.7

# Historical Sector Exposure

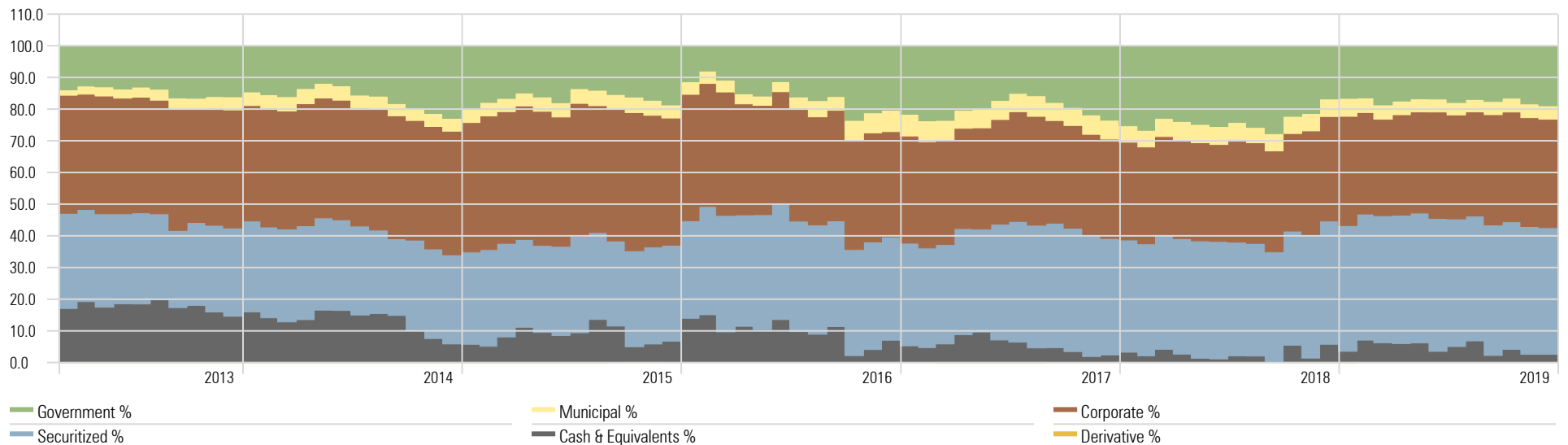
## TIAA-CREF Bond Instl - Fixed-Inc Super Sectors (Morningstar)

Time Period: 3/1/2013 to 12/31/2019



## TIAA-CREF Bond Plus Inst - Fixed-Inc Super Sectors (Morningstar)

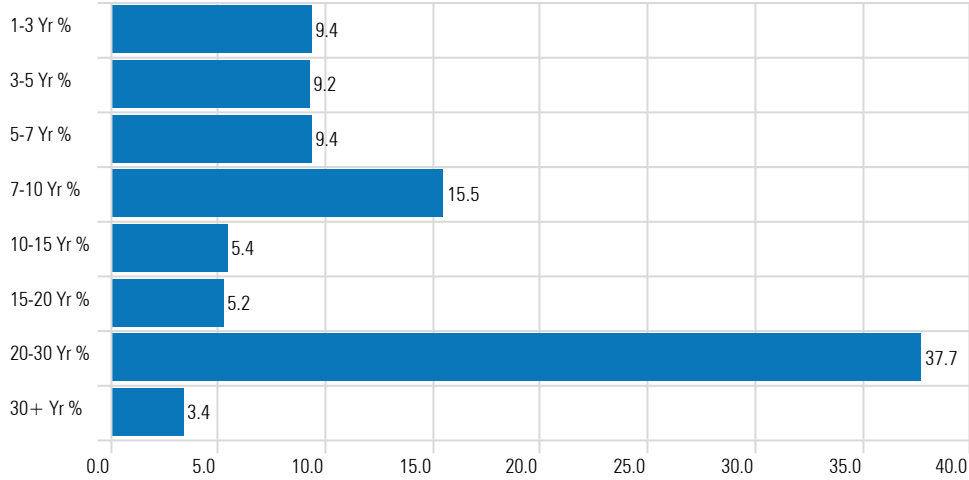
Time Period: 3/1/2013 to 12/31/2019



# Maturity and Coupon Breakdown

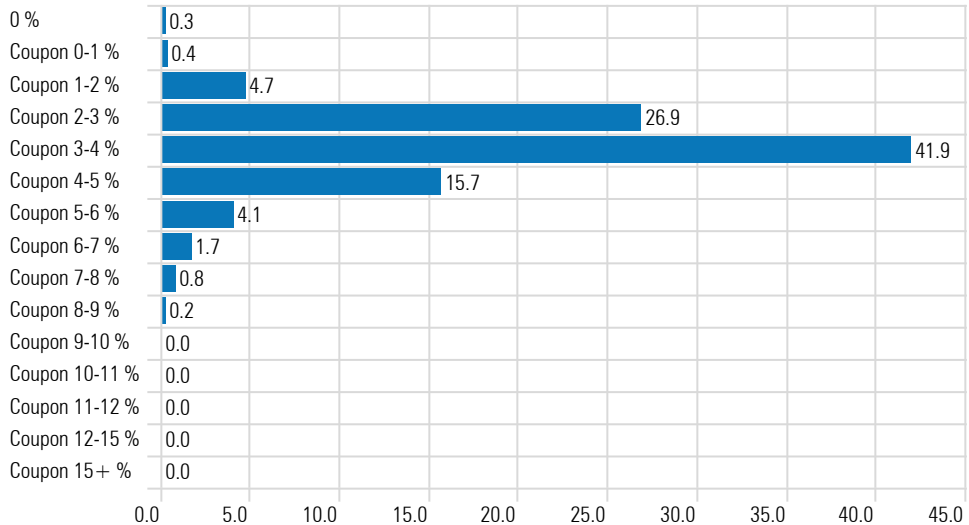
**TIAA-CREF Bond Instl**

## Maturity Breakdown



■ TIAA-CREF Bond Instl

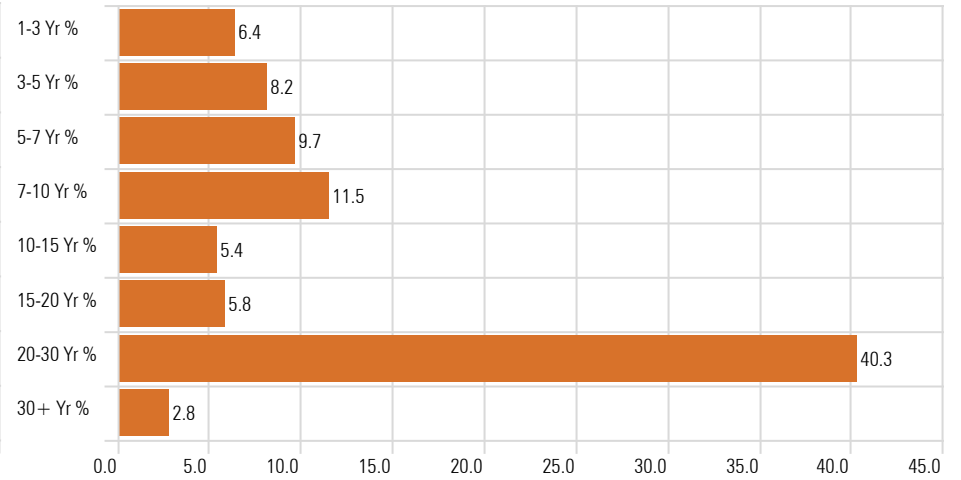
## Coupon Breakdown



■ TIAA-CREF Bond Instl

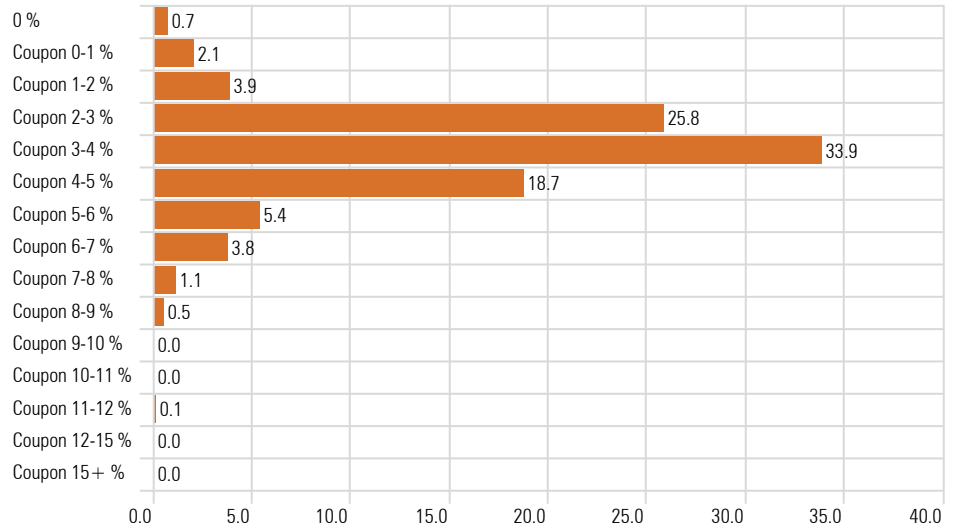
**TIAA-CREF Bond Plus Inst**

## Maturity Breakdown



■ TIAA-CREF Bond Plus Inst

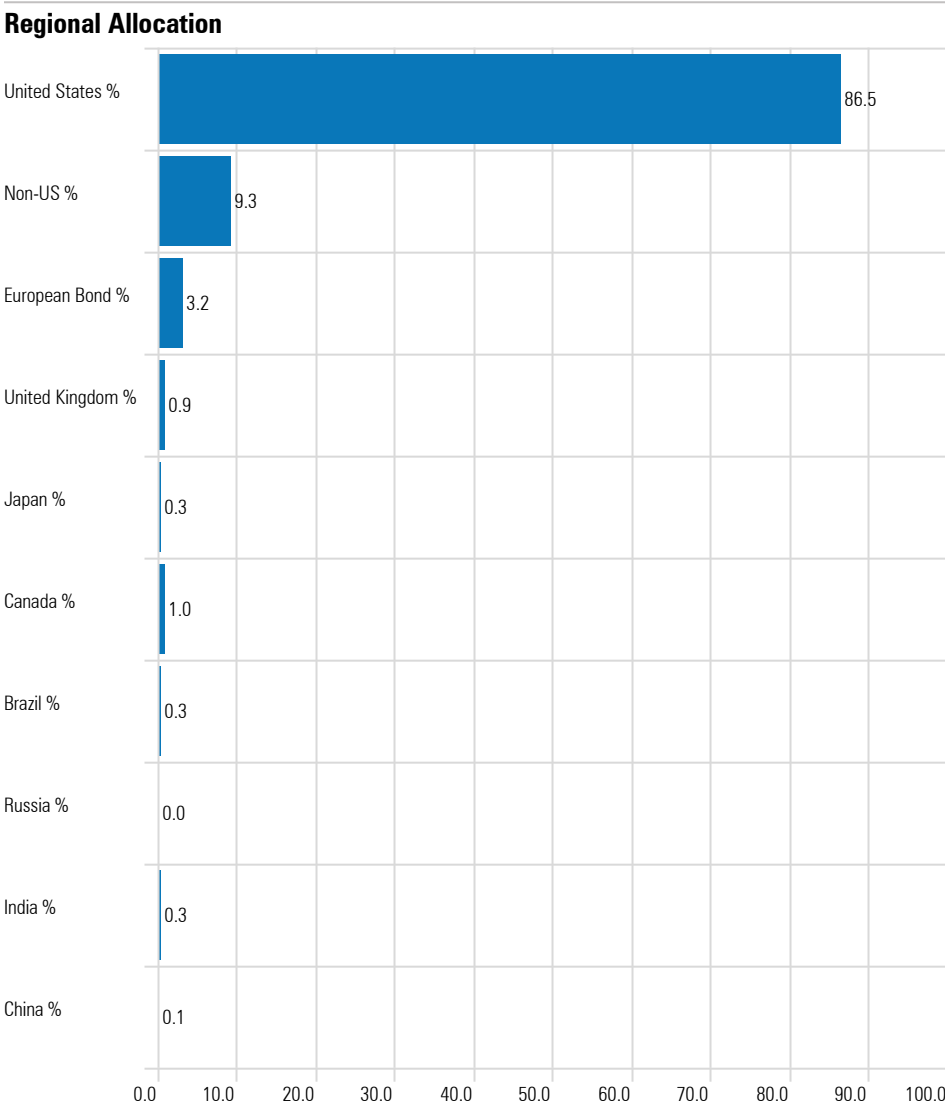
## Coupon Breakdown



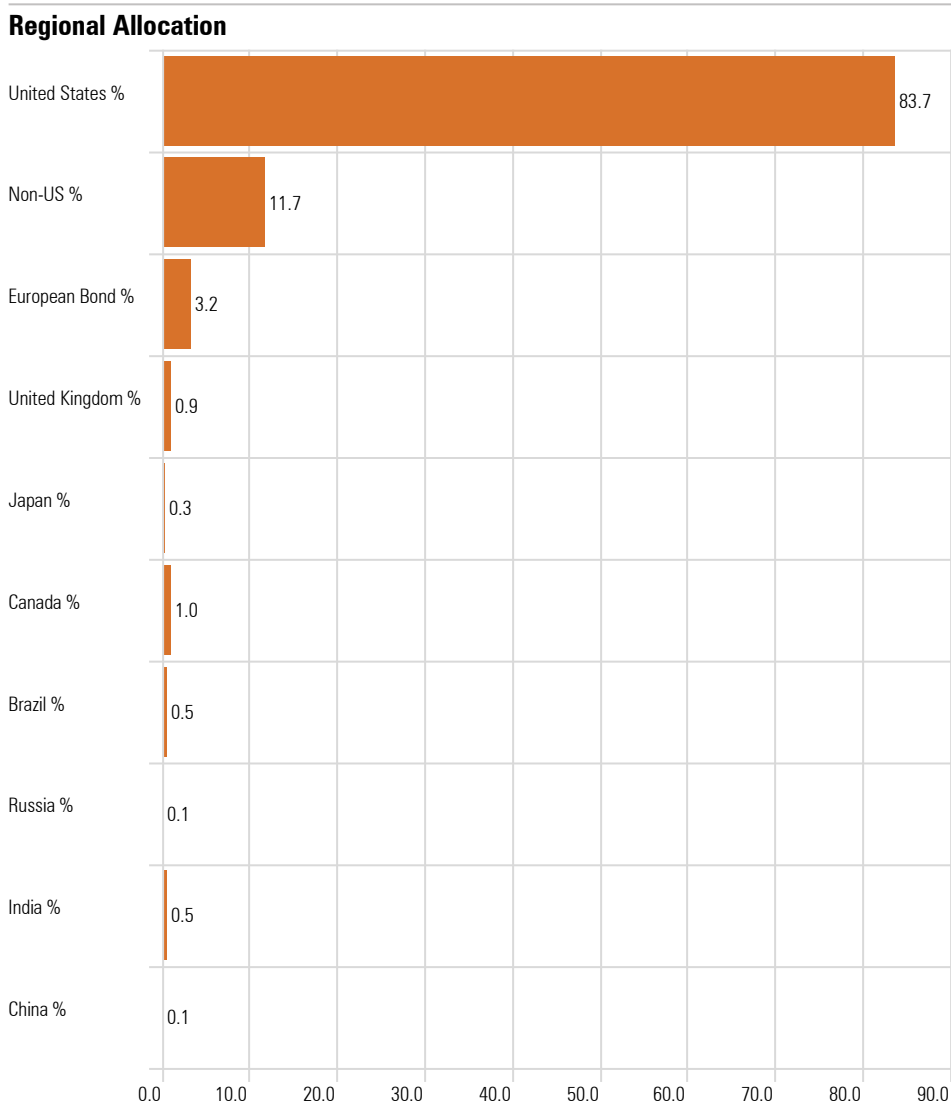
■ TIAA-CREF Bond Plus Inst

# International Exposure

TIAA-CREF Bond Instl



TIAA-CREF Bond Plus Inst

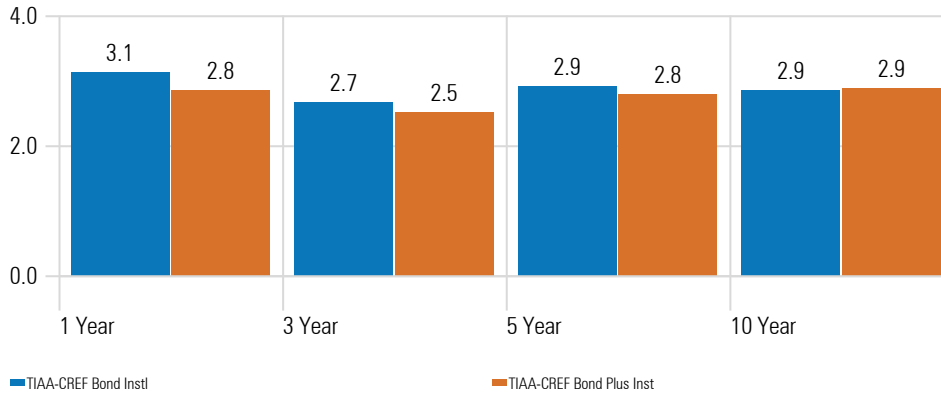


TIAA-CREF Bond Instl

TIAA-CREF Bond Plus Inst

# Risk/Return Performance Analysis

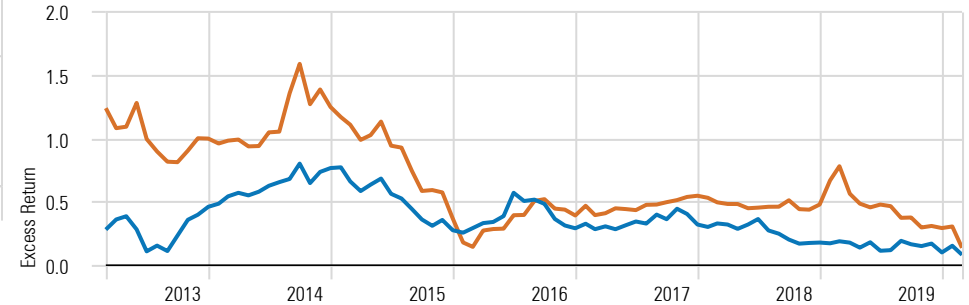
## Standard Deviation



## 3 Year Relative Rolling Returns

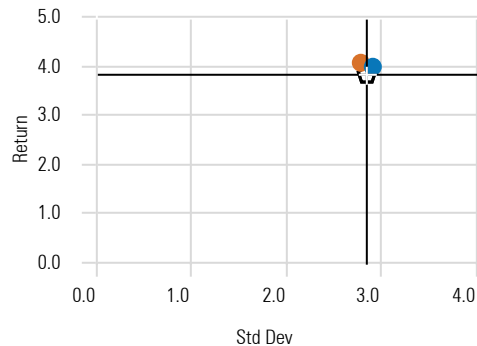
Time Period: 3/1/2010 to 2/29/2020

Rolling Window: 3 Years 1 Month shift



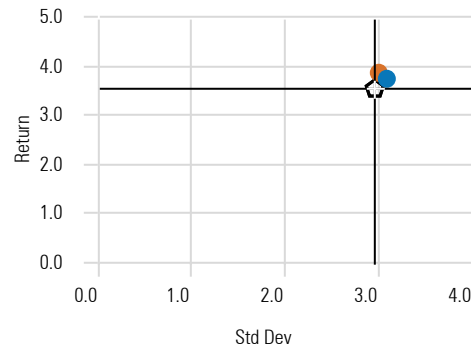
## 5 Year Risk-Reward

Time Period: 3/1/2015 to 2/29/2020



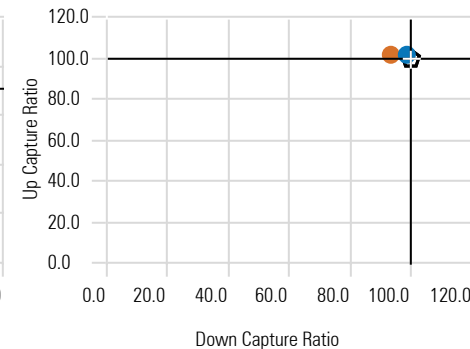
## 7 Year Risk-Reward

Time Period: 3/1/2013 to 2/29/2020



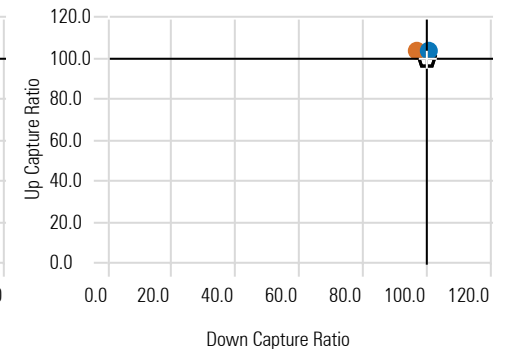
## 5 Year Market Capture

Time Period: 3/1/2015 to 2/29/2020



## 7 Year Market Capture

Time Period: 3/1/2013 to 2/29/2020



## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (4/1/2006) to 2/29/2020

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
TIAA-CREF Bond Instl	4.9	3.1	0.2	0.96	95	4.1	-2.8	1.18	0.7
TIAA-CREF Bond Plus Instl	4.9	3.2	0.2	0.96	91	5.4	-2.6	1.17	1.0
BBgBarc US Universal TR USD	4.8	3.2	0.0	1.00	100	4.5	-2.6	1.15	0.0
US Fund Intermediate Core-Plus Bond	4.8	3.4	-0.1	1.00	88	6.5	-3.2	1.07	1.2

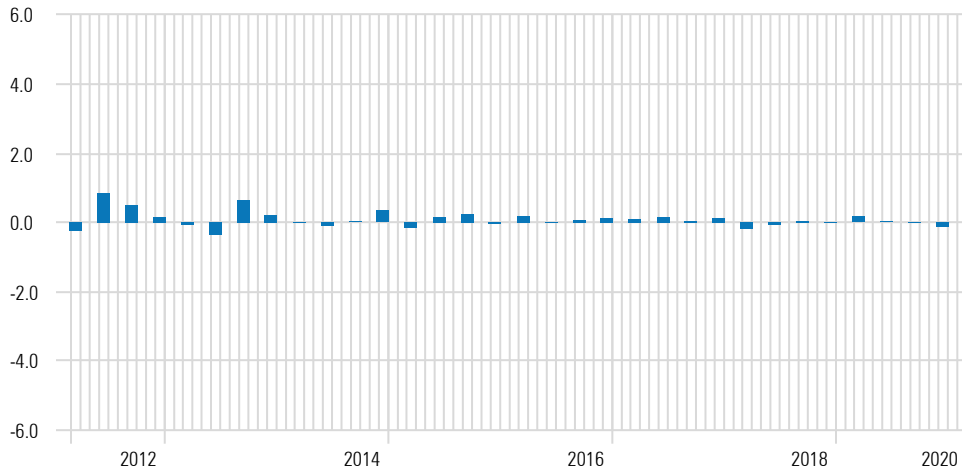
# Performance Analysis

## TIAA-CREF Bond Instl

### Quarterly Return +/- Index

Time Period: 3/1/2012 to 2/29/2020

Rolling Window: 3 Months 3 Months shift

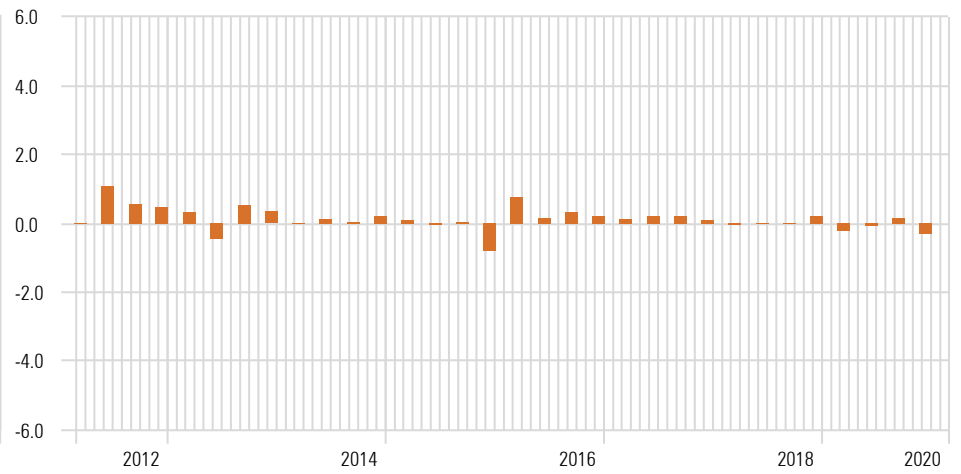


## TIAA-CREF Bond Plus Inst

### Quarterly Return +/- Index

Time Period: 3/1/2012 to 2/29/2020

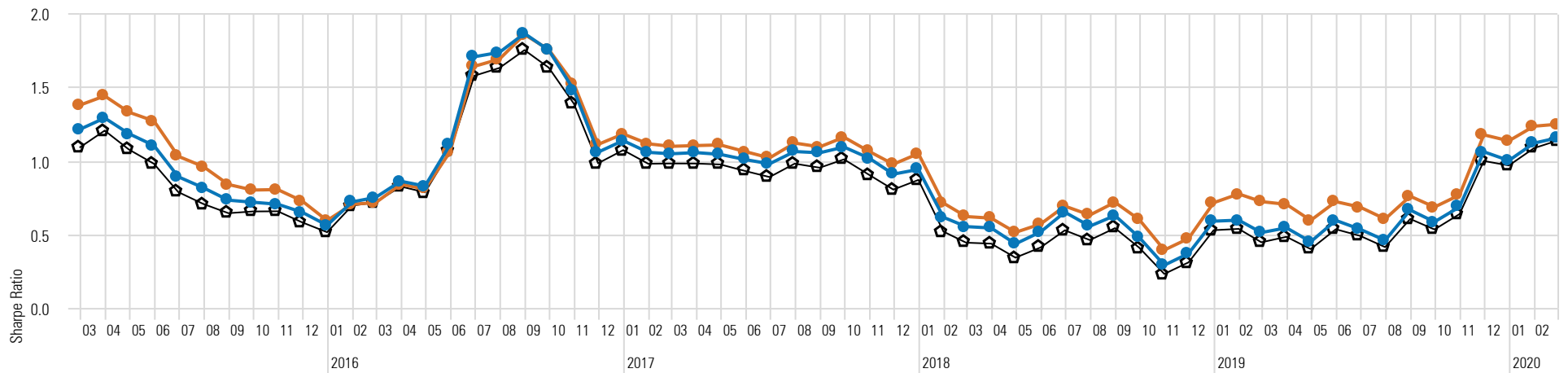
Rolling Window: 3 Months 3 Months shift



### Rolling 3 Year Sharpe Ratio

Time Period: 3/1/2012 to 2/29/2020

Rolling Window: 3 Years 1 Month shift



— TIAA-CREF Bond Instl

— TIAA-CREF Bond Plus Inst

— BBgBarc US Universal TR USD

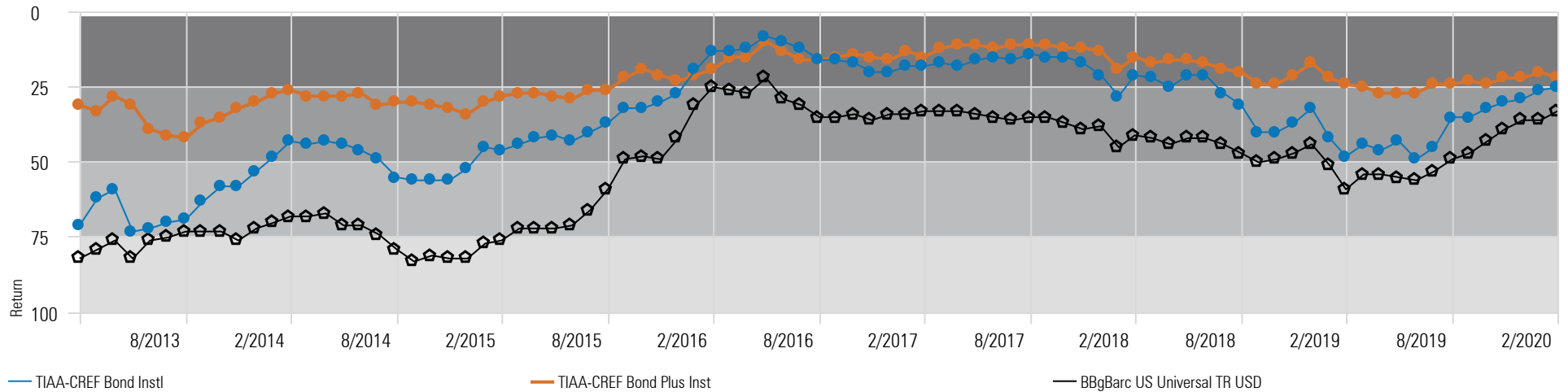
# Rolling Peer Group Rankings

## Rolling 3 Year Peer Group Rank

Time Period: 3/1/2010 to 2/29/2020

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

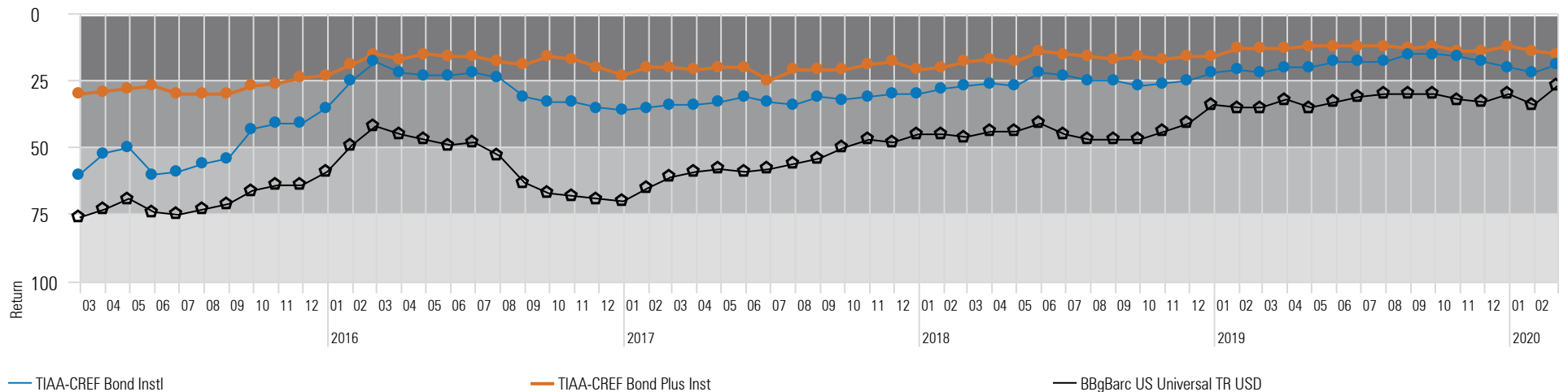


## Rolling 5 Year Peer Group Rank

Time Period: 3/1/2010 to 2/29/2020

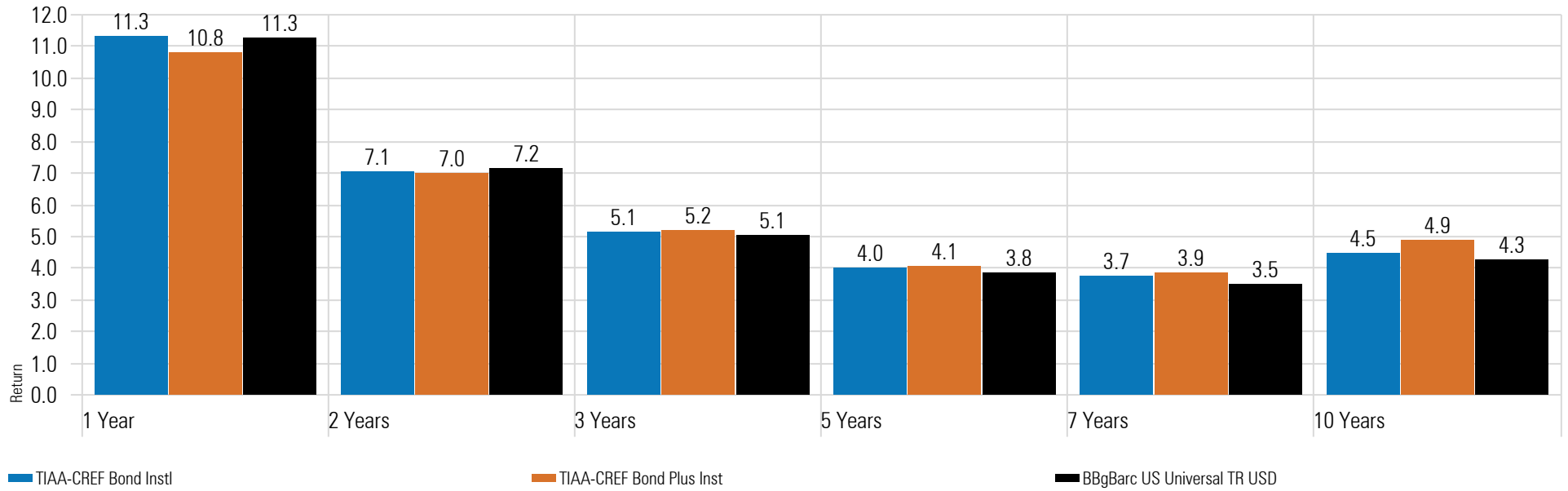
Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

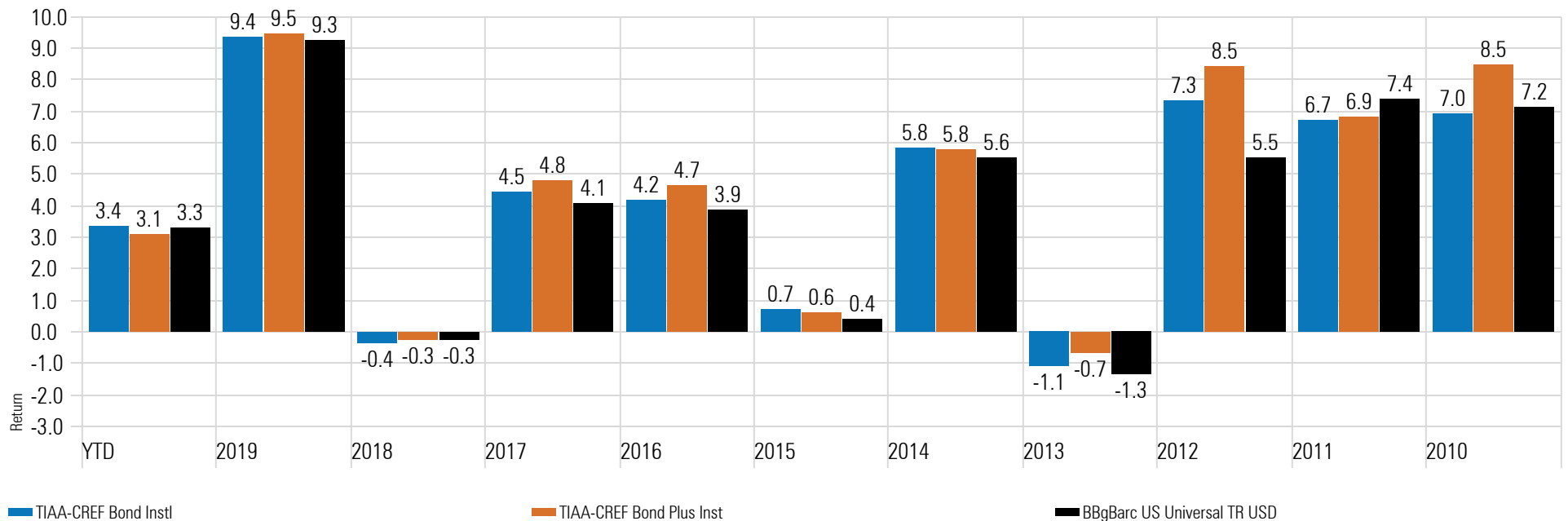


# Trailing Performance

## Cumulative Returns



## Annual Returns





## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Intermediate Core-Plus Bond</b>																		
TIAA-CREF Bond Instl	0.2	<b>60</b>	-0.22	9.4	<b>46</b>	0.06	9.4	<b>46</b>	0.06	4.4	<b>29</b>	0.10	3.6	<b>20</b>	0.18	4.4	<b>42</b>	0.24
TIAA-CREF Bond Plus Inst	0.4	<b>43</b>	-0.07	9.5	<b>41</b>	0.17	9.5	<b>41</b>	0.17	4.6	<b>22</b>	0.30	3.8	<b>12</b>	0.37	4.8	<b>22</b>	0.64
BBgBarc US Universal TR USD	0.5			9.3			9.3			4.3			3.4			4.1		
Average	0.3			9.0			9.0			4.1			3.1			4.3		

## Performance Summary - Calendar Year Periods

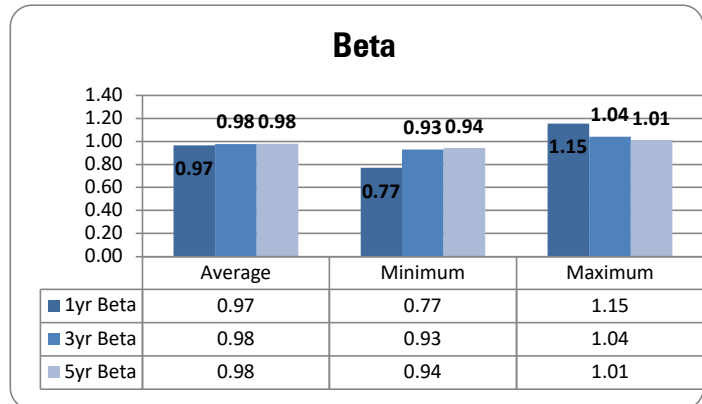
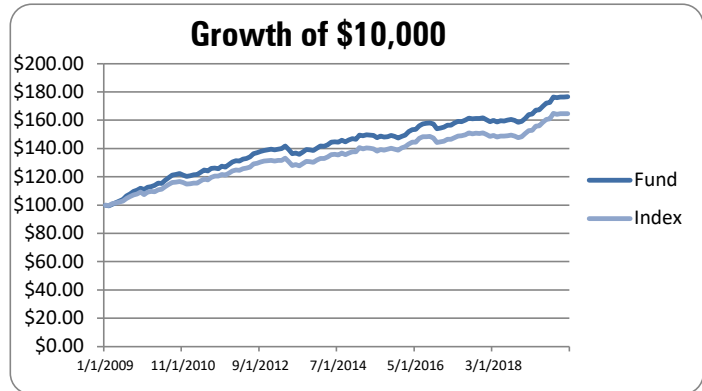
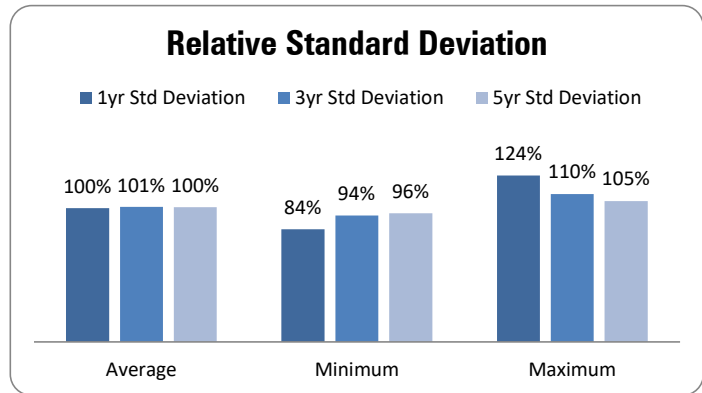
	2019			2018			2017			2016			2015			2014			2013		
	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Intermediate Core-Plus Bond</b>																					
TIAA-CREF Bond Instl	9.4	<b>46</b>	0.06	-0.4	<b>32</b>	-0.12	4.5	<b>41</b>	0.38	4.2	<b>38</b>	0.30	0.7	<b>13</b>	0.29	5.8	<b>39</b>	0.29	-1.1	<b>51</b>	0.26
TIAA-CREF Bond Plus Inst	9.5	<b>41</b>	0.17	-0.3	<b>27</b>	0.00	4.8	<b>31</b>	0.72	4.7	<b>25</b>	0.75	0.6	<b>16</b>	0.20	5.8	<b>42</b>	0.24	-0.7	<b>40</b>	0.66
BBgBarc US Universal TR USD	9.3			-0.3			4.1			3.9			0.4			5.6			-1.3		
Average	9.0			-0.7			4.3			3.9			-0.4			5.5			-0.8		

Fund Name	Comparative Index/Fund
TIAA-CREF Bond Plus Inst	100% TIAA-CREF Bond Instl

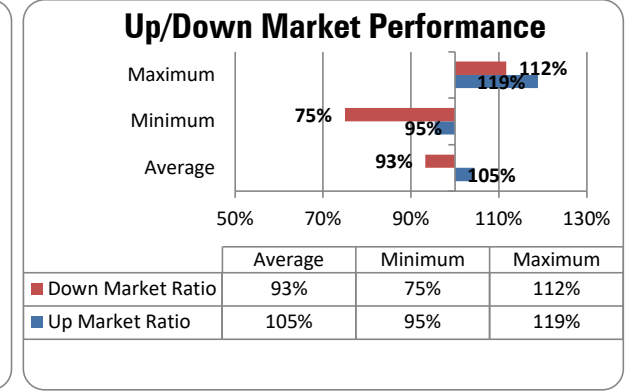
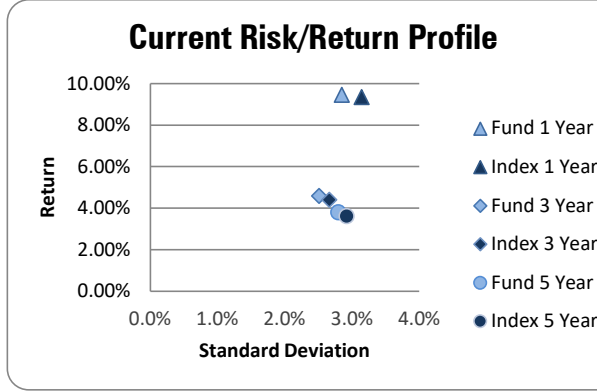
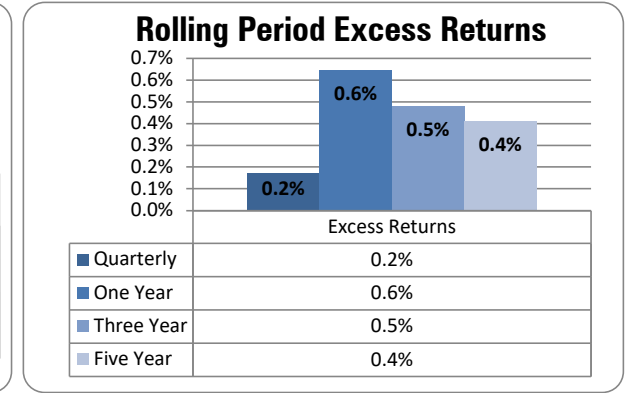
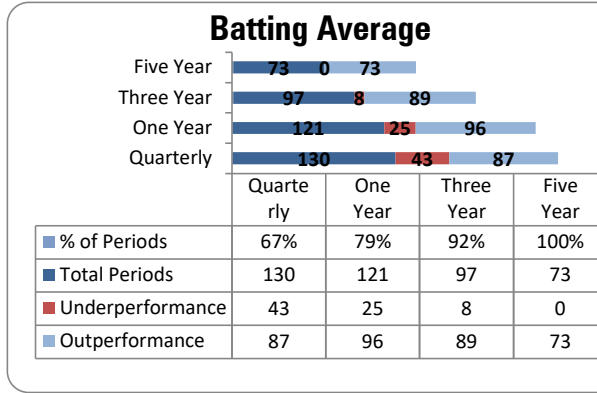
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## Risk Analysis



## Absolute Performance Summary



## Annualized Performance and Risk Statistics

	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
TIAA-CREF Bond Plus Inst	9.47%	1.05%	2.85%	3.93%	0.02%
100% TIAA-CREF Bond Instl	9.35%		3.14%	4.04%	-0.13%
<b>Latest Three Years</b>					
TIAA-CREF Bond Plus Inst	4.60%	0.49%	2.51%	3.93%	-1.41%
100% TIAA-CREF Bond Instl	4.41%		2.66%	4.04%	-1.52%
<b>Latest Five Years</b>					
TIAA-CREF Bond Plus Inst	3.80%	0.39%	2.79%	3.93%	-2.53%
100% TIAA-CREF Bond Instl	3.62%		2.92%	4.04%	-2.80%
<b>Latest Ten Years</b>					
TIAA-CREF Bond Plus Inst	4.76%	0.49%	2.88%	5.00%	-3.47%
100% TIAA-CREF Bond Instl	4.36%		2.86%	4.28%	-3.53%

# TIAA-CREF Bond Plus Inst

TIBFX

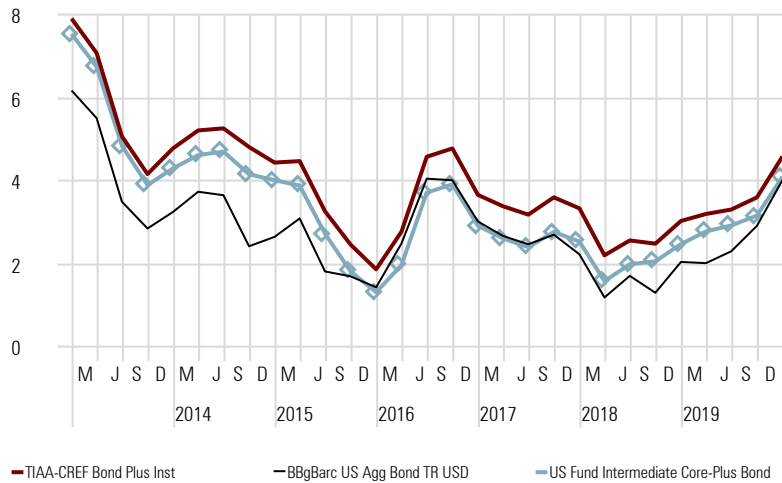
**Index:** BBgBarc US Agg Bond TR USD  
**Category:** US Fund Intermediate Core-Plus Bond  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: BBgBarc US Agg Bond TR USD

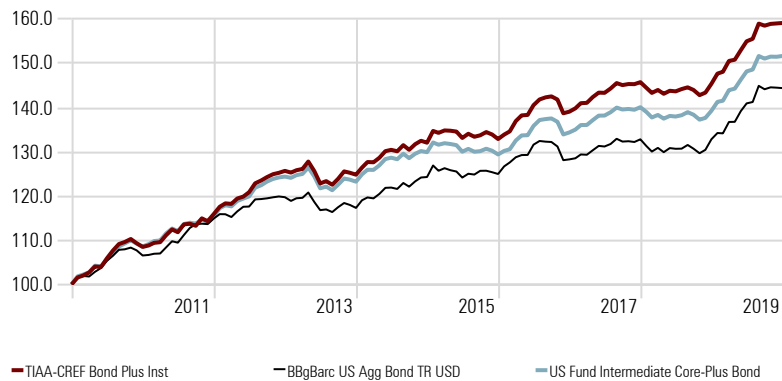
	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Bond Plus Inst	9.5	9.5	4.6	3.8	4.8	4.7
BBgBarc US Agg Bond TR USD	8.7	8.7	4.0	3.0	3.7	4.2
US Fund Intermediate Core-Plus Bond	8.9	8.9	4.1	3.1	4.3	4.3

## Returns (Rolling 36 Months)



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019

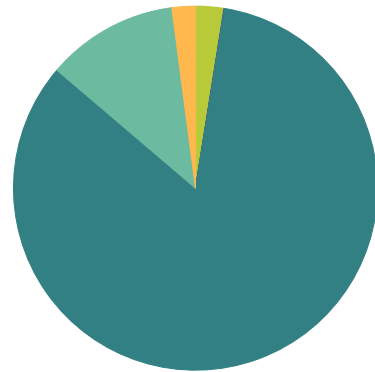


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.30	0.80	
Gross Expense Ratio	0.30	1.14	

## Asset Allocation

Portfolio Date: 12/31/2019



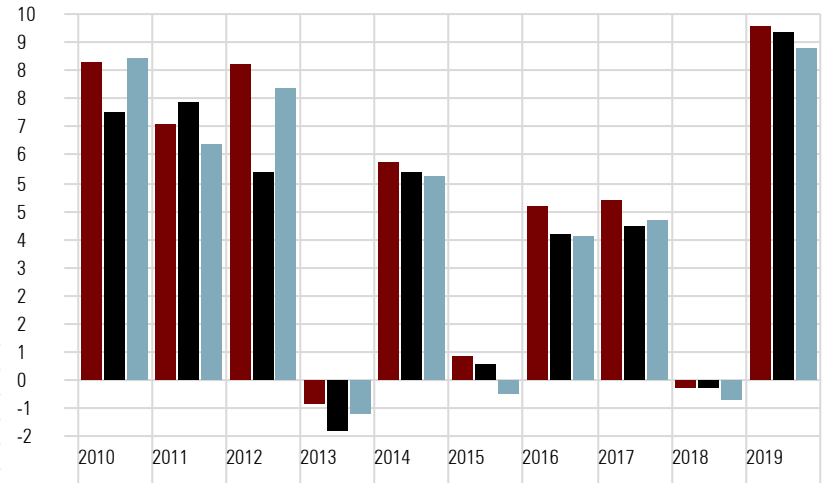
• Cash	2.5	%
• US Equity	0.0	%
• Non-US Equity	0.0	%
• US Bond	83.7	%
• Non-US Bond	11.7	%
• Other	2.1	%

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: BBgBarc US Agg Bond TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Bond Plus Inst	70.0	30.0	2.2	-2.2	3.6	-2.6	108.1	77.5
BBgBarc US Agg Bond TR USD	65.0	35.0	2.6	-2.4	3.8	-3.0	100.0	100.0
US Fund Intermediate Core-Plus Bond	70.0	30.0	2.1	-2.2	3.5	-2.6	100.7	79.8

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	2.5	0.1	2.8	0.1
Down Deviation	0.5	-0.1	0.6	-0.1
Beta	0.8	0.0	0.9	0.0
Alpha	0.9	0.4	1.0	0.6
Sharpe	1.1	0.2	1.0	0.2
Sortino	2.4	0.4	1.7	0.4
Info Ratio	0.7	0.6	0.8	0.7
Down Capture	64.7	-5.6	74.1	-4.4
Up Capture	97.5	6.1	101.4	9.6

## Top 10 Holdings

	Fund %
United States Treasury Notes 2.62%	1.9
United States Treasury Bonds 2.25%	1.7
United States Treasury Bonds 3%	1.6
Federal National Mortgage Association 3.5%	1.0
United States Treasury Notes 1.62%	1.0
Federal National Mortgage Association 4%	1.0
United States Treasury Bonds 2.88%	0.9
Federal National Mortgage Association 3%	0.9
United States Treasury Notes 1.62%	0.9
Federal Home Loan Mortgage Corporation 3%	0.9

# Core Plus Bond Search

As of 12/31/2019



# US Fund Intermediate Core-Plus Bond

## TIAA-CREF Bond Plus Inst

## PIMCO Total Return Instl

## Templeton Global Bond R6

### Investment Strategy

The investment seeks total return, primarily through high current income. The fund invests at least 80% of its assets in bonds. For these purposes, bonds include fixed-income securities of all types. Its portfolio is divided into two segments. The first segment, which makes up at least 70% of the fund's assets, is invested primarily in a broad range of investment-grade bonds and fixed-income securities. The second segment, which will not exceed 30% of the fund's assets, is invested in fixed-income securities and bonds with special features in an effort to improve the fund's total return.

### Investment Strategy

The investment seeks maximum total return, consistent with preservation of capital and prudent investment management. The fund invests at least 65% of its total assets in a diversified portfolio of Fixed Income Instruments of varying maturities, which may be represented by forwards or derivatives such as options, futures contracts, or swap agreements. It invests primarily in investment-grade debt securities, but may invest up to 20% of its total assets in high yield securities. It may invest up to 30% of its total assets in securities denominated in foreign currencies, and may invest beyond this limit in U.S. dollar-denominated securities of foreign issuers.

### Investment Strategy

The investment seeks current income with capital appreciation and growth of income. Under normal market conditions, the fund invests at least 80% of its net assets in "bonds." Bonds include debt obligations of any maturity, such as bonds, notes, bills and debentures. It invests predominantly in bonds issued by governments, government-related entities and government agencies located around the world. The fund may invest up to 25% of its total assets in bonds that are rated below investment grade or, if unrated determined by the investment manager to be of comparable quality. It is non-diversified.

### Manager Biography

William Martin since 8/24/2011

Kevin R. Lorenz since 3/31/2006

John Michael Cerra since 3/31/2006

Anupam Damani since 8/1/2019

### Manager Biography

Mark R. Kiesel since 9/26/2014

Scott A. Mather since 9/26/2014

Mohit Mittal since 12/11/2019

### Manager Biography

Michael J. Hasenstab since 12/31/2001

Calvin Ho since 12/31/2018

### TIAA-CREF Bond Plus Inst - Operations

Inception Date	3/31/2006
Fund Size (\$mm)	5,089
Annual Report Net Expense Ratio	0.30
Prospectus Net Expense Ratio	0.30
Prospectus Gross Expense Ratio	0.30
Ticker	TIBFX
Manager Tenure (Longest)	13.83
Manager Tenure (Average)	9.13
Morningstar Institutional Category	BBB-Rated

### Other Notes:

None

### PIMCO Total Return Instl - Operations

Inception Date	5/11/1987
Fund Size (\$mm)	67,096
Annual Report Net Expense Ratio	0.71
Prospectus Net Expense Ratio	0.71
Prospectus Gross Expense Ratio	0.71
Ticker	PTTRX
Manager Tenure (Longest)	5.33
Manager Tenure (Average)	3.58
Morningstar Institutional Category	Intermediate Investment Grade (4-6)

### Other Notes:

None

### Templeton Global Bond R6 - Operations

Inception Date	5/1/2013
Fund Size (\$mm)	26,894
Annual Report Net Expense Ratio	0.49
Prospectus Net Expense Ratio	0.57
Prospectus Gross Expense Ratio	0.67
Ticker	FBNRX
Manager Tenure (Longest)	18.08
Manager Tenure (Average)	9.58
Morningstar Institutional Category	Nontraditional Bond

### Other Notes:

None

# Portfolio Analysis

## TIAA-CREF Bond Plus Inst

## PIMCO Total Return Instl

## Templeton Global Bond R6

### Style Allocation

Portfolio Date: 11/30/2019

Morningstar Fixed Income Style Box™			Credit Quality	%
Ltd	Mod	Ext		
			Credit Qual AAA %	-
			Credit Qual AA %	-
			Credit Qual A %	-
			Credit Qual BBB %	-
			Credit Qual BB %	-
			Credit Qual B %	-
			Credit Qual Below B %	-
			Credit Qual Not Rated %	-

### Style Allocation

Portfolio Date: 9/30/2019

Morningstar Fixed Income Style Box™			Credit Quality	%
Ltd	Mod	Ext		
			Credit Qual AAA %	64.0
			Credit Qual AA %	9.0
			Credit Qual A %	13.0
			Credit Qual BBB %	8.0
			Credit Qual BB %	3.0
			Credit Qual B %	2.0
			Credit Qual Below B %	1.0
			Credit Qual Not Rated %	0.0

### Style Allocation

Portfolio Date: 11/30/2019

Morningstar Fixed Income Style Box™			Credit Quality	%
<b>Not Available</b>			Credit Qual AAA %	25.4
			Credit Qual AA %	4.7
			Credit Qual A %	24.5
			Credit Qual BBB %	25.6
			Credit Qual BB %	17.0
			Credit Qual B %	2.3
			Credit Qual Below B %	2.2
			Credit Qual Not Rated %	-1.7

### Portfolio Data

Average Credit Quality	BBB
Average Eff Duration	5.4
Modified Duration	
Average Eff Maturity	7.8
Average Coupon	3.7
Average Price	104.2
SEC Yield	2.7

### Portfolio Data

Average Credit Quality	BBB
Average Eff Duration	5.6
Modified Duration	5.6
Average Eff Maturity	7.7
Average Coupon	4.1
Average Price	112.1
SEC Yield	2.5

### Portfolio Data

Average Credit Quality	BBB
Average Eff Duration	-1.4
Modified Duration	-1.4
Average Eff Maturity	0.9
Average Coupon	6.1
Average Price	64.8
SEC Yield	4.1

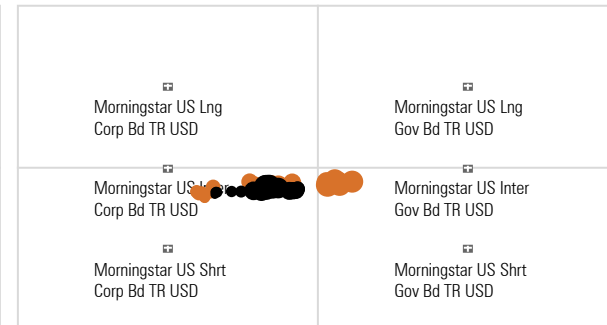
### Returns-Based Style Map

Time Period: 1/1/2015 to 12/31/2019



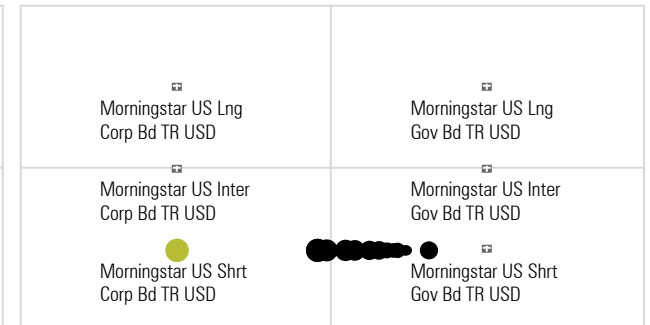
### Returns-Based Style Map

Time Period: 1/1/2015 to 12/31/2019



### Returns-Based Style Map

Time Period: 1/1/2015 to 10/31/2019



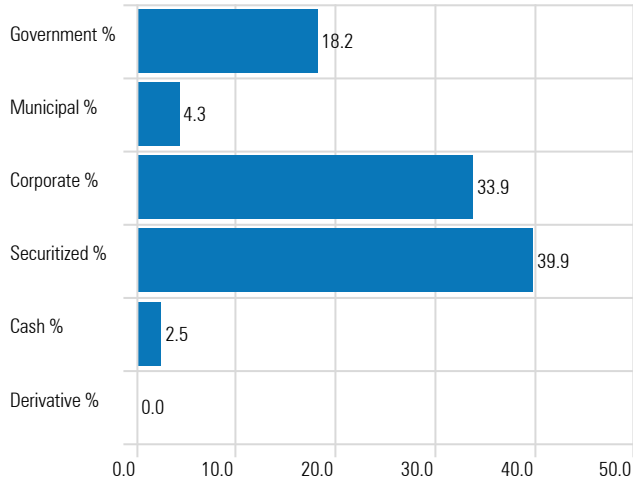
# Sector Exposure and Top 15 Holdings

## TIAA-CREF Bond Plus Inst

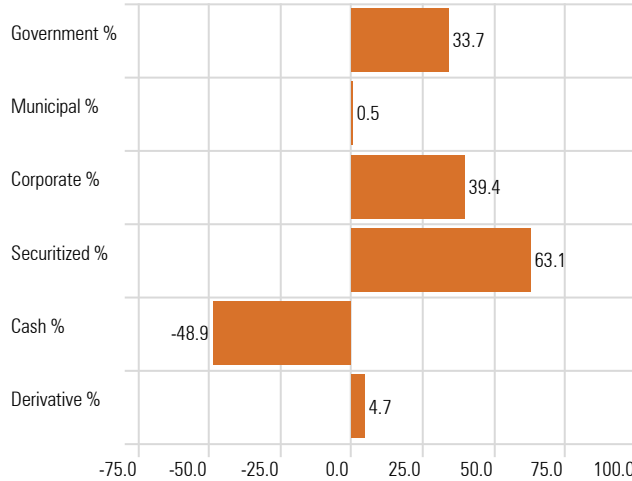
## PIMCO Total Return Instl

## Templeton Global Bond R6

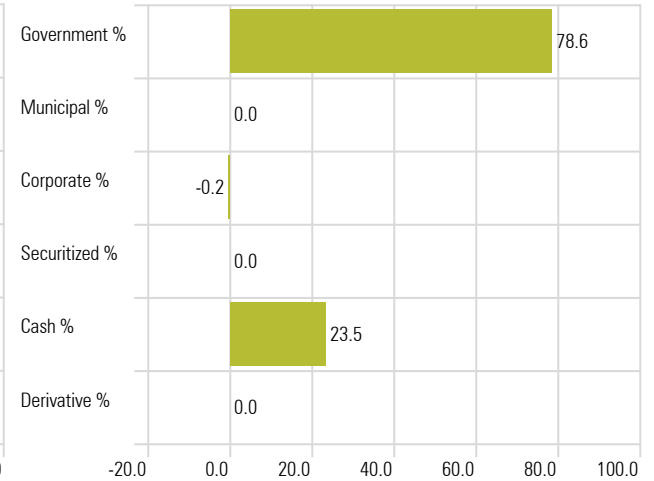
### Sector Allocation



### Sector Allocation



### Sector Allocation



■ TIAA-CREF Bond Plus Inst

■ PIMCO Total Return Instl

■ Templeton Global Bond R6

### TIAA-CREF Bond Plus Inst - Top Holdings

Portfolio Date: 11/30/2019

Security	Portfolio Weighting %
United States Treasury Notes 2.62%	1.9
United States Treasury Bonds 2.25%	1.8
United States Treasury Bonds 3%	1.6
Federal National Mortgage Association 4%	1.0
Federal National Mortgage Association 3.5%	1.0
United States Treasury Bonds 2.88%	1.0
United States Treasury Notes 1.62%	1.0
Federal National Mortgage Association 4%	0.9
Federal National Mortgage Association 3%	0.9
United States Treasury Notes 1.62%	0.9
Federal Home Loan Mortgage Corporation 3%	0.9
Federal National Mortgage Association 3.5%	0.8
United States Treasury Bonds 3%	0.8
Federal Home Loan Mortgage Corporation 3.5%	0.8
Federal National Mortgage Association 3%	0.7

### PIMCO Total Return Instl - Top Holdings

Portfolio Date: 9/30/2019

Security	Portfolio Weighting %
Fin Fut Us 5yr Cbt 12/31/19	32.1
US 10 Year Note (CBT) Dec19	9.7
Pimco Fds	7.5
Long-Term Euro-BTP Futures Dec19	6.4
Federal National Mortgage Association 3%	5.0
US Ultra Bond (CBT) Dec19	4.4
Government National Mortgage Association 4%	3.6
Government National Mortgage Association 3.5%	3.4
Euro BUND Future Dec19	3.4
Federal National Mortgage Association 3.5%	2.8
Irs Usd 2.80000 08/22/18-5y Cme	2.8
Irs Jpy 0.38000 06/18/18-10y Lch	2.7
Secretaria Tesouro Nacional 0%	2.6
Irs Mxn 8.70000 11/05/18-2y Cme	2.6
United States Treasury Notes 0.88%	2.4

### Templeton Global Bond R6 - Top Holdings

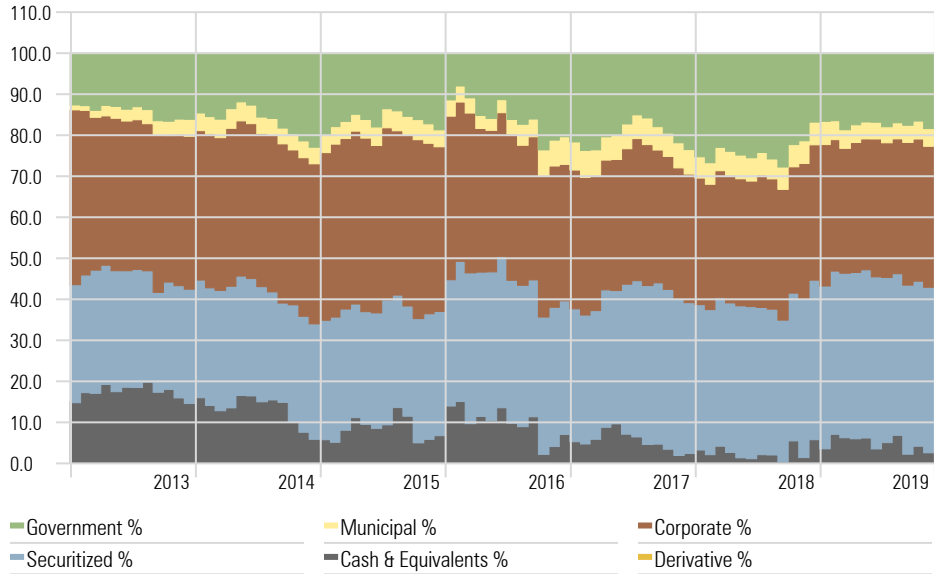
Portfolio Date: 11/30/2019

Security	Portfolio Weighting %
Mexico (United Mexican States) 8%	8.3
United States Treasury Notes 1.5%	5.7
Mexico (United Mexican States) 6.5%	5.1
United States Treasury Notes 1.12%	3.4
United States Treasury Notes 1.12%	3.3
Brazil (Federative Republic) 9.46%	3.2
Brazil (Federative Republic) 9.46%	3.1
United States Treasury Notes 1.12%	3.1
Secretaria Tesouro Nacional 0%	2.8
India (Republic of) 8.83%	2.3
United States Treasury Notes 1.5%	2.0
Indonesia (Republic of) 9.5%	1.9
Indonesia (Republic of) 8.38%	1.8
Indonesia (Republic of) 8.38%	1.8
India (Republic of) 7.17%	1.7

# Historical Sector Exposure

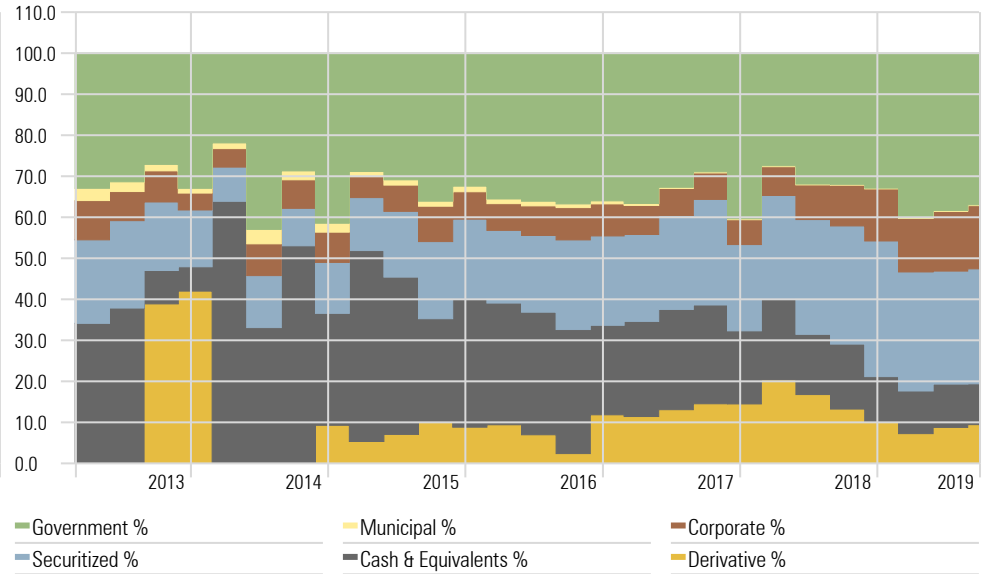
## TIAA-CREF Bond Plus Inst - Fixed-Inc Super Sectors (Morningstar)

Time Period: 1/1/2013 to 11/30/2019



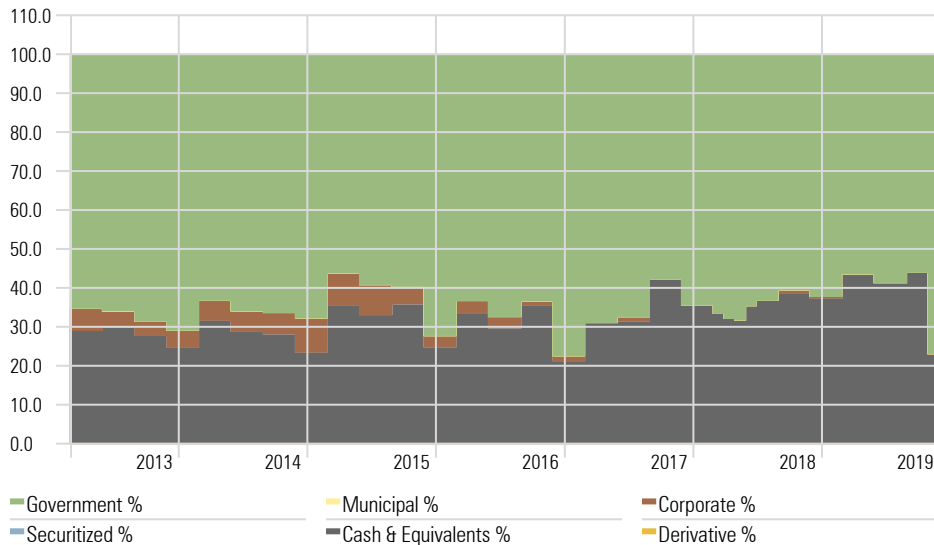
## PIMCO Total Return Instl - Fixed-Inc Super Sectors (Morningstar)

Time Period: 3/1/2013 to 9/30/2019



## Templeton Global Bond R6 - Fixed-Inc Super Sectors (Morningstar)

Time Period: 3/1/2013 to 11/30/2019





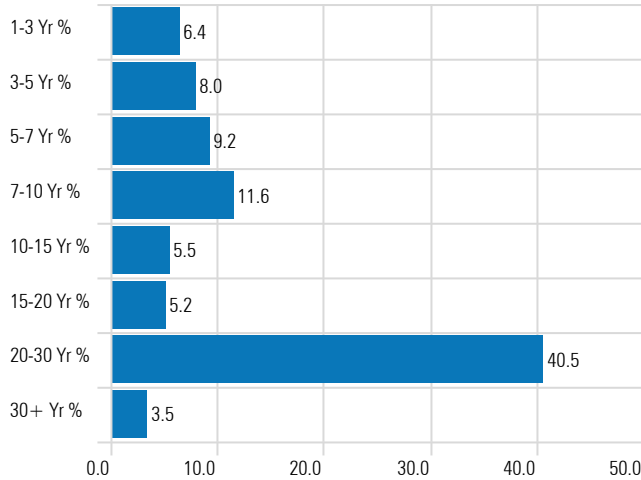
# Maturity and Coupon Breakdown

**TIAA-CREF Bond Plus Inst**

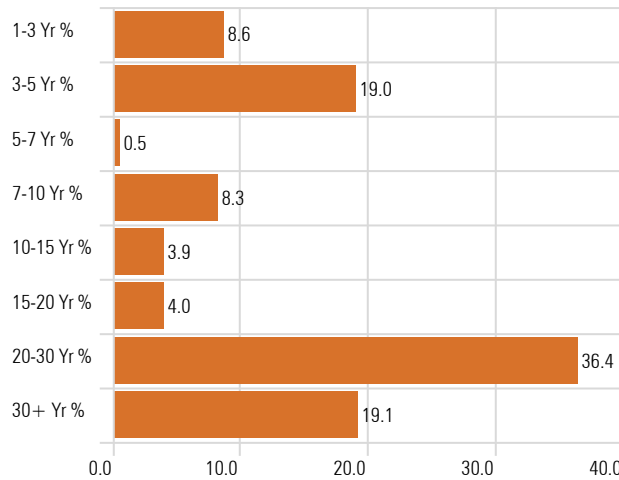
**PIMCO Total Return Instl**

**Templeton Global Bond R6**

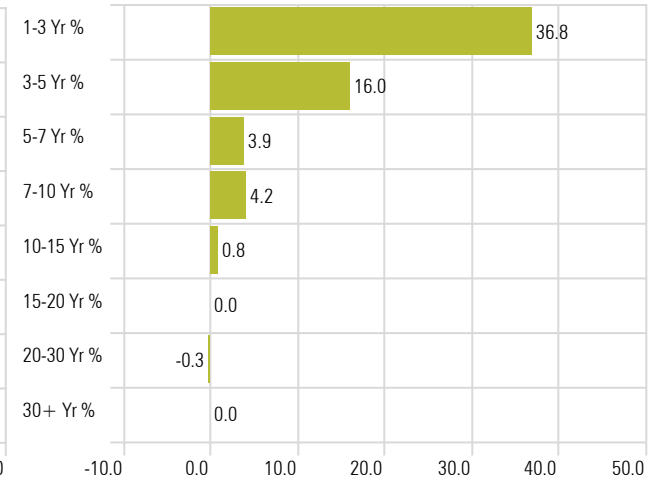
## Maturity Breakdown



## Maturity Breakdown



## Maturity Breakdown

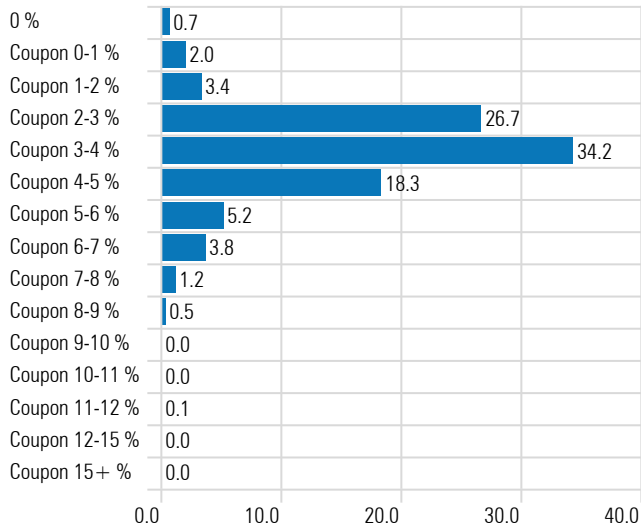


■ TIAA-CREF Bond Plus Inst

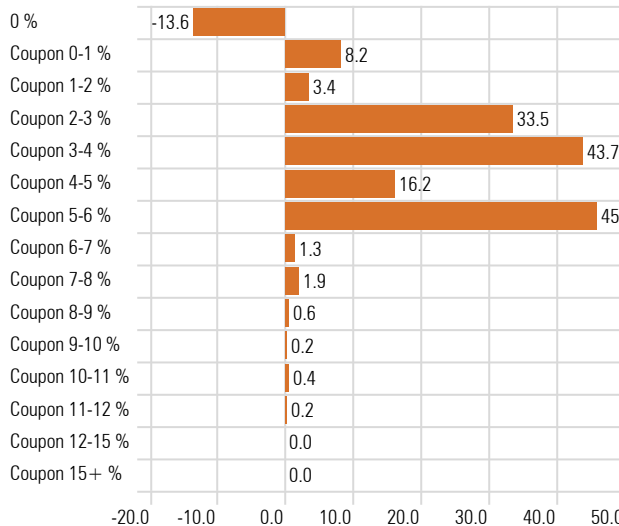
■ PIMCO Total Return Instl

■ Templeton Global Bond R6

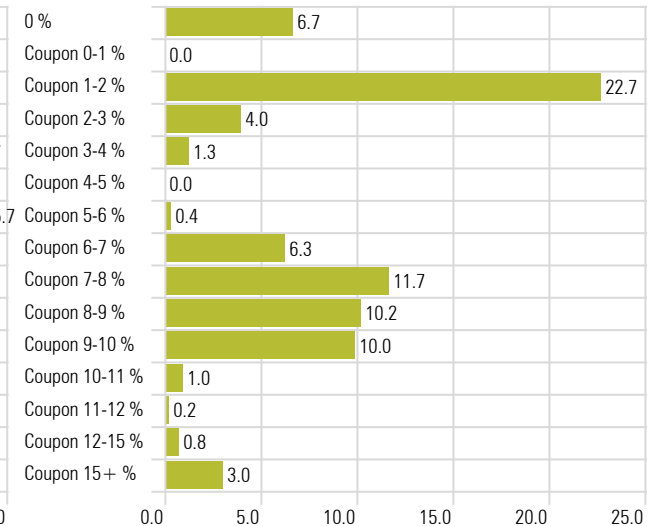
## Coupon Breakdown



## Coupon Breakdown



## Coupon Breakdown



■ TIAA-CREF Bond Plus Inst

■ PIMCO Total Return Instl

■ Templeton Global Bond R6

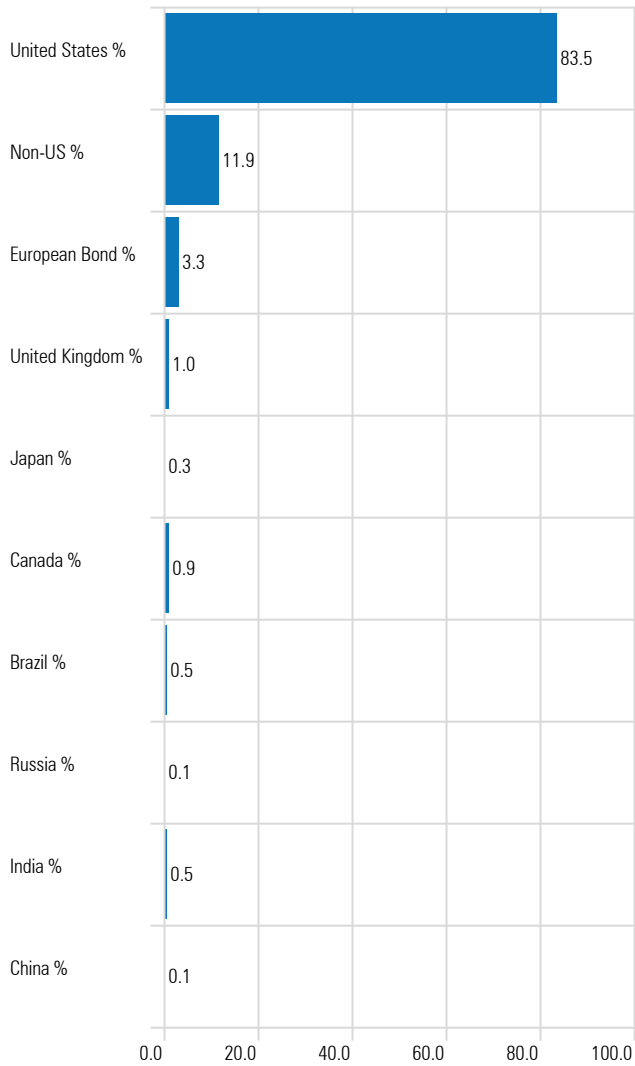
# International Exposure

**TIAA-CREF Bond Plus Inst**

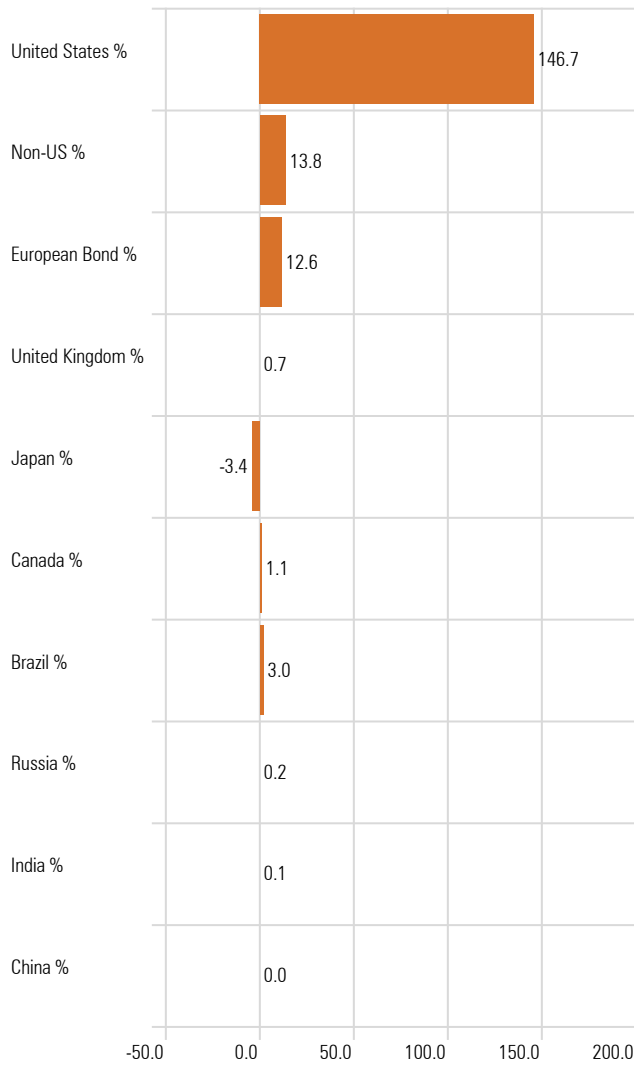
**PIMCO Total Return Instl**

**Templeton Global Bond R6**

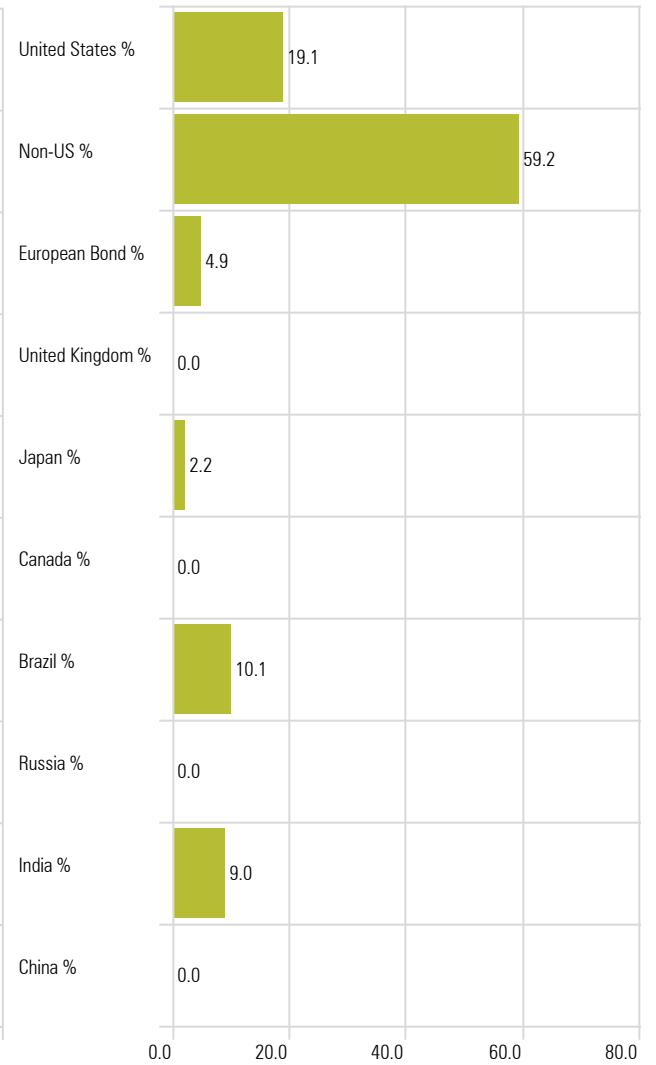
**Regional Allocation**



**Regional Allocation**



**Regional Allocation**



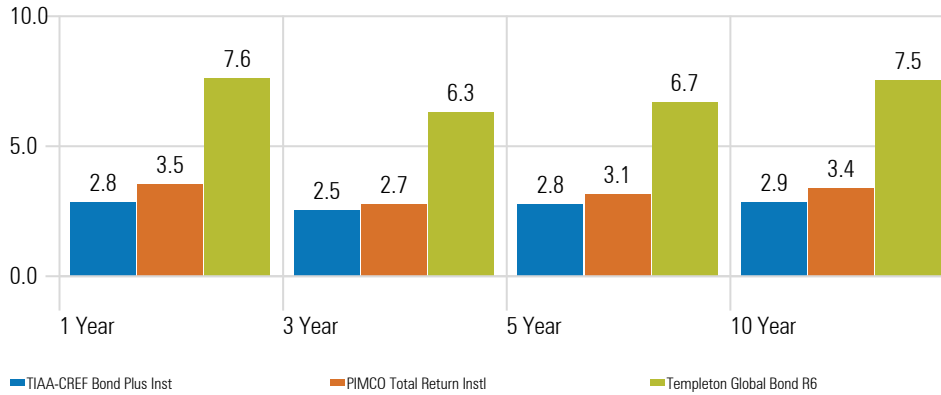
■ TIAA-CREF Bond Plus Inst

■ PIMCO Total Return Instl

■ Templeton Global Bond R6

# Risk/Return Performance Analysis

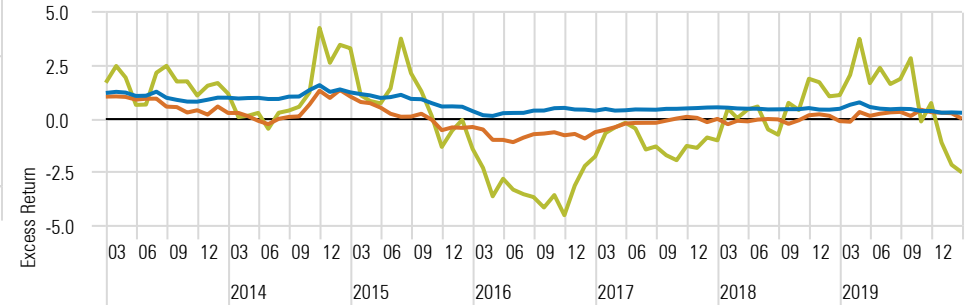
## Standard Deviation



## 3 Year Relative Rolling Returns

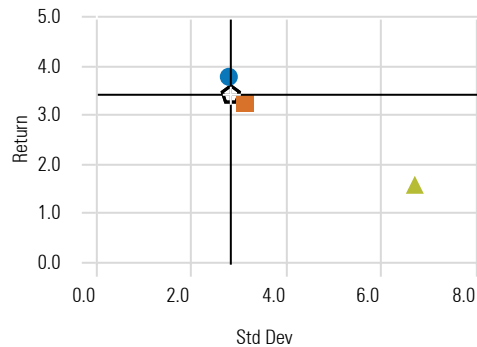
Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift



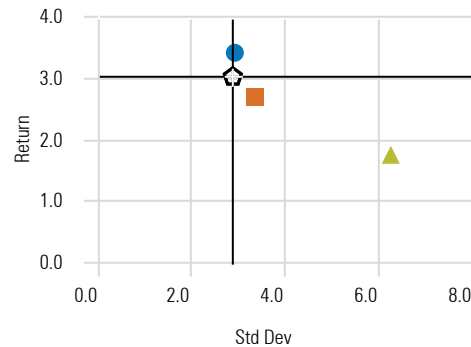
## 5 Year Risk-Reward

Time Period: 1/1/2015 to 12/31/2019



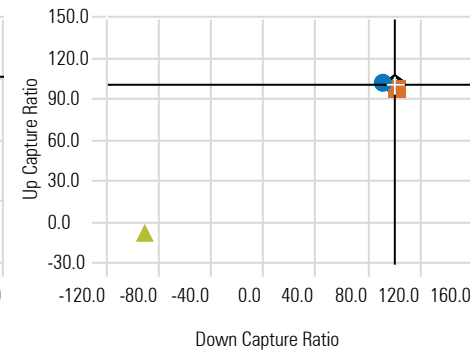
## 7 Year Risk-Reward

Time Period: 1/1/2013 to 12/31/2019



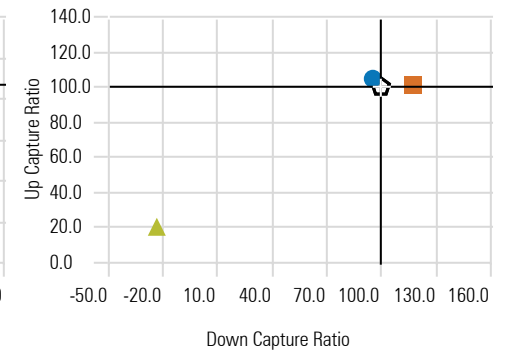
## 5 Year Market Capture

Time Period: 1/1/2015 to 12/31/2019



## 7 Year Market Capture

Time Period: 1/1/2013 to 12/31/2019



## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (6/1/2013) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
TIAA-CREF Bond Plus Inst	3.7	2.9	0.3	1.00	97	3.6	-2.4	0.98	0.5
PIMCO Total Return Instl	2.9	3.3	-0.5	1.07	85	3.2	-2.5	0.63	1.3
Templeton Global Bond R6	1.7	6.4	1.6	-0.20	1	8.3	-6.1	0.14	7.2
BBgBarc US Universal TR USD	3.3	2.8	0.0	1.00	100	3.3	-2.6	0.87	0.0
US Fund Intermediate Core-Plus Bond	3.1	2.7	-0.1	0.95	97	3.4	-2.3	0.81	0.5

# Performance Analysis

## TIAA-CREF Bond Plus Inst

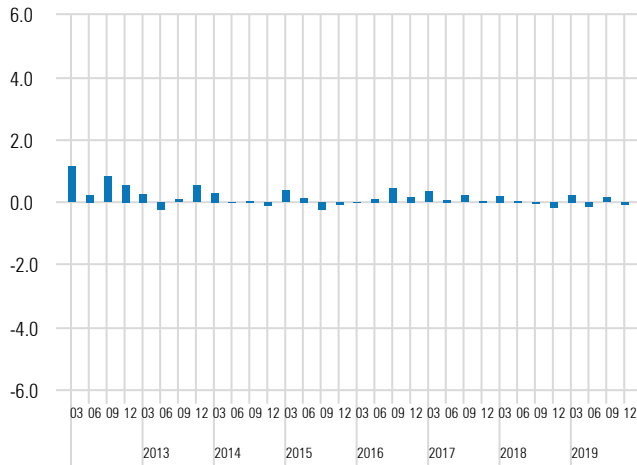
## PIMCO Total Return Instl

## Templeton Global Bond R6

### Quarterly Return +/- Index

Time Period: 1/1/2012 to 12/31/2019

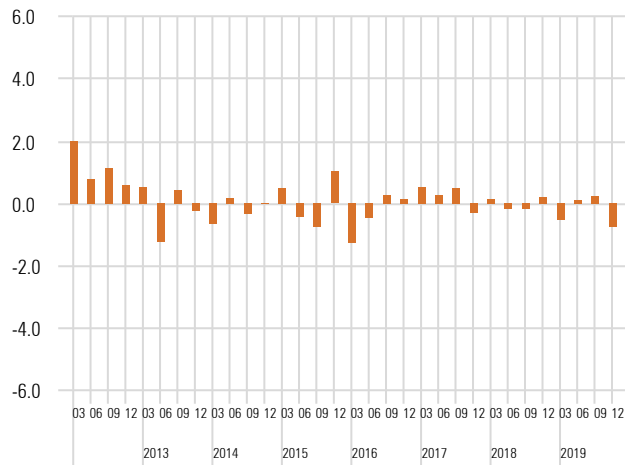
Rolling Window: 3 Months 3 Months shift



### Quarterly Return +/- Index

Time Period: 1/1/2012 to 12/31/2019

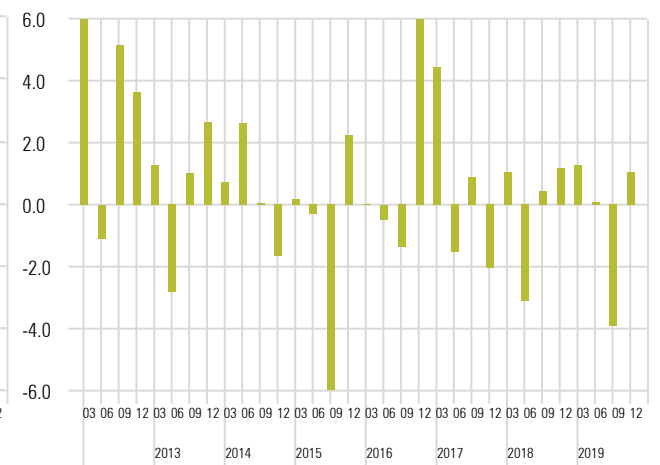
Rolling Window: 3 Months 3 Months shift



### Quarterly Return +/- Index

Time Period: 1/1/2012 to 12/31/2019

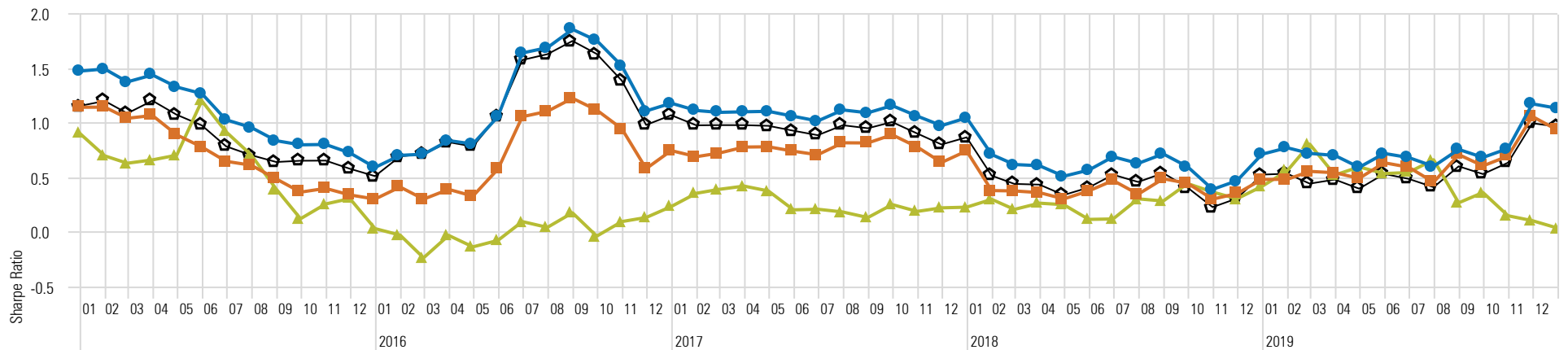
Rolling Window: 3 Months 3 Months shift



### Rolling 3 Year Sharpe Ratio

Time Period: 1/1/2012 to 12/31/2019

Rolling Window: 3 Years 1 Month shift



— TIAA-CREF Bond Plus Inst  
— BBgBarc US Universal TR USD

— PIMCO Total Return Instl

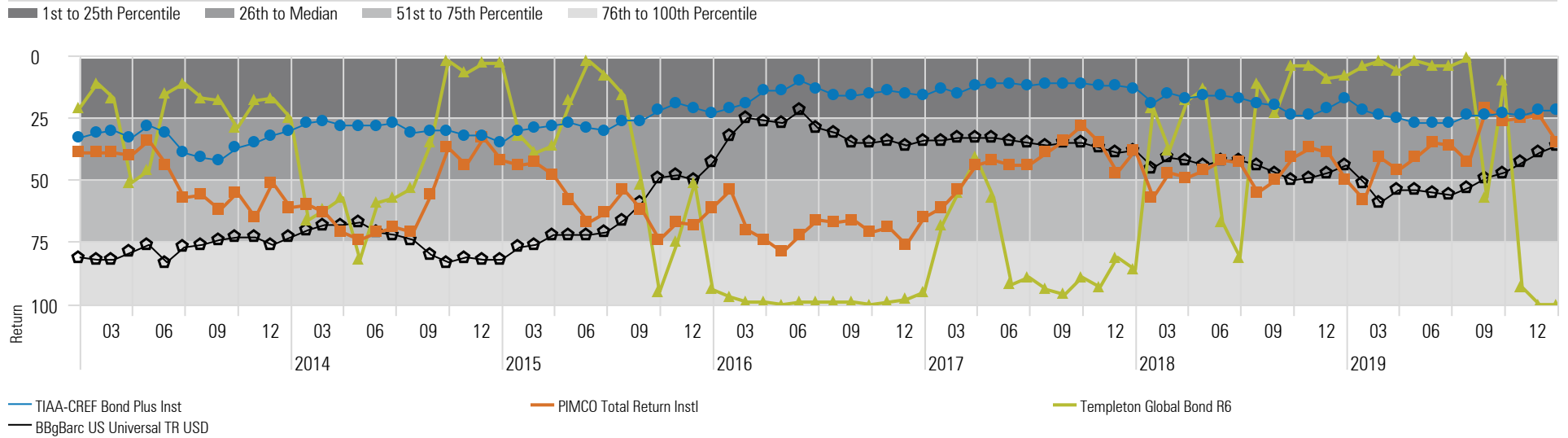
— Templeton Global Bond R6

# Rolling Peer Group Rankings

## Rolling 3 Year Peer Group Rank

Time Period: 1/1/2010 to 12/31/2019

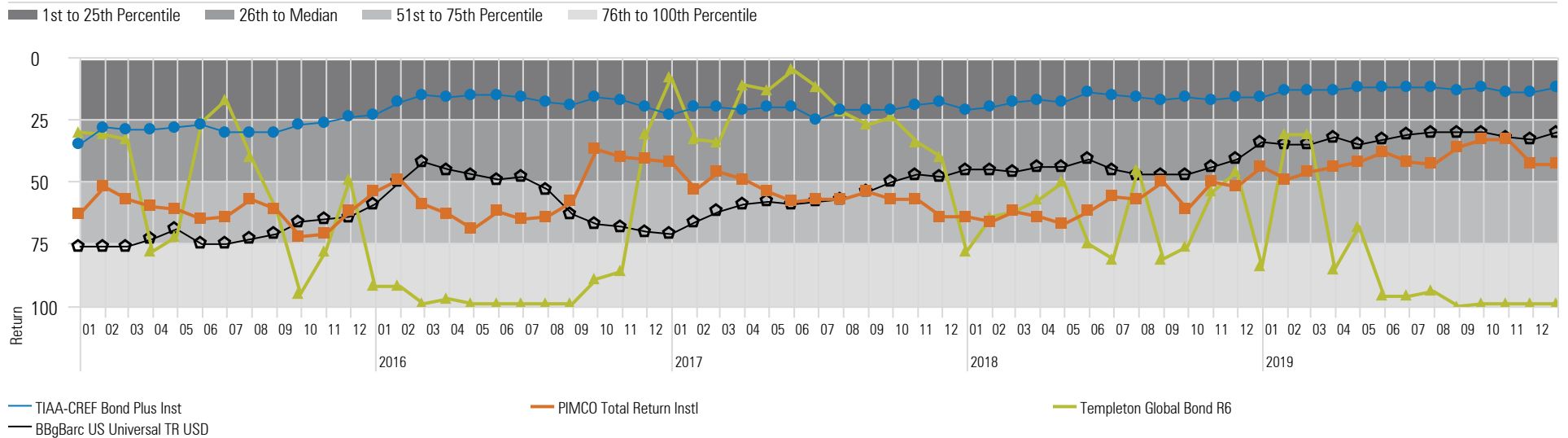
Rolling Window: 3 Years 1 Month shift



## Rolling 5 Year Peer Group Rank

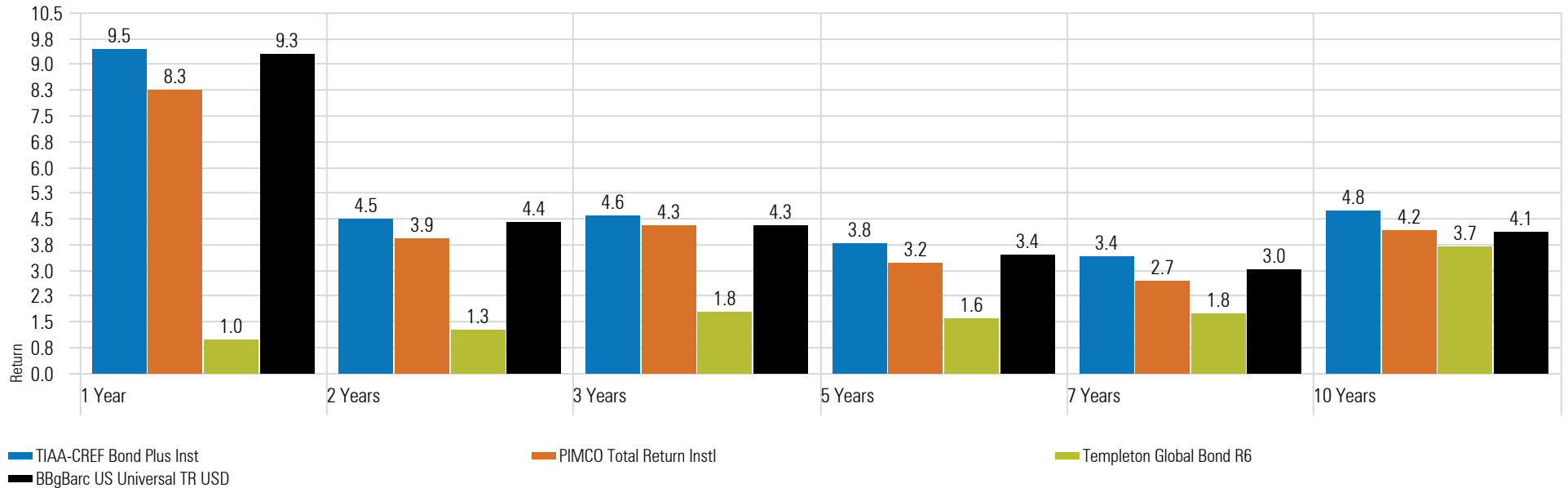
Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

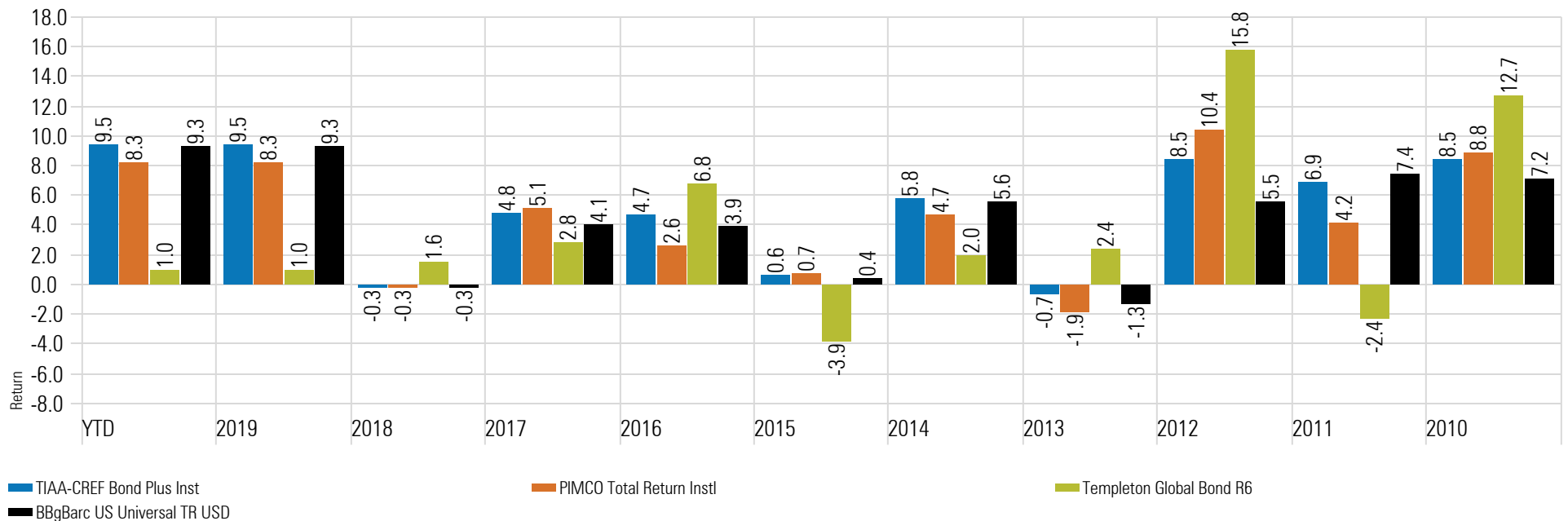


# Trailing Performance

## Cumulative Returns



## Annual Returns



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Intermediate Core-Plus Bond</b>																		
TIAA-CREF Bond Plus Inst	0.4	44	-0.07	9.5	41	0.17	9.5	41	0.17	4.6	22	0.30	3.8	12	0.37	4.8	22	0.64
PIMCO Total Return Instl	-0.3	94	-0.75	8.3	75	-1.03	8.3	75	-1.03	4.3	35	0.01	3.2	43	-0.19	4.2	56	0.06
BBgBarc US Universal TR USD	0.5			9.3			9.3			4.3			3.4			4.1		
Average	0.3			9.0			9.0			4.1			3.1			4.3		
<b>Nontraditional Bond</b>																		
Templeton Global Bond R6	1.6	41	1.06	1.0	94	-1.59	1.0	94	-1.59	1.8	83	-0.14	1.6	82	0.26	3.7	40	2.88
ICE BofA USD 3M Dep OR CM TR USD	0.5			2.6			2.6			1.9			1.3			0.8		
Average	1.6			6.7			6.7			3.3			2.8			3.4		

## Performance Summary - Calendar Year Periods

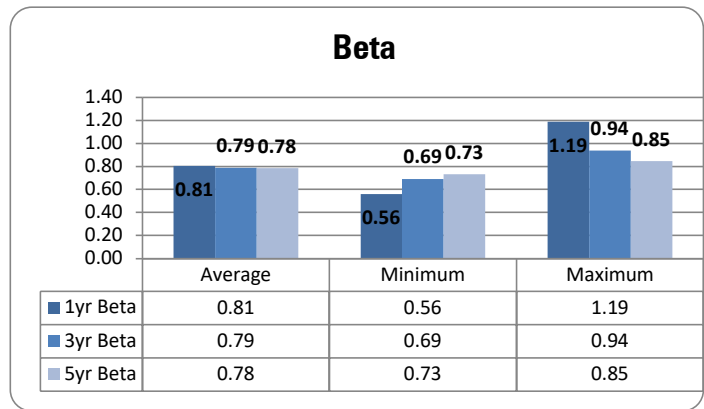
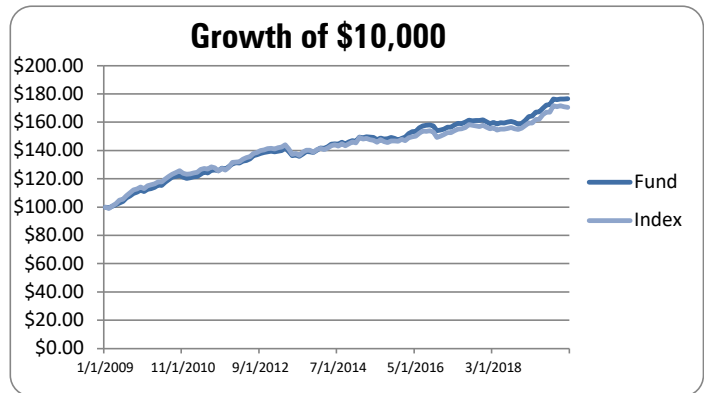
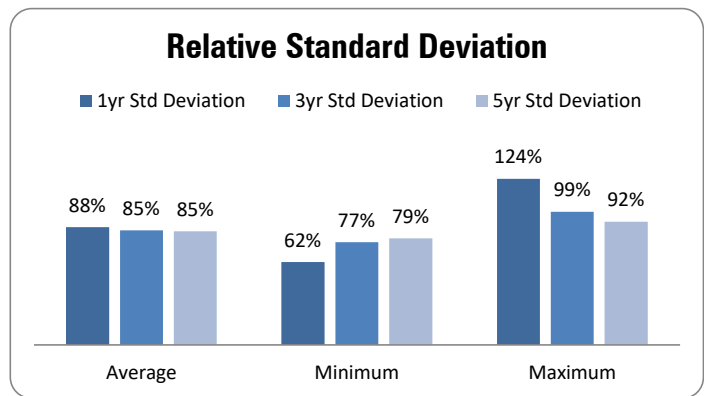
	2019			2018			2017			2016			2015			2014			2013		
	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Intermediate Core-Plus Bond</b>																					
TIAA-CREF Bond Plus Inst	9.5	41	0.17	-0.3	27	0.00	4.8	31	0.72	4.7	25	0.75	0.6	16	0.20	5.8	42	0.24	-0.7	40	0.66
PIMCO Total Return Instl	8.3	75	-1.03	-0.3	27	-0.01	5.1	20	1.04	2.6	82	-1.31	0.7	12	0.30	4.7	75	-0.86	-1.9	82	-0.58
BBgBarc US Universal TR USD	9.3			-0.3			4.1			3.9			0.4			5.6			-1.3		
Average	9.0			-0.7			4.3			4.0			-0.5			5.5			-0.8		
<b>Nontraditional Bond</b>																					
Templeton Global Bond R6	1.0	94	-1.59	1.6	14	-0.51	2.8	73	1.68	6.8	24	6.12	-3.9	86	-4.14	2.0	53	1.74	2.4	41	2.08
ICE BofA USD 3M Dep OR CM TR USD	2.6			2.1			1.1			0.7			0.2			0.2			0.3		
Average	6.7			-1.0			4.5			5.7			-0.9			2.2			1.5		

Fund Name	Comparative Index/Fund
TIAA-CREF Bond Plus Inst	100% PIMCO Total Return Instl

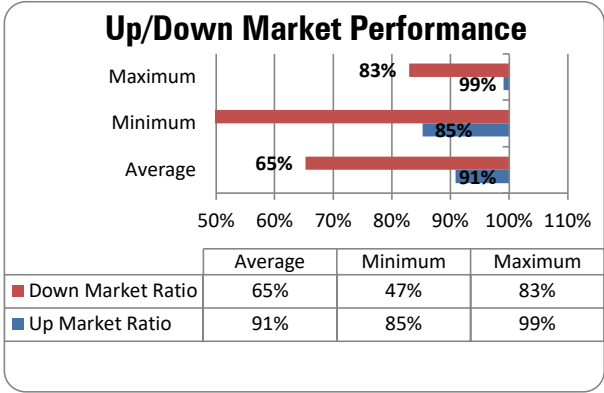
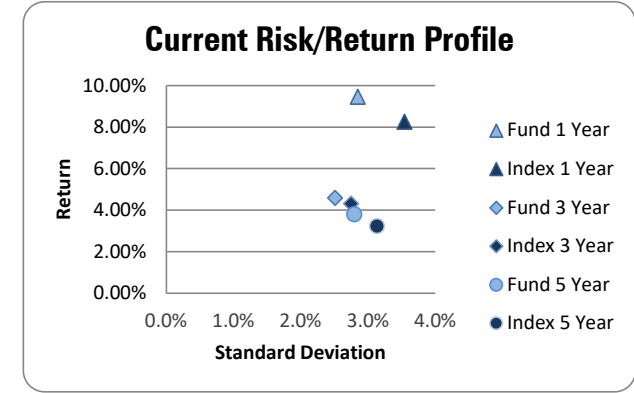
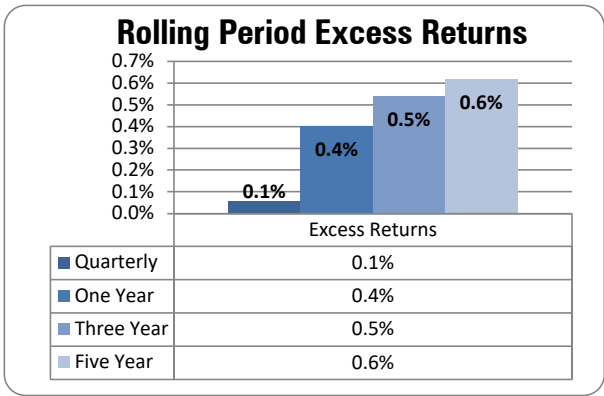
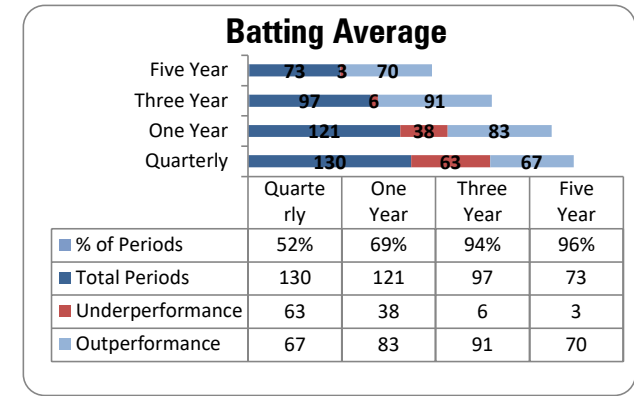
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## Risk Analysis



## Absolute Performance Summary



## Annualized Performance and Risk Statistics

	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
TIAA-CREF Bond Plus Inst	9.47%	3.10%	2.85%	3.93%	0.02%
100% PIMCO Total Return Instl	8.26%		3.54%	3.90%	-0.47%
<b>Latest Three Years</b>					
TIAA-CREF Bond Plus Inst	4.60%	0.88%	2.51%	3.93%	-1.41%
100% PIMCO Total Return Instl	4.31%		2.75%	3.90%	-1.27%
<b>Latest Five Years</b>					
TIAA-CREF Bond Plus Inst	3.80%	1.13%	2.79%	3.93%	-2.53%
100% PIMCO Total Return Instl	3.25%		3.13%	3.90%	-2.73%
<b>Latest Ten Years</b>					
TIAA-CREF Bond Plus Inst	4.76%	1.43%	2.88%	5.00%	-3.47%
100% PIMCO Total Return Instl	4.19%		3.36%	4.77%	-4.26%

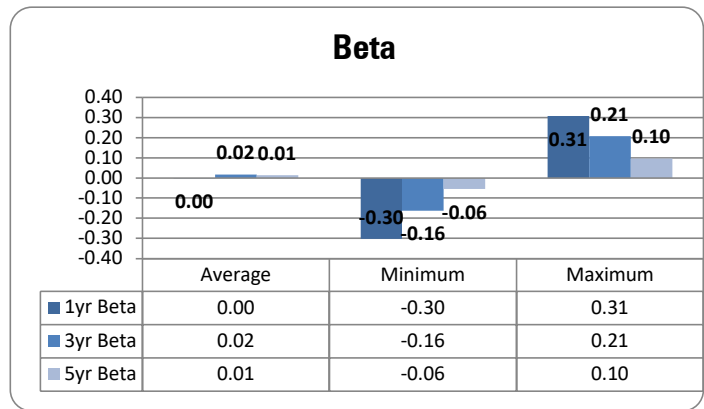
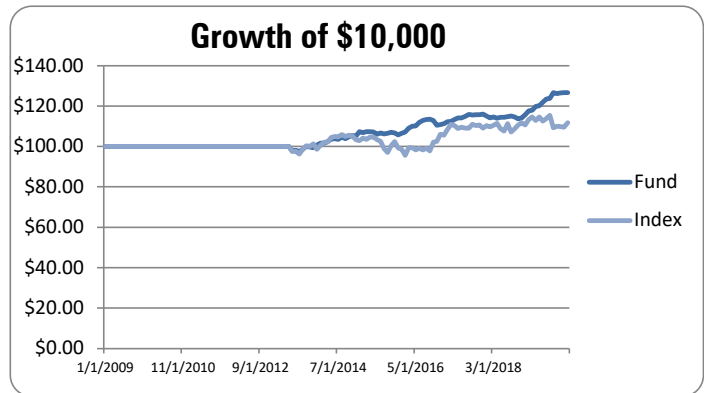
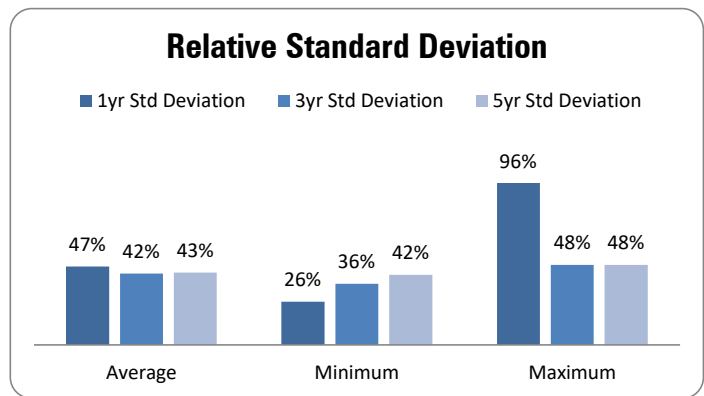


Fund Name	Comparative Index/Fund
TIAA-CREF Bond Plus Inst	100% Templeton Global Bond R6

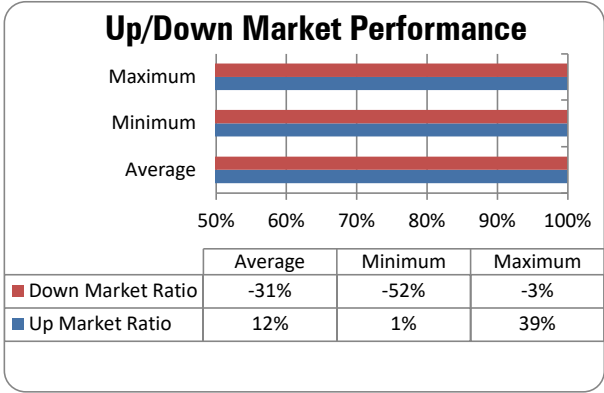
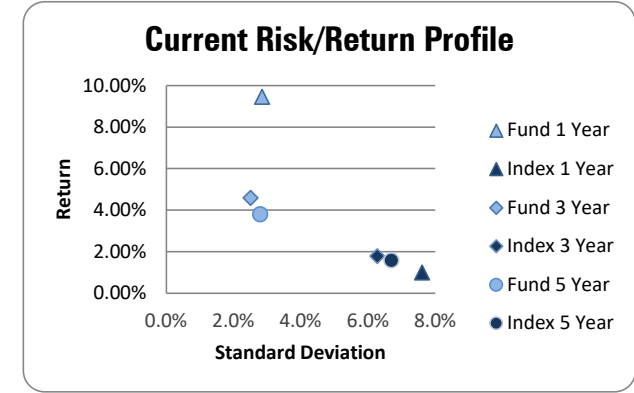
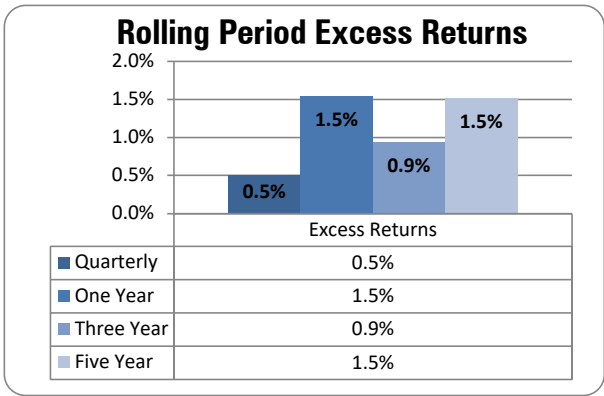
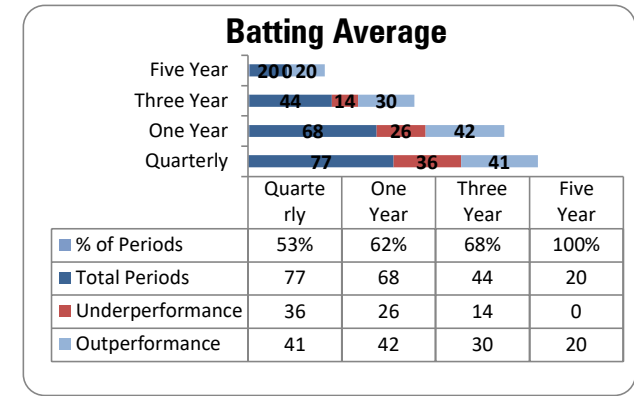
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## Risk Analysis



## Absolute Performance Summary



## Annualized Performance and Risk Statistics

	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
TIAA-CREF Bond Plus Inst	9.47%	9.69%	2.85%	3.93%	0.02%
100% Templeton Global Bond R6	1.01%		7.61%	2.63%	-4.96%
<b>Latest Three Years</b>					
TIAA-CREF Bond Plus Inst	4.60%	4.89%	2.51%	3.93%	-1.41%
100% Templeton Global Bond R6	1.79%		6.28%	5.81%	-4.96%
<b>Latest Five Years</b>					
TIAA-CREF Bond Plus Inst	3.80%	3.89%	2.79%	3.93%	-2.53%
100% Templeton Global Bond R6	1.59%		6.70%	8.32%	-6.62%
<b>Latest Ten Years</b>					
TIAA-CREF Bond Plus Inst				3.93%	-2.53%
100% Templeton Global Bond R6				8.32%	-6.62%

Fund Name	Comparative Index/Fund
PIMCO Total Return Instl	100% Templeton Global Bond R6

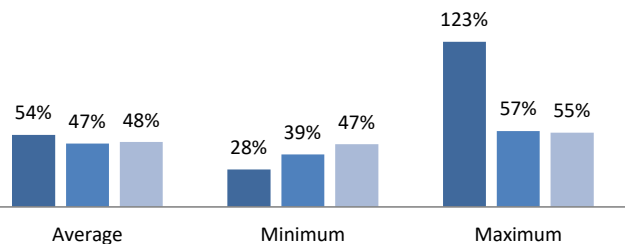
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## Risk Analysis

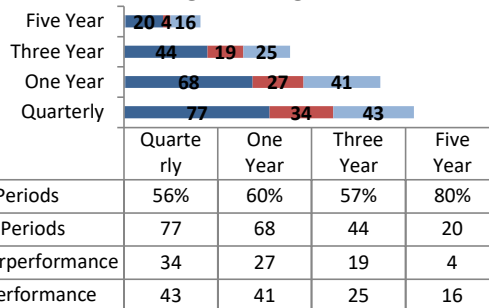
### Relative Standard Deviation

■ 1yr Std Deviation ■ 3yr Std Deviation ■ 5yr Std Deviation

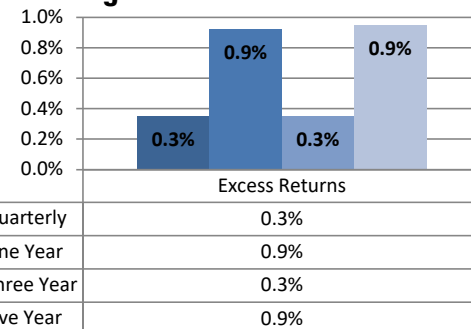


## Absolute Performance Summary

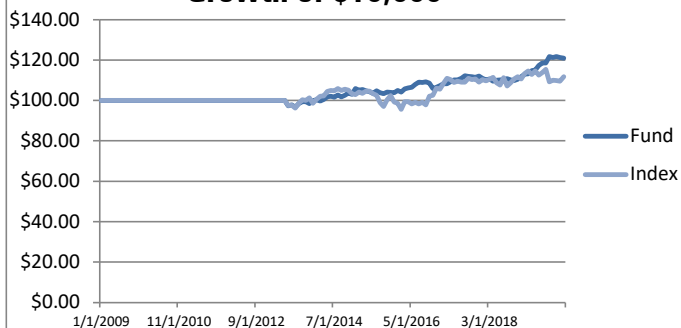
### Batting Average



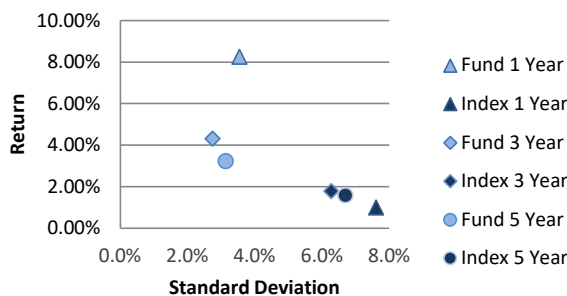
### Rolling Period Excess Returns



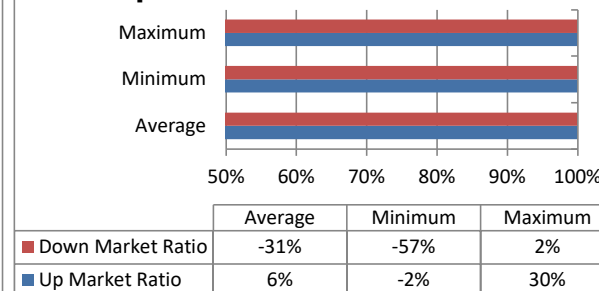
### Growth of \$10,000



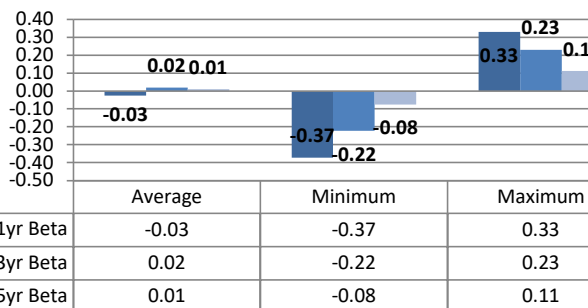
### Current Risk/Return Profile



### Up/Down Market Performance



### Beta



### Annualized Performance and Risk Statistics

	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
PIMCO Total Return Instl	8.26%	8.60%	3.54%	3.90%	-0.47%
100% Templeton Global Bond R6	1.01%		7.61%	2.63%	-4.96%
<b>Latest Three Years</b>					
PIMCO Total Return Instl	4.31%	4.71%	2.75%	3.90%	-1.27%
100% Templeton Global Bond R6	1.79%		6.28%	5.81%	-4.96%
<b>Latest Five Years</b>					
PIMCO Total Return Instl	3.25%	3.37%	3.13%	3.90%	-2.73%
100% Templeton Global Bond R6	1.59%		6.70%	8.32%	-6.62%
<b>Latest Ten Years</b>					
PIMCO Total Return Instl				3.90%	-3.21%
100% Templeton Global Bond R6				8.32%	-6.62%

# TIAA-CREF Bond Plus Inst

TIBFX

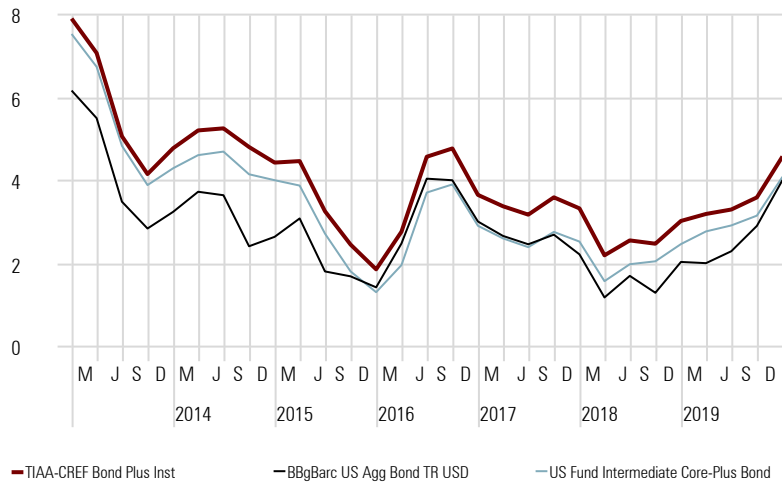
**Index:** BBgBarc US Agg Bond TR USD  
**Category:** US Fund Intermediate Core-Plus Bond  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: BBgBarc US Agg Bond TR USD

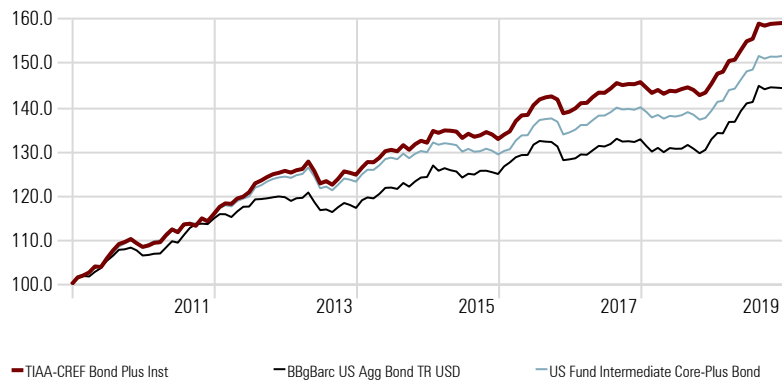
	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Bond Plus Inst	9.5	9.5	4.6	3.8	4.8	4.7
BBgBarc US Agg Bond TR USD	8.7	8.7	4.0	3.0	3.7	4.2
US Fund Intermediate Core-Plus Bond	8.9	8.9	4.1	3.1	4.3	4.3

## Returns (Rolling 36 Months)



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019

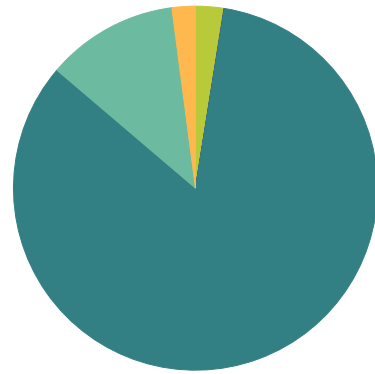


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.30	0.80	
Gross Expense Ratio	0.30	1.14	

## Asset Allocation

Portfolio Date: 12/31/2019



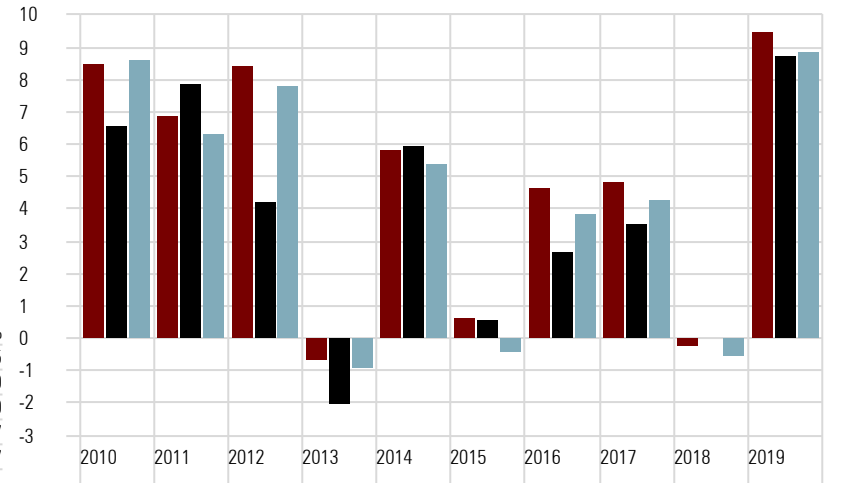
	%
Cash	2.5
US Equity	0.0
Non-US Equity	0.0
US Bond	83.7
Non-US Bond	11.7
Other	2.1

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: BBgBarc US Agg Bond TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Bond Plus Inst	70.0	30.0	2.2	-2.2	3.6	-2.6	108.1	77.5
BBgBarc US Agg Bond TR USD	65.0	35.0	2.6	-2.4	3.8	-3.0	100.0	100.0
US Fund Intermediate Core-Plus Bond	70.0	30.0	2.1	-2.2	3.5	-2.6	100.7	79.8

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	2.5	0.1	2.8	0.1
Down Deviation	0.5	-0.1	0.6	-0.1
Beta	0.8	0.0	0.9	0.0
Alpha	0.9	0.4	1.0	0.6
Sharpe	1.1	0.2	1.0	0.2
Sortino	2.4	0.4	1.7	0.4
Info Ratio	0.7	0.6	0.8	0.7
Down Capture	64.7	-5.6	74.1	-4.4
Up Capture	97.5	6.1	101.4	9.6

## Top 10 Holdings

	Fund %
United States Treasury Notes 2.62%	1.9
United States Treasury Bonds 2.25%	1.7
United States Treasury Bonds 3%	1.6
Federal National Mortgage Association 3.5%	1.0
United States Treasury Notes 1.62%	1.0
Federal National Mortgage Association 4%	1.0
United States Treasury Bonds 2.88%	0.9
Federal National Mortgage Association 3%	0.9
United States Treasury Notes 1.62%	0.9
Federal Home Loan Mortgage Corporation 3%	0.9

# Other Bond Searches

As of 12/31/2019



# US Fund Intermediate Core Bond

## TIAA-CREF Bond Index Institutional

### Investment Strategy

The investment seeks total return that corresponds with the total return of a broad U.S. investment-grade bond market index. The fund invests at least 80% of its assets in bonds within its benchmark and portfolio tracking index, the Bloomberg Barclays U.S. Aggregate Bond Index. The securities purchased by the fund will mainly be high-quality instruments rated in the top four credit categories by Moody's or S&P or deemed to be of the same quality by the advisors using its own credit quality analysis.

### Manager Biography

Lijun (Kevin) Chen since 12/31/2009

James Tsang since 8/24/2011

### TIAA-CREF Bond Index Institutional - Operations

Inception Date	9/14/2009
Fund Size (\$mm)	17,812
Annual Report Net Expense Ratio	0.11
Prospectus Net Expense Ratio	0.11
Prospectus Gross Expense Ratio	0.11
Ticker	TBIIX
Manager Tenure (Longest)	10.08
Manager Tenure (Average)	9.25
Morningstar Institutional Category	Intermediate Investment Grade (4-6)

### Other Notes:

None

## TIAA-CREF Short-Term Bond Inst

### Investment Strategy

The investment seeks current income. The fund invests at least 80% of its assets in U.S. Treasury and agency securities and investment-grade fixed-income investments with an average maturity or average lives of less than 5 years. It primarily invests in a broad range of investment-grade bonds and fixed-income securities, including, but not limited to, U.S. government securities, corporate bonds and mortgage-backed and other asset-backed securities.

### Manager Biography

John Michael Cerra since 3/31/2006

Richard William Cheng since 8/24/2011

Peter L. Agrimson since 8/1/2019

### TIAA-CREF Short-Term Bond Inst - Operations

Inception Date	3/31/2006
Fund Size (\$mm)	2,116
Annual Report Net Expense Ratio	0.27
Prospectus Net Expense Ratio	0.27
Prospectus Gross Expense Ratio	0.27
Ticker	TISIX
Manager Tenure (Longest)	13.83
Manager Tenure (Average)	7.56
Morningstar Institutional Category	A-Rated

### Other Notes:

None

## Goldman Sachs Government Income Instl

### Investment Strategy

The investment seeks a high level of current income, consistent with safety of principal. The fund normally invests at least 80% of its net assets plus any borrowings for investment purposes (measured at the time of purchase) in securities issued or guaranteed by the U.S. government, its agencies, instrumentalities or sponsored enterprises and in repurchase agreements collateralized by such securities. Its investments in non-U.S. government securities must be rated AAA or Aaa by a nationally recognized statistical rating organization at the time of purchase, or, if unrated, must be determined by the Investment Adviser to be of comparable credit quality.

### Manager Biography

Michael Swell since 3/31/2009

Mark Van Wyk since 1/13/2010

Matthew T. Kaiser since 7/29/2016

### Goldman Sachs Government Income Instl - Operations

Inception Date	8/15/1997
Fund Size (\$mm)	304
Annual Report Net Expense Ratio	0.57
Prospectus Net Expense Ratio	0.57
Prospectus Gross Expense Ratio	0.77
Ticker	GSOIX
Manager Tenure (Longest)	10.83
Manager Tenure (Average)	8.11
Morningstar Institutional Category	Short/Intermediate Government (2.5-4)

### Other Notes:

None

# Portfolio Analysis

## TIAA-CREF Bond Index Institutional

## TIAA-CREF Short-Term Bond Inst

## Goldman Sachs Government Income Instl

### Style Allocation

Portfolio Date: 11/30/2019

Morningstar Fixed Income Style Box™			Credit Quality	%
Ltd	Mod	Ext		
			Credit Qual AAA %	-
			Credit Qual AA %	-
			Credit Qual A %	-
			Credit Qual BBB %	-
			Credit Qual BB %	-
			Credit Qual B %	-
			Credit Qual Below B %	-
			Credit Qual Not Rated %	-

### Style Allocation

Portfolio Date: 11/30/2019

Morningstar Fixed Income Style Box™			Credit Quality	%
Ltd	Mod	Ext		
			Credit Qual AAA %	-
			Credit Qual AA %	-
			Credit Qual A %	-
			Credit Qual BBB %	-
			Credit Qual BB %	-
			Credit Qual B %	-
			Credit Qual Below B %	-
			Credit Qual Not Rated %	-

### Style Allocation

Portfolio Date: 9/30/2019

Morningstar Fixed Income Style Box™			Credit Quality	%
Ltd	Mod	Ext		
			Credit Qual AAA %	97.5
			Credit Qual AA %	0.0
			Credit Qual A %	0.9
			Credit Qual BBB %	0.0
			Credit Qual BB %	0.0
			Credit Qual B %	0.0
			Credit Qual Below B %	0.0
			Credit Qual Not Rated %	1.6

### Portfolio Data

Average Credit Quality	AA
Average Eff Duration	5.7
Modified Duration	
Average Eff Maturity	7.9
Average Coupon	3.1
Average Price	106.0
SEC Yield	2.2

### Portfolio Data

Average Credit Quality	BBB
Average Eff Duration	1.9
Modified Duration	
Average Eff Maturity	2.4
Average Coupon	3.0
Average Price	101.3
SEC Yield	2.2

### Portfolio Data

Average Credit Quality	AA
Average Eff Duration	4.9
Modified Duration	
Average Eff Maturity	23.3
Average Coupon	3.6
Average Price	104.8
SEC Yield	1.7

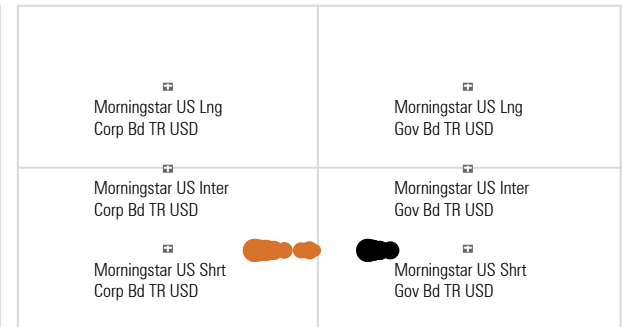
### Returns-Based Style Map

Time Period: 1/1/2015 to 10/31/2019



### Returns-Based Style Map

Time Period: 1/1/2015 to 10/31/2019



### Returns-Based Style Map

Time Period: 1/1/2015 to 10/31/2019



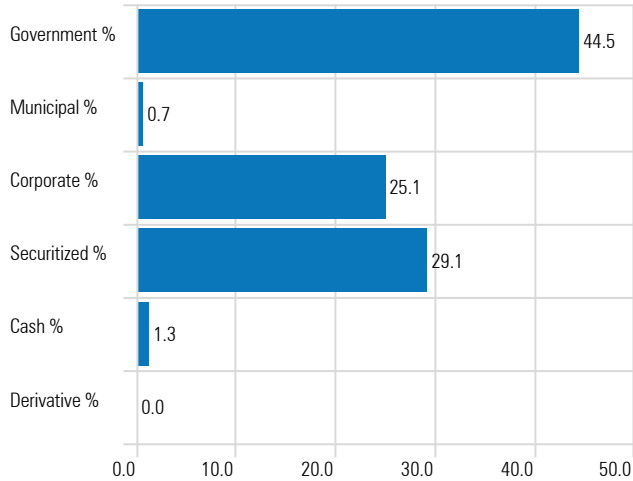
# Sector Exposure and Top 15 Holdings

## TIAA-CREF Bond Index Institutional

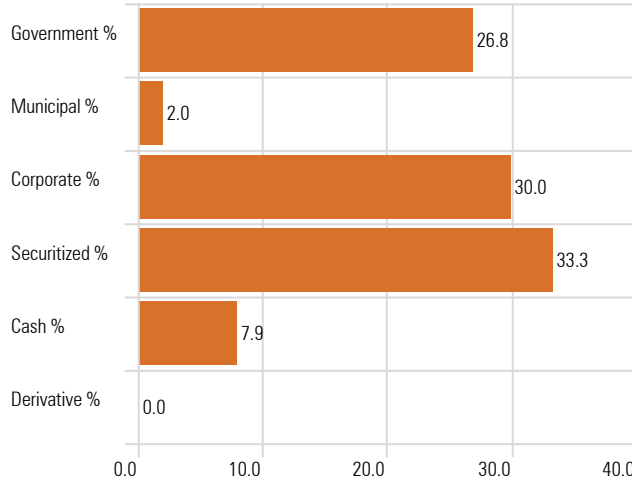
## TIAA-CREF Short-Term Bond Inst

## Goldman Sachs Government Income Instl

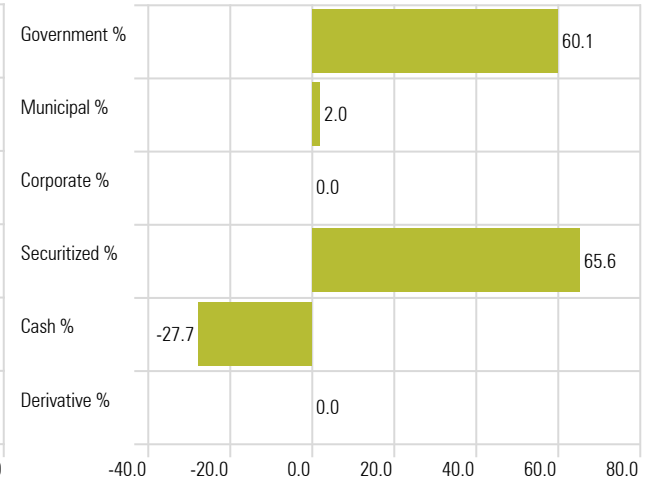
### Sector Allocation



### Sector Allocation



### Sector Allocation



■ TIAA-CREF Bond Index Institutional

■ TIAA-CREF Short-Term Bond Inst

■ Goldman Sachs Government Income Instl

### TIAA-CREF Bond Index Institutional - Top Holdings

Portfolio Date: 11/30/2019

Security	Portfolio Weighting %
United States Treasury Bonds	3.5%
United States Treasury Notes	2.12%
United States Treasury Notes	1.75%
United States Treasury Notes	2.25%
United States Treasury Notes	2.25%
United States Treasury Bonds	3.12%
United States Treasury Notes	1.88%
United States Treasury Bonds	3%
United States Treasury Notes	1.75%
United States Treasury Notes	2.5%
United States Treasury Notes	2.75%
Federal National Mortgage Association	3%
United States Treasury Notes	2%
United States Treasury Notes	2%
United States Treasury Notes	2.62%

### TIAA-CREF Short-Term Bond Inst - Top Holdings

Portfolio Date: 11/30/2019

Security	Portfolio Weighting %
United States Treasury Notes	2.38%
United States Treasury Notes	1.5%
United States Treasury Notes	1.75%
United States Treasury Notes	1.5%
United States Treasury Notes	1.88%
SEQUOIA MORTGAGE TRUST	3.5%
JPMorgan Chase Bank, National Association	3.09%
Iraq (Republic Of)	2.15%
United States Treasury Notes	2.25%
NEW YORK N Y	2.28%
United States Treasury Notes	2.5%
CPPIB Capital Inc	2.75%
Kommunalbanken AS	2.5%
Federation des Caisses Desjardins du Quebec	1.95%
HSBC Bank Canada	1.65%

### Goldman Sachs Government Income Instl - Top Holdings

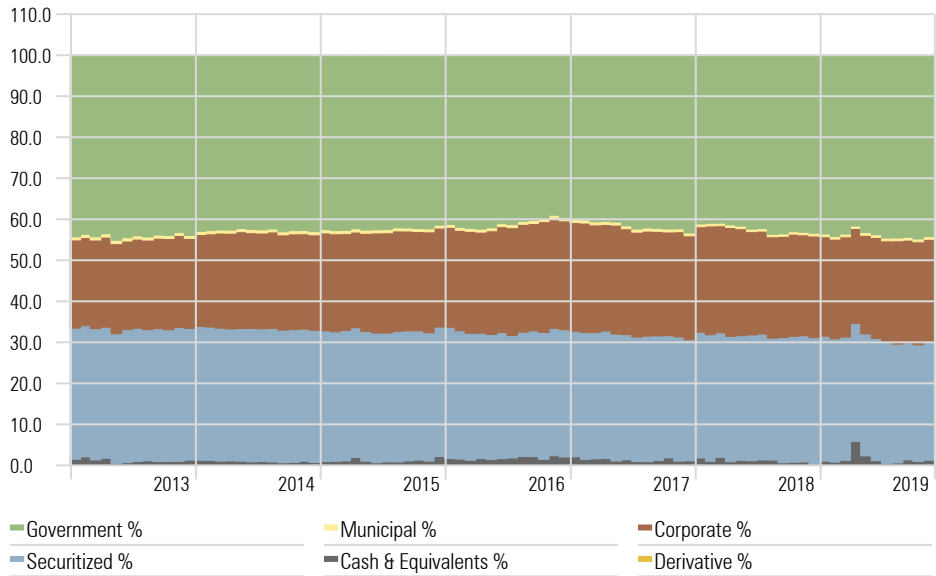
Portfolio Date: 9/30/2019

Security	Portfolio Weighting %
Federal National Mortgage Association	3%
Federal National Mortgage Association	4%
Government National Mortgage Association	3%
United States Treasury Bills	0%
Federal National Mortgage Association	4.5%
Government National Mortgage Association	3%
Federal National Mortgage Association	3%
Government National Mortgage Association	3%
Federal National Mortgage Association	3%
United States Treasury Notes	2.88%
Federal National Mortgage Association	4.5%
Government National Mortgage Association	4.5%
Federal National Mortgage Association	3.5%
Federal National Mortgage Association	5%
Federal National Mortgage Association	4%
Federal Home Loan Mortgage Corporation	5%

# Historical Sector Exposure

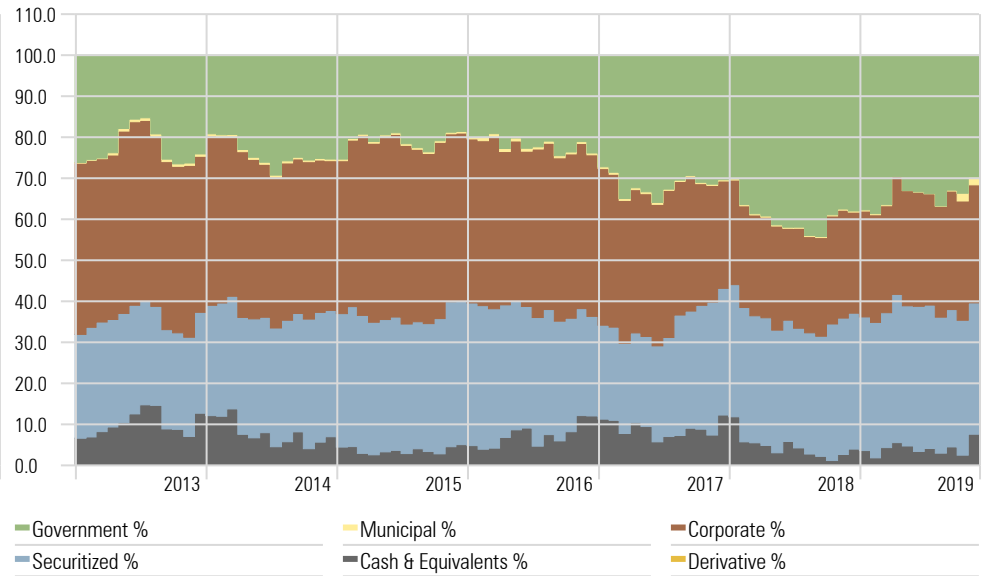
**TIAA-CREF Bond Index Institutional - Fixed-Inc Super Sectors (Mornings)**

Time Period: 1/1/2013 to 11/30/2019



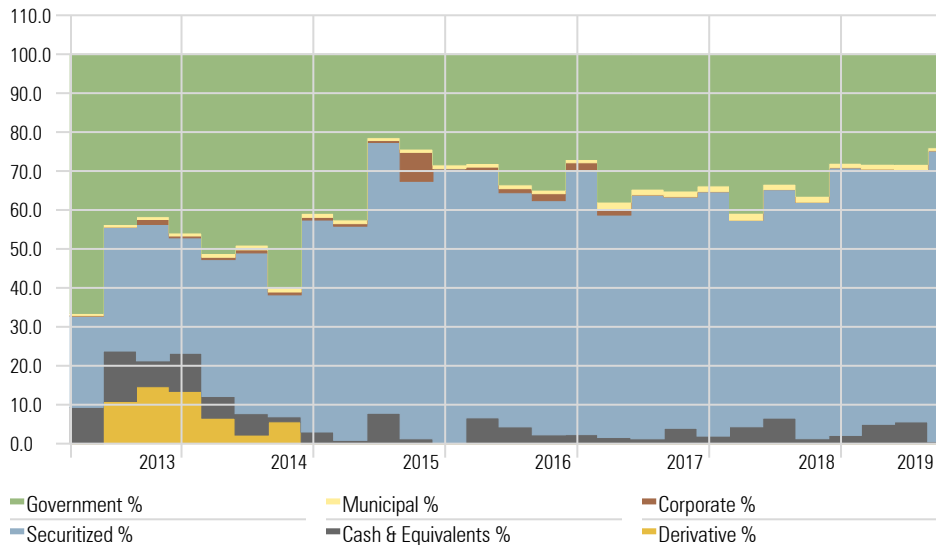
**TIAA-CREF Short-Term Bond Inst - Fixed-Inc Super Sectors (Morningstar)**

Time Period: 1/1/2013 to 11/30/2019



**Goldman Sachs Government Income Instl - Fixed-Inc Super Sectors (Moi)**

Time Period: 3/1/2013 to 9/30/2019

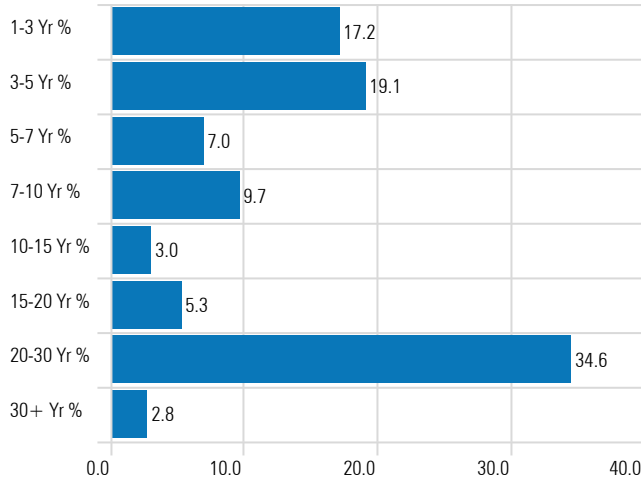




# Maturity and Coupon Breakdown

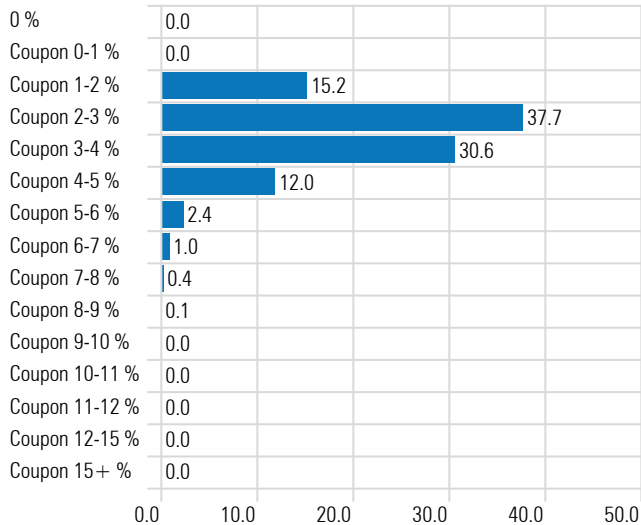
## TIAA-CREF Bond Index Institutional

### Maturity Breakdown



■ TIAA-CREF Bond Index Institutional

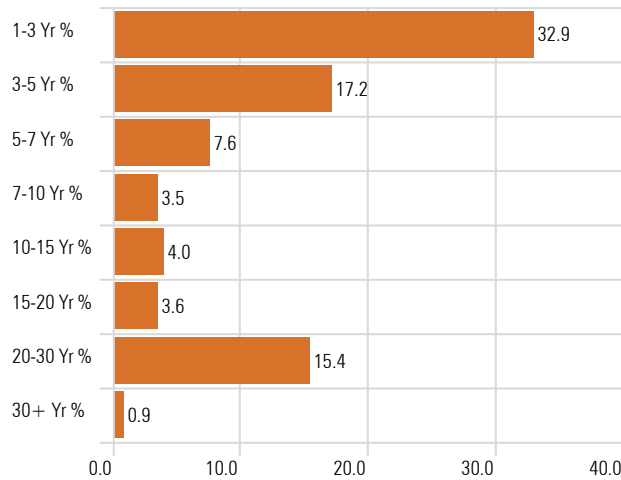
### Coupon Breakdown



■ TIAA-CREF Bond Index Institutional

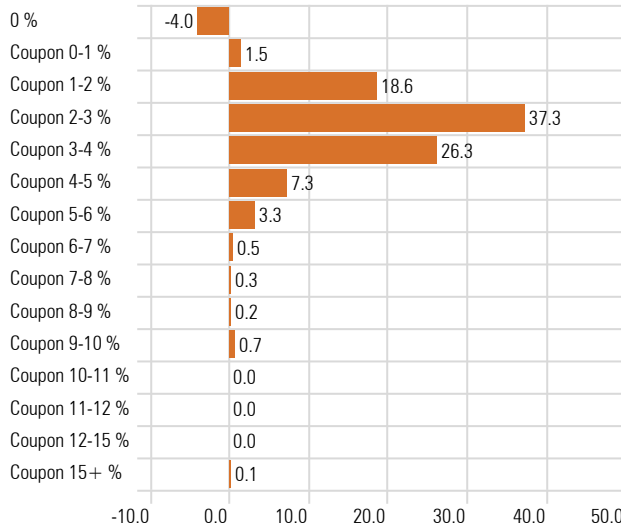
## TIAA-CREF Short-Term Bond Inst

### Maturity Breakdown



■ TIAA-CREF Short-Term Bond Inst

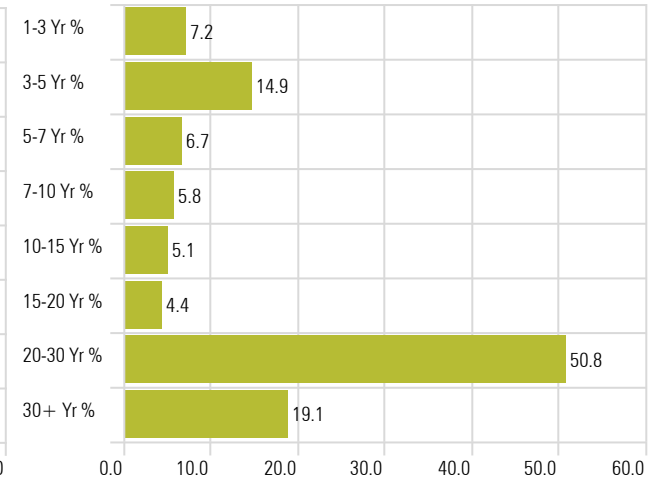
### Coupon Breakdown



■ TIAA-CREF Short-Term Bond Inst

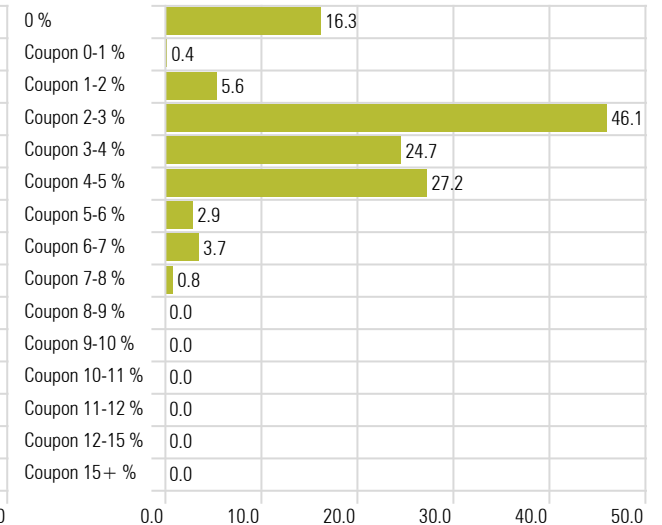
## Goldman Sachs Government Income Instl

### Maturity Breakdown



■ Goldman Sachs Government Income Instl

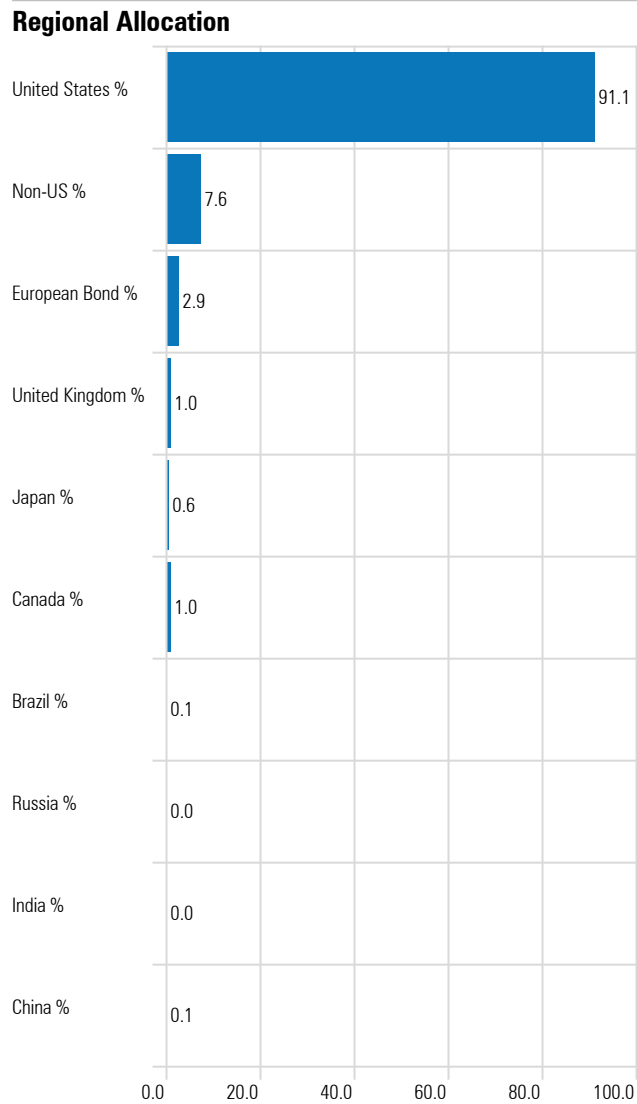
### Coupon Breakdown



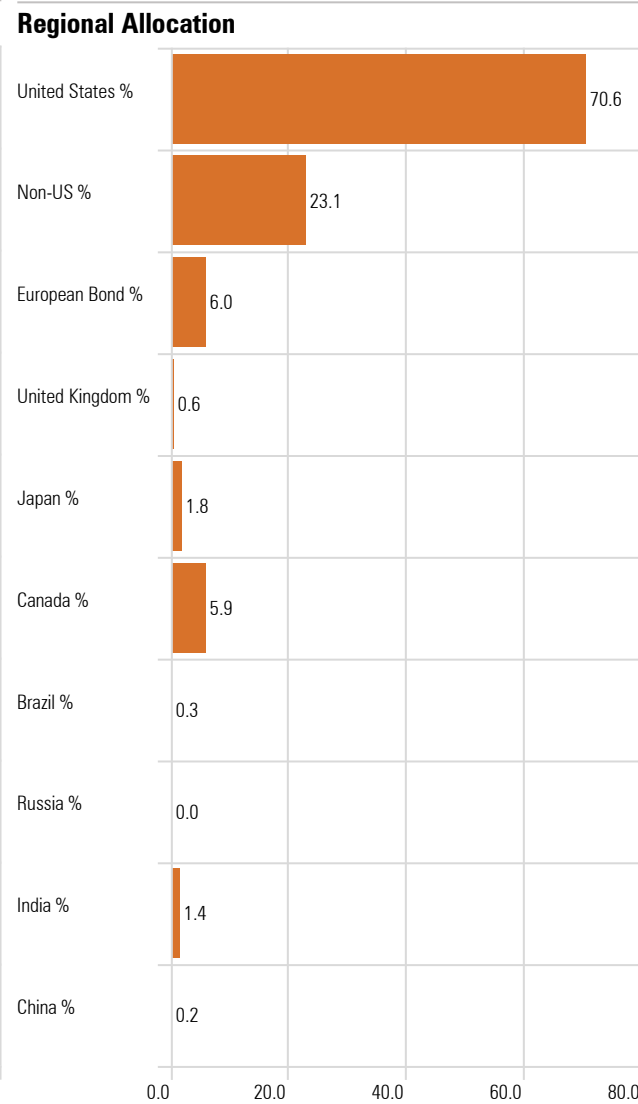
■ Goldman Sachs Government Income Instl

# International Exposure

## TIAA-CREF Bond Index Institutional



## TIAA-CREF Short-Term Bond Inst



## Goldman Sachs Government Income Instl



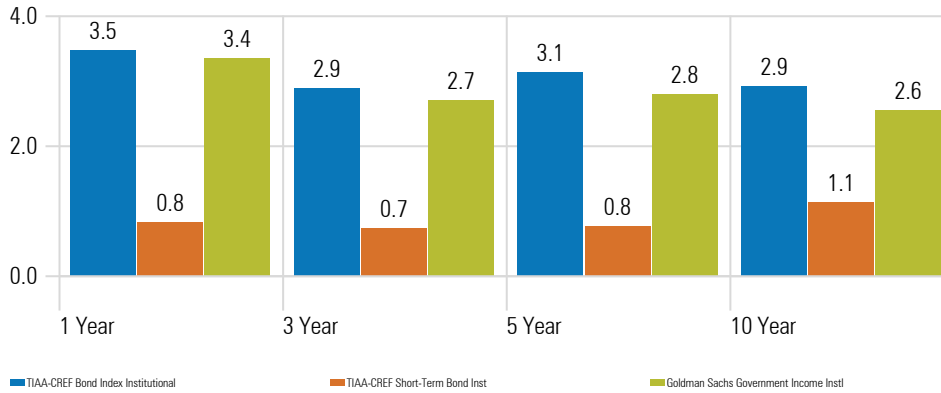
■ TIAA-CREF Bond Index Institutional

■ TIAA-CREF Short-Term Bond Inst

■ Goldman Sachs Government Income Instl

# Risk/Return Performance Analysis

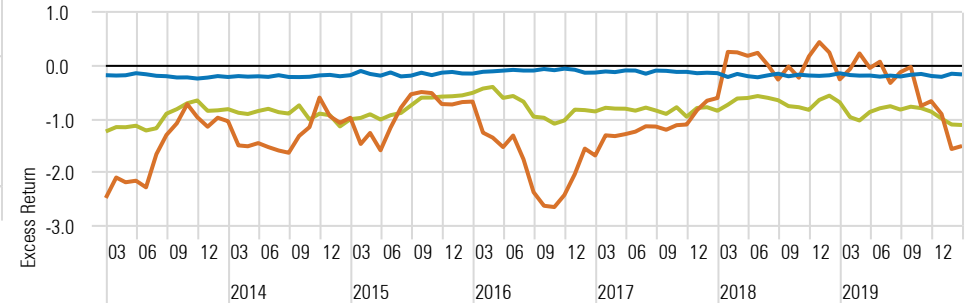
## Standard Deviation



## 3 Year Relative Rolling Returns

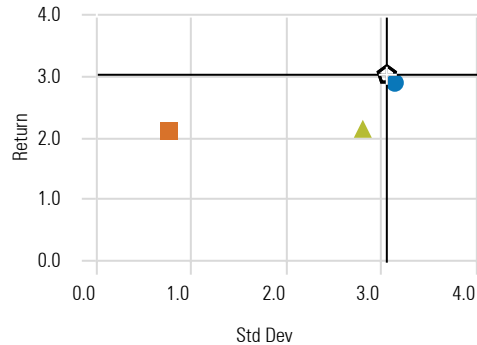
Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift



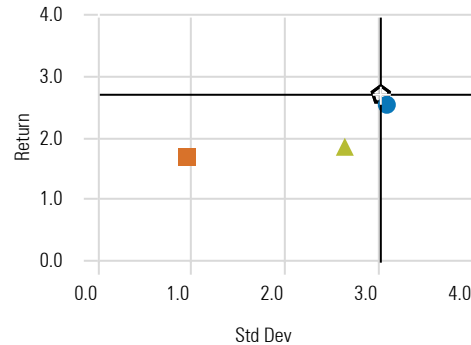
## 5 Year Risk-Reward

Time Period: 1/1/2015 to 12/31/2019



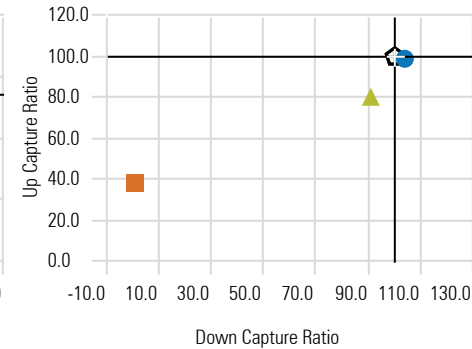
## 7 Year Risk-Reward

Time Period: 1/1/2013 to 12/31/2019



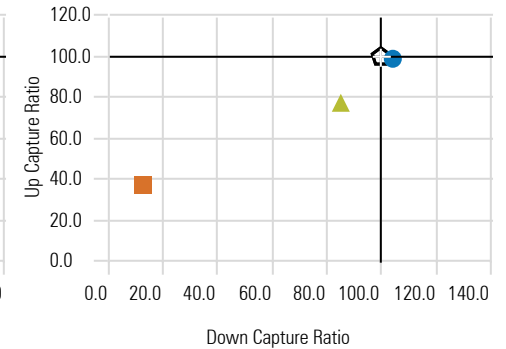
## 5 Year Market Capture

Time Period: 1/1/2015 to 12/31/2019



## 7 Year Market Capture

Time Period: 1/1/2013 to 12/31/2019



## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (10/1/2009) to 12/31/2019

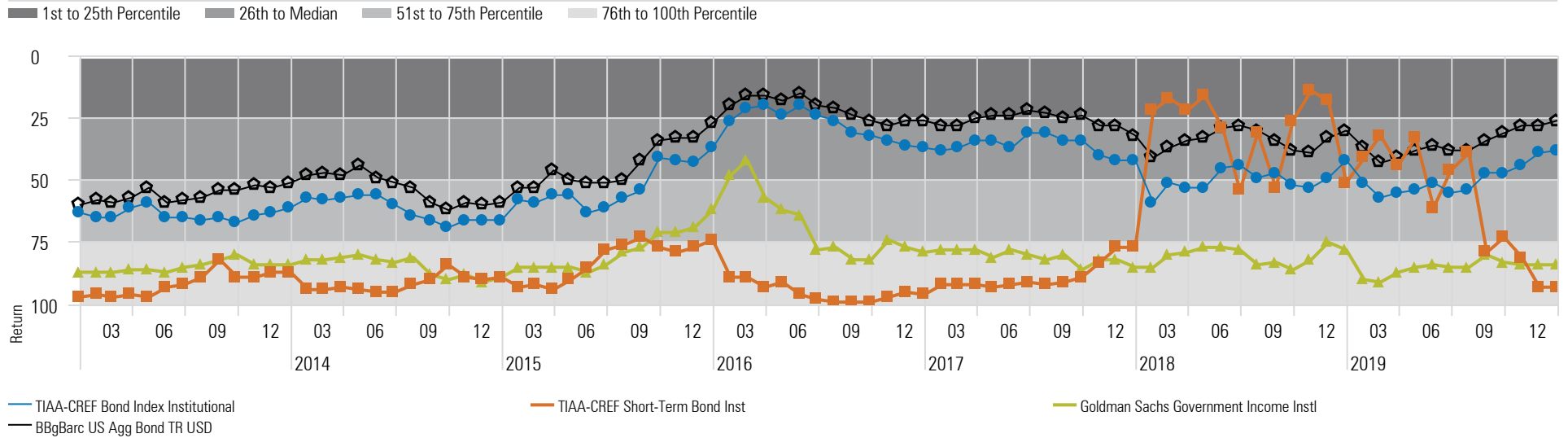
	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
TIAA-CREF Bond Index Institutional	3.5	3.0	-0.2	1.02	99	3.7	-3.2	0.98	0.2
TIAA-CREF Short-Term Bond Inst	2.3	1.2	0.7	0.32	61	2.1	-1.2	1.45	2.1
Goldman Sachs Government Income Instl	2.7	2.6	-0.5	0.86	93	3.9	-2.8	0.82	0.8
BBgBarc US Agg Bond TR USD	3.7	2.9	0.0	1.00	100	3.8	-3.0	1.06	0.0
US Fund Intermediate Core Bond	3.8	2.7	0.5	0.88	88	3.3	-2.6	1.20	1.0

# Rolling Peer Group Rankings

## Rolling 3 Year Peer Group Rank

Time Period: 1/1/2010 to 12/31/2019

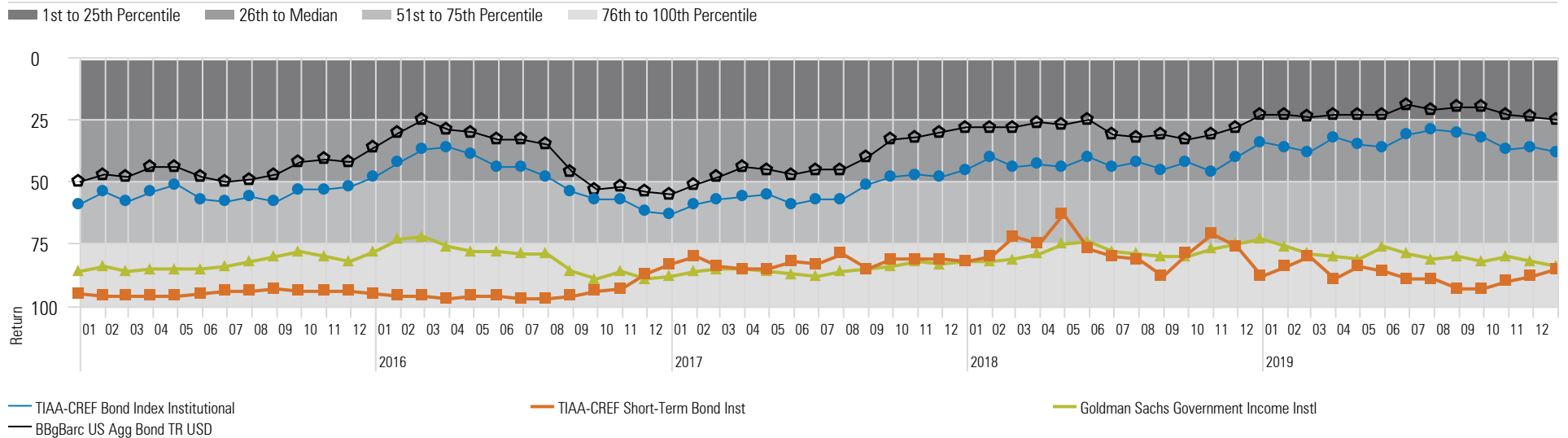
Rolling Window: 3 Years 1 Month shift



## Rolling 5 Year Peer Group Rank

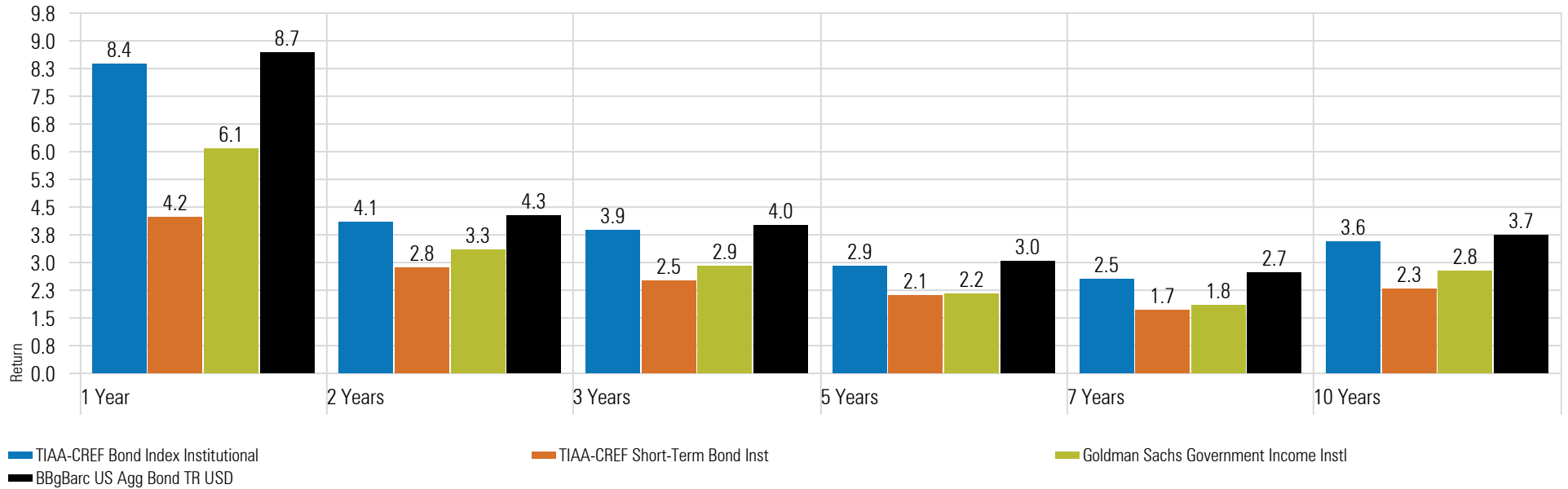
Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

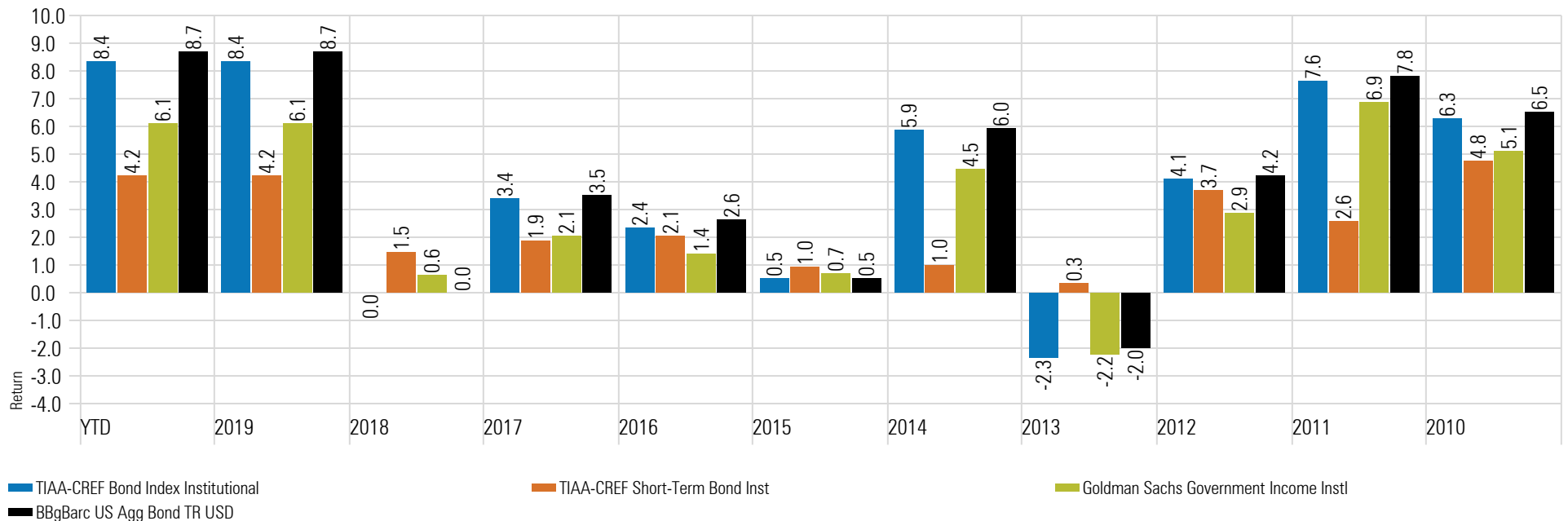


# Trailing Performance

## Cumulative Returns



## Annual Returns



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Intermediate Core Bond</b>																		
TIAA-CREF Bond Index Institutional	0.0	61	-0.17	8.4	48	-0.34	8.4	48	-0.34	3.9	38	-0.16	2.9	38	-0.15	3.6	54	-0.17
BBgBarc US Agg Bond TR USD	0.2			8.7			8.7			4.0			3.0			3.7		
Average	0.1			8.1			8.1			3.6			2.7			3.5		
<b>Intermediate Government</b>																		
Goldman Sachs Government Income Instl	-0.3	62	-0.34	6.1	36	0.91	6.1	36	0.91	2.9	26	0.35	2.2	25	0.18	2.8	41	0.39
BBgBarc US Govt Interm TR USD	0.0			5.2			5.2			2.6			2.0			2.4		
Average	-0.1			5.7			5.7			2.5			1.8			2.6		
<b>Short-Term Bond</b>																		
TIAA-CREF Short-Term Bond Inst	0.5	66	-0.05	4.2	62	0.65	4.2	62	0.65	2.5	38	0.67	2.1	32	0.72	2.3	37	1.07
BBgBarc 1-3 Yr US Treasury TR USD	0.5			3.6			3.6			1.9			1.4			1.2		
Average	0.6			4.6			4.6			2.4			1.9			2.1		

## Performance Summary - Calendar Year Periods

	2019			2018			2017			2016			2015			2014			2013		
	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Intermediate Core Bond</b>																					
TIAA-CREF Bond Index Institutional	8.4	48	-0.34	0.0	30	-0.03	3.4	41	-0.13	2.4	56	-0.26	0.5	30	-0.02	5.9	34	-0.09	-2.3	60	-0.31
BBgBarc US Agg Bond TR USD	8.7			0.0			3.5			2.6			0.5			6.0			-2.0		
Average	8.1			-0.4			3.2			2.6			0.2			5.4			-2.1		
<b>Intermediate Government</b>																					
Goldman Sachs Government Income Instl	6.1	36	0.91	0.6	31	-0.79	2.1	21	0.95	1.4	28	0.34	0.7	50	-0.48	4.5	64	1.94	-2.2	29	-0.99
BBgBarc US Govt Interm TR USD	5.2			1.4			1.1			1.1			1.2			2.5			-1.2		
Average	5.7			0.4			1.5			1.0			0.7			4.8			-2.8		
<b>Short-Term Bond</b>																					
TIAA-CREF Short-Term Bond Inst	4.2	62	0.65	1.5	15	-0.10	1.9	37	1.45	2.1	41	1.21	1.0	9	0.40	1.0	48	0.38	0.3	53	-0.02
BBgBarc 1-3 Yr US Treasury TR USD	3.6			1.6			0.4			0.9			0.6			0.6			0.4		
Average	4.6			0.8			1.7			2.3			0.2			1.1			0.4		

# TIAA-CREF Bond Index Institutional

TBIIX

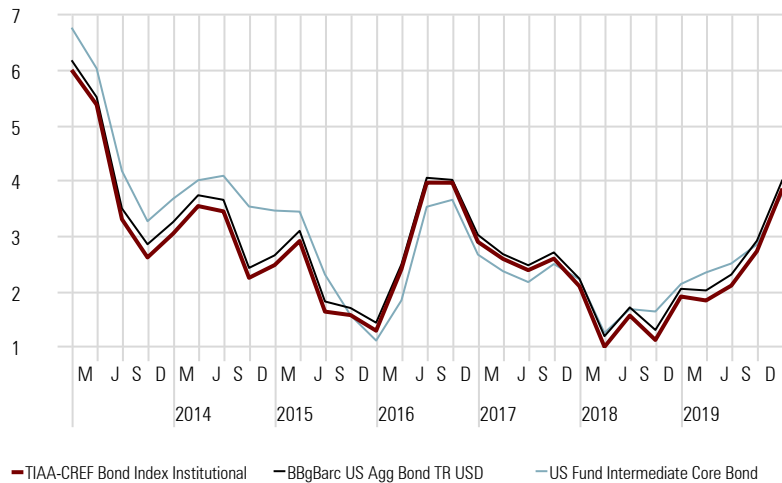
**Index:** BBgBarc US Agg Bond TR USD  
**Category:** US Fund Intermediate Core Bond  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: BBgBarc US Agg Bond TR USD

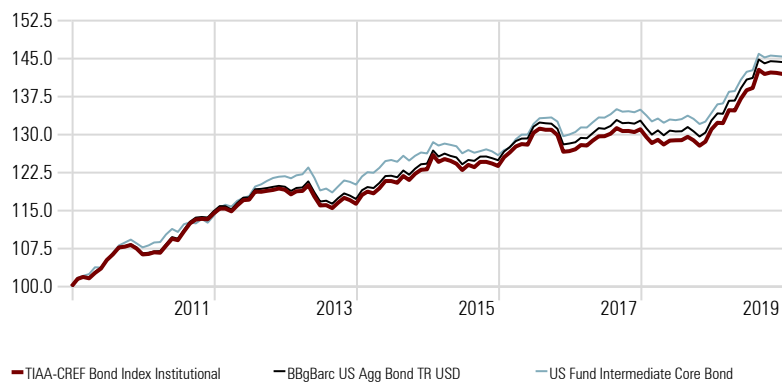
	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Bond Index Institutional	8.4	8.4	3.9	2.9	3.6	3.5
BBgBarc US Agg Bond TR USD	8.7	8.7	4.0	3.0	3.7	4.2
US Fund Intermediate Core Bond	8.3	8.3	3.8	2.9	3.8	3.7

## Returns (Rolling 36 Months)



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019

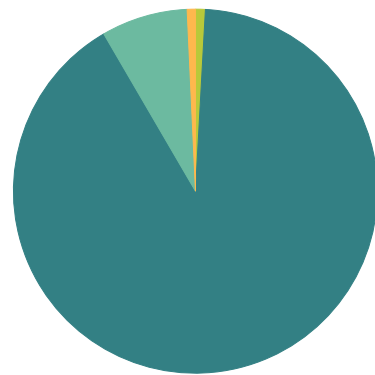


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.11	0.67	
Gross Expense Ratio	0.11	1.14	

## Asset Allocation

Portfolio Date: 1/31/2020



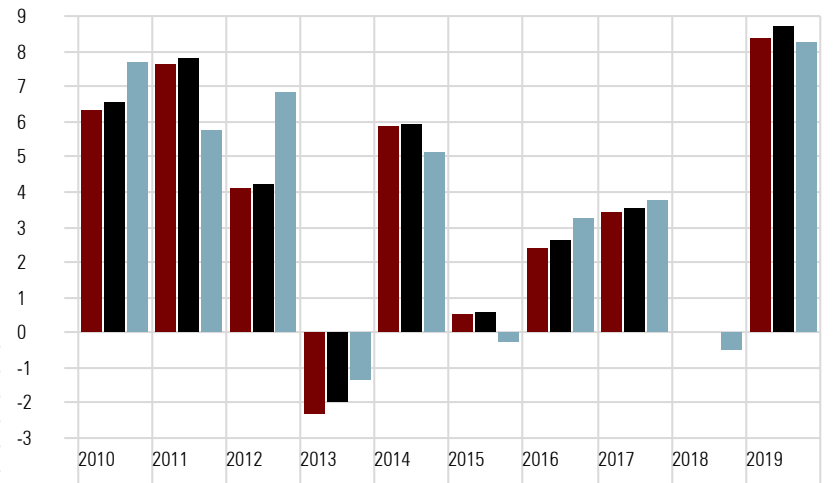
	%
Cash	0.9
US Equity	-
Non-US Equity	0.0
US Bond	90.7
Non-US Bond	7.7
Other	0.7

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: BBgBarc US Agg Bond TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Bond Index Institutional	64.2	35.8	2.6	-2.5	3.7	-3.2	98.7	104.1
BBgBarc US Agg Bond TR USD	65.0	35.0	2.6	-2.4	3.8	-3.0	100.0	100.0
US Fund Intermediate Core Bond	66.7	33.3	2.3	-2.2	3.3	-2.6	96.4	88.0

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Ind	+/- Avg
Std Deviation	2.9	0.4	3.1	0.4
Down Deviation	0.2	-0.3	0.2	-0.3
Beta	1.0	0.1	1.0	0.2
Alpha	-0.1	-0.2	-0.2	-0.3
Sharpe	0.7	-0.1	0.6	-0.1
Sortino	1.5	-0.1	1.0	-0.1
Info Ratio	-0.7	-0.2	-0.5	-0.2
Down Capture	96.0	14.5	103.8	17.5
Up Capture	96.1	6.2	99.0	8.8

## Top 10 Holdings

	Fund %
United States Treasury Bonds 3.5%	2.0
United States Treasury Notes 2.12%	1.9
United States Treasury Notes 1.75%	1.2
United States Treasury Notes 2.25%	1.1
United States Treasury Bonds 3.12%	1.0
United States Treasury Notes 2.25%	1.0
United States Treasury Notes 1.75%	1.0
United States Treasury Bonds 3%	0.9
United States Treasury Notes 1.75%	0.9
United States Treasury Notes 2.5%	0.8

# Inflation Linked Bond Search

As of 12/31/2019





# US Insurance Inflation-Protected Bond

## CREF Inflation-Linked Bond R3

### Investment Strategy

The investment seeks long-term rate of return that outpaces inflation, primarily through investment in inflation-indexed bonds-fixed-income securities whose returns are designed to track a specified inflation index over the life of the bond. The fund invests at least 80% of its assets in U.S. Treasury Inflation-Indexed Securities (TIIS). It can also invest in other inflation-indexed bonds issued or guaranteed by the U.S. government or its agencies, by corporations and other U.S. domiciled issuers as well as foreign governments. The fund can also invest in money market instruments or other short-term securities.

### Manager Biography

John Michael Cerra since 12/31/2003

Nicholas Travaglini since 5/1/2016

### CREF Inflation-Linked Bond R3 - Operations

Inception Date	4/24/2015
Fund Size (\$mm)	6,639
Annual Report Net Expense Ratio	0.22
Prospectus Net Expense Ratio	0.22
Prospectus Gross Expense Ratio	0.22
Ticker	QCILIX
Manager Tenure (Longest)	16.08
Manager Tenure (Average)	9.88
Morningstar Institutional Category	Inflation-Protected Bond

### Other Notes:

None

## TIAA-CREF Inflation Link Bd Instl

### Investment Strategy

The investment seeks to provide inflation protection and income, primarily through investment in inflation-linked bonds. The fund invests at least 80% of its assets in fixed-income securities whose principal value increases or decreases based on changes in the Consumer Price Index for All Urban Consumers ("CPI-U"), over the life of the security. Typically, it will invest in U.S. Treasury Inflation-Indexed Securities ("TIIS"). Under most circumstances, the fund's investments in inflation-linked bonds of foreign issuers are generally less than 20% of its assets.

### Manager Biography

John Michael Cerra since 8/21/2008

Nicholas Travaglini since 8/1/2016

Chad W. Kemper since 8/1/2019

### TIAA-CREF Inflation Link Bd Instl - Operations

Inception Date	10/1/2002
Fund Size (\$mm)	3,544
Annual Report Net Expense Ratio	0.26
Prospectus Net Expense Ratio	0.26
Prospectus Gross Expense Ratio	0.26
Ticker	TIILX
Manager Tenure (Longest)	11.42
Manager Tenure (Average)	5.08
Morningstar Institutional Category	Inflation-Protected Bond

### Other Notes:

None

# Portfolio Analysis

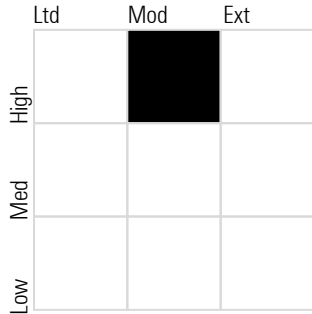
## CREF Inflation-Linked Bond R3

## TIAA-CREF Inflation Link Bd Instl

### Style Allocation

Portfolio Date: 11/30/2019

#### Morningstar Fixed Income Style Box™



#### Credit Quality

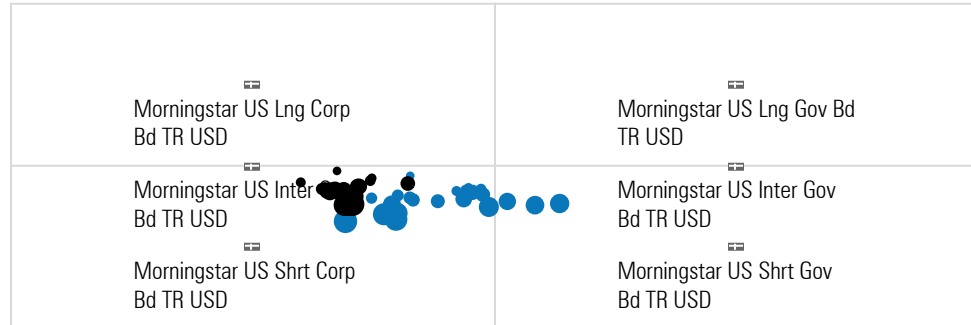
Credit Quality	%
Credit Qual AAA %	-
Credit Qual AA %	-
Credit Qual A %	-
Credit Qual BBB %	-
Credit Qual BB %	-
Credit Qual B %	-
Credit Qual Below B %	-
Credit Qual Not Rated %	-

### Portfolio Data

Average Credit Quality	AA
Average Eff Duration	5.1
Modified Duration	
Average Eff Maturity	5.4
Average Coupon	1.0
Average Price	105.0
SEC Yield	0.8

### Returns-Based Style Map

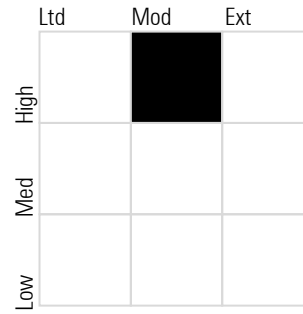
Time Period: 1/1/2015 to 12/31/2019



### Style Allocation

Portfolio Date: 11/30/2019

#### Morningstar Fixed Income Style Box™



#### Credit Quality

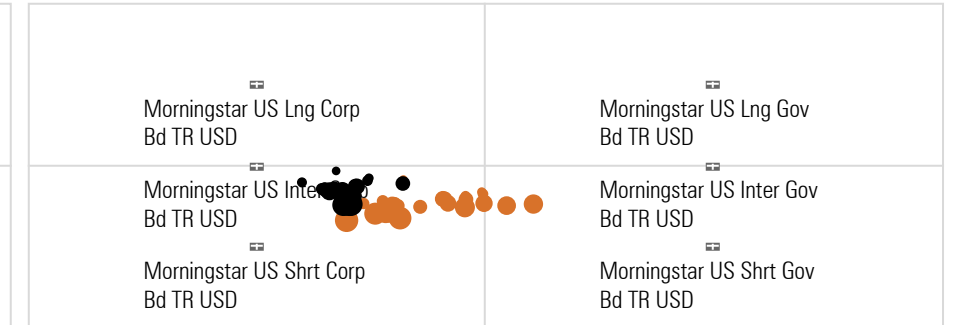
Credit Quality	%
Credit Qual AAA %	-
Credit Qual AA %	-
Credit Qual A %	-
Credit Qual BBB %	-
Credit Qual BB %	-
Credit Qual B %	-
Credit Qual Below B %	-
Credit Qual Not Rated %	-

### Portfolio Data

Average Credit Quality	AA
Average Eff Duration	5.1
Modified Duration	
Average Eff Maturity	5.3
Average Coupon	0.9
Average Price	104.4
SEC Yield	0.8

### Returns-Based Style Map

Time Period: 1/1/2015 to 12/31/2019



# CREF Inflation-Linked Bond R3

QCILIX

Index: BBgBarc US Treasury US TIPS TR USD

Category: US Fund Inflation-Protected Bond

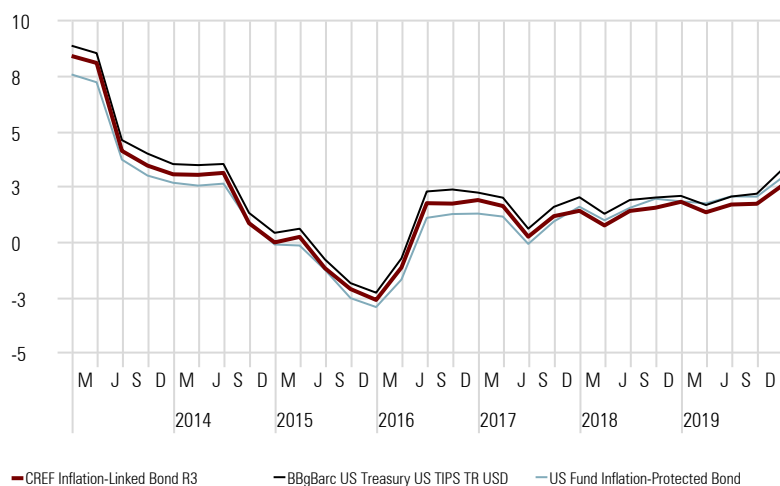
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: BBgBarc US Treasury US TIPS TR USD

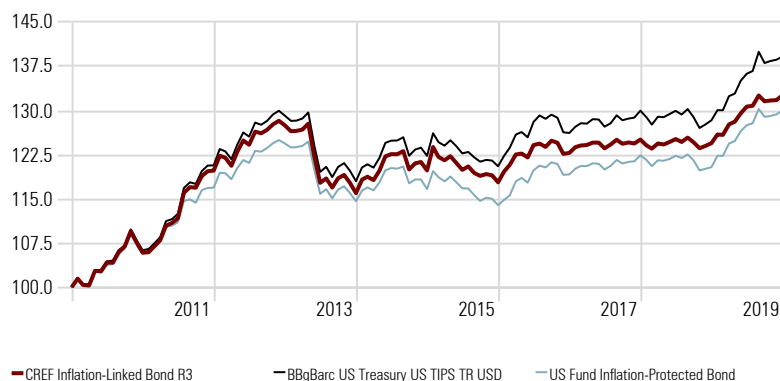
	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
CREF Inflation-Linked Bond R3	6.5	6.5	2.6	2.0	2.9	3.3
BBgBarc US Treasury US TIPS TR USD	8.4	8.4	3.3	2.6	3.4	3.8
US Fund Inflation-Protected Bond	8.0	8.0	3.0	2.2	2.7	3.0

## Returns (Rolling 36 Months)



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019

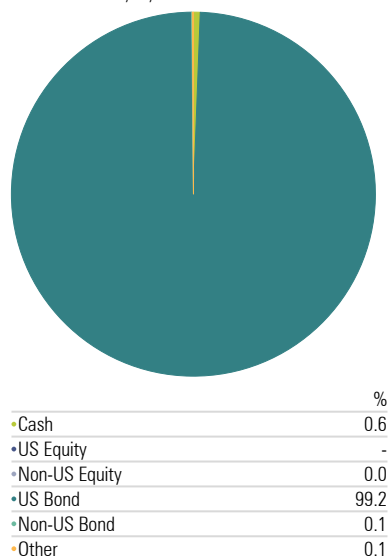


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.22	0.85	
Gross Expense Ratio	0.22	1.91	

## Asset Allocation

Portfolio Date: 1/31/2020

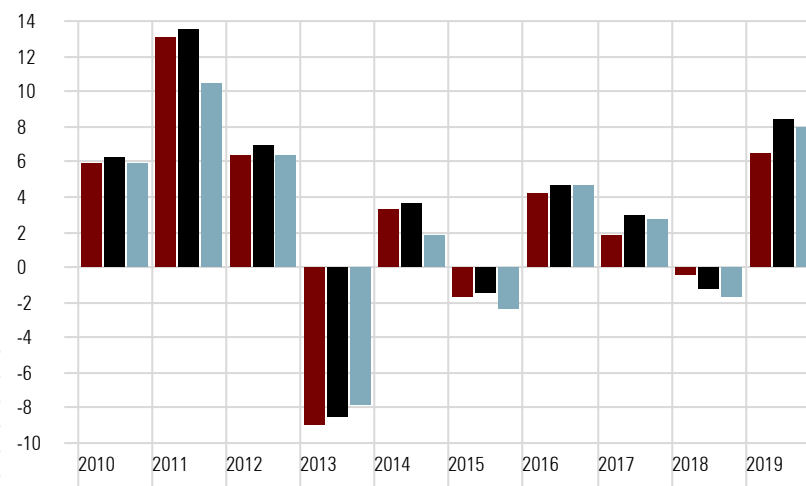


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: BBgBarc US Treasury US TIPS TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
CREF Inflation-Linked Bond R3	62.5	37.5	3.9	-4.4	4.7	-7.1	89.5	92.8
BBgBarc US Treasury US TIPS TR USD	63.3	36.7	3.9	-4.4	4.5	-7.1	100.0	100.0
US Fund Inflation-Protected Bond	62.5	37.5	3.3	-3.9	3.6	-6.6	85.4	90.1

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	2.1	-0.5	2.9	-0.1
Down Deviation	0.9	0.4	0.8	0.2
Beta	0.7	-0.2	0.8	0.0
Alpha	-0.2	-0.1	-0.3	-0.1
Sharpe	0.4	-0.1	0.3	0.0
Sortino	0.7	-0.1	0.6	-0.1
Info Ratio	-0.7	-0.1	-0.6	0.0
Down Capture	66.5	-16.2	82.3	-6.1
Up Capture	72.9	-13.3	80.5	-6.0

## Top 10 Holdings

	Fund %
United States Treasury Notes 0.12%	5.4
United States Treasury Notes 0.12%	5.0
United States Treasury Notes 0.12%	4.9
United States Treasury Notes 0.12%	4.7
United States Treasury Bonds 2.38%	4.5
United States Treasury Notes 0.62%	4.4
United States Treasury Notes 0.25%	4.3
United States Treasury Notes 0.12%	4.2
United States Treasury Bonds 3.88%	4.1
United States Treasury Bonds 1.75%	3.6

# TIAA-CREF High Yield Instl

As of 12/31/2019



# TIAA-CREF High-Yield Inst

TIHYX

Index: ICE BofA US High Yield TR USD

Category: US Fund High Yield Bond

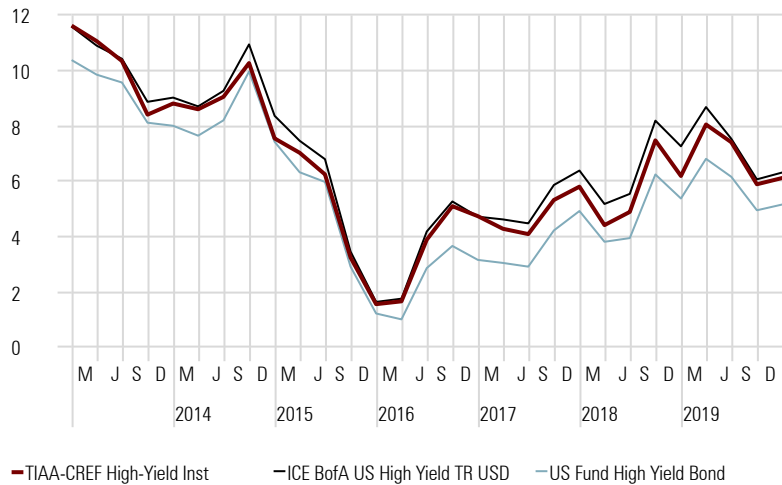
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: ICE BofA US High Yield TR USD

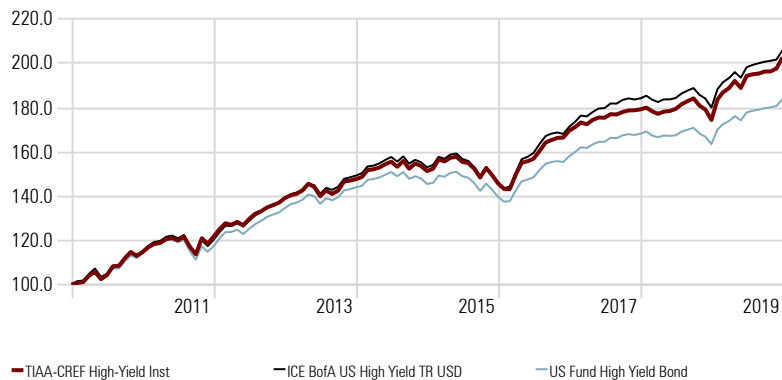
	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF High-Yield Inst	16.2	16.2	6.1	6.0	7.3	7.1
ICE BofA US High Yield TR USD	14.4	14.4	6.3	6.1	7.5	7.1
US Fund High Yield Bond	12.5	12.5	5.2	4.8	6.3	5.5

## Returns (Rolling 36 Months)



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019

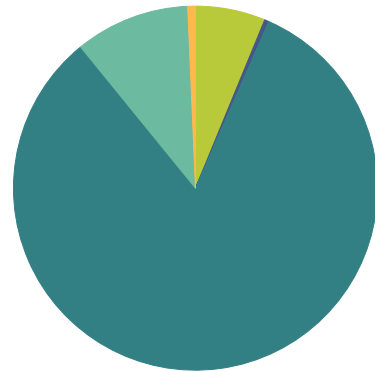


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.36	1.02	
Gross Expense Ratio	0.36	1.27	

## Asset Allocation

Portfolio Date: 12/31/2019



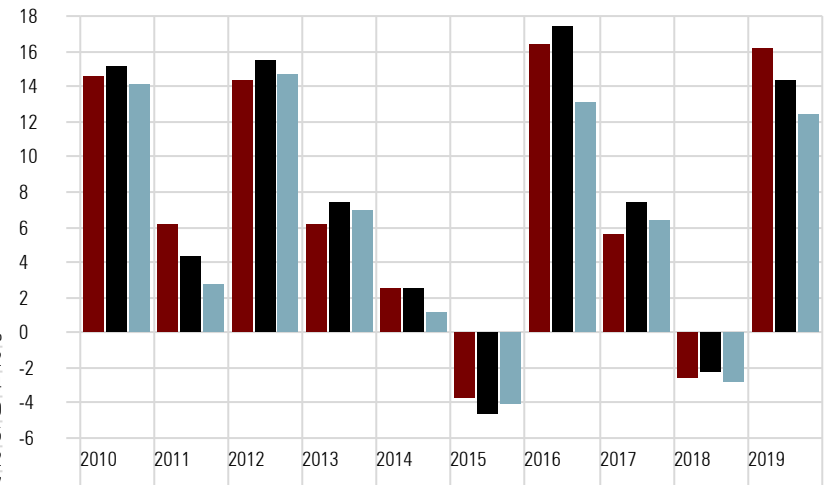
	%
• Cash	6.2
• US Equity	0.4
• Non-US Equity	0.0
• US Bond	82.5
• Non-US Bond	10.2
• Other	0.7

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: ICE BofA US High Yield TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF High-Yield Inst	72.5	27.5	6.4	-3.8	8.3	-5.3	99.2	101.3
ICE BofA US High Yield TR USD	71.7	28.3	6.0	-4.0	7.4	-6.3	100.0	100.0
US Fund High Yield Bond	71.7	28.3	5.5	-4.4	6.4	-6.6	88.7	95.9

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	4.7	1.0	5.6	1.0
Down Deviation	0.6	0.0	0.6	-0.3
Beta	1.1	0.2	1.0	0.2
Alpha	-0.7	-0.1	-0.2	0.4
Sharpe	0.9	0.0	0.9	0.1
Sortino	1.7	0.1	1.6	0.3
Info Ratio	-0.2	1.9	-0.1	1.4
Down Capture	111.0	16.7	99.8	9.2
Up Capture	101.3	15.5	98.9	15.5

## Top 10 Holdings

	Fund %
Gates Global Lic/Gates Global Co.	6.25%
TransDigm, Inc.	5.5%
NOVA Chemicals Corporation	4.88%
Staples, Inc.	10.75%
CSC Holdings, LLC	7.5%
Prime Securities Services Borrower, LLC and Prime Finance, Inc.	5.75%
USA Compression Partners LP / USA Compression Finance Corp	6.88%
DISH DBS Corporation	7.75%
Mattel, Inc.	6.75%
CommScope Technologies LLC	6%

# Balanced Fund Search

As of 12/31/2019



# US Fund Allocation--50% to 70% Equity

## T. Rowe Price Capital Appreciation

### Investment Strategy

The investment seeks long-term capital appreciation. The fund normally invests at least 50% of its total assets in stocks and the remaining assets are generally invested in convertible securities, corporate and government debt (including mortgage- and asset-backed securities), and bank loans (which represent an interest in amounts owed by a borrower to a syndicate of lenders) in keeping with the fund's objective. It may also invest up to 25% of its total assets in foreign securities.

### Manager Biography

David R. Giroux since 6/30/2006

## TIAA-CREF Managed Allc Inst

### Investment Strategy

The investment seeks favorable returns that reflect the broad investment performance of the financial markets. The fund is a "fund of funds" that invests in Institutional Class shares of other funds of the Trust and potentially in other investment pools or investment products. It invests in underlying funds according to a relatively stable asset allocation strategy and will generally seek to meet its investment objective by investing: (1) approximately 60% of its assets in equity underlying funds including up to 5% of its assets in real estate underlying funds; and (2) approximately 40% of its assets in fixed-income underlying funds ("target allocations").

### Manager Biography

Hans L. Erickson since 3/31/2006

John Cunniff since 3/31/2006

## American Funds Capital Income Bldr R6

### Investment Strategy

The investment seeks (1) to provide a level of current income that exceeds the average yield on U.S. stocks generally and (2) to provide a growing stream of income over the years. The fund normally will invest at least 90% of its assets in income-producing securities (with at least 50% of its assets in common stocks and other equity securities). It invests primarily in a broad range of income-producing securities, including common stocks and bonds. In seeking to provide the investors with a level of current income that exceeds the average yield on U.S. stocks, the fund generally looks to the average yield on stocks of companies listed on the S&P 500 Index.

### Manager Biography

James B. Lovelace since 1/1/1992  
 Joyce E. Gordon since 1/1/2000  
 David M. Riley since 1/1/2004  
 David A. Hoag since 1/1/2004  
 Winnie Kwan since 1/1/2007  
 Steven T. Watson since 1/1/2007  
 Bradley J. Vogt since 1/1/2009  
 L. Alfonso Barroso since 1/1/2010  
 Grant L. Cambridge since 1/1/2013  
 Philip Winston since 1/1/2014  
 Fergus N. MacDonald since 1/1/2015

### T. Rowe Price Capital Appreciation - Operations

Inception Date	6/30/1986
Fund Size (\$mm)	39,058
Annual Report Net Expense Ratio	0.71
Prospectus Net Expense Ratio	0.71
Prospectus Gross Expense Ratio	0.72
Ticker	PRWCX
Manager Tenure (Longest)	13.58
Manager Tenure (Average)	13.58
Morningstar Inst Category	Moderate Allocation

### Other Notes:

None

### TIAA-CREF Managed Allc Inst - Operations

Inception Date	3/31/2006
Fund Size (\$mm)	912
Annual Report Net Expense Ratio	0.00
Prospectus Net Expense Ratio	0.40
Prospectus Gross Expense Ratio	0.43
Ticker	TIMIX
Manager Tenure (Longest)	13.83
Manager Tenure (Average)	13.83
Morningstar Inst Category	Moderate Allocation

### Other Notes:

None

### American Funds Capital Income Bldr R6 - Operations

Inception Date	5/1/2009
Fund Size (\$mm)	109,877
Annual Report Net Expense Ratio	0.28
Prospectus Net Expense Ratio	0.27
Prospectus Gross Expense Ratio	0.27
Ticker	RIRGX
Manager Tenure (Longest)	28.00
Manager Tenure (Average)	13.18
Morningstar Inst Category	Multi-Asset Income

### Other Notes:

None

# Portfolio Analysis

## T. Rowe Price Capital Appreciation

## TIAA-CREF Managed Allc Inst

## American Funds Capital Income Bldr R6

### Style Allocation

Portfolio Date: 9/30/2019

	Value	Blend	Growth	Market Cap	%
Large	13	29	48	Market Cap Giant %	36
				Market Cap Large %	53
Mid	2	2	6	Market Cap Mid %	10
Small	0	0	0	Market Cap Small %	0
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	23	29	25	Market Cap Giant %	46
				Market Cap Large %	30
Mid	6	6	7	Market Cap Mid %	19
Small	2	1	1	Market Cap Small %	4
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	46	37	10	Market Cap Giant %	56
				Market Cap Large %	37
Mid	3	2	1	Market Cap Mid %	6
Small	1	1	0	Market Cap Small %	2
				Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Morningstar Mod Tgt Risk TR USD

	Inv	Bmk1
Average Market Cap (bil)	76.1	37.2
Forward P/E	23.8	16.0
P/E Ratio (TTM)	30.1	18.4
LT Earn Growth	11.8	8.4
P/B Ratio (TTM)	4.2	2.1
Dividend Yield	1.2	2.6
Average Eff Duration	2.7	
Average Eff Maturity	6.3	
Average Credit Quality	BB	

### Valuation Data

Display Benchmark 1: Morningstar Mod Tgt Risk TR USD

	Inv	Bmk1
Average Market Cap (bil)	57.5	37.2
Forward P/E	16.9	16.0
P/E Ratio (TTM)	19.9	18.4
LT Earn Growth	9.7	8.4
P/B Ratio (TTM)	2.7	2.1
Dividend Yield	2.0	2.6
Average Eff Duration	5.4	
Average Eff Maturity	7.8	
Average Credit Quality	BBB	

### Valuation Data

Display Benchmark 1: Morningstar Gbl Allocation TR USD

	Inv	Bmk1
Average Market Cap (bil)	73.3	47.1
Forward P/E	14.9	16.3
P/E Ratio (TTM)	18.8	19.0
LT Earn Growth	7.2	8.9
P/B Ratio (TTM)	2.4	2.2
Dividend Yield	4.2	2.5
Average Eff Duration	5.1	
Average Eff Maturity		
Average Credit Quality	A	

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	65	
# of Stock Holdings	38	0
# of Bond Holdings	159	0
% in Top 10	29.1	86.5
Cash %	14.8	0.0
Bond %	23.0	38.4
US Equity %	55.8	35.0
Non-US Equity %	1	25
Emerging Mkt %	0.0	5.3

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	20	
# of Stock Holdings	0	0
# of Bond Holdings	0	0
% in Top 10	92.7	86.5
Cash %	1.7	0.0
Bond %	37.7	38.4
US Equity %	39.6	35.0
Non-US Equity %	20	25
Emerging Mkt %	3.4	5.3

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	45	
# of Stock Holdings	248	0
# of Bond Holdings	1,163	0
% in Top 10	17.4	97.9
Cash %	3.9	0.0
Bond %	24.4	21.3
US Equity %	35.8	33.2
Non-US Equity %	35	28
Emerging Mkt %	1.4	5.2



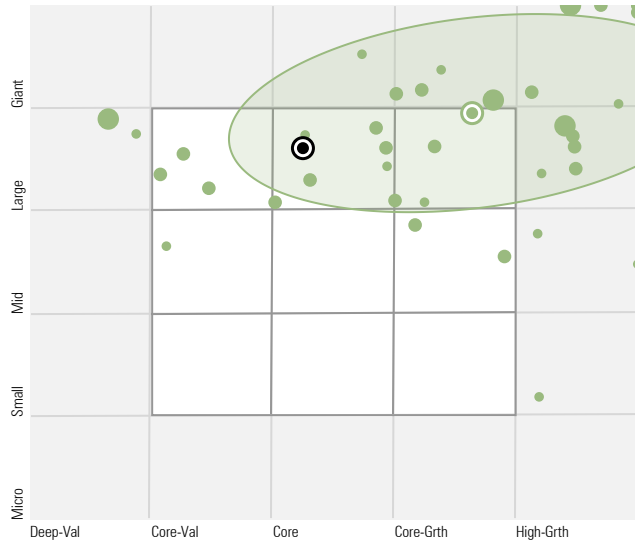
# Holdings-Based Style Analysis

## T. Rowe Price Capital Appreciation

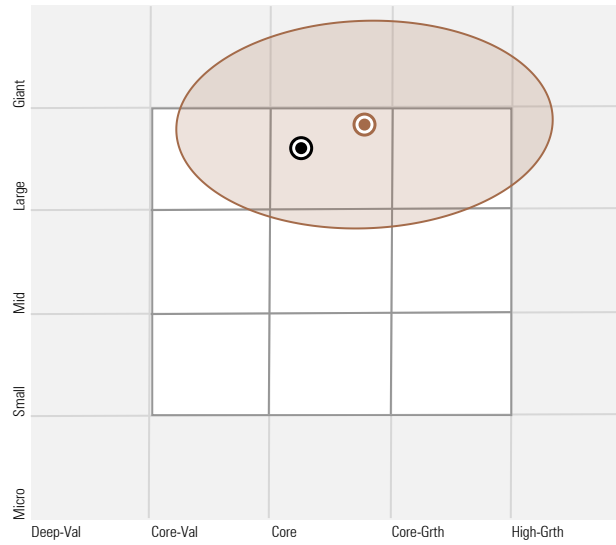
## TIAA-CREF Managed Allc Inst

## American Funds Capital Income Bldr R6

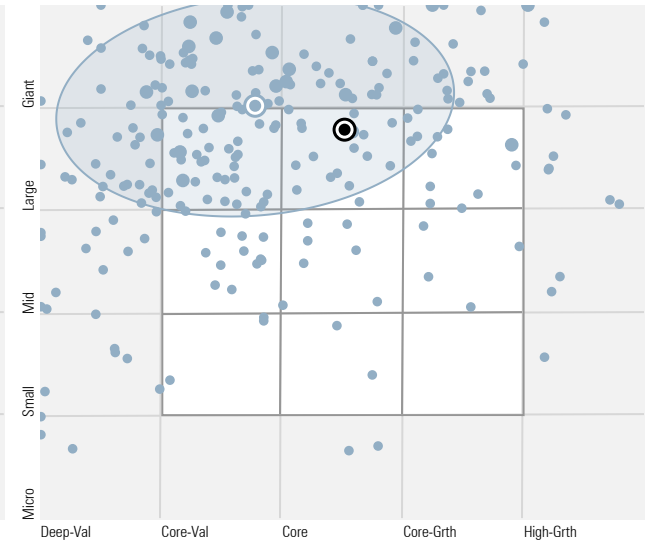
Holdings-Based Style Map



Holdings-Based Style Map



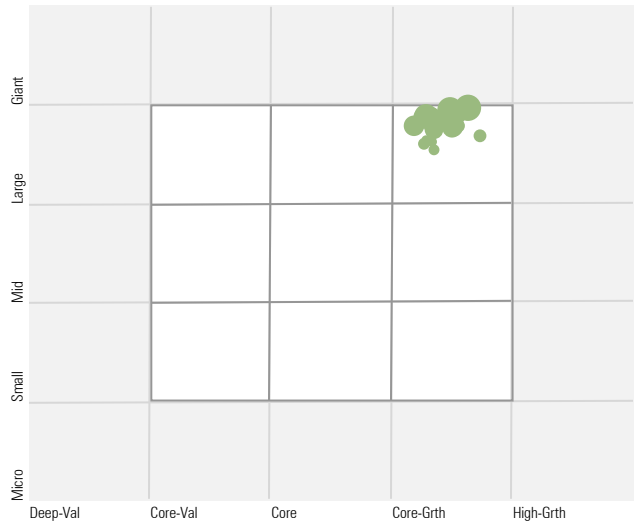
Holdings-Based Style Map



● T. Rowe Price Capital Appreciation 9/30/2019 
 ● Morningstar Mod Tgt Risk TR USD 12/31/2019 
 ● TIAA-CREF Managed Allc Inst 12/31/2019 
 ● Morningstar Mod Tgt Risk TR USD 12/31/2019 
 ● American Funds Capital Income Bldr R6 12/31/2019 
 ● Morningstar Gbl Allocation TR USD 12/31/2019

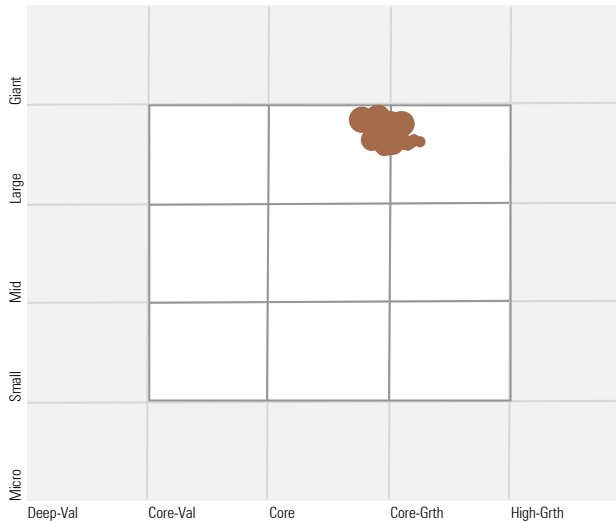
Holdings-Based Style Trail

Time Period: 3/31/2015 to 9/30/2019



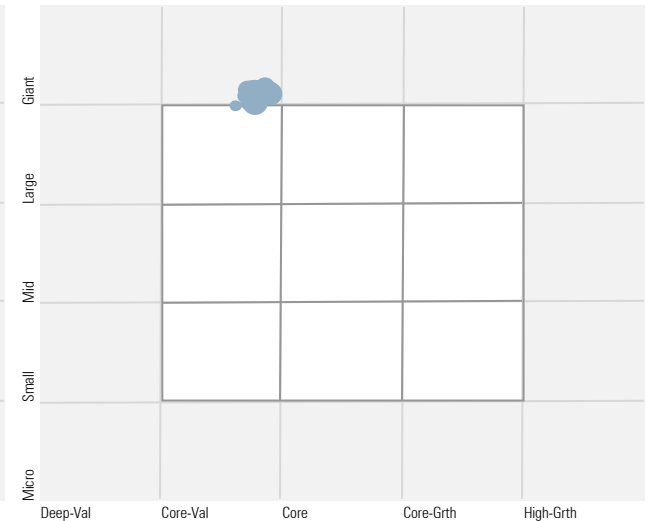
Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



# Holdings-Based Style Analysis

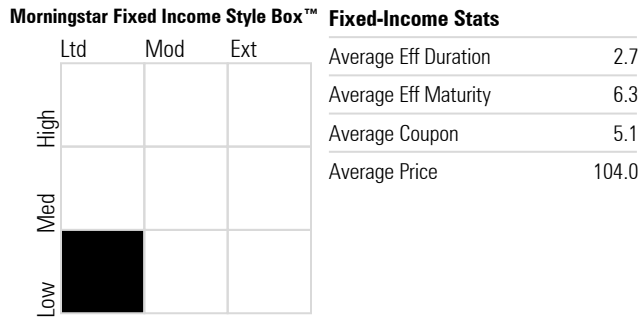
## T. Rowe Price Capital Appreciation

## TIAA-CREF Managed Allc Inst

## American Funds Capital Income Bldr R6

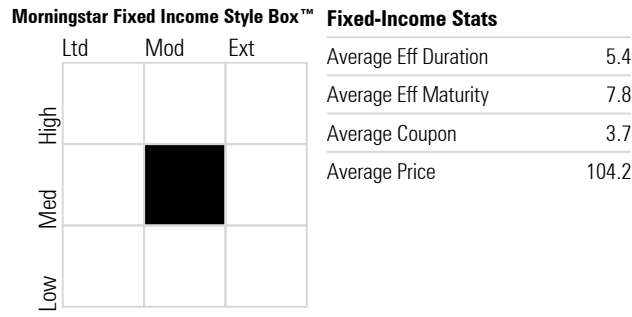
### Morningstar Fixed Income Style Box

Portfolio Date: 9/30/2019



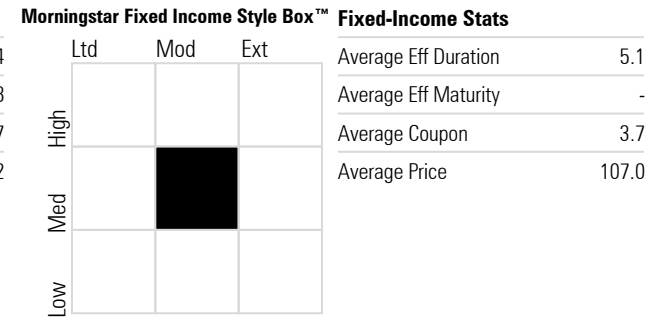
### Morningstar Fixed Income Style Box

Portfolio Date: 12/31/2019



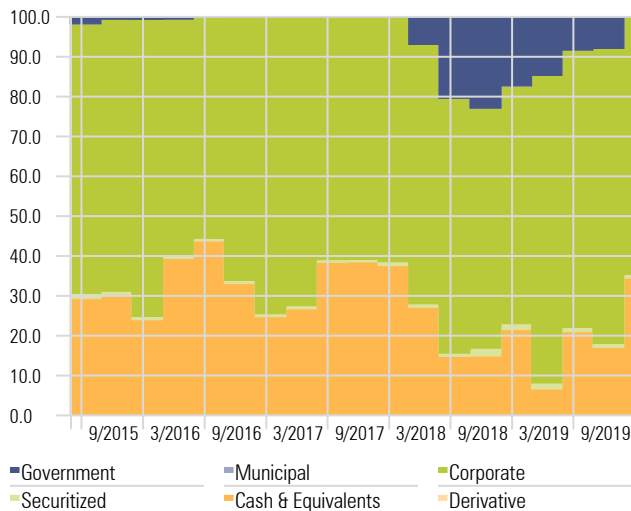
### Morningstar Fixed Income Style Box

Portfolio Date: 12/31/2019



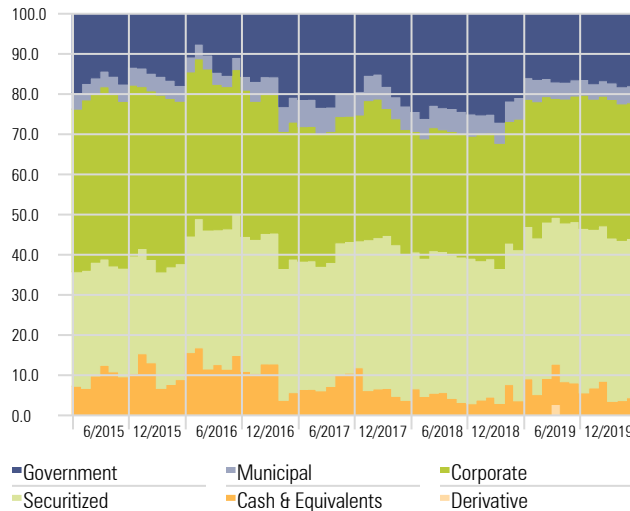
### Fixed-Inc Super Sectors (Morningstar)

Time Period: 3/1/2015 to 9/30/2019



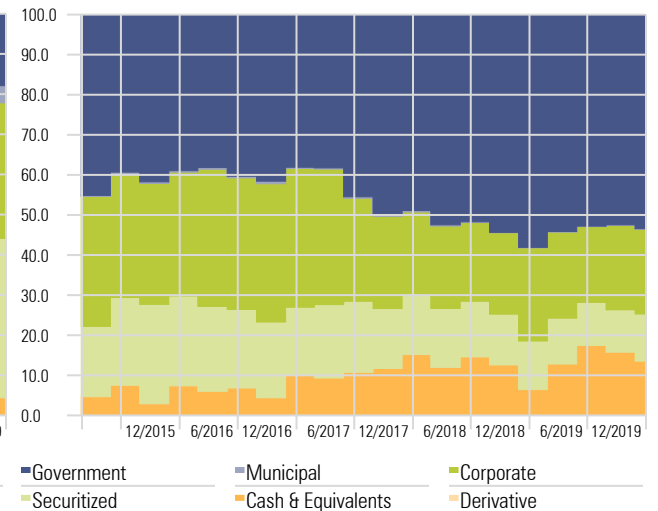
### Fixed-Inc Super Sectors (Morningstar)

Time Period: 1/1/2015 to 12/31/2019



### Fixed-Inc Super Sectors (Morningstar)

Time Period: 3/1/2015 to 12/31/2019

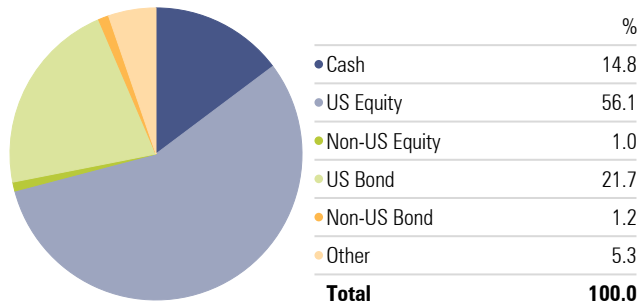


# Holdings-Based Style Analysis

## T. Rowe Price Capital Appreciation

### T. Rowe Price Capital Appreciation - Asset Allocation (US)

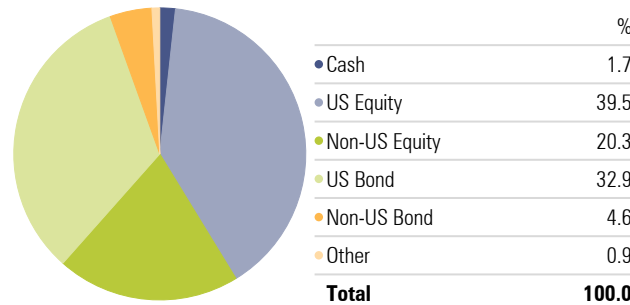
Portfolio Date: 9/30/2019



## TIAA-CREF Managed Allc Inst

### TIAA-CREF Managed Allc Inst - Asset Allocation (US)

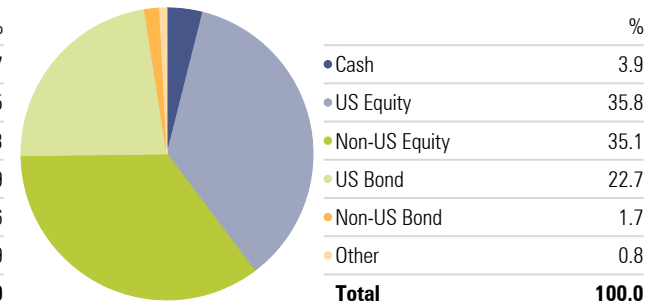
Portfolio Date: 12/31/2019



## American Funds Capital Income Bldr R6

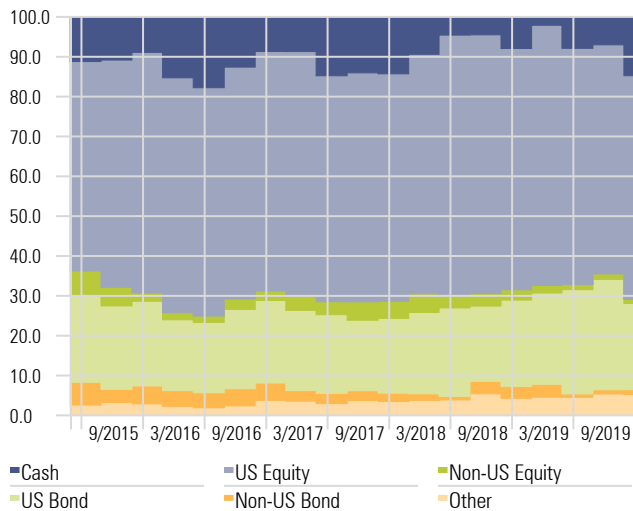
### American Funds Capital Income Bldr R6 - Asset Allocation (US)

Portfolio Date: 12/31/2019



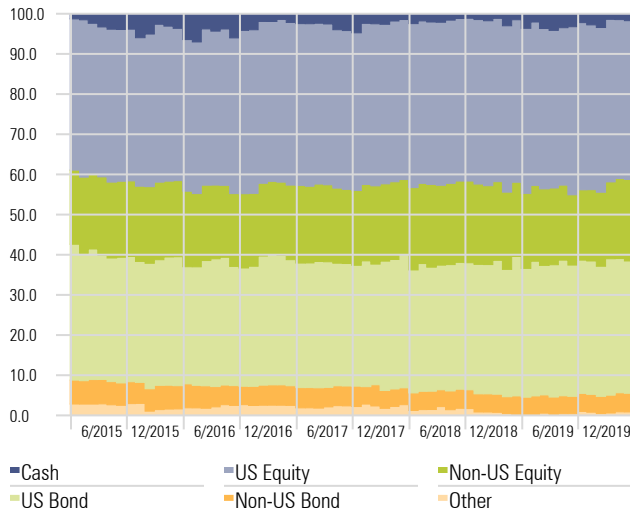
### T. Rowe Price Capital Appreciation - Asset Allocation (US)

Time Period: 3/1/2015 to 9/30/2019



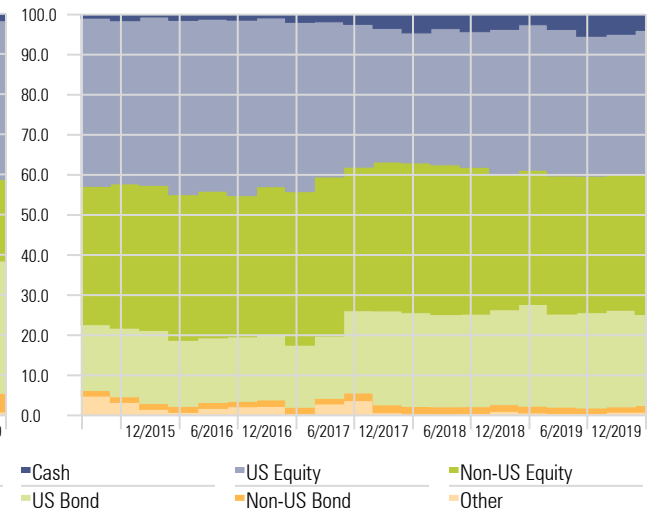
### TIAA-CREF Managed Allc Inst - Asset Allocation (US)

Time Period: 1/1/2015 to 12/31/2019



### American Funds Capital Income Bldr R6 - Asset Allocation (US)

Time Period: 3/1/2015 to 12/31/2019



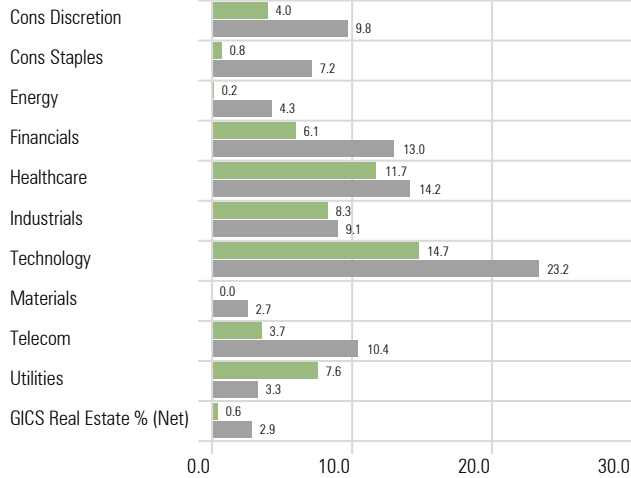
# Sector Exposure and Top 15 Holdings

## T. Rowe Price Capital Appreciation

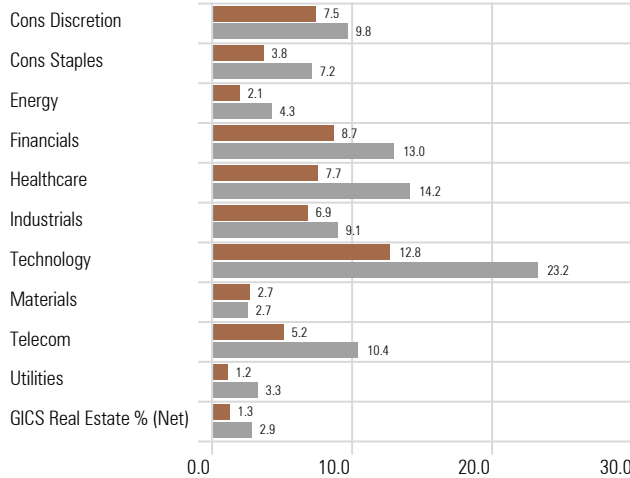
## TIAA-CREF Managed Allc Inst

## American Funds Capital Income Bldr R6

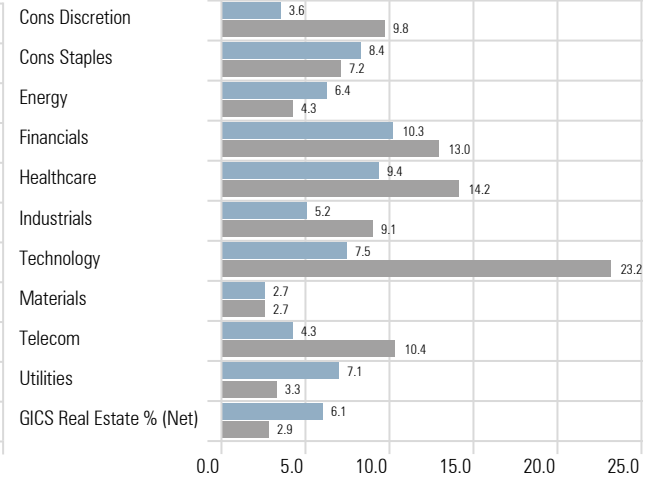
### Sector Allocation



### Sector Allocation



### Sector Allocation



■ T. Rowe Price Capital Appreciation ■ S&P 500 TR USD

■ TIAA-CREF Managed Allc Inst ■ S&P 500 TR USD

■ American Funds Capital Income Bldr R6 ■ S&P 500 TR USD

### T. Rowe Price Capital Appreciation - Top Holdings

Portfolio Date: 9/30/2019

Equity Style Box	Portfolio Weighting %
Microsoft Corp	4.0
Danaher Corp	3.1
Fiserv Inc	3.1
General Electric Co	3.0
Marsh & McLennan Companies Inc	3.0
PerkinElmer Inc	2.9
Visa Inc Class A	2.8
Becton, Dickinson and Co	2.5
Alphabet Inc Class C	2.3
Thermo Fisher Scientific Inc	2.3

### TIAA-CREF Managed Allc Inst - Top Holdings

Portfolio Date: 12/31/2019

Equity Style Box	Portfolio Weighting %
AbbVie Inc	2.3
Broadcom Inc	2.0
Amgen Inc	1.8
Coca-Cola Co	1.8
Microsoft Corp	1.7
Novartis AG	1.7
Crown Castle International Corp	1.7
Zurich Insurance Group AG	1.6
Philip Morris International Inc	1.4
E.ON SE	1.4

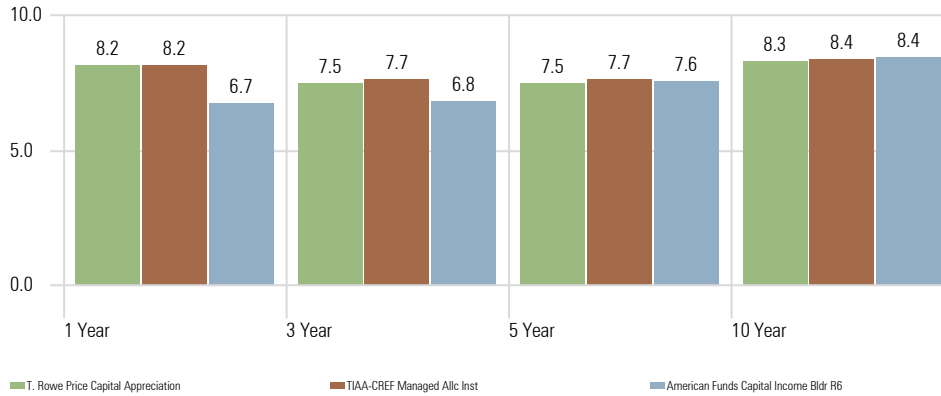
### American Funds Capital Income Bldr R6 - Top Holdings

Portfolio Date: 12/31/2019

Equity Style Box	Portfolio Weighting %
AbbVie Inc	2.3
Broadcom Inc	2.0
Amgen Inc	1.8
Coca-Cola Co	1.8
Microsoft Corp	1.7
Novartis AG	1.7
Crown Castle International Corp	1.7
Zurich Insurance Group AG	1.6
Philip Morris International Inc	1.4
E.ON SE	1.4

# Risk/Return Performance Analysis

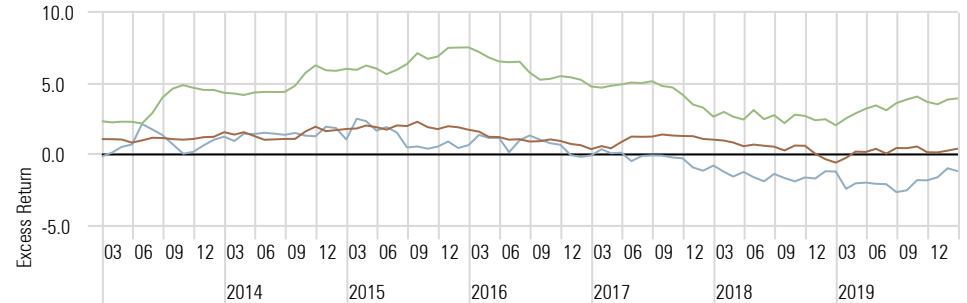
## Standard Deviation



## 3 Year Relative Rolling Returns

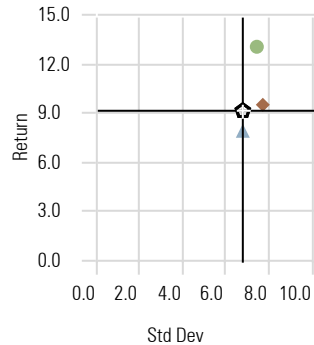
Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift



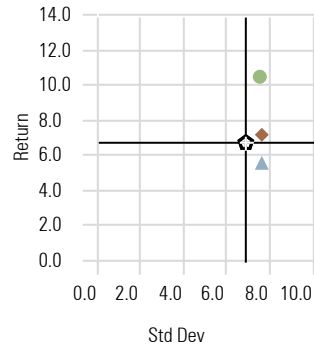
## 3 Year Risk-Reward

Time Period: 1/1/2017 to 12/31/2019



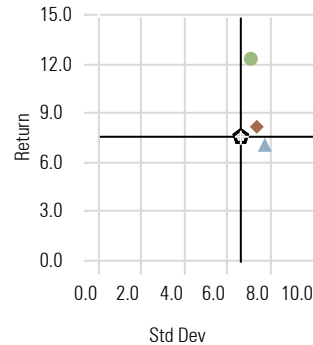
## 5 Year Risk-Reward

Time Period: 1/1/2015 to 12/31/2019



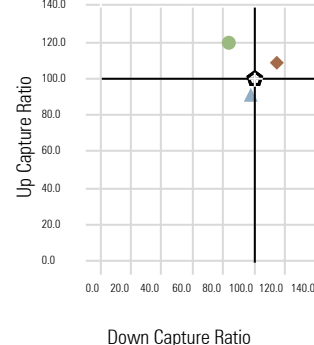
## 7 Year Risk-Reward

Time Period: 1/1/2013 to 12/31/2019



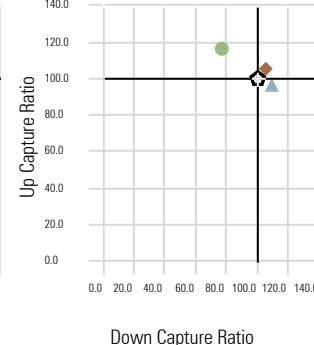
## 3 Year Market Capture

Time Period: 1/1/2017 to 12/31/2019



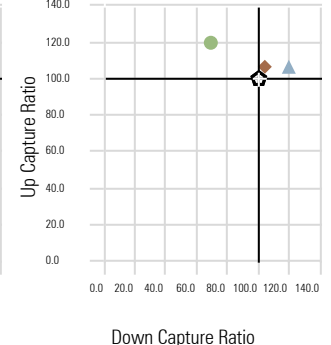
## 5 Year Market Capture

Time Period: 1/1/2015 to 12/31/2019

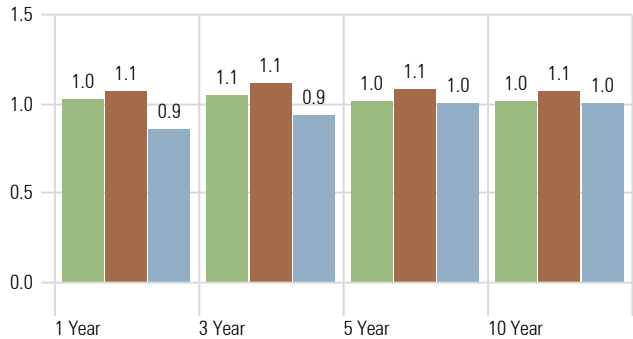


## 7 Year Market Capture

Time Period: 1/1/2013 to 12/31/2019



## Beta



## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (4/1/2006) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
T. Rowe Price Capital Appreciation	9.3	10.7	2.2	1.12	91	18.5	-18.9	0.76	3.5
TIAA-CREF Managed Allc Inst	6.3	9.9	-0.4	1.08	98	12.6	-14.2	0.52	1.6
American Funds Capital Income Bldr R6	6.0	10.3	-0.7	1.07	89	13.2	-14.2	0.47	3.5
Morningstar Mod Tgt Risk TR USD	6.4	9.1	0.0	1.00	100	12.4	-11.5	0.58	0.0

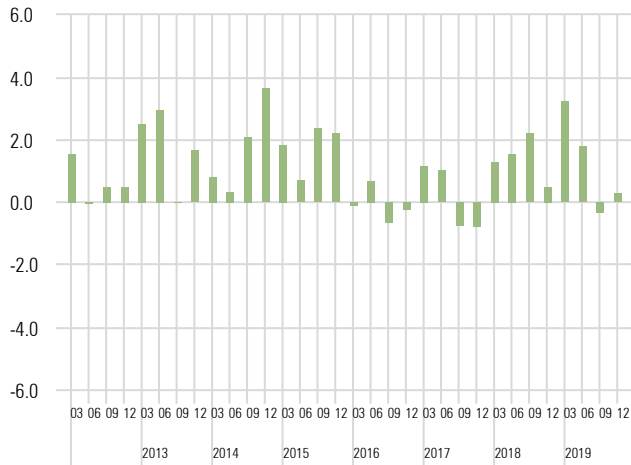
# Performance Analysis

## T. Rowe Price Capital Appreciation

### Quarterly Return +/- Index

Time Period: 1/1/2012 to 12/31/2019

Rolling Window: 3 Months 3 Months shift

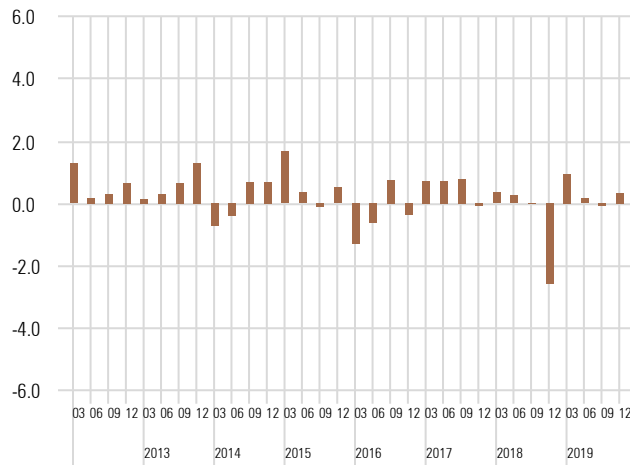


## TIAA-CREF Managed Allc Inst

### Quarterly Return +/- Index

Time Period: 1/1/2012 to 12/31/2019

Rolling Window: 3 Months 3 Months shift

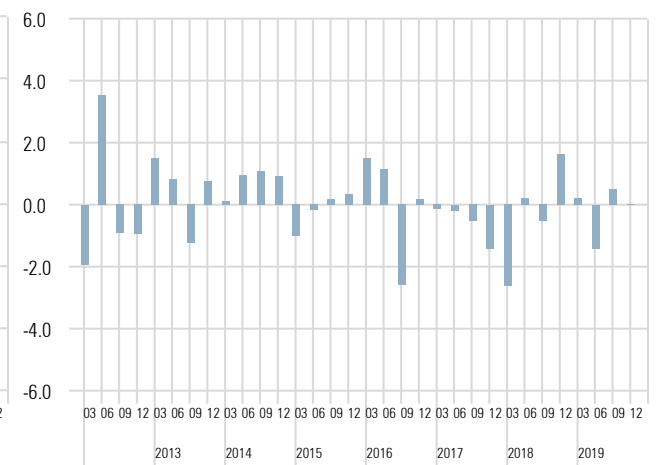


## American Funds Capital Income Bldr R6

### Quarterly Return +/- Index

Time Period: 1/1/2012 to 12/31/2019

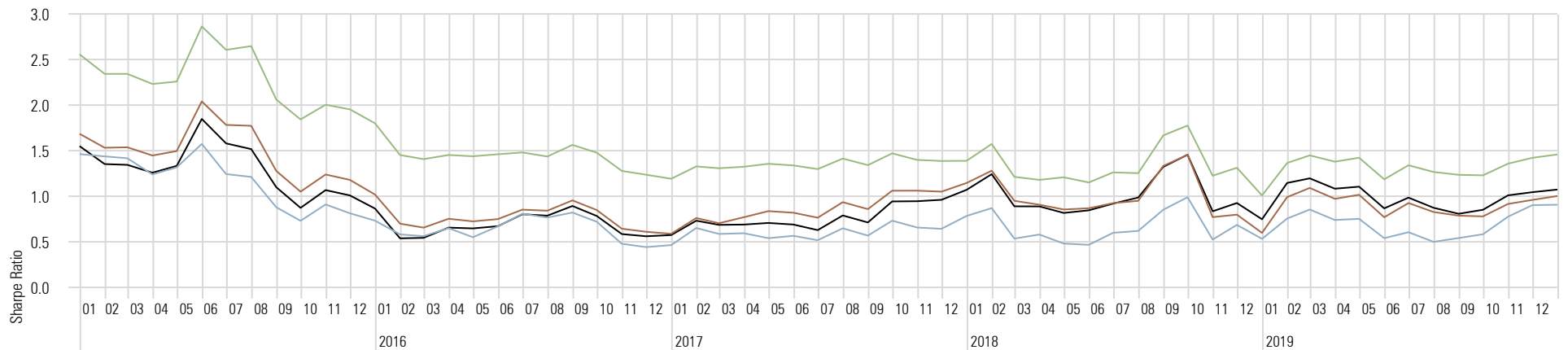
Rolling Window: 3 Months 3 Months shift



### Rolling 3 Year Sharpe Ratio

Time Period: 1/1/2012 to 12/31/2019

Rolling Window: 3 Years 1 Month shift



— T. Rowe Price Capital Appreciation  
— Morningstar Mod Tgt Risk TR USD

— TIAA-CREF Managed Allc Inst

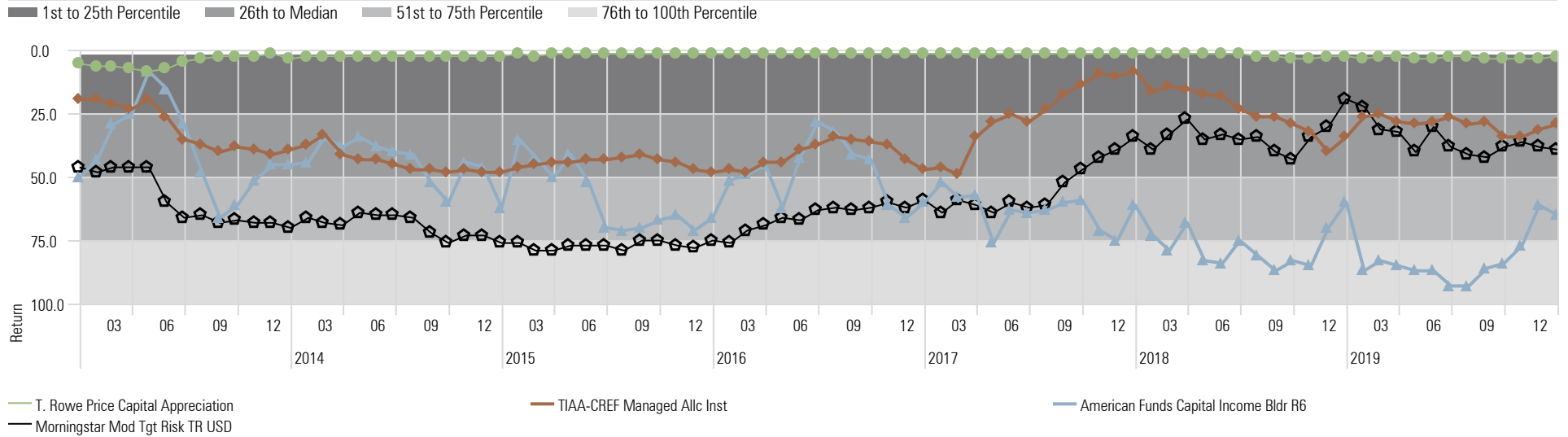
— American Funds Capital Income Bldr R6

# Rolling Peer Group Rankings

## Rolling 3 Year Peer Group Rank

Time Period: 1/1/2010 to 12/31/2019

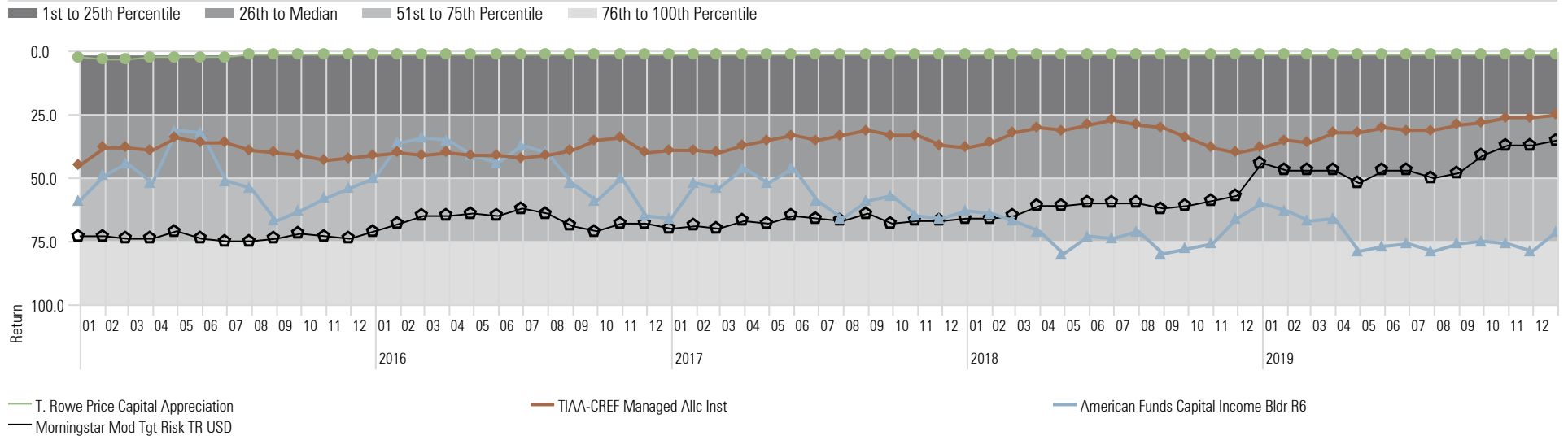
Rolling Window: 3 Years 1 Month shift



## Rolling 5 Year Peer Group Rank

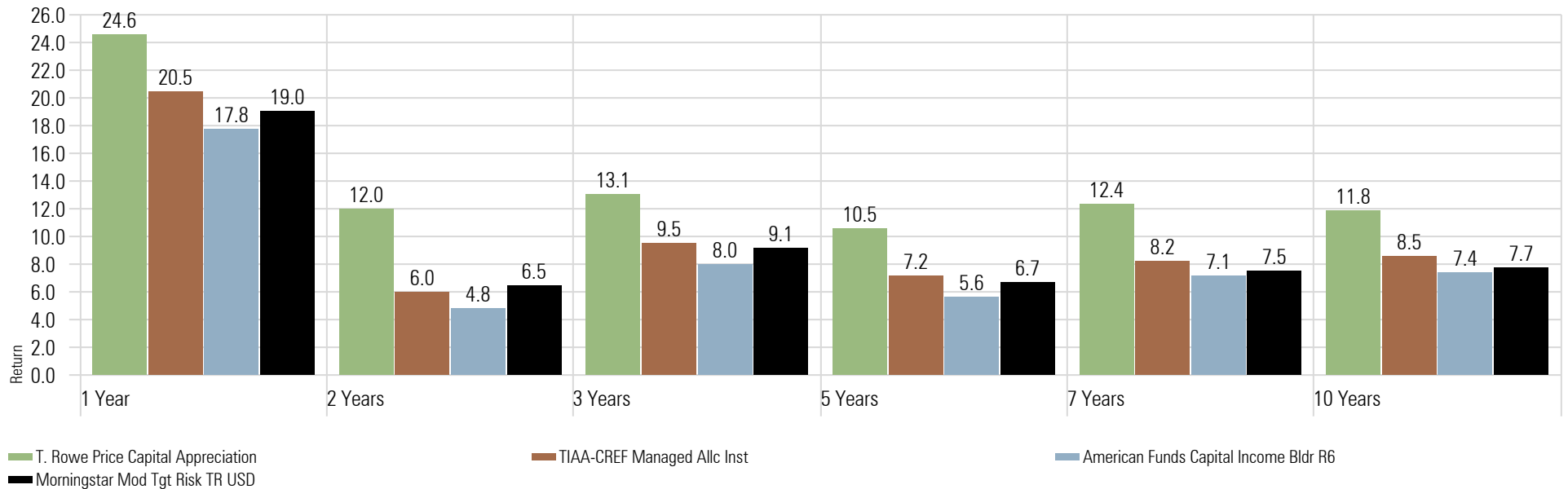
Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

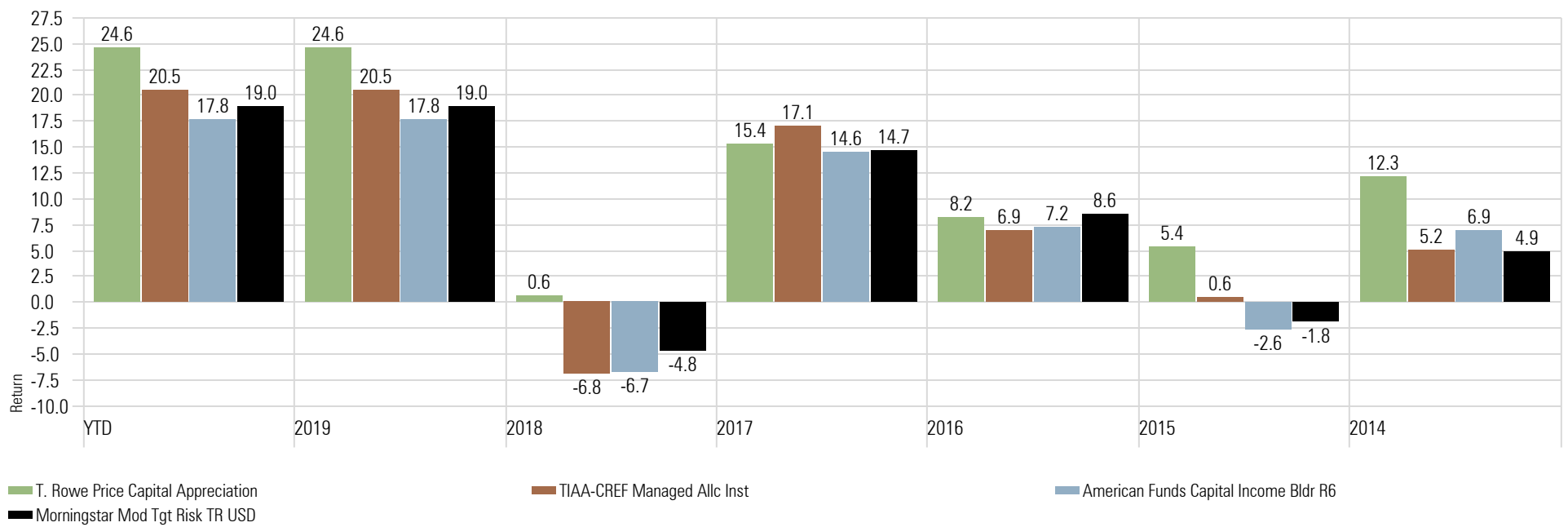


# Trailing Performance

## Cumulative Returns



## Annual Returns





## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Allocation--50% to 70% Equity</b>																		
T. Rowe Price Capital Appreciation	5.5	<b>34</b>	0.27	24.6	<b>2</b>	3.81	24.6	<b>2</b>	3.81	13.1	<b>2</b>	3.60	10.5	<b>1</b>	3.08	11.8	<b>1</b>	2.29
TIAA-CREF Managed Allc Inst	5.6	<b>32</b>	0.31	20.5	<b>30</b>	-0.28	20.5	<b>30</b>	-0.28	9.5	<b>29</b>	0.05	7.2	<b>25</b>	-0.29	8.5	<b>35</b>	-1.02
DJ US Moderate TR USD	5.2			20.8			20.8			9.5			7.5			9.6		
Average	5.1			19.2			19.2			8.5			6.2			7.9		
<b>World Allocation</b>																		
American Funds Capital Income Bldr R6	5.5	<b>38</b>		17.8	<b>39</b>		17.8	<b>39</b>		8.0	<b>35</b>		5.6	<b>25</b>		7.4	<b>16</b>	
Consumer Price Index +5%																		
Average	5.0			16.8			16.8			7.2			4.6			6.3		

## Performance Summary - Calendar Year Periods

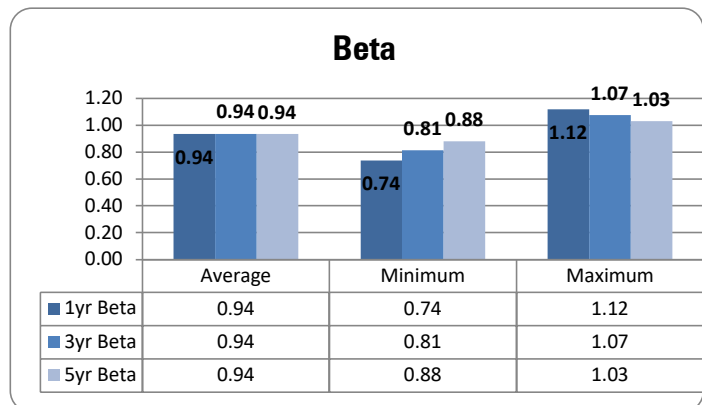
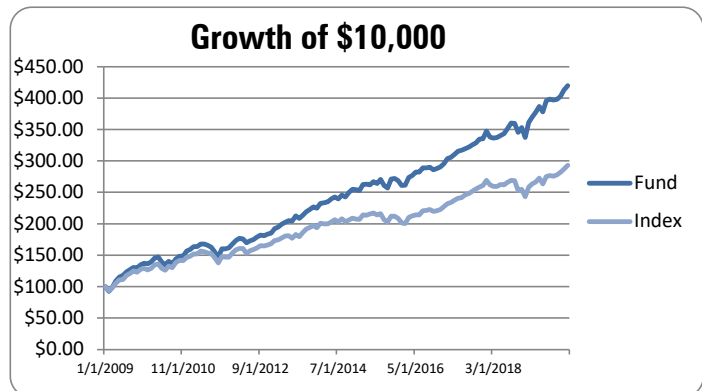
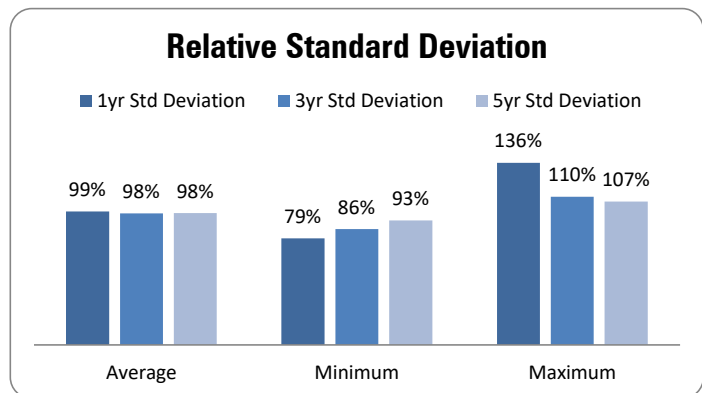
	2019			2018			2017			2016			2015			2014			2013		
	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Allocation--50% to 70% Equity</b>																					
T. Rowe Price Capital Appreciation	24.6	<b>2</b>	3.81	0.6	<b>2</b>	4.53	15.4	<b>23</b>	2.26	8.2	<b>31</b>	-1.03	5.4	<b>1</b>	5.55	12.3	<b>3</b>	3.18	22.4	<b>8</b>	2.87
TIAA-CREF Managed Allc Inst	20.5	<b>30</b>	-0.28	-6.8	<b>67</b>	-2.90	17.1	<b>8</b>	3.95	6.9	<b>51</b>	-2.33	0.6	<b>14</b>	0.68	5.2	<b>68</b>	-3.92	17.0	<b>55</b>	-2.60
DJ US Moderate TR USD	20.8			-3.9			13.1			9.3			-0.1		9.1				19.6		
Average	19.2			-5.7			13.7			7.5			-1.6		6.6				17.1		
<b>World Allocation</b>																					
American Funds Capital Income Bldr R6	17.8	<b>39</b>		-6.7	<b>31</b>		14.6	<b>47</b>		7.2	<b>27</b>		-2.6	<b>44</b>	-8.47	6.9	<b>7</b>	1.66	15.2	<b>46</b>	8.84
Consumer Price Index +5%													5.8		5.3				6.4		
Average	16.8			-7.9			14.4			6.2			-4.1		2.6				13.1		

Fund Name	Comparative Index/Fund
T. Rowe Price Capital Appreciation	100% TIAA-CREF Managed Allc Inst

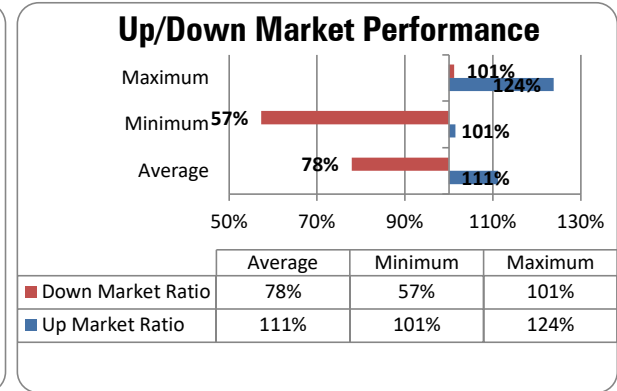
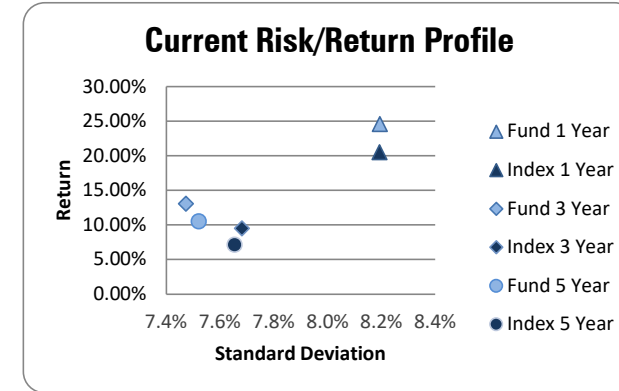
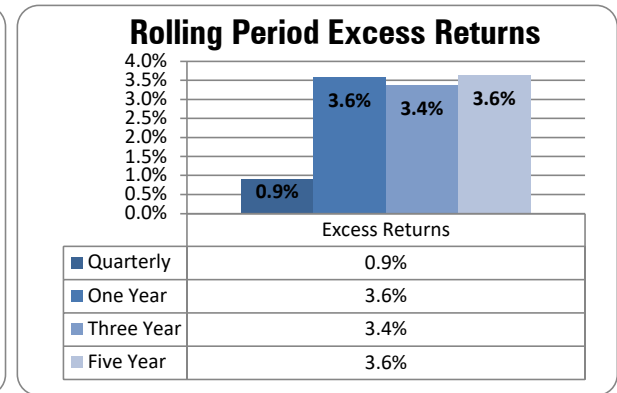
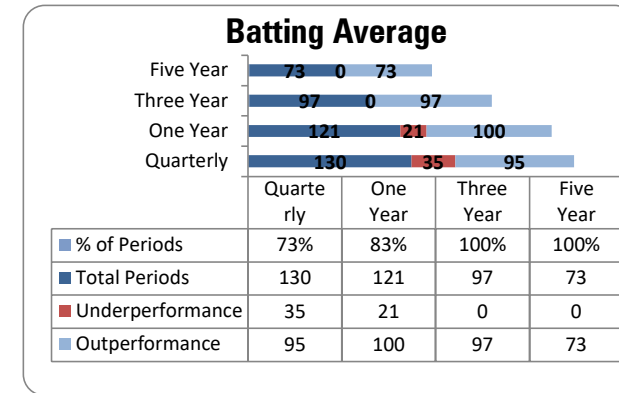
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## Risk Analysis



## Absolute Performance Summary



## Annualized Performance and Risk Statistics

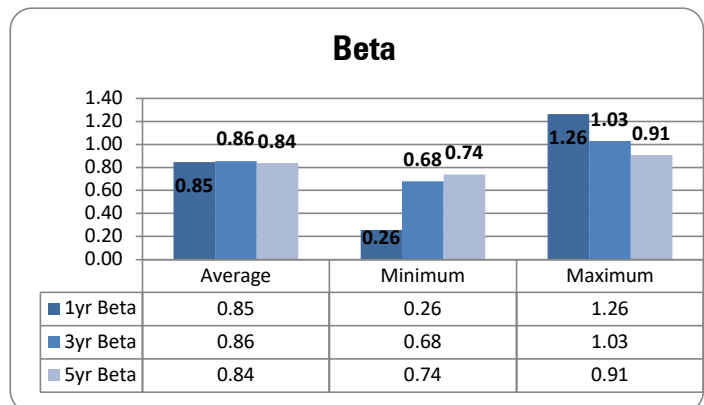
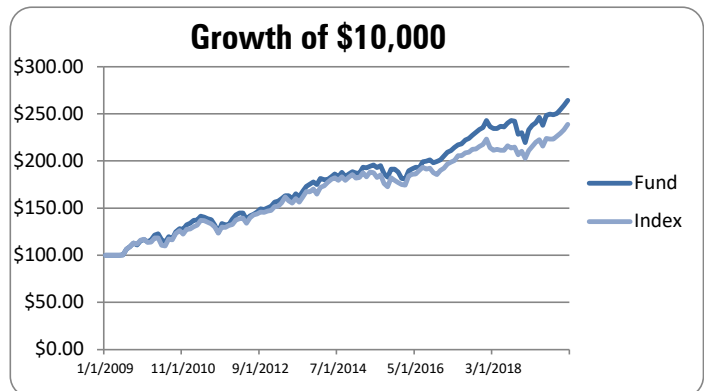
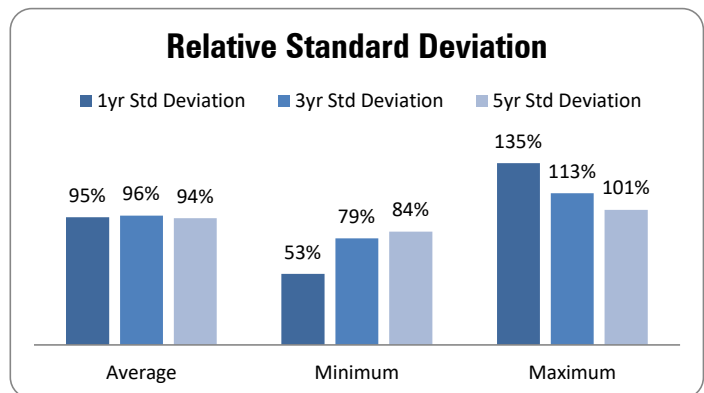
	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
T. Rowe Price Capital Appreciation	24.61%	4.60%	8.19%	11.91%	0.58%
100% TIAA-CREF Managed Allc Inst	20.52%		8.19%	9.62%	0.03%
<b>Latest Three Years</b>					
T. Rowe Price Capital Appreciation	13.09%	4.22%	7.47%	11.91%	-6.31%
100% TIAA-CREF Managed Allc Inst	9.55%		7.68%	9.62%	-9.39%
<b>Latest Five Years</b>					
T. Rowe Price Capital Appreciation	10.54%	3.80%	7.52%	11.91%	-6.31%
100% TIAA-CREF Managed Allc Inst	7.17%		7.65%	9.62%	-9.39%
<b>Latest Ten Years</b>					
T. Rowe Price Capital Appreciation	11.84%	3.71%	8.34%	11.91%	-11.27%
100% TIAA-CREF Managed Allc Inst	8.53%		8.40%	9.62%	-10.49%

Fund Name	Comparative Index/Fund
TIAA-CREF Managed Allc Inst	100% American Funds Capital Income Bldr R6

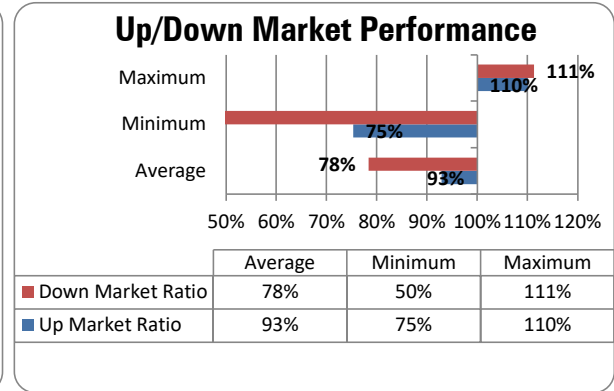
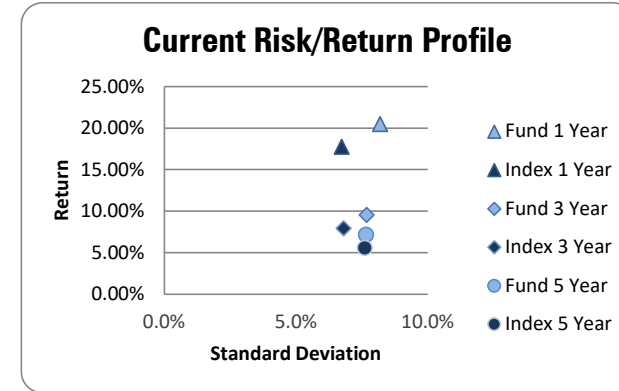
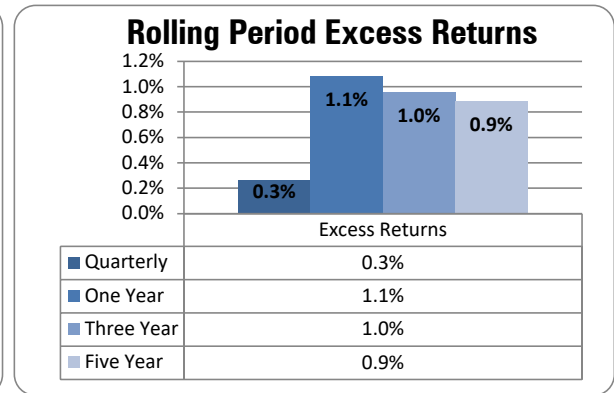
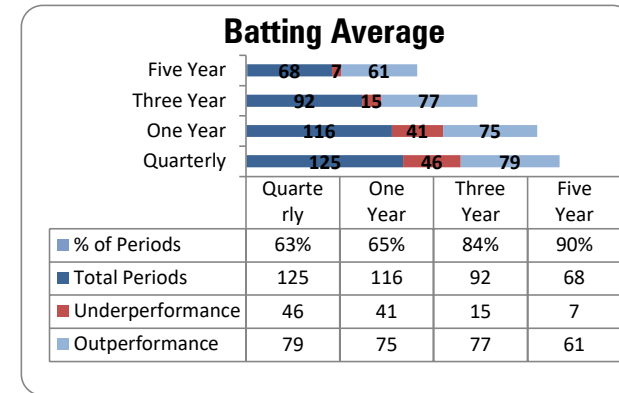
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## Risk Analysis



## Absolute Performance Summary



## Annualized Performance and Risk Statistics

	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
TIAA-CREF Managed Allc Inst	20.52%	0.18%	8.19%	9.62%	0.03%
100% American Funds Capital Income	17.75%		6.73%	8.28%	0.10%
<b>Latest Three Years</b>					
TIAA-CREF Managed Allc Inst	9.55%	1.36%	7.68%	9.62%	-9.39%
100% American Funds Capital Income	7.95%		6.80%	8.28%	-5.55%
<b>Latest Five Years</b>					
TIAA-CREF Managed Allc Inst	7.17%	2.14%	7.65%	9.62%	-9.39%
100% American Funds Capital Income	5.60%		7.60%	8.28%	-6.23%
<b>Latest Ten Years</b>					
TIAA-CREF Managed Allc Inst	8.53%	1.92%	8.40%	9.62%	-10.49%
100% American Funds Capital Income	7.40%		8.44%	11.91%	-8.39%

Fund Name	Comparative Index/Fund
T. Rowe Price Capital Appreciation	100% American Funds Capital Income Bldr R6

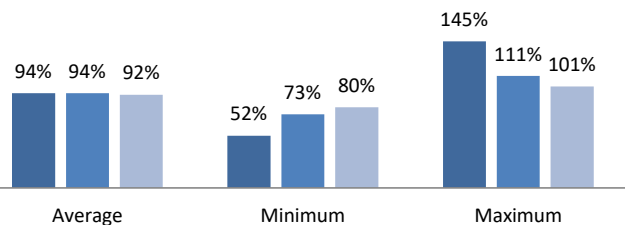
Home

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## Risk Analysis

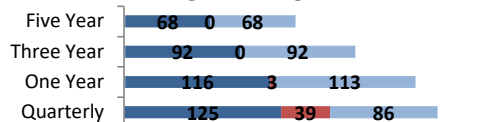
### Relative Standard Deviation

■ 1yr Std Deviation ■ 3yr Std Deviation ■ 5yr Std Deviation



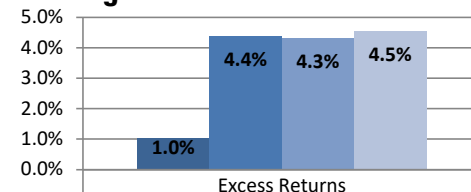
## Absolute Performance Summary

### Batting Average



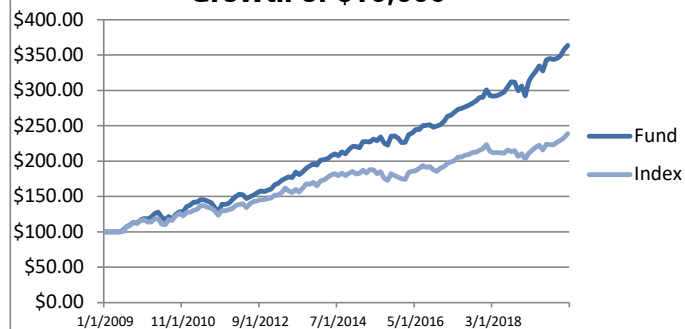
	Quarterly	One Year	Three Year	Five Year
% of Periods	69%	97%	100%	100%
Total Periods	125	116	92	68
Underperformance	39	3	0	0
Outperformance	86	113	92	68

### Rolling Period Excess Returns

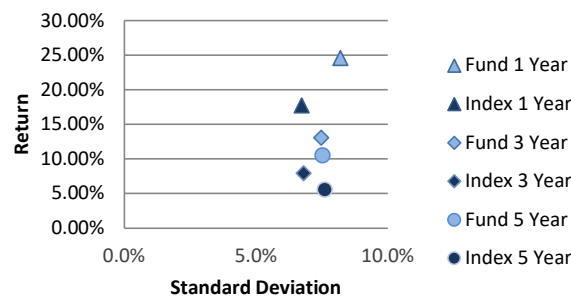


Quarterly	1.0%
One Year	4.4%
Three Year	4.3%
Five Year	4.5%

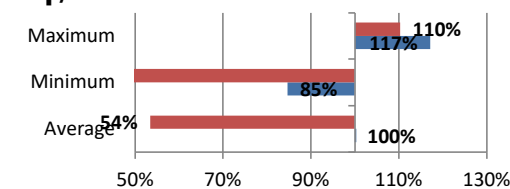
### Growth of \$10,000



### Current Risk/Return Profile

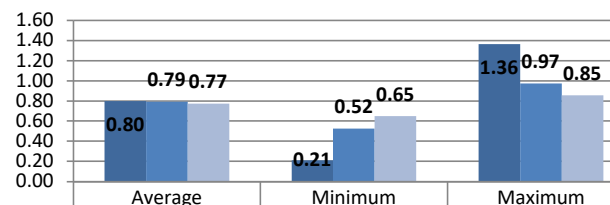


### Up/Down Market Performance



	Average	Minimum	Maximum
Down Market Ratio	54%	8%	110%
Up Market Ratio	100%	85%	117%

### Beta



1yr Beta	0.80	0.21	1.36
3yr Beta	0.79	0.52	0.97
5yr Beta	0.77	0.65	0.85

## Annualized Performance and Risk Statistics

	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
T. Rowe Price Capital Appreciation	24.61%	5.29%	8.19%	11.91%	0.58%
100% American Funds Capital Income	17.75%		6.73%	8.28%	0.10%
<b>Latest Three Years</b>					
T. Rowe Price Capital Appreciation	13.09%	5.35%	7.47%	11.91%	-6.31%
100% American Funds Capital Income	7.95%		6.80%	8.28%	-5.55%
<b>Latest Five Years</b>					
T. Rowe Price Capital Appreciation	10.54%	5.80%	7.52%	11.91%	-6.31%
100% American Funds Capital Income	5.60%		7.60%	8.28%	-6.23%
<b>Latest Ten Years</b>					
T. Rowe Price Capital Appreciation	11.84%	5.64%	8.34%	11.91%	-11.27%
100% American Funds Capital Income	7.40%		8.44%	11.91%	-8.39%

# T. Rowe Price Capital Appreciation

PRWCX

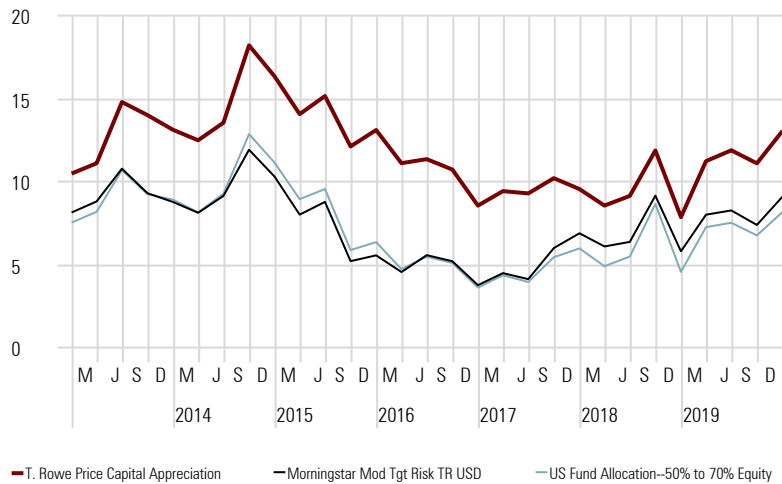
**Index:** Morningstar Mod Tgt Risk TR USD  
**Category:** US Fund Allocation--50% to 70% Equity  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Mod Tgt Risk TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
T. Rowe Price Capital Appreciation	24.6	24.6	13.1	10.5	11.8	9.3
Morningstar Mod Tgt Risk TR USD	19.0	19.0	9.1	6.7	7.7	6.6
US Fund Allocation--50% to 70% Equity	18.9	18.9	8.2	5.9	7.4	5.6

## Returns (Rolling 36 Months)

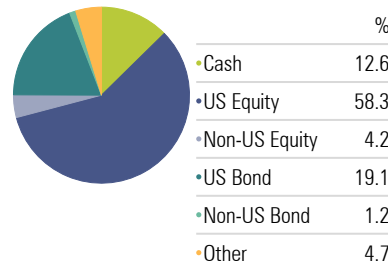


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.71	1.10	
Gross Expense Ratio	0.72	1.19	
LT Earn Growth	11.7	9.6	9.1
Avg Mkt Cap (\$MMM)	79.0	81.8	47.9
P/E Ratio	34.4	20.0	16.3
P/B Ratio	3.9	2.7	2.0
P/S Ratio	3.5	1.9	1.4
P/CF Ratio	17.6	12.4	10.5
ROE %	19.1	21.6	20.5
ROA %	8.0	7.5	7.2
Dividend Yld	1.1	2.1	2.8

## Asset Allocation

Portfolio Date: 12/31/2019

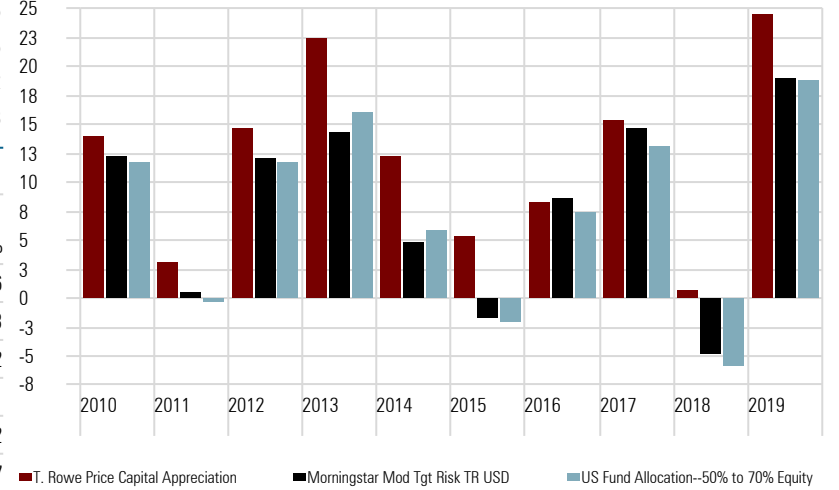


## Market Performance

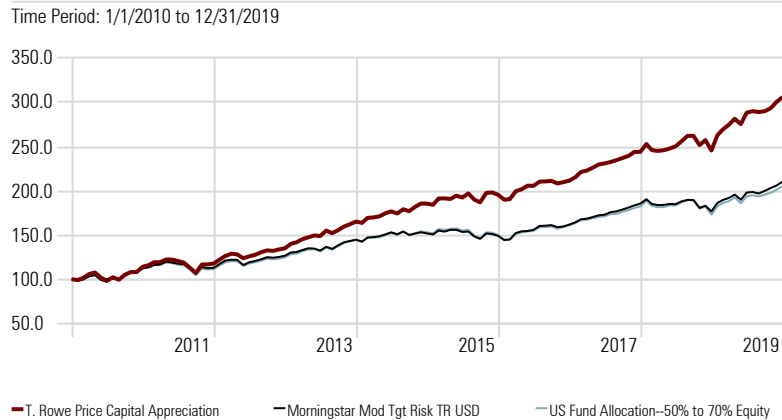
Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Mod Tgt Risk TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
T. Rowe Price Capital Appreciation	71.7	28.3	8.9	-5.4	11.9	-11.3	117.4	82.6
Morningstar Mod Tgt Risk TR USD	67.5	32.5	6.4	-5.4	8.8	-9.1	100.0	100.0
US Fund Allocation--50% to 70% Equity	68.3	31.7	7.1	-5.6	8.9	-10.4	101.3	106.9

## Calendar Year Returns



## Investment Growth



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	7.5	0.1	7.5	0.1
Down Deviation	1.3	0.2	1.3	0.3
Beta	1.1	0.0	1.0	0.0
Alpha	3.3	4.6	3.4	4.5
Sharpe	1.5	0.6	1.3	0.6
Sortino	2.6	1.3	2.3	1.3
Info Ratio	1.7	2.5	1.4	2.1
Down Capture	83.9	-29.9	76.6	-33.8
Up Capture	119.2	19.9	115.9	16.9

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
T. Rowe Price Gov. Reserve	12.6	Energy	0	5
Microsoft Corp	4.1	Materials	0	3
General Electric Co	3.6	Industrials	14	11
Visa Inc Class A	3.6	Cons Discretionary	9	10
PerkinElmer Inc	3.2	Consumer Staples	2	7
Fiserv Inc	3.2	Healthcare	20	14
Marsh & McLennan Companies Inc	3.0	Financials	9	15
Danaher Corp	2.6	Info Technology	27	19
Becton, Dickinson and Co	2.5	Telecom Services	6	8
Thermo Fisher Scientific Inc	2.3	Utilities	11	4
		Real Estate %	0.2	3.8

# CREF Social Choice

As of 12/31/2019



# CREF Social Choice R3

QCSCIX

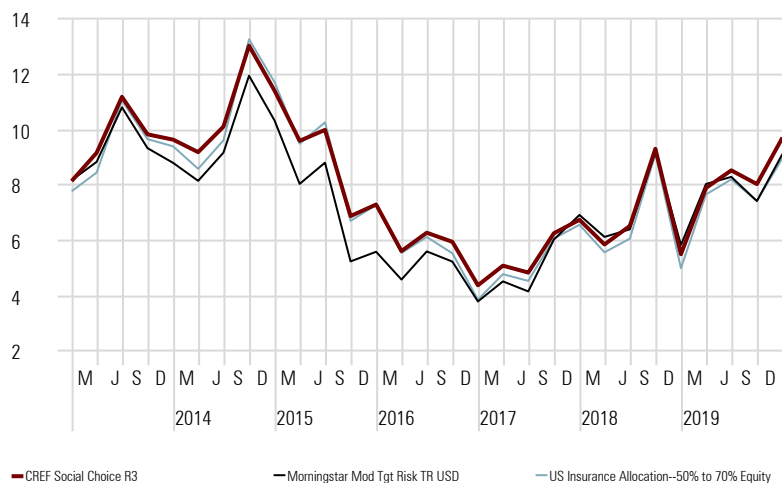
**Index:** Morningstar Mod Tgt Risk TR USD  
**Category:** US Insurance Allocation--50% to 70% Equity  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Mod Tgt Risk TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
CREF Social Choice R3	20.8	20.8	9.7	7.1	8.3	6.4
Morningstar Mod Tgt Risk TR USD	19.0	19.0	9.1	6.7	7.7	6.6
US Insurance Allocation--50% to 70% Equity	19.0	19.0	9.0	6.4	7.9	5.9

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.24	0.87	
Gross Expense Ratio	0.24	0.98	
LT Earn Growth	8.7	9.6	9.1
Avg Mkt Cap (\$MMM)	56.2	81.8	47.9
P/E Ratio	20.0	20.0	16.3
P/B Ratio	2.5	2.7	2.0
P/S Ratio	1.7	1.9	1.4
P/CF Ratio	12.6	12.4	10.5
ROE %	22.9	21.6	20.5
ROA %	7.5	7.5	7.2
Dividend Yld	2.3	2.1	2.8

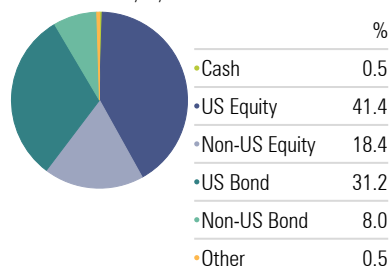
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Mod Tgt Risk TR USD

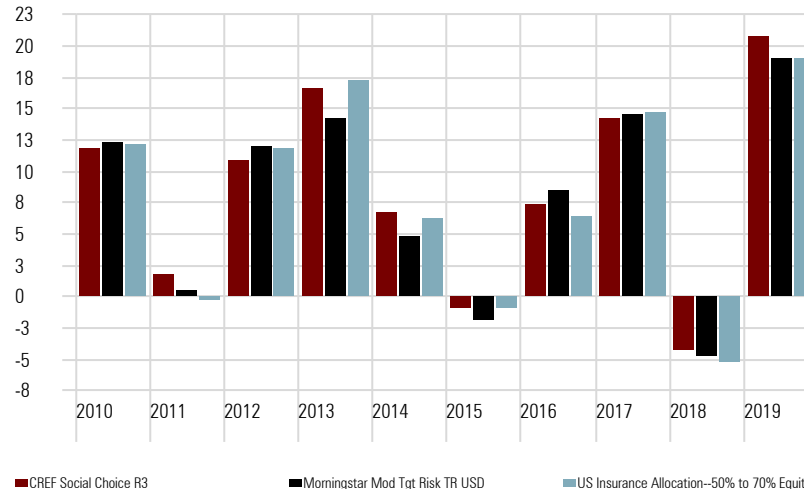
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
CREF Social Choice R3	66.7	33.3	6.8	-4.9	8.7	-8.4	99.1	90.9
Morningstar Mod Tgt Risk TR USD	67.5	32.5	6.4	-5.4	8.8	-9.1	100.0	100.0
US Insurance Allocation--50% to 70% Equity	68.3	31.7	7.2	-5.6	8.8	-10.4	103.7	105.7

## Asset Allocation

Portfolio Date: 12/31/2019

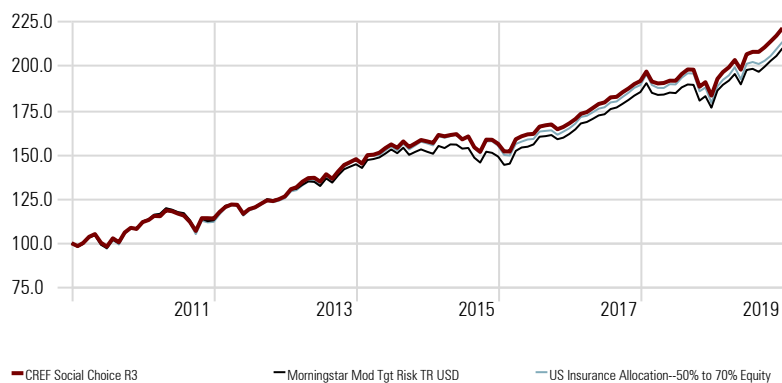


## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	6.7	-0.5	6.8	-0.5
Down Deviation	0.5	-0.4	0.7	-0.3
Beta	1.0	-0.1	1.0	-0.1
Alpha	0.6	1.2	0.4	0.9
Sharpe	1.2	0.2	0.9	0.1
Sortino	1.7	0.3	1.4	0.3
Info Ratio	0.7	0.8	0.3	0.5
Down Capture	95.0	-16.8	94.2	-12.2
Up Capture	101.9	-1.6	99.4	-1.4

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
Apple Inc	1.9	Energy	5	5
Microsoft Corp	1.8	Materials	5	3
Amazon.com Inc	1.0	Industrials	11	11
United States Treasury Bonds 2.25%	0.7	Cons Discretionary	11	10
Alphabet Inc Class C	0.6	Consumer Staples	7	7
Alphabet Inc A	0.6	Healthcare	13	14
Procter & Gamble Co	0.6	Financials	16	15
Intel Corp	0.6	Info Technology	17	19
Verizon Communications Inc	0.5	Telecom Services	7	8
Merck & Co Inc	0.5	Utilities	4	4
		Real Estate %	3.7	3.8

# CREF Stock

As of 12/31/2019





# CREF Stock R3

QCSTIX

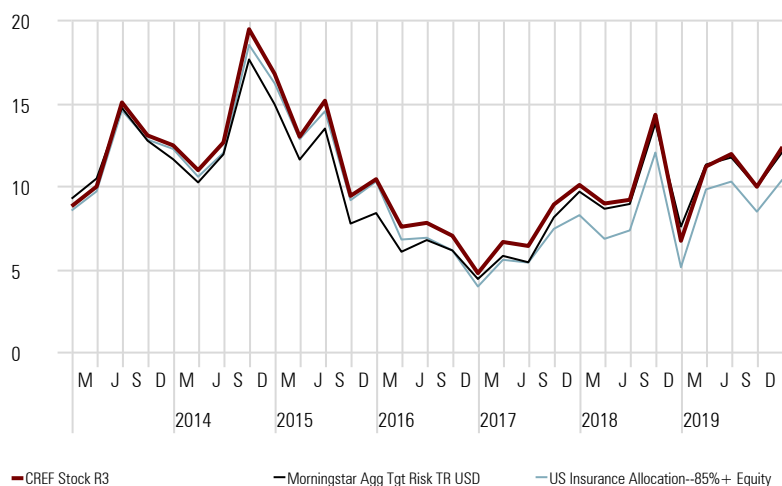
**Index:** Morningstar Agg Tgt Risk TR USD  
**Category:** US Insurance Allocation--85%+ Equity  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Agg Tgt Risk TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
CREF Stock R3	27.5	27.5	12.4	9.0	10.4	7.4
Morningstar Agg Tgt Risk TR USD	25.9	25.9	12.1	8.8	10.1	7.8
US Insurance Allocation--85%+ Equity	24.5	24.5	10.5	7.4	9.6	6.9

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.30	0.94	
Gross Expense Ratio	0.30	1.06	
LT Earn Growth	9.4	8.8	9.1
Avg Mkt Cap (\$MMM)	51.4	51.4	47.9
P/E Ratio	19.7	18.7	16.3
P/B Ratio	2.5	2.5	2.0
P/S Ratio	1.7	1.6	1.4
P/CF Ratio	12.4	11.7	10.5
ROE %	20.6	18.8	20.5
ROA %	7.2	6.4	7.2
Dividend Yld	2.1	2.3	2.8

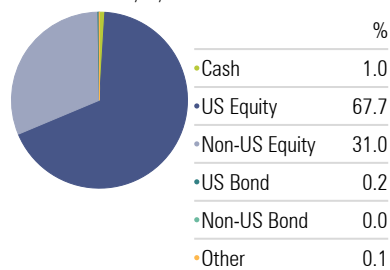
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Agg Tgt Risk TR USD

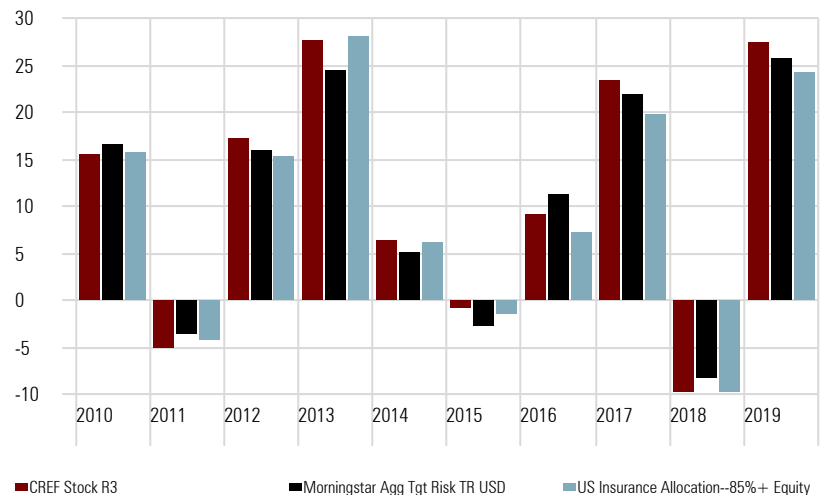
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
CREF Stock R3	67.5	32.5	11.2	-9.4	13.4	-17.7	105.3	106.7
Morningstar Agg Tgt Risk TR USD	70.0	30.0	10.7	-9.1	12.9	-16.3	100.0	100.0
US Insurance Allocation--85%+ Equity	65.0	35.0	10.8	-9.1	12.5	-16.8	97.1	98.9

## Asset Allocation

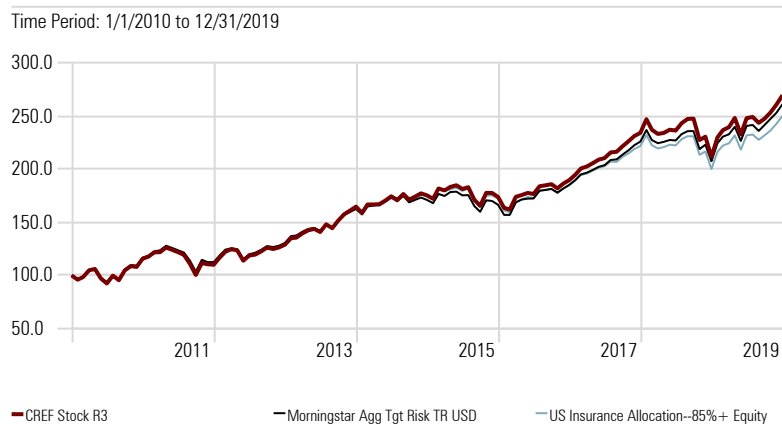
Portfolio Date: 12/31/2019



## Calendar Year Returns



## Investment Growth



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.0	0.9	12.0	0.8
Down Deviation	1.2	0.2	1.1	-0.2
Beta	1.1	0.1	1.1	0.1
Alpha	-0.7	1.0	-0.4	1.0
Sharpe	0.9	0.1	0.7	0.1
Sortino	1.3	0.2	1.0	0.2
Info Ratio	0.2	2.0	0.1	1.1
Down Capture	112.5	7.4	108.1	5.3
Up Capture	107.1	12.0	105.3	10.9

## Top 10 Holdings

	Fund %	Inv	Avg
Apple Inc	2.7	5	4
Microsoft Corp	2.4	5	8
Amazon.com Inc	1.7	11	19
Facebook Inc A	1.1	11	8
Alphabet Inc Class C	1.0	7	7
JPMorgan Chase & Co	0.9	13	12
Berkshire Hathaway Inc B	0.8	15	12
Johnson & Johnson	0.7	19	13
Alphabet Inc A	0.7	9	6
Visa Inc Class A	0.7	3	9

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy		5	4
Materials		5	8
Industrials		11	19
Cons Discretionary		11	8
Consumer Staples		7	7
Healthcare		13	12
Financials		15	12
Info Technology		19	13
Telecom Services		9	6
Utilities		3	9
Real Estate %		3.8	3.1

# CREF Growth Fund

As of 12/31/2019



# CREF Growth R3

QCGRIX

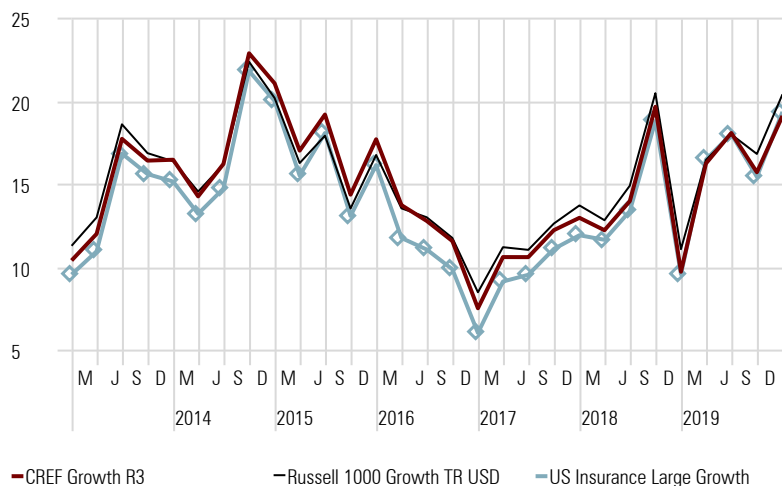
**Index:** Russell 1000 Growth TR USD  
**Category:** US Insurance Large Growth  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 1000 Growth TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
CREF Growth R3	31.7	31.7	19.2	13.2	14.4	9.9
Russell 1000 Growth TR USD	36.4	36.4	20.5	14.6	15.2	10.5
US Insurance Large Growth	33.0	33.0	19.4	13.0	13.7	9.3

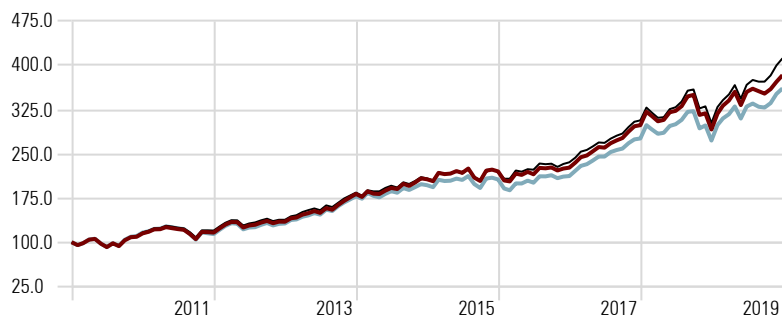
## Returns (Rolling 36 Months)



— CREF Growth R3 — Russell 1000 Growth TR USD — US Insurance Large Growth

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



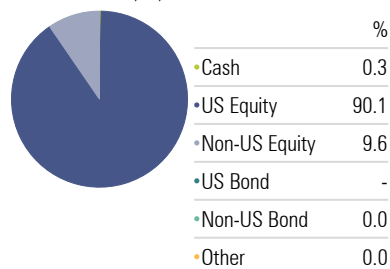
— CREF Growth R3 — Russell 1000 Growth TR USD — US Insurance Large Growth

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.24	0.83	
Gross Expense Ratio	0.24	0.87	
LT Earn Growth	13.3	11.9	9.1
Avg Mkt Cap (\$MMM)	123.6	191.3	47.9
P/E Ratio	30.8	27.0	16.3
P/B Ratio	6.5	5.8	2.0
P/S Ratio	3.8	3.6	1.4
P/CF Ratio	20.1	19.0	10.5
ROE %	29.9	30.8	20.5
ROA %	11.5	10.7	7.2
Dividend Yld	0.8	1.0	2.8

## Asset Allocation

Portfolio Date: 12/31/2019

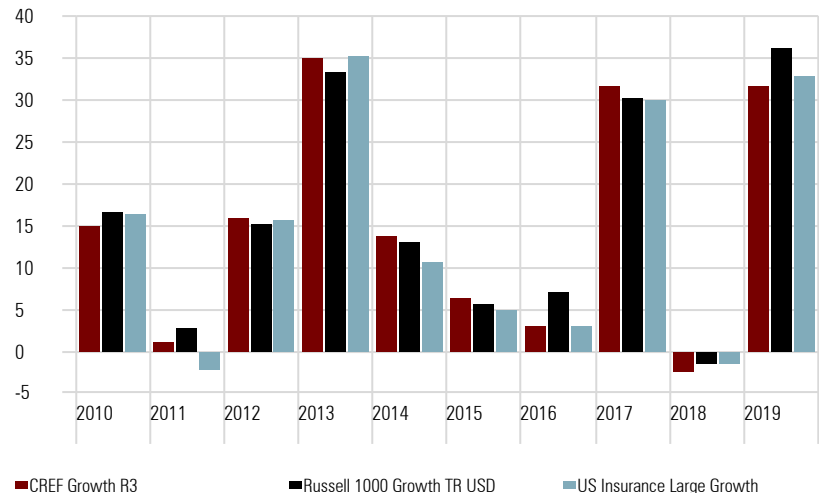


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 1000 Growth TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
CREF Growth R3	64.2	35.8	11.6	-9.7	16.9	-16.8	100.8	107.8
Russell 1000 Growth TR USD	65.8	34.2	11.0	-8.9	16.1	-15.9	100.0	100.0
US Insurance Large Growth	65.0	35.0	11.8	-9.2	16.3	-15.6	99.8	110.5

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	13.6	0.1	13.4	0.1
Down Deviation	1.3	0.0	1.5	-0.2
Beta	1.0	0.0	1.0	0.0
Alpha	-1.4	-0.3	-1.6	0.0
Sharpe	1.3	0.0	0.9	0.0
Sortino	1.9	-0.1	1.4	0.0
Info Ratio	-0.9	-0.2	-0.9	-0.1
Down Capture	103.7	2.5	109.0	1.3
Up Capture	97.6	0.2	98.9	1.3

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
Microsoft Corp	6.9	Energy	0	1
Amazon.com Inc	5.6	Materials	2	2
Apple Inc	5.1	Industrials	8	8
Facebook Inc A	4.1	Cons Discretionary	15	12
Alphabet Inc Class C	3.8	Consumer Staples	4	4
Visa Inc Class A	3.2	Healthcare	16	16
Salesforce.com Inc	2.9	Financials	3	5
PayPal Holdings Inc	2.2	Info Technology	37	35
Intuit Inc	2.0	Telecom Services	14	12
Mastercard Inc A	1.9	Utilities	0	1
		Real Estate %	0.6	1.9

# TIAA-CREF Large Cap Growth Index

As of 12/31/2019



# TIAA-CREF Large-Cap Gr Idx Instl

TILIX

Index: Russell 1000 Growth TR USD

Category: US Fund Large Growth

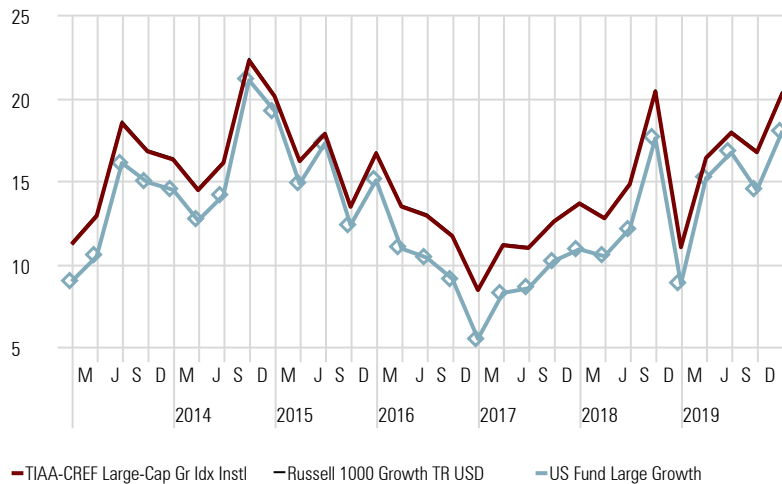
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 1000 Growth TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Large-Cap Gr Idx Instl	36.3	36.3	20.4	14.6	15.1	10.4
Russell 1000 Growth TR USD	36.4	36.4	20.5	14.6	15.2	10.5
US Fund Large Growth	31.7	31.7	18.1	12.0	12.9	8.6

## Returns (Rolling 36 Months)

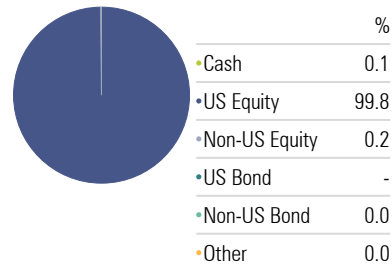


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.05	1.06	
Gross Expense Ratio	0.05	1.49	
LT Earn Growth	11.9	11.9	9.1
Avg Mkt Cap (\$MMM)	143.9	191.3	47.9
P/E Ratio	28.6	27.0	16.3
P/B Ratio	7.8	5.8	2.0
P/S Ratio	3.7	3.6	1.4
P/CF Ratio	19.3	19.0	10.5
ROE %	34.6	30.8	20.5
ROA %	11.5	10.7	7.2
Dividend Yld	1.2	1.0	2.8

## Asset Allocation

Portfolio Date: 12/31/2019

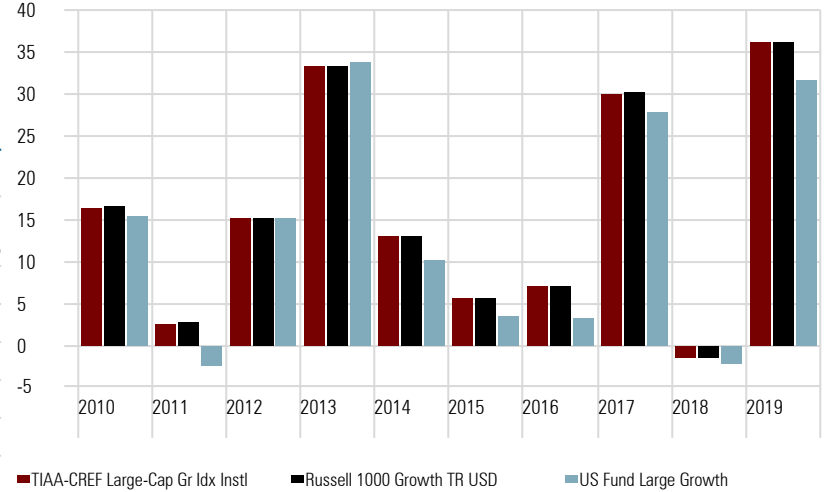


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 1000 Growth TR USD

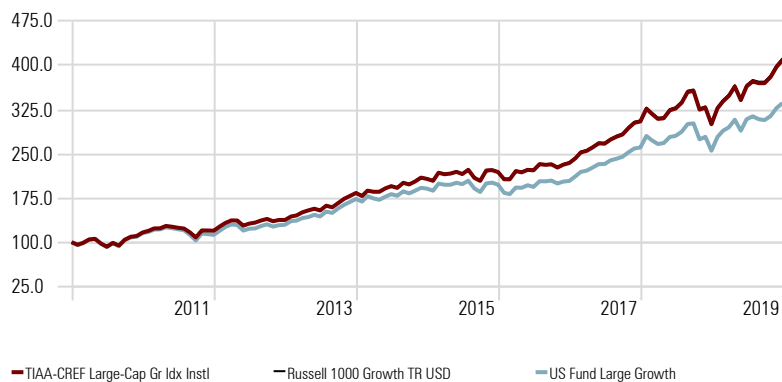
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Large-Cap Gr Idx Instl	65.8	34.2	11.0	-8.9	16.1	-15.9	99.7	100.0
Russell 1000 Growth TR USD	65.8	34.2	11.0	-8.9	16.1	-15.9	100.0	100.0
US Fund Large Growth	65.0	35.0	11.8	-9.0	15.8	-15.6	96.4	109.4

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	13.2	0.2	12.9	0.0
Down Deviation	0.0	-1.3	0.1	-1.6
Beta	1.0	0.0	1.0	0.0
Alpha	-0.1	1.6	-0.1	2.1
Sharpe	1.4	0.2	1.0	0.2
Sortino	2.1	0.2	1.7	0.3
Info Ratio	-1.9	-0.2	-1.2	0.4
Down Capture	99.9	1.0	100.0	-5.7
Up Capture	99.7	7.1	99.7	6.7

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
Apple Inc	8.5	Energy	0	1
Microsoft Corp	7.8	Materials	1	2
Amazon.com Inc	5.0	Industrials	9	8
Facebook Inc A	3.2	Cons Discretionary	14	12
Alphabet Inc A	2.6	Consumer Staples	5	4
Alphabet Inc Class C	2.6	Healthcare	15	16
Visa Inc Class A	2.1	Financials	3	5
UnitedHealth Group Inc	1.8	Info Technology	39	35
Mastercard Inc A	1.7	Telecom Services	12	12
Merck & Co Inc	1.4	Utilities	0	1
		Real Estate %	2.4	1.9

# Large Growth Search

As of 12/31/2019



# US Fund Large Growth

## Wells Fargo Growth R6

### Investment Strategy

The investment seeks long-term capital appreciation. The fund invests at least 80% of its total assets in equity securities and up to 25% of the fund's total assets in equity securities of foreign issuers through ADRs and similar investments. It invests principally in equity securities of companies that the advisor believes have prospects for robust and sustainable growth of revenues and earnings. The fund may invest in the equity securities of companies of any market capitalization.

### Manager Biography

Thomas C. Ognar since 5/1/2002

Joseph M. Eberhardy since 4/25/2008

### Wells Fargo Growth R6 - Operations

Inception Date	9/30/2015
Fund Size (\$mm)	4,839
Annual Report Net Expense Ratio	0.70
Prospectus Net Expense Ratio	0.70
Prospectus Gross Expense Ratio	0.75
Ticker	SGRHX
Manager Tenure (Longest)	17.67
Manager Tenure (Average)	14.71
Morningstar Inst Cat	Large High Growth

### Other Notes:

None

## Wells Fargo Growth Inst

### Investment Strategy

The investment seeks long-term capital appreciation. The fund invests at least 80% of its total assets in equity securities and up to 25% of the fund's total assets in equity securities of foreign issuers through ADRs and similar investments. It invests principally in equity securities of companies that the advisor believes have prospects for robust and sustainable growth of revenues and earnings. The fund may invest in the equity securities of companies of any market capitalization.

### Manager Biography

Thomas C. Ognar since 5/1/2002

Joseph M. Eberhardy since 4/25/2008

### Wells Fargo Growth Inst - Operations

Inception Date	2/24/2000
Fund Size (\$mm)	4,839
Annual Report Net Expense Ratio	0.75
Prospectus Net Expense Ratio	0.75
Prospectus Gross Expense Ratio	0.85
Ticker	SGRNX
Manager Tenure (Longest)	17.67
Manager Tenure (Average)	14.71
Morningstar Inst Cat	Large High Growth

### Other Notes:

None

## TIAA-CREF Large-Cap Growth Inst

### Investment Strategy

The investment seeks a favorable long-term return, mainly through capital appreciation, primarily from equity securities. Under normal circumstances, the fund invests at least 80% of its assets in large-cap equity securities. It will invest primarily in large-cap equity securities that the fund's investment adviser believes present the opportunity for growth. The fund also seeks to invest in companies expected to benefit from prospective acquisitions, reorganizations, corporate restructurings or other special situations. It may invest up to 20% of its assets in foreign investments.

### Manager Biography

Susan Hirsch since 3/31/2006

Terrence Kontos since 3/1/2014

### TIAA-CREF Large-Cap Growth Inst - Operations

Inception Date	3/31/2006
Fund Size (\$mm)	6,155
Annual Report Net Expense Ratio	0.39
Prospectus Net Expense Ratio	0.41
Prospectus Gross Expense Ratio	0.41
Ticker	TILGX
Manager Tenure (Longest)	13.83
Manager Tenure (Average)	9.83
Morningstar Inst Cat	Large High Growth

### Other Notes:

None

# Portfolio Analysis

## Wells Fargo Growth R6

## Wells Fargo Growth Inst

## TIAA-CREF Large-Cap Growth Inst

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	0	18	46	Market Cap Giant %	39
				Market Cap Large %	23
Mid	1	0	26	Market Cap Mid %	30
				Market Cap Small %	8
Small	0	2	5	Market Cap Micro %	0

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	0	18	46	Market Cap Giant %	39
				Market Cap Large %	23
Mid	1	0	26	Market Cap Mid %	30
				Market Cap Small %	8
Small	0	2	5	Market Cap Micro %	0

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	1	28	66	Market Cap Giant %	64
				Market Cap Large %	31
Mid	0	1	4	Market Cap Mid %	5
				Market Cap Small %	0
Small	0	0	0	Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell 1000 Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	56.3	144.0
Forward P/E	31.4	23.5
P/E Ratio (TTM)	33.2	28.6
LT Earn Growth	13.3	11.9
P/B Ratio (TTM)	6.8	7.8
Dividend Yield	0.5	1.2
ROE %	19.6	34.6
ROA %	7.2	11.5
Debt to Capital %	40	46

### Valuation Data

Display Benchmark 1: Russell 1000 Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	56.3	144.0
Forward P/E	31.4	23.5
P/E Ratio (TTM)	33.2	28.6
LT Earn Growth	13.3	11.9
P/B Ratio (TTM)	6.8	7.8
Dividend Yield	0.5	1.2
ROE %	19.6	34.6
ROA %	7.2	11.5
Debt to Capital %	40	46

### Valuation Data

Display Benchmark 1: Russell 1000 Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	151.4	144.0
Forward P/E	29.2	23.5
P/E Ratio (TTM)	33.3	28.6
LT Earn Growth	13.7	11.9
P/B Ratio (TTM)	7.4	7.8
Dividend Yield	0.8	1.2
ROE %	30.0	34.6
ROA %	12.2	11.5
Debt to Capital %	37	46

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	39	
# of Stock Holdings	93	530
% in Top 10	36.4	36.9
Cash %	0.3	0.0
Developed %	98.7	99.9
US Equity %	95.5	99.8
Non-US Equity %	3	0
Emerging Mkt %	0.0	0.1

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	39	
# of Stock Holdings	93	530
% in Top 10	36.4	36.9
Cash %	0.3	0.0
Developed %	98.7	99.9
US Equity %	95.5	99.8
Non-US Equity %	3	0
Emerging Mkt %	0.0	0.1

### Portfolio Data

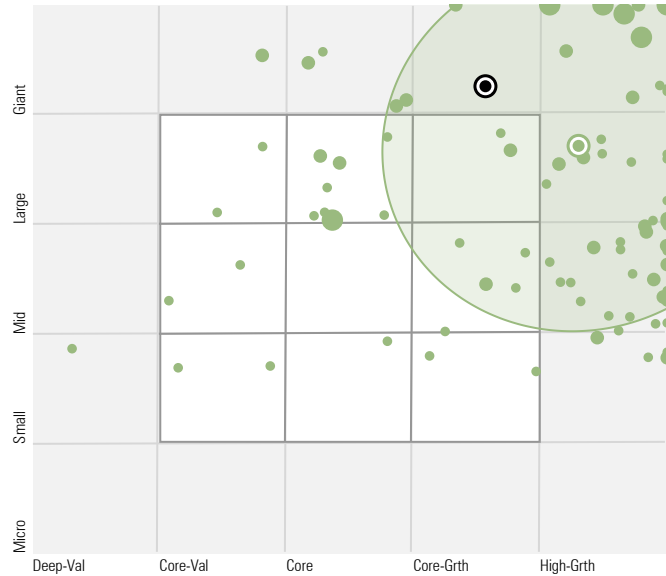
	Inv	Bmk1
Turnover Ratio	79	
# of Stock Holdings	76	530
% in Top 10	39.0	36.9
Cash %	0.5	0.0
Developed %	98.6	99.9
US Equity %	88.0	99.8
Non-US Equity %	12	0
Emerging Mkt %	0.9	0.1



# Holdings-Based Style Analysis

Wells Fargo Growth R6

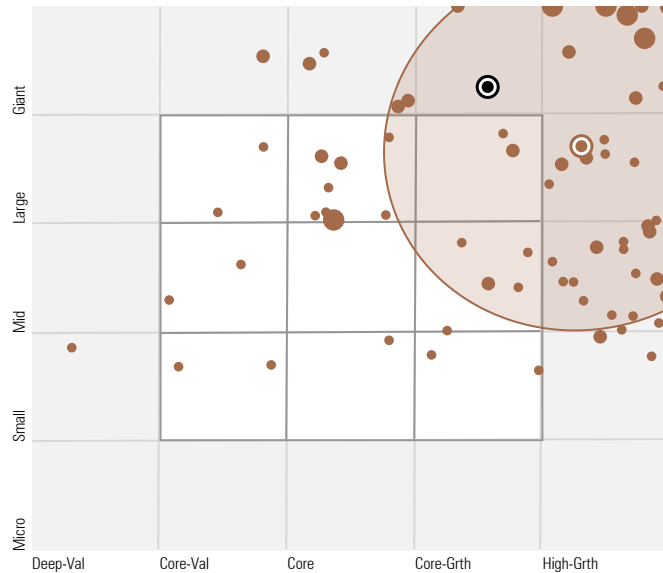
## Holdings-Based Style Map



● Wells Fargo Growth R6 11/30/2019 ● Russell 1000 Growth TR USD 12/31/2019

Wells Fargo Growth Inst

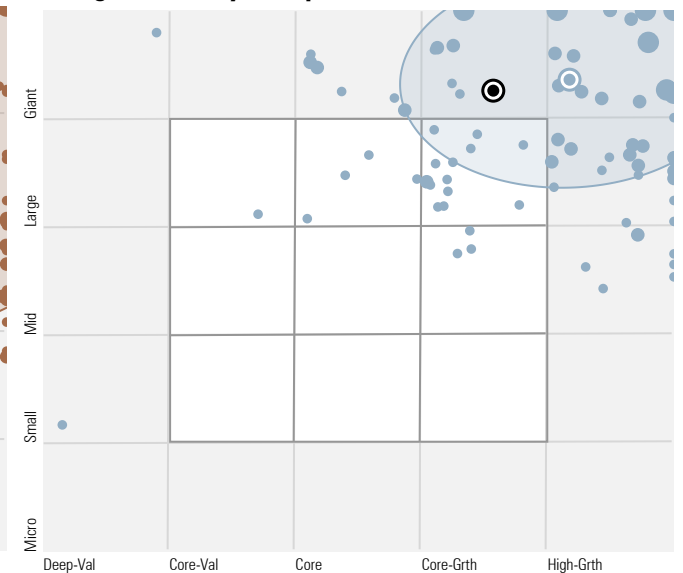
## Holdings-Based Style Map



● Wells Fargo Growth Inst 11/30/2019 ● Russell 1000 Growth TR USD 12/31/2019

TIAA-CREF Large-Cap Growth Inst

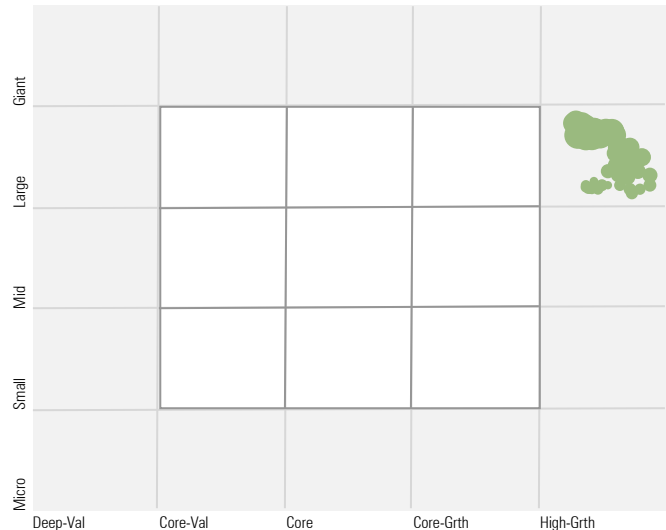
## Holdings-Based Style Map



● TIAA-CREF Large-Cap Growth Inst 11/30/2019 ● Russell 1000 Growth TR USD 12/31/2019

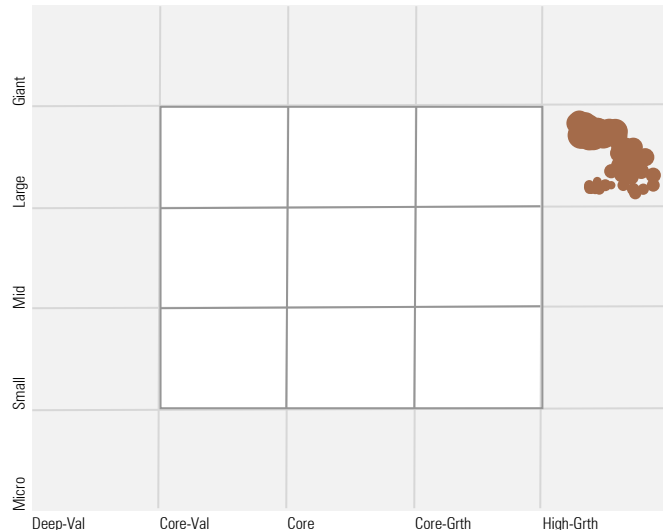
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



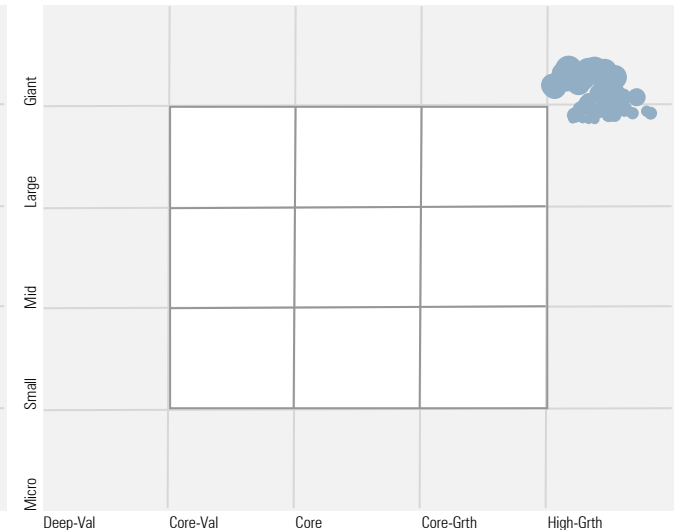
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



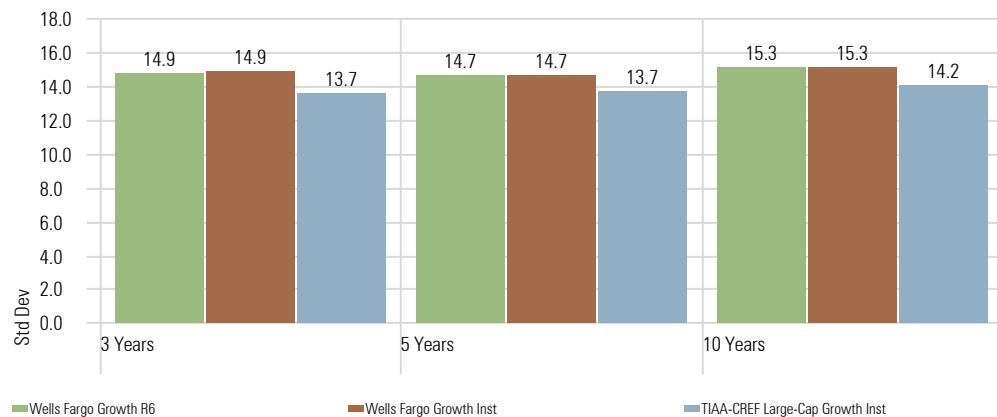
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019

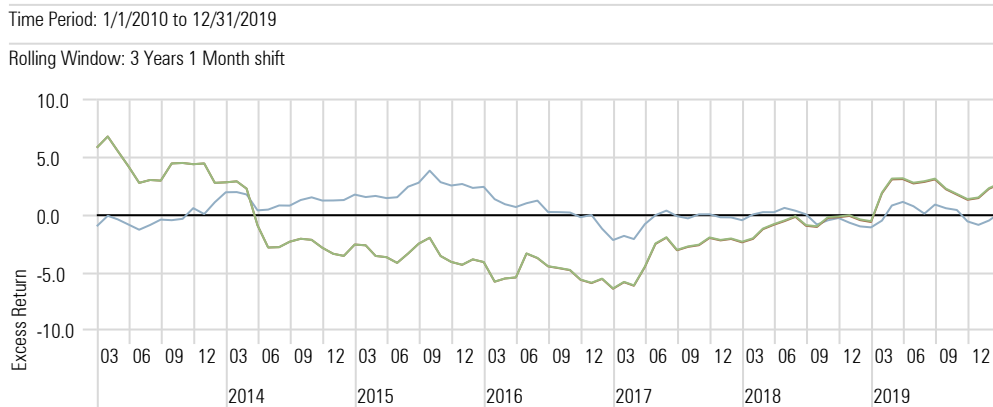


# Risk/Return Performance Analysis

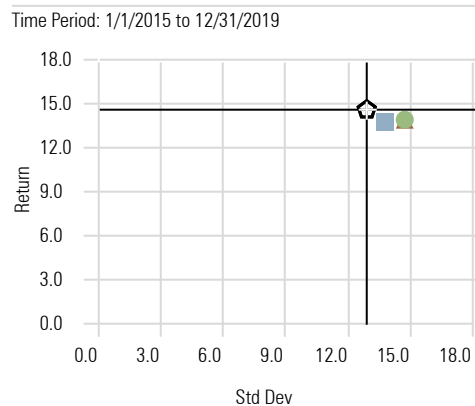
## Standard Deviation



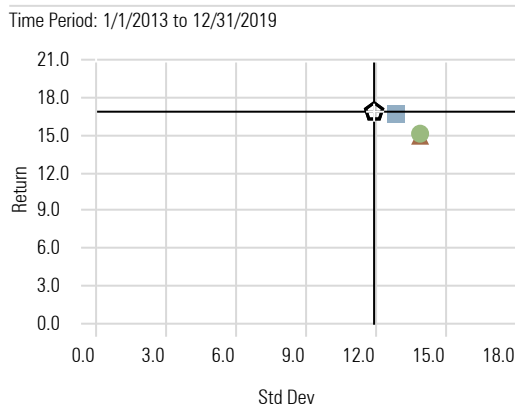
## 3 Year Relative Rolling Returns



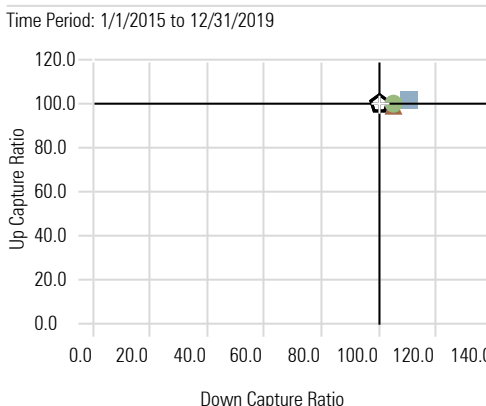
## 5 Year Risk-Reward



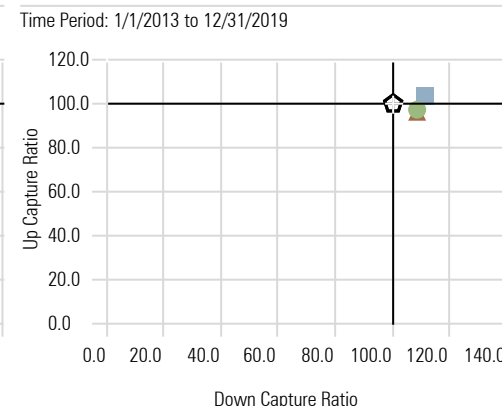
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● Wells Fargo Growth R6

● Wells Fargo Growth Inst

● TIAA-CREF Large-Cap Growth Inst

◻ Russell 1000 Growth TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

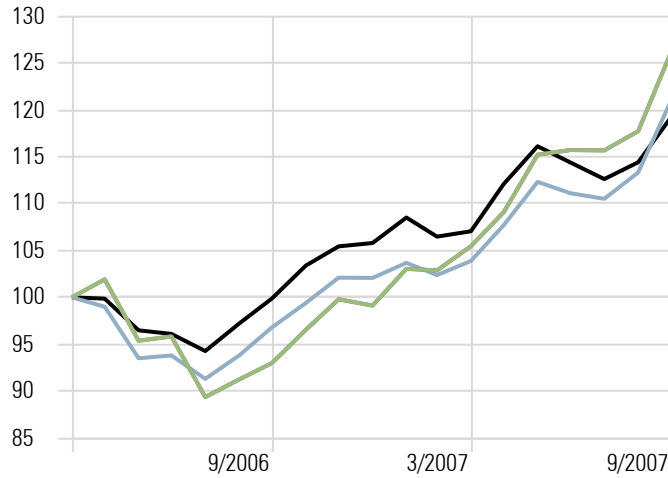
Time Period: Since Common Inception (4/1/2006) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
Wells Fargo Growth R6	12.2	16.5	0.9	1.06	89	19.8	-22.9	0.67	5.4
Wells Fargo Growth Inst	12.2	16.5	0.9	1.06	89	19.8	-22.9	0.67	5.4
TIAA-CREF Large-Cap Growth Inst	10.5	15.7	-0.6	1.04	96	17.6	-23.3	0.59	3.2
Russell 1000 Growth TR USD	10.8	14.7	0.0	1.00	100	16.3	-22.8	0.66	0.0

# Time Period Performance Analysis

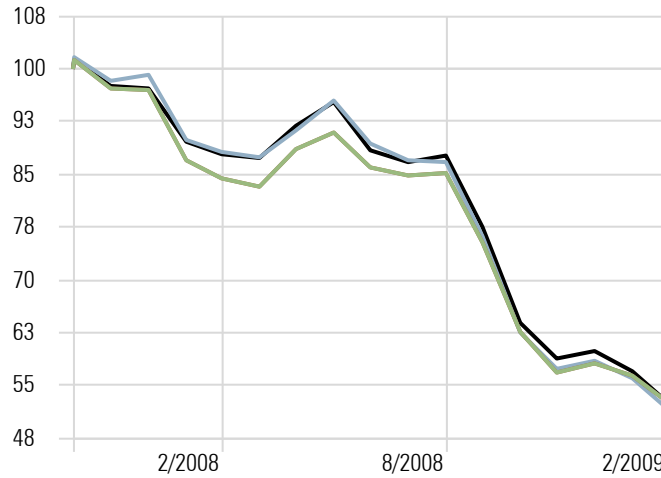
## Credit Buildup - Housing and Oil Boom

Time Period: 4/1/2006 to 9/30/2007



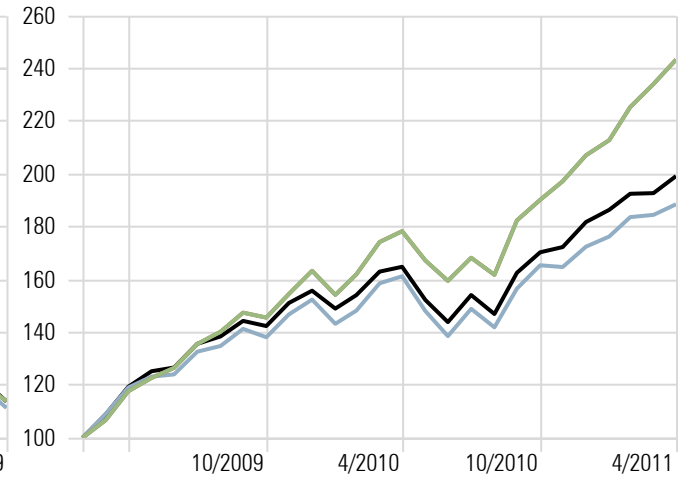
## Credit Crunch - Financial Crisis

Time Period: 10/31/2007 to 2/28/2009



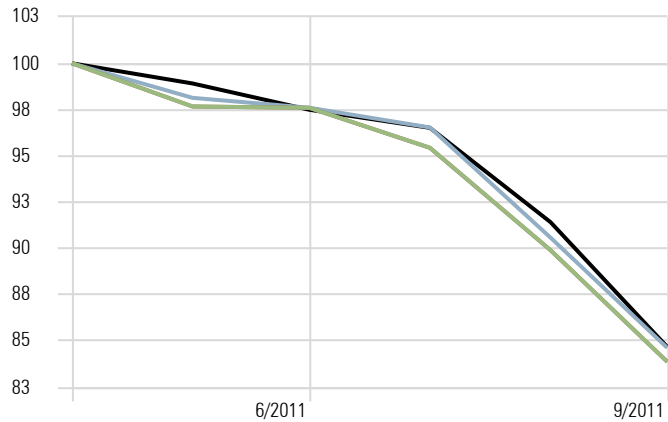
## Financial Crisis Recovery - QE1&2

Time Period: 3/1/2009 to 4/30/2011



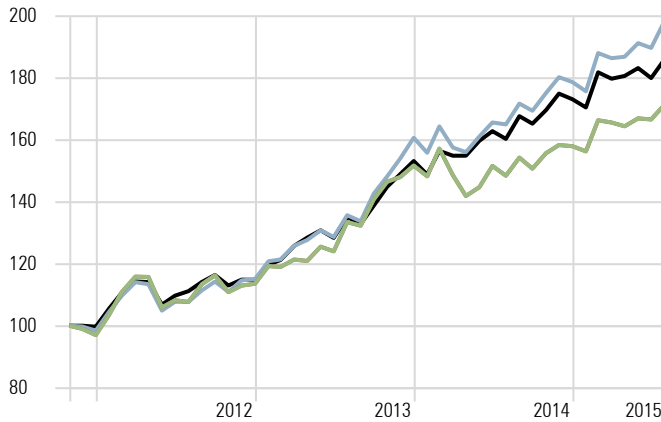
## Double Dip

Time Period: 5/1/2011 to 9/30/2011



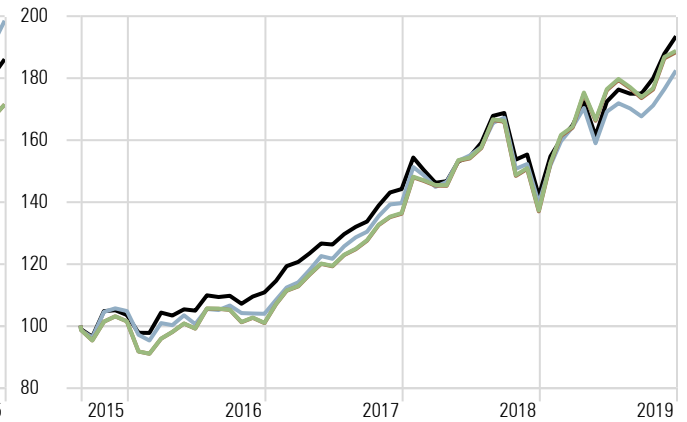
## US Recovery Continues - Global Markets Lag

Time Period: 11/1/2011 to 7/31/2015



## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



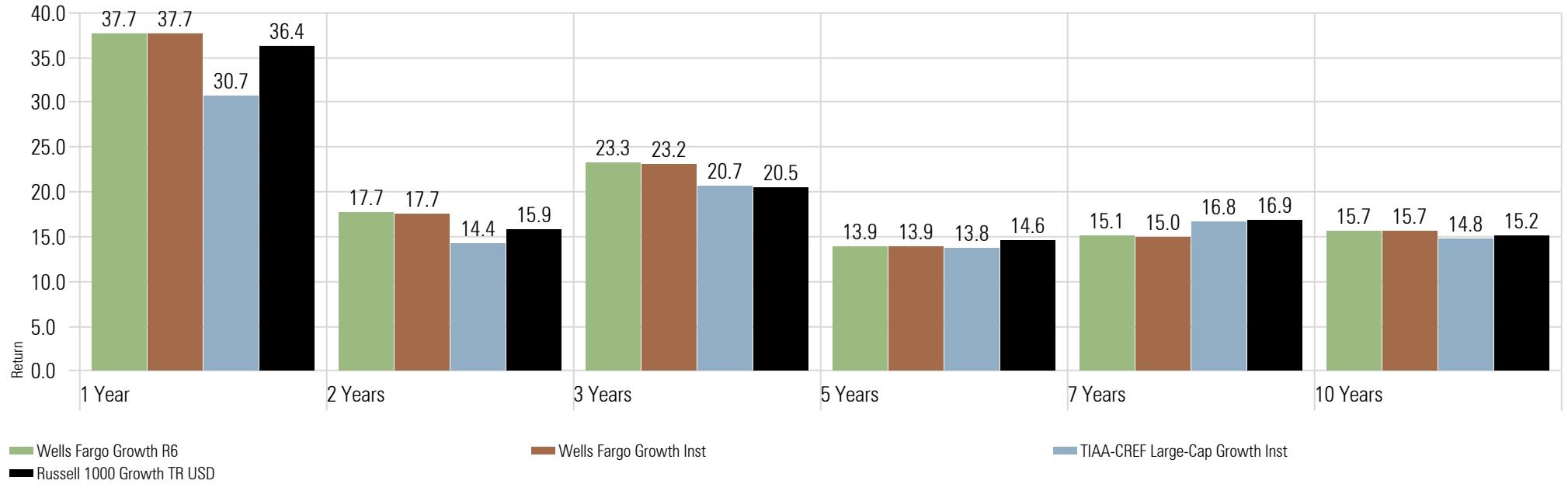
● Wells Fargo Growth R6  
 ◻ Russell 1000 Growth TR USD

● Wells Fargo Growth Inst

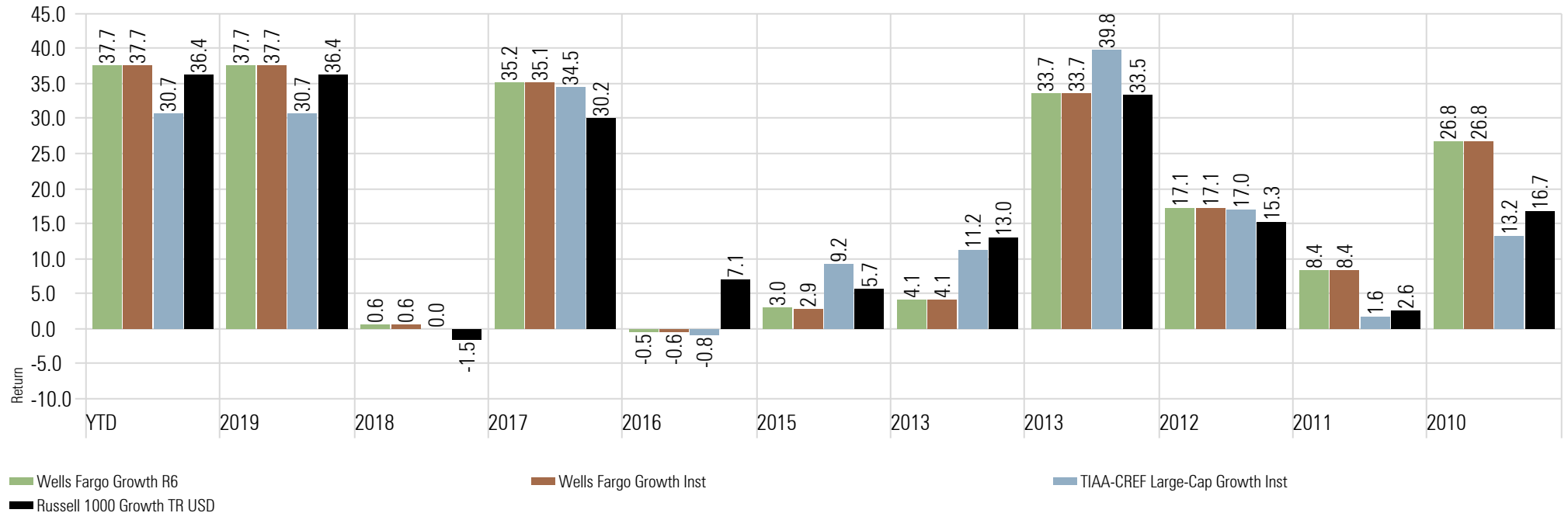
● TIAA-CREF Large-Cap Growth Inst

# Trailing Performance

## Cumulative Returns



## Annual Returns



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Large Growth</b>																		
Wells Fargo Growth R6	8.6	<b>71</b>	-2.03	37.7	<b>10</b>	1.29	37.7	<b>10</b>	1.29	23.3	<b>6</b>	2.78	13.9	<b>24</b>	-0.70	15.7	<b>6</b>	0.50
Wells Fargo Growth Inst	8.6	<b>71</b>	-2.05	37.7	<b>10</b>	1.26	37.7	<b>10</b>	1.26	23.2	<b>7</b>	2.73	13.9	<b>25</b>	-0.75	15.7	<b>7</b>	0.47
TIAA-CREF Large-Cap Growth Inst	8.9	<b>65</b>	-1.77	30.7	<b>64</b>	-5.68	30.7	<b>64</b>	-5.68	20.7	<b>27</b>	0.23	13.8	<b>27</b>	-0.88	14.8	<b>16</b>	-0.40
Russell 1000 Growth TR USD	10.6			36.4			36.4			20.5			14.6			15.2		
Average	9.5			32.2			32.2			18.4			12.2			13.4		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Large Growth</b>																					
Wells Fargo Growth R6	37.7	<b>10</b>	1.29	0.6	<b>24</b>	2.12	35.2	<b>9</b>	5.03	-0.5	<b>82</b>	-7.57	3.0	<b>61</b>	-2.71	4.1	<b>95</b>	-8.93	33.7	<b>60</b>	0.23
Wells Fargo Growth Inst	37.7	<b>10</b>	1.26	0.6	<b>24</b>	2.07	35.1	<b>9</b>	4.93	-0.6	<b>82</b>	-7.63	2.9	<b>61</b>	-2.73	4.1	<b>95</b>	-8.93	33.7	<b>60</b>	0.23
TIAA-CREF Large-Cap Growth Inst	30.7	<b>64</b>	-5.68	0.0	<b>29</b>	1.56	34.5	<b>13</b>	4.30	-0.8	<b>84</b>	-7.93	9.2	<b>12</b>	3.53	11.2	<b>42</b>	-1.83	39.8	<b>13</b>	6.31
Russell 1000 Growth TR USD	36.4			-1.5			30.2			7.1			5.7			13.0			33.5		
Average	32.2			-2.1			28.2			3.5			4.0			10.3			34.8		

# Amana Growth

As of 12/31/2019



# Amana Growth Institutional

AMIGX

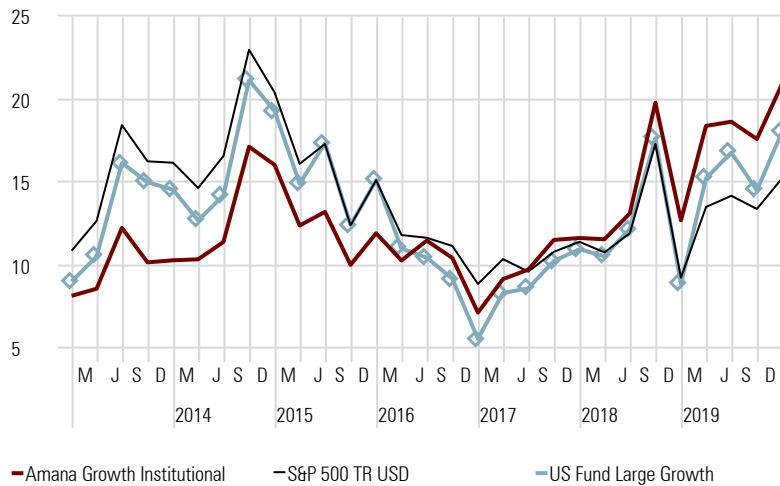
**Index:** S&P 500 TR USD  
**Category:** US Fund Large Growth  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Amana Growth Institutional	33.4	33.4	21.0	13.8	13.0	11.2
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Growth	31.7	31.7	18.1	12.0	12.9	8.6

## Returns (Rolling 36 Months)

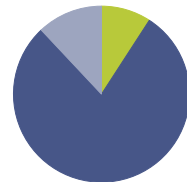


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.79	1.06	
Gross Expense Ratio	0.79	1.49	
LT Earn Growth	11.4	11.9	9.1
Avg Mkt Cap (\$MMM)	77.0	191.3	47.9
P/E Ratio	24.8	27.0	16.3
P/B Ratio	7.4	5.8	2.0
P/S Ratio	3.3	3.6	1.4
P/CF Ratio	18.8	19.0	10.5
ROE %	39.3	30.8	20.5
ROA %	13.8	10.7	7.2
Dividend Yld	1.7	1.0	2.8

## Asset Allocation

Portfolio Date: 2/29/2020



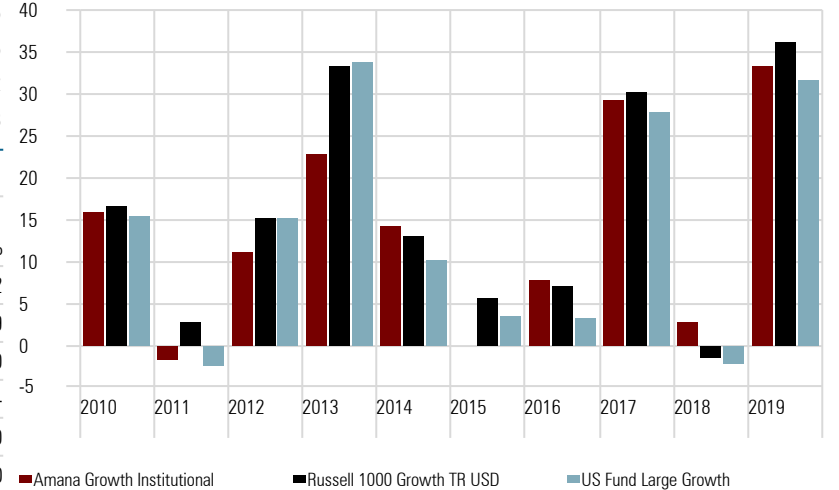
	%
Cash	9.2
US Equity	78.9
Non-US Equity	12.0
US Bond	-
Non-US Bond	0.0
Other	0.0

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

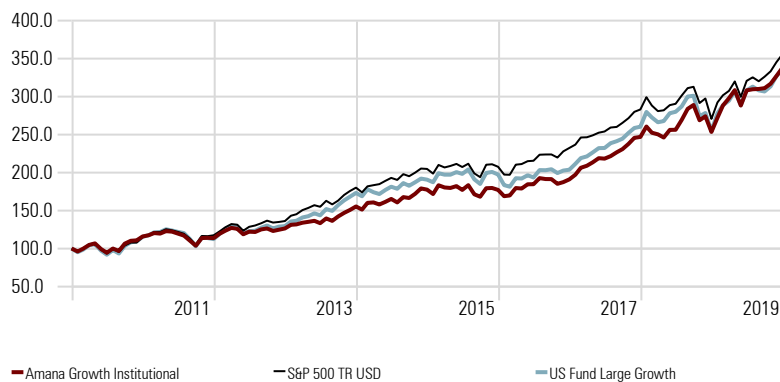
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Amana Growth Institutional	65.8	34.2	10.0	-7.5	17.5	-13.4	95.4	95.0
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Growth	65.0	35.0	11.8	-9.0	15.8	-15.6	101.4	108.0

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.2	-0.8	12.2	-0.7
Down Deviation	1.9	-0.3	2.3	-0.2
Beta	1.0	-0.1	1.0	-0.1
Alpha	5.5	3.4	2.2	2.3
Sharpe	1.6	0.3	1.0	0.2
Sortino	2.4	0.5	1.7	0.3
Info Ratio	1.5	0.6	0.5	0.5
Down Capture	83.4	-16.7	93.0	-11.5
Up Capture	112.7	2.7	104.9	1.4

## Top 10 Holdings

	Fund %	Sector	Inv	Avg
Adobe Inc	6.7	Technology	0	
Apple Inc	6.7	Technology	0	
Intuit Inc	5.8	Technology	12	
ASML Holding NV ADR	4.1	Technology	7	
The Estee Lauder Companies Inc Class A	4.1	Consumer Staples	13	
TJX Companies Inc	4.0	Retail	19	
Church & Dwight Co Inc	4.0	Consumer Staples	0	
Amgen Inc	3.4	Healthcare	49	
Agilent Technologies Inc	3.3	Healthcare	0	
Taiwan Semiconductor Manufacturing Co Ltd ADR	3.2	Technology	0	
		Real Estate %	0.0	

# Large Cap Blend Search

As of 12/31/2019





# US Fund Large Blend

## TIAA-CREF S&P 500 Index Instl

### Investment Strategy

The investment seeks a favorable long-term total return, mainly through capital appreciation, by investing primarily in a portfolio of equity securities of large domestic companies selected to track U.S. equity markets based on a market index. The fund invests at least 80% of its assets in securities of its benchmark index, the S&P 500® Index. It buys most, but not necessarily all, of the stocks in its benchmark index, and the advisor will attempt to closely match the overall investment characteristics of the fund's benchmark index.

### Manager Biography

Philip James(Jim) Campagna since 12/31/2005

Lei Liao since 5/30/2014

Darren Tran since 3/1/2019

### TIAA-CREF S&P 500 Index Instl - Operations

Inception Date	10/1/2002
Fund Size (\$mm)	6,184
Annual Report Net Expense Ratio	0.05
Prospectus Net Expense Ratio	0.05
Prospectus Gross Expense Ratio	0.05
Ticker	TISPX
Manager Tenure (Longest)	14.08
Manager Tenure (Average)	6.86
Morningstar Inst Cat	S&P 500 Tracking

### Other Notes:

None

## TIAA-CREF Growth & Income Instl

### Investment Strategy

The investment seeks a favorable long-term total return, through both capital appreciation and investment income, primarily from income-producing equity securities. The fund normally invests at least 80% of its assets in equity securities. It will invest in securities which the fund's investment adviser believes have the potential for capital appreciation, dividend income, or both. The fund focuses on large-cap securities that the advisor believes to be attractively valued, show the potential to appreciate faster than the rest of the market and return cash to shareholders in the form of dividends, stock buy-backs or both.

### Manager Biography

Susan Kempler since 3/1/2005

### TIAA-CREF Growth & Income Instl - Operat

Inception Date	7/1/1999
Fund Size (\$mm)	6,917
Annual Report Net Expense Ratio	0.40
Prospectus Net Expense Ratio	0.40
Prospectus Gross Expense Ratio	0.40
Ticker	TIGRX
Manager Tenure (Longest)	14.83
Manager Tenure (Average)	14.83
Morningstar Inst Cat	Large Valuation-Sensitive Growth

### Other Notes:

None

## Davis NY Venture Y

### Investment Strategy

The investment seeks long-term growth of capital. Davis Selected Advisers, L.P. ("Davis Advisors" or the "Adviser"), the fund's investment adviser, uses the Davis Investment Discipline to invest Davis New York Venture Fund's portfolio principally in common stocks (including indirect holdings of common stock through depositary receipts) issued by large companies with market capitalizations of at least \$10 billion. Historically, the fund has invested a significant portion of its assets in financial services companies and in foreign companies, and may also invest in mid- and small-capitalization companies.

### Manager Biography

Christopher Cullom Davis since 10/1/1995

Danton Goei since 1/1/2014

### Davis NY Venture Y - Operations

Inception Date	10/2/1996
Fund Size (\$mm)	9,134
Annual Report Net Expense Ratio	0.64
Prospectus Net Expense Ratio	0.64
Prospectus Gross Expense Ratio	0.64
Ticker	DNVYX
Manager Tenure (Longest)	24.25
Manager Tenure (Average)	15.13
Morningstar Inst Cat	Large Relative Value

### Other Notes:

None

## TIAA-CREF Equity Index Instl

### Investment Strategy

The investment seeks a favorable long-term total return, mainly through capital appreciation, by investing primarily in a portfolio of equity securities selected to track the overall U.S. equity markets based on a market index. Under normal circumstances, the fund invests at least 80% of its assets in equity securities of its benchmark index, the Russell 3000® Index. It buys most, but not necessarily all, of the stocks in its benchmark index, and the advisor will attempt to closely match the overall investment characteristics of its benchmark index.

### Manager Biography

Philip James(Jim) Campagna since 12/31/2005

Lei Liao since 5/30/2014

Darren Tran since 3/1/2019

### TIAA-CREF Equity Index Instl - Operations

Inception Date	7/1/1999
Fund Size (\$mm)	25,115
Annual Report Net Expense Ratio	0.05
Prospectus Net Expense Ratio	0.05
Prospectus Gross Expense Ratio	0.05
Ticker	TIEIX
Manager Tenure (Longest)	14.08
Manager Tenure (Average)	6.86
Morningstar Inst Cat	Large Core

### Other Notes:

None

# Portfolio Analysis

## TIAA-CREF S&P 500 Index Instl

## TIAA-CREF Growth & Income Instl

## Davis NY Venture Y

## TIAA-CREF Equity Index Instl

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	29	33	28	Market Cap Giant %	55
				Market Cap Large %	35
Mid	4	4	2	Market Cap Mid %	10
				Market Cap Small %	0
Small	0	0	0	Market Cap Micro %	0

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	23	30	28	Market Cap Giant %	51
				Market Cap Large %	29
Mid	5	5	7	Market Cap Mid %	18
				Market Cap Small %	2
Small	1	0	1	Market Cap Micro %	0

### Style Allocation

Portfolio Date: 10/31/2019

	Value	Blend	Growth	Market Cap	%
Large	32	27	26	Market Cap Giant %	64
				Market Cap Large %	22
Mid	7	3	2	Market Cap Mid %	12
				Market Cap Small %	3
Small	2	1	0	Market Cap Micro %	0

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	25	28	24	Market Cap Giant %	47
				Market Cap Large %	30
Mid	5	6	5	Market Cap Mid %	17
				Market Cap Small %	6
Small	2	2	2	Market Cap Micro %	1

### Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	119.4	95.5
Forward P/E	19.4	18.8
P/E Ratio (TTM)	21.9	22.5
LT Earn Growth	9.4	9.4
P/B Ratio (TTM)	3.3	3.3
Dividend Yield	1.9	1.8
ROE %	25.9	24.4
ROA %	8.8	8.2
Debt to Capital %	44.3	44.1

### Valuation Data

Display Benchmark 1: Russell 1000 Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	86.2	144.0
Forward P/E	19.9	23.5
P/E Ratio (TTM)	22.3	28.6
LT Earn Growth	10.2	11.9
P/B Ratio (TTM)	3.3	7.8
Dividend Yield	1.6	1.2
ROE %	21.5	34.6
ROA %	7.1	11.5
Debt to Capital %	42	46

### Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	103.6	95.5
Forward P/E	15.7	18.8
P/E Ratio (TTM)	16.6	22.5
LT Earn Growth	8.3	9.4
P/B Ratio (TTM)	2.0	3.3
Dividend Yield	1.9	1.8
ROE %	17.3	24.4
ROA %	6.8	8.2
Debt to Capital %	38	44

### Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	71.3	95.5
Forward P/E	19.3	18.8
P/E Ratio (TTM)	21.6	22.5
LT Earn Growth	9.5	9.4
P/B Ratio (TTM)	3.1	3.3
Dividend Yield	1.9	1.8
ROE %	23.1	24.4
ROA %	7.7	8.2
Debt to Capital %	44	44

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	5	
# of Stock Holdings	506	997
% in Top 10	22.0	20.7
Cash %	1.0	0.0
Developed %	99.0	99.8
US Equity %	98.1	99.1
Non-US Equity %	1	1
Emerging Mkt %	0.0	0.2

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	68	
# of Stock Holdings	177	530
% in Top 10	25.5	36.9
Cash %	0.7	0.0
Developed %	98.7	99.9
US Equity %	93.0	99.8
Non-US Equity %	6	0
Emerging Mkt %	0.7	0.1

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	17	
# of Stock Holdings	47	997
% in Top 10	54.2	20.7
Cash %	0.3	0.0
Developed %	85.7	99.8
US Equity %	75.9	99.1
Non-US Equity %	20	1
Emerging Mkt %	10.3	0.2

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	4	
# of Stock Holdings	2,753	997
% in Top 10	18.9	20.7
Cash %	0.3	0.0
Developed %	99.5	99.8
US Equity %	98.8	99.1
Non-US Equity %	1	1
Emerging Mkt %	0.2	0.2

# Holdings-Based Style Analysis

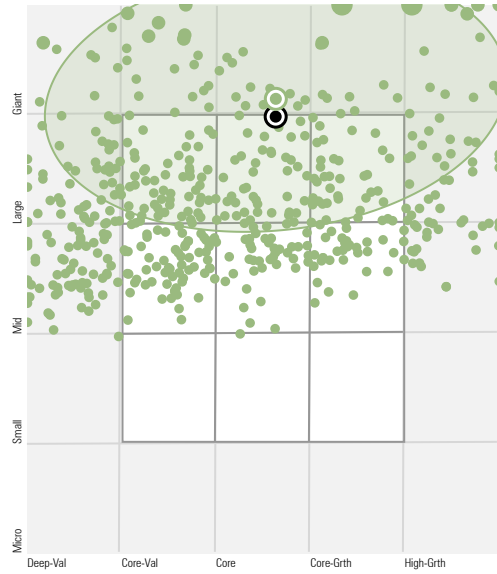
TIAA-CREF S&P 500 Index Instl

TIAA-CREF Growth & Income Instl

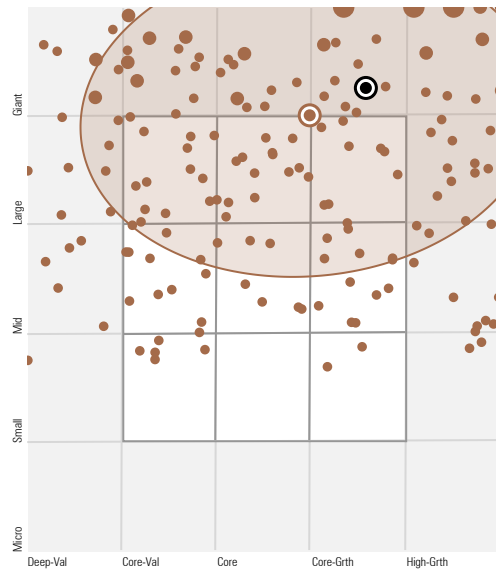
Davis NY Venture Y

TIAA-CREF Equity Index Instl

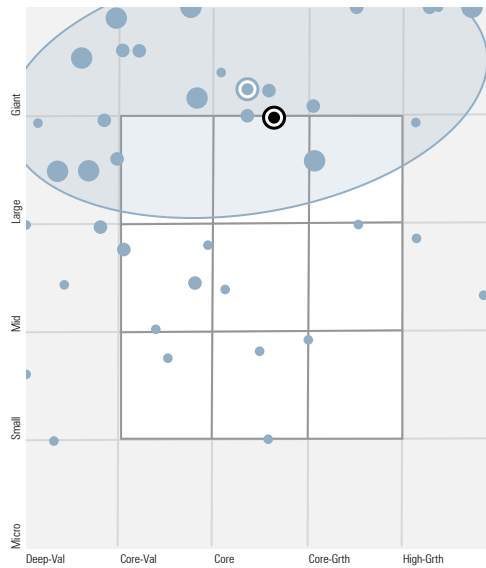
## Holdings-Based Style Map



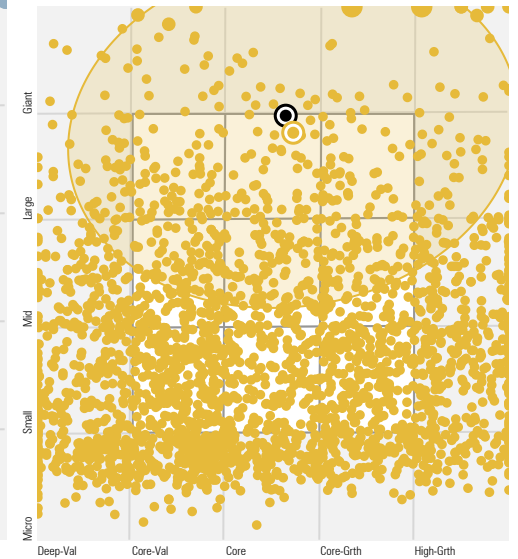
## Holdings-Based Style Map



## Holdings-Based Style Map



## Holdings-Based Style Map



● TIAA-CREF S&P 500 Index Instl 11/30/2019 ● Russell 1000 TR USD 12/31/2019

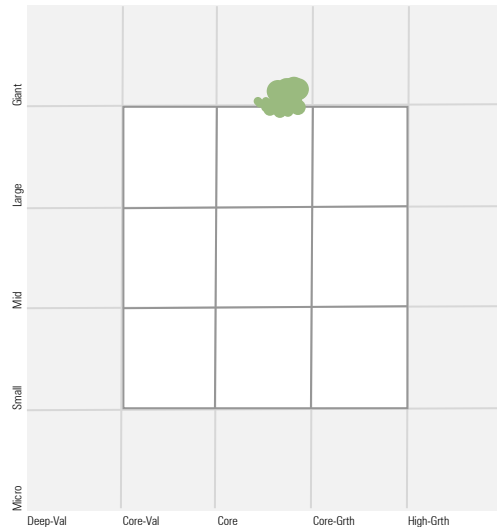
● TIAA-CREF Growth & Income Instl 11/30/2019 ● Russell 1000 Growth TR USD 12/31/2019

● Davis NY Venture Y 10/31/2019 ● Russell 1000 TR USD 12/31/2019

● TIAA-CREF Equity Index Instl 11/30/2019 ● Russell 1000 TR USD 12/31/2019

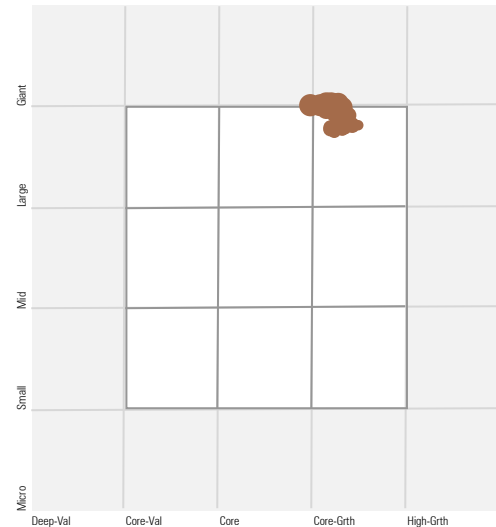
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



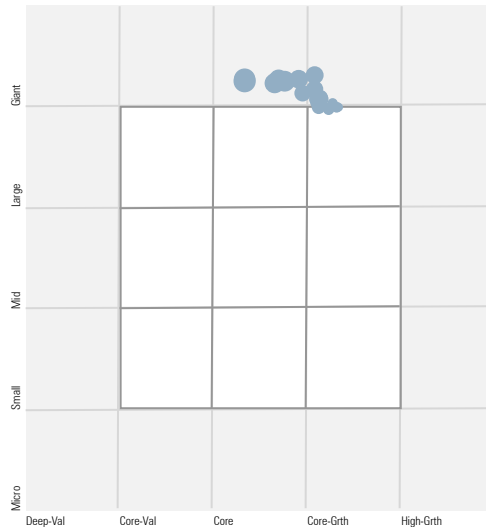
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



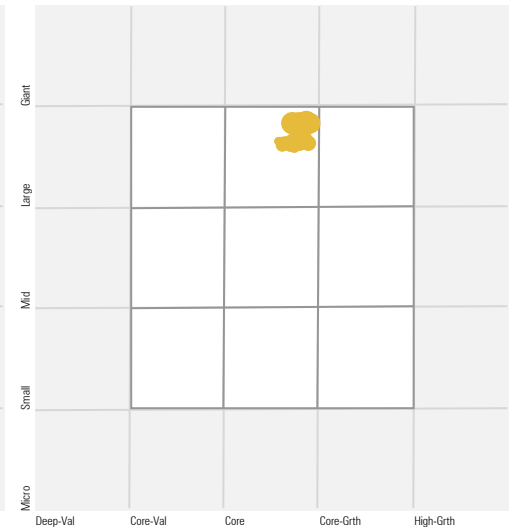
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 10/31/2019



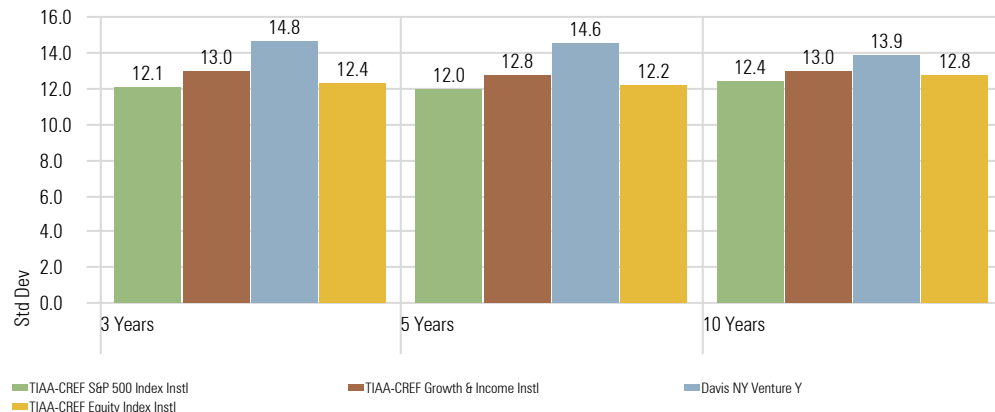
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019

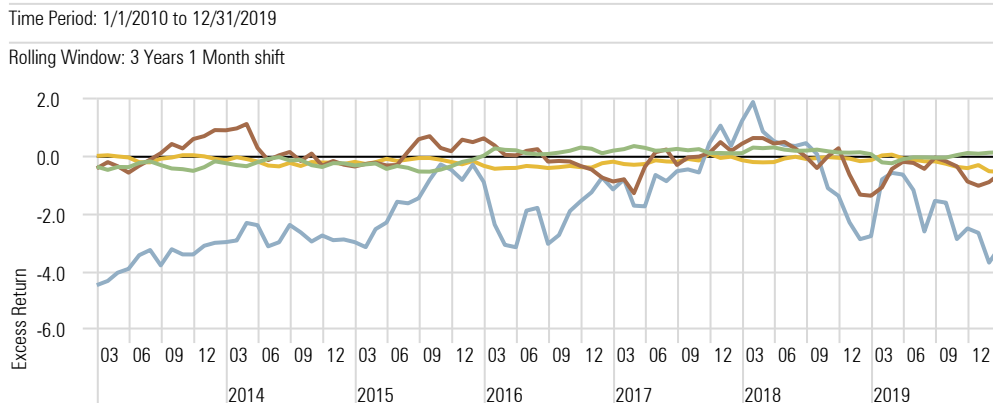


# Risk/Return Performance Analysis

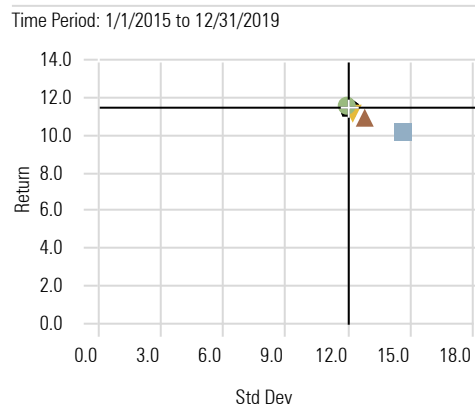
## Standard Deviation



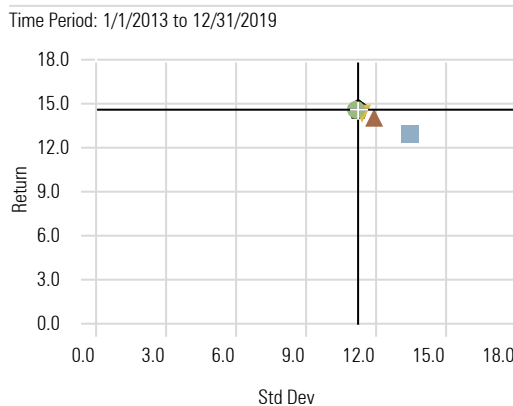
## 3 Year Relative Rolling Returns



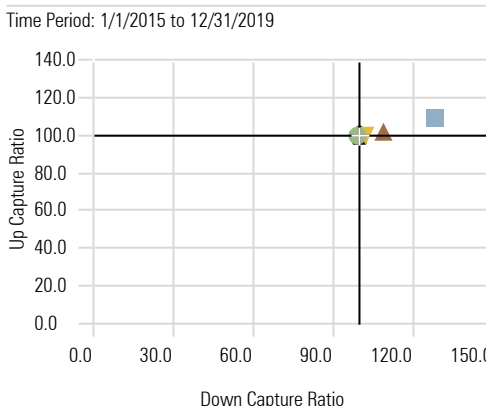
## 5 Year Risk-Reward



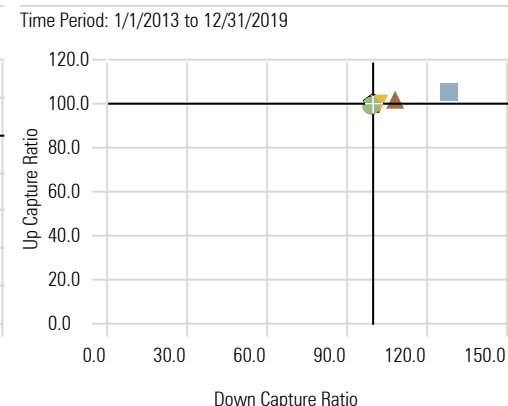
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● TIAA-CREF S&P 500 Index Instl  
● TIAA-CREF Equity Index Instl

● TIAA-CREF Growth & Income Instl  
◻ Russell 1000 TR USD

● Davis NY Venture Y

## Annualized Performance & Risk Statistics - Since Common Inception

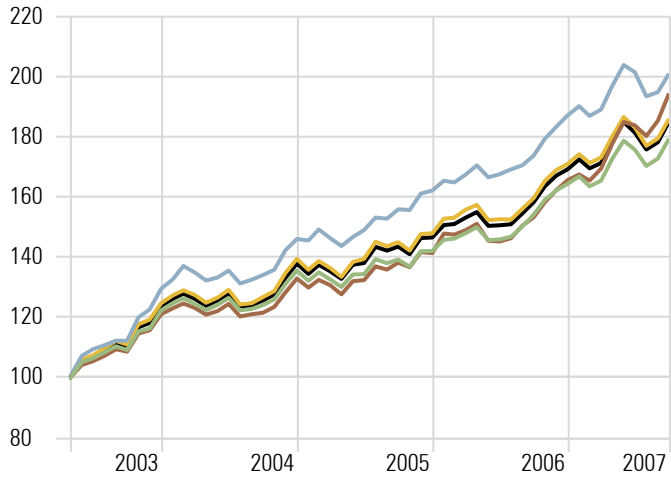
Time Period: Since Common Inception (11/1/2002) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
TIAA-CREF S&P 500 Index Instl	10.0	13.5	-0.1	0.98	100	15.9	-21.9	0.64	0.7
TIAA-CREF Growth & Income Instl	10.7	13.4	0.7	0.96	97	16.2	-20.0	0.70	2.4
Davis NY Venture Y	9.3	14.9	-1.1	1.05	93	21.1	-24.5	0.54	3.9
TIAA-CREF Equity Index Instl	10.2	13.9	-0.1	1.02	100	16.9	-22.7	0.64	0.6
Russell 1000 TR USD	10.3	13.7	0.0	1.00	100	16.5	-22.5	0.65	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

Time Period: 4/30/2003 to 9/30/2007



● TIAA-CREF S&P 500 Index Instl 179 ● TIAA-CREF Growth & Income Instl 194 ● Davis NY Venture Y 201  
● TIAA-CREF Equity Index Instl 186 ● Russell 1000 TR USD 185

## Credit Crunch - Financial Crisis

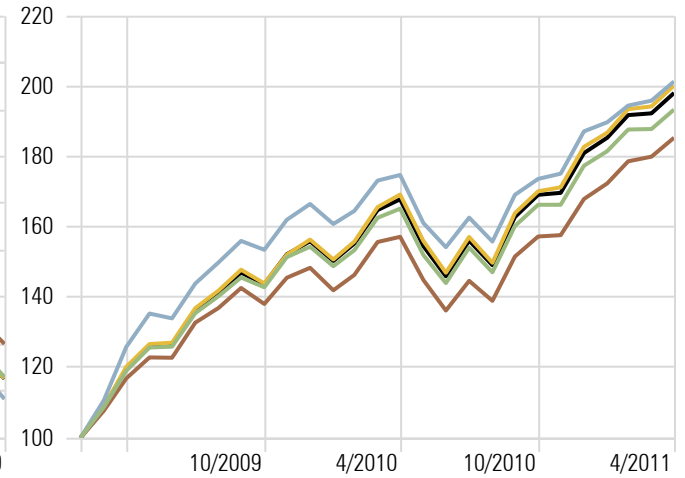
Time Period: 10/31/2007 to 2/28/2009



● TIAA-CREF S&P 500 Index Instl 50 ● TIAA-CREF Growth & Income Instl 55 ● Davis NY Venture Y 46  
● TIAA-CREF Equity Index Instl 50 ● Russell 1000 TR USD 49

## Financial Crisis Recovery - QE1&2

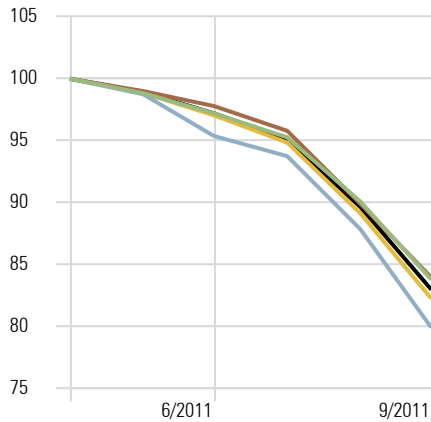
Time Period: 3/1/2009 to 4/30/2011



● TIAA-CREF S&P 500 Index Instl 193.4 ● TIAA-CREF Growth & Income Instl 185.4 ● Davis NY Venture Y 201.4  
● TIAA-CREF Equity Index Instl 200.3 ● Russell 1000 TR USD 198.2

## Double Dip

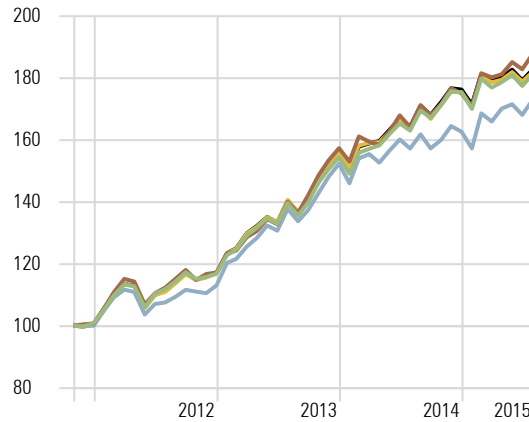
Time Period: 5/1/2011 to 9/30/2011



● TIAA-CREF S&P 500 Index Instl 82.7 ● TIAA-CREF Growth & Income Instl 83.9 ● Davis NY Venture Y 79.8  
● TIAA-CREF Equity Index Instl 82.2 ● Russell 1000 TR USD 82.9

## US Recovery Continues - Global Markets Lag

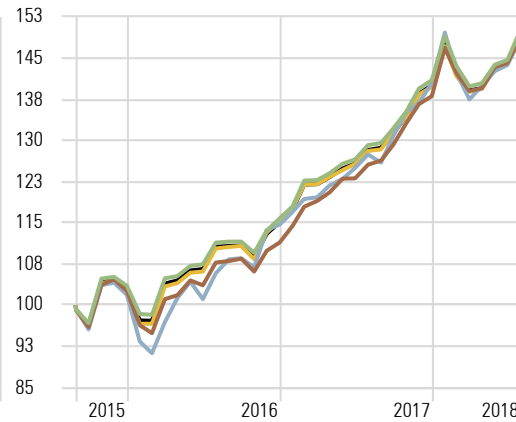
Time Period: 11/1/2011 to 7/31/2015



● TIAA-CREF S&P 500 Index Instl 181.4 ● TIAA-CREF Growth & Income Instl 188.0 ● Davis NY Venture Y 173.2  
● TIAA-CREF Equity Index Instl 182.2 ● Russell 1000 TR USD 183.0

## Global Economic Strength

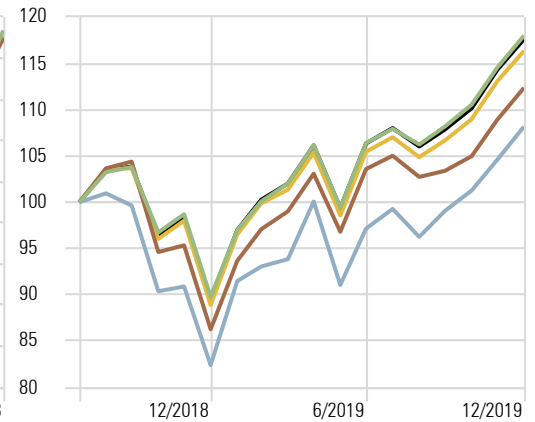
Time Period: 8/31/2015 to 7/31/2018



● TIAA-CREF S&P 500 Index Instl 150.1 ● TIAA-CREF Growth & Income Instl 148.7 ● Davis NY Venture Y 148.6  
● TIAA-CREF Equity Index Instl 149.0 ● Russell 1000 TR USD 149.0

## Global Trade Tension

Time Period: 8/1/2018 to 12/31/2019



● TIAA-CREF S&P 500 Index Instl 118.0 ● TIAA-CREF Growth & Income Instl 112.4 ● Davis NY Venture Y 108.2  
● TIAA-CREF Equity Index Instl 116.3 ● Russell 1000 TR USD 117.6

● TIAA-CREF S&P 500 Index Instl  
● TIAA-CREF Equity Index Instl

● TIAA-CREF Growth & Income Instl  
● Russell 1000 TR USD

● Davis NY Venture Y

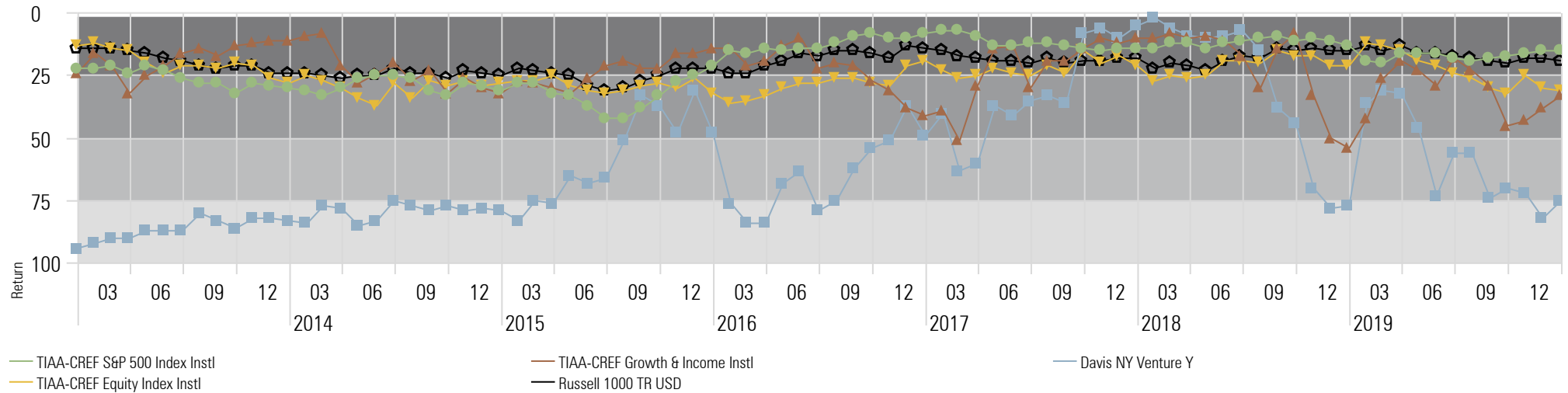
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

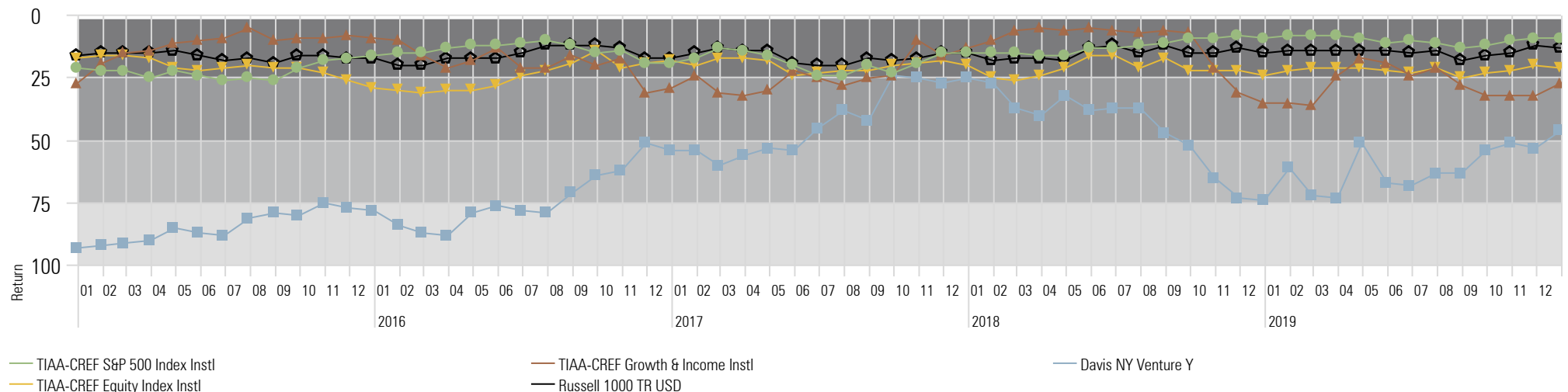


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

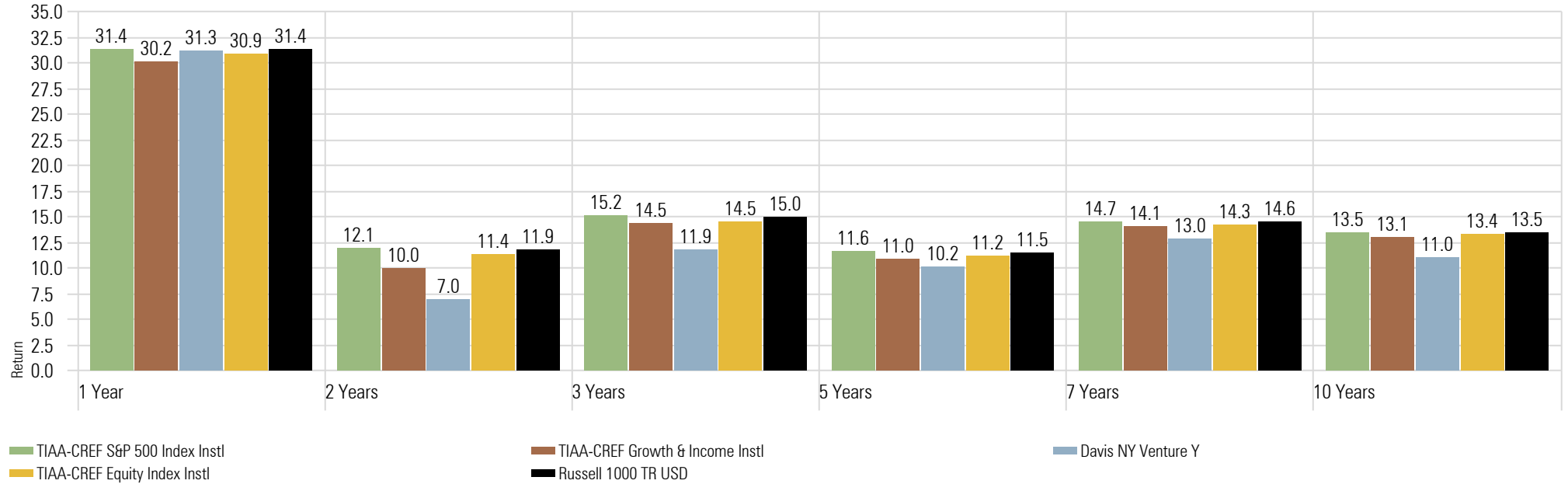
Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

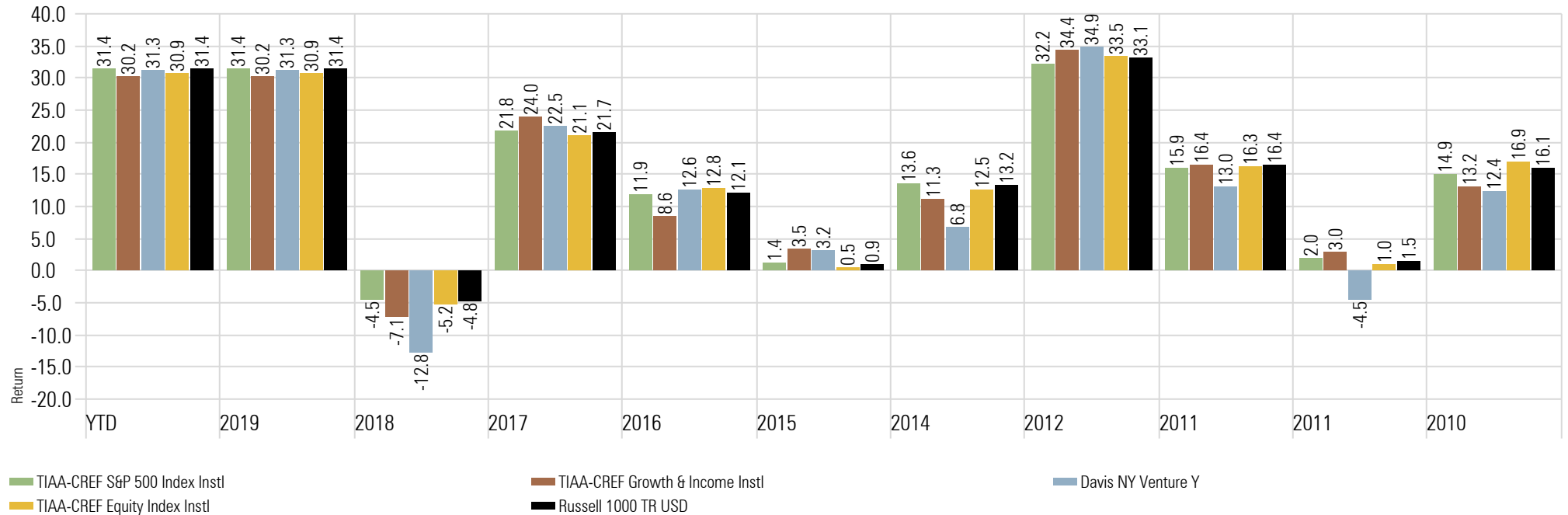


# Trailing Performance

## Cumulative Returns



## Annual Returns



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Large Blend</b>																		
TIAA-CREF S&P 500 Index Instl	9.1	<b>30</b>	0.03	31.4	<b>23</b>	-0.01	31.4	<b>23</b>	-0.01	15.2	<b>15</b>	0.16	11.6	<b>9</b>	0.15	13.5	<b>8</b>	-0.07
Davis NY Venture Y	9.2	<b>26</b>	0.15	31.3	<b>26</b>	-0.16	31.3	<b>26</b>	-0.16	11.9	<b>75</b>	-3.13	10.2	<b>46</b>	-1.23	11.0	<b>79</b>	-2.52
TIAA-CREF Equity Index Instl	9.1	<b>30</b>	0.02	30.9	<b>35</b>	-0.56	30.9	<b>35</b>	-0.56	14.5	<b>31</b>	-0.53	11.2	<b>21</b>	-0.27	13.4	<b>12</b>	-0.17
Russell 1000 TR USD	9.0			31.4			31.4			15.0			11.5			13.5		
Average	8.3			28.8			28.8			13.2			9.8			12.0		
<b>Large Growth</b>																		
TIAA-CREF Growth & Income Instl	8.7	<b>70</b>	-1.95	30.2	<b>68</b>	-6.16	30.2	<b>68</b>	-6.16	14.5	<b>86</b>	-6.03	11.0	<b>71</b>	-3.63	13.1	<b>63</b>	-2.14
Russell 1000 Growth TR USD	10.6			36.4			36.4			20.5			14.6			15.2		
Average	9.5			32.2			32.2			18.4			12.2			13.4		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Large Blend</b>																					
TIAA-CREF S&P 500 Index Instl	31.4	<b>23</b>	-0.01	-4.5	<b>22</b>	0.33	21.8	<b>31</b>	0.08	11.9	<b>30</b>	-0.19	1.4	<b>24</b>	0.44	13.6	<b>19</b>	0.37	32.2	<b>47</b>	-0.87
Davis NY Venture Y	31.3	<b>26</b>	-0.16	-12.8	<b>93</b>	-8.02	22.5	<b>22</b>	0.79	12.6	<b>23</b>	0.52	3.2	<b>10</b>	2.30	6.8	<b>93</b>	-6.45	34.9	<b>23</b>	1.77
TIAA-CREF Equity Index Instl	30.9	<b>35</b>	-0.56	-5.2	<b>39</b>	-0.44	21.1	<b>47</b>	-0.59	12.8	<b>21</b>	0.70	0.5	<b>42</b>	-0.46	12.5	<b>40</b>	-0.72	33.5	<b>32</b>	0.36
Russell 1000 TR USD	31.4			-4.8			21.7			12.1			0.9		13.2				33.1		
Average	28.8			-6.5			20.5			10.6			-0.4		11.4				32.3		
<b>Large Growth</b>																					
TIAA-CREF Growth & Income Instl	30.2	<b>68</b>	-6.16	-7.1	<b>91</b>	-5.60	24.0	<b>78</b>	-6.25	8.6	<b>13</b>	1.53	3.5	<b>55</b>	-2.19	11.3	<b>41</b>	-1.79	34.4	<b>53</b>	0.87
Russell 1000 Growth TR USD	36.4			-1.5			30.2			7.1			5.7		13.0				33.5		
Average	32.2			-2.1			28.2			3.5			4.0		10.3				34.8		



# TIAA-CREF S&P 500 Index Instl

TISPX

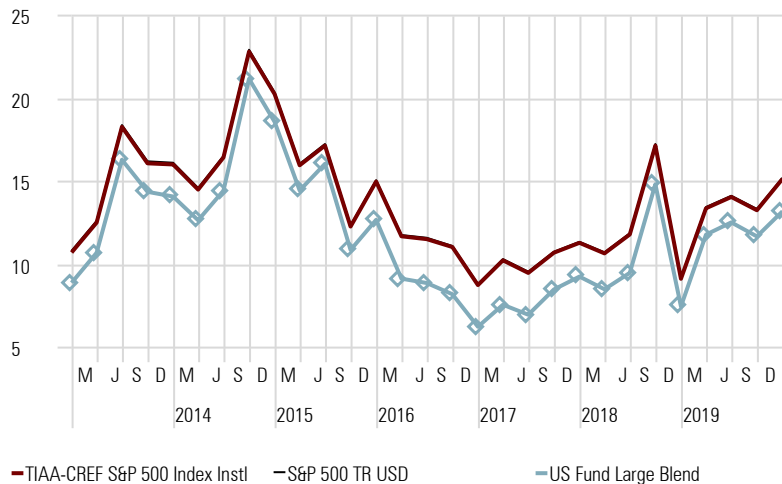
**Index:** S&P 500 TR USD  
**Category:** US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

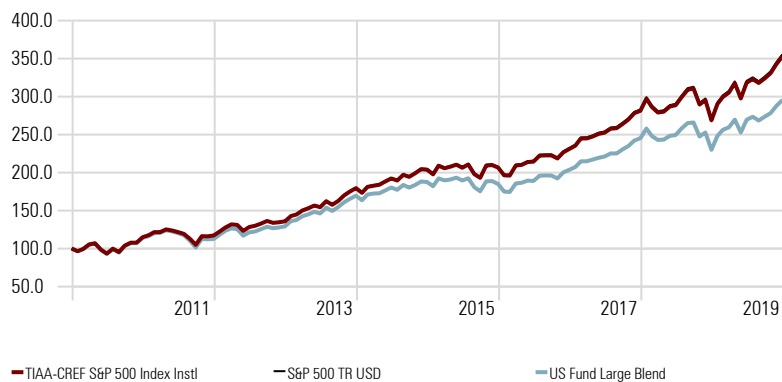
	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF S&P 500 Index Instl	31.4	31.4	15.2	11.6	13.5	8.9
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

## Returns (Rolling 36 Months)



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019

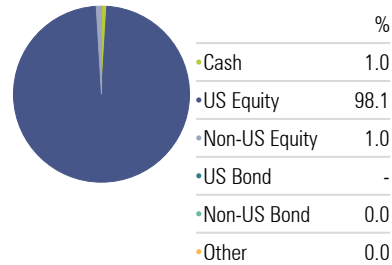


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.05	0.93	
Gross Expense Ratio	0.05	1.56	
LT Earn Growth	9.3	9.7	9.1
Avg Mkt Cap (\$MMM)	123.6	180.9	47.9
P/E Ratio	22.6	21.4	16.3
P/B Ratio	3.4	3.8	2.0
P/S Ratio	2.4	2.3	1.4
P/CF Ratio	14.4	14.7	10.5
ROE %	26.1	26.3	20.5
ROA %	8.8	8.7	7.2
Dividend Yld	1.9	1.8	2.8

## Asset Allocation

Portfolio Date: 12/31/2019

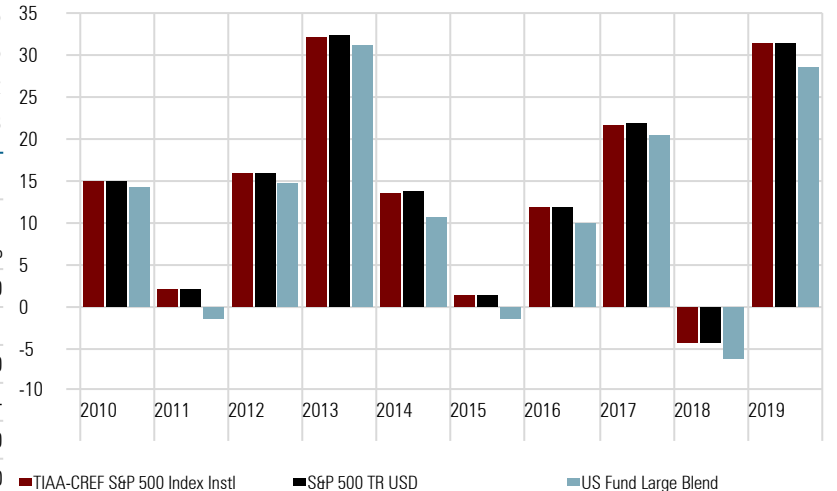


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF S&P 500 Index Instl	71.7	28.3	10.9	-9.0	13.6	-13.9	99.7	100.1
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.1	0.3	12.0	0.2
Down Deviation	0.0	-0.8	0.1	-1.0
Beta	1.0	0.0	1.0	0.0
Alpha	-0.1	1.5	-0.1	1.7
Sharpe	1.1	0.1	0.9	0.2
Sortino	1.6	0.2	1.4	0.3
Info Ratio	-1.3	1.3	-1.1	1.4
Down Capture	100.0	0.1	100.1	-2.7
Up Capture	99.8	7.1	99.8	7.4

## Top 10 Holdings

	Fund %	Sector	Inv	Avg
Apple Inc	4.5	Energy	4	4
Microsoft Corp	4.4	Materials	3	3
Amazon.com Inc	2.8	Industrials	9	10
Facebook Inc A	1.8	Cons Discretionary	10	10
Berkshire Hathaway Inc B	1.6	Consumer Staples	7	8
JPMorgan Chase & Co	1.6	Healthcare	14	15
Alphabet Inc A	1.5	Financials	13	14
Alphabet Inc Class C	1.5	Info Technology	23	22
Johnson & Johnson	1.4	Telecom Services	10	10
Visa Inc Class A	1.2	Utilities	3	3
		Real Estate %	2.9	2.9

# CREF Equity Index

As of 12/31/2019



# CREF Equity Index R3

QCEQIX

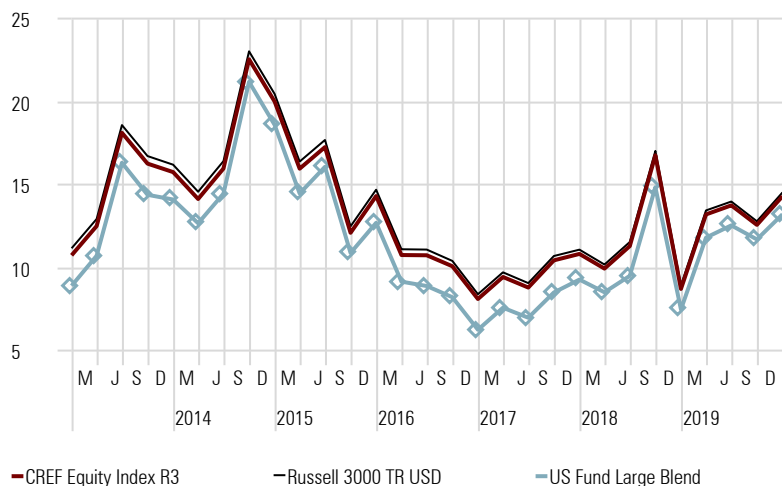
**Index:** Russell 3000 TR USD  
**Category:** US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 3000 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
CREF Equity Index R3	30.7	30.7	14.3	11.0	13.1	8.7
Russell 3000 TR USD	31.0	31.0	14.6	11.2	13.4	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.22	0.93	
Gross Expense Ratio	0.22	1.56	
LT Earn Growth	9.5	9.7	9.1
Avg Mkt Cap (\$MMM)	74.2	180.9	47.9
P/E Ratio	22.3	21.4	16.3
P/B Ratio	3.2	3.8	2.0
P/S Ratio	2.2	2.3	1.4
P/CF Ratio	14.0	14.7	10.5
ROE %	23.2	26.3	20.5
ROA %	7.8	8.7	7.2
Dividend Yld	1.8	1.8	2.8

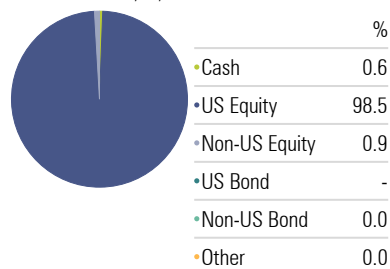
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 3000 TR USD

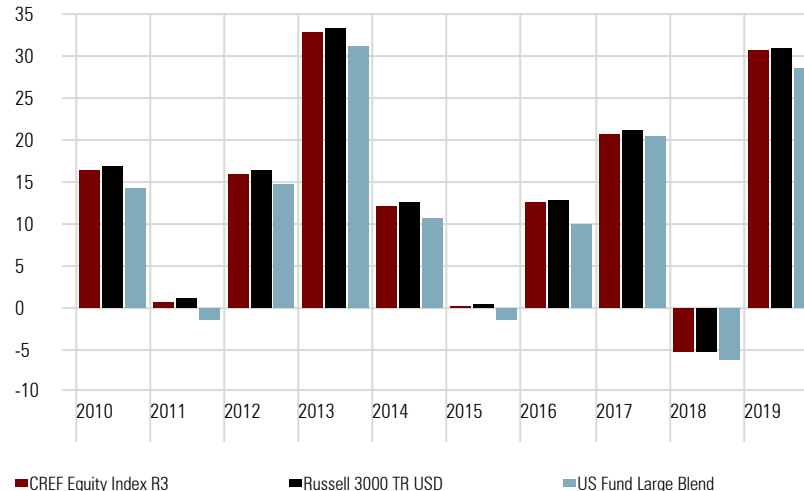
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
CREF Equity Index R3	71.7	28.3	11.5	-9.3	14.0	-15.3	99.0	100.5
Russell 3000 TR USD	71.7	28.3	11.5	-9.3	14.0	-15.3	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	93.3	101.0

## Asset Allocation

Portfolio Date: 12/31/2019

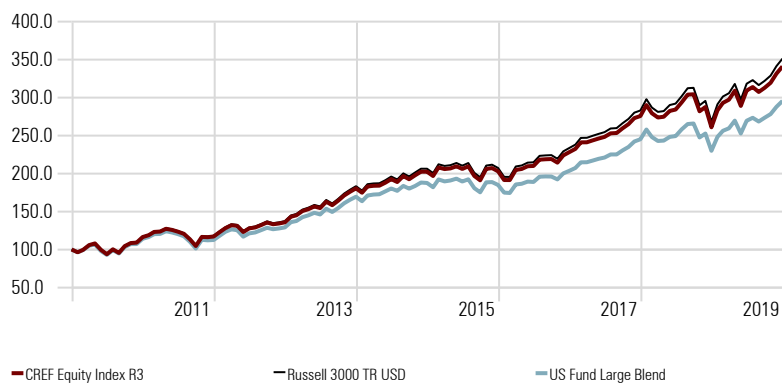


## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.4	0.5	12.2	0.4
Down Deviation	0.1	-0.8	0.1	-0.8
Beta	1.0	0.0	1.0	0.0
Alpha	-0.2	0.5	-0.2	1.0
Sharpe	1.0	0.0	0.8	0.1
Sortino	1.5	0.1	1.3	0.2
Info Ratio	-6.0	-4.6	-6.4	-4.4
Down Capture	100.0	2.9	100.2	0.6
Up Capture	99.2	5.3	99.1	6.5

## Top 10 Holdings

	Fund %	Inv	Avg
Apple Inc	4.1	4	4
Microsoft Corp	3.7	3	3
Amazon.com Inc	2.4	10	10
Facebook Inc A	1.5	10	10
Berkshire Hathaway Inc B	1.4	6	8
JPMorgan Chase & Co	1.4	14	15
Alphabet Inc A	1.3	13	14
Alphabet Inc Class C	1.2	22	22
Johnson & Johnson	1.2	9	10
Visa Inc Class A	1.0	3	3

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy		4	4
Materials		3	3
Industrials		10	10
Cons Discretionary		10	10
Consumer Staples		6	8
Healthcare		14	15
Financials		13	14
Info Technology		22	22
Telecom Services		9	10
Utilities		3	3
Real Estate %		4.0	2.9

# TIAA-CREF Social Choice Equity

As of 12/31/2019



# TIAA-CREF Social Choice Eq Instl

TISCX

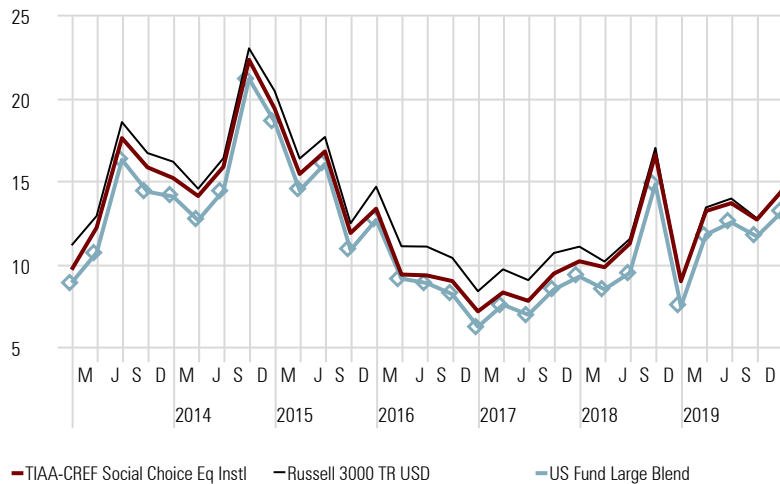
**Index:** Russell 3000 TR USD  
**Category:** US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 3000 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Social Choice Eq Instl	31.5	31.5	14.5	10.7	12.6	8.8
Russell 3000 TR USD	31.0	31.0	14.6	11.2	13.4	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.17	0.93	
Gross Expense Ratio	0.17	1.56	
LT Earn Growth	9.2	9.7	9.1
Avg Mkt Cap (\$MMM)	68.5	180.9	47.9
P/E Ratio	21.6	21.4	16.3
P/B Ratio	3.3	3.8	2.0
P/S Ratio	2.2	2.3	1.4
P/CF Ratio	14.0	14.7	10.5
ROE %	26.3	26.3	20.5
ROA %	8.3	8.7	7.2
Dividend Yld	1.8	1.8	2.8

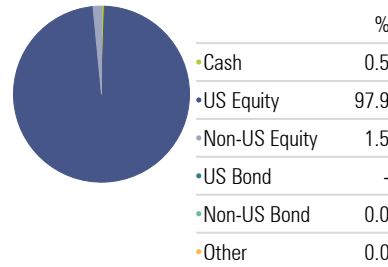
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 3000 TR USD

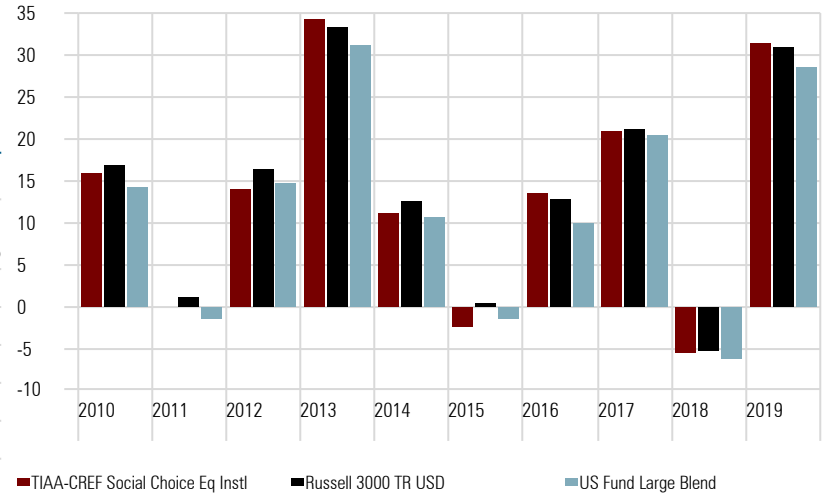
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Social Choice Eq Instl	70.0	30.0	12.0	-9.0	13.9	-15.2	96.8	99.4
Russell 3000 TR USD	71.7	28.3	11.5	-9.3	14.0	-15.3	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	93.3	101.0

## Asset Allocation

Portfolio Date: 12/31/2019

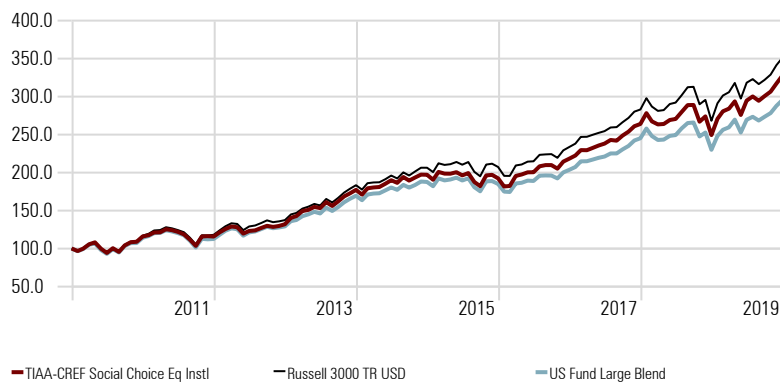


## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.2	0.4	12.2	0.4
Down Deviation	0.9	0.0	0.8	-0.1
Beta	1.0	0.0	1.0	0.0
Alpha	0.2	0.8	-0.4	0.8
Sharpe	1.0	0.1	0.8	0.1
Sortino	1.5	0.1	1.2	0.1
Info Ratio	0.0	1.4	-0.5	1.5
Down Capture	97.3	0.2	100.0	0.3
Up Capture	98.6	4.7	97.8	5.2

## Top 10 Holdings

	Fund %	Inv	Avg
Apple Inc	4.4	4	4
Microsoft Corp	4.2	3	3
Amazon.com Inc	2.5	10	10
Alphabet Inc Class C	1.5	11	10
Alphabet Inc A	1.5	6	8
Procter & Gamble Co	1.4	14	15
Intel Corp	1.3	15	14
Verizon Communications Inc	1.2	22	22
Merck & Co Inc	1.2	8	10
UnitedHealth Group Inc	1.1	3	3

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy		4	4
Materials		3	3
Industrials		10	10
Cons Discretionary		11	10
Consumer Staples		6	8
Healthcare		14	15
Financials		15	14
Info Technology		22	22
Telecom Services		8	10
Utilities		3	3
Real Estate %		3.9	2.9

# Large Cap Value

As of 12/31/2019



# US Fund Large Value

## TIAA-CREF Large-Cap Value Instl

### Investment Strategy

The investment seeks a favorable long-term total return, mainly through capital appreciation, primarily from equity securities of large domestic companies. Under normal circumstances, the fund invests at least 80% of its assets in large-cap equity securities. It invests primarily in equity securities of large domestic companies, as defined by the fund's benchmark index (the Russell 1000® Value Index) that the fund's investment adviser believes appear undervalued by the market based on an evaluation of their potential worth. The fund may invest up to 20% of its assets in foreign investments.

### Manager Biography

Charles J Carr since 11/15/2018

### TIAA-CREF Large-Cap Value Instl - Operations

Inception Date	10/1/2002
Fund Size (\$mm)	5,709
Annual Report Net Expense Ratio	0.39
Prospectus Net Expense Ratio	0.40
Prospectus Gross Expense Ratio	0.40
Ticker	TRLIX
Manager Tenure (Longest)	1.17
Manager Tenure (Average)	1.17
Morningstar Inst Cat	Large Deep Value

### Other Notes:

None

## Eaton Vance Large-Cap Value R6

### Investment Strategy

The investment seeks total return. Under normal market conditions, the fund invests at least 80% of its net assets (plus any borrowings for investment purposes) in equity securities of large-cap companies (the "80% Policy"). The portfolio managers generally consider large-cap companies to be those companies having market capitalizations within the range of companies included in the Russell 1000® Value Index, although the portfolio will generally consist of stocks with a market capitalization equal to or greater than the median market capitalization of companies included in such index.

### Manager Biography

Edward J. Perkin since 6/30/2014

Aaron S. Dunn since 12/8/2017

### Eaton Vance Large-Cap Value R6 - Operations

Inception Date	7/1/2014
Fund Size (\$mm)	1,734
Annual Report Net Expense Ratio	0.72
Prospectus Net Expense Ratio	0.72
Prospectus Gross Expense Ratio	0.72
Ticker	ERLVX
Manager Tenure (Longest)	5.58
Manager Tenure (Average)	3.83
Morningstar Inst Cat	Giant Value

### Other Notes:

None

# Portfolio Analysis

## TIAA-CREF Large-Cap Value Instl

## Eaton Vance Large-Cap Value R6

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth
Large	50	40	3
Mid	2	3	2
Small	0	0	0

Market Cap	%
Market Cap Giant %	58
Market Cap Large %	34
Market Cap Mid %	7
Market Cap Small %	0
Market Cap Micro %	0

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth
Large	43	37	2
Mid	4	13	1
Small	0	0	0

Market Cap	%
Market Cap Giant %	36
Market Cap Large %	44
Market Cap Mid %	20
Market Cap Small %	0
Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell 1000 Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	109.8	62.4
Forward P/E	15.7	15.5
P/E Ratio (TTM)	17.6	18.2
LT Earn Growth	8.3	7.7
P/B Ratio (TTM)	2.1	2.1
Dividend Yield	2.3	2.5
ROE %	18.9	13.6
ROA %	6.3	4.8
Debt to Capital %	45	42

### Valuation Data

Display Benchmark 1: Russell 1000 Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	64.1	62.4
Forward P/E	16.6	15.5
P/E Ratio (TTM)	18.6	18.2
LT Earn Growth	8.1	7.7
P/B Ratio (TTM)	2.4	2.1
Dividend Yield	2.5	2.5
ROE %	18.0	13.6
ROA %	5.5	4.8
Debt to Capital %	42	42

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	79	
# of Stock Holdings	81	764
% in Top 10	29.8	21.8
Cash %	0.4	0.0
Developed %	98.9	99.8
US Equity %	97.5	98.3
Non-US Equity %	2	2
Emerging Mkt %	0.7	0.2

### Portfolio Data

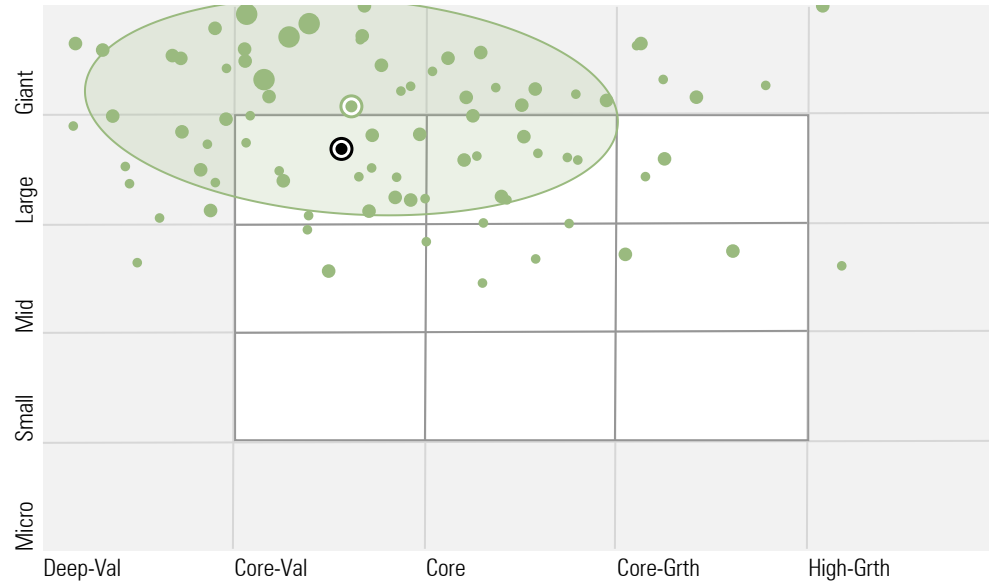
	Inv	Bmk1
Turnover Ratio	48	
# of Stock Holdings	67	764
% in Top 10	29.2	21.8
Cash %	0.1	0.0
Developed %	99.4	99.8
US Equity %	96.7	98.3
Non-US Equity %	3	2
Emerging Mkt %	0.5	0.2



# Holdings-Based Style Analysis

TIAA-CREF Large-Cap Value Instl

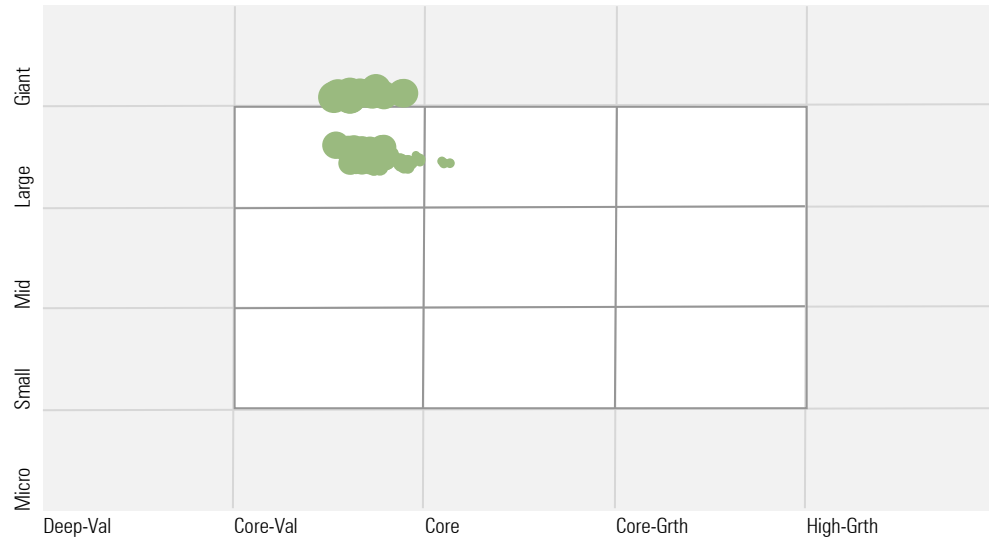
## Holdings-Based Style Map



● TIAA-CREF Large-Cap Value Instl 11/30/2019 ● Russell 1000 Value TR USD 12/31/2019

## Holdings-Based Style Trail

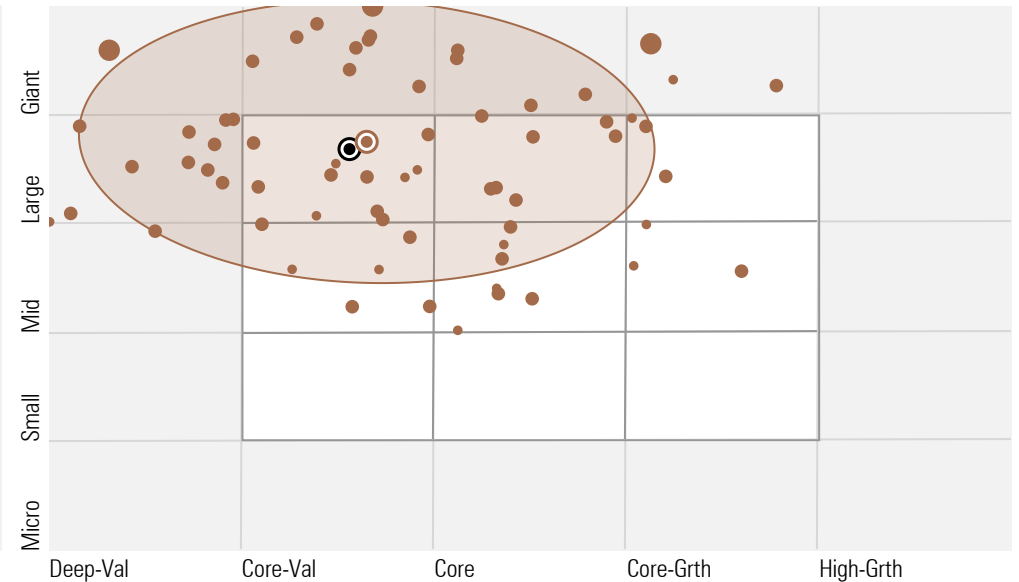
Time Period: 1/31/2015 to 11/30/2019



Source: Morningstar Direct

Eaton Vance Large-Cap Value R6

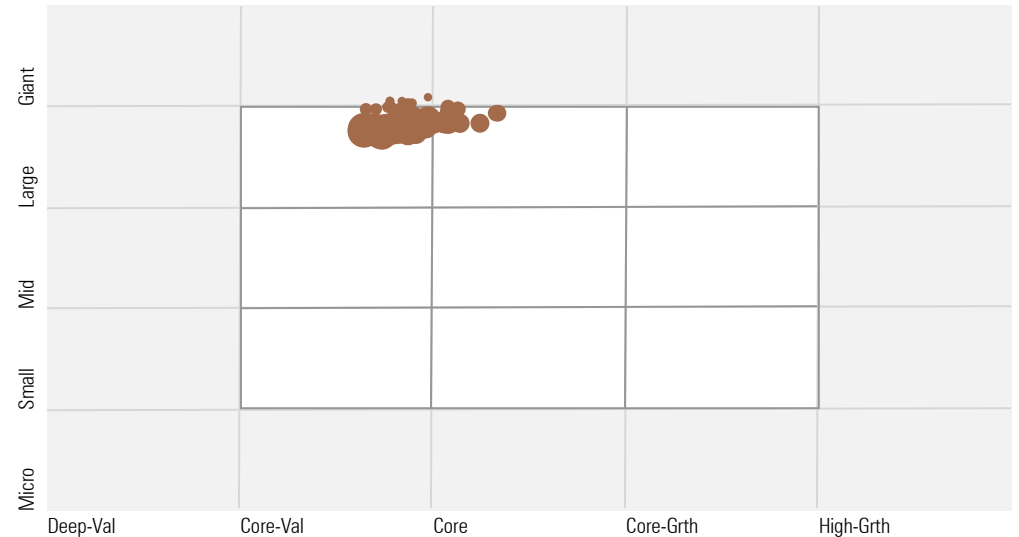
## Holdings-Based Style Map



● Eaton Vance Large-Cap Value R6 11/30/2019 ● Russell 1000 Value TR USD 12/31/2019

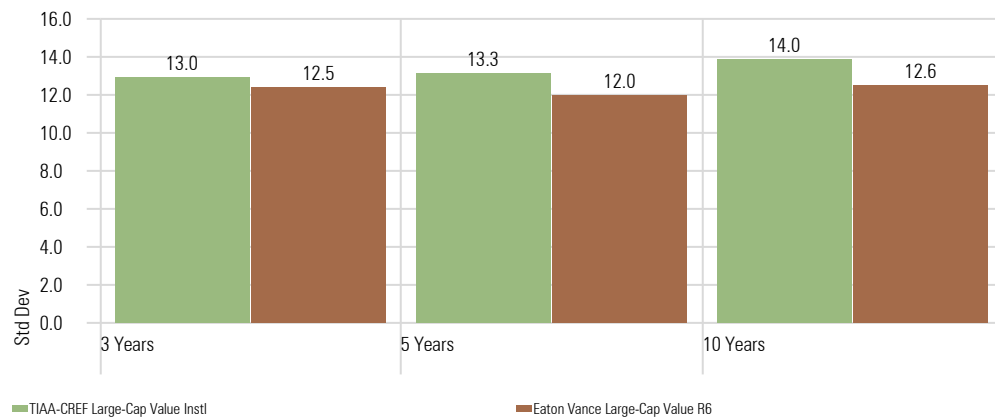
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019

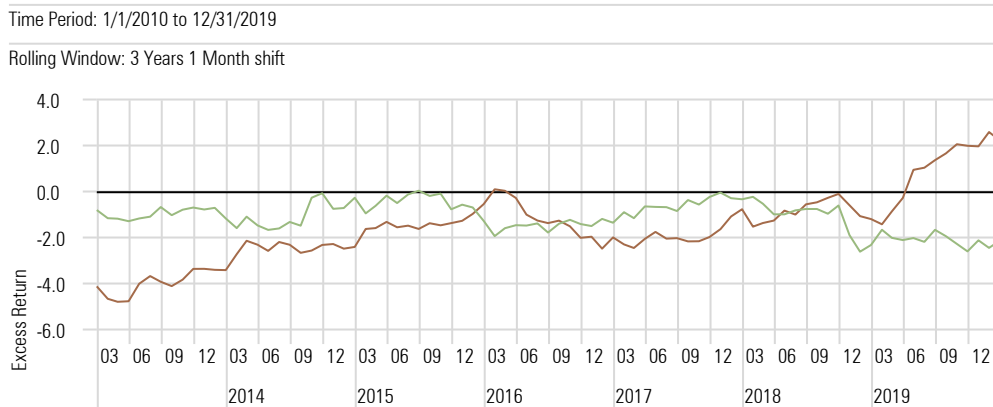


# Risk/Return Performance Analysis

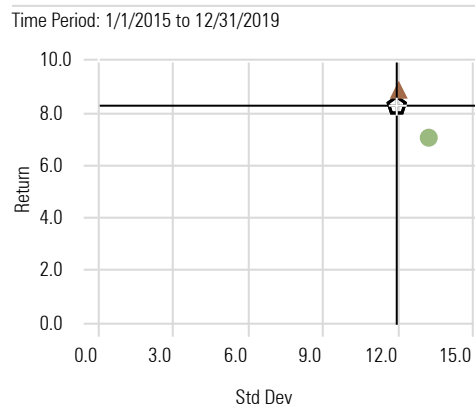
## Standard Deviation



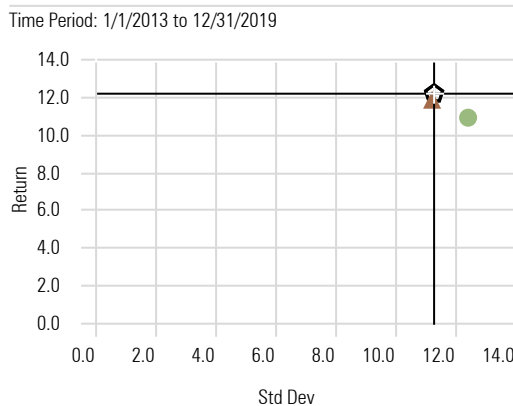
## 3 Year Relative Rolling Returns



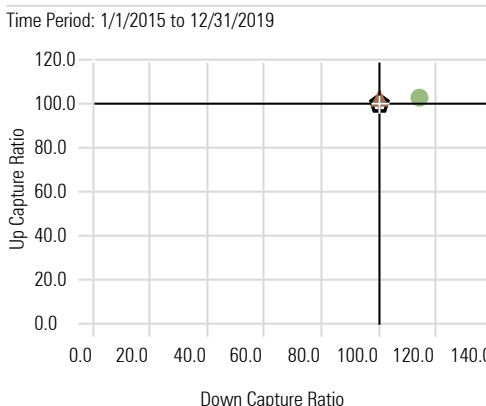
## 5 Year Risk-Reward



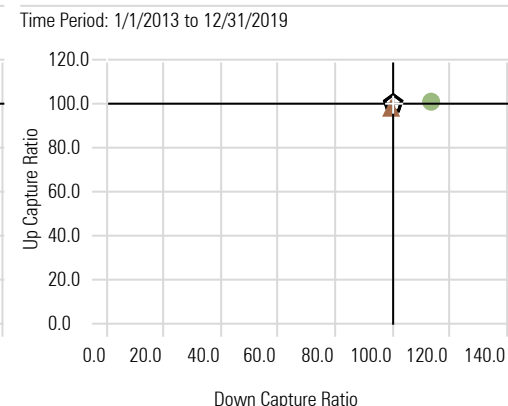
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● TIAA-CREF Large-Cap Value Instl

● Eaton Vance Large-Cap Value R6

◻ Russell 1000 Value TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

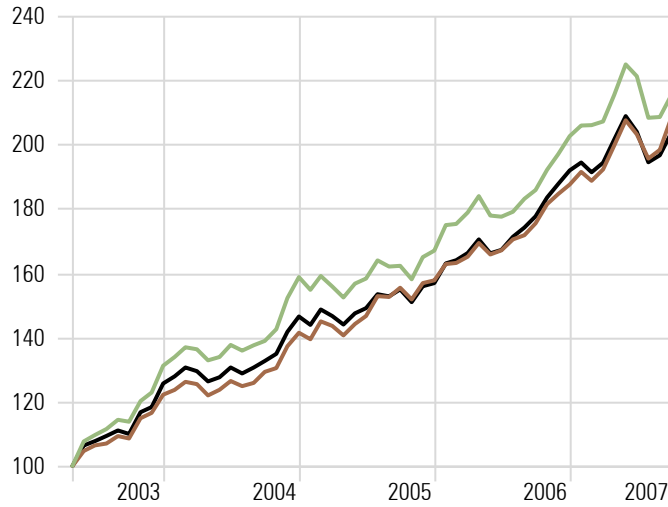
Time Period: Since Common Inception (8/1/2014) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
TIAA-CREF Large-Cap Value Instl	7.6	12.9	-1.8	1.08	96	11.9	-16.3	0.51	2.6
Eaton Vance Large-Cap Value R6	9.1	11.7	0.4	0.98	96	12.8	-13.6	0.69	2.4
Russell 1000 Value TR USD	8.9	11.7	0.0	1.00	100	11.9	-11.7	0.68	0.0

# Time Period Performance Analysis

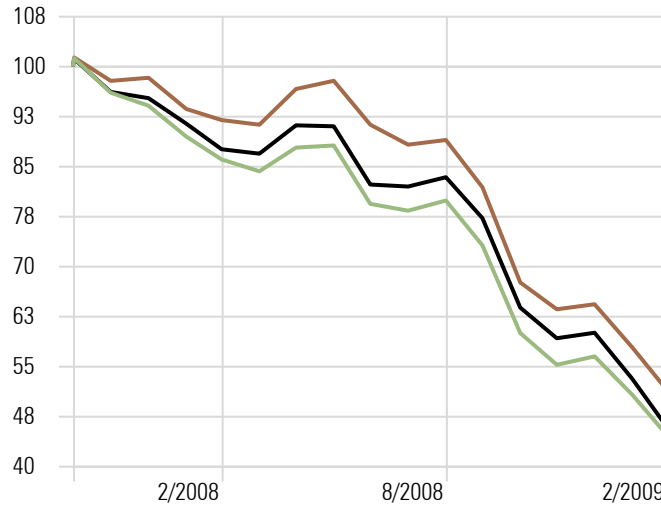
## Credit Buildup - Housing and Oil Boom

Time Period: 4/30/2003 to 9/30/2007



## Credit Crunch - Financial Crisis

Time Period: 10/31/2007 to 2/28/2009



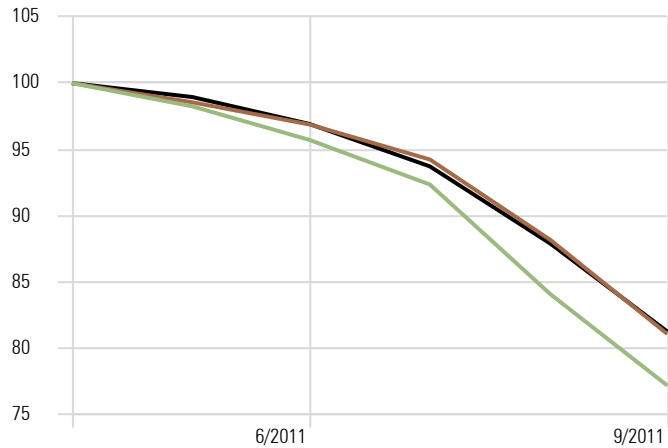
## Financial Crisis Recovery - QE1&2

Time Period: 3/1/2009 to 4/30/2011



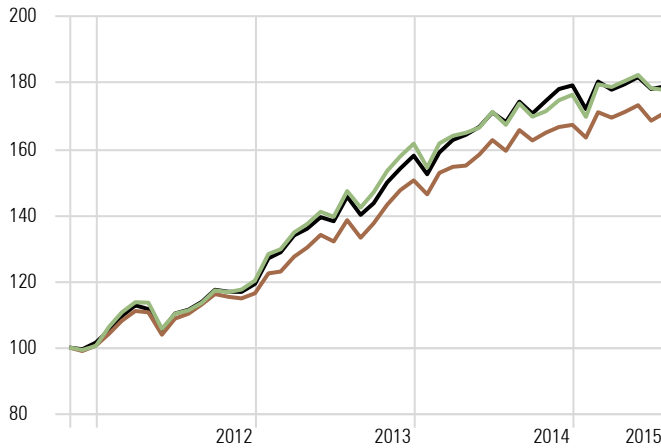
## Double Dip

Time Period: 5/1/2011 to 9/30/2011



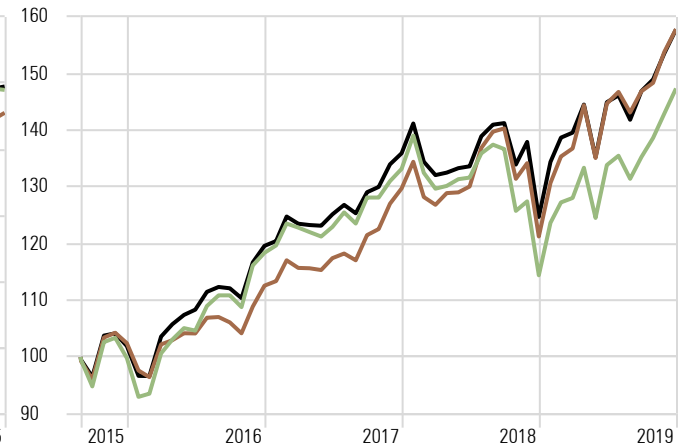
## US Recovery Continues - Global Markets Lag

Time Period: 11/1/2011 to 7/31/2015



## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



TIAA-CREF Large-Cap Value Instl

Eaton Vance Large-Cap Value R6

Russell 1000 Value TR USD

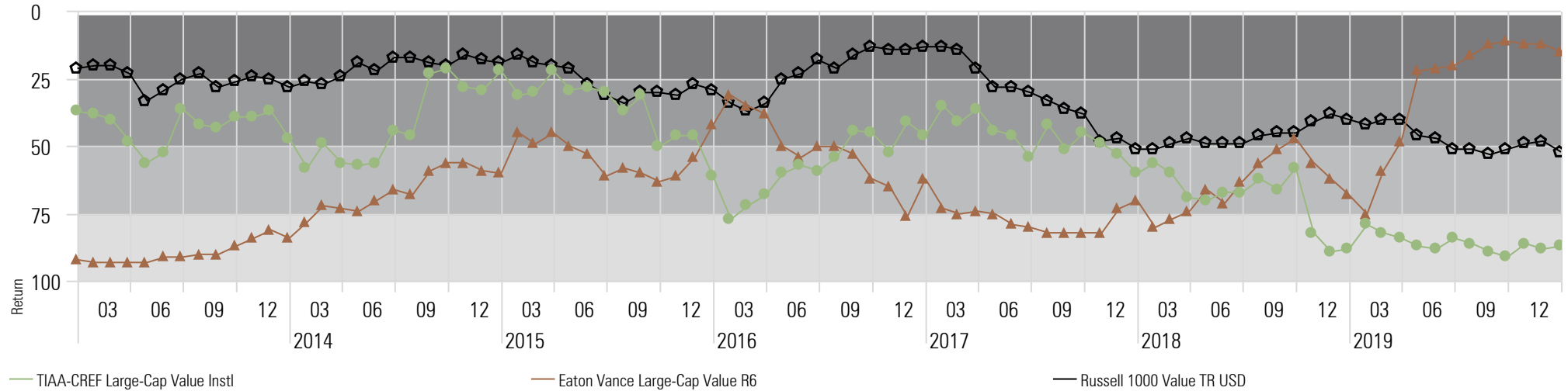
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

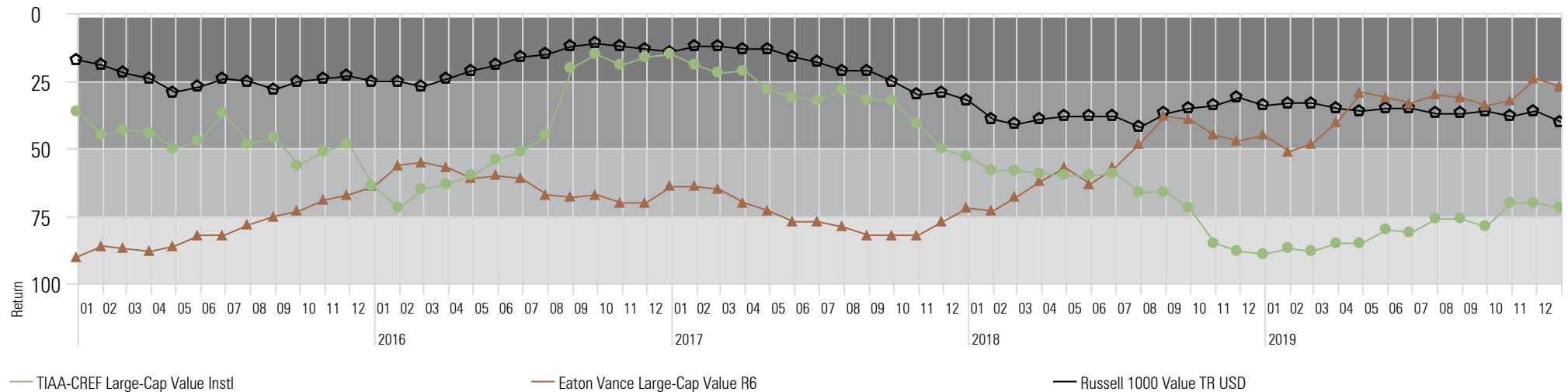


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

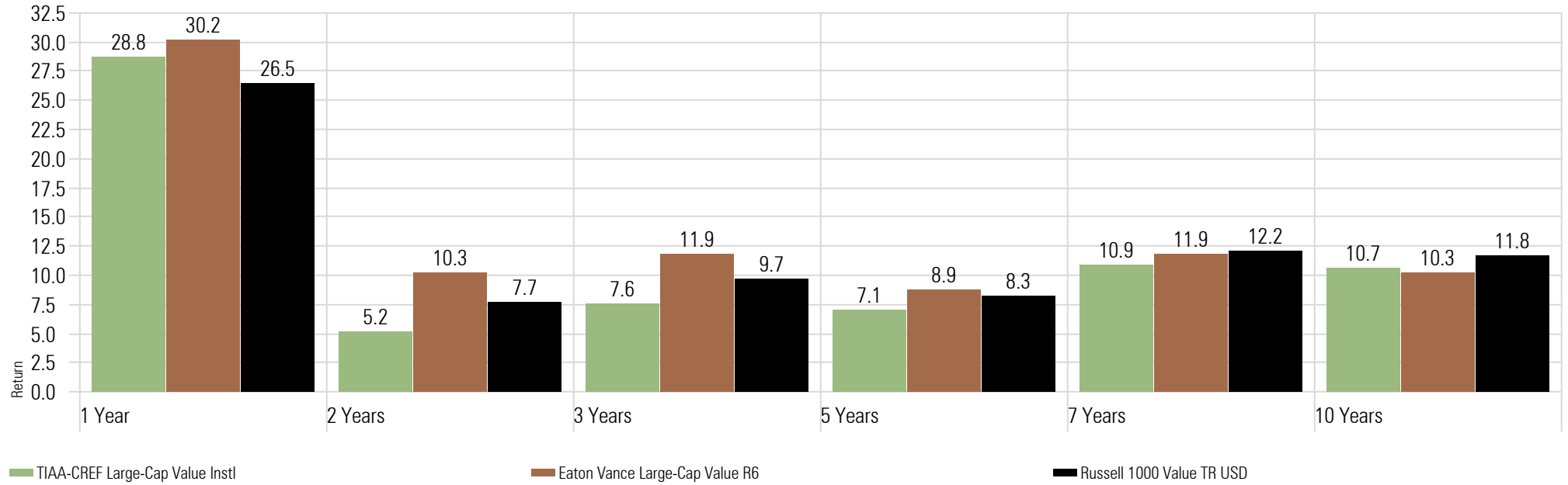
Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

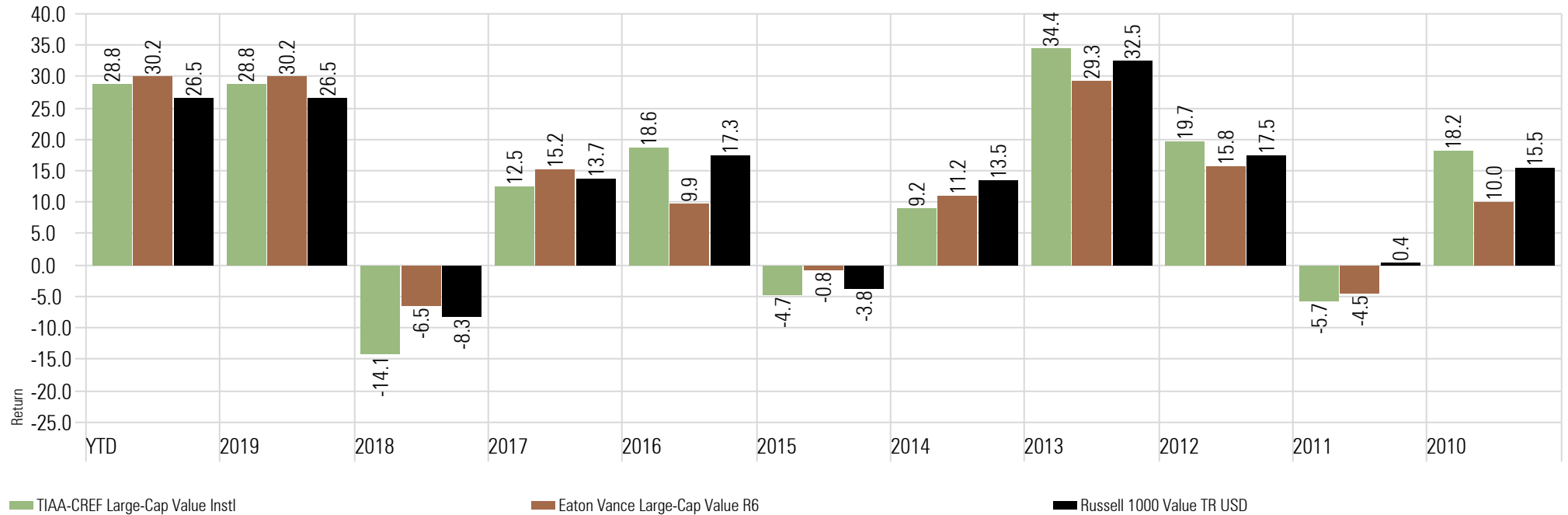


# Trailing Performance

## Cumulative Returns



## Annual Returns



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Large Value</b>																		
TIAA-CREF Large-Cap Value Instl	8.9	<b>17</b>	1.54	28.8	<b>13</b>	2.27	28.8	<b>13</b>	2.27	7.6	<b>87</b>	-2.10	7.1	<b>72</b>	-1.21	10.7	<b>57</b>	-1.13
Eaton Vance Large-Cap Value R6	7.5	<b>43</b>	0.06	30.2	<b>6</b>	3.63	30.2	<b>6</b>	3.63	11.9	<b>15</b>	2.25	8.9	<b>27</b>	0.57	10.3	<b>69</b>	-1.46
Russell 1000 Value TR USD	7.4			26.5			26.5			9.7			8.3			11.8		
Average	7.3			25.0			25.0			9.8			7.8			10.8		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Large Value</b>																					
TIAA-CREF Large-Cap Value Instl	28.8	<b>13</b>	2.27	-14.1	<b>93</b>	-5.83	12.5	<b>86</b>	-1.14	18.6	<b>15</b>	1.26	-4.7	<b>69</b>	-0.86	9.2	<b>79</b>	-4.30	34.4	<b>27</b>	1.90
Eaton Vance Large-Cap Value R6	30.2	<b>6</b>	3.63	-6.5	<b>25</b>	1.73	15.2	<b>62</b>	1.59	9.9	<b>92</b>	-7.44	-0.8	<b>16</b>	3.04	11.2	<b>50</b>	-2.30	29.3	<b>75</b>	-3.18
Russell 1000 Value TR USD	26.5			-8.3			13.7			17.3			-3.8			13.5			32.5		
Average	25.0			-8.7			16.0			14.7			-3.6			10.9			31.7		

# TIAA-CREF Large-Cap Value Instl

TRLIX

Index: Russell 1000 Value TR USD

Category: US Fund Large Value

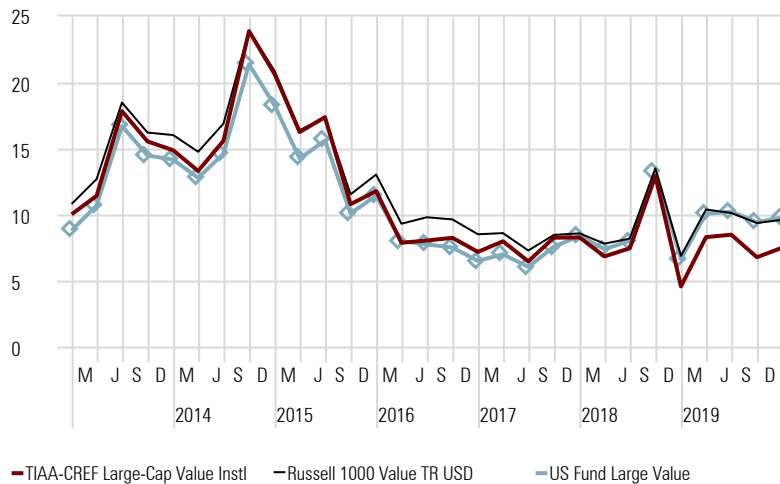
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 1000 Value TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Large-Cap Value Instl	28.8	28.8	7.6	7.1	10.7	7.0
Russell 1000 Value TR USD	26.5	26.5	9.7	8.3	11.8	7.6
US Fund Large Value	25.0	25.0	9.9	7.8	10.5	6.8

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.40	0.99	
Gross Expense Ratio	0.40	1.25	
LT Earn Growth	8.1	8.1	9.1
Avg Mkt Cap (\$MMM)	112.8	107.3	47.9
P/E Ratio	18.1	16.4	16.3
P/B Ratio	2.2	2.2	2.0
P/S Ratio	2.0	1.6	1.4
P/CF Ratio	12.3	10.0	10.5
ROE %	18.7	18.8	20.5
ROA %	6.2	5.9	7.2
Dividend Yld	2.3	2.9	2.8

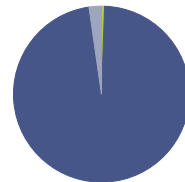
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 1000 Value TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Large-Cap Value Instl	66.7	33.3	12.0	-10.2	13.2	-19.4	102.4	112.5
Russell 1000 Value TR USD	66.7	33.3	11.4	-9.6	13.1	-16.2	100.0	100.0
US Fund Large Value	69.2	30.8	11.2	-9.4	12.0	-16.2	95.2	100.4

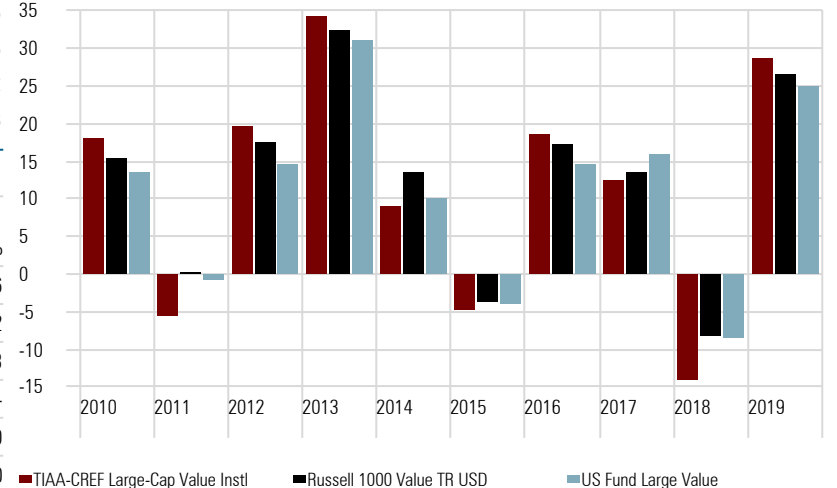
## Asset Allocation

Portfolio Date: 12/31/2019



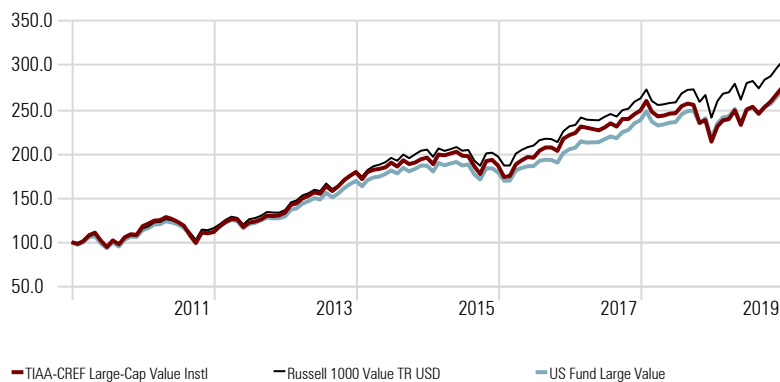
	%
Cash	0.6
US Equity	97.2
Non-US Equity	2.3
US Bond	-
Non-US Bond	0.0
Other	0.0

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	13.0	1.0	13.3	1.3
Down Deviation	2.2	1.6	2.2	1.4
Beta	1.1	0.1	1.1	0.1
Alpha	-2.4	-2.6	-1.6	-1.3
Sharpe	0.5	-0.2	0.5	-0.1
Sortino	0.7	-0.3	0.7	-0.2
Info Ratio	-0.8	-1.1	-0.5	0.0
Down Capture	115.1	16.4	114.0	14.2
Up Capture	99.1	-1.0	103.0	5.3

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
JPMorgan Chase & Co	5.1	Energy	7	8
Bank of America Corp	4.2	Materials	3	4
Citigroup Inc	3.5	Industrials	12	10
Johnson & Johnson	3.2	Cons Discretionary	3	6
Verizon Communications Inc	2.5	Consumer Staples	6	9
Chevron Corp	2.4	Healthcare	16	14
The Walt Disney Co	2.4	Financials	28	21
Procter & Gamble Co	2.3	Info Technology	10	10
Pfizer Inc	2.3	Telecom Services	8	8
Berkshire Hathaway Inc B	2.2	Utilities	4	5
		Real Estate %	1.9	3.3

# TIAA-CREF Large Cap Value Index

As of 12/31/2019





# TIAA-CREF Large-Cap Value Idx Inst

TILVX

Index: Russell 1000 Value TR USD

Category: US Fund Large Value

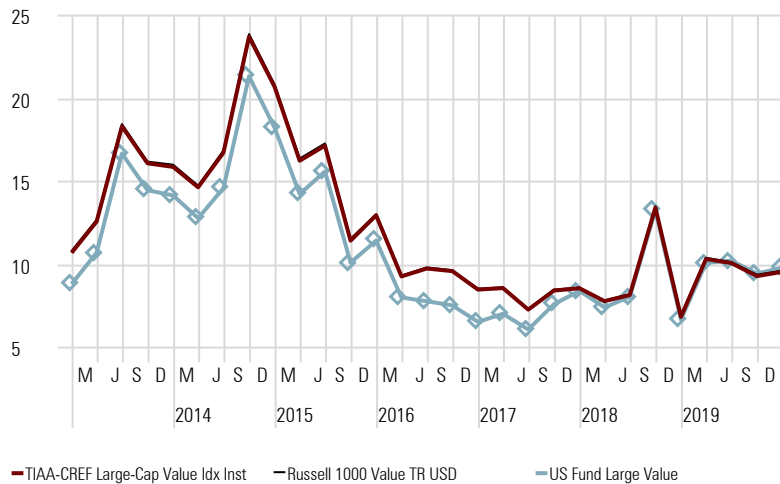
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 1000 Value TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Large-Cap Value Idx Inst	26.4	26.4	9.6	8.2	11.7	7.6
Russell 1000 Value TR USD	26.5	26.5	9.7	8.3	11.8	7.6
US Fund Large Value	25.0	25.0	9.9	7.8	10.5	6.8

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.06	0.99	
Gross Expense Ratio	0.06	1.25	
LT Earn Growth	7.7	8.1	9.1
Avg Mkt Cap (\$MMM)	62.4	107.3	47.9
P/E Ratio	18.2	16.4	16.3
P/B Ratio	2.1	2.2	2.0
P/S Ratio	1.7	1.6	1.4
P/CF Ratio	10.8	10.0	10.5
ROE %	13.6	18.8	20.5
ROA %	4.8	5.9	7.2
Dividend Yld	2.5	2.9	2.8

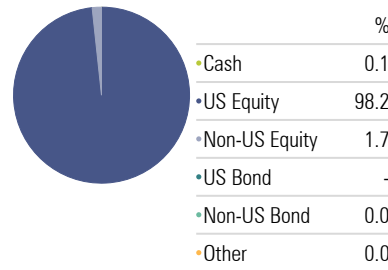
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 1000 Value TR USD

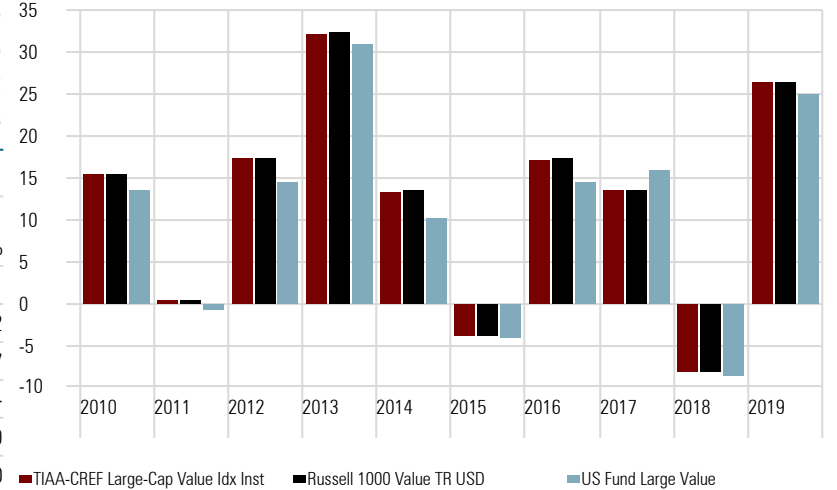
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Large-Cap Value Idx Inst	67.5	32.5	11.4	-9.6	13.0	-16.1	99.6	99.9
Russell 1000 Value TR USD	66.7	33.3	11.4	-9.6	13.1	-16.2	100.0	100.0
US Fund Large Value	69.2	30.8	11.2	-9.4	12.0	-16.2	95.2	100.4

## Asset Allocation

Portfolio Date: 12/31/2019

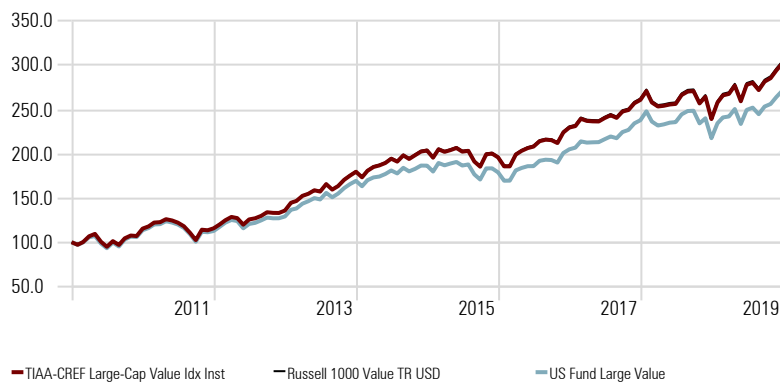


## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.0	0.0	11.9	0.0
Down Deviation	0.1	-0.6	0.1	-0.7
Beta	1.0	0.0	1.0	0.0
Alpha	0.0	-0.3	0.0	0.3
Sharpe	0.7	0.0	0.6	0.0
Sortino	1.0	0.0	1.0	0.1
Info Ratio	-1.0	-1.2	-0.8	-0.3
Down Capture	99.7	1.0	99.9	0.2
Up Capture	99.5	-0.6	99.7	2.0

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
Berkshire Hathaway Inc B	3.1	Energy	8	8
JPMorgan Chase & Co	3.0	Materials	4	4
Johnson & Johnson	2.3	Industrials	10	10
Exxon Mobil Corp	2.0	Cons Discretionary	6	6
Procter & Gamble Co	2.0	Consumer Staples	9	9
Bank of America Corp	2.0	Healthcare	13	14
AT&T Inc	2.0	Financials	24	21
Intel Corp	1.8	Info Technology	6	10
Verizon Communications Inc	1.8	Telecom Services	8	8
The Walt Disney Co	1.7	Utilities	7	5
		Real Estate %	5.2	3.3

# Mid-Growth Search

As of 12/31/2019



# Portfolio Analysis

## TIAA-CREF Mid-Cap Growth Instl

## PGIM Jennison Mid-Cap Growth R6

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth
Large	0	19	28
Mid	3	12	36
Small	1	0	2

Market Cap	%
Market Cap Giant %	0
Market Cap Large %	46
Market Cap Mid %	51
Market Cap Small %	3
Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth
Large	1	26	27
Mid	1	15	29
Small	0	0	0

Market Cap	%
Market Cap Giant %	0
Market Cap Large %	54
Market Cap Mid %	46
Market Cap Small %	0
Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell Mid Cap Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	15.9	16.6
Forward P/E	25.8	24.0
P/E Ratio (TTM)	29.7	28.1
LT Earn Growth	12.7	12.1
P/B Ratio (TTM)	5.0	5.8
Dividend Yield	0.4	0.8
ROE %	13.2	22.8
ROA %	4.3	7.6
Debt to Capital %	43	45

### Valuation Data

Display Benchmark 1: Russell Mid Cap Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	19.9	16.6
Forward P/E	25.8	24.0
P/E Ratio (TTM)	32.4	28.1
LT Earn Growth	12.0	12.1
P/B Ratio (TTM)	4.3	5.8
Dividend Yield	0.7	0.8
ROE %	15.2	22.8
ROA %	4.7	7.6
Debt to Capital %	46	45

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	81	
# of Stock Holdings	119	403
% in Top 10	18.4	12.4
Cash %	0.2	0.0
Developed %	98.4	99.3
US Equity %	96.4	99.2
Non-US Equity %	3	1
Emerging Mkt %	1.6	0.7

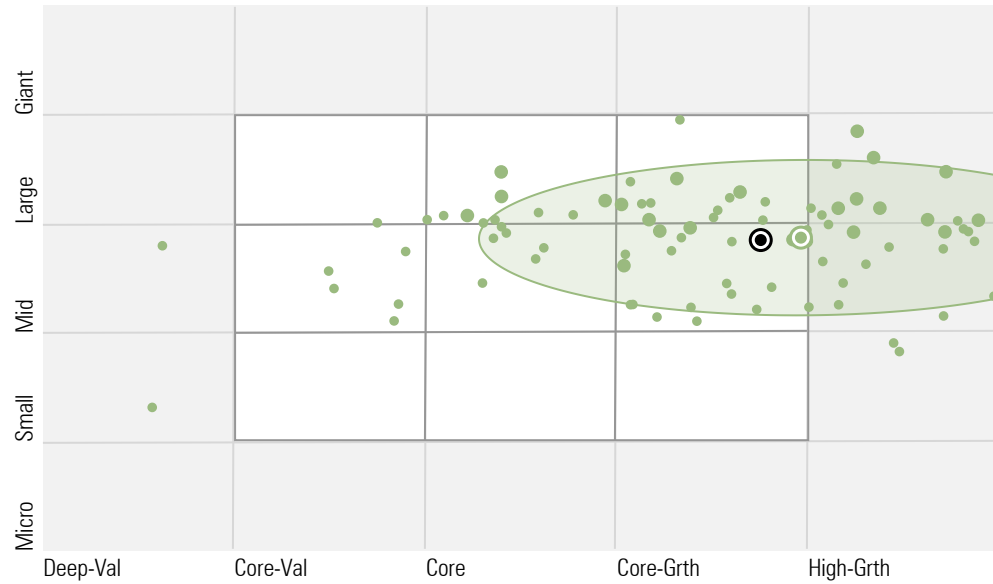
### Portfolio Data

	Inv	Bmk1
Turnover Ratio	31	
# of Stock Holdings	77	403
% in Top 10	23.0	12.4
Cash %	1.4	0.0
Developed %	96.3	99.3
US Equity %	96.3	99.2
Non-US Equity %	2	1
Emerging Mkt %	2.5	0.7

# Holdings-Based Style Analysis

## TIAA-CREF Mid-Cap Growth Instl

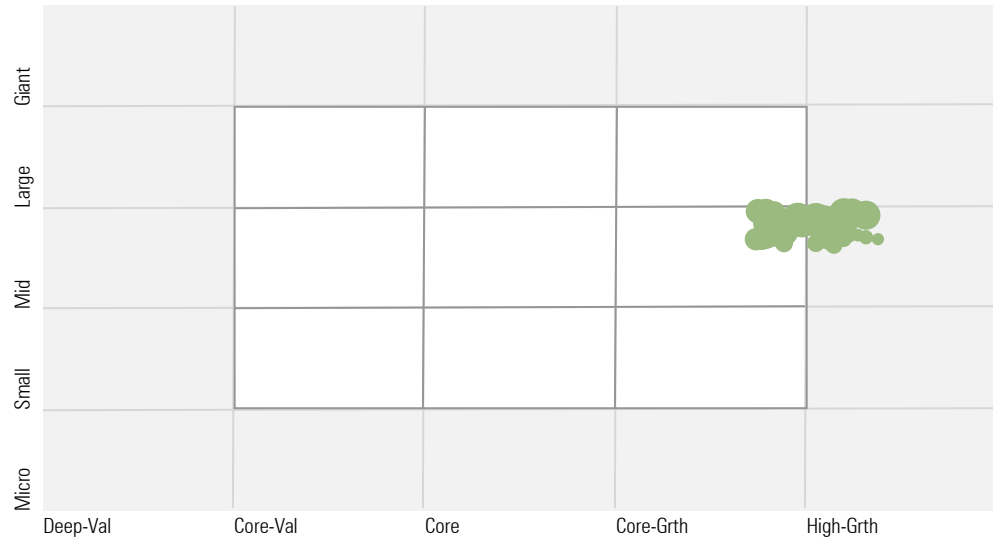
### Holdings-Based Style Map



● TIAA-CREF Mid-Cap Growth Instl 11/30/2019 ● Russell Mid Cap Growth TR USD 12/31/2019

### Holdings-Based Style Trail

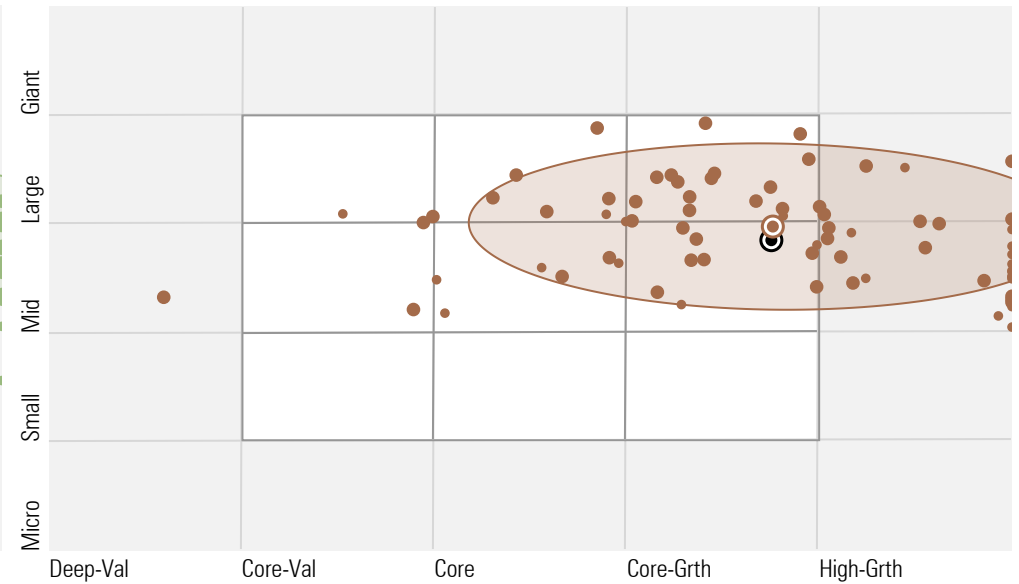
Time Period: 1/31/2015 to 11/30/2019



Source: Morningstar Direct

## PGIM Jennison Mid-Cap Growth R6

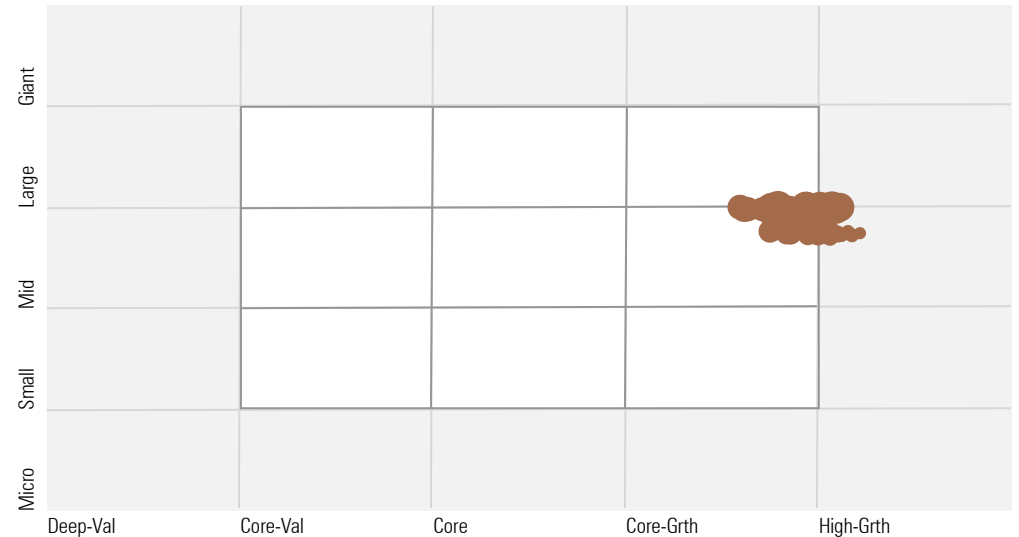
### Holdings-Based Style Map



● PGIM Jennison Mid-Cap Growth R6 12/31/2019 ● Russell Mid Cap Growth TR USD 12/31/2019

### Holdings-Based Style Trail

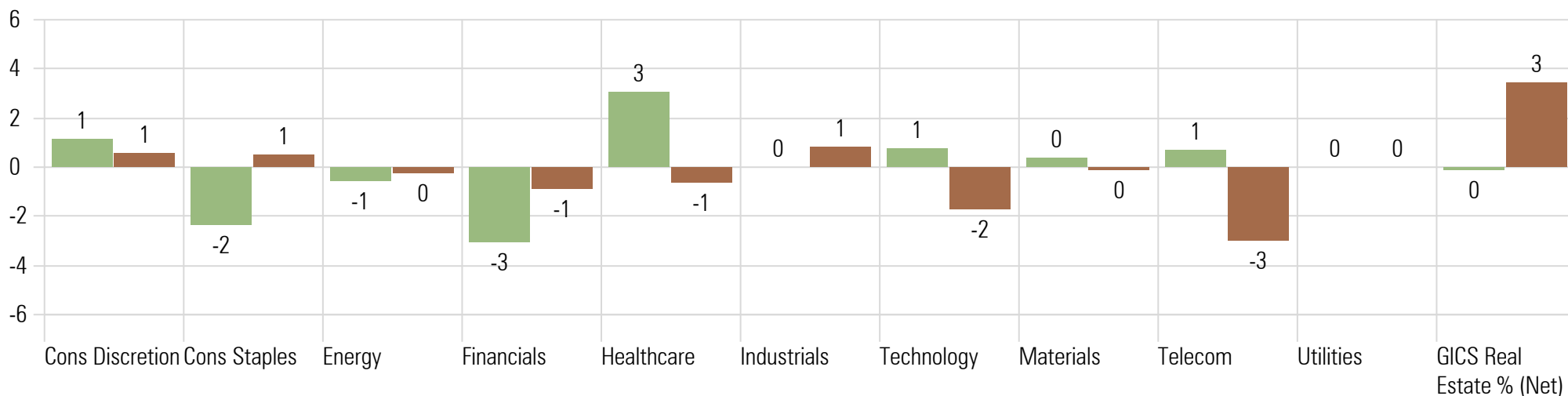
Time Period: 1/31/2015 to 12/31/2019



# Sector Exposure and Top 15 Holdings

## Relative Sector Allocation

Calculation Benchmark: Russell Mid Cap Growth TR USD



TIAA-CREF Mid-Cap Growth Instl

PGIM Jennison Mid-Cap Growth R6

Russell Mid Cap Growth TR USD

## TIAA-CREF Mid-Cap Growth Instl - Top Holdings

Portfolio Date: 11/30/2019

	Equity Style Box	Portfolio Weighting %
iShares Russell Mid-Cap Growth ETF	■	2.9
Advanced Micro Devices Inc	■	2.3
Fiserv Inc	■	2.2
O'Reilly Automotive Inc	■	1.7
Global Payments Inc	■	1.7
L3Harris Technologies Inc	■	1.6
TransDigm Group Inc	■	1.6
Fleetcor Technologies Inc	■	1.5
Keysight Technologies Inc	■	1.5
Ingersoll-Rand PLC	■	1.4
AMETEK Inc	■	1.4
Lululemon Athletica Inc	■	1.3
AutoZone Inc	■	1.3
Teleflex Inc	■	1.3
Cintas Corp	■	1.3

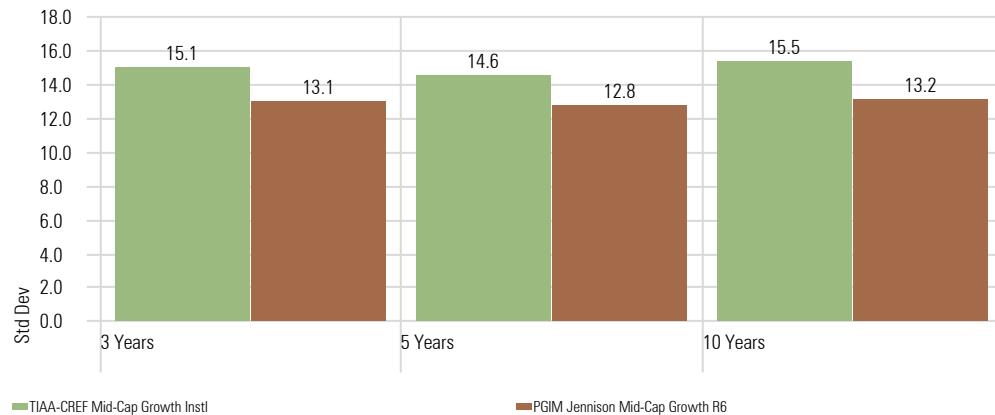
## PGIM Jennison Mid-Cap Growth R6 - Top Holdings

Portfolio Date: 12/31/2019

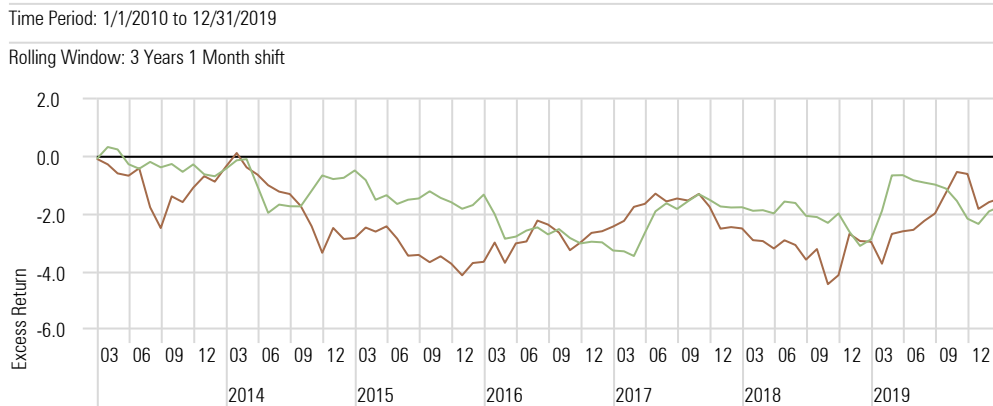
	Equity Style Box	Portfolio Weighting %
Fidelity National Information Services Inc	■	2.7
Fiserv Inc	■	2.6
Marvell Technology Group Ltd	■	2.5
Global Payments Inc	■	2.4
AMETEK Inc	■	2.3
IQVIA Holdings Inc	■	2.2
CBRE Group Inc Class A	■	2.1
Hill-Rom Holdings Inc	■	2.1
Quanta Services Inc	■	2.0
Centene Corp	■	2.0
SBA Communications Corp	■	1.9
IHS Markit Ltd	■	1.9
Burlington Stores Inc	■	1.9
CDW Corp	■	1.8
Fleetcor Technologies Inc	■	1.8

# Risk/Return Performance Analysis

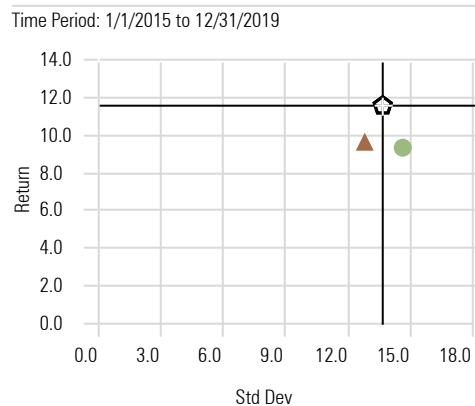
## Standard Deviation



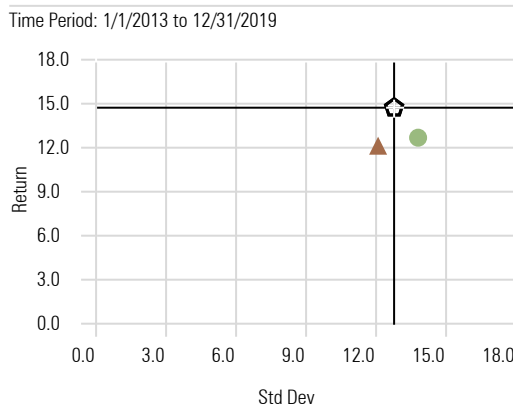
## 3 Year Relative Rolling Returns



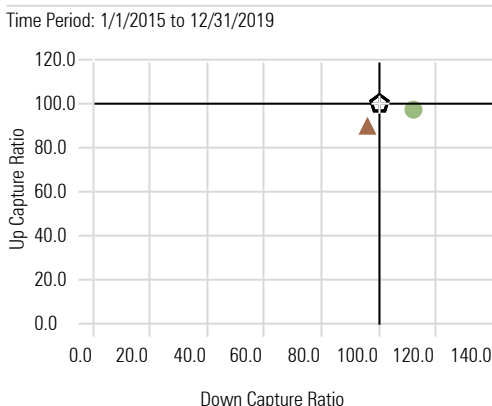
## 5 Year Risk-Reward



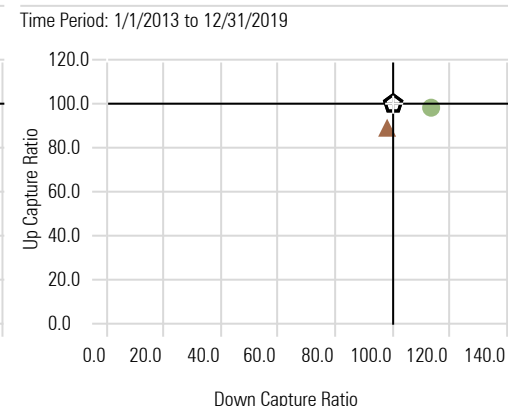
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● TIAA-CREF Mid-Cap Growth Instl

● PGIM Jennison Mid-Cap Growth R6

◻ Russell Mid Cap Growth TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

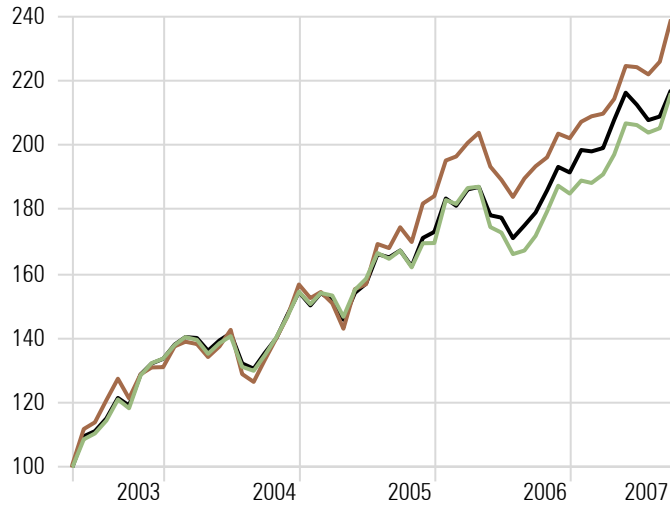
Time Period: Since Common Inception (2/1/2011) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
TIAA-CREF Mid-Cap Growth Instl	11.0	14.9	-2.3	1.07	97	21.9	-22.1	0.69	2.6
PGIM Jennison Mid-Cap Growth R6	11.6	12.8	-0.1	0.91	96	19.9	-15.5	0.86	2.9
Russell Mid Cap Growth TR USD	12.8	13.8	0.0	1.00	100	19.6	-19.3	0.88	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

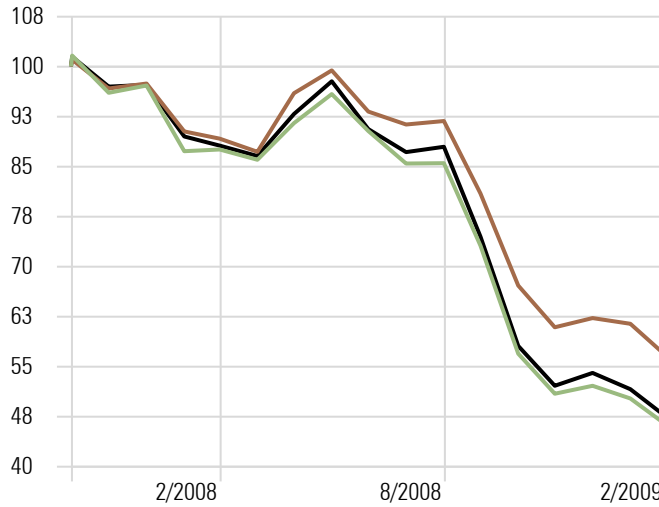
Time Period: 4/30/2003 to 9/30/2007



216 PGIM Jennison Mid-Cap Growth R6 239 Russell Mid Cap Growth TR USD

## Credit Crunch - Financial Crisis

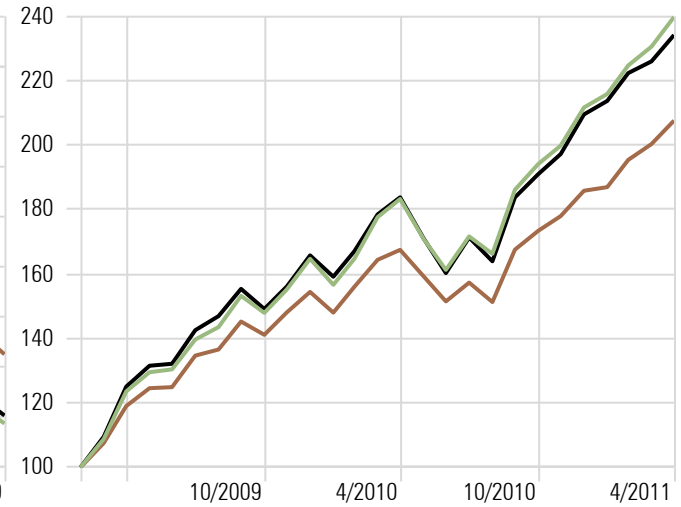
Time Period: 10/31/2007 to 2/28/2009



47 PGIM Jennison Mid-Cap Growth R6 57 Russell Mid Cap Growth TR USD

## Financial Crisis Recovery - QE1&2

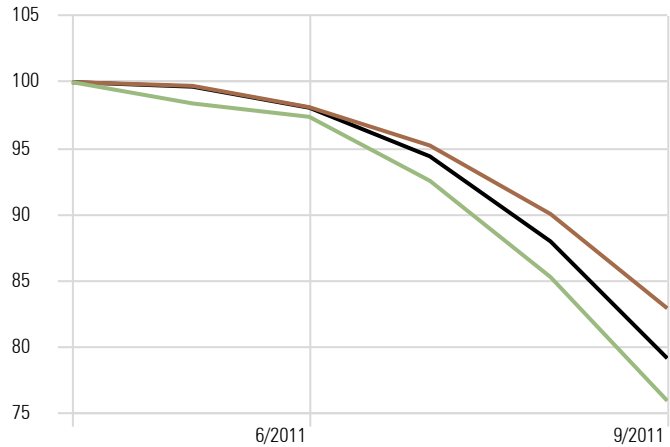
Time Period: 3/1/2009 to 4/30/2011



48 PGIM Jennison Mid-Cap Growth R6 207.6 Russell Mid Cap Growth TR USD 234.2

## Double Dip

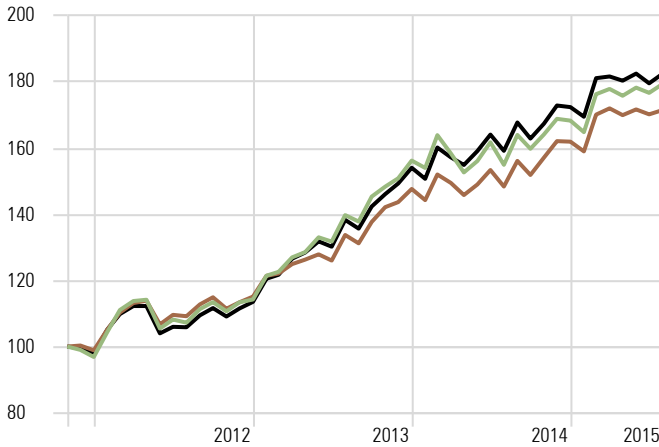
Time Period: 5/1/2011 to 9/30/2011



75.9 PGIM Jennison Mid-Cap Growth R6 82.9 Russell Mid Cap Growth TR USD 79.1

## US Recovery Continues - Global Markets Lag

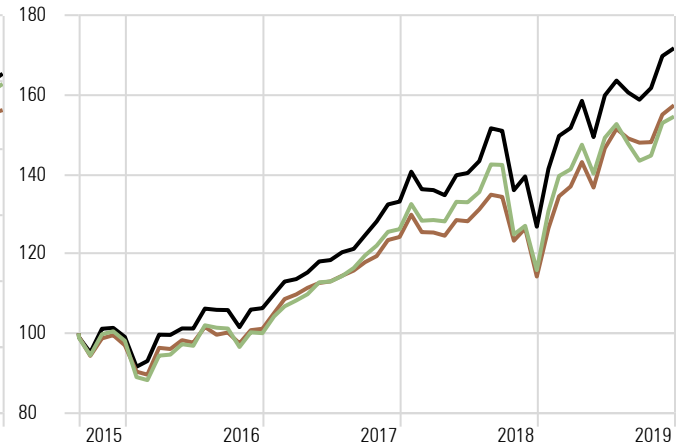
Time Period: 11/1/2011 to 7/31/2015



179.4 PGIM Jennison Mid-Cap Growth R6 171.5 Russell Mid Cap Growth TR USD 182.5

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



154.7 PGIM Jennison Mid-Cap Growth R6 157.5 Russell Mid Cap Growth TR USD 171.9

TIAA-CREF Mid-Cap Growth Instl

PGIM Jennison Mid-Cap Growth R6

Russell Mid Cap Growth TR USD

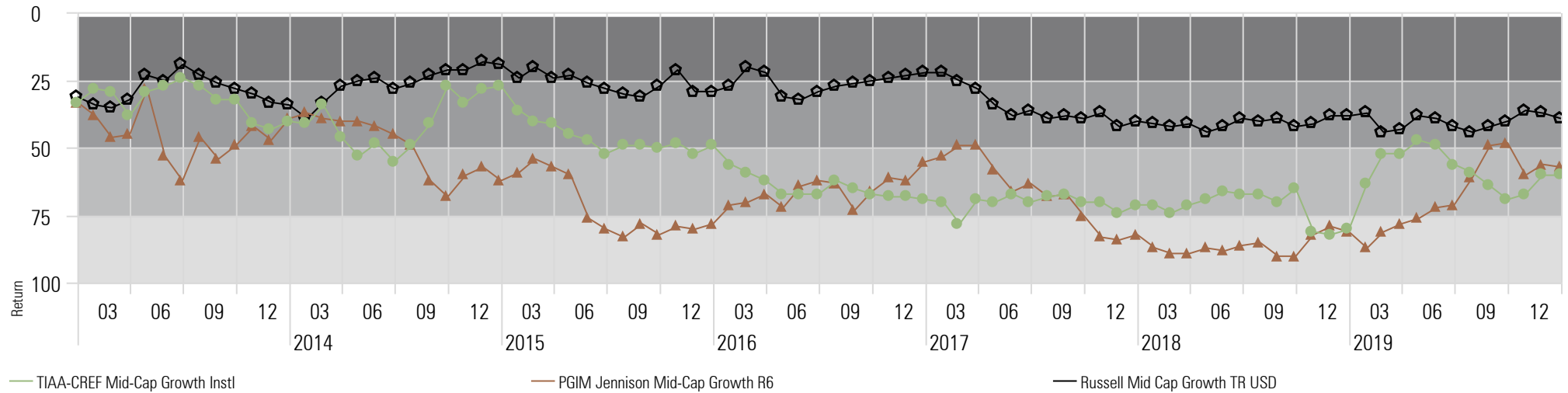
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

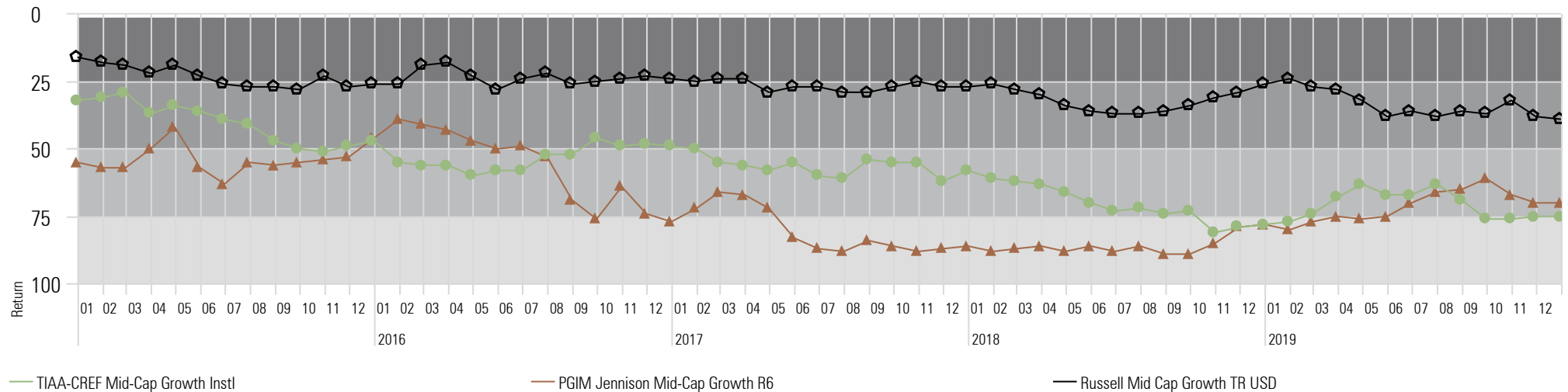


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

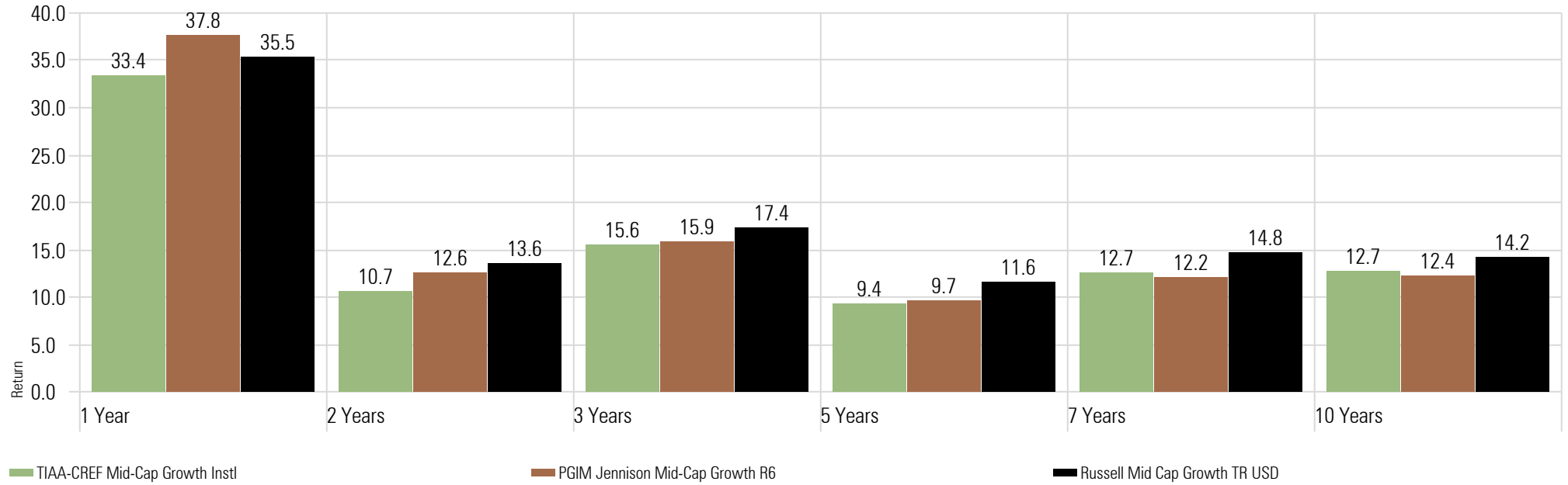
1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile



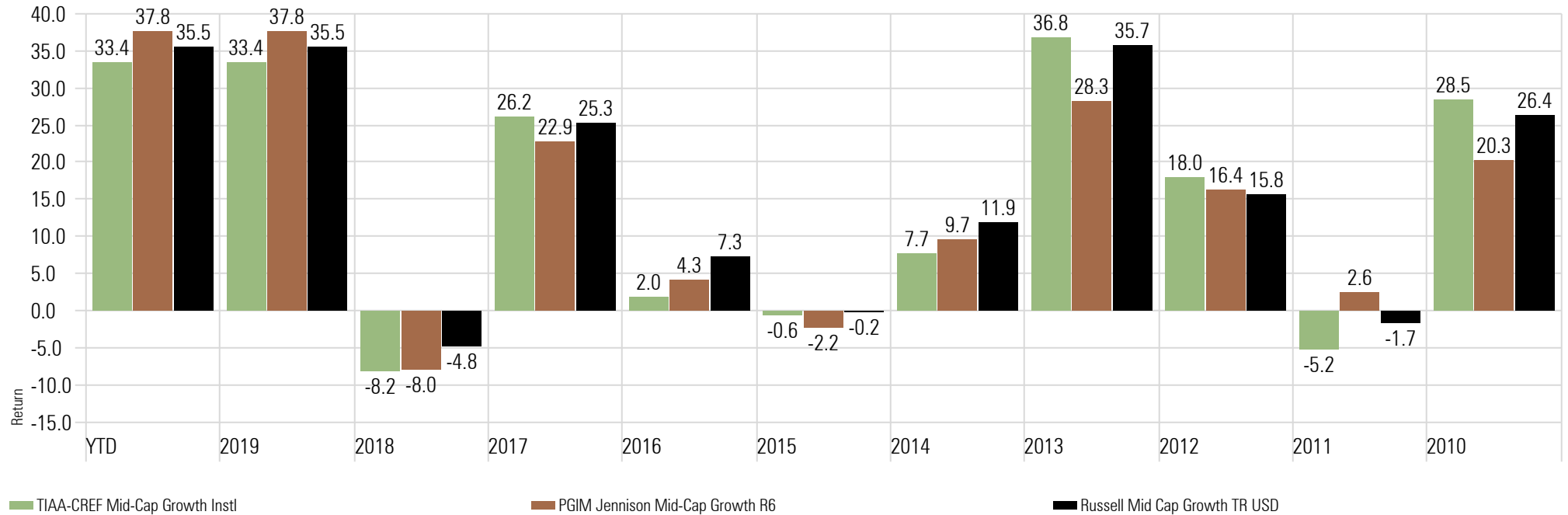


# Trailing Performance

## Cumulative Returns



## Annual Returns



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Mid-Cap Growth</b>																		
TIAA-CREF Mid-Cap Growth Instl	7.8	<b>50</b>	-0.41	33.4	<b>52</b>	-2.08	33.4	<b>52</b>	-2.08	15.6	<b>60</b>	-1.73	9.4	<b>75</b>	-2.22	12.7	<b>58</b>	-1.50
PGIM Jennison Mid-Cap Growth R6	6.4	<b>76</b>	-1.81	37.8	<b>23</b>	2.29	37.8	<b>23</b>	2.29	15.9	<b>57</b>	-1.45	9.7	<b>70</b>	-1.92	12.4	<b>66</b>	-1.87
Russell Mid Cap Growth TR USD	8.2			35.5			35.5			17.4			11.6			14.2		
Average	7.9			33.8			33.8			16.5			10.9			13.0		

## Performance Summary - Calendar Year Periods

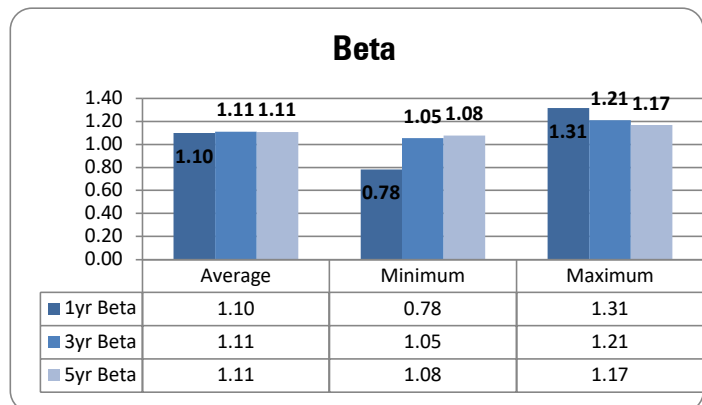
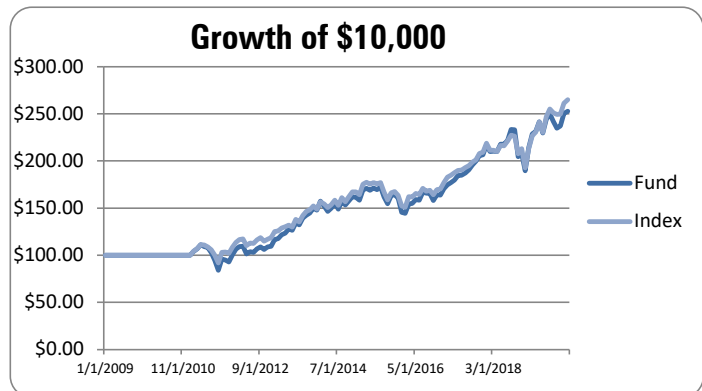
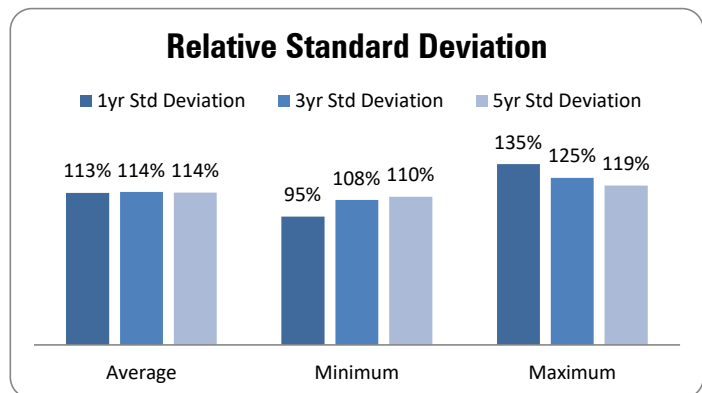
	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Mid-Cap Growth</b>																					
TIAA-CREF Mid-Cap Growth Instl	33.4	<b>52</b>	-2.08	-8.2	<b>77</b>	-3.42	26.2	<b>38</b>	0.94	2.0	<b>78</b>	-5.38	-0.6	<b>58</b>	-0.43	7.7	<b>49</b>	-4.17	36.8	<b>39</b>	1.04
PGIM Jennison Mid-Cap Growth R6	37.8	<b>23</b>	2.29	-8.0	<b>75</b>	-3.27	22.9	<b>69</b>	-2.39	4.3	<b>58</b>	-3.04	-2.2	<b>76</b>	-2.04	9.7	<b>30</b>	-2.22	28.3	<b>94</b>	-7.44
Russell Mid Cap Growth TR USD	35.5			-4.8			25.3			7.3			-0.2			11.9			35.7		
Average	33.8			-5.3			25.2			6.0			0.0			7.4			35.8		

Fund Name	Comparative Index/Fund
TIAA-CREF Mid-Cap Growth Instl	100% PGIM Jennison Mid-Cap Growth R6

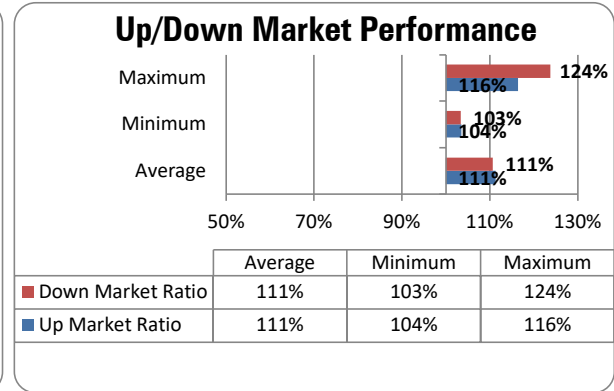
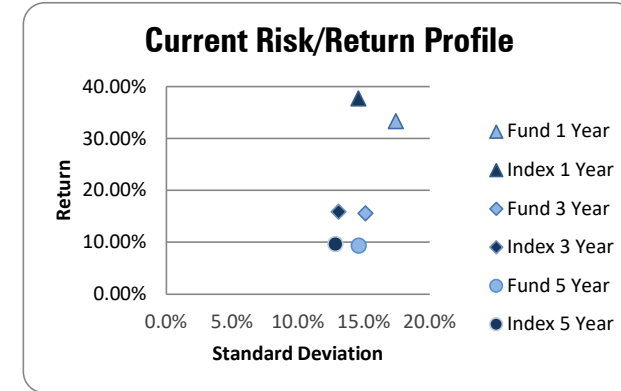
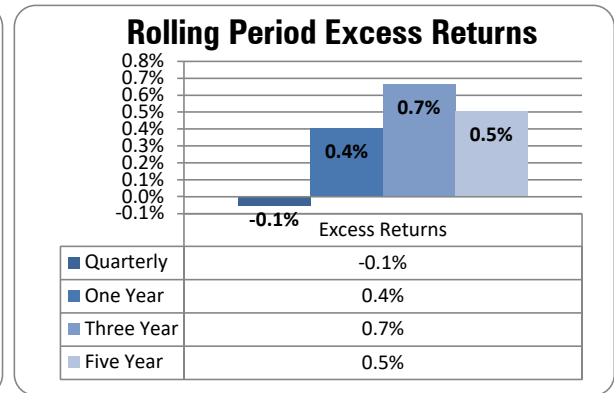
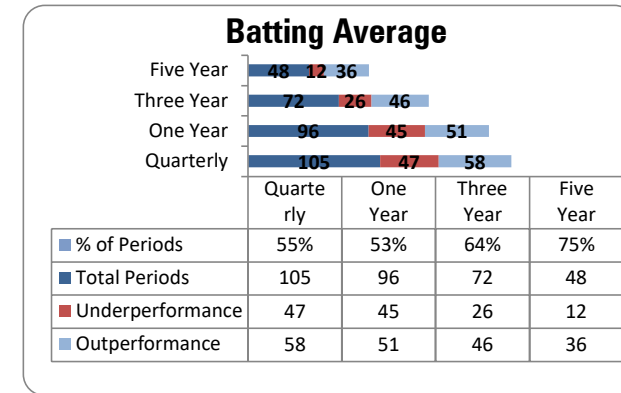
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## Risk Analysis



## Absolute Performance Summary



## Annualized Performance and Risk Statistics

	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
TIAA-CREF Mid-Cap Growth Instl	33.39%	-10.89%	17.41%	21.92%	-5.20%
100% PGIM Jennison Mid-Cap Grow	37.76%		14.58%	19.86%	-2.20%
<b>Latest Three Years</b>					
TIAA-CREF Mid-Cap Growth Instl	15.63%	-2.18%	15.10%	21.92%	-18.61%
100% PGIM Jennison Mid-Cap Grow	15.91%		13.08%	19.86%	-14.94%
<b>Latest Five Years</b>					
TIAA-CREF Mid-Cap Growth Instl	9.39%	-1.34%	14.61%	21.92%	-18.61%
100% PGIM Jennison Mid-Cap Grow	9.68%		12.84%	19.86%	-14.94%
<b>Latest Ten Years</b>					
TIAA-CREF Mid-Cap Growth Instl				21.92%	-22.05%
100% PGIM Jennison Mid-Cap Grow				19.86%	-15.51%

# TIAA-CREF Mid-Cap Growth Instl

TRPWX

**Index:** Russell Mid Cap Growth TR USD

**Category:** US Fund Mid-Cap Growth

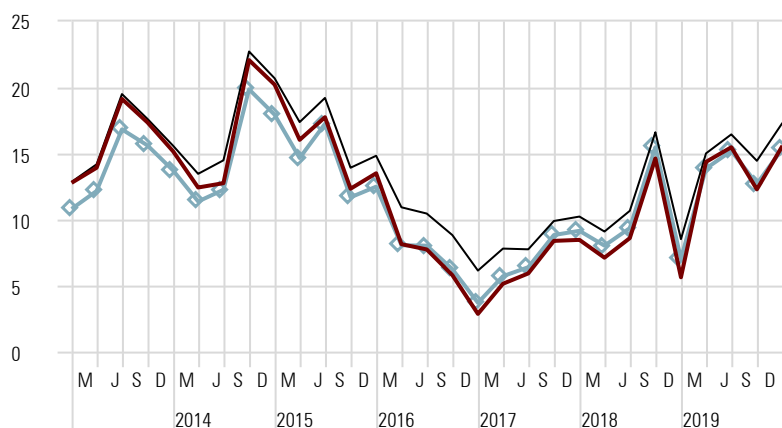
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell Mid Cap Growth TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Mid-Cap Growth Instl	33.4	33.4	15.6	9.4	12.7	9.1
Russell Mid Cap Growth TR USD	35.5	35.5	17.4	11.6	14.2	10.1
US Fund Mid-Cap Growth	32.3	32.3	15.4	10.0	12.2	8.5

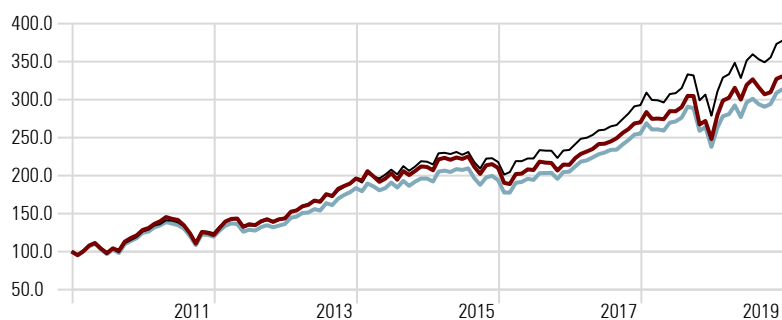
## Returns (Rolling 36 Months)



— TIAA-CREF Mid-Cap Growth Instl — Russell Mid Cap Growth TR USD — US Fund Mid-Cap Growth

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



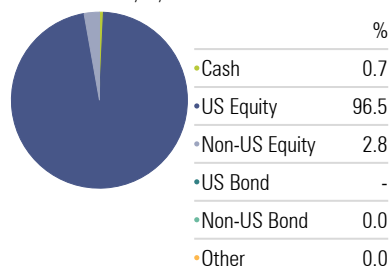
— TIAA-CREF Mid-Cap Growth Instl — Russell Mid Cap Growth TR USD — US Fund Mid-Cap Growth

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.47	1.17	
Gross Expense Ratio	0.47	1.63	
LT Earn Growth	12.4	11.6	9.1
Avg Mkt Cap (\$MMM)	16.5	14.3	47.9
P/E Ratio	29.7	31.0	16.3
P/B Ratio	4.9	4.6	2.0
P/S Ratio	3.3	3.3	1.4
P/CF Ratio	21.1	19.4	10.5
ROE %	14.4	15.8	20.5
ROA %	4.9	5.0	7.2
Dividend Yld	0.4	0.6	2.8

## Asset Allocation

Portfolio Date: 12/31/2019

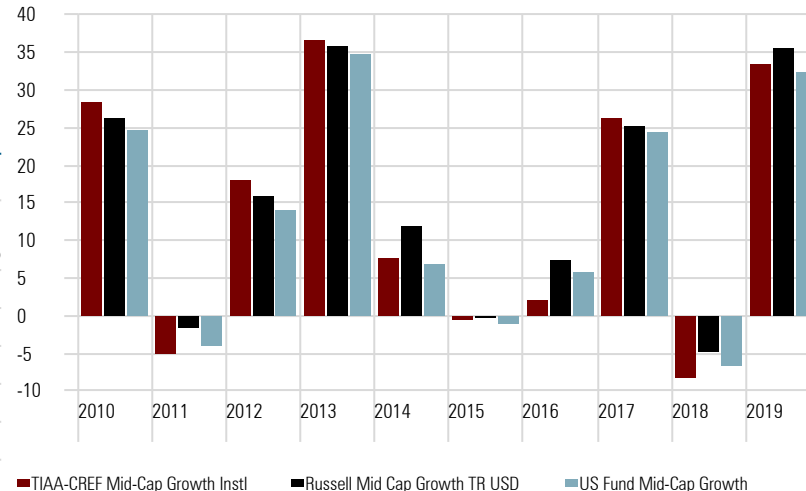


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell Mid Cap Growth TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Mid-Cap Growth Instl	63.3	36.7	13.8	-12.3	21.9	-22.1	101.0	111.6
Russell Mid Cap Growth TR USD	63.3	36.7	13.5	-10.1	19.6	-19.3	100.0	100.0
US Fund Mid-Cap Growth	65.8	34.2	13.2	-10.3	18.2	-19.6	96.1	105.8

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	15.1	1.1	14.6	0.9
Down Deviation	2.2	1.0	2.3	0.8
Beta	1.1	0.1	1.1	0.1
Alpha	-2.2	-0.7	-2.5	-1.1
Sharpe	0.9	-0.1	0.6	-0.1
Sortino	1.4	-0.1	0.9	-0.1
Info Ratio	-0.6	0.8	-0.8	0.1
Down Capture	110.2	7.4	112.1	8.4
Up Capture	98.8	3.8	97.9	2.3

## Top 10 Holdings

	Fund %	Inv	Avg
iShares Russell Mid-Cap Growth ETF	2.9	1	1
Advanced Micro Devices Inc	2.6	2	4
Fiserv Inc	2.2	18	15
Dollar General Corp	1.8	16	14
Global Payments Inc	1.7	1	2
O'Reilly Automotive Inc	1.7	18	18
L3Harris Technologies Inc	1.5	2	9
TransDigm Group Inc	1.5	36	28
Ingersoll-Rand PLC	1.5	5	5
AMETEK Inc	1.4	0	1

## Sector Allocation (%)

	Inv	Avg
Energy	1	1
Materials	2	4
Industrials	18	15
Cons Discretionary	16	14
Consumer Staples	1	2
Healthcare	18	18
Financials	2	9
Info Technology	36	28
Telecom Services	5	5
Utilities	0	1
Real Estate %	2.4	3.2

# Mid Cap Blend Search

As of 12/31/2019



# US Fund Mid-Cap Blend

## Vanguard Mid Cap Index Institutional

### Investment Strategy

The investment seeks to track the performance of a benchmark index that measures the investment return of mid-capitalization stocks. The fund employs an indexing investment approach designed to track the performance of the CRSP US Mid Cap Index, a broadly diversified index of stocks of mid-size U.S. companies. The advisor attempts to replicate the target index by investing all, or substantially all, of its assets in the stocks that make up the index, holding each stock in approximately the same proportion as its weighting in the index.

### Manager Biography

Donald M. Butler since 5/21/1998

Michael A. Johnson since 4/27/2016

## Columbia Mid Cap Index Inst

### Investment Strategy

The investment seeks total return before fees and expenses that corresponds to the total return of the Standard & Poor's (S&P) MidCap 400® Index. The fund invests at least 80% of its net assets (including the amount of any borrowings for investment purposes) in common stocks that comprise the S&P MidCap 400 Index. In seeking to match the performance of the index, the Investment Manager attempts to allocate the fund's assets among common stocks in approximately the same weightings as the index. The manager attempts to achieve at least a 95% correlation between the performance of the index and the fund's investment results, before fees and expenses.

### Manager Biography

Christopher Lo since 12/3/2014

Vadim Shteyn since 8/1/2011

### Vanguard Mid Cap Index Institutional - Operations

Inception Date	5/21/1998
Fund Size (\$mm)	111,567
Annual Report Net Expense Ratio	0.04
Prospectus Net Expense Ratio	0.04
Prospectus Gross Expense Ratio	0.04
Ticker	VMCIX
Manager Tenure (Longest)	21.67
Manager Tenure (Average)	12.71
Morningstar Inst Cat	Mid Core

### Other Notes:

None

### Columbia Mid Cap Index Inst - Operations

Inception Date	3/31/2000
Fund Size (\$mm)	3,809
Annual Report Net Expense Ratio	0.20
Prospectus Net Expense Ratio	0.20
Prospectus Gross Expense Ratio	0.33
Ticker	NMPAX
Manager Tenure (Longest)	8.42
Manager Tenure (Average)	6.75
Morningstar Inst Cat	Mid Core

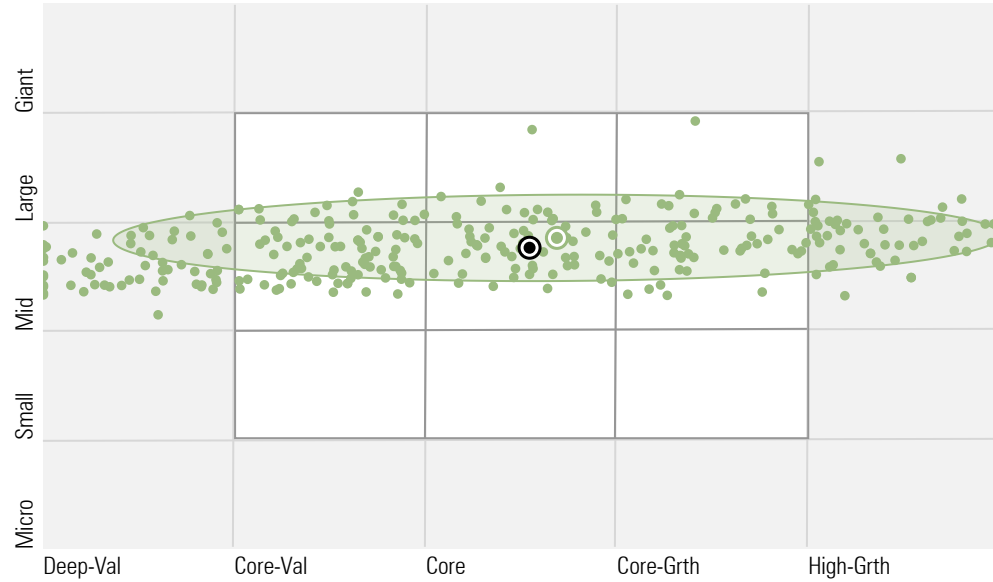
### Other Notes:

None

# Holdings-Based Style Analysis

## Vanguard Mid Cap Index Institutional

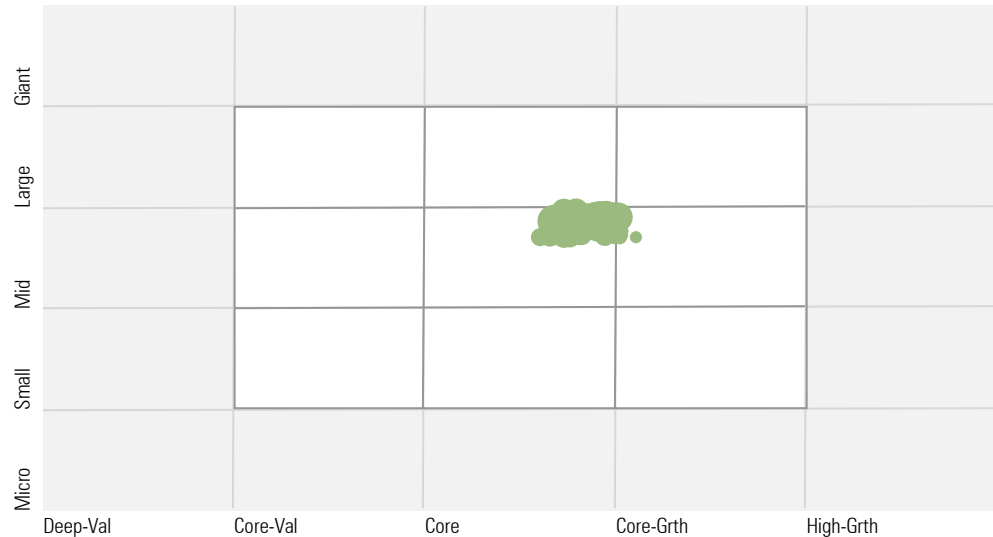
### Holdings-Based Style Map



● Vanguard Mid Cap Index Institutional 12/31/2019 ● Russell Mid Cap TR USD 12/31/2019

### Holdings-Based Style Trail

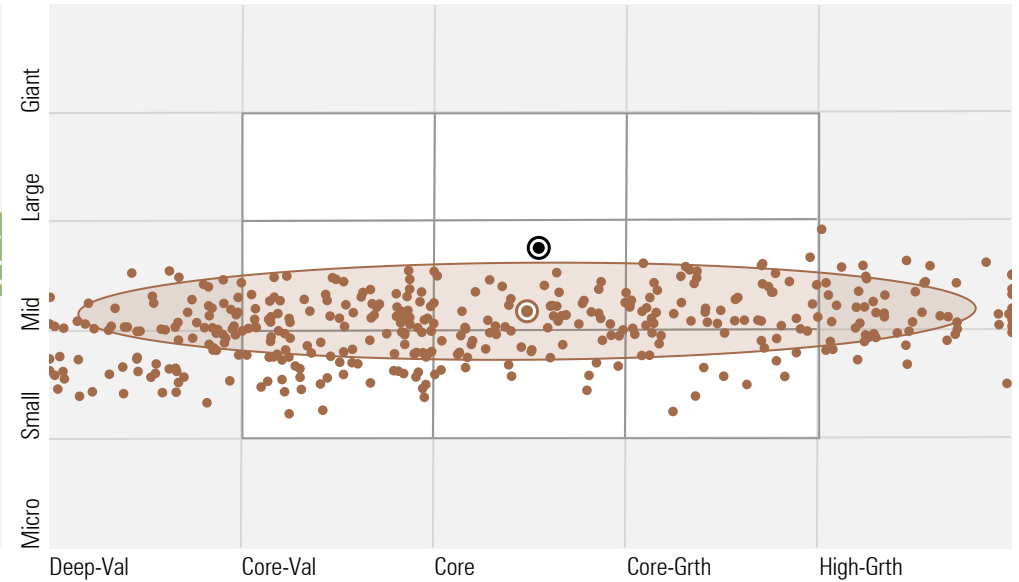
Time Period: 1/31/2015 to 12/31/2019



Source: Morningstar Direct

## Columbia Mid Cap Index Inst

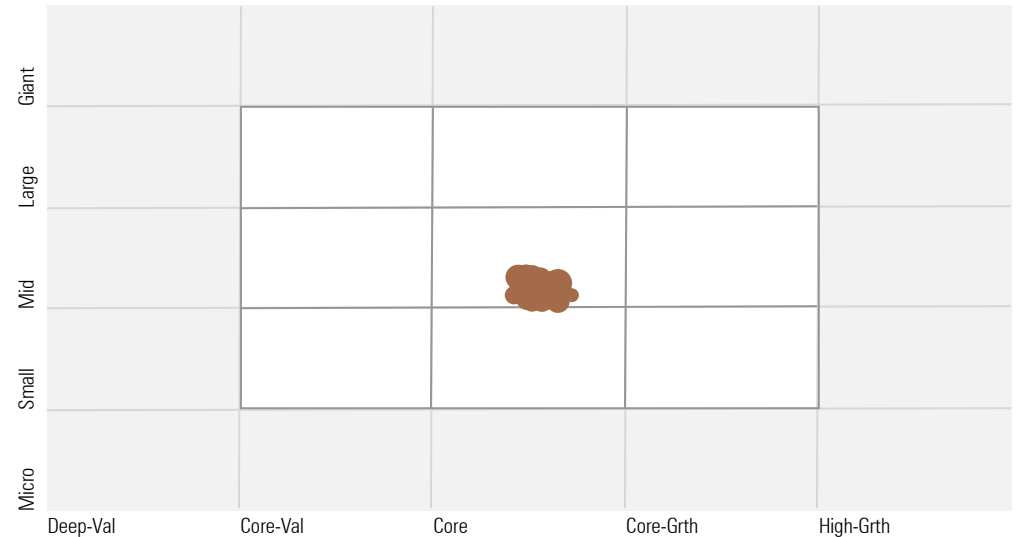
### Holdings-Based Style Map



● Columbia Mid Cap Index Inst 12/31/2019 ● Russell Mid Cap TR USD 12/31/2019

### Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Mid-Cap Blend</b>																		
Vanguard Mid Cap Index Institutional	6.9	<b>52</b>	-0.19	31.0	<b>18</b>	0.50	31.0	<b>18</b>	0.50	12.4	<b>11</b>	0.31	9.3	<b>13</b>	-0.07	13.1	<b>4</b>	-0.10
Columbia Mid Cap Index Inst	7.0	<b>40</b>	-0.05	26.0	<b>61</b>	-4.59	26.0	<b>61</b>	-4.59	9.0	<b>51</b>	-3.05	8.8	<b>22</b>	-0.54	12.5	<b>13</b>	-0.71
Russell Mid Cap TR USD	7.1			30.5			30.5			12.1			9.3			13.2		
Average	7.3			27.0			27.0			9.0			6.9			10.9		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Mid-Cap Blend</b>																					
Vanguard Mid Cap Index Institutional	31.0	<b>18</b>	0.50	-9.2	<b>25</b>	-0.18	19.3	<b>19</b>	0.78	11.2	<b>70</b>	-2.57	-1.3	<b>18</b>	1.11	13.8	<b>10</b>	0.57	35.2	<b>45</b>	0.41
Columbia Mid Cap Index Inst	26.0	<b>61</b>	-4.59	-11.3	<b>48</b>	-2.27	16.0	<b>50</b>	-2.55	20.4	<b>9</b>	6.65	-2.3	<b>25</b>	0.12	9.5	<b>43</b>	-3.70	33.3	<b>58</b>	-1.48
Russell Mid Cap TR USD	30.5			-9.1			18.5			13.8			-2.4			13.2			34.8		
Average	27.0			-11.8			15.9			13.9			-4.6			8.5			35.3		

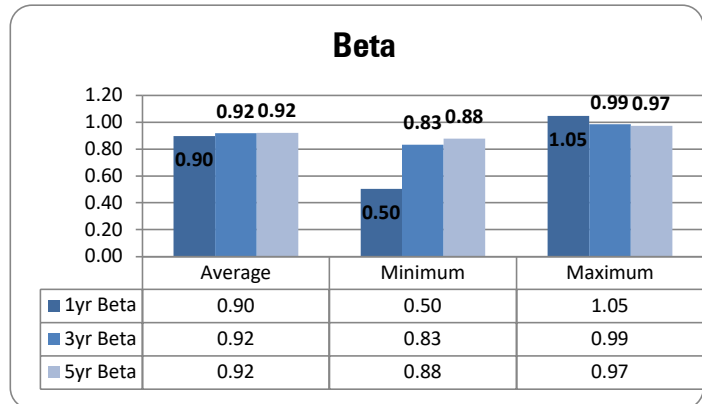
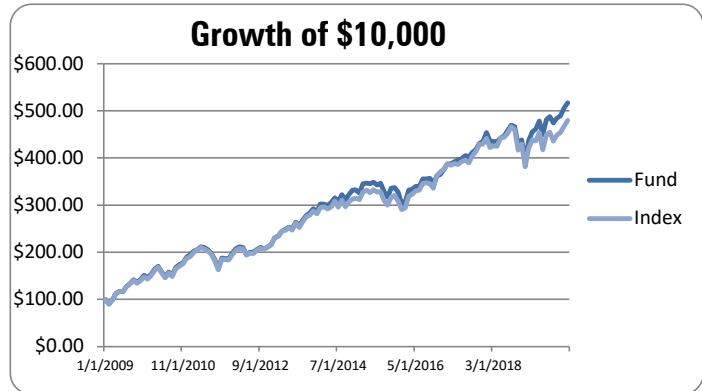
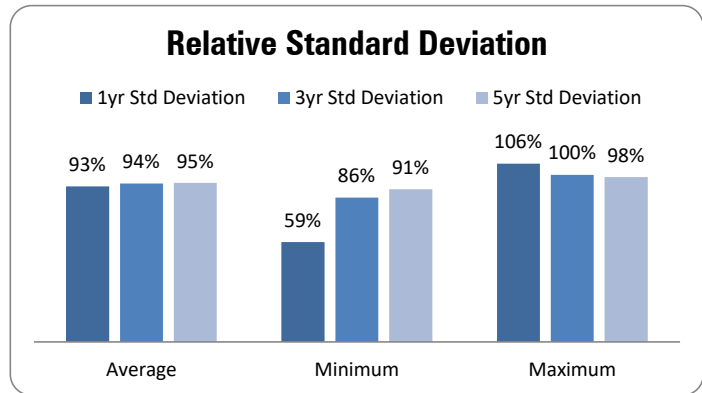


Fund Name	Comparative Index/Fund
Vanguard Mid Cap Index Institutional	100% Columbia Mid Cap Index Inst

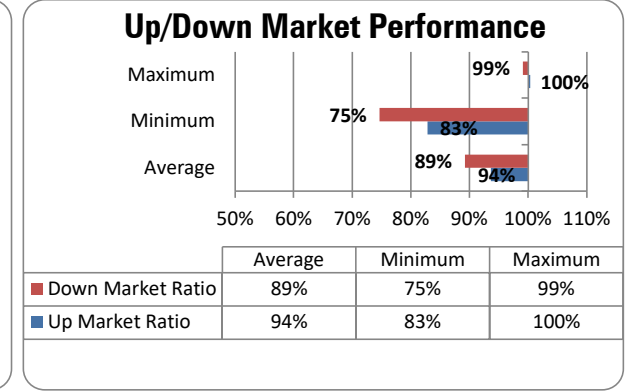
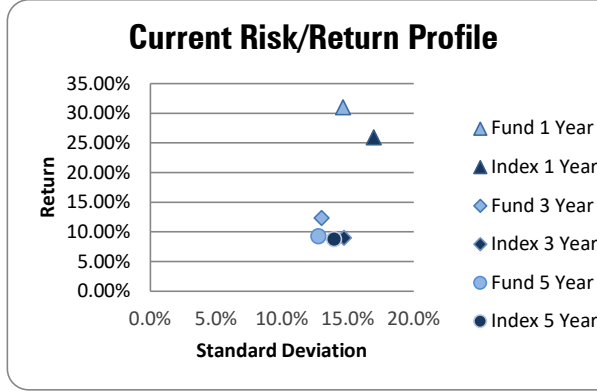
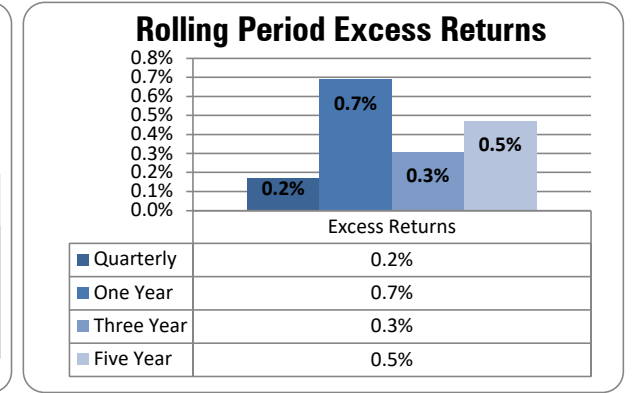
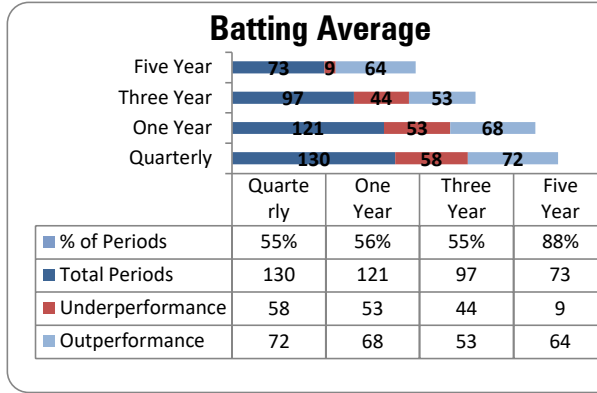
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## Risk Analysis



## Absolute Performance Summary



## Annualized Performance and Risk Statistics

	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
Vanguard Mid Cap Index Institutional	31.04%	8.92%	14.62%	16.78%	-1.22%
100% Columbia Mid Cap Index Inst	25.95%		16.95%	14.44%	-4.87%
<b>Latest Three Years</b>					
Vanguard Mid Cap Index Institutional	12.37%	4.60%	13.00%	16.78%	-15.47%
100% Columbia Mid Cap Index Inst	9.00%		14.70%	14.44%	-17.36%
<b>Latest Five Years</b>					
Vanguard Mid Cap Index Institutional	9.26%	1.49%	12.75%	16.78%	-15.47%
100% Columbia Mid Cap Index Inst	8.79%		13.94%	14.44%	-17.36%
<b>Latest Ten Years</b>					
Vanguard Mid Cap Index Institutional	13.09%	1.61%	13.92%	17.62%	-19.13%
100% Columbia Mid Cap Index Inst	12.49%		14.85%	18.49%	-19.87%

# Vanguard Mid Cap Index Admiral

VIMAX

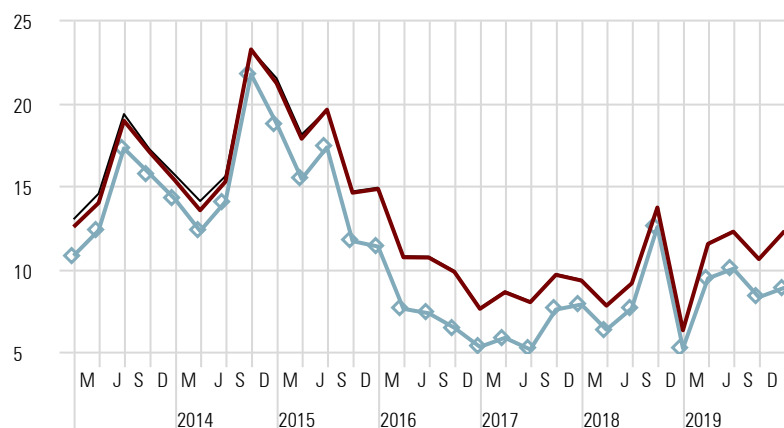
**Index:** CRSP US Mid Cap TR USD  
**Category:** US Fund Mid-Cap Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: CRSP US Mid Cap TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Mid Cap Index Admiral	31.0	31.0	12.4	9.3	13.1	9.4
CRSP US Mid Cap TR USD	31.1	31.1	12.4	9.3	13.3	9.4
US Fund Mid-Cap Blend	25.9	25.9	8.9	7.0	10.7	7.5

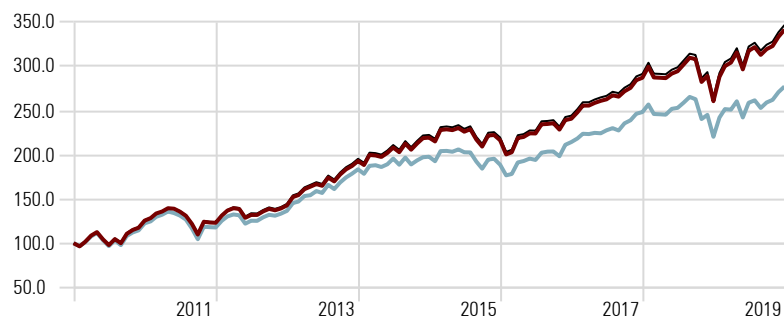
## Returns (Rolling 36 Months)



— Vanguard Mid Cap Index Admiral — CRSP US Mid Cap TR USD — US Fund Mid-Cap Blend

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



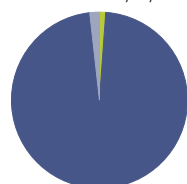
— Vanguard Mid Cap Index Admiral — CRSP US Mid Cap TR USD — US Fund Mid-Cap Blend

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.05	1.07	
Gross Expense Ratio	0.05	1.26	
LT Earn Growth	10.0	9.7	9.1
Avg Mkt Cap (\$MMM)	16.9	8.1	47.9
P/E Ratio	22.3	20.7	16.3
P/B Ratio	2.8	2.3	2.0
P/S Ratio	1.9	1.5	1.4
P/CF Ratio	13.3	12.0	10.5
ROE %	15.2	12.9	20.5
ROA %	5.4	5.1	7.2
Dividend Yld	1.6	1.7	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



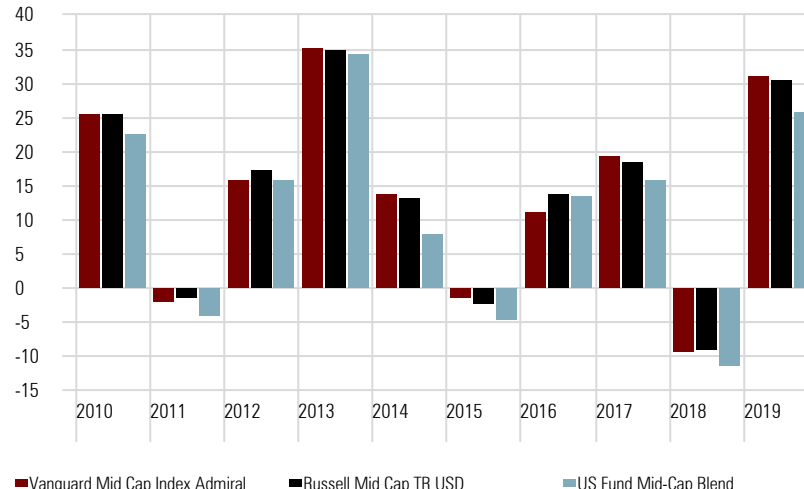
	%
Cash	1.1
US Equity	97.1
Non-US Equity	1.8
US Bond	-
Non-US Bond	0.0
Other	0.0

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: CRSP US Mid Cap TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Mid Cap Index Admiral	67.5	32.5	13.2	-9.9	16.8	-19.1	100.1	101.4
CRSP US Mid Cap TR USD	66.7	33.3	12.5	-9.9	16.8	-18.4	100.0	100.0
US Fund Mid-Cap Blend	64.2	35.8	13.5	-10.4	13.9	-20.4	95.5	108.7

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	13.0	-0.2	12.8	-0.1
Down Deviation	0.0	-1.8	0.0	-1.7
Beta	1.0	0.0	1.0	0.0
Alpha	0.0	3.1	0.0	2.0
Sharpe	0.8	0.3	0.6	0.2
Sortino	1.2	0.4	1.0	0.3
Info Ratio	-1.6	0.2	-1.6	-0.5
Down Capture	100.1	-9.8	100.1	-6.8
Up Capture	99.9	8.7	99.9	5.9

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
Newmont Corp	0.8	Energy	4	2
Centene Corp	0.8	Materials	6	7
Cmt Market Liquidity Rate	0.8	Industrials	13	17
TransDigm Group Inc	0.7	Cons Discretionary	11	11
WEC Energy Group Inc	0.7	Consumer Staples	3	4
ONEOK Inc	0.7	Healthcare	11	10
Motorola Solutions Inc	0.7	Financials	13	16
IHS Markit Ltd	0.7	Info Technology	17	15
Eversource Energy	0.7	Telecom Services	5	4
Amphenol Corp Class A	0.7	Utilities	7	5
		Real Estate %	8.6	9.4

# Mid Cap Value Search

As of 12/31/2019

# US Fund Mid-Cap Value

## TIAA-CREF Mid-Cap Value Instl

### Investment Strategy

The investment seeks a favorable long-term total return, mainly through capital appreciation, primarily from equity securities of medium-sized domestic companies. Under normal circumstances, the fund invests at least 80% of its assets in mid-cap equity securities. The fund will invest primarily in equity securities of medium-sized domestic companies, as defined by the fund's benchmark index (the Russell Midcap® Value Index) that the fund's investment adviser believes appear undervalued by the market based on an evaluation of their potential worth.

### Manager Biography

Evan Staples since 1/17/2020

David A. Chalupnik since 1/17/2020

### TIAA-CREF Mid-Cap Value Instl - Operations

Inception Date	10/1/2002
Fund Size (\$mm)	2,872
Annual Report Net Expense Ratio	0.40
Prospectus Net Expense Ratio	0.42
Prospectus Gross Expense Ratio	0.42
Ticker	TIMVX
Manager Tenure (Longest)	0.00
Manager Tenure (Average)	0.00
Morningstar Inst Cat	Mid Core Value

### Other Notes:

None

## Invesco American Value R6

### Investment Strategy

The investment seeks total return through growth of capital and current income. The fund invests, under normal circumstances, at least 80% of its net assets (plus any borrowings for investment purposes) in securities of U.S. issuers, and in derivatives and other instruments that have economic characteristics similar to such securities. It normally invests at least 65% of its net assets in equity securities of mid-capitalization companies. The fund may invest up to 20% of its net assets in real estate investment trusts (REITs).

### Manager Biography

Jeffrey Vancavage since 6/14/2016

### Invesco American Value R6 - Operations

Inception Date	9/24/2012
Fund Size (\$mm)	1,059
Annual Report Net Expense Ratio	0.78
Prospectus Net Expense Ratio	0.78
Prospectus Gross Expense Ratio	0.78
Ticker	MSAFX
Manager Tenure (Longest)	3.58
Manager Tenure (Average)	3.58
Morningstar Inst Cat	Mid Core Value

### Other Notes:

None

# Portfolio Analysis

## TIAA-CREF Mid-Cap Value Instl

## Invesco American Value R6

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth
Large	17	10	1
Mid	31	20	8
Small	7	4	3

Market Cap	%
Market Cap Giant %	1
Market Cap Large %	26
Market Cap Mid %	59
Market Cap Small %	14
Market Cap Micro %	0

### Style Allocation

Portfolio Date: 9/30/2019

	Value	Blend	Growth
Large	11	3	3
Mid	25	43	7
Small	3	4	0

Market Cap	%
Market Cap Giant %	0
Market Cap Large %	17
Market Cap Mid %	76
Market Cap Small %	7
Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell Mid Cap Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	10.2	13.0
Forward P/E	15.3	16.1
P/E Ratio (TTM)	17.3	18.5
LT Earn Growth	9.7	8.7
P/B Ratio (TTM)	1.7	2.0
Dividend Yield	2.2	2.4
ROE %	8.7	10.5
ROA %	2.2	3.7
Debt to Capital %	46	43

### Valuation Data

Display Benchmark 1: Russell Mid Cap Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	9.7	13.0
Forward P/E	14.0	16.1
P/E Ratio (TTM)	15.7	18.5
LT Earn Growth	9.9	8.7
P/B Ratio (TTM)	1.8	2.0
Dividend Yield	2.1	2.4
ROE %	13.7	10.5
ROA %	4.1	3.7
Debt to Capital %	43	43

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	81	
# of Stock Holdings	193	631
% in Top 10	13.1	6.7
Cash %	0.1	0.0
Developed %	98.9	99.4
US Equity %	96.3	98.8
Non-US Equity %	4	1
Emerging Mkt %	1.0	0.6

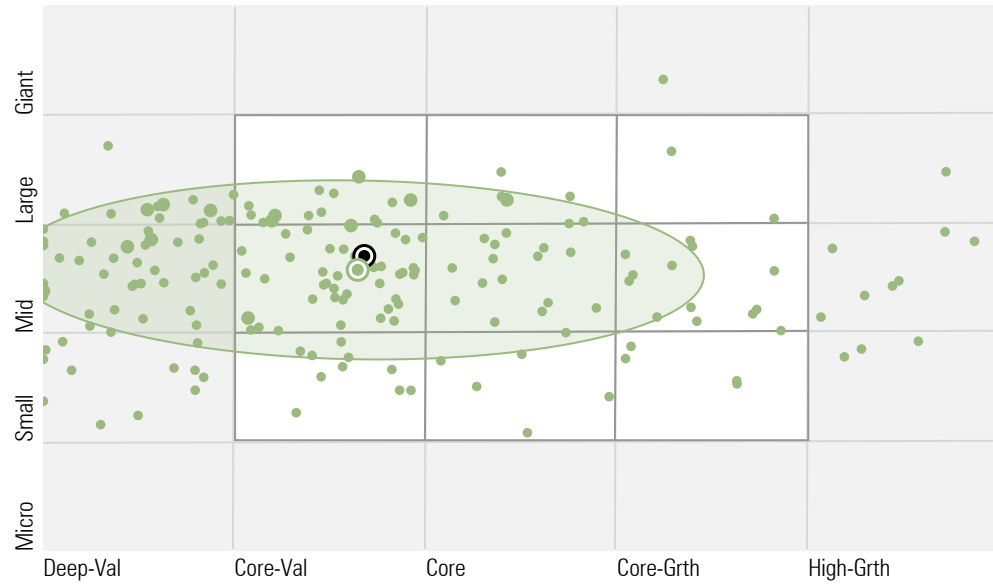
### Portfolio Data

	Inv	Bmk1
Turnover Ratio	38	
# of Stock Holdings	48	631
% in Top 10	27.7	6.7
Cash %	2.3	0.0
Developed %	96.2	99.4
US Equity %	96.2	98.8
Non-US Equity %	2	1
Emerging Mkt %	1.5	0.6

# Holdings-Based Style Analysis

## TIAA-CREF Mid-Cap Value Instl

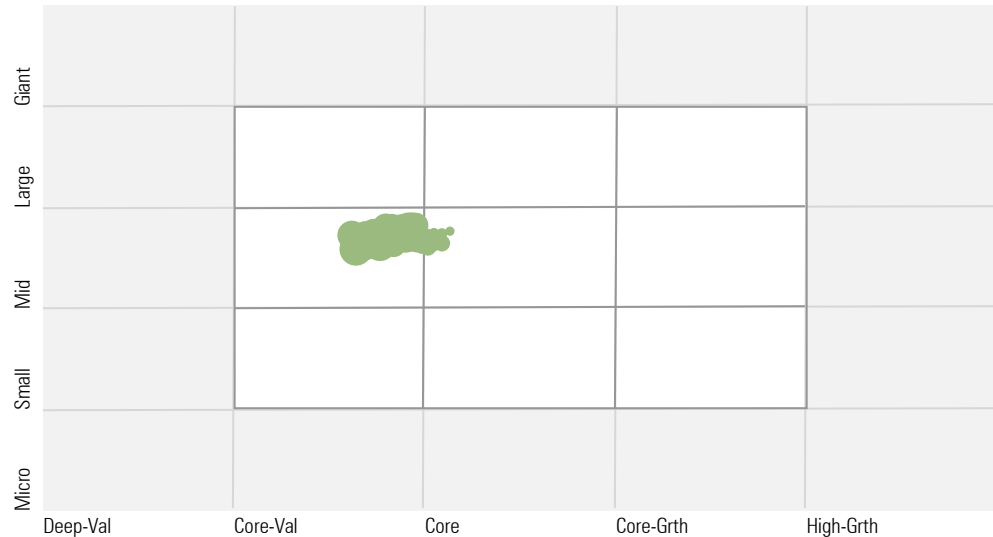
### Holdings-Based Style Map



● TIAA-CREF Mid-Cap Value Instl 11/30/2019 ● Russell Mid Cap Value TR USD 12/31/2019

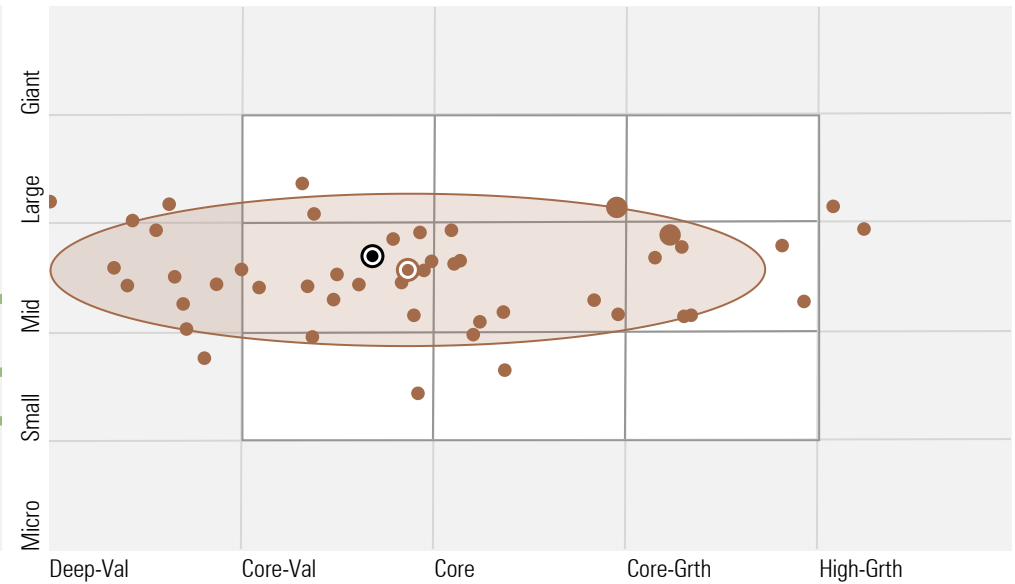
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



## Invesco American Value R6

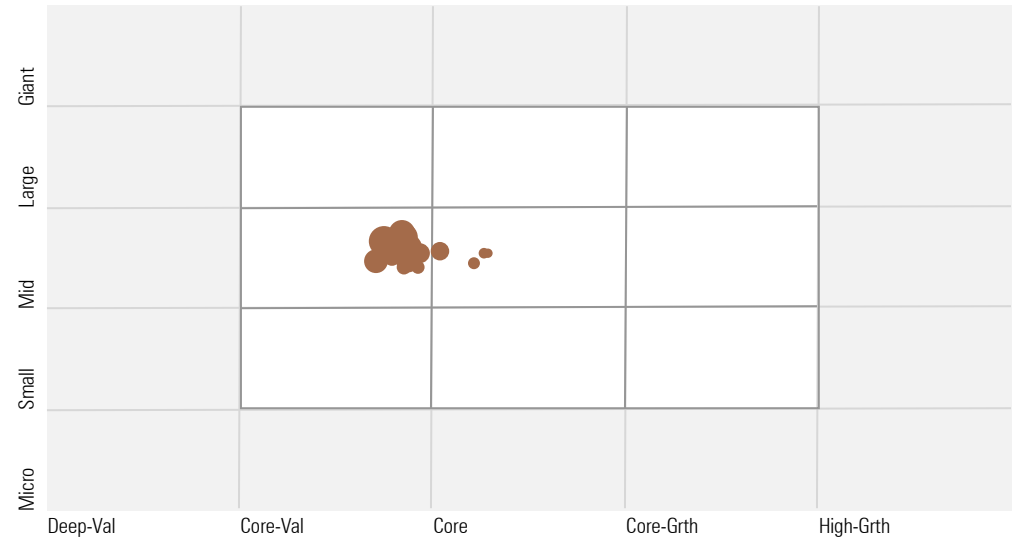
### Holdings-Based Style Map



● Invesco American Value R6 9/30/2019 ● Russell Mid Cap Value TR USD 12/31/2019

### Holdings-Based Style Trail

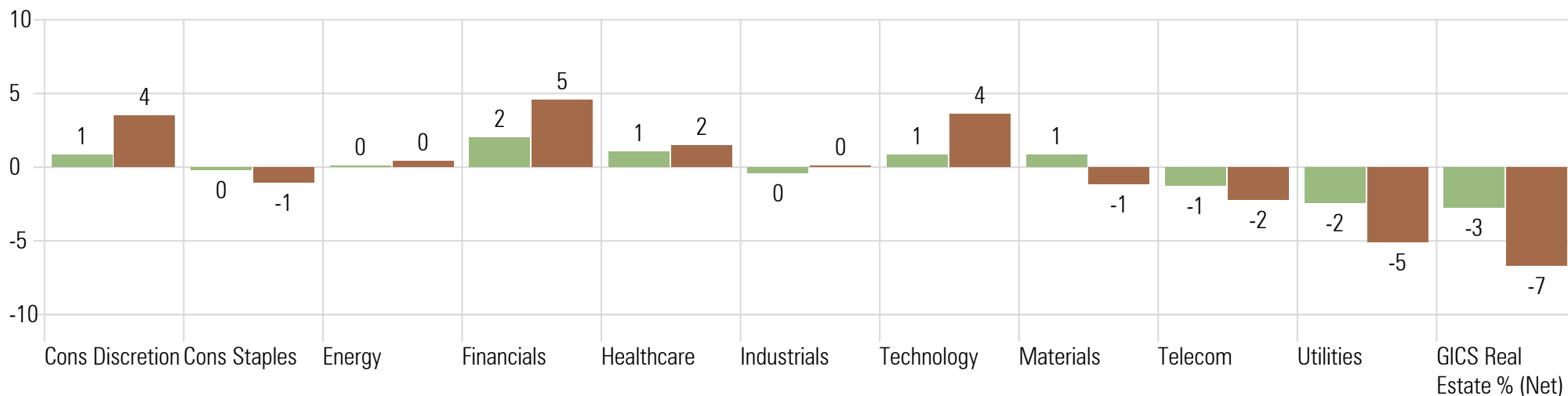
Time Period: 3/31/2015 to 9/30/2019



# Sector Exposure and Top 15 Holdings

## Relative Sector Allocation

Calculation Benchmark: Russell Mid Cap Value TR USD



TIAA-CREF Mid-Cap Value Instl

Invesco American Value R6

Russell Mid Cap Value TR USD

## TIAA-CREF Mid-Cap Value Instl - Top Holdings

Portfolio Date: 11/30/2019

Equity Style Box	Portfolio Weighting %
Zimmer Biomet Holdings Inc	1.7
FirstEnergy Corp	1.6
Ameriprise Financial Inc	1.6
Citizens Financial Group Inc	1.5
Cummins Inc	1.2
Western Digital Corp	1.2
AvalonBay Communities Inc	1.1
McKesson Corp	1.1
Sempra Energy	1.1
The Hartford Financial Services Group Inc	1.0
Bunge Ltd	1.0
Crane Co	1.0
DTE Energy Co	1.0
Alliant Energy Corp	1.0
NXP Semiconductors NV	1.0

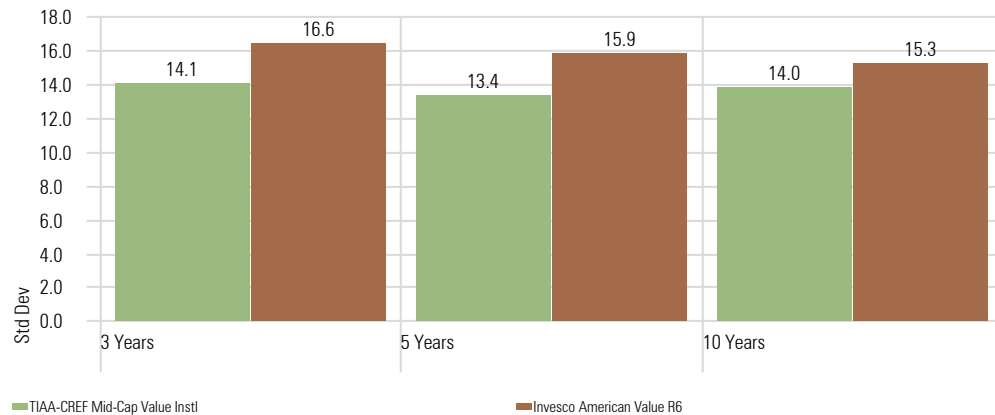
## Invesco American Value R6 - Top Holdings

Portfolio Date: 9/30/2019

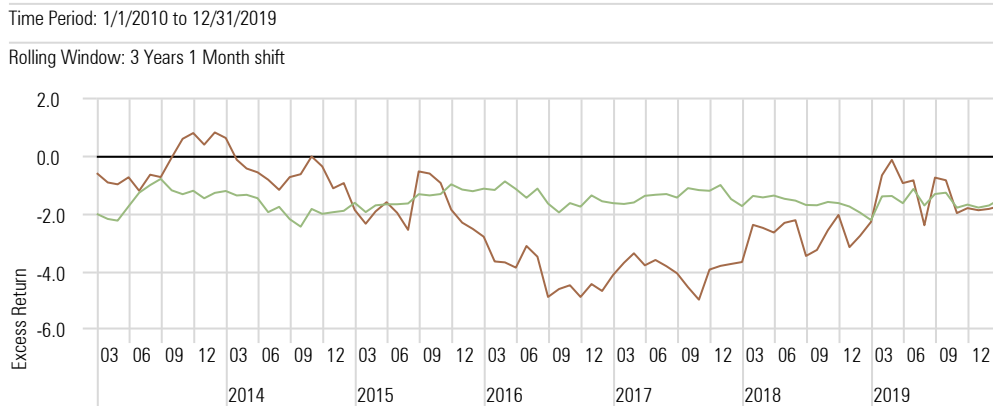
Equity Style Box	Portfolio Weighting %
Arthur J. Gallagher & Co	3.1
Willis Towers Watson PLC	3.1
Keysight Technologies Inc	2.8
Encompass Health Corp	2.7
Liberty Property Trust	2.7
KLA Corp	2.7
Knight-Swift Transportation Holdings Inc A	2.7
Johnson Controls International PLC	2.7
Textron Inc	2.6
Ciena Corp	2.6
The Kroger Co	2.6
Centene Corp	2.5
W R Grace & Co	2.4
Hudson Pacific Properties Inc	2.4
Norwegian Cruise Line Holdings Ltd	2.4

# Risk/Return Performance Analysis

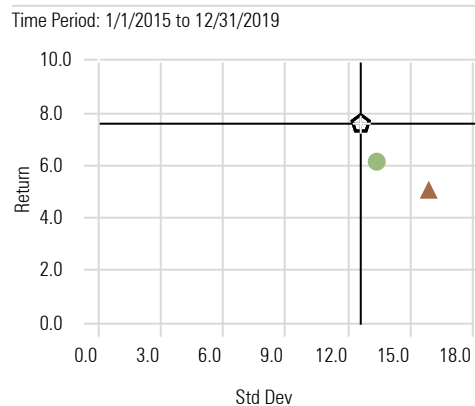
## Standard Deviation



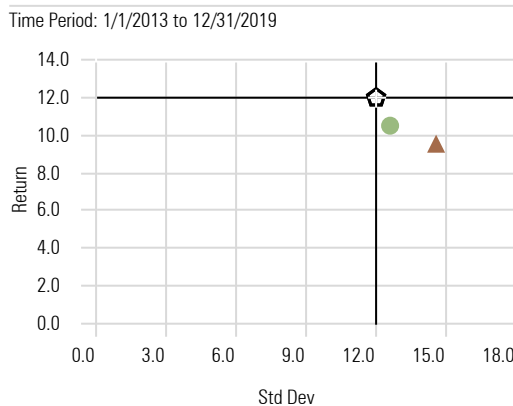
## 3 Year Relative Rolling Returns



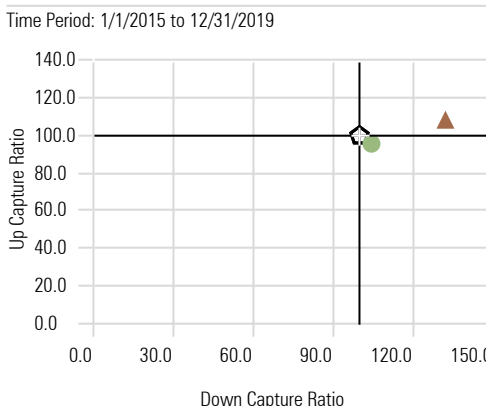
## 5 Year Risk-Reward



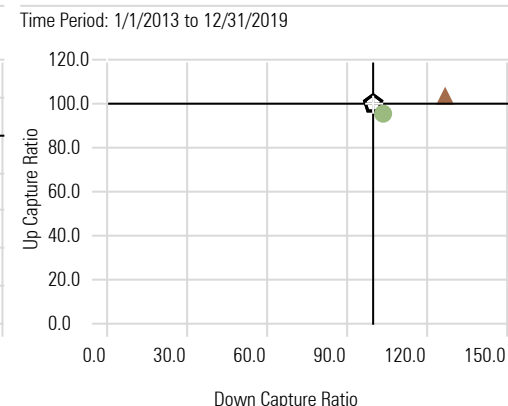
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● TIAA-CREF Mid-Cap Value Instl

● Invesco American Value R6

◻ Russell Mid Cap Value TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (10/1/2012) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
TIAA-CREF Mid-Cap Value Instl	10.7	12.4	-1.6	1.03	98	14.7	-17.3	0.80	2.0
Invesco American Value R6	9.6	14.3	-3.7	1.15	91	13.9	-18.9	0.62	4.7
Russell Mid Cap Value TR USD	12.2	11.8	0.0	1.00	100	14.4	-15.0	0.96	0.0



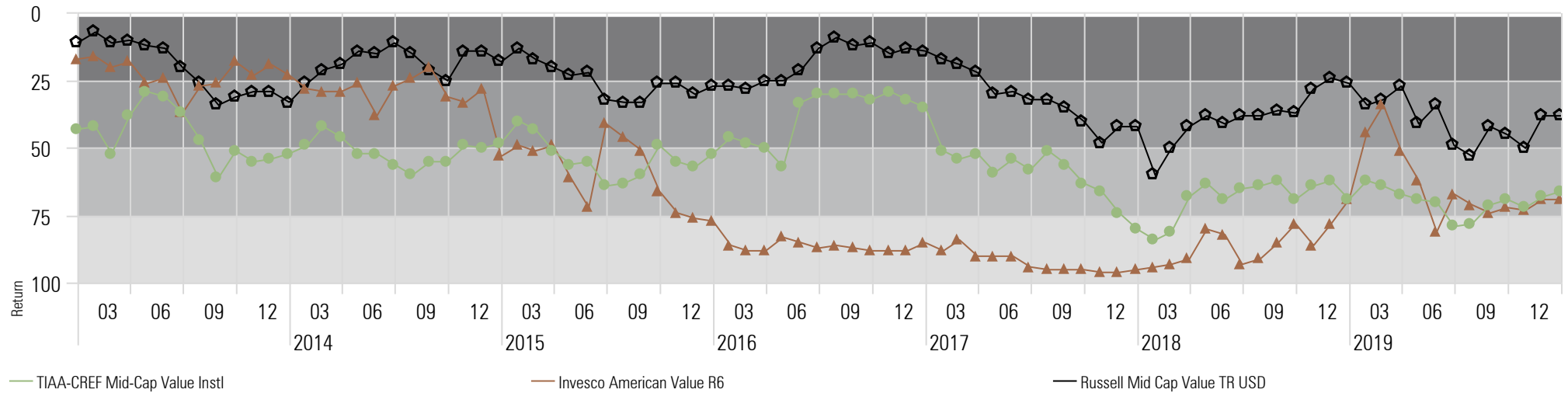
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

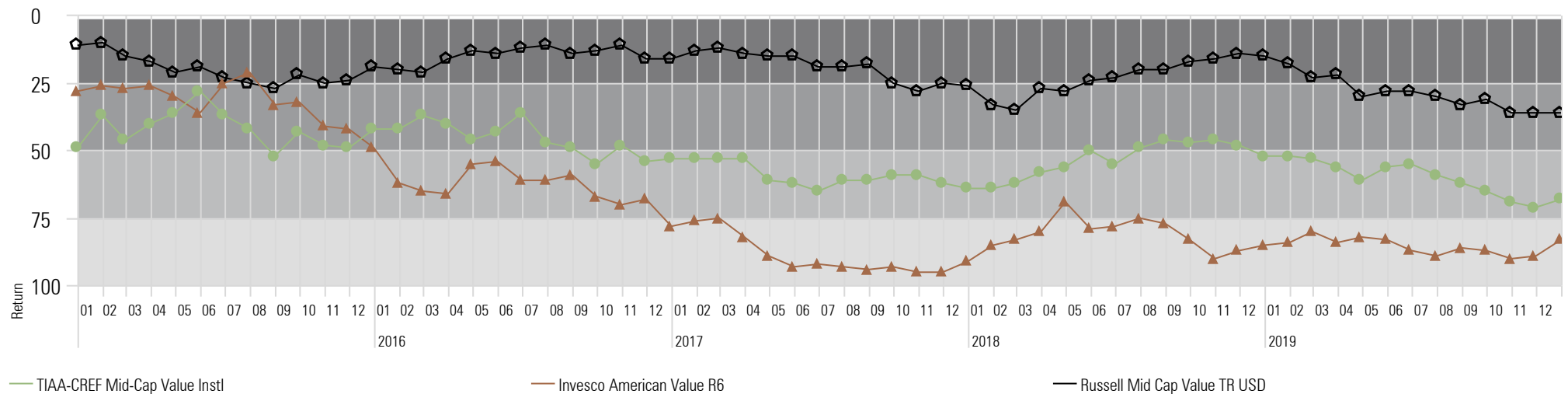


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

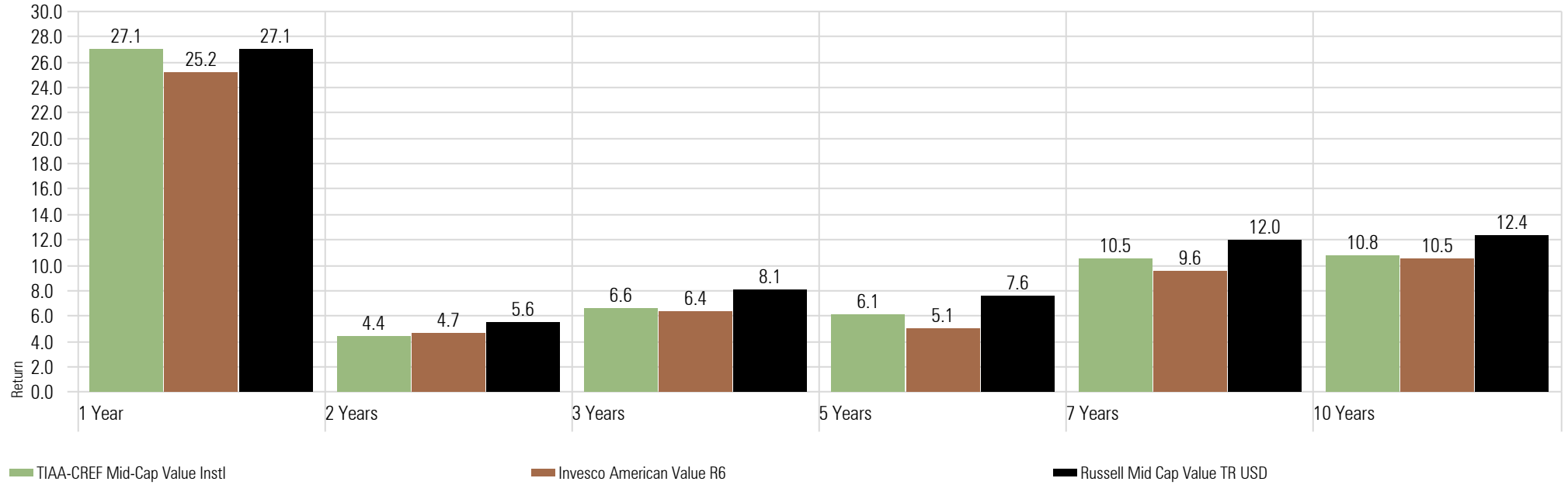
Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

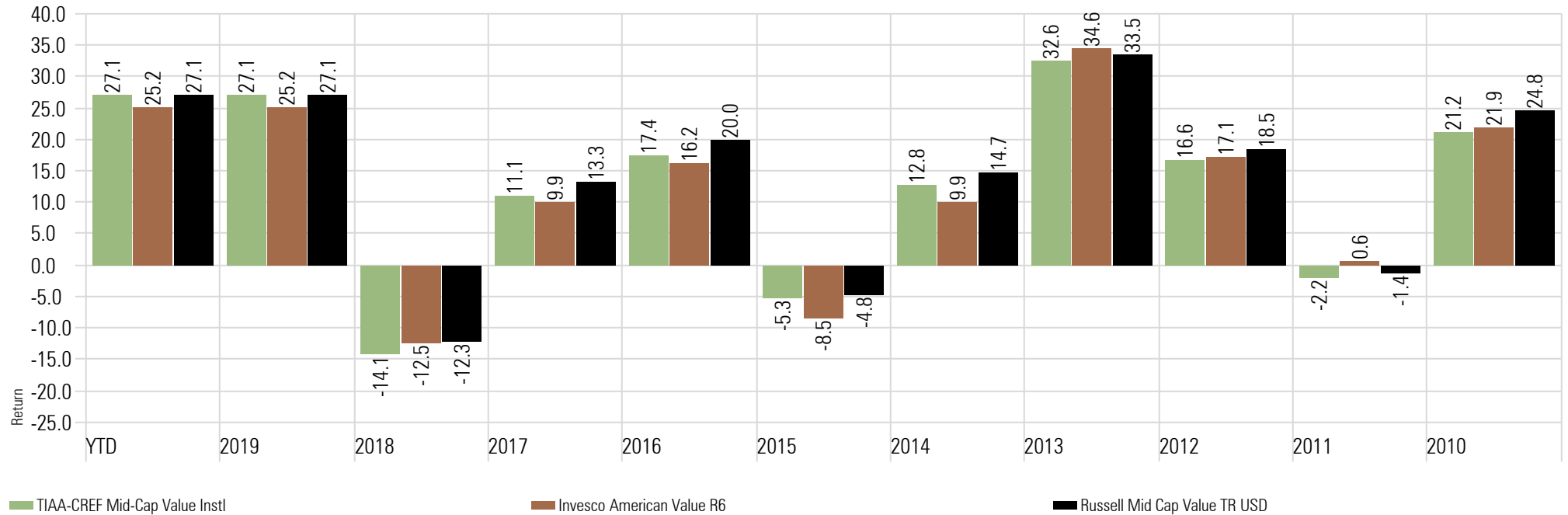


# Trailing Performance

## Cumulative Returns



## Annual Returns



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Mid-Cap Value</b>																		
TIAA-CREF Mid-Cap Value Instl	7.2	<b>42</b>	0.83	27.1	<b>45</b>	-0.01	27.1	<b>45</b>	-0.01	6.6	<b>66</b>	-1.48	6.1	<b>68</b>	-1.48	10.8	<b>53</b>	-1.63
Invesco American Value R6	8.2	<b>19</b>	1.87	25.2	<b>65</b>	-1.89	25.2	<b>65</b>	-1.89	6.4	<b>69</b>	-1.71	5.1	<b>83</b>	-2.55	10.5	<b>62</b>	-1.89
Russell Mid Cap Value TR USD	6.4			27.1			27.1			8.1			7.6			12.4		
Average	7.0			26.0			26.0			7.3			6.9			10.9		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Mid-Cap Value</b>																					
TIAA-CREF Mid-Cap Value Instl	27.1	<b>45</b>	-0.01	-14.1	<b>56</b>	-1.86	11.1	<b>80</b>	-2.22	17.4	<b>54</b>	-2.59	-5.3	<b>61</b>	-0.57	12.8	<b>22</b>	-1.90	32.6	<b>68</b>	-0.90
Invesco American Value R6	25.2	<b>65</b>	-1.89	-12.5	<b>35</b>	-0.21	9.9	<b>87</b>	-3.41	16.2	<b>63</b>	-3.77	-8.5	<b>87</b>	-3.76	9.9	<b>48</b>	-4.82	34.6	<b>49</b>	1.15
Russell Mid Cap Value TR USD	27.1			-12.3			13.3			20.0			-4.8			14.7			33.5		
Average	26.0			-13.7			13.6			18.4			-4.6			9.7			34.9		

Fund Name	Comparative Index/Fund
TIAA-CREF Mid-Cap Value Instl	100% Invesco American Value R6

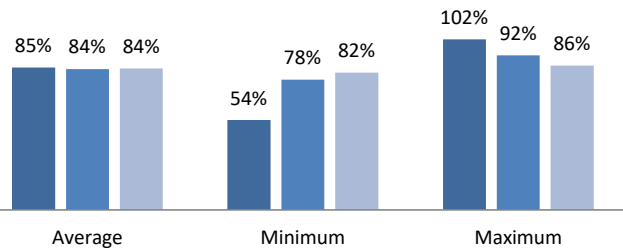
Home

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## Risk Analysis

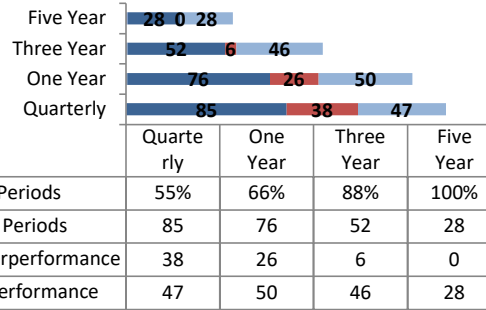
### Relative Standard Deviation

■ 1yr Std Deviation ■ 3yr Std Deviation ■ 5yr Std Deviation

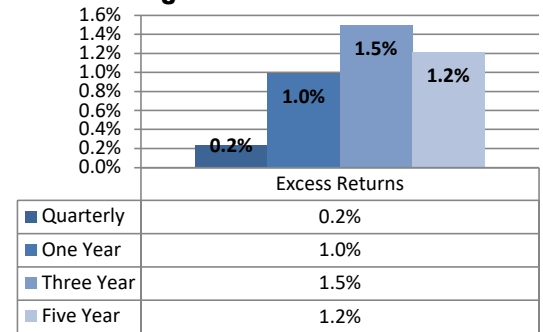


## Absolute Performance Summary

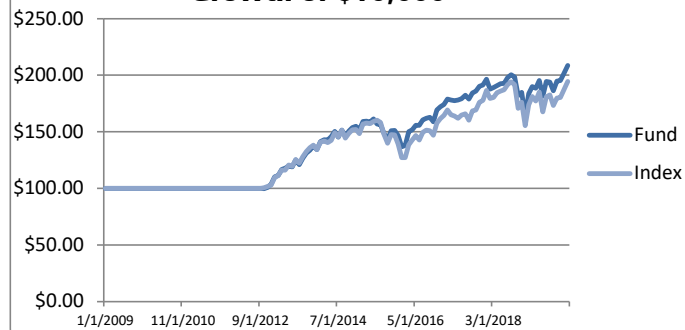
### Batting Average



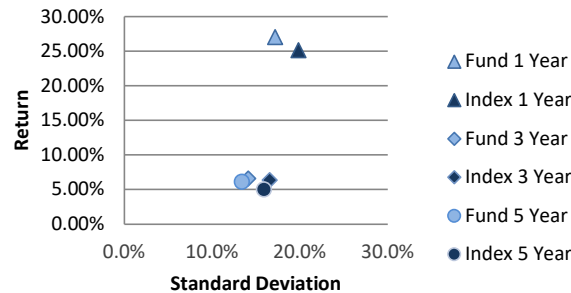
### Rolling Period Excess Returns



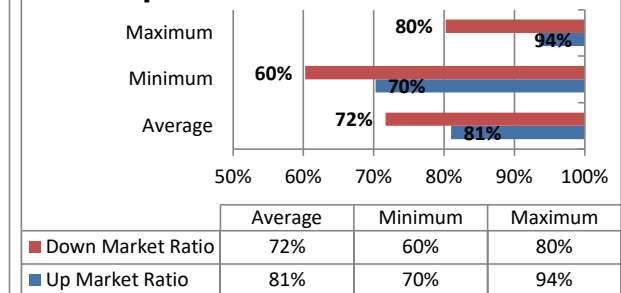
### Growth of \$10,000



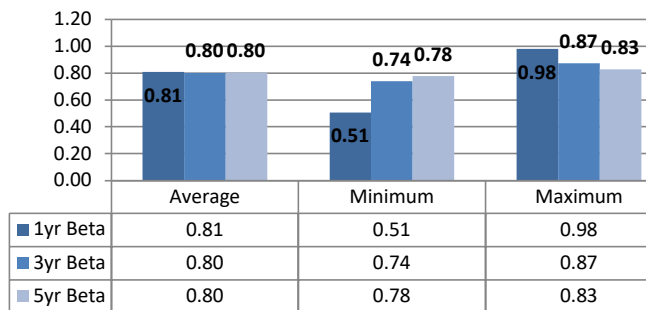
### Current Risk/Return Profile



### Up/Down Market Performance



### Beta



## Annualized Performance and Risk Statistics

	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
TIAA-CREF Mid-Cap Value Instl	27.05%	5.53%	17.17%	14.69%	-4.39%
100% Invesco American Value R6	25.17%		19.84%	13.89%	-7.46%
<b>Latest Three Years</b>					
TIAA-CREF Mid-Cap Value Instl	6.62%	1.32%	14.10%	14.69%	-17.25%
100% Invesco American Value R6	6.39%		16.56%	13.89%	-18.90%
<b>Latest Five Years</b>					
TIAA-CREF Mid-Cap Value Instl	6.14%	2.01%	13.39%	14.69%	-17.25%
100% Invesco American Value R6	5.06%		15.89%	15.26%	-18.90%
<b>Latest Ten Years</b>					
TIAA-CREF Mid-Cap Value Instl				14.69%	-17.25%
100% Invesco American Value R6				15.26%	-18.90%

# TIAA-CREF Mid-Cap Value Instl

TIMVX

Index: Russell Mid Cap Value TR USD

Category: US Fund Mid-Cap Value

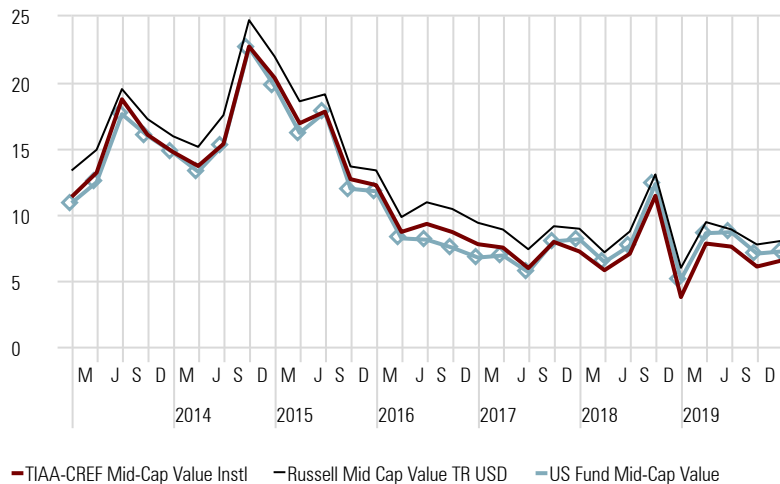
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell Mid Cap Value TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Mid-Cap Value Instl	27.1	27.1	6.6	6.1	10.8	8.2
Russell Mid Cap Value TR USD	27.1	27.1	8.1	7.6	12.4	8.8
US Fund Mid-Cap Value	24.8	24.8	7.3	6.6	10.7	7.6

## Returns (Rolling 36 Months)

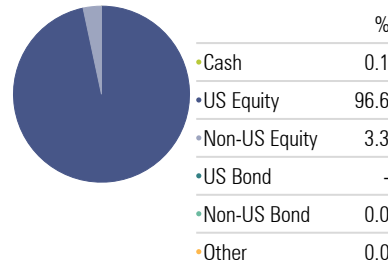


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.42	1.09	
Gross Expense Ratio	0.42	1.44	
LT Earn Growth	10.2	8.6	9.1
Avg Mkt Cap (\$MMM)	10.3	10.7	47.9
P/E Ratio	17.8	15.6	16.3
P/B Ratio	1.8	1.7	2.0
P/S Ratio	1.2	0.9	1.4
P/CF Ratio	10.0	8.1	10.5
ROE %	9.1	12.8	20.5
ROA %	2.3	3.8	7.2
Dividend Yld	2.1	2.2	2.8

## Asset Allocation

Portfolio Date: 12/31/2019

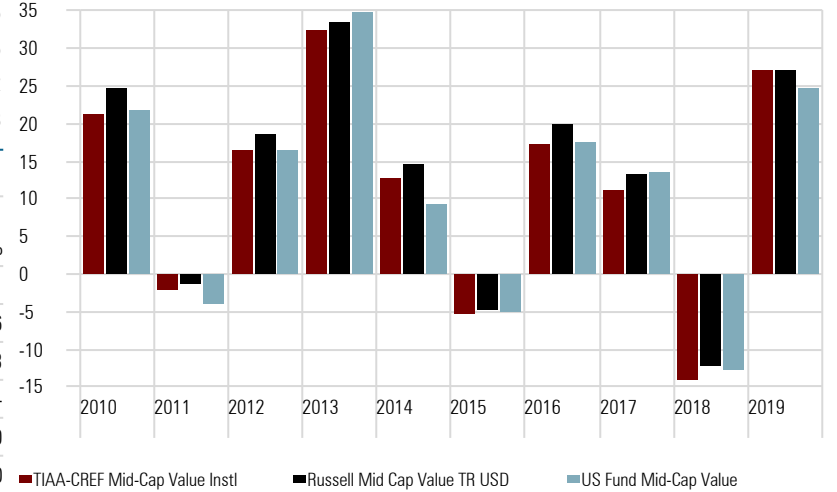


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell Mid Cap Value TR USD

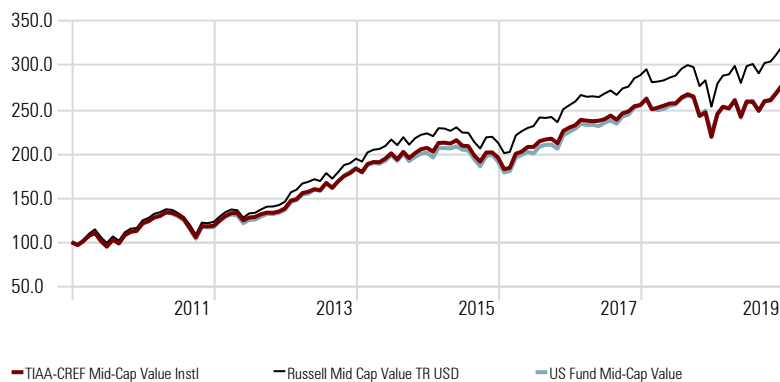
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Mid-Cap Value Instl	68.3	31.7	12.0	-11.2	14.7	-19.2	95.4	102.6
Russell Mid Cap Value TR USD	69.2	30.8	12.6	-10.5	14.4	-18.5	100.0	100.0
US Fund Mid-Cap Value	65.8	34.2	12.8	-10.6	12.9	-19.6	97.1	106.0

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	14.1	0.4	13.4	0.1
Down Deviation	1.7	0.4	1.7	0.1
Beta	1.1	0.0	1.0	0.0
Alpha	-1.8	-0.8	-1.6	-0.5
Sharpe	0.3	-0.1	0.4	0.0
Sortino	0.6	-0.1	0.6	-0.1
Info Ratio	-0.7	-0.2	-0.7	-0.2
Down Capture	105.7	-1.5	104.3	-2.2
Up Capture	96.8	-4.1	95.8	-3.7

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
Zimmer Biomet Holdings Inc	1.7	Energy	7	5
FirstEnergy Corp	1.6	Materials	8	7
Citizens Financial Group Inc	1.5	Industrials	11	14
Ameriprise Financial Inc	1.5	Cons Discretionary	10	12
Western Digital Corp	1.5	Consumer Staples	5	5
Cummins Inc	1.2	Healthcare	8	8
AvalonBay Communities Inc	1.1	Financials	20	21
Sempra Energy	1.1	Info Technology	9	9
Concho Resources Inc	1.1	Telecom Services	3	3
Bunge Ltd	1.0	Utilities	9	7
		Real Estate %	10.7	8.3

# Small Growth Search

As of 12/31/2019



# US Fund Small Growth

## AB Small Cap Growth Z

### Investment Strategy

The investment seeks long-term growth of capital. The fund invests primarily in a diversified portfolio of equities with relatively smaller capitalizations as compared to the overall U.S. market. It invests at least 80% of its net assets in equities of smaller companies. For these purposes, "smaller companies" are those that, at the time of investment, fall within the lowest 20% of the total U.S. equity market capitalization (excluding, for purposes of this calculation, companies with market capitalizations of less than \$10 million). The fund may invest in any company and industry and in any type of equity security with potential for capital appreciation.

### Manager Biography

Bruce K. Aronow since 12/31/2000

Samantha S. Lau since 12/31/2004

Wen-Tse Tseng since 3/31/2006

Heather Pavlak since 10/31/2019

Esteban Gomez since 10/31/2019

### AB Small Cap Growth Z - Operations

Inception Date	6/30/2015
Fund Size (\$mm)	2,444
Annual Report Net Expense Ratio	0.81
Prospectus Net Expense Ratio	0.83
Prospectus Gross Expense Ratio	0.83
Ticker	QUAZX
Manager Tenure (Longest)	19.08
Manager Tenure (Average)	9.70
Morningstar Inst Cat	Small High Growth

### Other Notes:

None

## AB Small Cap Growth I

### Investment Strategy

The investment seeks long-term growth of capital. The fund invests primarily in a diversified portfolio of equities with relatively smaller capitalizations as compared to the overall U.S. market. It invests at least 80% of its net assets in equities of smaller companies. For these purposes, "smaller companies" are those that, at the time of investment, fall within the lowest 20% of the total U.S. equity market capitalization (excluding, for purposes of this calculation, companies with market capitalizations of less than \$10 million). The fund may invest in any company and industry and in any type of equity security with potential for capital appreciation.

### Manager Biography

Bruce K. Aronow since 12/31/2000

Samantha S. Lau since 12/31/2004

Wen-Tse Tseng since 3/31/2006

Heather Pavlak since 10/31/2019

Esteban Gomez since 10/31/2019

### AB Small Cap Growth I - Operations

Inception Date	3/1/2005
Fund Size (\$mm)	2,444
Annual Report Net Expense Ratio	0.90
Prospectus Net Expense Ratio	0.91
Prospectus Gross Expense Ratio	0.91
Ticker	QUAIX
Manager Tenure (Longest)	19.08
Manager Tenure (Average)	9.70
Morningstar Inst Cat	Small High Growth

### Other Notes:

None

## Lord Abbett Developing Growth I

### Investment Strategy

The investment seeks long-term growth of capital through a diversified and actively managed portfolio consisting of developing growth companies, many of which are traded over the counter. The fund invests in equity securities of companies that the portfolio management team believes demonstrate above-average, long-term growth potential. Under normal conditions, the fund invests at least 65% of its net assets in equity securities of small companies. It may invest up to 10% of its net assets in securities of foreign companies, including emerging market companies, American Depositary Receipts ("ADRs"), and other similar depositary receipts.

### Manager Biography

F. Thomas O'Halloran since 12/31/2001

Matthew R. DeCicco since 12/1/2017

Vernon T Bice since 12/1/2018

### Lord Abbett Developing Growth I - Operations

Inception Date	12/30/1997
Fund Size (\$mm)	1,921
Annual Report Net Expense Ratio	0.69
Prospectus Net Expense Ratio	0.69
Prospectus Gross Expense Ratio	0.69
Ticker	LADYX
Manager Tenure (Longest)	18.08
Manager Tenure (Average)	7.08
Morningstar Inst Cat	Small High Growth

### Other Notes:

None

# Portfolio Analysis

## AB Small Cap Growth Z

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
				Market Cap Large %	1
Mid	1	5	47	Market Cap Mid %	52
				Market Cap Small %	46
Small	1	9	36	Market Cap Micro %	2

## AB Small Cap Growth I

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
				Market Cap Large %	1
Mid	1	5	47	Market Cap Mid %	52
				Market Cap Small %	46
Small	1	9	36	Market Cap Micro %	2

## Lord Abbett Developing Growth I

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
				Market Cap Large %	1
Mid	0	11	48	Market Cap Mid %	55
				Market Cap Small %	44
Small	2	10	29	Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell 2000 Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	3.5	2.3
Forward P/E	29.1	20.9
P/E Ratio (TTM)	29.4	25.0
LT Earn Growth	13.5	13.2
P/B Ratio (TTM)	5.0	4.1
Dividend Yield	0.3	0.8
ROE %	-0.6	5.0
ROA %	-2.8	-2.0
Debt to Capital %	31	38

### Valuation Data

Display Benchmark 1: Russell 2000 Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	3.5	2.3
Forward P/E	29.1	20.9
P/E Ratio (TTM)	29.4	25.0
LT Earn Growth	13.5	13.2
P/B Ratio (TTM)	5.0	4.1
Dividend Yield	0.3	0.8
ROE %	-0.6	5.0
ROA %	-2.8	-2.0
Debt to Capital %	31	38

### Valuation Data

Display Benchmark 1: Russell 2000 Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	3.8	2.3
Forward P/E	27.6	20.9
P/E Ratio (TTM)	29.3	25.0
LT Earn Growth	13.9	13.2
P/B Ratio (TTM)	5.9	4.1
Dividend Yield	0.2	0.8
ROE %	-5.4	5.0
ROA %	-4.3	-2.0
Debt to Capital %	30	38

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	70	
# of Stock Holdings	101	1,172
% in Top 10	16.5	5.3
Cash %	4.0	0.0
Developed %	95.4	100.0
US Equity %	95.2	98.9
Non-US Equity %	1	1
Emerging Mkt %	0.5	0.0

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	70	
# of Stock Holdings	101	1,172
% in Top 10	16.5	5.3
Cash %	4.0	0.0
Developed %	95.4	100.0
US Equity %	95.2	98.9
Non-US Equity %	1	1
Emerging Mkt %	0.5	0.0

### Portfolio Data

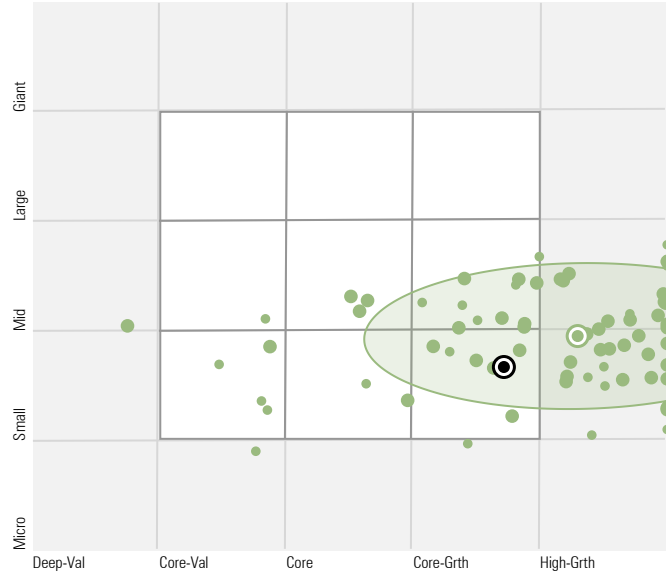
	Inv	Bmk1
Turnover Ratio	88	
# of Stock Holdings	95	1,172
% in Top 10	20.4	5.3
Cash %	0.0	0.0
Developed %	99.4	100.0
US Equity %	95.9	98.9
Non-US Equity %	4	1
Emerging Mkt %	0.6	0.0



# Holdings-Based Style Analysis

## AB Small Cap Growth Z

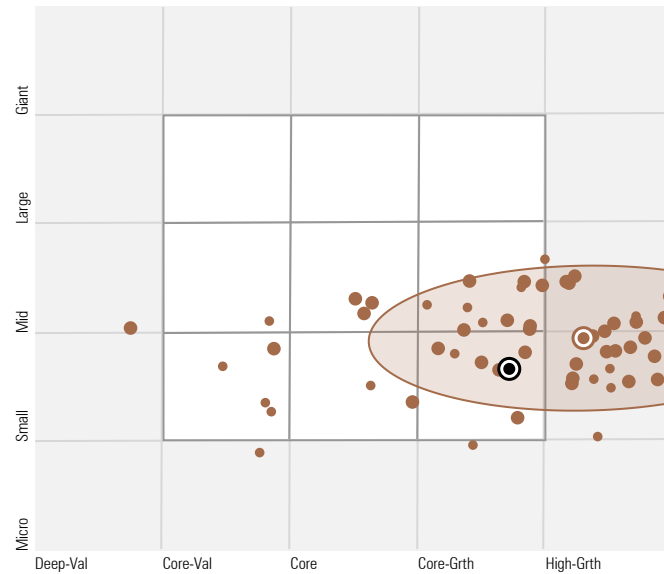
### Holdings-Based Style Map



● AB Small Cap Growth Z 11/30/2019 ● Russell 2000 Growth TR USD 12/31/2019

## AB Small Cap Growth I

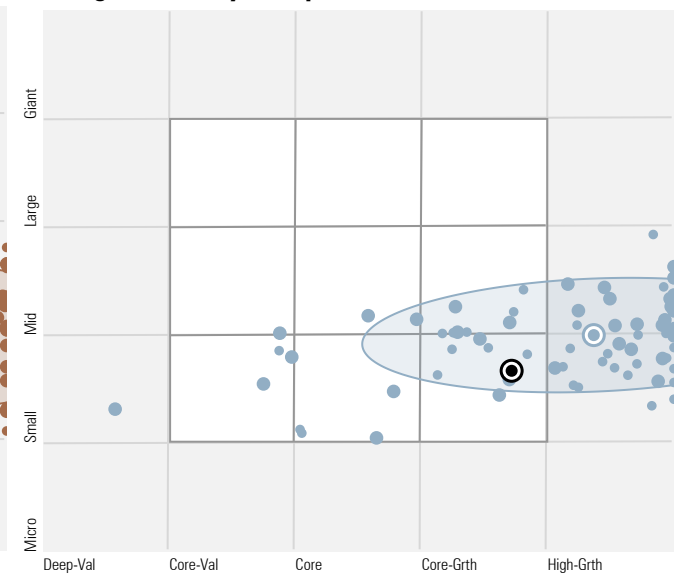
### Holdings-Based Style Map



● AB Small Cap Growth I 11/30/2019 ● Russell 2000 Growth TR USD 12/31/2019

## Lord Abbett Developing Growth I

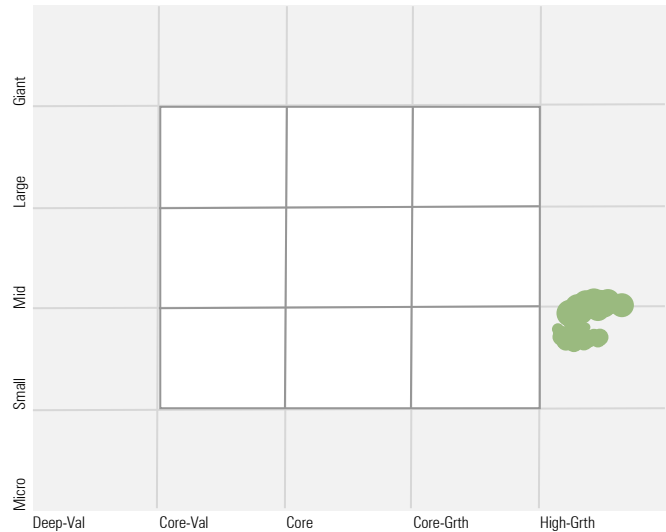
### Holdings-Based Style Map



● Lord Abbett Developing Growth I 11/30/2019 ● Russell 2000 Growth TR USD 12/31/2019

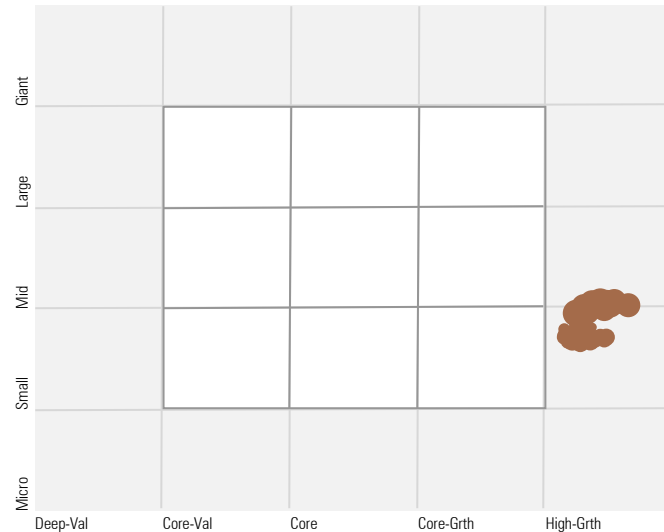
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



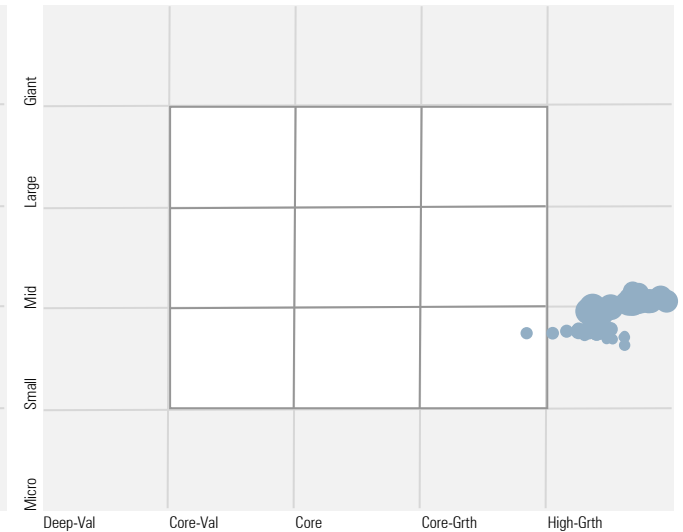
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



### Holdings-Based Style Trail

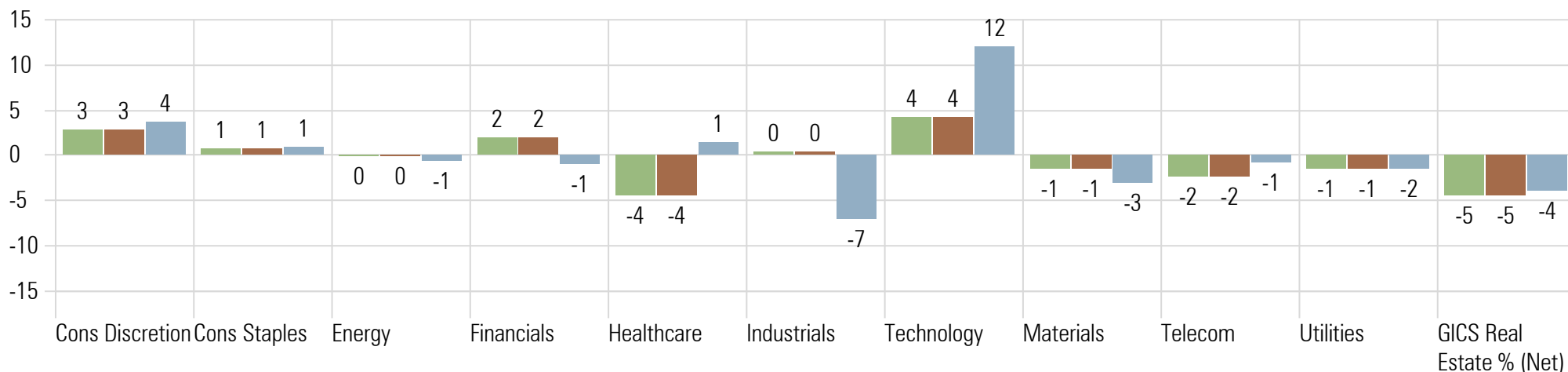
Time Period: 3/31/2015 to 11/30/2019



# Sector Exposure and Top 15 Holdings

## Relative Sector Allocation

Calculation Benchmark: Russell 2000 Growth TR USD



AB Small Cap Growth Z  
 Russell 2000 Growth TR USD

AB Small Cap Growth I

Lord Abbett Developing Growth I

### AB Small Cap Growth Z - Top Holdings

Portfolio Date: 11/30/2019

Equity Style Box	Portfolio Weighting %
Teladoc Health Inc	1.9
Axon Enterprise Inc	1.8
Silicon Laboratories Inc	1.8
LHC Group Inc	1.7
Chegg Inc	1.7
iShares Russell 2000 Growth ETF	1.6
Five9 Inc	1.6
Mercury Systems Inc	1.5
Planet Fitness Inc A	1.5
Freshpet Inc	1.5
Trupanion Inc	1.5
Novanta Inc	1.4
Tetra Tech Inc	1.4
The Chefs' Warehouse Inc	1.4
Bright Horizons Family Solutions Inc	1.4

### AB Small Cap Growth I - Top Holdings

Portfolio Date: 11/30/2019

Equity Style Box	Portfolio Weighting %
Teladoc Health Inc	1.9
Axon Enterprise Inc	1.8
Silicon Laboratories Inc	1.8
LHC Group Inc	1.7
Chegg Inc	1.7
iShares Russell 2000 Growth ETF	1.6
Five9 Inc	1.6
Mercury Systems Inc	1.5
Planet Fitness Inc A	1.5
Freshpet Inc	1.5
Trupanion Inc	1.5
Novanta Inc	1.4
Tetra Tech Inc	1.4
The Chefs' Warehouse Inc	1.4
Bright Horizons Family Solutions Inc	1.4

### Lord Abbett Developing Growth I - Top Holdings

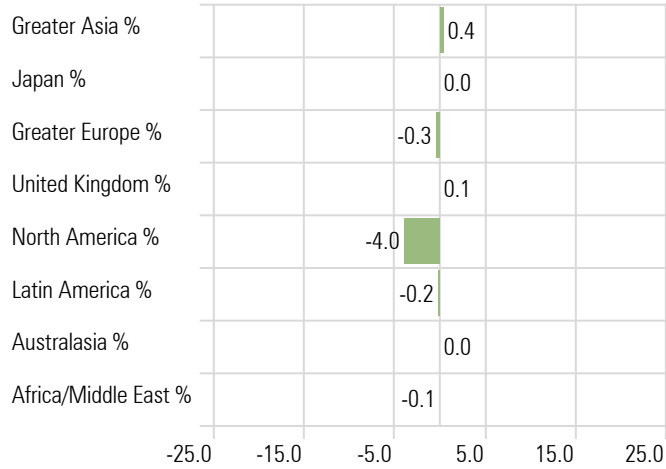
Portfolio Date: 11/30/2019

Equity Style Box	Portfolio Weighting %
Generac Holdings Inc	2.9
Repligen Corp	2.4
Inspire Medical Systems Inc	2.2
YETI Holdings Inc	2.0
Nevro Corp	2.0
Inphi Corp	2.0
Five9 Inc	1.8
Coherus BioSciences Inc	1.7
Paylocity Holding Corp	1.7
Planet Fitness Inc A	1.7
Blueprint Medicines Corp	1.6
Penumbra Inc	1.5
Chegg Inc	1.5
Verra Mobility Corp Class A	1.5
Bright Horizons Family Solutions Inc	1.5

# International Exposure

## AB Small Cap Growth Z

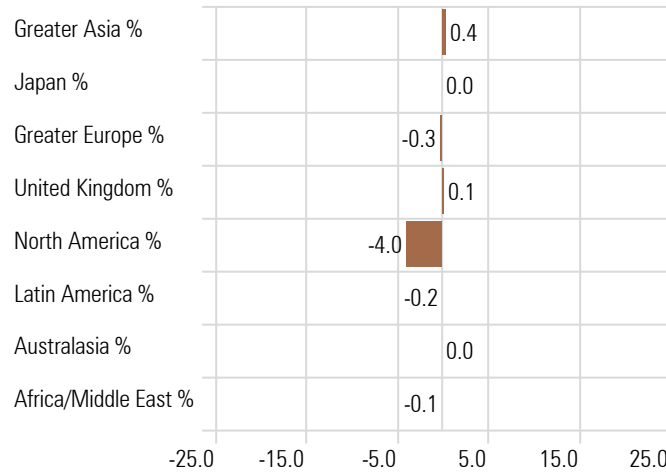
### Regional Allocation +/- Index



■ AB Small Cap Growth Z ■ Russell 2000 Growth TR USD

## AB Small Cap Growth I

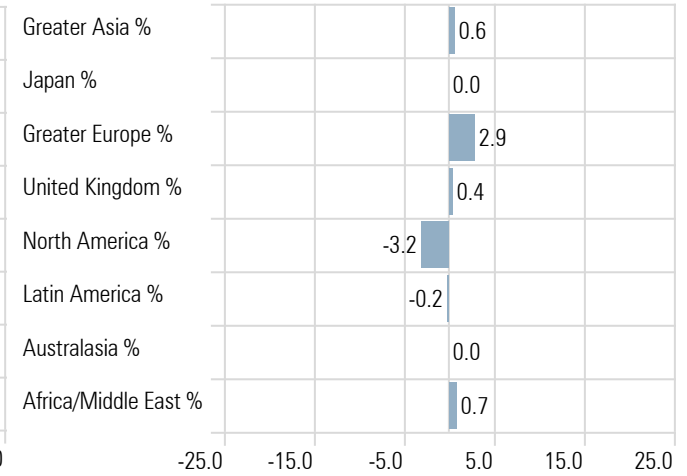
### Regional Allocation +/- Index



■ AB Small Cap Growth I ■ Russell 2000 Growth TR USD

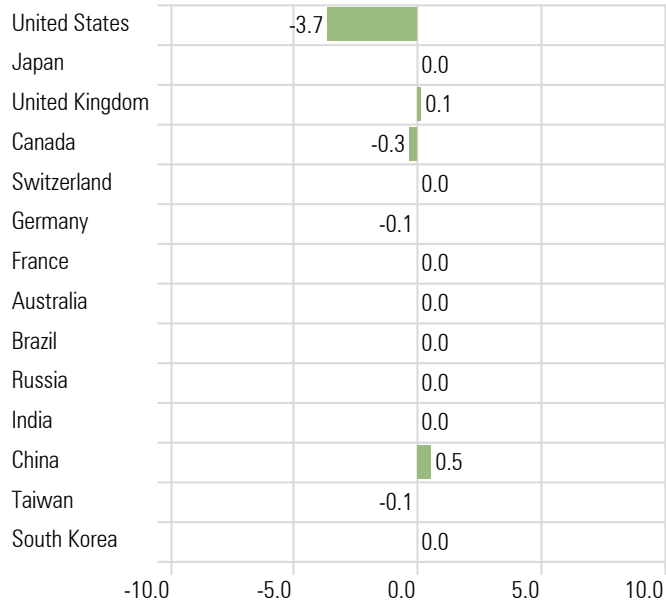
## Lord Abbett Developing Growth I

### Regional Allocation +/- Index



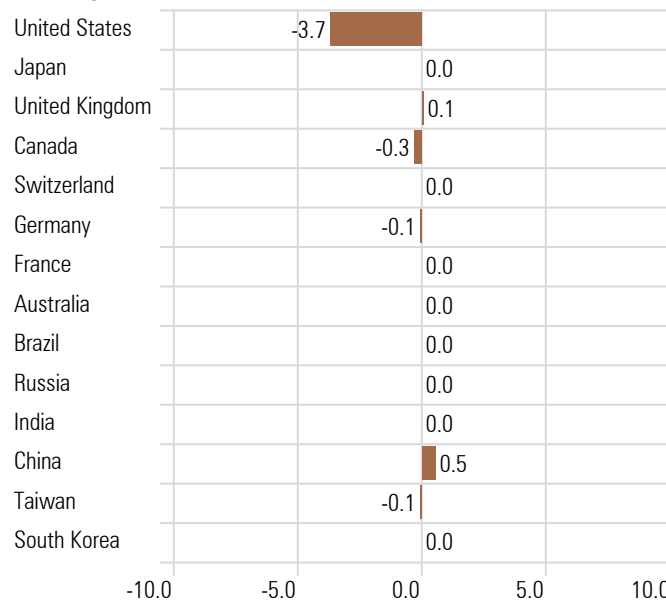
■ Lord Abbett Developing Growth I ■ Russell 2000 Growth TR USD

### Country Allocation +/- Index



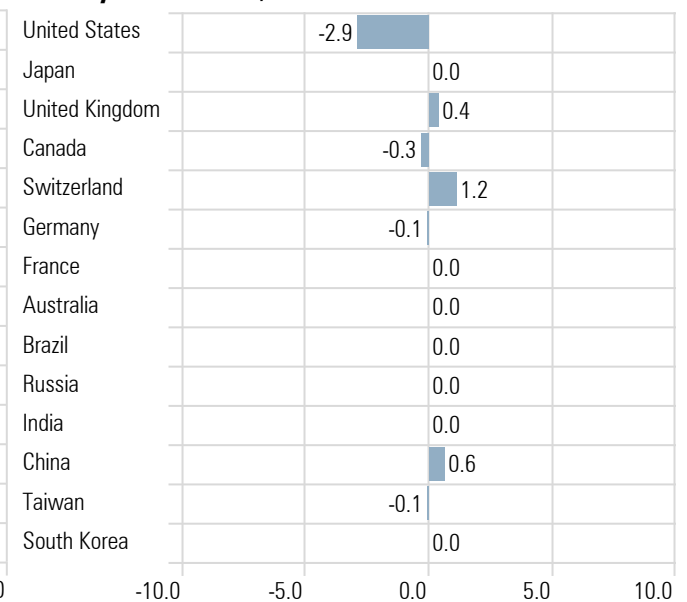
■ AB Small Cap Growth Z ■ Russell 2000 Growth TR USD

### Country Allocation +/- Index



■ AB Small Cap Growth I ■ Russell 2000 Growth TR USD

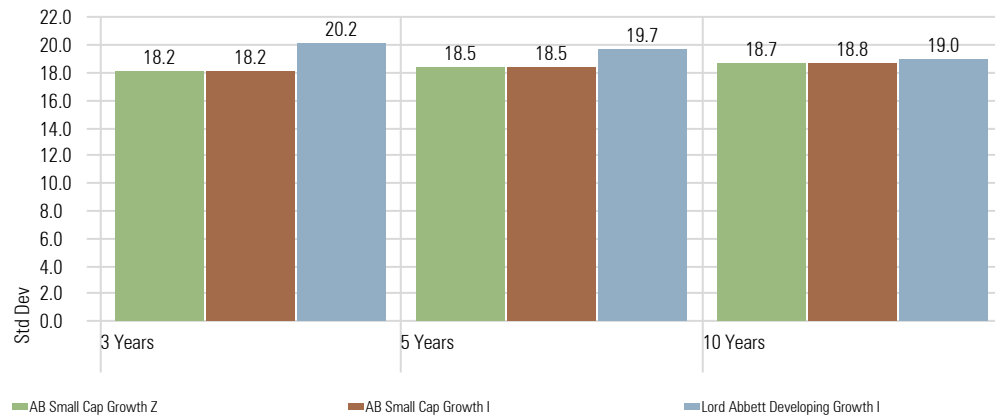
### Country Allocation +/- Index



■ Lord Abbett Developing Growth I ■ Russell 2000 Growth TR USD

# Risk/Return Performance Analysis

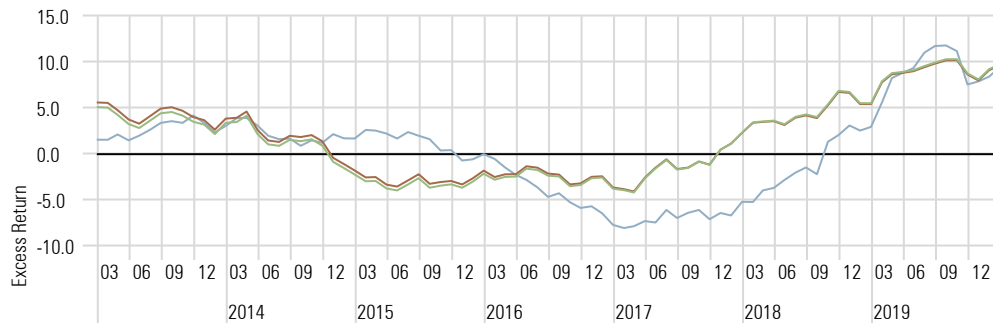
## Standard Deviation



## 3 Year Relative Rolling Returns

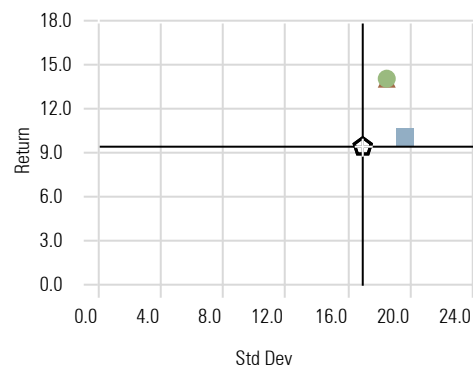
Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift



## 5 Year Risk-Reward

Time Period: 1/1/2015 to 12/31/2019

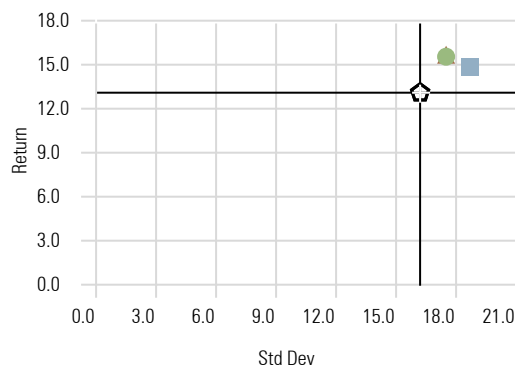


● AB Small Cap Growth Z

◊ Russell 2000 Growth TR USD

## 7 Year Risk-Reward

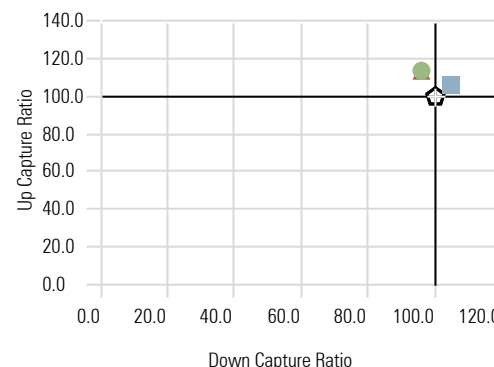
Time Period: 1/1/2013 to 12/31/2019



● AB Small Cap Growth I

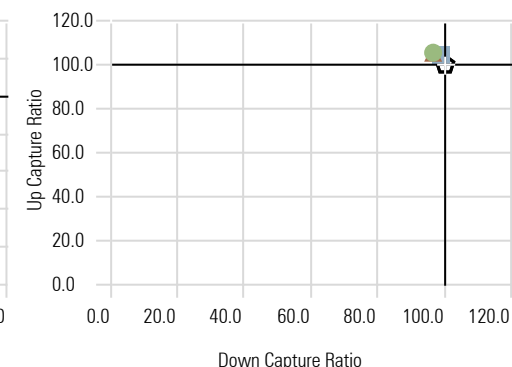
## 5 Year Market Capture

Time Period: 1/1/2015 to 12/31/2019



## 7 Year Market Capture

Time Period: 1/1/2013 to 12/31/2019



● Lord Abbett Developing Growth I

## Annualized Performance & Risk Statistics - Since Common Inception

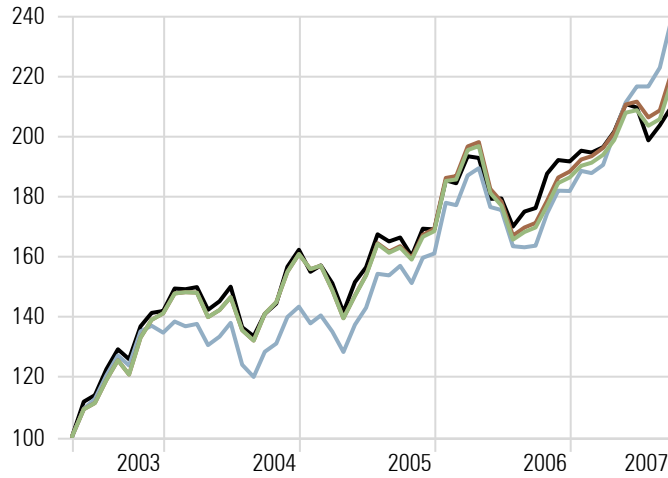
Time Period: Since Common Inception (11/1/1973) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
AB Small Cap Growth Z	11.7	23.1				36.7	-28.8	0.30	
AB Small Cap Growth I	11.8	23.1				36.7	-28.8	0.30	
Lord Abbett Developing Growth I	11.0	21.7				36.1	-28.5	0.28	
Russell 2000 Growth TR USD									

# Time Period Performance Analysis

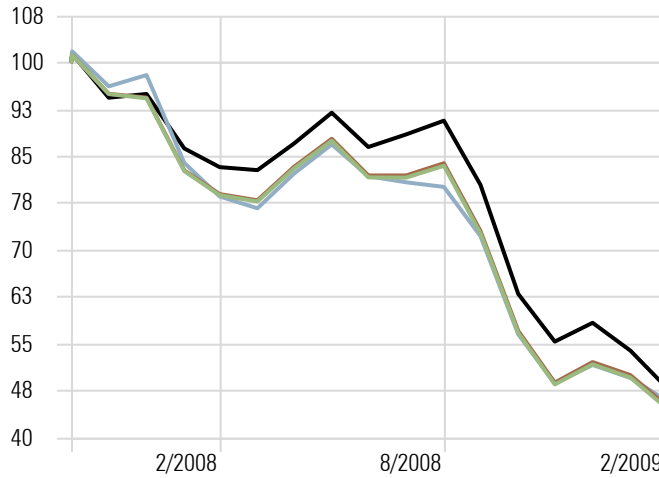
## Credit Buildup - Housing and Oil Boom

Time Period: 4/30/2003 to 9/30/2007



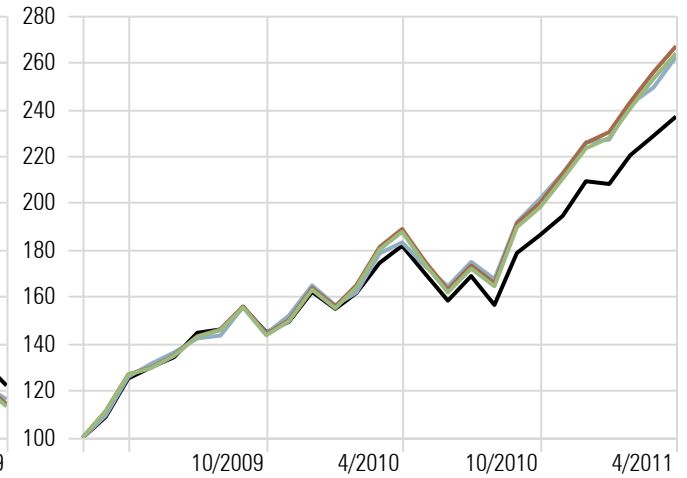
## Credit Crunch - Financial Crisis

Time Period: 10/31/2007 to 2/28/2009



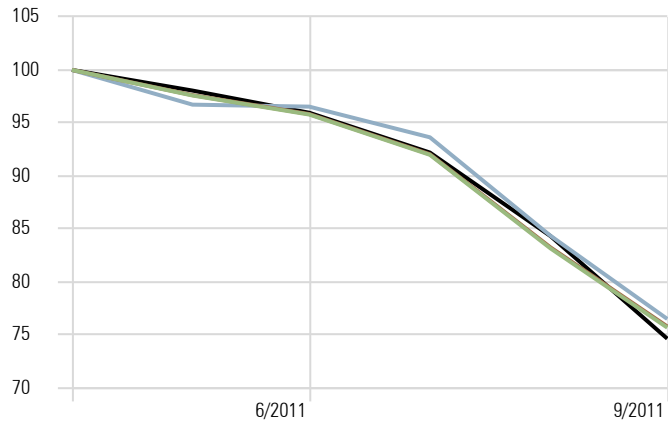
## Financial Crisis Recovery - QE1&2

Time Period: 3/1/2009 to 4/30/2011



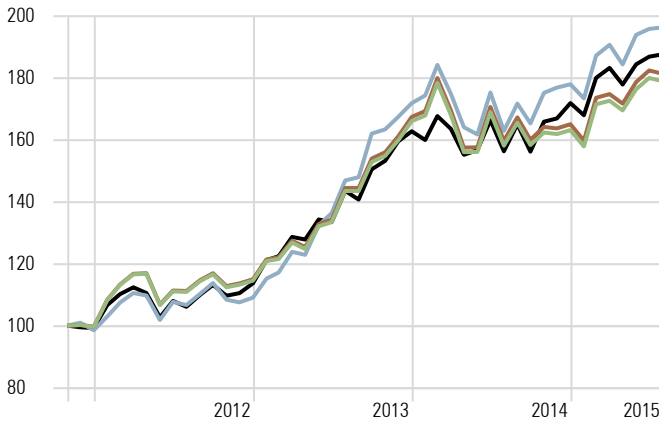
## Double Dip

Time Period: 5/1/2011 to 9/30/2011



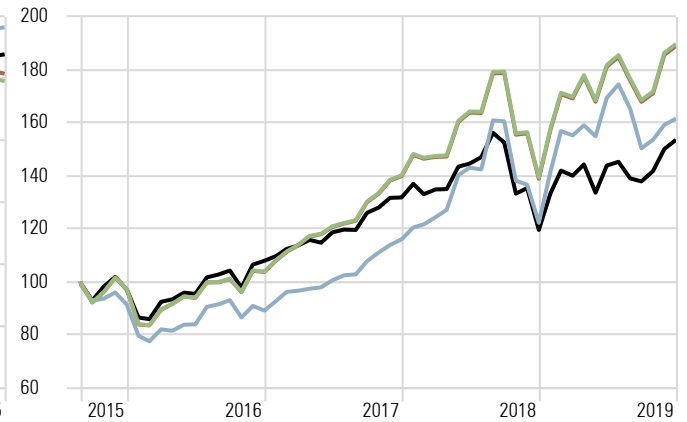
## US Recovery Continues - Global Markets Lag

Time Period: 11/1/2011 to 7/31/2015



## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



● AB Small Cap Growth Z  
 ◻ Russell 2000 Growth TR USD

● AB Small Cap Growth I

● Lord Abbett Developing Growth I

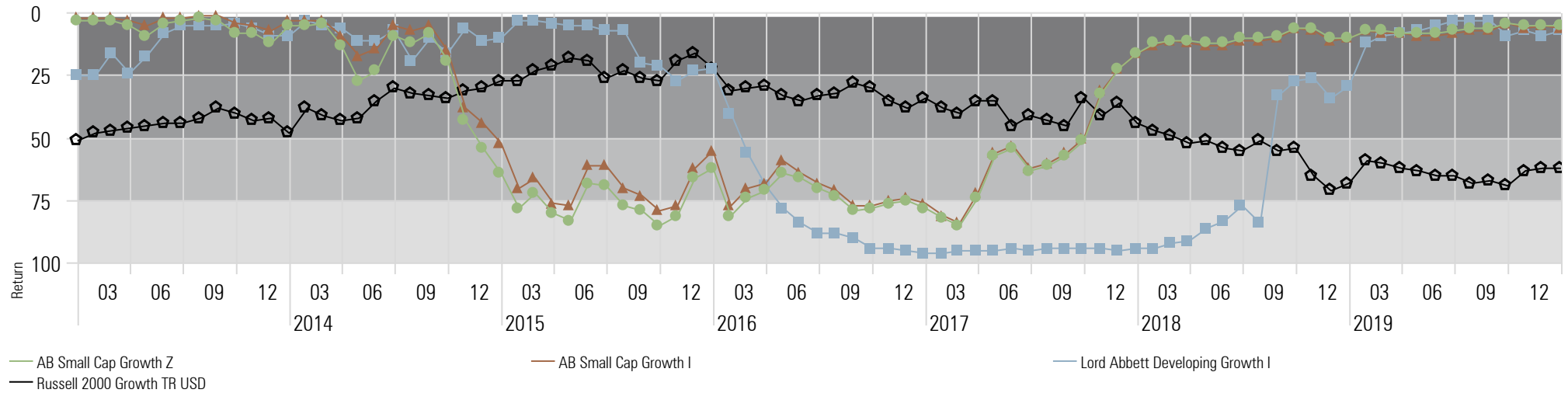
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile   26th to Median   51st to 75th Percentile   76th to 100th Percentile

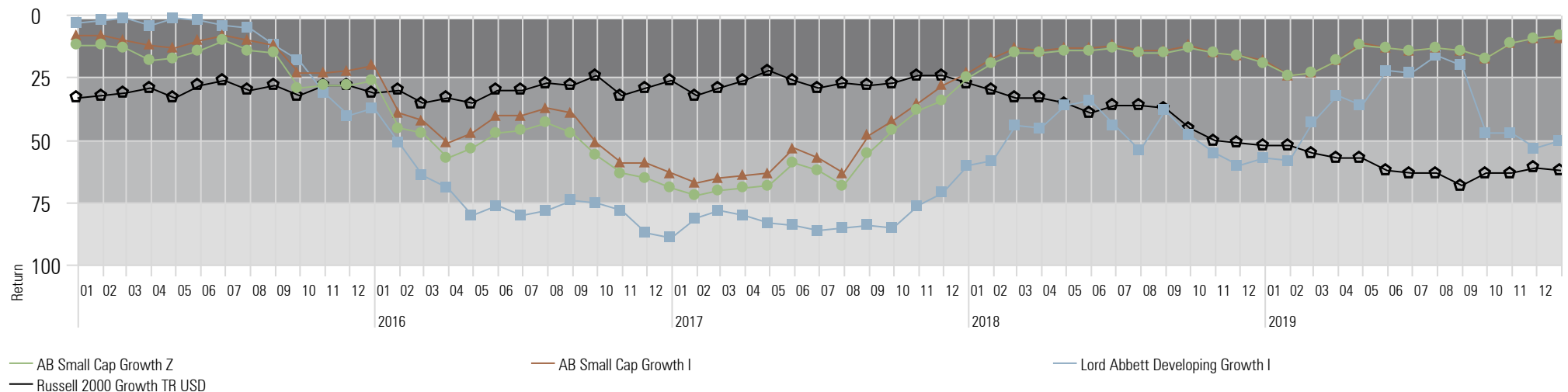


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

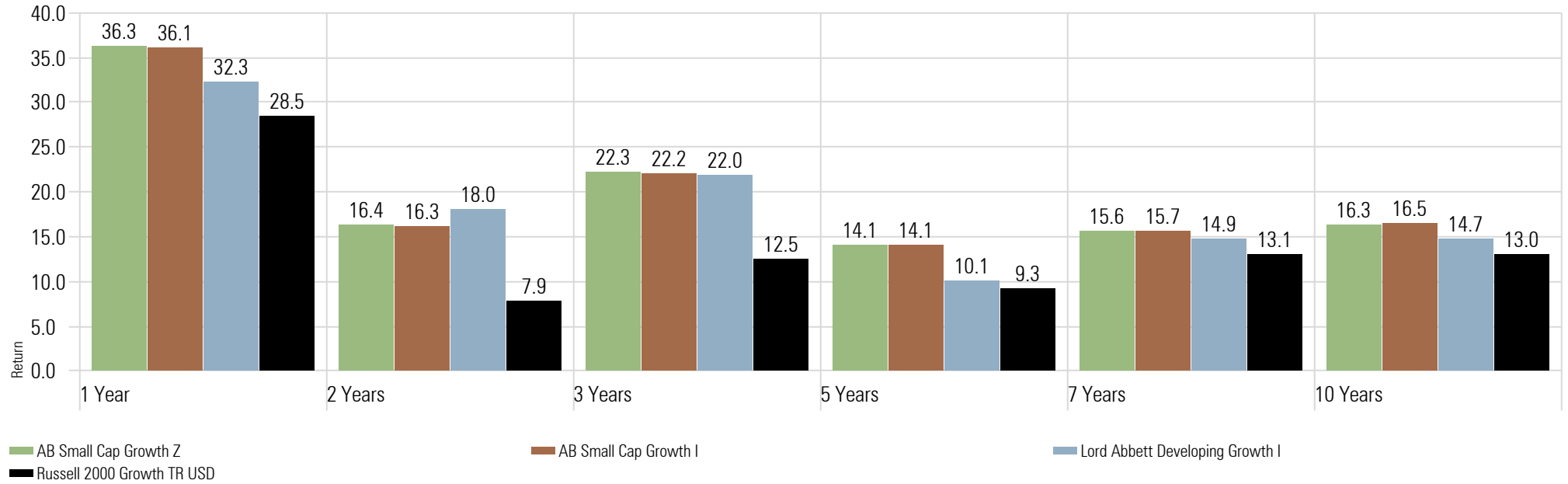
Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile   26th to Median   51st to 75th Percentile   76th to 100th Percentile

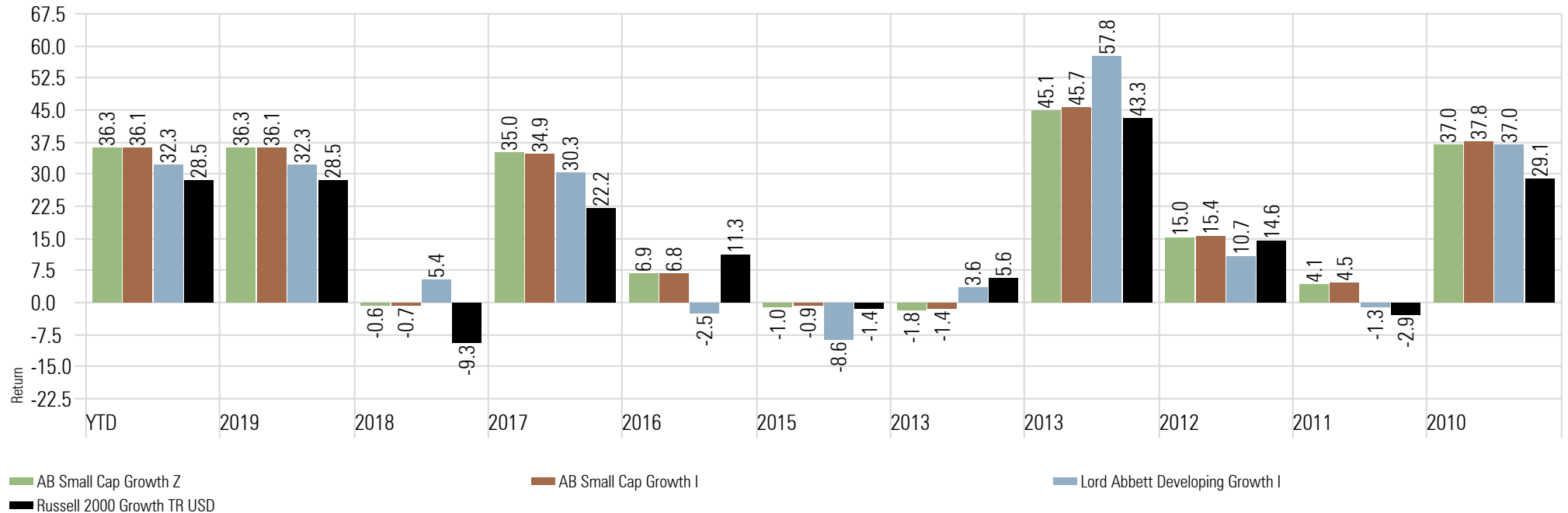


# Trailing Performance

## Cumulative Returns



## Annual Returns



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Small Growth</b>																		
AB Small Cap Growth Z	12.6	<b>15</b>	1.20	36.3	<b>16</b>	7.78	36.3	<b>16</b>	7.78	22.3	<b>5</b>	9.80	14.1	<b>8</b>	4.77	16.3	<b>2</b>	3.29
AB Small Cap Growth I	12.6	<b>16</b>	1.17	36.1	<b>17</b>	7.62	36.1	<b>17</b>	7.62	22.2	<b>6</b>	9.69	14.1	<b>9</b>	4.72	16.5	<b>1</b>	3.50
Lord Abnett Developing Growth I	7.5	<b>77</b>	<b>-3.92</b>	32.3	<b>34</b>	3.77	32.3	<b>34</b>	3.77	22.0	<b>7</b>	9.50	10.1	<b>50</b>	0.75	14.7	<b>15</b>	1.74
Russell 2000 Growth TR USD	11.4			28.5			28.5			12.5			9.3			13.0		
Average	9.5			28.7			28.7			14.3			10.0			12.9		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Small Growth</b>																					
AB Small Cap Growth Z	36.3	<b>16</b>	7.78	-0.6	<b>21</b>	8.71	35.0	<b>7</b>	12.87	6.9	<b>77</b>	<b>-4.41</b>	-1.0	<b>33</b>	0.34	-1.8	<b>87</b>	<b>-7.36</b>	45.1	<b>27</b>	1.80
AB Small Cap Growth I	36.1	<b>17</b>	7.62	-0.7	<b>21</b>	8.64	34.9	<b>8</b>	12.74	6.8	<b>77</b>	<b>-4.52</b>	-0.9	<b>32</b>	0.47	-1.4	<b>86</b>	<b>-7.02</b>	45.7	<b>24</b>	2.42
Lord Abnett Developing Growth I	32.3	<b>34</b>	3.77	5.4	<b>5</b>	14.67	30.3	<b>11</b>	8.11	-2.5	<b>97</b>	<b>-13.79</b>	-8.6	<b>91</b>	<b>-7.26</b>	3.6	<b>45</b>	<b>-2.05</b>	57.8	<b>3</b>	14.45
Russell 2000 Growth TR USD	28.5			-9.3			22.2			11.3			-1.4		5.6				43.3		
Average	28.7			-5.3			22.8			11.2			-2.4		2.9				42.2		

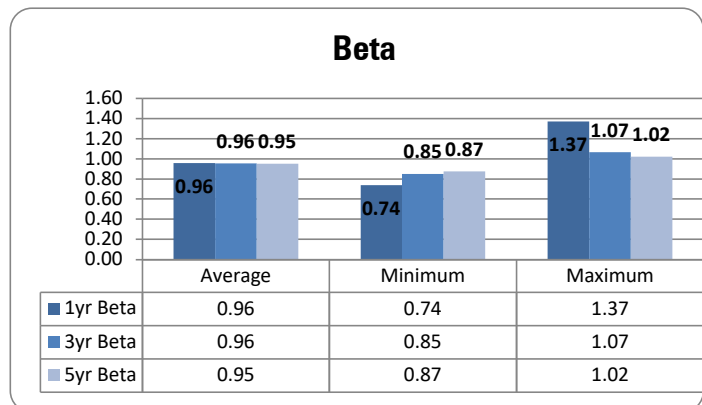
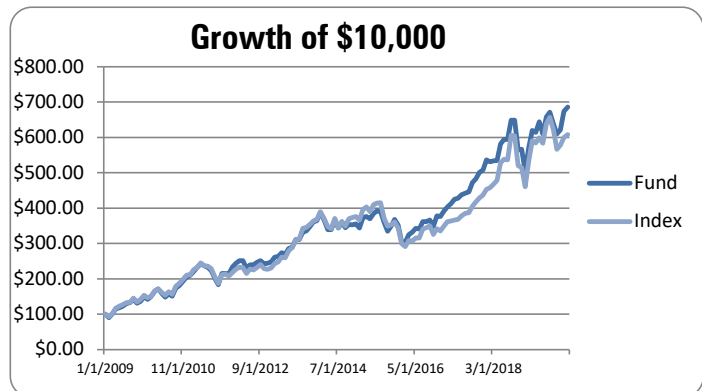
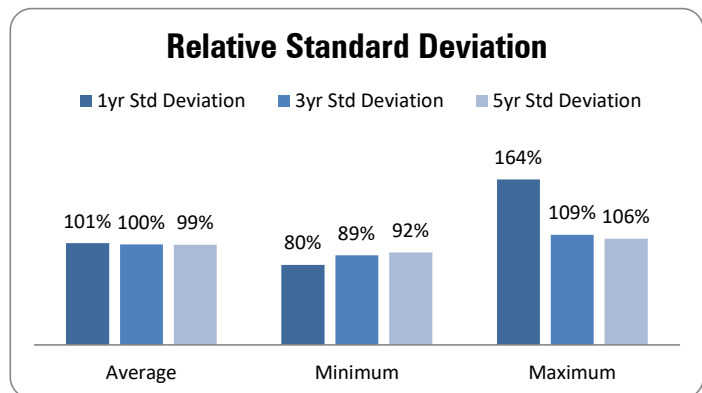


Fund Name	Comparative Index/Fund
AB Small Cap Growth I	100% Lord Abbett Developing Growth I

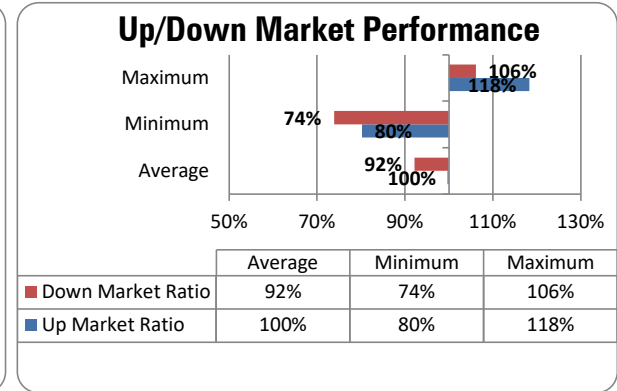
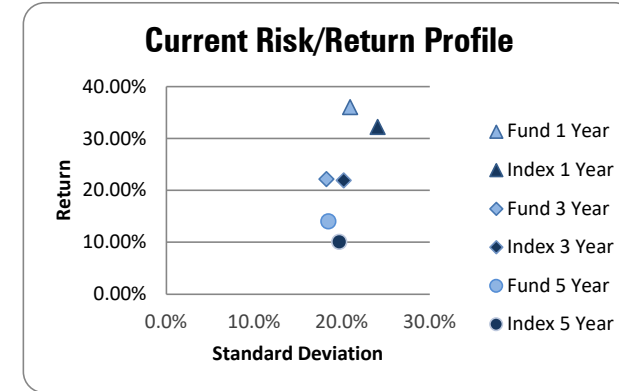
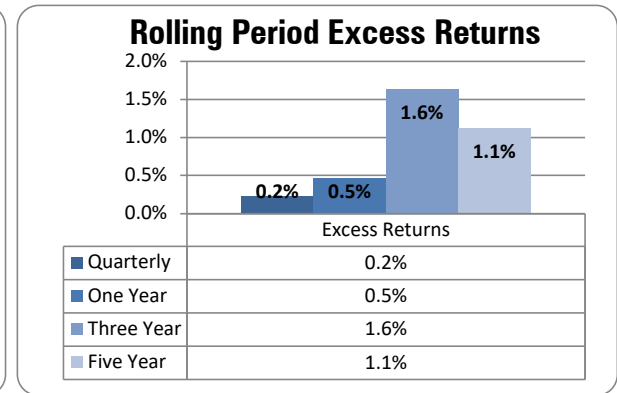
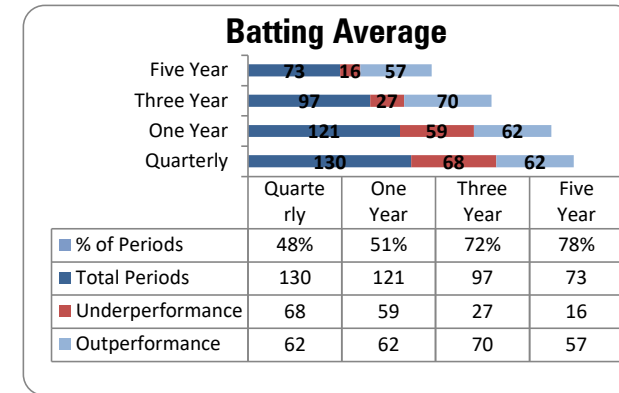
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## Risk Analysis



## Absolute Performance Summary



## Annualized Performance and Risk Statistics

	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
AB Small Cap Growth I	36.11%	9.97%	20.91%	21.84%	-7.43%
100% Lord Abbett Developing Growth I	32.25%		24.05%	27.04%	-11.98%
<b>Latest Three Years</b>					
AB Small Cap Growth I	22.18%	3.33%	18.22%	21.84%	-22.34%
100% Lord Abbett Developing Growth I	21.99%		20.18%	27.04%	-23.90%
<b>Latest Five Years</b>					
AB Small Cap Growth I	14.06%	5.08%	18.46%	21.84%	-22.34%
100% Lord Abbett Developing Growth I	10.09%		19.68%	27.04%	-23.90%
<b>Latest Ten Years</b>					
AB Small Cap Growth I	16.51%	2.59%	18.76%	28.12%	-22.34%
100% Lord Abbett Developing Growth I	14.74%		18.97%	27.04%	-23.90%

# AB Small Cap Growth I

QUAIX

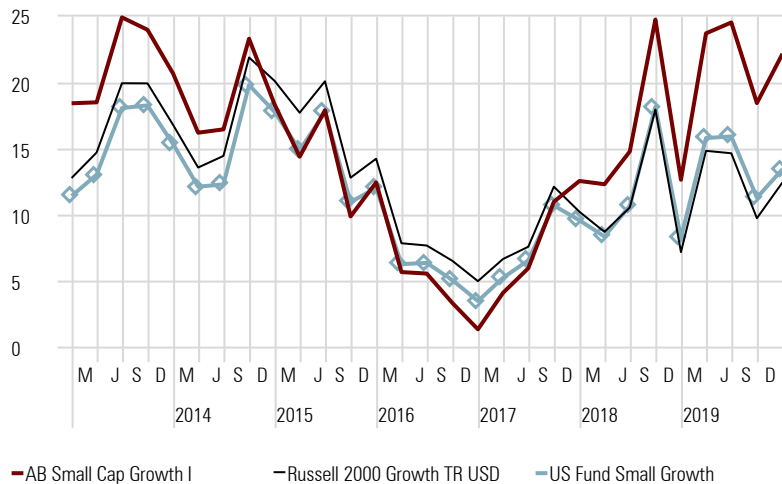
**Index:** Russell 2000 Growth TR USD  
**Category:** US Fund Small Growth  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 2000 Growth TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
AB Small Cap Growth I	36.1	36.1	22.2	14.1	16.5	11.1
Russell 2000 Growth TR USD	28.5	28.5	12.5	9.3	13.0	8.8
US Fund Small Growth	27.7	27.7	13.5	9.6	12.2	7.9

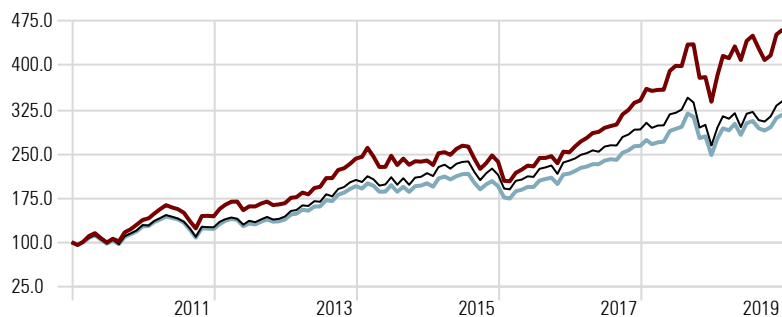
## Returns (Rolling 36 Months)



— AB Small Cap Growth I — Russell 2000 Growth TR USD — US Fund Small Growth

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



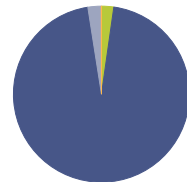
— AB Small Cap Growth I — Russell 2000 Growth TR USD — US Fund Small Growth

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.91	1.25	
Gross Expense Ratio	0.91	1.45	
LT Earn Growth	13.6	12.2	9.1
Avg Mkt Cap (\$MMM)	3.5	4.1	47.9
P/E Ratio	29.7	30.1	16.3
P/B Ratio	4.9	4.0	2.0
P/S Ratio	3.4	2.6	1.4
P/CF Ratio	21.4	19.5	10.5
ROE %	-0.3	10.3	20.5
ROA %	-2.3	3.7	7.2
Dividend Yld	0.3	0.6	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



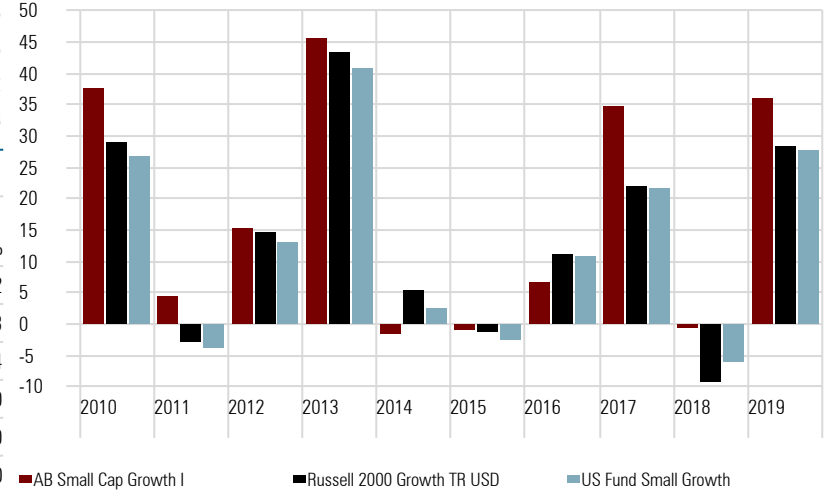
	%
Cash	2.2
US Equity	95.3
Non-US Equity	2.4
US Bond	0.0
Non-US Bond	0.0
Other	0.0

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 2000 Growth TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
AB Small Cap Growth I	68.3	31.7	17.0	-13.7	21.8	-22.3	106.2	93.8
Russell 2000 Growth TR USD	64.2	35.8	15.9	-12.7	17.1	-22.2	100.0	100.0
US Fund Small Growth	66.7	33.3	14.7	-11.6	17.0	-22.3	93.0	92.6

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	18.2	2.4	18.5	2.7
Down Deviation	2.7	1.6	2.9	1.5
Beta	1.1	0.1	1.1	0.1
Alpha	8.0	6.6	4.0	3.3
Sharpe	1.1	0.4	0.7	0.2
Sortino	1.8	0.6	1.1	0.3
Info Ratio	1.9	1.4	1.0	0.8
Down Capture	88.3	-2.8	96.3	5.3
Up Capture	123.9	25.9	113.4	18.7

## Top 10 Holdings

	Fund %	Sector Allocation (%)	
		Inv	Avg
AB Government Money Market AB	2.2	1	1
Teladoc Health Inc	2.1	2	3
Axon Enterprise Inc	1.8	20	18
Five9 Inc	1.7	15	13
LHC Group Inc	1.7	4	3
Chegg Inc	1.7	28	23
Freshpet Inc	1.7	8	9
Mercury Systems Inc	1.6	22	24
Strategic Education Inc	1.6	0	2
Planet Fitness Inc A	1.6	0	1
		0.1	3.5

# Small Cap Blend Search

As of 12/31/2019



# US Fund Small Blend

## TIAA-CREF Small-Cap Blend Idx Inst

### Investment Strategy

The investment seeks a favorable long-term total return, mainly through capital appreciation, by investing primarily in a portfolio of equity securities in smaller domestic companies based on a market index. Under normal circumstances, the fund invests at least 80% of its assets in equity securities included in its benchmark index, the Russell 2000® Index. A small-cap equity security is a security within the capitalization range of the companies included in the Russell 2000 Index at the time of purchase. The Russell 2000 Index measures the performance of the small-cap segment of the U.S. equity universe.

### Manager Biography

Philip James(Jim) Campagna since 8/1/2005

Lei Liao since 5/30/2014

Darren Tran since 3/1/2019

### TIAA-CREF Small-Cap Blend Idx Inst - Operations

Inception Date	10/1/2002
Fund Size (\$mm)	3,350
Annual Report Net Expense Ratio	0.06
Prospectus Net Expense Ratio	0.06
Prospectus Gross Expense Ratio	0.06
Ticker	TISBX
Manager Tenure (Longest)	14.42
Manager Tenure (Average)	6.97
Morningstar Inst Cat	Small Core

### Other Notes:

None

## TIAA-CREF Quant Small-Cap Equity Instl

### Investment Strategy

The investment seeks a favorable long-term total return, mainly through capital appreciation, primarily from equity securities of smaller domestic companies. Under normal circumstances, the fund invests at least 80% of its assets in small-cap equity securities. A small-cap equity security is a security within the capitalization range of the companies included in the fund's benchmark index, the Russell 2000® Index, at the time of purchase. It invests primarily in equity securities of smaller domestic companies across a wide range of sectors, growth rates and valuations.

### Manager Biography

Adam Cao since 12/31/2006

Pei Chen since 3/1/2016

Max Kozlov since 3/1/2019

### TIAA-CREF Quant Small-Cap Equity Instl - Operations

Inception Date	10/1/2002
Fund Size (\$mm)	2,814
Annual Report Net Expense Ratio	0.39
Prospectus Net Expense Ratio	0.41
Prospectus Gross Expense Ratio	0.41
Ticker	TISEX
Manager Tenure (Longest)	13.08
Manager Tenure (Average)	5.92
Morningstar Inst Cat	Small Core

### Other Notes:

None

## Royce Pennsylvania Mutual Instl

### Investment Strategy

The investment seeks long-term growth of capital. Normally, the fund invests at least 65% of its net assets in equity securities of such small- and micro-cap companies. Although it normally focuses on securities of U.S. companies, it may invest up to 25% of its net assets (measured at the time of investment) in securities of companies headquartered in foreign countries. The fund may invest in other investment companies that invest in equity securities.

### Manager Biography

Charles M. Royce since 10/31/1972

Jay S. Kaplan since 4/29/2003

Lauren A. Romeo since 5/1/2006

Chris E. Flynn since 5/1/2017

James P. Stoeffel since 5/1/2017

Andrew S. Palen since 5/1/2018

Steven G. McBoyle since 5/1/2019

### Royce Pennsylvania Mutual Instl - Operations

Inception Date	6/3/2011
Fund Size (\$mm)	1,953
Annual Report Net Expense Ratio	0.88
Prospectus Net Expense Ratio	0.88
Prospectus Gross Expense Ratio	0.88
Ticker	RPMIX
Manager Tenure (Longest)	47.25
Manager Tenure (Average)	12.19
Morningstar Inst Cat	Small Core

### Other Notes:

None

# Portfolio Analysis

## TIAA-CREF Small-Cap Blend Idx Inst

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
				Market Cap Large %	0
Mid	3	7	9	Market Cap Mid %	17
				Market Cap Small %	71
Small	23	29	30	Market Cap Micro %	12

### Valuation Data

Display Benchmark 1: Russell 2000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	1.9	2.0
Forward P/E	17.1	16.6
P/E Ratio (TTM)	18.0	18.4
LT Earn Growth	11.4	11.3
P/B Ratio (TTM)	2.0	2.1
Dividend Yield	1.6	1.5
ROE %	5.7	5.6
ROA %	0.0	-0.3
Debt to Capital %	38	38

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	32	
# of Stock Holdings	1,969	1,995
% in Top 10	3.4	2.8
Cash %	0.1	0.0
Developed %	99.8	99.9
US Equity %	98.8	98.9
Non-US Equity %	1	1
Emerging Mkt %	0.1	0.1

## TIAA-CREF Quant Small-Cap Equity Instl

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
				Market Cap Large %	0
Mid	5	9	4	Market Cap Mid %	17
				Market Cap Small %	72
Small	22	29	31	Market Cap Micro %	11

### Valuation Data

Display Benchmark 1: Russell 2000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	1.9	2.0
Forward P/E	15.6	16.6
P/E Ratio (TTM)	18.0	18.4
LT Earn Growth	11.4	11.3
P/B Ratio (TTM)	2.0	2.1
Dividend Yield	1.3	1.5
ROE %	9.1	5.6
ROA %	2.2	-0.3
Debt to Capital %	36	38

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	98	
# of Stock Holdings	396	1,995
% in Top 10	9.0	2.8
Cash %	0.4	0.0
Developed %	99.5	99.9
US Equity %	98.7	98.9
Non-US Equity %	1	1
Emerging Mkt %	0.0	0.1

## Royce Pennsylvania Mutual Instl

### Style Allocation

Portfolio Date: 9/30/2019

	Value	Blend	Growth	Market Cap	%
Large	1	0	0	Market Cap Giant %	0
				Market Cap Large %	1
Mid	5	10	18	Market Cap Mid %	32
				Market Cap Small %	55
Small	15	22	30	Market Cap Micro %	12

### Valuation Data

Display Benchmark 1: Russell 2000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	2.2	2.0
Forward P/E	17.1	16.6
P/E Ratio (TTM)	18.2	18.4
LT Earn Growth	12.2	11.3
P/B Ratio (TTM)	2.1	2.1
Dividend Yield	1.3	1.5
ROE %	14.1	5.6
ROA %	6.5	-0.3
Debt to Capital %	30	38

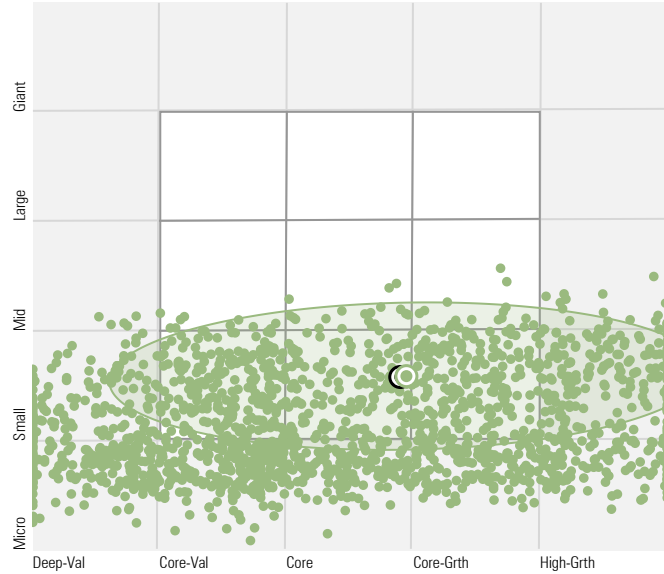
### Portfolio Data

	Inv	Bmk1
Turnover Ratio	35	
# of Stock Holdings	291	1,995
% in Top 10	12.8	2.8
Cash %	1.1	0.0
Developed %	98.3	99.9
US Equity %	89.4	98.9
Non-US Equity %	10	1
Emerging Mkt %	0.7	0.1

# Holdings-Based Style Analysis

TIAA-CREF Small-Cap Blend Idx Inst

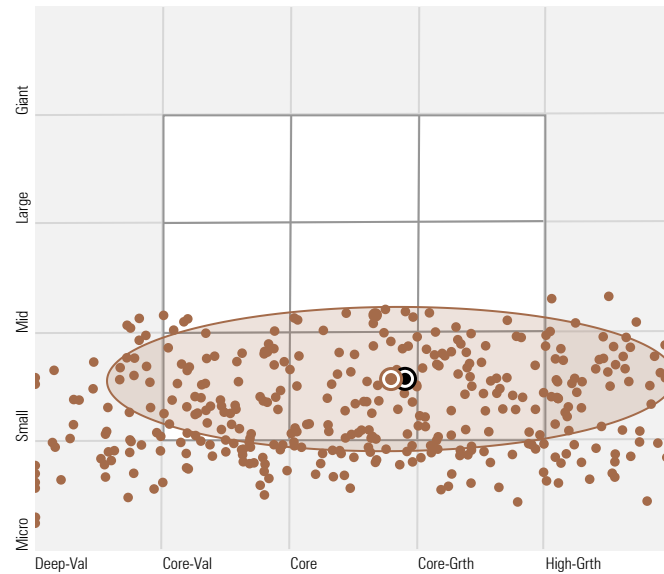
## Holdings-Based Style Map



● TIAA-CREF Small-Cap Blend Idx Inst 11/30/2019 ● Russell 2000 TR USD 12/31/2019

TIAA-CREF Quant Small-Cap Equity Instl

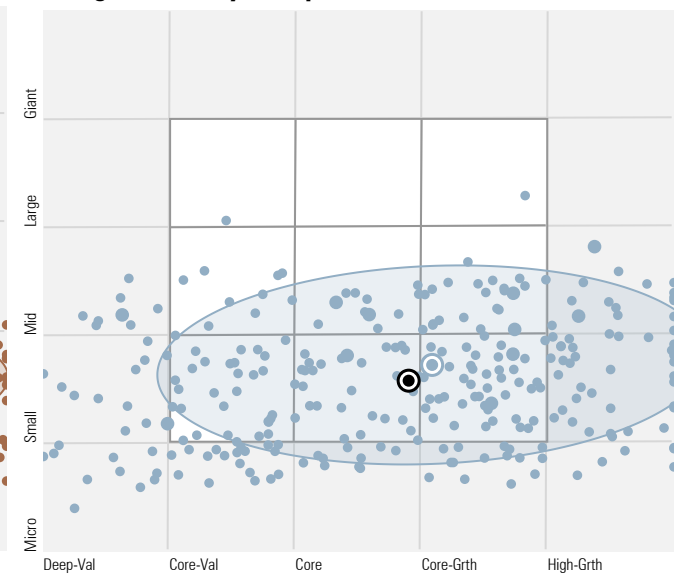
## Holdings-Based Style Map



● TIAA-CREF Quant Small-Cap Equity Instl 11/30/2019 ● Russell 2000 TR USD 12/31/2019

Royce Pennsylvania Mutual Instl

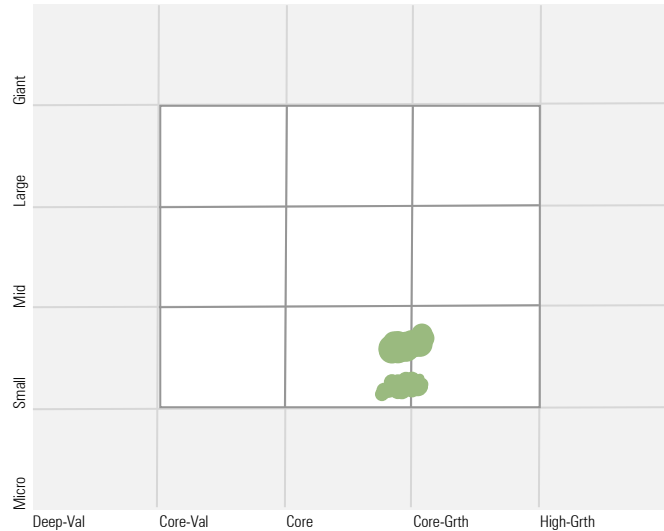
## Holdings-Based Style Map



● Royce Pennsylvania Mutual Instl 9/30/2019 ● Russell 2000 TR USD 12/31/2019

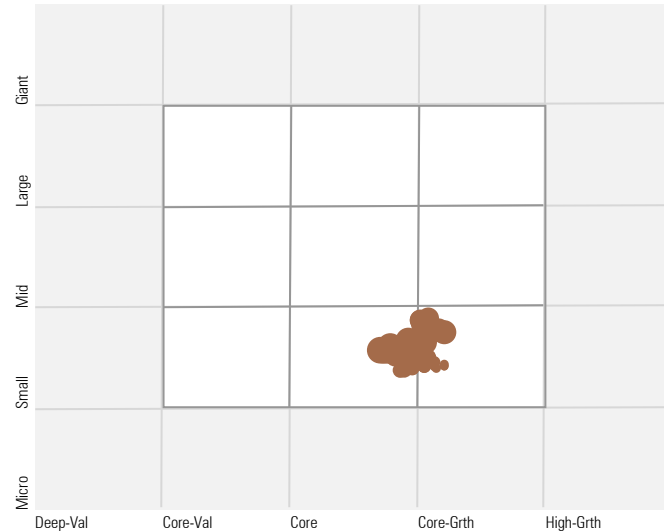
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



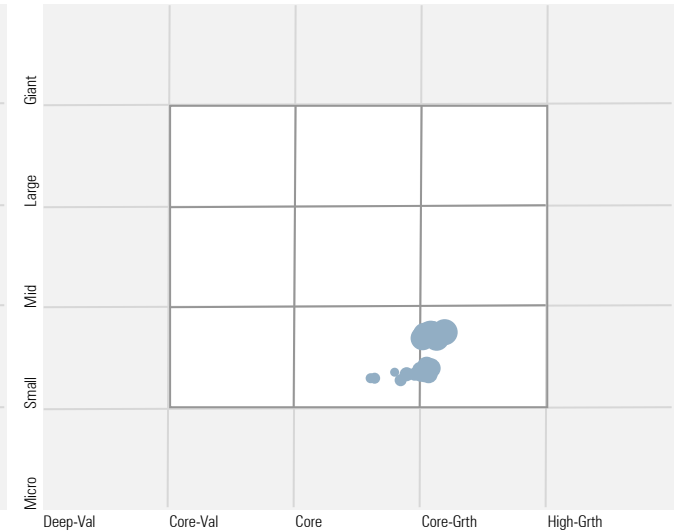
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



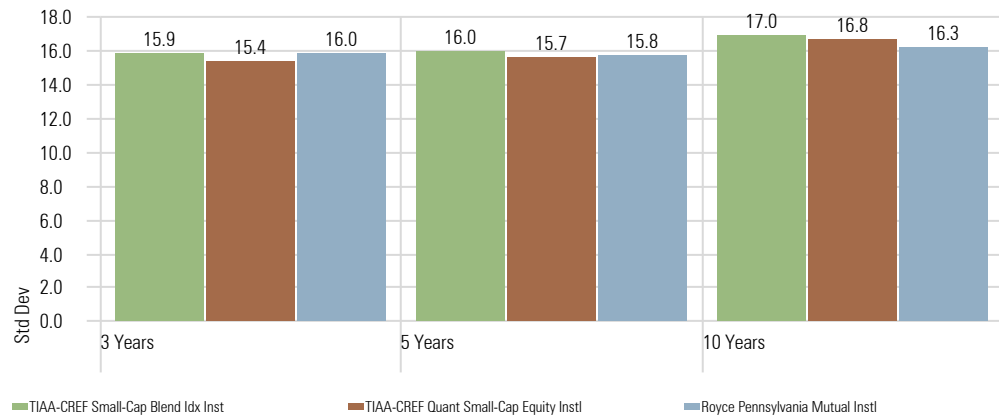
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 9/30/2019

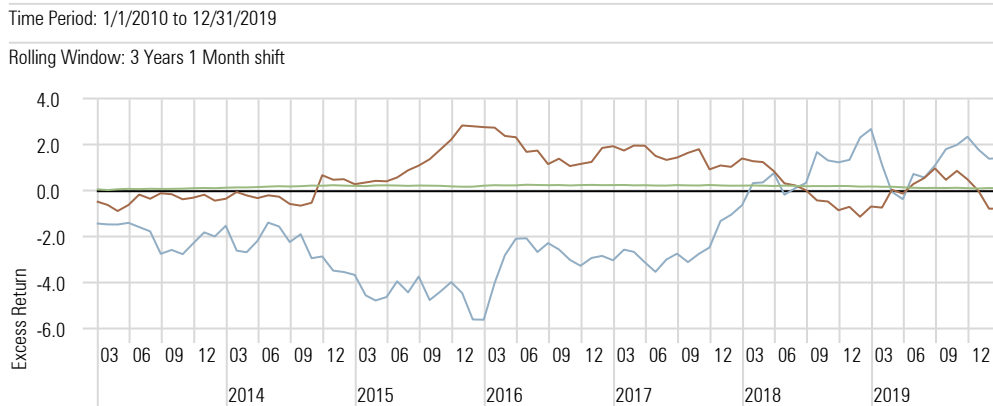


# Risk/Return Performance Analysis

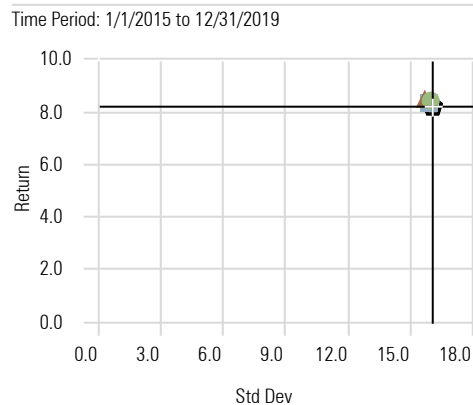
## Standard Deviation



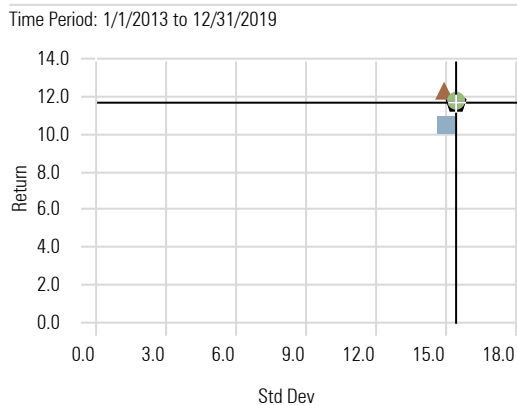
## 3 Year Relative Rolling Returns



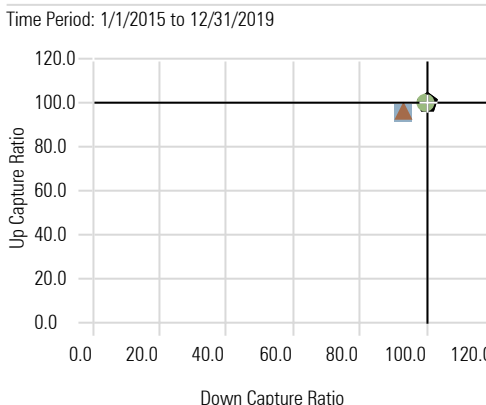
## 5 Year Risk-Reward



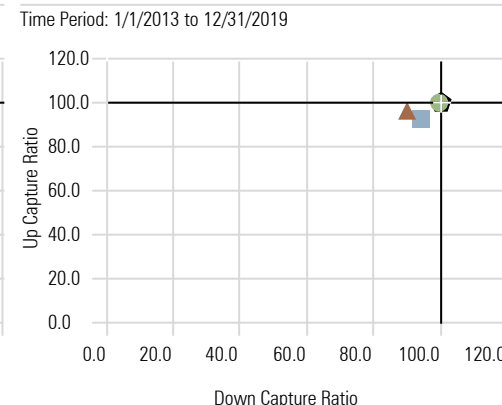
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● TIAA-CREF Small-Cap Blend Idx Inst

● TIAA-CREF Quant Small-Cap Equity Instl

● Royce Pennsylvania Mutual Instl

◻ Russell 2000 TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

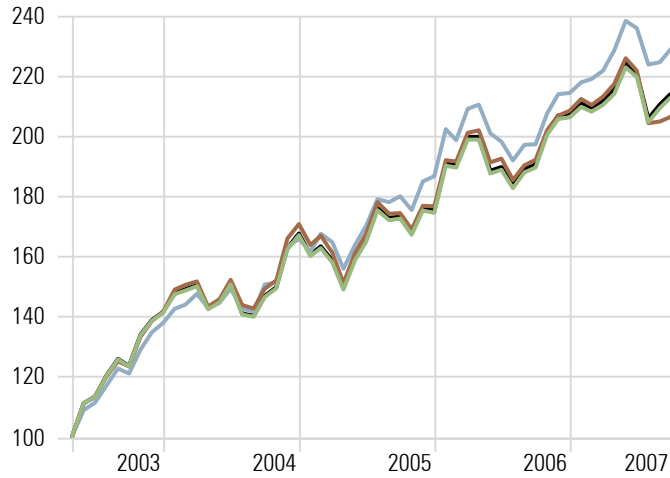
Time Period: Since Common Inception (11/1/2002) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
TIAA-CREF Small-Cap Blend Idx Inst	10.6	18.3	0.1	1.00	100	23.2	-26.2	0.51	0.1
TIAA-CREF Quant Small-Cap Equity Instl	10.6	18.1	0.2	0.98	99	23.5	-24.8	0.51	1.9
Royce Pennsylvania Mutual Instl	10.6	17.4	0.7	0.92	95	22.9	-26.1	0.53	4.1
Russell 2000 TR USD	10.6	18.4	0.0	1.00	100	23.4	-26.1	0.50	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

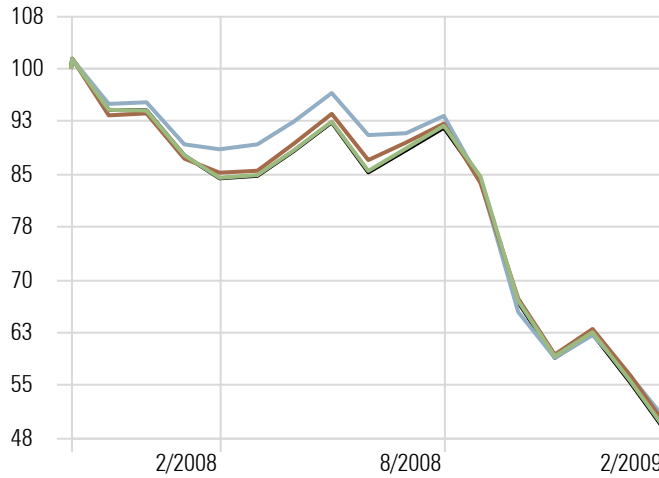
Time Period: 4/30/2003 to 9/30/2007



● TIAA-CREF Small-Cap Blend Idx Inst 213  
● TIAA-CREF Quant Small-Cap Equity Instl 207  
● Royce Pennsylvania Mutual Instl 229  
■ Russell 2000 TR USD 214

## Credit Crunch - Financial Crisis

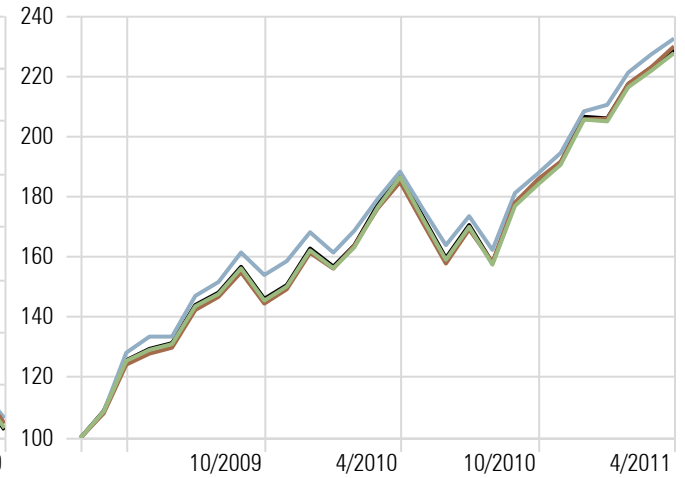
Time Period: 10/31/2007 to 2/28/2009



● TIAA-CREF Small-Cap Blend Idx Inst 49  
● TIAA-CREF Quant Small-Cap Equity Instl 50  
● Royce Pennsylvania Mutual Instl 50  
■ Russell 2000 TR USD 49

## Financial Crisis Recovery - QE1&2

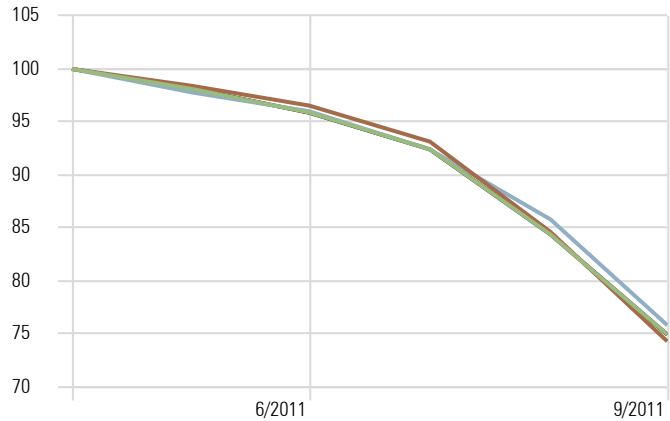
Time Period: 3/1/2009 to 4/30/2011



● TIAA-CREF Small-Cap Blend Idx Inst 227.8  
● TIAA-CREF Quant Small-Cap Equity Instl 230.0  
● Royce Pennsylvania Mutual Instl 232.6  
■ Russell 2000 TR USD 228.9

## Double Dip

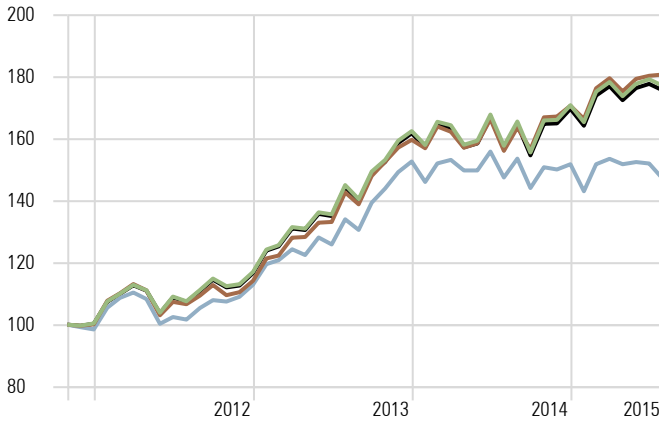
Time Period: 5/1/2011 to 9/30/2011



● TIAA-CREF Small-Cap Blend Idx Inst 74.9  
● TIAA-CREF Quant Small-Cap Equity Instl 74.3  
● Royce Pennsylvania Mutual Instl 75.8  
■ Russell 2000 TR USD 74.9

## US Recovery Continues - Global Markets Lag

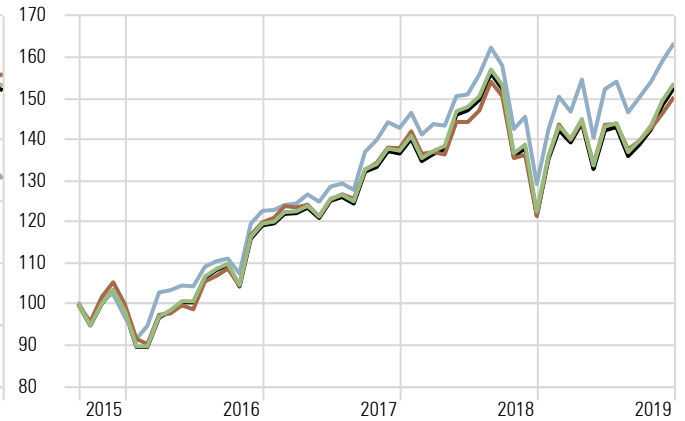
Time Period: 11/1/2011 to 7/31/2015



● TIAA-CREF Small-Cap Blend Idx Inst 177.4  
● TIAA-CREF Quant Small-Cap Equity Instl 181.0  
● Royce Pennsylvania Mutual Instl 147.3  
■ Russell 2000 TR USD 175.9

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



● TIAA-CREF Small-Cap Blend Idx Inst 153.6  
● TIAA-CREF Quant Small-Cap Equity Instl 150.3  
● Royce Pennsylvania Mutual Instl 163.4  
■ Russell 2000 TR USD 152.6

● TIAA-CREF Small-Cap Blend Idx Inst  
■ Russell 2000 TR USD

● TIAA-CREF Quant Small-Cap Equity Instl

● Royce Pennsylvania Mutual Instl



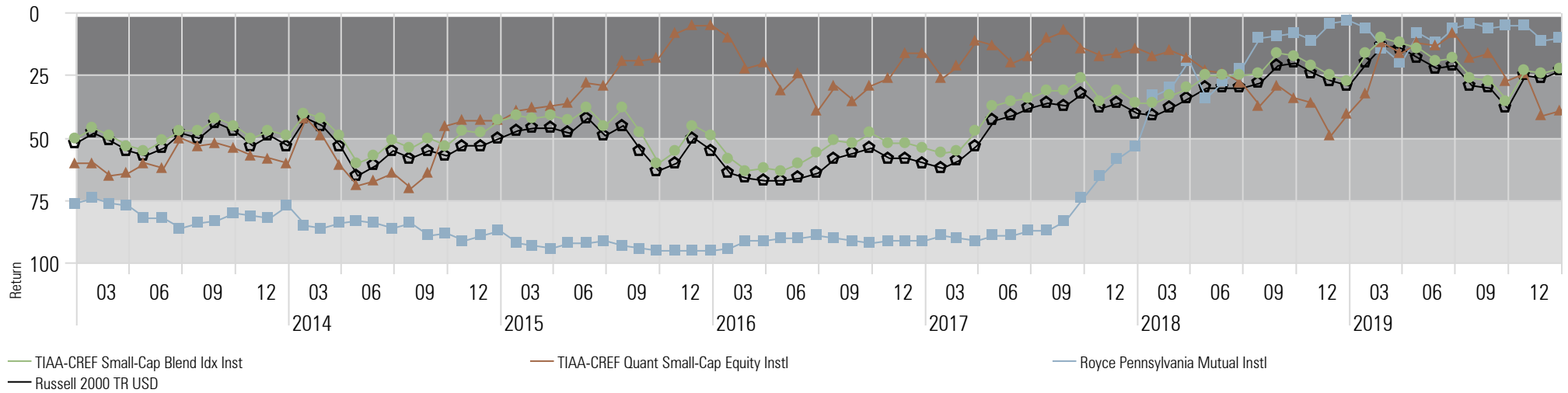
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

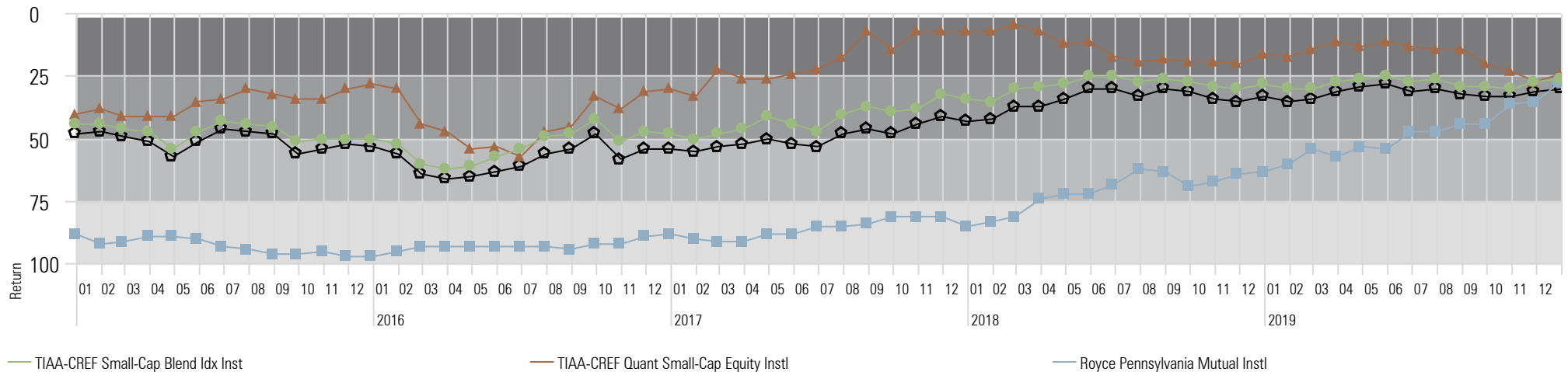


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Small Blend</b>																		
TIAA-CREF Small-Cap Blend Idx Inst	10.0	<b>16</b>	0.04	25.5	<b>36</b>	0.01	25.5	<b>36</b>	0.01	8.7	<b>22</b>	0.13	8.4	<b>26</b>	0.19	12.0	<b>30</b>	0.16
TIAA-CREF Quant Small-Cap Equity Instl	7.6	<b>61</b>	-2.33	23.9	<b>53</b>	-1.66	23.9	<b>53</b>	-1.66	7.8	<b>39</b>	-0.75	8.5	<b>24</b>	0.32	12.2	<b>24</b>	0.34
Royce Pennsylvania Mutual Instl	8.8	<b>37</b>	-1.16	26.5	<b>24</b>	1.01	26.5	<b>24</b>	1.01	10.0	<b>10</b>	1.44	8.4	<b>27</b>	0.16	10.6	<b>70</b>	-1.22
Russell 2000 TR USD	9.9			25.5			25.5			8.6			8.2			11.8		
Average	8.1			24.0			24.0			6.9			7.2			11.2		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Small Blend</b>																					
TIAA-CREF Small-Cap Blend Idx Inst	25.5	<b>36</b>	0.01	-10.8	<b>32</b>	0.18	14.8	<b>25</b>	0.18	21.6	<b>45</b>	0.27	-4.1	<b>53</b>	0.27	5.2	<b>51</b>	0.26	39.0	<b>41</b>	0.16
TIAA-CREF Quant Small-Cap Equity Instl	23.9	<b>53</b>	-1.66	-12.0	<b>46</b>	-0.95	15.0	<b>23</b>	0.37	20.0	<b>63</b>	-1.34	0.1	<b>3</b>	4.55	6.9	<b>26</b>	2.02	40.0	<b>33</b>	1.17
Royce Pennsylvania Mutual Instl	26.5	<b>24</b>	1.01	-9.6	<b>22</b>	1.45	16.4	<b>12</b>	1.79	26.7	<b>12</b>	5.34	-11.3	<b>96</b>	-6.93	-0.6	<b>92</b>	-5.47	35.3	<b>77</b>	-3.48
Russell 2000 TR USD	25.5			-11.0			14.6			21.3			-4.4		4.9				38.8		
Average	24.0			-12.5			12.8			21.3			-4.3		4.7				38.5		

# TIAA-CREF Small-Cap Blend Idx Inst

TISBX

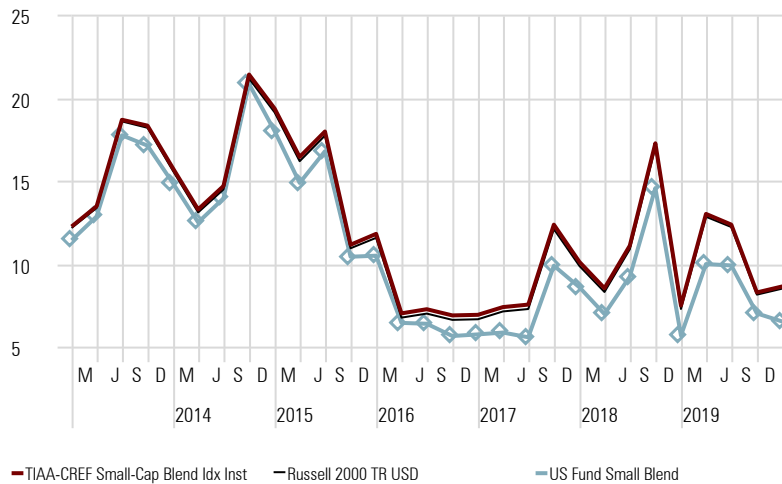
**Index:** Russell 2000 TR USD  
**Category:** US Fund Small Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 2000 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Small-Cap Blend Idx Inst	25.5	25.5	8.7	8.4	12.0	8.0
Russell 2000 TR USD	25.5	25.5	8.6	8.2	11.8	7.9
US Fund Small Blend	23.5	23.5	6.6	6.7	10.6	7.0

## Returns (Rolling 36 Months)

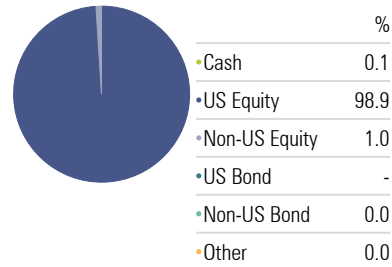


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.06	1.14	
Gross Expense Ratio	0.06	2.20	
LT Earn Growth	11.3	13.2	9.1
Avg Mkt Cap (\$MMM)	2.0	3.2	47.9
P/E Ratio	18.4	18.4	16.3
P/B Ratio	2.1	2.1	2.0
P/S Ratio	1.2	1.1	1.4
P/CF Ratio	9.9	10.8	10.5
ROE %	5.6	12.6	20.5
ROA %	-0.3	5.2	7.2
Dividend Yld	1.5	1.5	2.8

## Asset Allocation

Portfolio Date: 12/31/2019

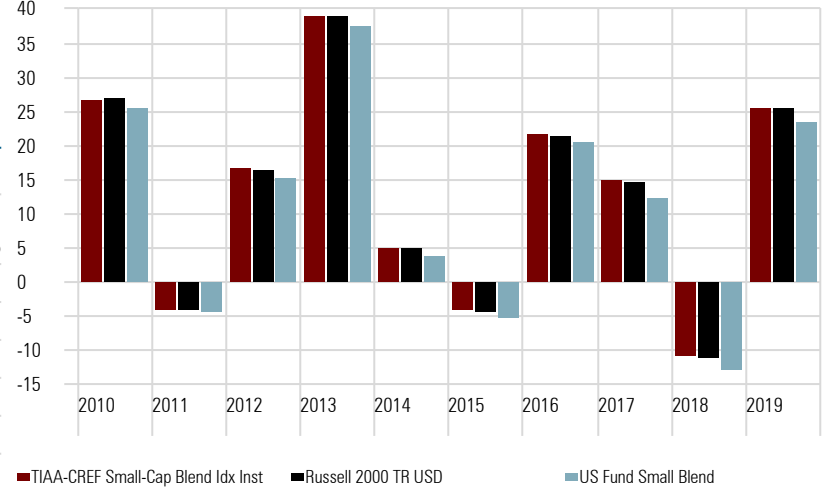


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 2000 TR USD

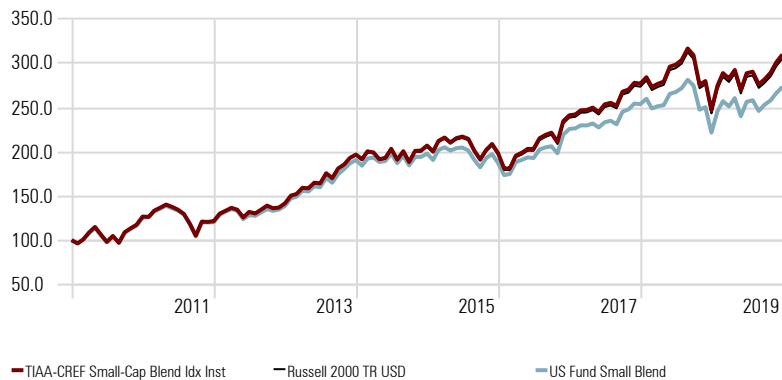
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Small-Cap Blend Idx Inst	65.0	35.0	15.1	-11.8	16.2	-21.9	100.2	99.5
Russell 2000 TR USD	64.2	35.8	15.1	-11.9	16.3	-21.9	100.0	100.0
US Fund Small Blend	65.8	34.2	15.3	-11.5	15.8	-21.8	92.1	93.7

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	15.9	0.7	16.0	1.0
Down Deviation	0.0	-1.3	0.0	-1.4
Beta	1.0	0.0	1.0	0.1
Alpha	0.1	1.7	0.2	1.2
Sharpe	0.4	0.1	0.5	0.1
Sortino	0.7	0.2	0.8	0.1
Info Ratio	1.5	2.9	2.0	2.8
Down Capture	99.6	1.3	99.5	5.4
Up Capture	100.2	8.9	100.3	10.2

## Top 10 Holdings

	Fund %
iShares Russell 2000 ETF	0.7
NovoCure Ltd	0.3
The Medicines Co	0.3
Generac Holdings Inc	0.3
Lumentum Holdings Inc	0.3
Teladoc Health Inc	0.3
Arrowhead Pharmaceuticals Inc	0.3
Haemonetics Corp	0.3
Marriott Vacations Worldwide Corp	0.3
Trex Co Inc	0.3

## Sector Allocation (%)

	Inv	Avg
Energy	3	3
Materials	4	4
Industrials	16	16
Cons Discretionary	11	13
Consumer Staples	3	3
Healthcare	18	13
Financials	18	18
Info Technology	14	15
Telecom Services	2	2
Utilities	4	3
Real Estate %	7.8	8.0

# Small Cap Value

As of 12/31/2019



# US Fund Small Value

## Royce Opportunity Instl

### Investment Strategy

The investment seeks long-term growth of capital. The fund's investment adviser invests the fund's assets primarily in equity securities of small- and micro-cap companies with stock market capitalizations up to \$3 billion in an attempt to take advantage of what the advisor believes are opportunistic situations for undervalued securities. Normally, the fund invests at least 65% of its net assets in equity securities. It may invest in other investment companies that invest in equity securities.

### Manager Biography

William A. Hench since 5/3/2004

Robert Kosowsky since 10/1/2018

Suzanne Franks since 10/15/2018

### Royce Opportunity Instl - Operations

Inception Date	12/12/2001
Fund Size (\$mm)	930
Annual Report Net Expense Ratio	1.08
Prospectus Net Expense Ratio	1.08
Prospectus Gross Expense Ratio	1.08
Ticker	ROFIX
Manager Tenure (Longest)	15.67
Manager Tenure (Average)	6.06
Morningstar Inst Cat	Small Deep Value

### Other Notes:

None

## Northern Small Cap Value

### Investment Strategy

The investment seeks long-term capital appreciation; any income received is incidental to this objective. The fund will invest at least 80% of its net assets in equity securities of small capitalization companies, which are considered to be those whose market capitalization is within the range of the market capitalization of companies in the Russell 2000® Value Index. It may emphasize particular companies or market segments, such as financial services. Many of the companies in which the fund invests retain their earnings to finance current and future growth. These companies generally pay little or no dividends.

### Manager Biography

Robert H. Bergson since 7/31/2001

### Northern Small Cap Value - Operations

Inception Date	3/31/1994
Fund Size (\$mm)	3,093
Annual Report Net Expense Ratio	1.00
Prospectus Net Expense Ratio	1.00
Prospectus Gross Expense Ratio	1.14
Ticker	NOSGX
Manager Tenure (Longest)	18.50
Manager Tenure (Average)	18.50
Morningstar Inst Cat	Small Deep Value

### Other Notes:

None

## Columbia Small Cap Value I Inst3

### Investment Strategy

The investment seeks long-term capital appreciation. Under normal circumstances, the fund invests at least 80% of its net assets (including the amount of any borrowings for investment purposes) in equity securities of companies that have market capitalizations in the range of the companies in the Russell 2000 Value Index (the index) at the time of purchase, that the fund's investment manager believes are undervalued. It may invest up to 20% of its total assets in foreign securities.

### Manager Biography

Jeremy H. Javidi since 8/1/2005

### Columbia Small Cap Value I Inst3 - Operations

Inception Date	7/15/2009
Fund Size (\$mm)	559
Annual Report Net Expense Ratio	0.89
Prospectus Net Expense Ratio	0.89
Prospectus Gross Expense Ratio	0.92
Ticker	CSVYX
Manager Tenure (Longest)	14.42
Manager Tenure (Average)	14.42
Morningstar Inst Cat	Small Deep Value

### Other Notes:

None

# Portfolio Analysis

## Royce Opportunity Instl

### Style Allocation

Portfolio Date: 9/30/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
				Market Cap Large %	0
Mid	4	1	3	Market Cap Mid %	8
				Market Cap Small %	50
Small	33	34	26	Market Cap Micro %	42

## Northern Small Cap Value

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
				Market Cap Large %	0
Mid	10	6	3	Market Cap Mid %	18
				Market Cap Small %	75
Small	34	35	13	Market Cap Micro %	7

## Columbia Small Cap Value I Inst3

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
				Market Cap Large %	0
Mid	5	2	2	Market Cap Mid %	8
				Market Cap Small %	67
Small	44	34	14	Market Cap Micro %	25

### Valuation Data

Display Benchmark 1: Russell 2000 Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	0.8	1.7
Forward P/E	13.2	14.0
P/E Ratio (TTM)	14.3	14.9
LT Earn Growth	12.9	10.0
P/B Ratio (TTM)	1.3	1.4
Dividend Yield	0.9	2.3
ROE %	1.0	6.1
ROA %	0.0	1.5
Debt to Capital %	43	38

### Valuation Data

Display Benchmark 1: Russell 2000 Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	2.2	1.7
Forward P/E	14.7	14.0
P/E Ratio (TTM)	16.1	14.9
LT Earn Growth	9.6	10.0
P/B Ratio (TTM)	1.5	1.4
Dividend Yield	2.2	2.3
ROE %	9.6	6.1
ROA %	3.7	1.5
Debt to Capital %	34	38

### Valuation Data

Display Benchmark 1: Russell 2000 Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	1.3	1.7
Forward P/E	13.4	14.0
P/E Ratio (TTM)	14.2	14.9
LT Earn Growth	11.9	10.0
P/B Ratio (TTM)	1.2	1.4
Dividend Yield	1.8	2.3
ROE %	6.1	6.1
ROA %	0.6	1.5
Debt to Capital %	33	38

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	47	
# of Stock Holdings	255	1,402
% in Top 10	9.9	4.9
Cash %	5.2	0.0
Developed %	94.7	99.8
US Equity %	90.9	98.9
Non-US Equity %	5	1
Emerging Mkt %	0.9	0.2

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	16	
# of Stock Holdings	510	1,402
% in Top 10	8.8	4.9
Cash %	0.2	0.0
Developed %	99.7	99.8
US Equity %	98.6	98.9
Non-US Equity %	1	1
Emerging Mkt %	0.0	0.2

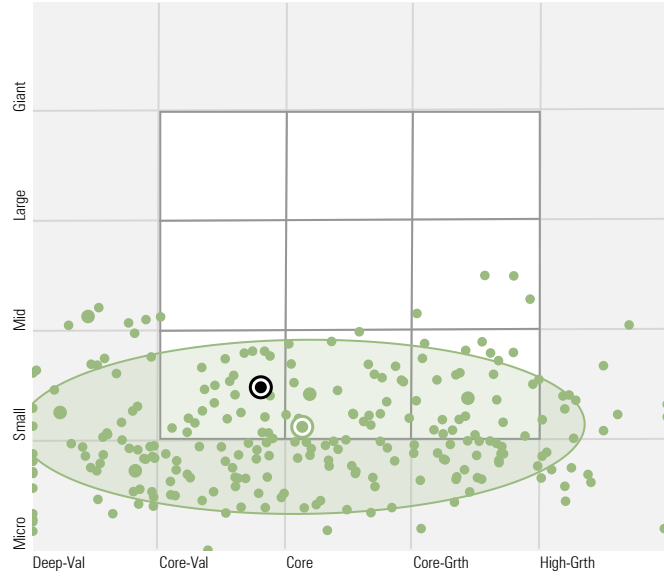
### Portfolio Data

	Inv	Bmk1
Turnover Ratio	62	
# of Stock Holdings	181	1,402
% in Top 10	11.7	4.9
Cash %	1.2	0.0
Developed %	98.2	99.8
US Equity %	93.6	98.9
Non-US Equity %	5	1
Emerging Mkt %	0.6	0.2

# Holdings-Based Style Analysis

## Royce Opportunity Instl

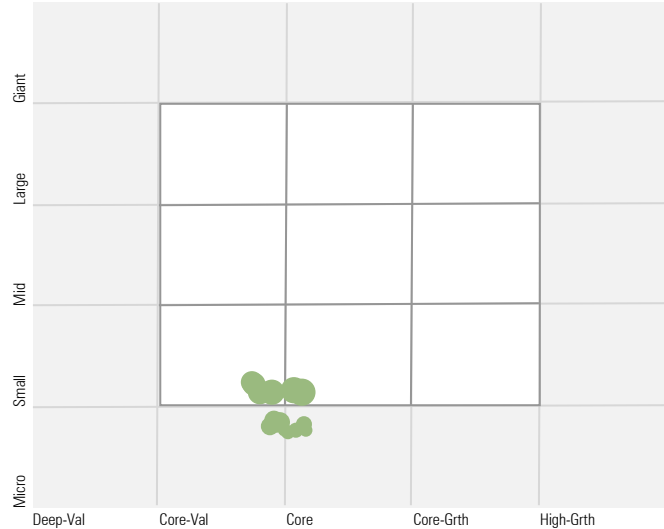
### Holdings-Based Style Map



● Royce Opportunity Instl 9/30/2019 ● Russell 2000 Value TR USD 12/31/2019

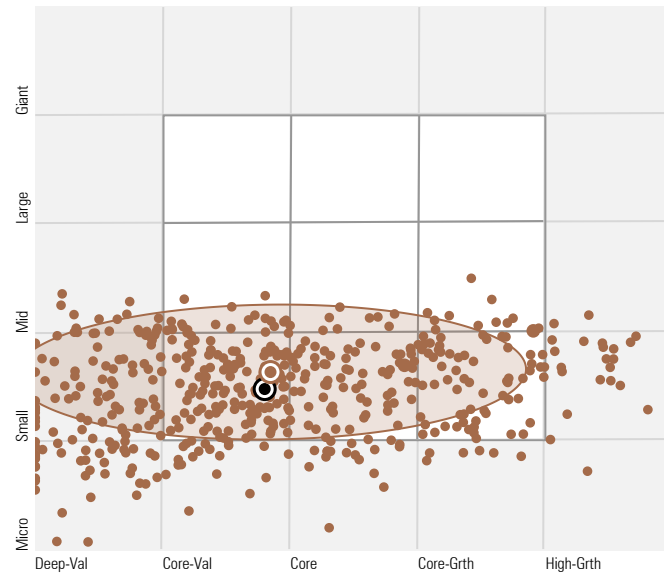
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 9/30/2019



## Northern Small Cap Value

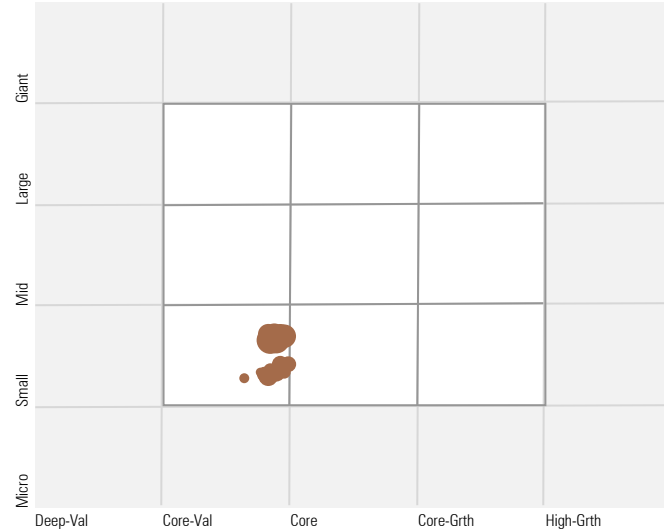
### Holdings-Based Style Map



● Northern Small Cap Value 12/31/2019 ● Russell 2000 Value TR USD 12/31/2019

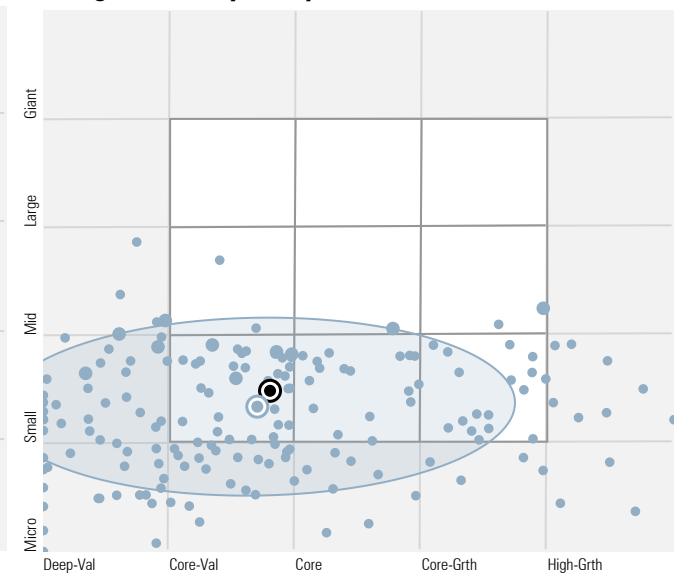
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



## Columbia Small Cap Value I Inst3

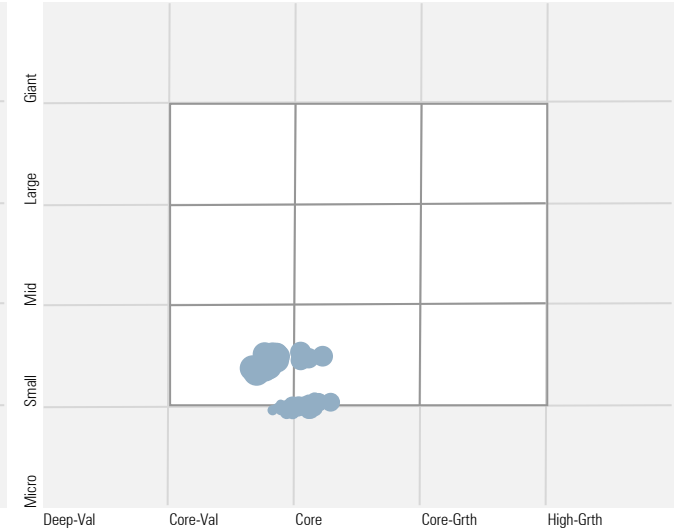
### Holdings-Based Style Map



● Columbia Small Cap Value I Inst3 12/31/2019 ● Russell 2000 Value TR USD 12/31/2019

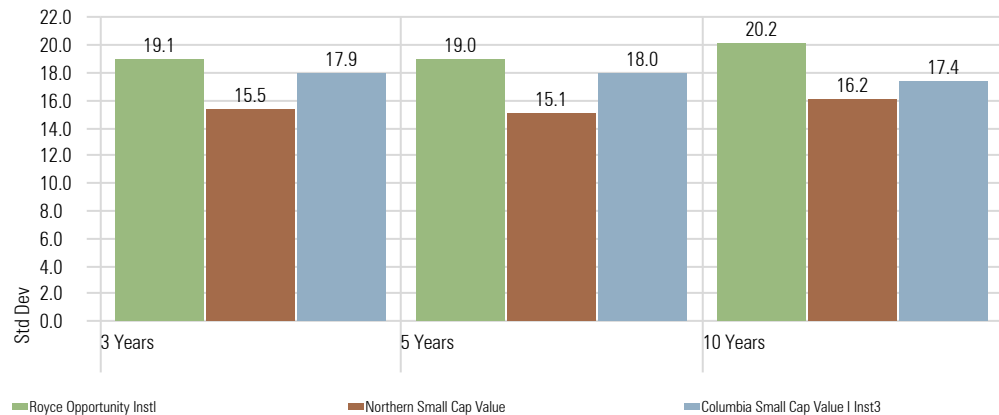
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019

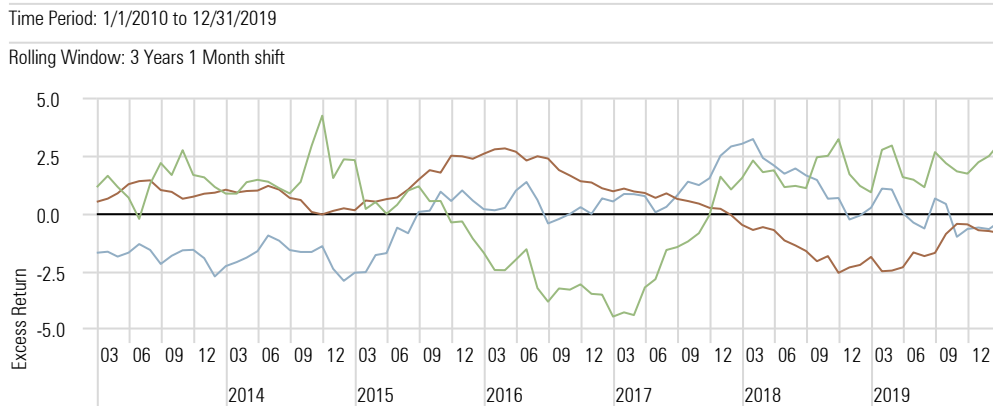


# Risk/Return Performance Analysis

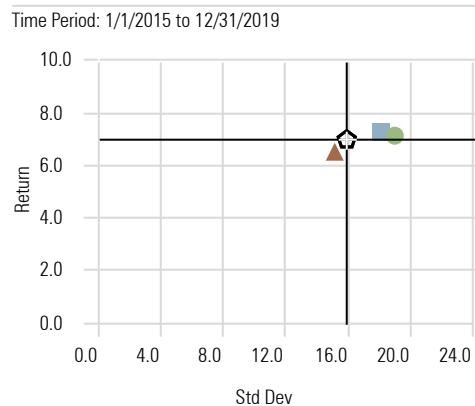
## Standard Deviation



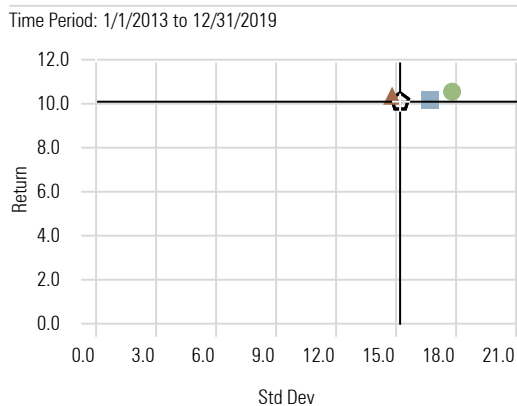
## 3 Year Relative Rolling Returns



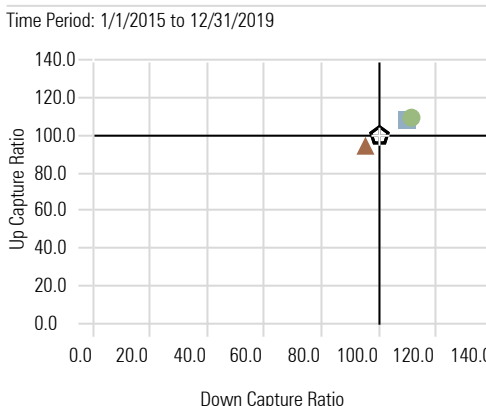
## 5 Year Risk-Reward



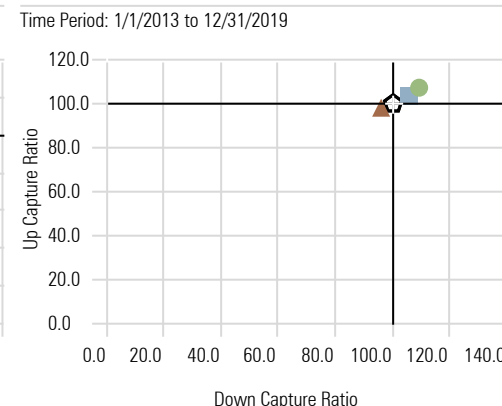
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● Royce Opportunity Instl

● Northern Small Cap Value

● Columbia Small Cap Value I Inst3

⬠ Russell 2000 Value TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (12/1/1996) to 12/31/2019

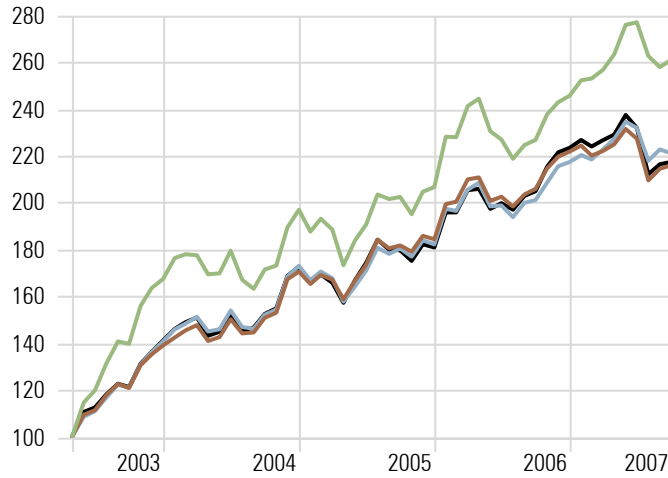
	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
Royce Opportunity Instl	11.7	22.4	1.7	1.18	88	36.9	-36.3	0.42	8.3
Northern Small Cap Value	9.4	18.1	0.4	0.98	93	21.1	-21.8	0.40	4.7
Columbia Small Cap Value I Inst3	8.9	18.4	-0.2	1.00	94	20.7	-26.1	0.36	4.7
Russell 2000 Value TR USD	9.2	17.8	0.0	1.00	100	22.7	-24.9	0.39	0.0



# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

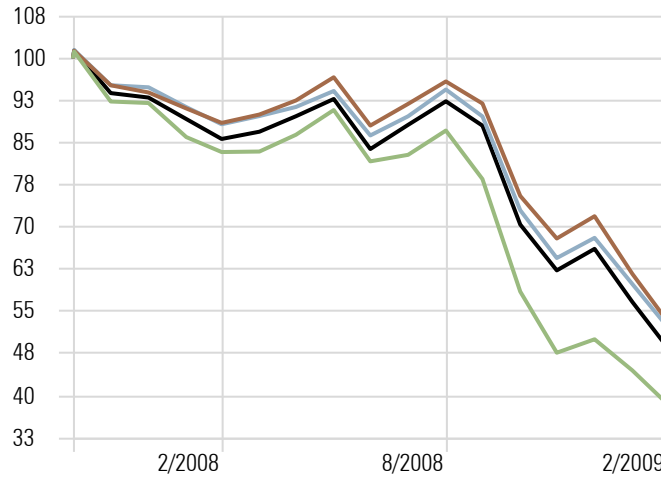
Time Period: 4/30/2003 to 9/30/2007



Royce Opportunity Instl	261	Northern Small Cap Value	216	Columbia Small Cap Value I Inst3	222
Russell 2000 Value TR USD	218				

## Credit Crunch - Financial Crisis

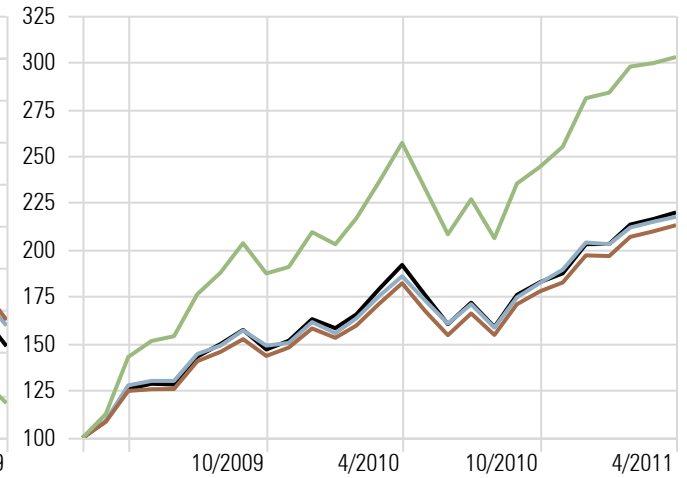
Time Period: 10/31/2007 to 2/28/2009



Royce Opportunity Instl	39	Northern Small Cap Value	53	Columbia Small Cap Value I Inst3	52
Russell 2000 Value TR USD	49				

## Financial Crisis Recovery - QE1&2

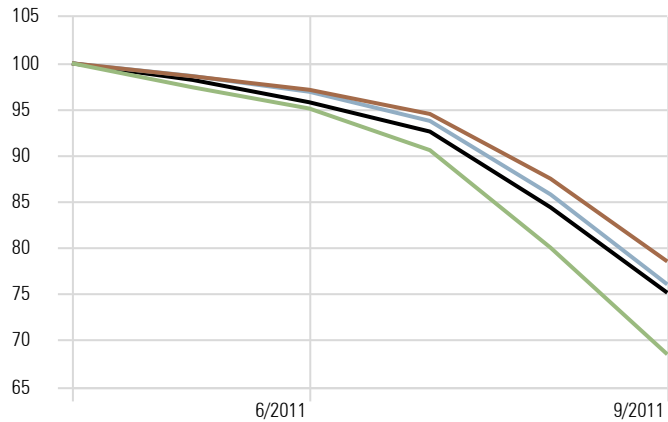
Time Period: 3/1/2009 to 4/30/2011



Royce Opportunity Instl	303.3	Northern Small Cap Value	213.5	Columbia Small Cap Value I Inst3	218.0
Russell 2000 Value TR USD	220.3				

## Double Dip

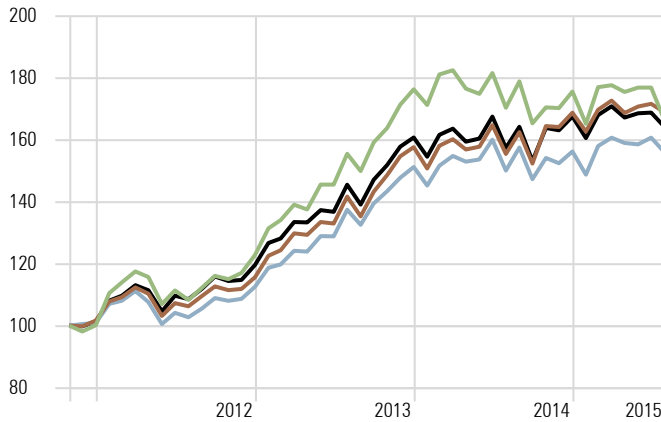
Time Period: 5/1/2011 to 9/30/2011



Royce Opportunity Instl	68.6	Northern Small Cap Value	78.6	Columbia Small Cap Value I Inst3	76.1
Russell 2000 Value TR USD	75.2				

## US Recovery Continues - Global Markets Lag

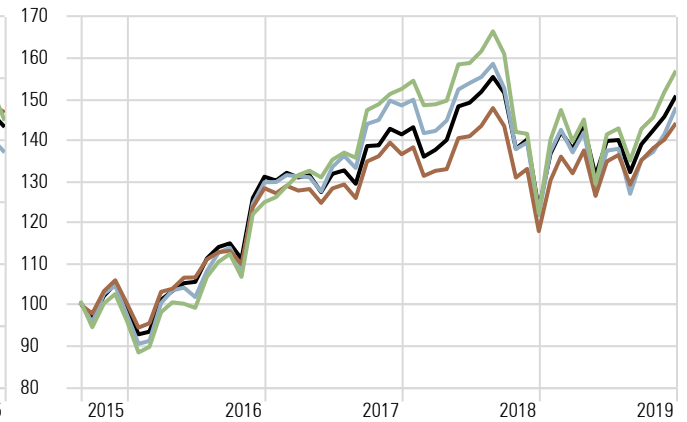
Time Period: 11/1/2011 to 7/31/2015



Royce Opportunity Instl	166.4	Northern Small Cap Value	169.1	Columbia Small Cap Value I Inst3	156.1
Russell 2000 Value TR USD	164.4				

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



Royce Opportunity Instl	157.0	Northern Small Cap Value	144.2	Columbia Small Cap Value I Inst3	148.0
Russell 2000 Value TR USD	150.9				

● Royce Opportunity Instl  
◻ Russell 2000 Value TR USD

● Northern Small Cap Value

● Columbia Small Cap Value I Inst3

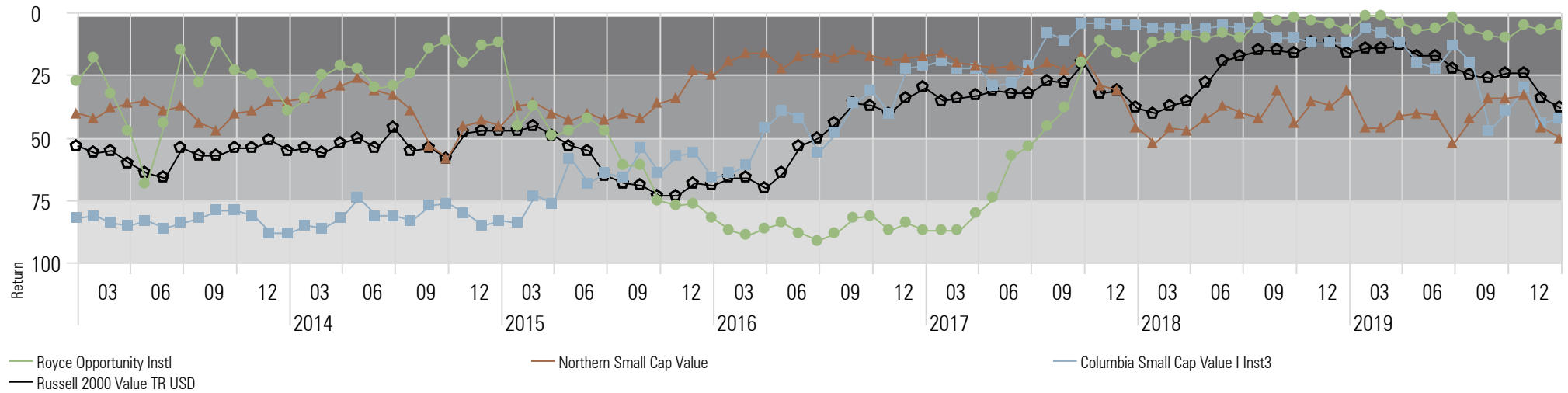
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

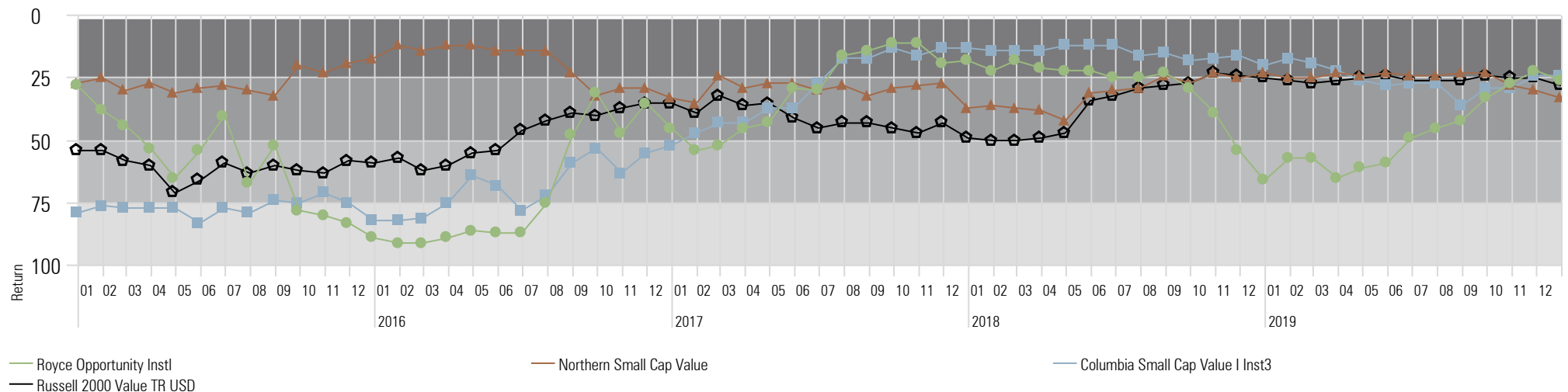


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

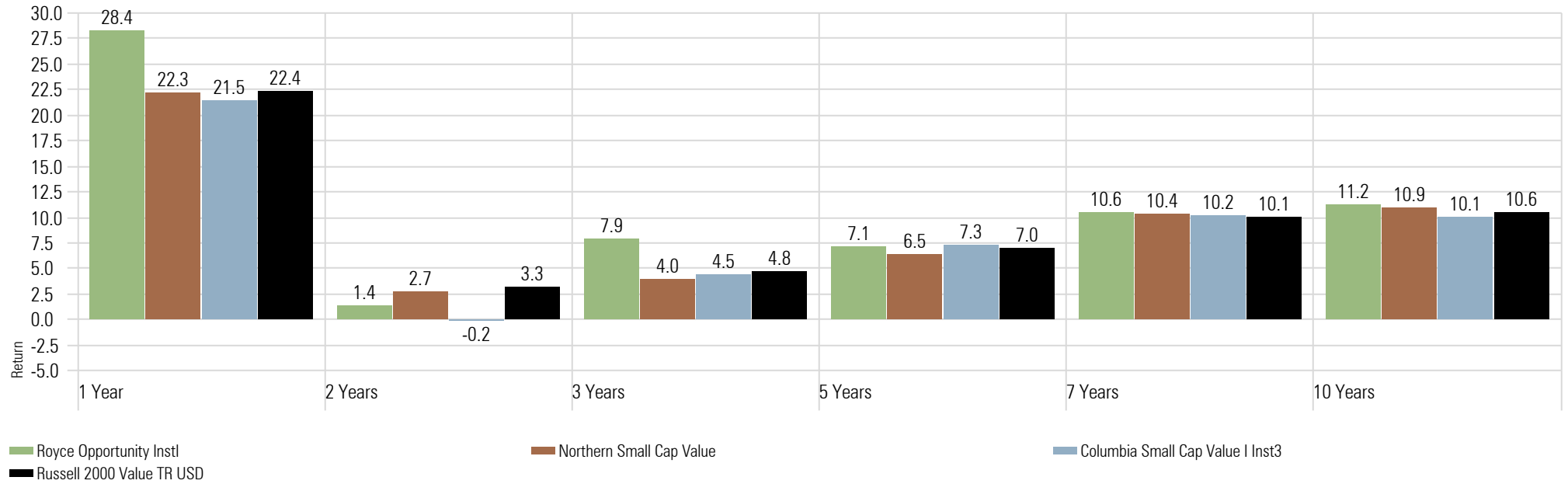
Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

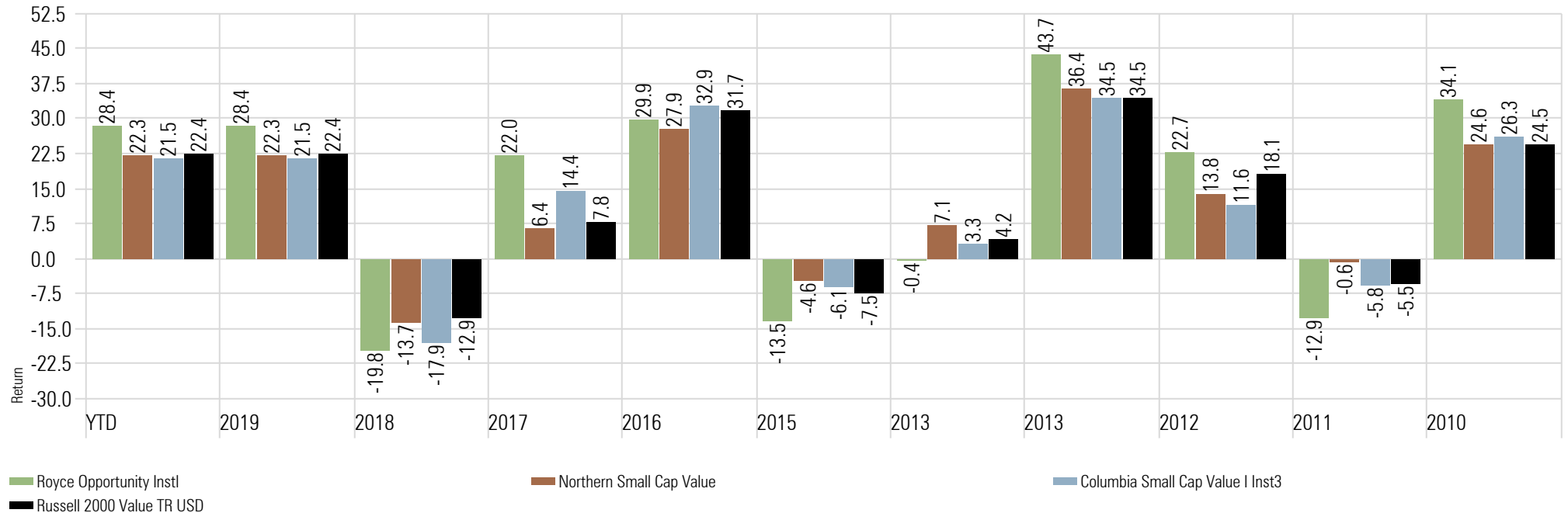


# Trailing Performance

## Cumulative Returns



## Annual Returns



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Small Value</b>																		
Royce Opportunity Instl	9.9	<b>10</b>	1.43	28.4	<b>10</b>	5.97	28.4	<b>10</b>	5.97	7.9	<b>5</b>	3.11	7.1	<b>26</b>	0.15	11.2	<b>18</b>	0.66
Northern Small Cap Value	6.7	<b>79</b>	-1.78	22.3	<b>45</b>	-0.12	22.3	<b>45</b>	-0.12	4.0	<b>50</b>	-0.82	6.5	<b>33</b>	-0.49	10.9	<b>27</b>	0.36
Columbia Small Cap Value I Inst3	9.4	<b>16</b>	0.92	21.5	<b>54</b>	-0.93	21.5	<b>54</b>	-0.93	4.5	<b>42</b>	-0.31	7.3	<b>24</b>	0.33	10.1	<b>49</b>	-0.43
Russell 2000 Value TR USD	8.5			22.4			22.4			4.8			7.0			10.6		
Average	7.9			22.2			22.2			4.0			5.8			10.0		

## Performance Summary - Calendar Year Periods

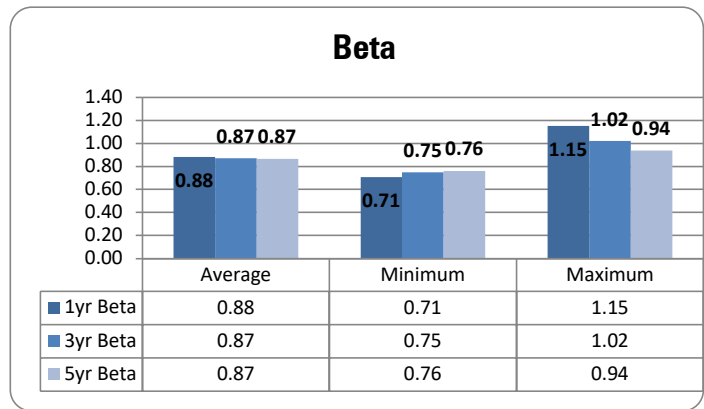
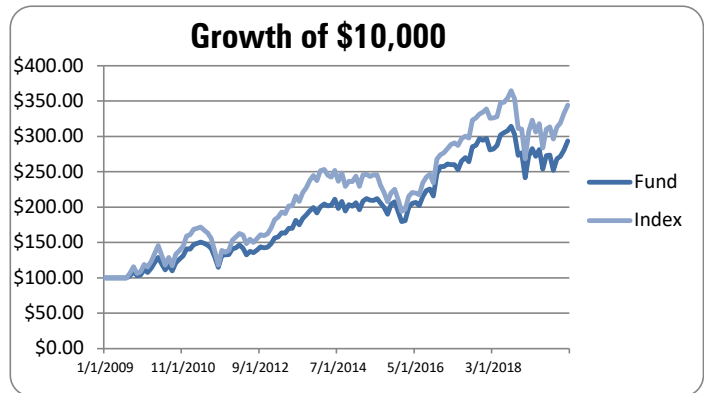
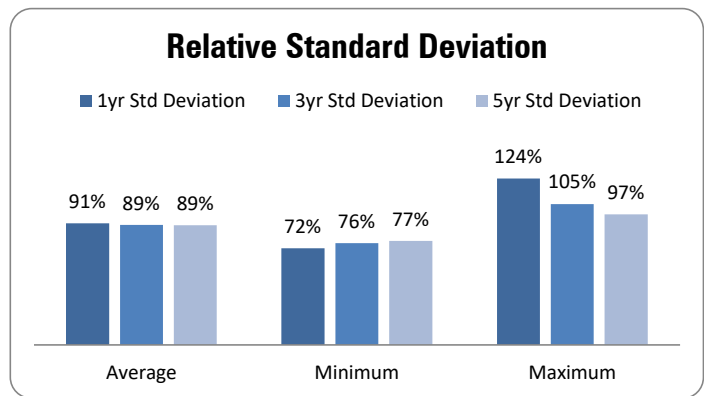
	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Small Value</b>																					
Royce Opportunity Instl	28.4	<b>10</b>	5.97	-19.8	<b>90</b>	-6.96	22.0	<b>1</b>	14.18	29.9	<b>20</b>	-1.80	-13.5	<b>93</b>	-5.99	-0.4	<b>90</b>	-4.62	43.7	<b>5</b>	9.16
Northern Small Cap Value	22.3	<b>45</b>	-0.12	-13.7	<b>28</b>	-0.82	6.4	<b>78</b>	-1.41	27.9	<b>32</b>	-3.87	-4.6	<b>36</b>	2.85	7.1	<b>11</b>	2.86	36.4	<b>47</b>	1.92
Columbia Small Cap Value I Inst3	21.5	<b>54</b>	-0.93	-17.9	<b>74</b>	-5.07	14.4	<b>8</b>	6.53	32.9	<b>5</b>	1.20	-6.1	<b>49</b>	1.39	3.3	<b>67</b>	-0.90	34.5	<b>67</b>	-0.04
Russell 2000 Value TR USD	22.4			-12.9			7.8			31.7			-7.5		4.2				34.5		
Average	22.2			-15.6			9.3			25.4			-6.2		3.7				36.1		

Fund Name	Comparative Index/Fund
Columbia Small Cap Value I Inst3	100% Royce Opportunity Instl

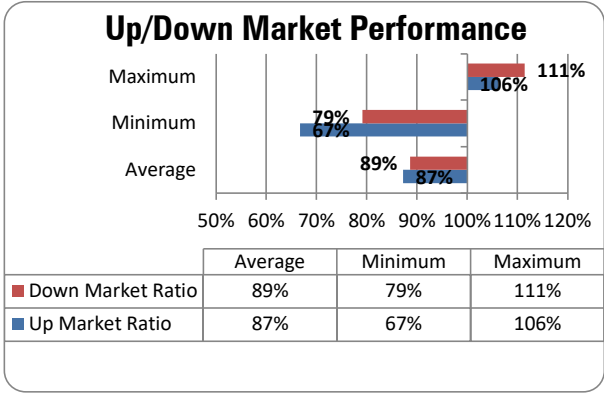
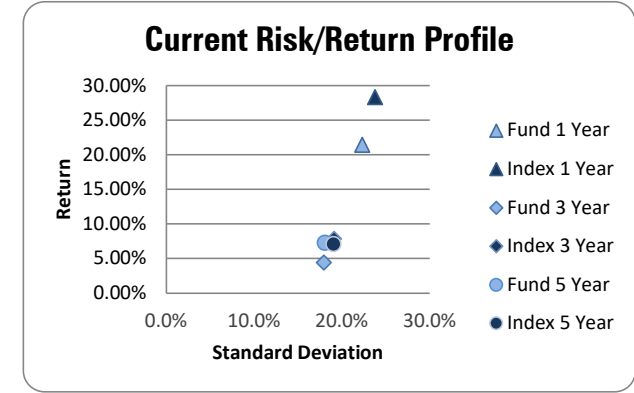
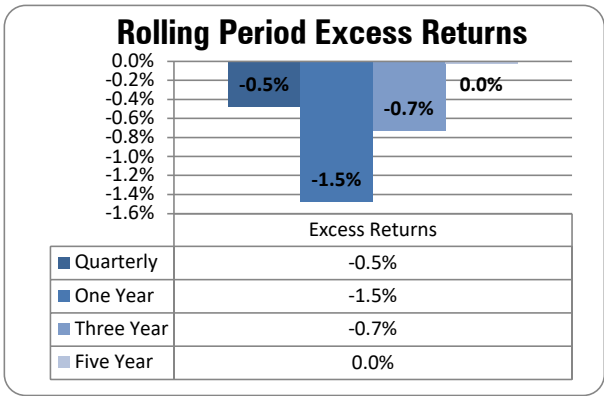
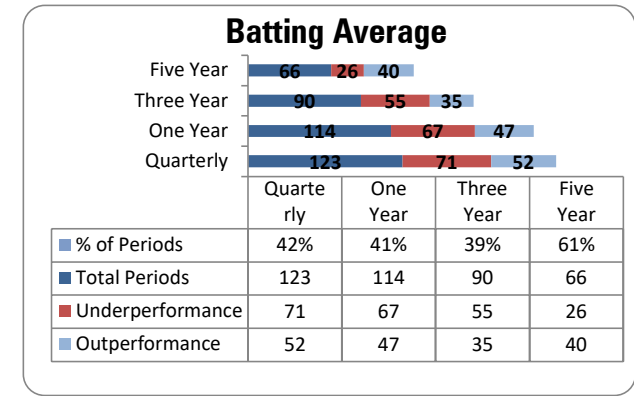
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## Risk Analysis



## Absolute Performance Summary



## Annualized Performance and Risk Statistics

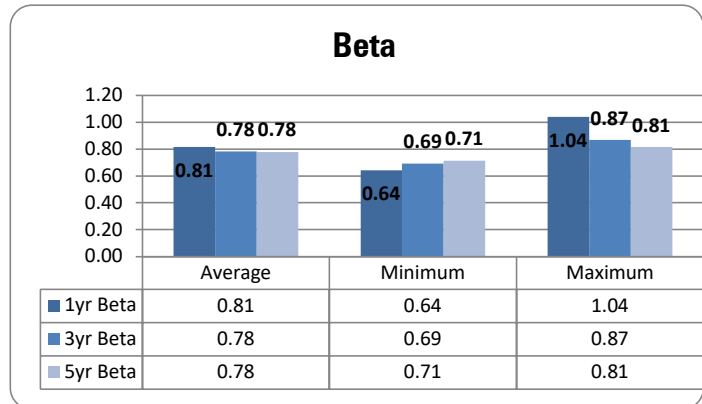
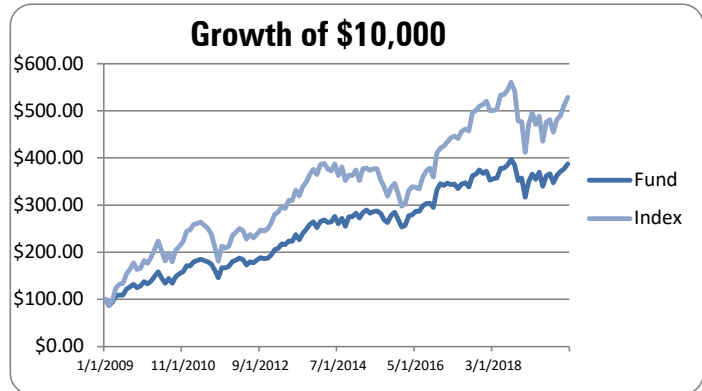
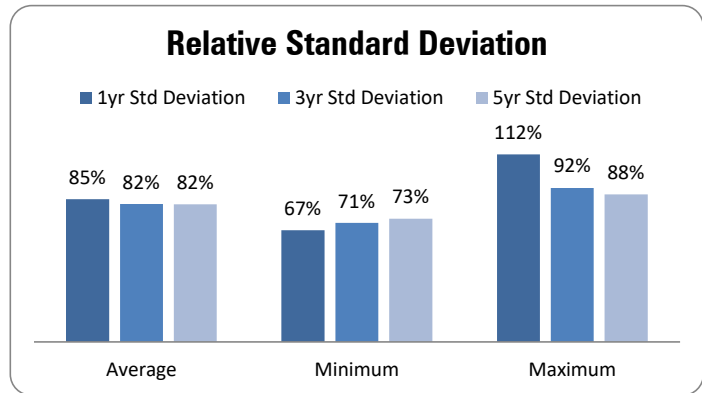
	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
Columbia Small Cap Value I Inst3	21.46%	-4.70%	22.31%	12.50%	-10.29%
100% Royce Opportunity Instl	28.36%		23.78%	14.31%	-12.20%
<b>Latest Three Years</b>					
Columbia Small Cap Value I Inst3	4.46%	-2.77%	17.94%	19.32%	-20.18%
100% Royce Opportunity Instl	7.89%		19.09%	18.14%	-24.05%
<b>Latest Five Years</b>					
Columbia Small Cap Value I Inst3	7.32%	0.71%	18.05%	19.32%	-20.18%
100% Royce Opportunity Instl	7.14%		19.04%	18.14%	-24.05%
<b>Latest Ten Years</b>					
Columbia Small Cap Value I Inst3	10.13%	0.67%	17.44%	19.45%	-21.46%
100% Royce Opportunity Instl	11.22%		20.16%	26.62%	-27.91%

Fund Name	Comparative Index/Fund
Northern Small Cap Value	100% Royce Opportunity Instl

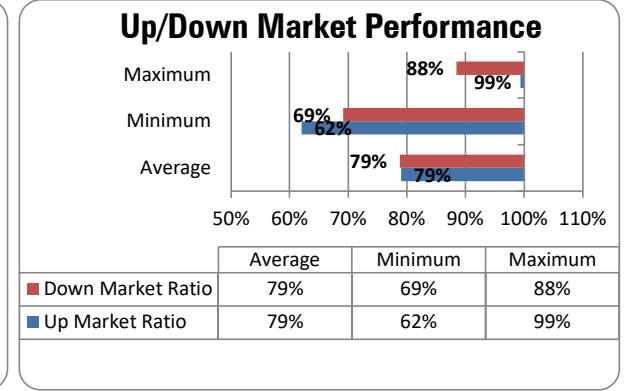
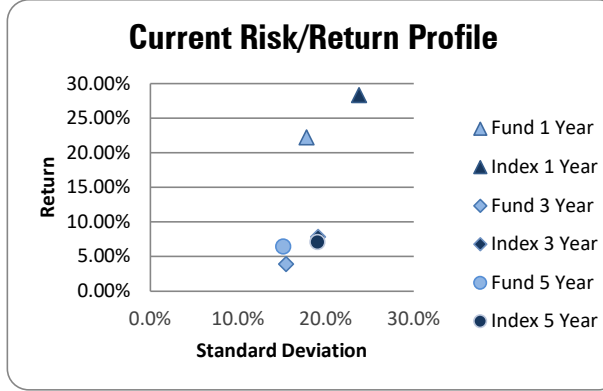
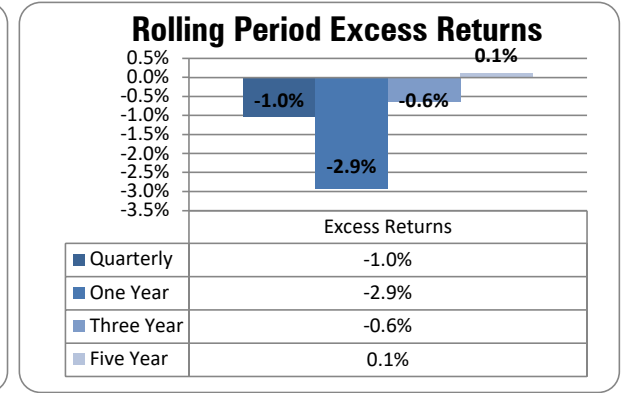
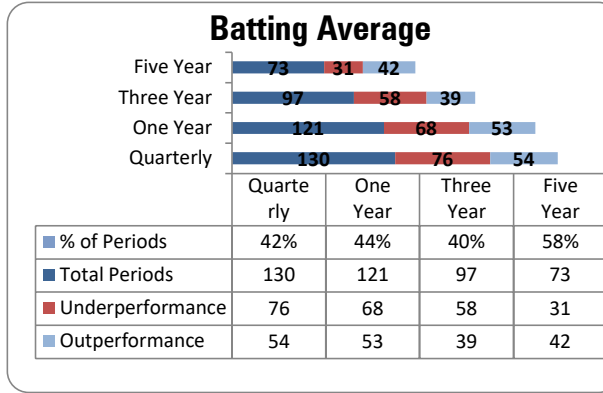
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## Risk Analysis



## Absolute Performance Summary



## Annualized Performance and Risk Statistics

	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
Northern Small Cap Value	22.27%	1.37%	17.77%	11.92%	-7.02%
100% Royce Opportunity Instl	28.36%		23.78%	14.31%	-12.20%
<b>Latest Three Years</b>					
Northern Small Cap Value	3.95%	-2.24%	15.46%	15.67%	-17.79%
100% Royce Opportunity Instl	7.89%		19.09%	18.14%	-24.05%
<b>Latest Five Years</b>					
Northern Small Cap Value	6.50%	1.06%	15.14%	15.67%	-17.79%
100% Royce Opportunity Instl	7.14%		19.04%	18.14%	-24.05%
<b>Latest Ten Years</b>					
Northern Small Cap Value	10.93%	2.24%	16.16%	18.99%	-19.09%
100% Royce Opportunity Instl	11.22%		20.16%	26.62%	-27.91%

Fund Name	Comparative Index/Fund
Columbia Small Cap Value I Inst3	100% Northern Small Cap Value

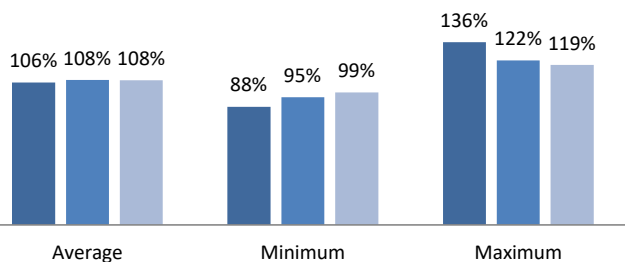
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## Risk Analysis

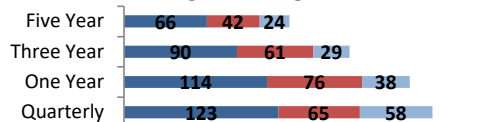
### Relative Standard Deviation

■ 1yr Std Deviation ■ 3yr Std Deviation ■ 5yr Std Deviation



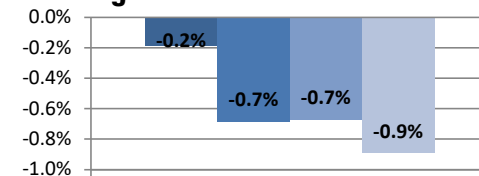
## Absolute Performance Summary

### Batting Average



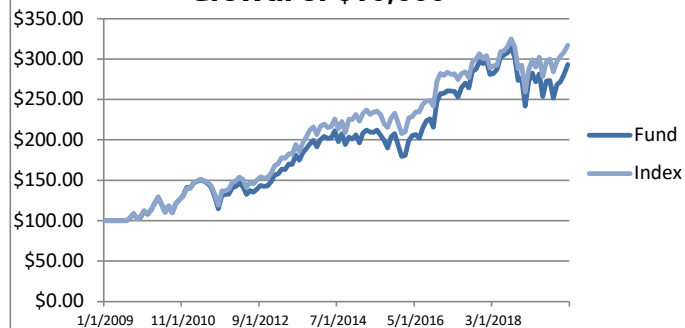
	Quarterly	One Year	Three Year	Five Year
% of Periods	47%	33%	32%	36%
Total Periods	123	114	90	66
Underperformance	65	76	61	42
Outperformance	58	38	29	24

### Rolling Period Excess Returns

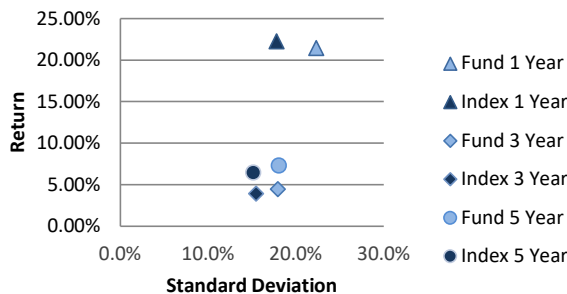


Period	Excess Returns
Quarterly	-0.2%
One Year	-0.7%
Three Year	-0.7%
Five Year	-0.9%

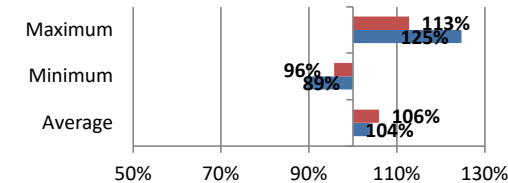
### Growth of \$10,000



### Current Risk/Return Profile

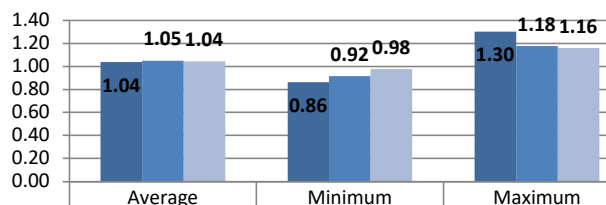


### Up/Down Market Performance



	Average	Minimum	Maximum
Down Market Ratio	106%	96%	113%
Up Market Ratio	104%	89%	125%

### Beta



	Average	Minimum	Maximum
1yr Beta	1.04	0.86	1.30
3yr Beta	1.05	0.92	1.18
5yr Beta	1.04	0.98	1.16

## Annualized Performance and Risk Statistics

	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
Columbia Small Cap Value I Inst3	21.46%	-6.11%	22.31%	12.50%	-10.29%
100% Northern Small Cap Value	22.27%		17.77%	11.92%	-7.02%
<b>Latest Three Years</b>					
Columbia Small Cap Value I Inst3	4.46%	-0.04%	17.94%	19.32%	-20.18%
100% Northern Small Cap Value	3.95%		15.46%	15.67%	-17.79%
<b>Latest Five Years</b>					
Columbia Small Cap Value I Inst3	7.32%	-0.22%	18.05%	19.32%	-20.18%
100% Northern Small Cap Value	6.50%		15.14%	15.67%	-17.79%
<b>Latest Ten Years</b>					
Columbia Small Cap Value I Inst3	10.13%	-1.38%	17.44%	19.45%	-21.46%
100% Northern Small Cap Value	10.93%		16.16%	18.99%	-19.09%

# Royce Opportunity Instl

ROFIX

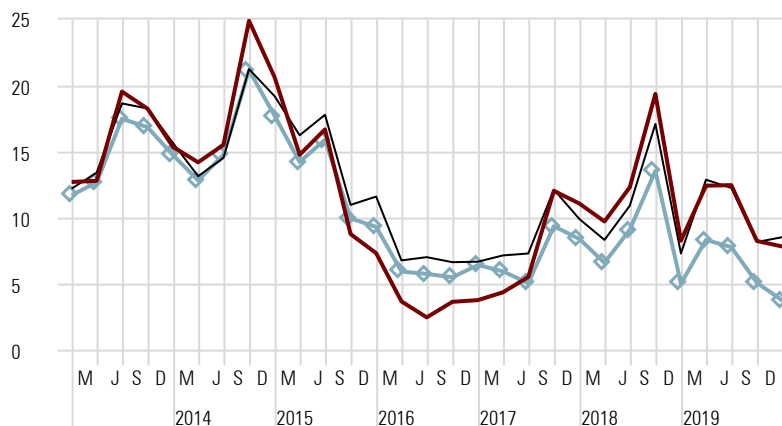
**Index:** Russell 2000 TR USD  
**Category:** US Fund Small Value  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 2000 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Royce Opportunity Instl	28.4	28.4	7.9	7.1	11.2	7.9
Russell 2000 TR USD	25.5	25.5	8.6	8.2	11.8	7.9
US Fund Small Value	21.2	21.2	3.8	5.5	9.9	6.6

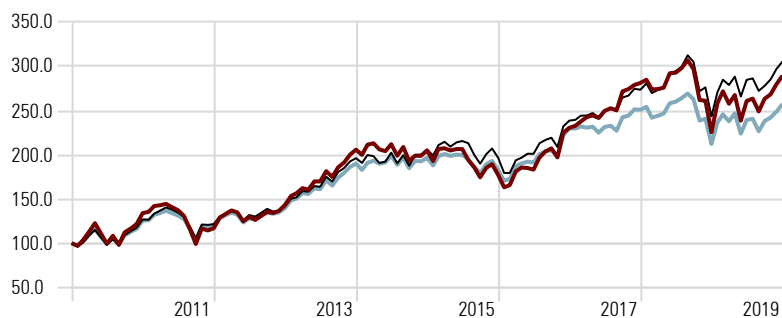
## Returns (Rolling 36 Months)



— Royce Opportunity Instl — Russell 2000 TR USD — US Fund Small Value

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



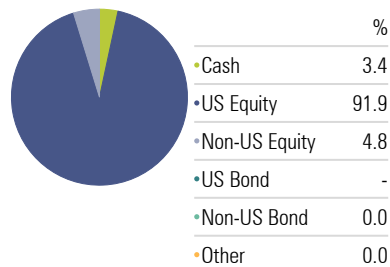
— Royce Opportunity Instl — Russell 2000 TR USD — US Fund Small Value

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	1.08	1.24	
Gross Expense Ratio	1.08	1.88	
LT Earn Growth	13.0	11.2	9.1
Avg Mkt Cap (\$MMM)	0.9	2.9	47.9
P/E Ratio	16.0	15.7	16.3
P/B Ratio	1.5	1.5	2.0
P/S Ratio	0.6	1.0	1.4
P/CF Ratio	6.9	8.3	10.5
ROE %	-0.4	10.4	20.5
ROA %	-0.3	3.5	7.2
Dividend Yld	0.8	2.2	2.8

## Asset Allocation

Portfolio Date: 12/31/2019

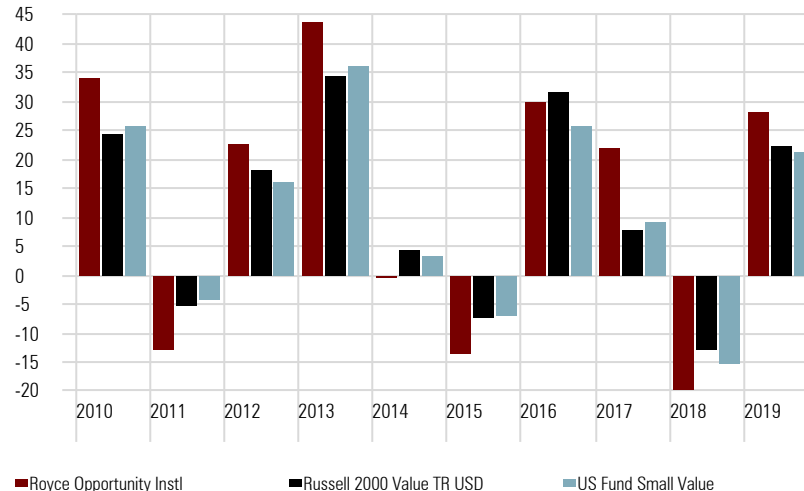


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 2000 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Royce Opportunity Instl	65.0	35.0	17.7	-14.4	19.3	-27.9	109.1	117.1
Russell 2000 TR USD	64.2	35.8	15.1	-11.9	16.3	-21.9	100.0	100.0
US Fund Small Value	64.2	35.8	14.8	-11.9	15.9	-21.0	90.2	94.2

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	19.1	3.1	19.0	3.4
Down Deviation	3.4	0.6	4.1	1.4
Beta	1.2	0.2	1.1	0.2
Alpha	-1.4	3.0	-1.7	0.5
Sharpe	0.3	0.2	0.3	0.0
Sortino	0.6	0.3	0.6	0.1
Info Ratio	-0.1	1.3	-0.2	0.6
Down Capture	117.0	7.4	116.1	17.9
Up Capture	109.2	20.9	107.6	18.9

## Top 10 Holdings

	Fund %	Sector	Inv	Avg
Alpha & Omega Semiconductor Ltd	1.1	Energy	9	5
Surgery Partners Inc	1.1	Materials	9	8
Dorian LPG Ltd	1.1	Industrials	21	16
MACOM Technology Solutions Holdings Inc	1.0	Cons Discretionary	10	10
Onto Innovation Inc	1.0	Consumer Staples	1	5
Forterra Inc	1.0	Healthcare	14	4
Kemet Corp	1.0	Financials	10	28
Air Lease Corp Class A	1.0	Info Technology	25	10
Herc Holdings Inc	0.9	Telecom Services	1	2
Invacare Corp	0.9	Utilities	0	4
		Real Estate %	1.4	8.8



# CREF Global Equities

As of 12/31/2019



# CREF Global Equities R3

QCGLIX

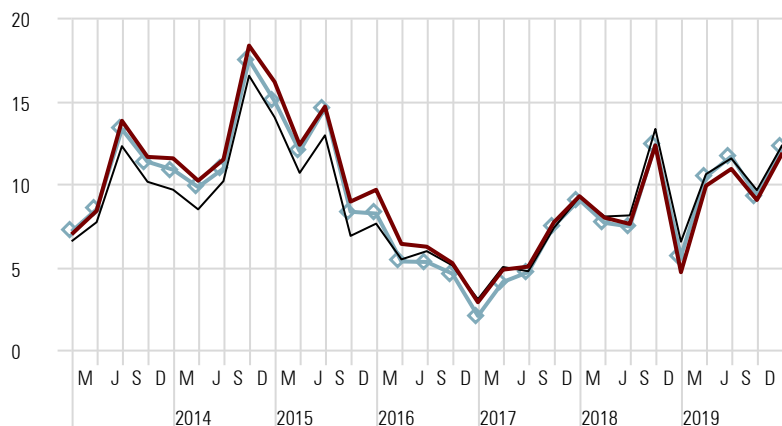
**Index:** MSCI ACWI NR USD  
**Category:** US Insurance World Large Stock  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: MSCI ACWI NR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
CREF Global Equities R3	28.3	28.3	12.0	8.0	9.1	6.7
MSCI ACWI NR USD	26.6	26.6	12.4	8.4	8.8	6.9
US Insurance World Large Stock	26.2	26.2	12.4	8.1	8.8	6.9

## Returns (Rolling 36 Months)



— CREF Global Equities R3 — MSCI ACWI NR USD — US Insurance World Large Stock

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



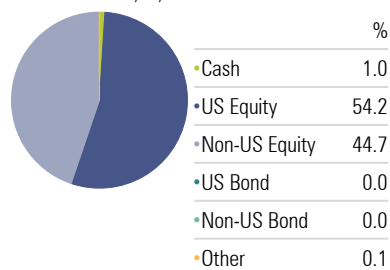
— CREF Global Equities R3 — MSCI ACWI NR USD — US Insurance World Large Stock

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.27	0.94	
Gross Expense Ratio	0.27	1.11	
LT Earn Growth	9.6	10.2	9.1
Avg Mkt Cap (\$MMM)	79.1	75.2	47.9
P/E Ratio	20.0	19.8	16.3
P/B Ratio	2.5	2.6	2.0
P/S Ratio	2.0	1.8	1.4
P/CF Ratio	13.4	12.9	10.5
ROE %	21.3	21.9	20.5
ROA %	7.5	7.4	7.2
Dividend Yld	2.2	2.2	2.8

## Asset Allocation

Portfolio Date: 12/31/2019

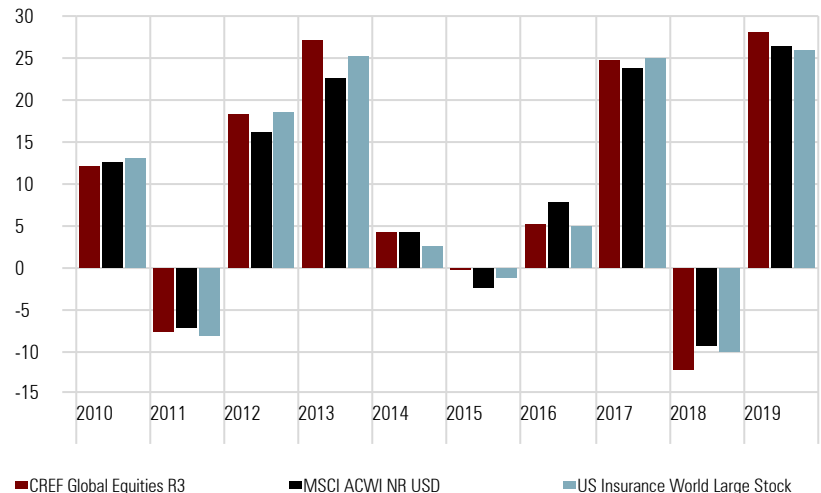


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: MSCI ACWI NR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
CREF Global Equities R3	65.0	35.0	10.4	-10.0	14.4	-18.0	102.3	101.6
MSCI ACWI NR USD	64.2	35.8	10.7	-9.5	14.3	-17.4	100.0	100.0
US Insurance World Large Stock	65.0	35.0	10.4	-9.9	14.4	-18.5	99.4	98.6

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.4	0.9	12.2	0.6
Down Deviation	1.1	0.3	1.3	0.1
Beta	1.1	0.1	1.0	0.0
Alpha	-1.2	-1.1	-0.5	-0.3
Sharpe	0.8	-0.1	0.6	0.0
Sortino	1.2	-0.1	0.9	0.0
Info Ratio	-0.3	-0.3	-0.2	0.0
Down Capture	108.7	9.5	105.2	5.7
Up Capture	102.2	2.9	101.3	3.2

## Top 10 Holdings

	Fund %
Apple Inc	3.0
Microsoft Corp	2.6
Amazon.com Inc	1.3
JPMorgan Chase & Co	1.3
Facebook Inc A	1.1
Boeing Co	1.1
Alphabet Inc Class C	1.1
Taiwan Semiconductor Manufacturing Co Ltd	1.1
Alibaba Group Holding Ltd ADR	1.1
Tencent Holdings Ltd	1.0

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy		5	4
Materials		6	4
Industrials		10	12
Cons Discretionary		13	12
Consumer Staples		8	8
Healthcare		12	13
Financials		15	14
Info Technology		19	19
Telecom Services		9	8
Utilities		2	3
Real Estate %		1.8	2.2

# Foreign Large Growth Search

As of 12/31/2019



# US Fund Foreign Large Growth

## American Funds Europacific Growth R6

### Investment Strategy

The investment seeks long-term growth of capital. The fund invests primarily in common stocks of issuers in Europe and the Pacific Basin that the investment adviser believes have the potential for growth. Growth stocks are stocks that the investment adviser believes have the potential for above-average capital appreciation. It normally will invest at least 80% of its net assets in securities of issuers in Europe and the Pacific Basin. The fund may invest a portion of its assets in common stocks and other securities of companies in emerging markets.

### Manager Biography

Carl M. Kawaja since 6/1/2001  
 Sung Lee since 6/1/2002  
 Nicholas J. Grace since 6/1/2002  
 Jesper Lyckeus since 6/1/2004  
 Jonathan Knowles since 6/1/2006  
 Andrew B. Szymanski since 6/1/2007  
 Christopher M. Thomsen since 6/1/2008  
 Lawrence Kymis since 6/1/2014  
 Lara Pellini since 10/1/2014  
 Noriko H. Chen since 1/6/2020  
 Gerald Du Manoir since 1/6/2020

### American Funds Europacific Growth R6 - Operations

Inception Date	5/1/2009
Fund Size (\$mm)	172,304
Annual Report Net Expense Ratio	0.49
Prospectus Net Expense Ratio	0.49
Prospectus Gross Expense Ratio	0.49
Ticker	RERGX
Manager Tenure (Longest)	18.58
Manager Tenure (Average)	10.72
Morningstar Inst Cat	Foreign Large Growth

### Other Notes:

None

## Artisan International Institutional

### Investment Strategy

The investment seeks maximum long-term capital growth. The fund invests primarily in developed markets but also may invest up to 35% of the fund's total assets at market value at the time of purchase in emerging and less developed markets. Under normal market conditions, it is substantially fully invested in common stocks and similar securities, and invests at least 65% of its net assets at market value at the time of purchase in securities of non-U.S. companies.

### Manager Biography

Mark L. Yockey since 12/28/1995  
 Andrew J. Euretig since 2/1/2012  
 Charles-Henri Hamker since 2/1/2012

### Artisan International Institutional - Operations

Inception Date	7/1/1997
Fund Size (\$mm)	10,939
Annual Report Net Expense Ratio	0.96
Prospectus Net Expense Ratio	0.96
Prospectus Gross Expense Ratio	0.96
Ticker	APHIX
Manager Tenure (Longest)	24.08
Manager Tenure (Average)	13.31
Morningstar Inst Cat	Foreign Giant

### Other Notes:

None

# Portfolio Analysis

## American Funds Europacific Growth R6

## Artisan International Institutional

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth
Large	14	25	49
Mid	2	3	8
Small	0	0	0

Market Cap	%
Market Cap Giant %	56
Market Cap Large %	31
Market Cap Mid %	13
Market Cap Small %	0
Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: MSCI ACWI Ex USA Growth NR USD

	Inv	Bmk1
Average Market Cap (bil)	48.0	41.6
Forward P/E	17.8	20.3
P/E Ratio (TTM)	20.8	23.1
LT Earn Growth	9.6	10.2
P/B Ratio (TTM)	2.6	3.2
Dividend Yield	1.8	2.0
ROE %	17.2	20.3
ROA %	6.1	8.4
Debt to Capital %	32	30

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	35	
# of Stock Holdings	310	1,235
% in Top 10	19.7	18.7
Cash %	8.2	0.0
Developed %	66.0	79.1
US Equity %	0.9	1.3
Non-US Equity %	91	99
Emerging Mkt %	25.9	20.9

Source: Morningstar Direct

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth
Large	19	37	34
Mid	0	2	8
Small	0	0	0

Market Cap	%
Market Cap Giant %	47
Market Cap Large %	41
Market Cap Mid %	12
Market Cap Small %	0
Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: MSCI ACWI Ex USA Growth NR USD

	Inv	Bmk1
Average Market Cap (bil)	55.6	41.6
Forward P/E	17.9	20.3
P/E Ratio (TTM)	20.8	23.1
LT Earn Growth	9.5	10.2
P/B Ratio (TTM)	2.5	3.2
Dividend Yield	2.1	2.0
ROE %	18.4	20.3
ROA %	5.1	8.4
Debt to Capital %	40	30

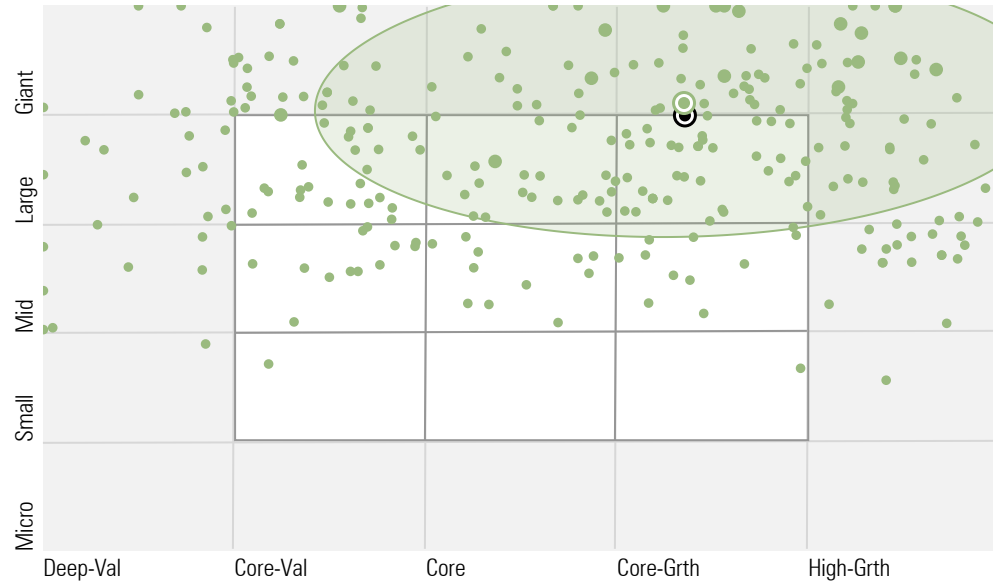
### Portfolio Data

	Inv	Bmk1
Turnover Ratio	41	
# of Stock Holdings	54	1,235
% in Top 10	39.3	18.7
Cash %	3.2	0.0
Developed %	87.0	79.1
US Equity %	14.8	1.3
Non-US Equity %	80	99
Emerging Mkt %	7.4	20.9

# Holdings-Based Style Analysis

## American Funds Europacific Growth R6

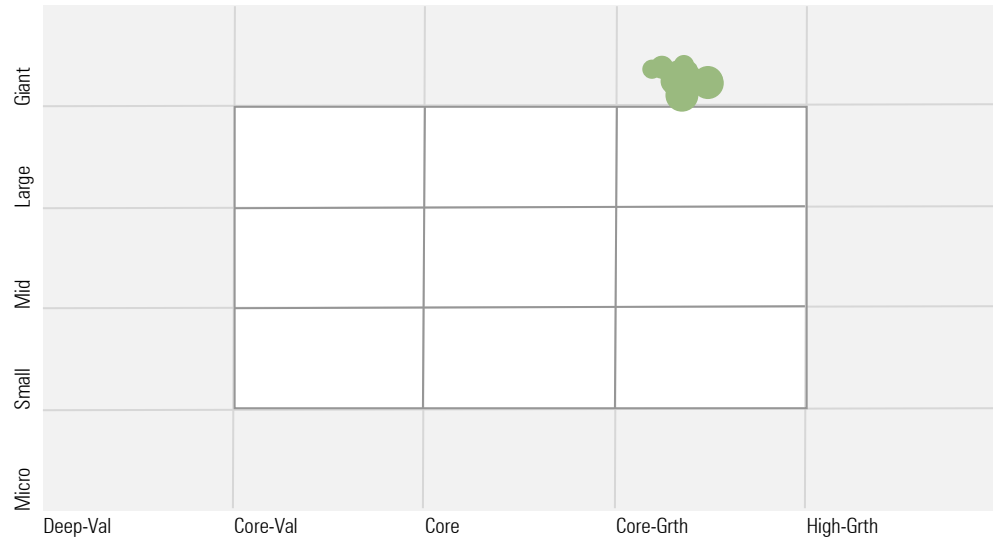
### Holdings-Based Style Map



● American Funds Europacific Growth R6 12/31/2019 ● MSCI ACWI Ex USA Growth NR USD 12/31/2019

### Holdings-Based Style Trail

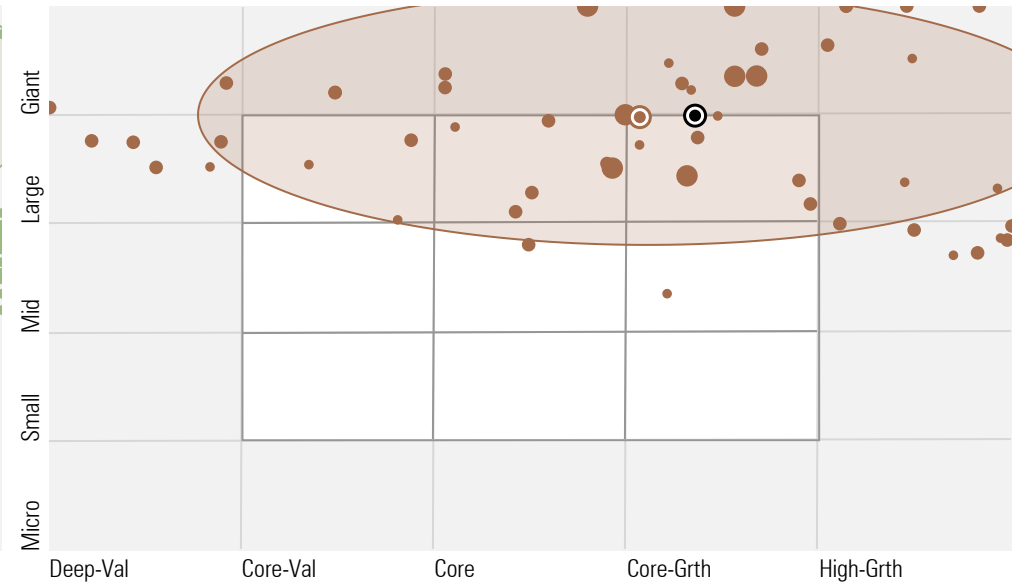
Time Period: 3/31/2015 to 12/31/2019



Source: Morningstar Direct

## Artisan International Institutional

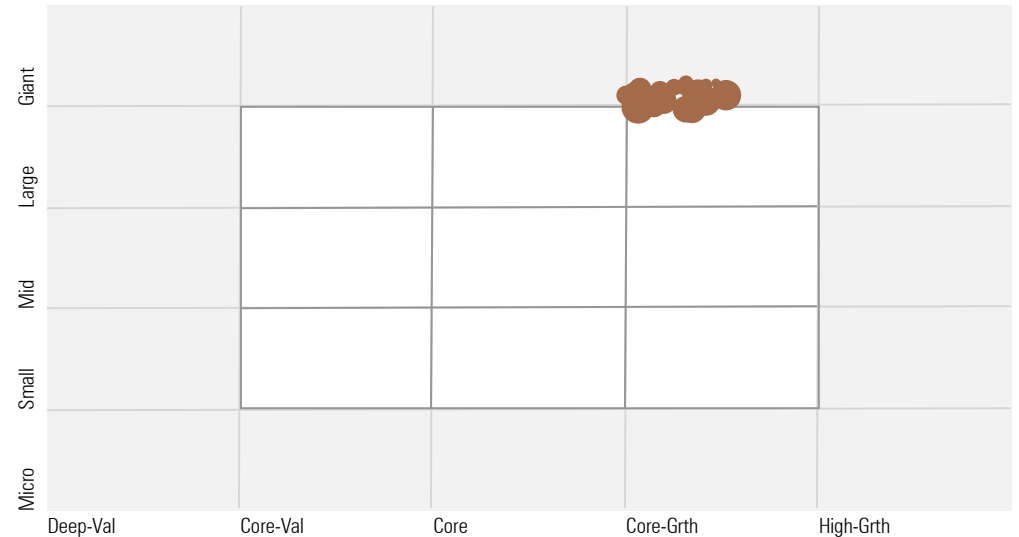
### Holdings-Based Style Map



● Artisan International Institutional 12/31/2019 ● MSCI ACWI Ex USA Growth NR USD 12/31/2019

### Holdings-Based Style Trail

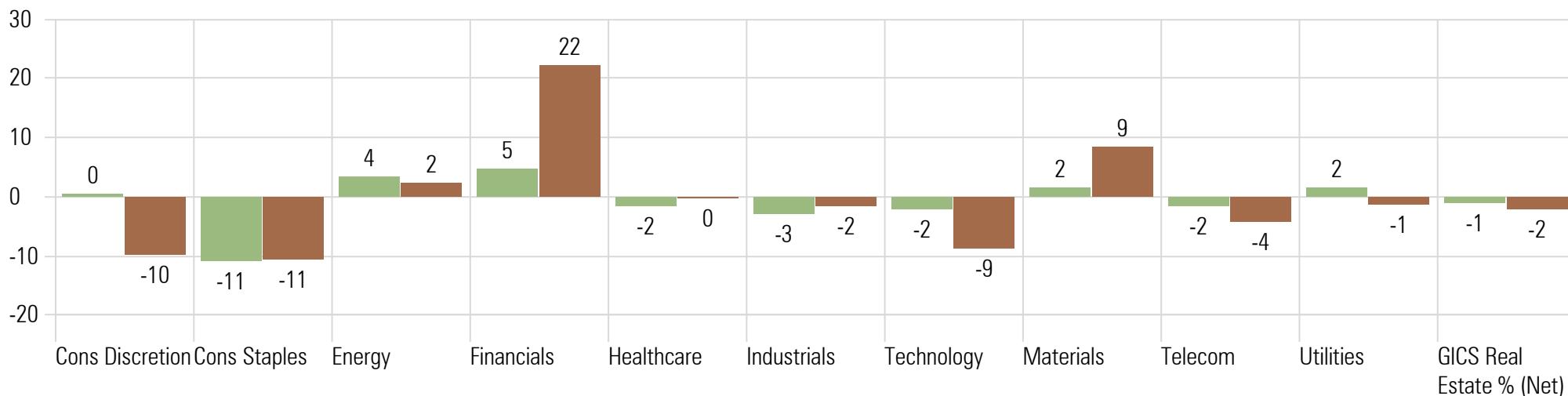
Time Period: 3/31/2015 to 12/31/2019



# Sector Exposure and Top 15 Holdings

## Relative Sector Allocation

Calculation Benchmark: MSCI ACWI Ex USA Growth NR USD



American Funds Europacific Growth R6

Artisan International Institutional

MSCI ACWI Ex USA Growth NR USD

## American Funds Europacific Growth R6 - Top Holdings

Portfolio Date: 12/31/2019

Company	Equity Style Box	Portfolio Weighting %
Reliance Industries Ltd	■	2.7
Airbus SE	■	2.7
HDFC Bank Ltd	■	2.2
AIA Group Ltd	■	2.2
Nintendo Co Ltd	■	2.2
ASML Holding NV	■	2.2
Daiichi Sankyo Co Ltd	■	1.5
Recruit Holdings Co Ltd	■	1.4
Taiwan Semiconductor Manufacturing Co Ltd	■	1.4
Keyence Corp	■	1.4
Alibaba Group Holding Ltd ADR	■	1.3
Vale SA ADR	■	1.3
MercadoLibre Inc	■	1.3
Kotak Mahindra Bank Ltd	■	1.3
Samsung Electronics Co Ltd	■	1.3

## Artisan International Institutional - Top Holdings

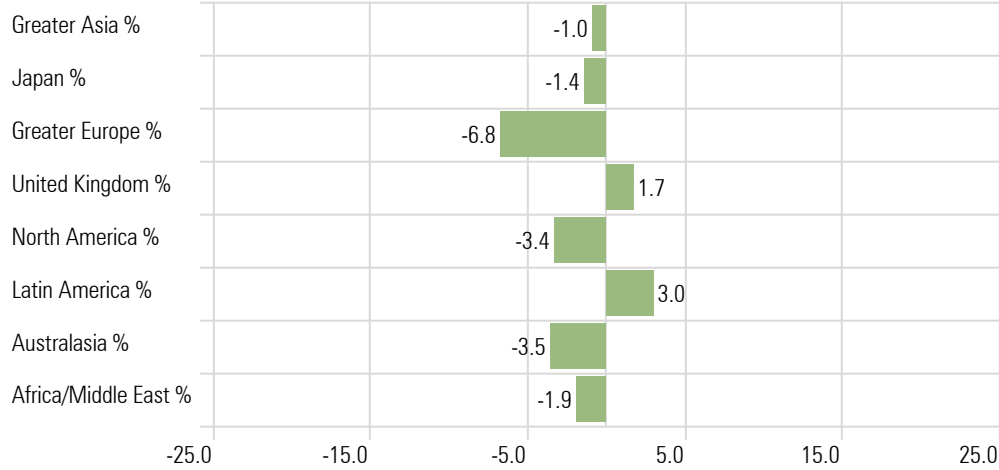
Portfolio Date: 12/31/2019

Company	Equity Style Box	Portfolio Weighting %
Linde PLC	■	6.4
Deutsche Boerse AG	■	6.1
Air Liquide SA	■	4.0
Airbus SE	■	3.8
Nestle SA	■	3.8
AIA Group Ltd	■	3.7
Aon PLC	■	3.2
Deutsche Post AG	■	2.9
Allianz SE	■	2.7
Medtronic PLC	■	2.7
HSBC Bank plc	■	2.6
ING Groep NV	■	2.4
Petroleo Brasileiro SA Petrobras Participating Preferred	■	2.3
Amazon.com Inc	■	2.2
Genmab A/S	■	2.1

# International Exposure

## American Funds Europacific Growth R6

### Regional Allocation +/- Index



American Funds Europacific Growth R6 MSCI ACWI Ex USA Growth NR USD

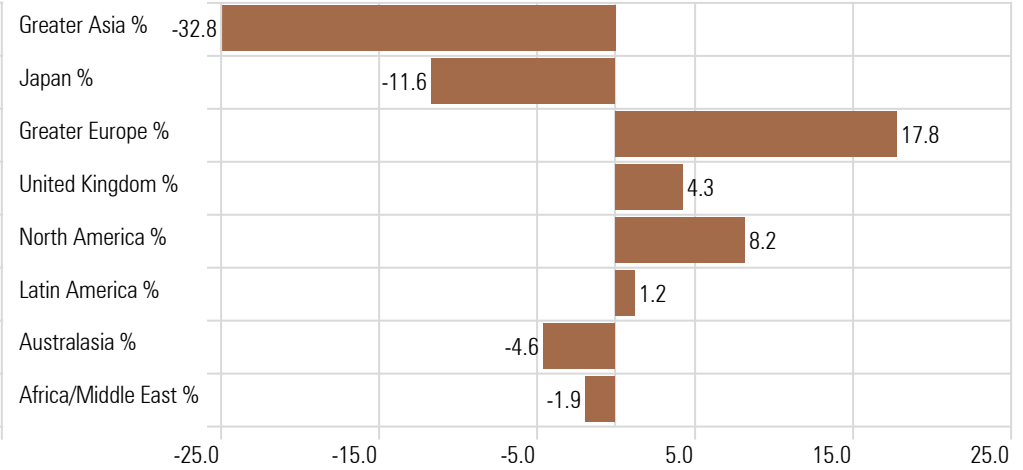
### Country Allocation +/- Index



American Funds Europacific Growth R6 MSCI ACWI Ex USA Growth NR USD

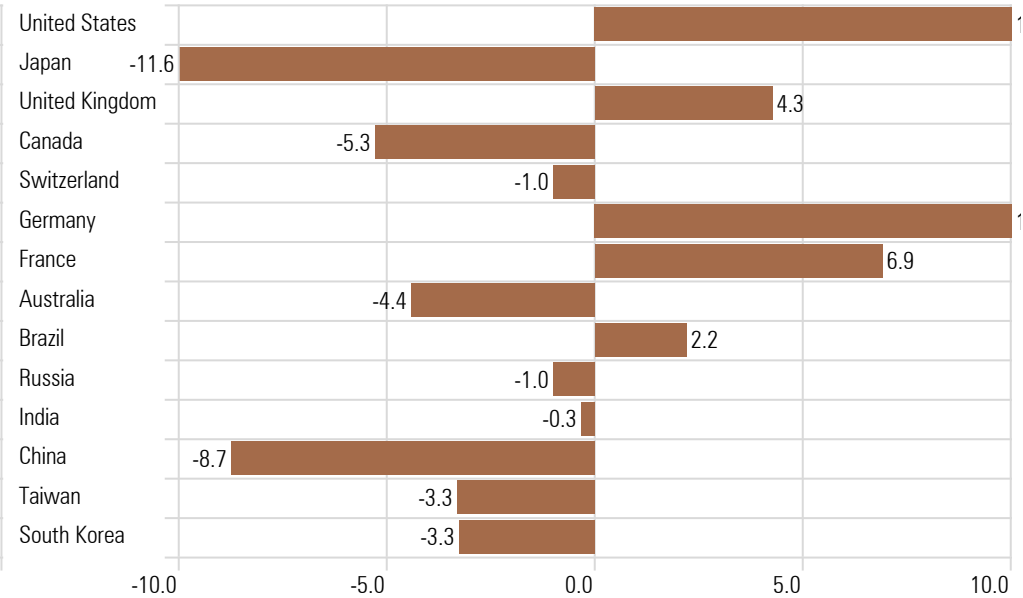
## Artisan International Institutional

### Regional Allocation +/- Index



Artisan International Institutional MSCI ACWI Ex USA Growth NR USD

### Country Allocation +/- Index

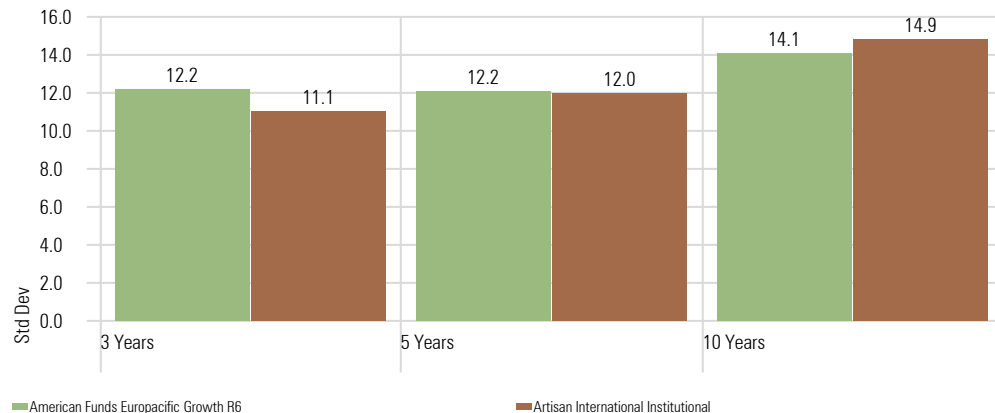


Artisan International Institutional MSCI ACWI Ex USA Growth NR USD

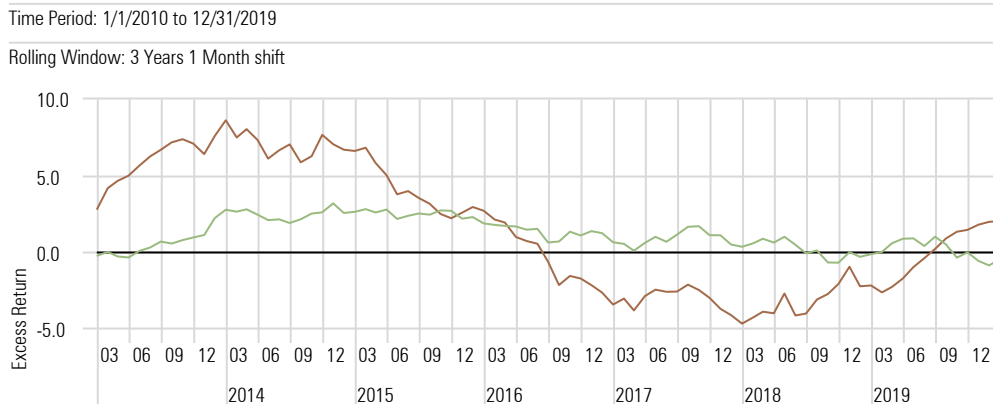


# Risk/Return Performance Analysis

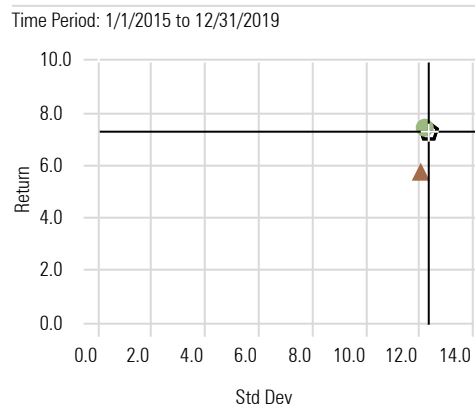
## Standard Deviation



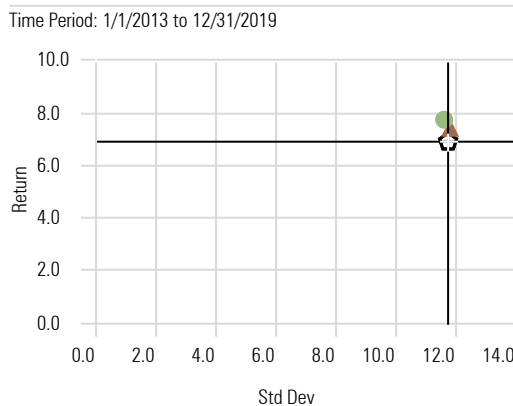
## 3 Year Relative Rolling Returns



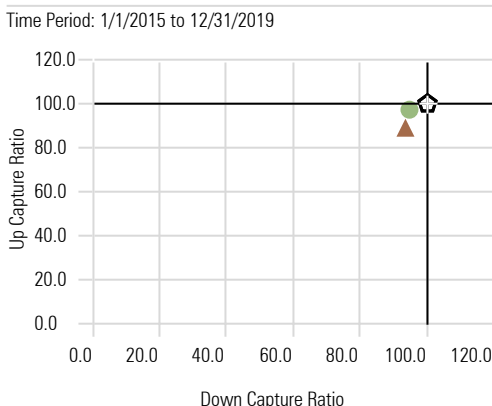
## 5 Year Risk-Reward



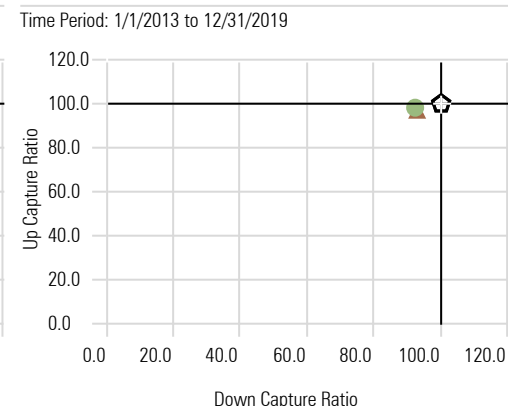
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



American Funds Europacific Growth R6

Artisan International Institutional

MSCI ACWI Ex USA Growth NR USD

## Annualized Performance & Risk Statistics - Since Common Inception

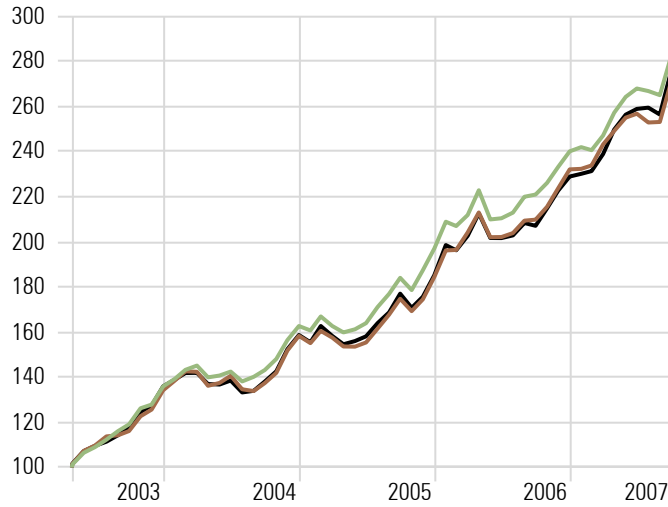
Time Period: Since Common Inception (6/1/2009) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
American Funds Europacific Growth R6	8.3	14.2	0.6	0.97	96	19.6	-20.8	0.55	2.8
Artisan International Institutional	9.2	15.1	1.3	1.00	90	21.6	-20.4	0.57	4.7
MSCI ACWI Ex USA Growth NR USD	7.9	14.3	0.0	1.00	100	17.3	-20.2	0.51	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

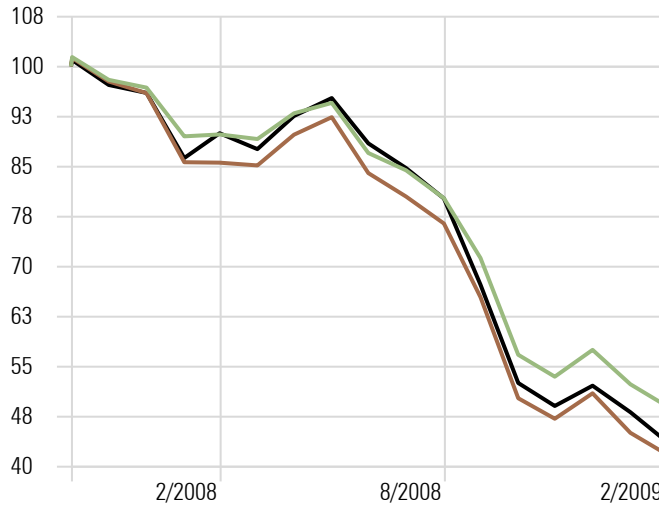
Time Period: 4/30/2003 to 9/30/2007



282 American Funds Europacific Growth R6 271 Artisan International Institutional 275 MSCI ACWI Ex USA Growth NR USD

## Credit Crunch - Financial Crisis

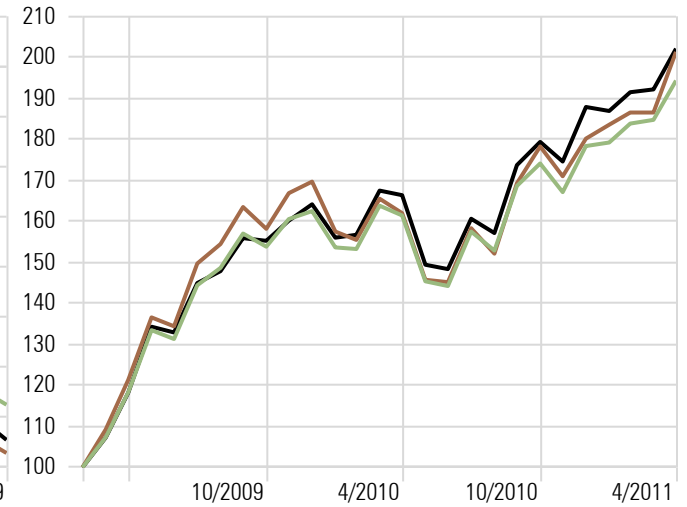
Time Period: 10/31/2007 to 2/28/2009



49 American Funds Europacific Growth R6 42 Artisan International Institutional 44 MSCI ACWI Ex USA Growth NR USD

## Financial Crisis Recovery - QE1&2

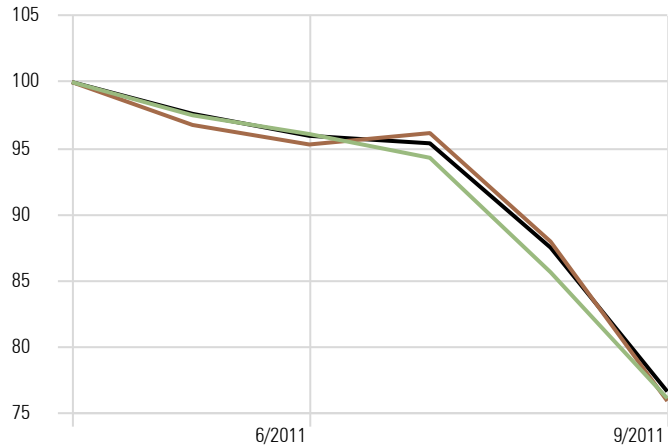
Time Period: 3/1/2009 to 4/30/2011



194.3 American Funds Europacific Growth R6 201.3 Artisan International Institutional 202.1 MSCI ACWI Ex USA Growth NR USD

## Double Dip

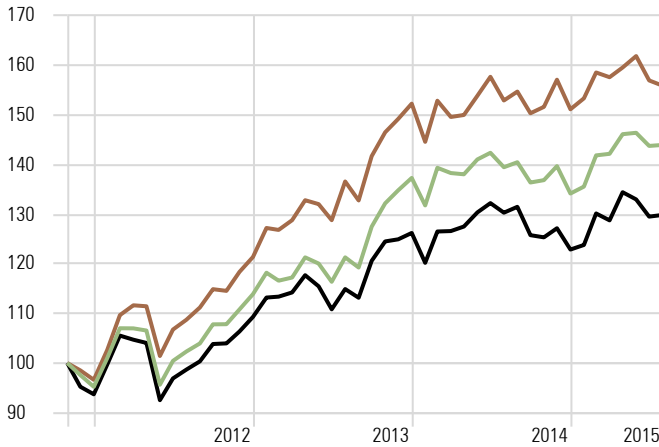
Time Period: 5/1/2011 to 9/30/2011



76.1 American Funds Europacific Growth R6 75.9 Artisan International Institutional 76.6 MSCI ACWI Ex USA Growth NR USD

## US Recovery Continues - Global Markets Lag

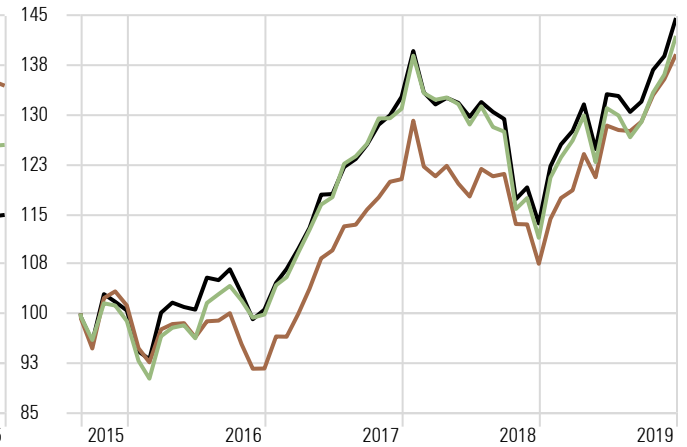
Time Period: 11/1/2011 to 7/31/2015



144.0 American Funds Europacific Growth R6 156.0 Artisan International Institutional 129.9 MSCI ACWI Ex USA Growth NR USD

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



142.0 American Funds Europacific Growth R6 139.2 Artisan International Institutional 144.7 MSCI ACWI Ex USA Growth NR USD

American Funds Europacific Growth R6

Artisan International Institutional

MSCI ACWI Ex USA Growth NR USD

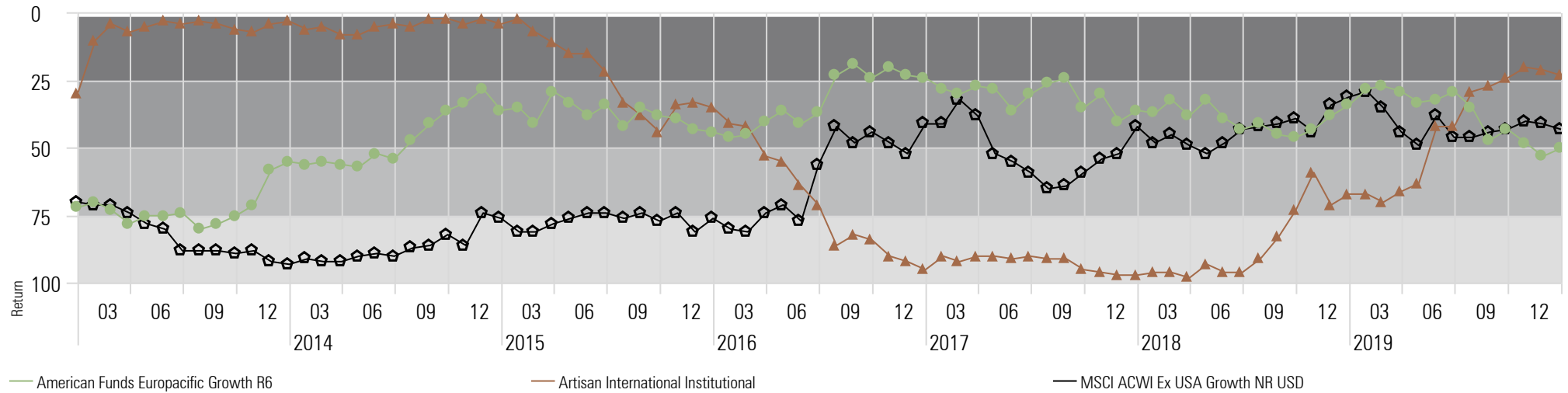
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

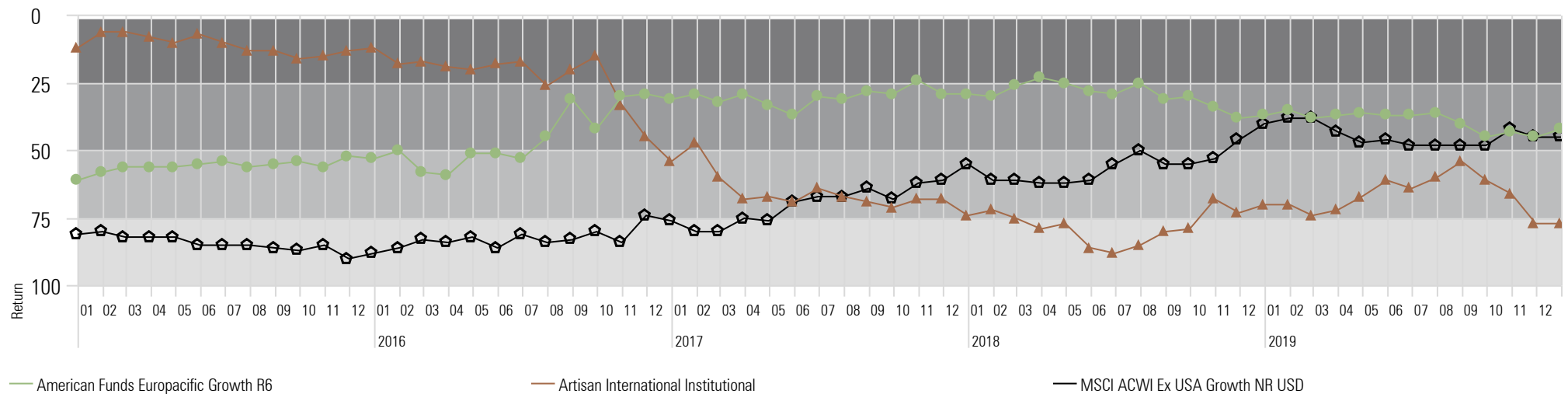


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

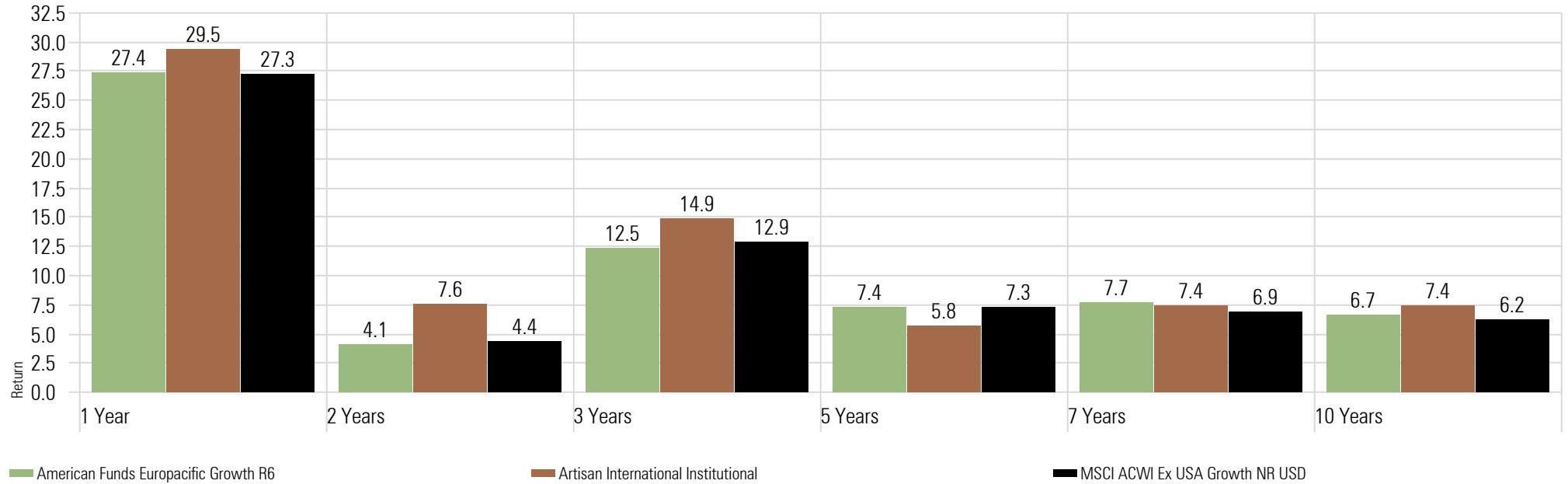
Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

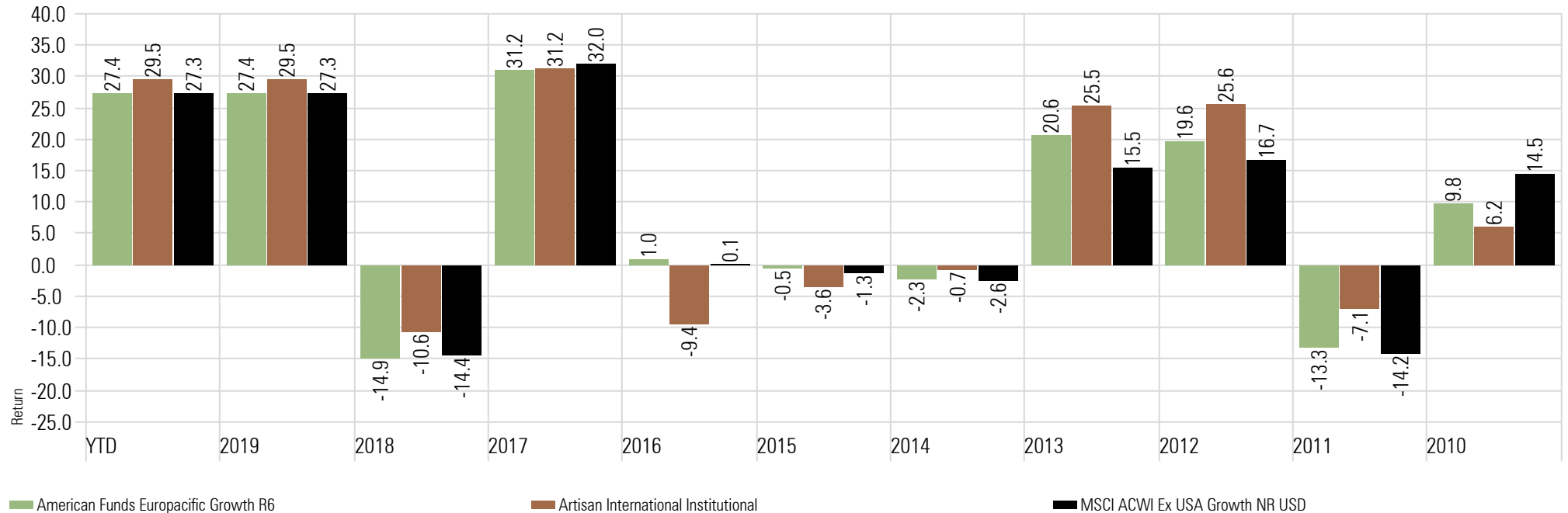


# Trailing Performance

## Cumulative Returns



## Annual Returns



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Foreign Large Growth</b>																		
American Funds Europacific Growth R6	10.1	<b>38</b>	2.25	27.4	<b>60</b>	-1.01	27.4	<b>60</b>	-1.01	12.5	<b>50</b>	-1.07	7.4	<b>42</b>	-0.43	6.7	<b>52</b>	-0.18
Artisan International Institutional	7.9	<b>81</b>	0.06	29.5	<b>34</b>	1.06	29.5	<b>34</b>	1.06	14.9	<b>23</b>	1.42	5.8	<b>77</b>	-2.04	7.4	<b>34</b>	0.52
MSCI EAFE Large Growth NR USD	7.8			28.4			28.4			13.5			7.8			6.9		
Average	9.6			28.1			28.1			13.0			7.4			6.9		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Foreign Large Growth</b>																					
American Funds Europacific Growth R6	27.4	<b>60</b>	-1.01	-14.9	<b>53</b>	-3.93	31.2	<b>45</b>	3.21	1.0	<b>23</b>	4.48	-0.5	<b>66</b>	-3.76	-2.3	<b>31</b>	2.41	20.6	<b>48</b>	-1.70
Artisan International Institutional	29.5	<b>34</b>	1.06	-10.6	<b>19</b>	0.34	31.2	<b>45</b>	3.27	-9.4	<b>97</b>	-5.95	-3.6	<b>95</b>	-6.91	-0.7	<b>18</b>	3.96	25.5	<b>21</b>	3.19
MSCI EAFE Large Growth NR USD	28.4			-11.0			28.0			-3.5			3.3			-4.7			22.3		
Average	28.1			-14.2			31.6			-1.8			1.1			-3.6			20.5		

# American Funds Europacific Growth R6

RERGX

Index: MSCI ACWI Ex USA Growth NR USD

Category: US Fund Foreign Large Growth

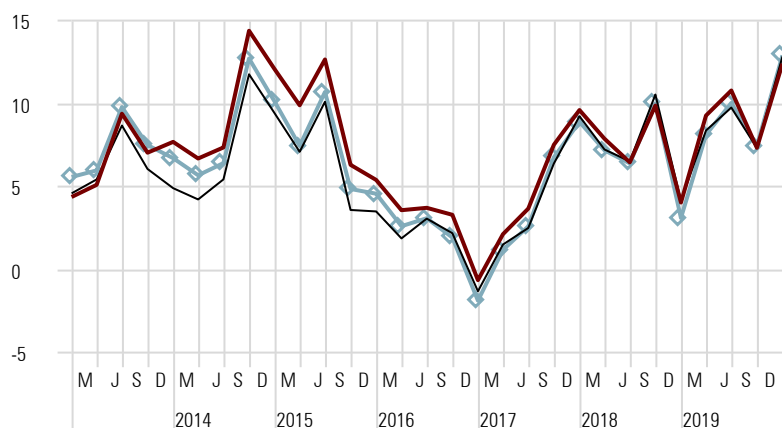
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: MSCI ACWI Ex USA Growth NR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
American Funds Europacific Growth R6	27.4	27.4	12.5	7.4	6.7	7.1
MSCI ACWI Ex USA Growth NR USD	27.3	27.3	12.9	7.3	6.2	6.0
US Fund Foreign Large Growth	27.9	27.9	13.0	7.3	6.6	5.8

## Returns (Rolling 36 Months)



— American Funds Europacific Growth R6 — MSCI ACWI Ex USA Growth NR USD — US Fund Foreign Large Growth

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



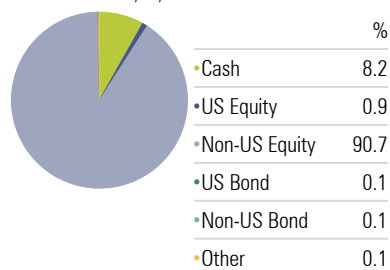
— American Funds Europacific Growth R6 — MSCI ACWI Ex USA Growth NR USD — US Fund Foreign Large Growth

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.49	1.13	
Gross Expense Ratio	0.49	1.64	
LT Earn Growth	9.6	10.5	9.1
Avg Mkt Cap (\$MMM)	48.0	40.9	47.9
P/E Ratio	20.8	23.8	16.3
P/B Ratio	2.6	3.2	2.0
P/S Ratio	2.1	2.4	1.4
P/CF Ratio	12.8	16.1	10.5
ROE %	17.2	20.1	20.5
ROA %	6.1	7.9	7.2
Dividend Yld	1.8	1.9	2.8

## Asset Allocation

Portfolio Date: 12/31/2019

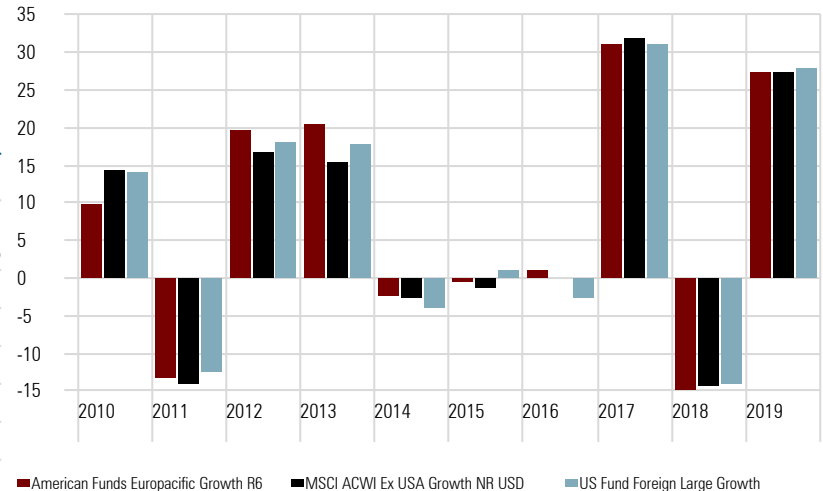


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: MSCI ACWI Ex USA Growth NR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
American Funds Europacific Growth R6	60.0	40.0	10.3	-11.1	16.9	-20.8	98.6	95.3
MSCI ACWI Ex USA Growth NR USD	58.3	41.7	11.1	-12.4	17.1	-20.2	100.0	100.0
US Fund Foreign Large Growth	62.5	37.5	11.1	-12.3	16.8	-20.3	97.7	94.8

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.2	0.6	12.2	0.2
Down Deviation	1.6	0.4	2.1	0.5
Beta	1.0	0.0	1.0	0.0
Alpha	-0.7	-0.9	0.4	0.1
Sharpe	0.9	-0.1	0.5	0.0
Sortino	1.4	-0.1	0.9	0.0
Info Ratio	-0.2	-0.2	0.0	0.1
Down Capture	109.2	14.3	94.9	2.2
Up Capture	102.7	4.9	97.1	2.1

## Top 10 Holdings

	Fund %	Sector	Inv	Avg
Reliance Industries Ltd	2.7	Energy	6	2
Airbus SE	2.7	Materials	8	5
HDFC Bank Ltd	2.2	Industrials	12	16
AIA Group Ltd	2.2	Cons Discretionary	17	13
Nintendo Co Ltd	2.2	Consumer Staples	5	12
ASML Holding NV	2.2	Healthcare	12	13
Daiichi Sankyo Co Ltd	1.5	Financials	17	15
Recruit Holdings Co Ltd	1.4	Info Technology	14	17
Taiwan Semiconductor Manufacturing Co Ltd	1.4	Telecom Services	5	5
Keyence Corp	1.4	Utilities	3	1
		Real Estate %	1.3	1.0

# Foreign Large Blend Search

As of 12/31/2019



# US Fund Foreign Large Blend

## TIAA-CREF International Eq Idx Instl

### Investment Strategy

The investment seeks a favorable long-term total return, mainly through capital appreciation, by investing primarily in a portfolio of foreign equity investments based on a market index. Under normal circumstances, the fund invests at least 80% of its assets in securities of its benchmark index, the MSCI EAFE Index. It buys most, but not necessarily all, of the stocks included in its benchmark index, and the advisor will attempt to closely match the overall investment characteristics of the fund's benchmark index.

### Manager Biography

Philip James(Jim) Campagna since 8/1/2005

Lei Liao since 5/30/2014

Darren Tran since 3/1/2019

### TIAA-CREF International Eq Idx Instl - Operations

Inception Date	10/1/2002
Fund Size (\$mm)	14,017
Annual Report Net Expense Ratio	0.06
Prospectus Net Expense Ratio	0.06
Prospectus Gross Expense Ratio	0.06
Ticker	TCIEX
Manager Tenure (Longest)	14.42
Manager Tenure (Average)	6.97
Morningstar Inst Cat	Foreign Large Core

### Other Notes:

None

## Harbor International Institutional

### Investment Strategy

The investment seeks long-term total return, principally from growth of capital. The fund invests primarily (no less than 65% of its total assets under normal market conditions) in common and preferred stocks of foreign companies located principally in developed markets across Europe, Japan and Asia Pacific ex Japan. The Subadviser's investment strategy focuses on identifying attractive long-term investment opportunities that can arise as a result of certain capital cycle, or supply-side, conditions.

### Manager Biography

William J. Arah since 8/22/2018

Neil M. Ostrer since 8/22/2018

Nick Longhurst since 8/22/2018

Charles Carter since 8/22/2018

Michael Godfrey since 8/22/2018

Michael Nickson since 8/22/2018

David Cull since 8/22/2018

Simon Somerville since 8/22/2018

### Harbor International Institutional - Operations

Inception Date	12/29/1987
Fund Size (\$mm)	5,621
Annual Report Net Expense Ratio	0.75
Prospectus Net Expense Ratio	0.77
Prospectus Gross Expense Ratio	0.89
Ticker	HAINX
Manager Tenure (Longest)	1.42
Manager Tenure (Average)	1.42
Morningstar Inst Cat	Foreign Giant

### Other Notes:

None

## TIAA-CREF International Eq Instl

### Investment Strategy

The investment seeks a favorable long-term total return, mainly through capital appreciation, primarily from equity securities of foreign issuers. Under normal circumstances, the fund invests at least 80% of its assets in equity securities of foreign issuers. It has a policy of maintaining investments of equity securities of foreign issuers in at least three countries other than the United States. The adviser selects individual stocks, and lets the fund's country and regional asset allocations evolve from their stock selection.

### Manager Biography

Gregory Mancini since 1/17/2020

John N. Tribolet since 1/17/2020

### TIAA-CREF International Eq Instl - Operations

Inception Date	7/1/1999
Fund Size (\$mm)	4,858
Annual Report Net Expense Ratio	0.48
Prospectus Net Expense Ratio	0.48
Prospectus Gross Expense Ratio	0.48
Ticker	TIIEX
Manager Tenure (Longest)	0.00
Manager Tenure (Average)	0.00
Morningstar Inst Cat	Foreign Large Core

### Other Notes:

None



# Portfolio Analysis

## TIAA-CREF International Eq Idx Instl

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	31	28	27	Market Cap Giant %	50
				Market Cap Large %	37
				Market Cap Mid %	14
Mid	5	5	4	Market Cap Small %	0
Small	0	0	0	Market Cap Micro %	0

## Harbor International Institutional

### Style Allocation

Portfolio Date: 9/30/2019

	Value	Blend	Growth	Market Cap	%
Large	24	19	21	Market Cap Giant %	27
				Market Cap Large %	37
				Market Cap Mid %	31
Mid	9	9	14	Market Cap Small %	5
Small	2	2	1	Market Cap Micro %	0

## TIAA-CREF International Eq Instl

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	29	26	28	Market Cap Giant %	56
				Market Cap Large %	27
				Market Cap Mid %	16
Mid	8	4	5	Market Cap Small %	0
Small	0	0	0	Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: MSCI ACWI Ex USA NR USD

	Inv	Bmk1
Average Market Cap (bil)	36.8	37.0
Forward P/E	15.0	14.2
P/E Ratio (TTM)	17.1	16.2
LT Earn Growth	7.8	8.2
P/B Ratio (TTM)	1.6	1.7
Dividend Yield	3.5	3.3
ROE %	15.7	15.9
ROA %	5.7	6.0
Debt to Capital %	36	34

### Valuation Data

Display Benchmark 1: MSCI ACWI Ex USA NR USD

	Inv	Bmk1
Average Market Cap (bil)	16.1	37.0
Forward P/E	14.9	14.2
P/E Ratio (TTM)	15.5	16.2
LT Earn Growth	8.0	8.2
P/B Ratio (TTM)	1.6	1.7
Dividend Yield	3.1	3.3
ROE %	18.3	15.9
ROA %	7.3	6.0
Debt to Capital %	35	34

### Valuation Data

Display Benchmark 1: MSCI ACWI Ex USA NR USD

	Inv	Bmk1
Average Market Cap (bil)	36.8	37.0
Forward P/E	13.6	14.2
P/E Ratio (TTM)	17.0	16.2
LT Earn Growth	8.7	8.2
P/B Ratio (TTM)	1.5	1.7
Dividend Yield	2.9	3.3
ROE %	13.1	15.9
ROA %	5.4	6.0
Debt to Capital %	37	34

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	10	
# of Stock Holdings	920	2,411
% in Top 10	12.1	10.4
Cash %	1.7	0.0
Developed %	96.1	79.3
US Equity %	1.2	0.8
Non-US Equity %	97	99
Emerging Mkt %	0.5	20.6

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	12	
# of Stock Holdings	382	2,411
% in Top 10	11.6	10.4
Cash %	1.2	0.0
Developed %	96.2	79.3
US Equity %	3.1	0.8
Non-US Equity %	96	99
Emerging Mkt %	2.4	20.6

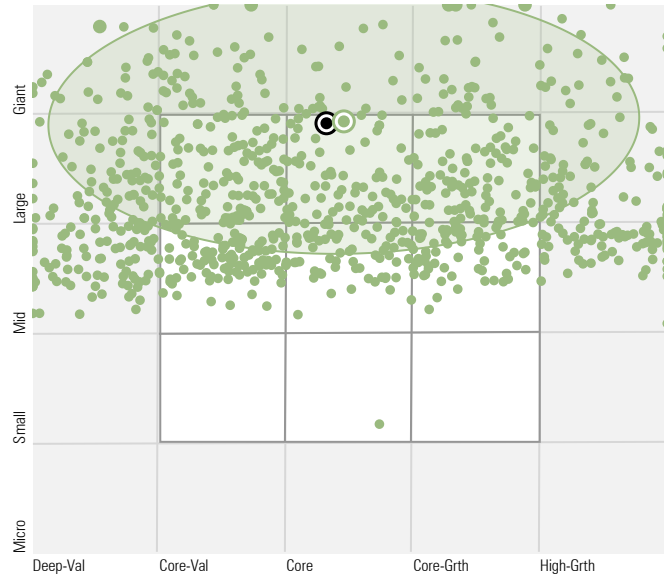
### Portfolio Data

	Inv	Bmk1
Turnover Ratio	114	
# of Stock Holdings	61	2,411
% in Top 10	32.2	10.4
Cash %	0.7	0.0
Developed %	97.2	79.3
US Equity %	4.1	0.8
Non-US Equity %	95	99
Emerging Mkt %	2.1	20.6

# Holdings-Based Style Analysis

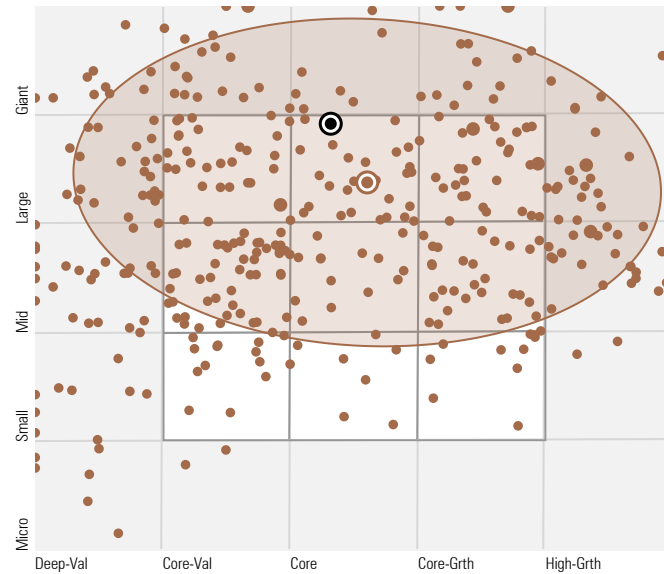
TIAA-CREF International Eq Idx Instl

## Holdings-Based Style Map



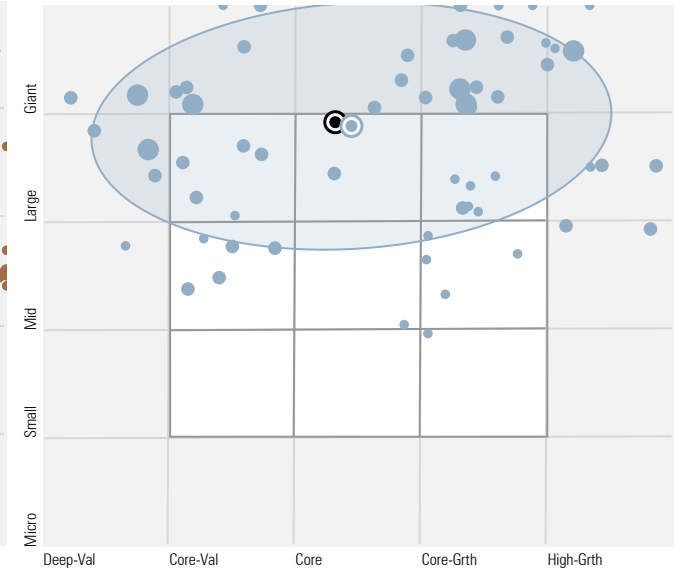
Harbor International Institutional

## Holdings-Based Style Map



TIAA-CREF International Eq Instl

## Holdings-Based Style Map



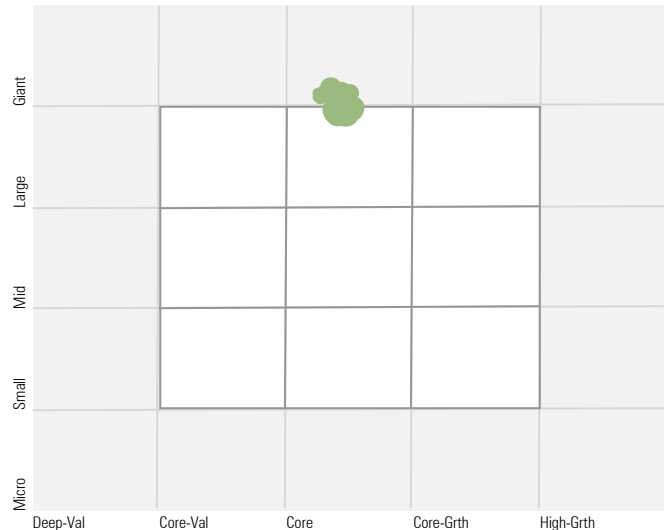
● TIAA-CREF International Eq Idx Instl 11/30/2019 ● MSCI ACWI Ex USA NR USD 12/31/2019

● Harbor International Institutional 9/30/2019 ● MSCI ACWI Ex USA NR USD 12/31/2019

● TIAA-CREF International Eq Instl 11/30/2019 ● MSCI ACWI Ex USA NR USD 12/31/2019

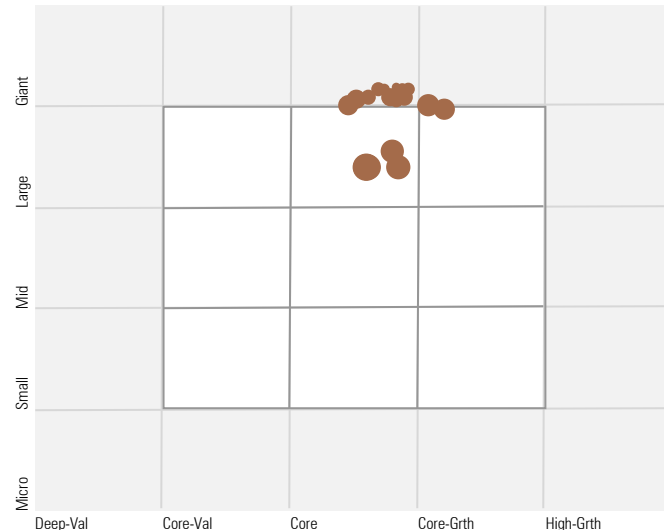
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



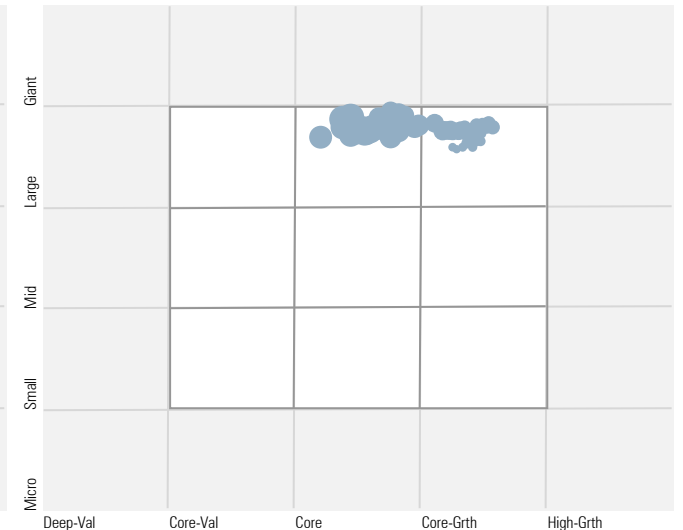
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 9/30/2019



## Holdings-Based Style Trail

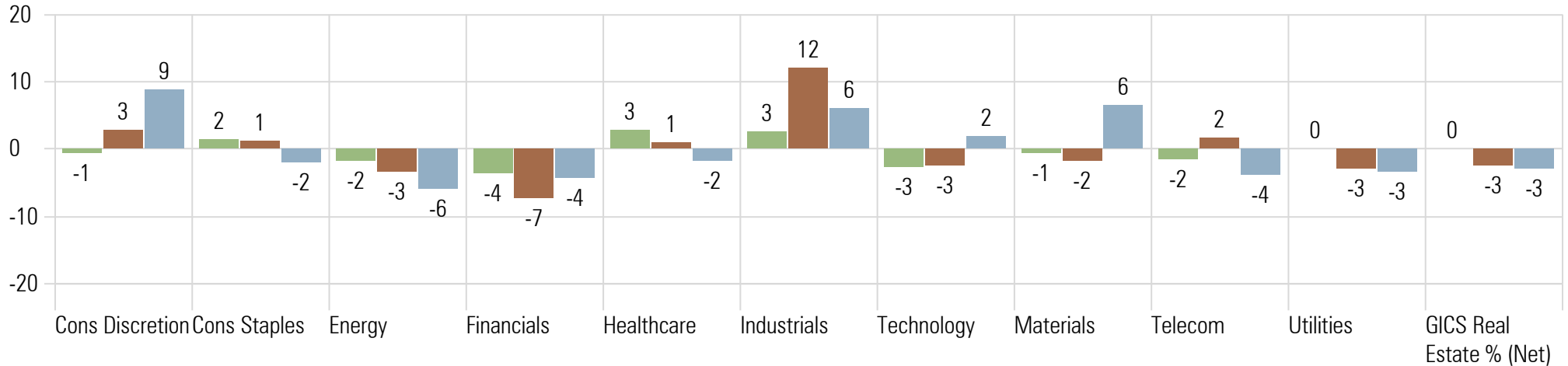
Time Period: 1/31/2015 to 11/30/2019



# Sector Exposure and Top 15 Holdings

## Relative Sector Allocation

Calculation Benchmark: MSCI ACWI Ex USA NR USD



■ TIAA-CREF International Eq Idx Instl  
 ■ MSCI ACWI Ex USA NR USD

■ Harbor International Institutional

■ TIAA-CREF International Eq Instl

### TIAA-CREF International Eq Idx Instl - Top Holdings

Portfolio Date: 11/30/2019

Equity Style Box	Portfolio Weighting %
■ Nestle SA	2.1
■ Msci Eafe Dec19 Ifus 20191220	1.7
■ Roche Holding AG Dividend Right Cert.	1.5
■ Novartis AG	1.3
■ Toyota Motor Corp	1.1
■ HSBC Holdings PLC	1.0
■ SAP SE	0.9
■ AstraZeneca PLC	0.9
■ BP PLC	0.9
■ Total SA	0.8
■ LVMH Moet Hennessy Louis Vuitton SE	0.8
■ Royal Dutch Shell PLC Class A	0.8
■ AIA Group Ltd	0.8
■ ASML Holding NV	0.8
■ GlaxoSmithKline PLC	0.8

### Harbor International Institutional - Top Holdings

Portfolio Date: 9/30/2019

Equity Style Box	Portfolio Weighting %
■ Coloplast A/S B	1.4
■ Intertek Group PLC	1.3
■ Roche Holding AG Dividend Right Cert.	1.3
■ Compass Group PLC	1.3
■ Rightmove PLC	1.1
■ Assa Abloy AB B	1.1
■ Vestas Wind Systems A/S	1.1
■ Toyota Motor Corp	1.1
■ Hitachi Ltd	1.0
■ Geberit AG	1.0
■ Unilever PLC	0.9
■ Heineken NV	0.9
■ Reckitt Benckiser Group PLC	0.9
■ Homeserve PLC	0.9
■ BP PLC	0.9

### TIAA-CREF International Eq Instl - Top Holdings

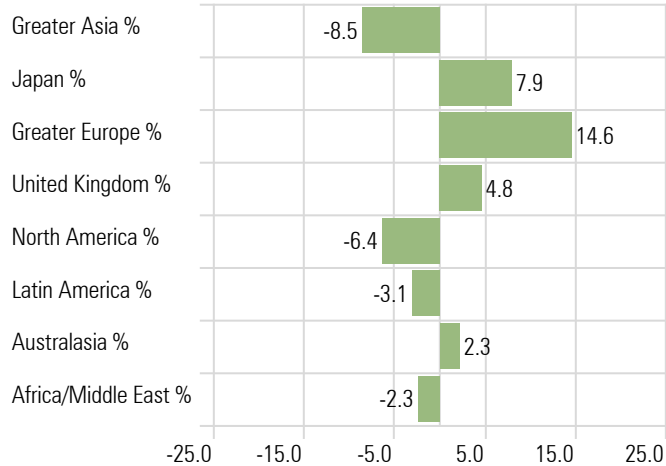
Portfolio Date: 11/30/2019

Equity Style Box	Portfolio Weighting %
■ Reckitt Benckiser Group PLC	4.1
■ Linde PLC	3.8
■ Lloyds Banking Group PLC	3.5
■ Essilorluxottica	3.5
■ Sony Corp	3.4
■ UniCredit SpA	3.1
■ Hitachi Ltd	3.0
■ Porsche Automobil Holding SE Participating Preferred	2.7
■ Credit Suisse Group AG	2.6
■ Schneider Electric SE	2.5
■ Accor SA	2.5
■ CRH PLC	2.5
■ Vinci SA	2.5
■ Credit Agricole SA	2.4
■ Rohm Co Ltd	2.3

# International Exposure

## TIAA-CREF International Eq Idx Instl

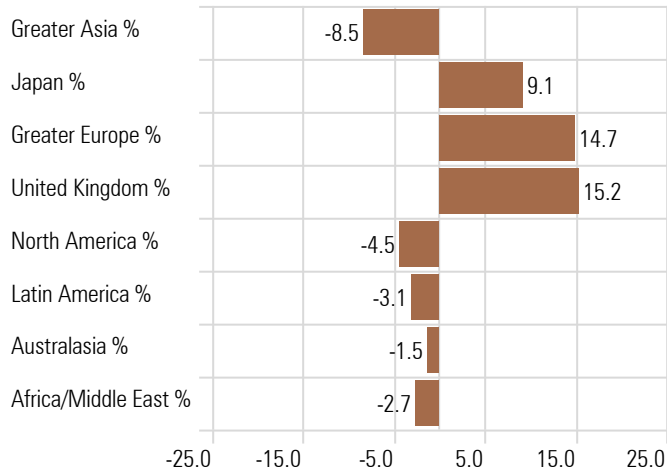
### Regional Allocation +/- Index



■ TIAA-CREF International Eq Idx Instl ■ MSCI ACWI Ex USA NR USD

## Harbor International Institutional

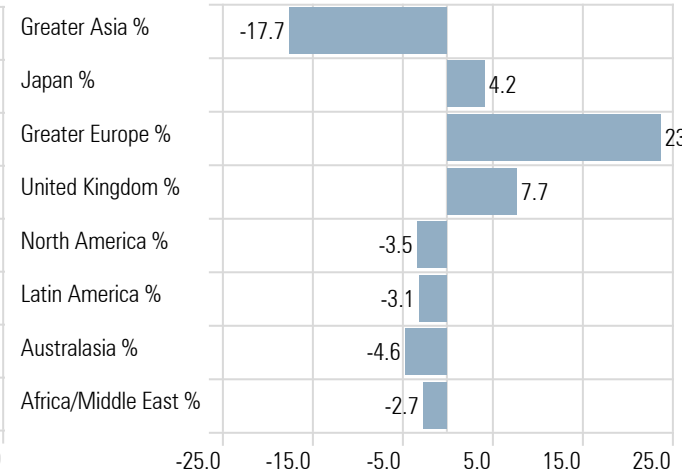
### Regional Allocation +/- Index



■ Harbor International Institutional ■ MSCI ACWI Ex USA NR USD

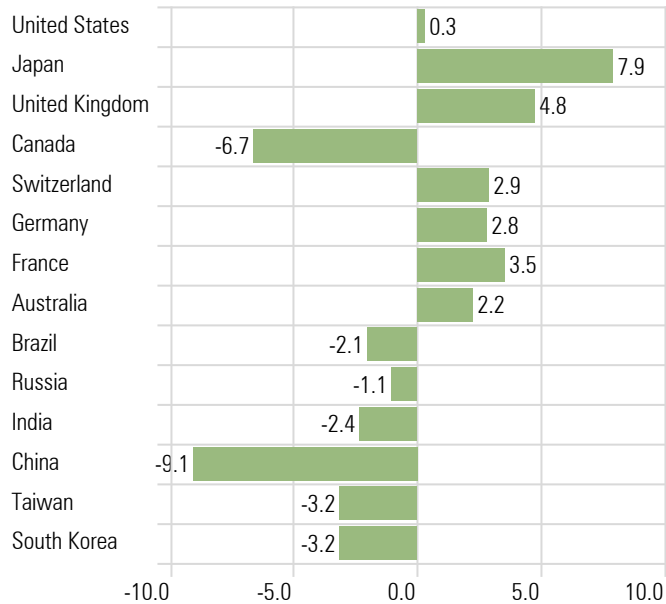
## TIAA-CREF International Eq Instl

### Regional Allocation +/- Index



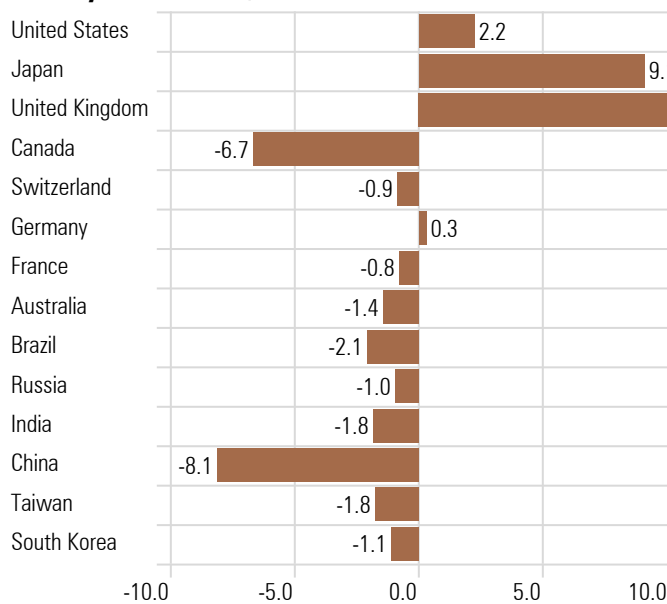
■ TIAA-CREF International Eq Instl ■ MSCI ACWI Ex USA NR USD

### Country Allocation +/- Index



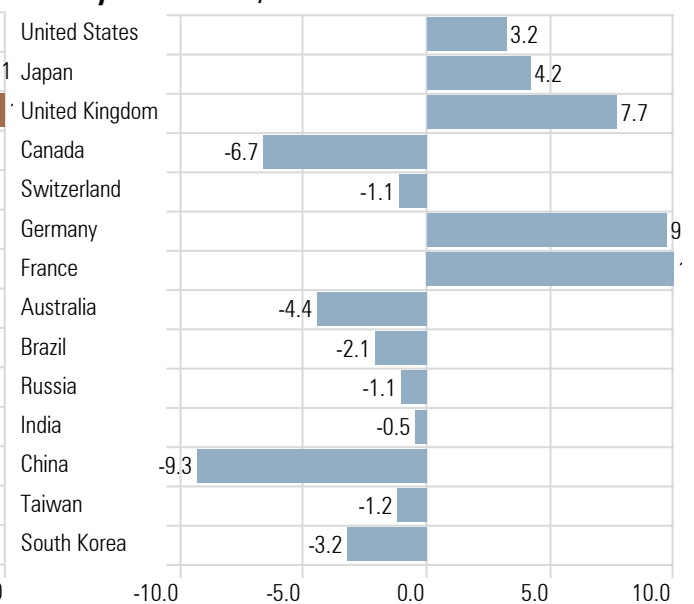
■ TIAA-CREF International Eq Idx Instl ■ MSCI ACWI Ex USA NR USD

### Country Allocation +/- Index



■ Harbor International Institutional ■ MSCI ACWI Ex USA NR USD

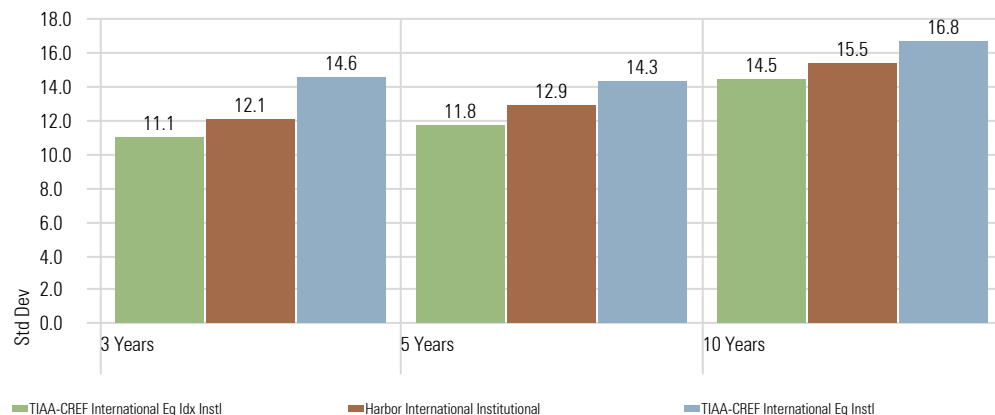
### Country Allocation +/- Index



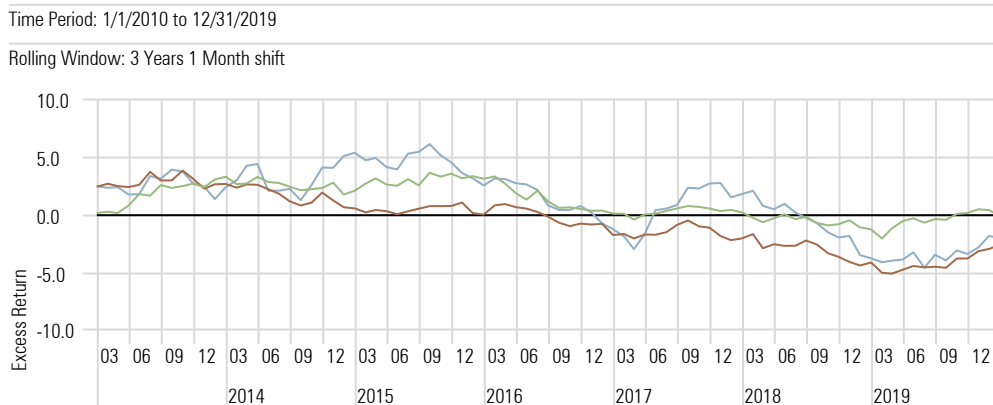
■ TIAA-CREF International Eq Instl ■ MSCI ACWI Ex USA NR USD

# Risk/Return Performance Analysis

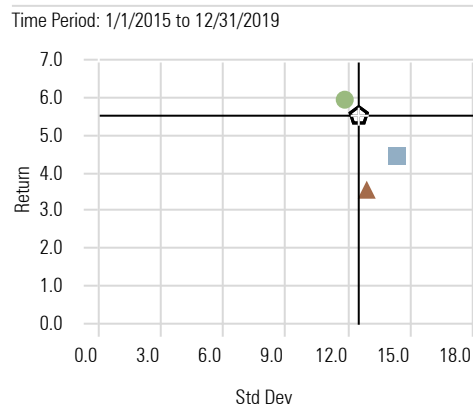
## Standard Deviation



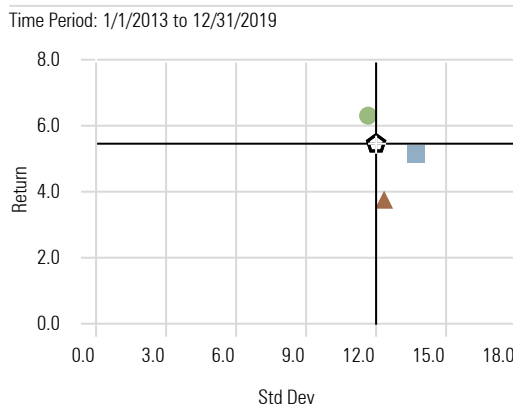
## 3 Year Relative Rolling Returns



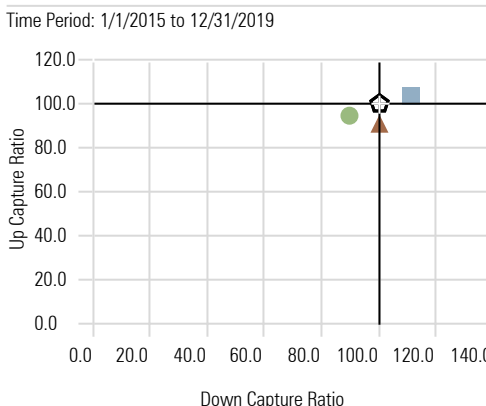
## 5 Year Risk-Reward



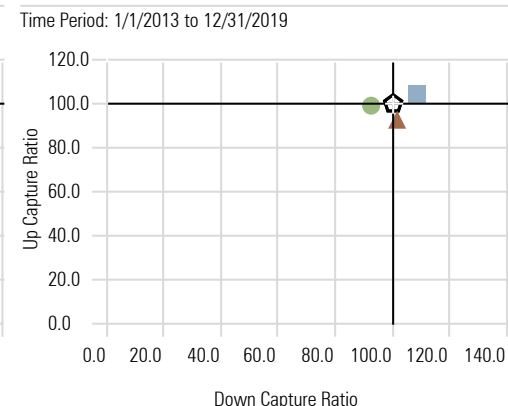
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● TIAA-CREF International Eq Idx Instl

● Harbor International Institutional

● TIAA-CREF International Eq Instl

⬠ MSCI ACWI Ex USA NR USD

## Annualized Performance & Risk Statistics - Since Common Inception

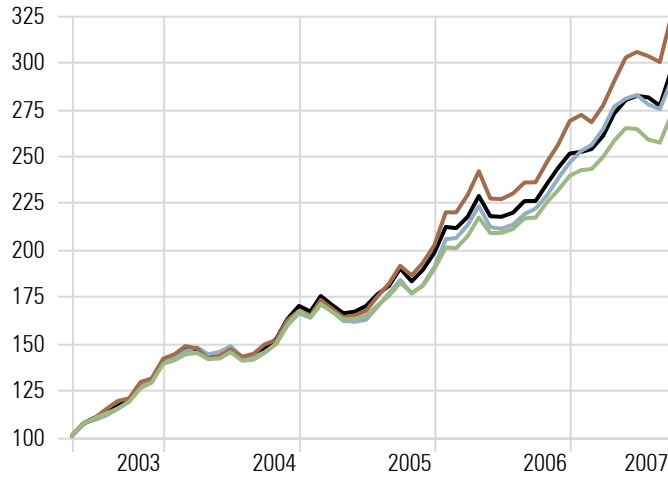
Time Period: Since Common Inception (11/1/2002) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
TIAA-CREF International Eq Idx Instl	7.5	16.1	-0.2	0.96	97	25.4	-20.0	0.38	3.1
Harbor International Institutional	8.7	17.5	0.6	1.03	95	26.7	-22.7	0.42	3.8
TIAA-CREF International Eq Instl	7.4	17.8	-0.6	1.03	92	25.3	-26.5	0.34	5.1
MSCI ACWI Ex USA NR USD	8.0	16.5	0.0	1.00	100	27.6	-22.3	0.40	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

Time Period: 4/30/2003 to 9/30/2007



● TIAA-CREF International Eq Idx Instl 272  
● Harbor International Institutional 324  
● TIAA-CREF International Eq Instl 290  
● MSCI ACWI Ex USA NR USD 296

## Credit Crunch - Financial Crisis

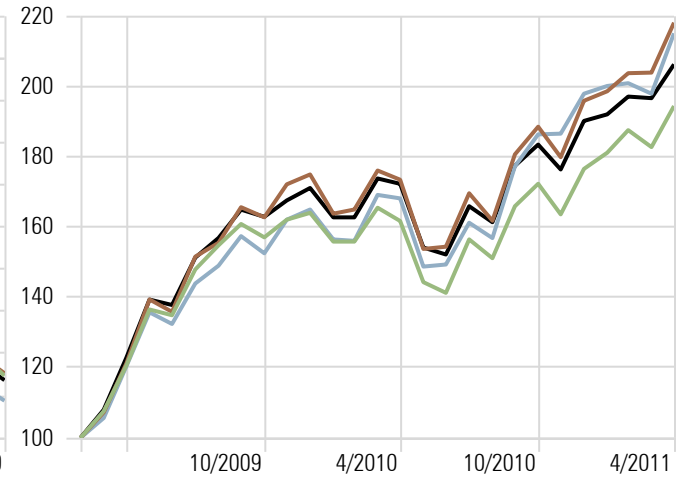
Time Period: 10/31/2007 to 2/28/2009



● TIAA-CREF International Eq Idx Instl 44  
● Harbor International Institutional 44  
● TIAA-CREF International Eq Instl 39  
● MSCI ACWI Ex USA NR USD 43

## Financial Crisis Recovery - QE1&2

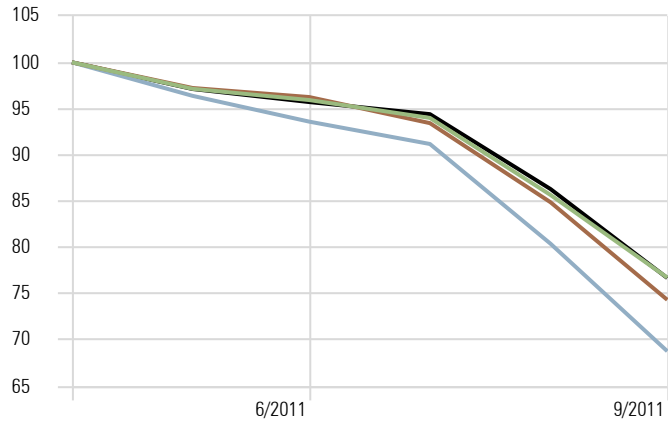
Time Period: 3/1/2009 to 4/30/2011



● TIAA-CREF International Eq Idx Instl 194.5  
● Harbor International Institutional 218.2  
● TIAA-CREF International Eq Instl 215.1  
● MSCI ACWI Ex USA NR USD 206.3

## Double Dip

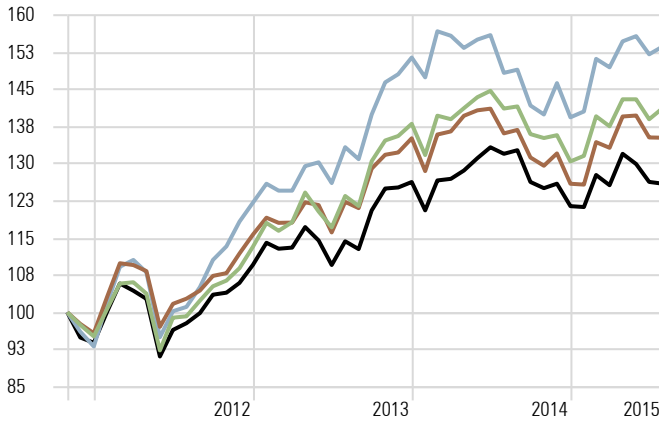
Time Period: 5/1/2011 to 9/30/2011



● TIAA-CREF International Eq Idx Instl 76.7  
● Harbor International Institutional 74.4  
● TIAA-CREF International Eq Instl 68.8  
● MSCI ACWI Ex USA NR USD 76.7

## US Recovery Continues - Global Markets Lag

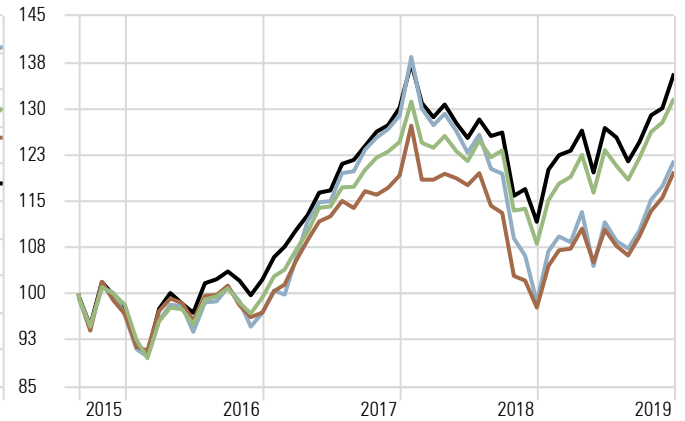
Time Period: 11/1/2011 to 7/31/2015



● TIAA-CREF International Eq Idx Instl 141.3  
● Harbor International Institutional 135.4  
● TIAA-CREF International Eq Instl 153.8  
● MSCI ACWI Ex USA NR USD 126.1

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



● TIAA-CREF International Eq Idx Instl 131.6  
● Harbor International Institutional 119.8  
● TIAA-CREF International Eq Instl 121.5  
● MSCI ACWI Ex USA NR USD 135.7

● TIAA-CREF International Eq Idx Instl  
● MSCI ACWI Ex USA NR USD

● Harbor International Institutional

● TIAA-CREF International Eq Instl

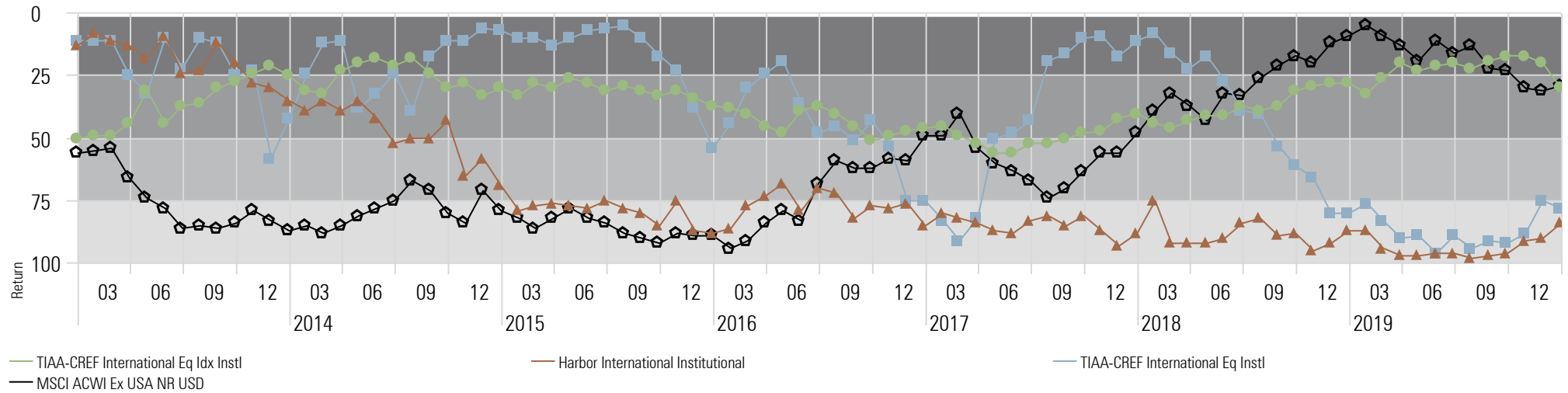
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

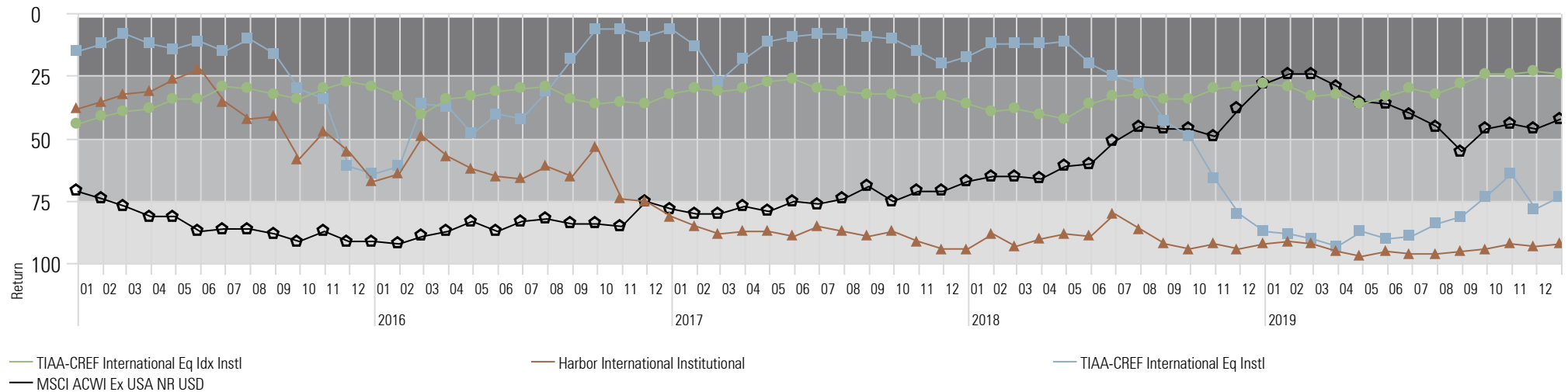


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

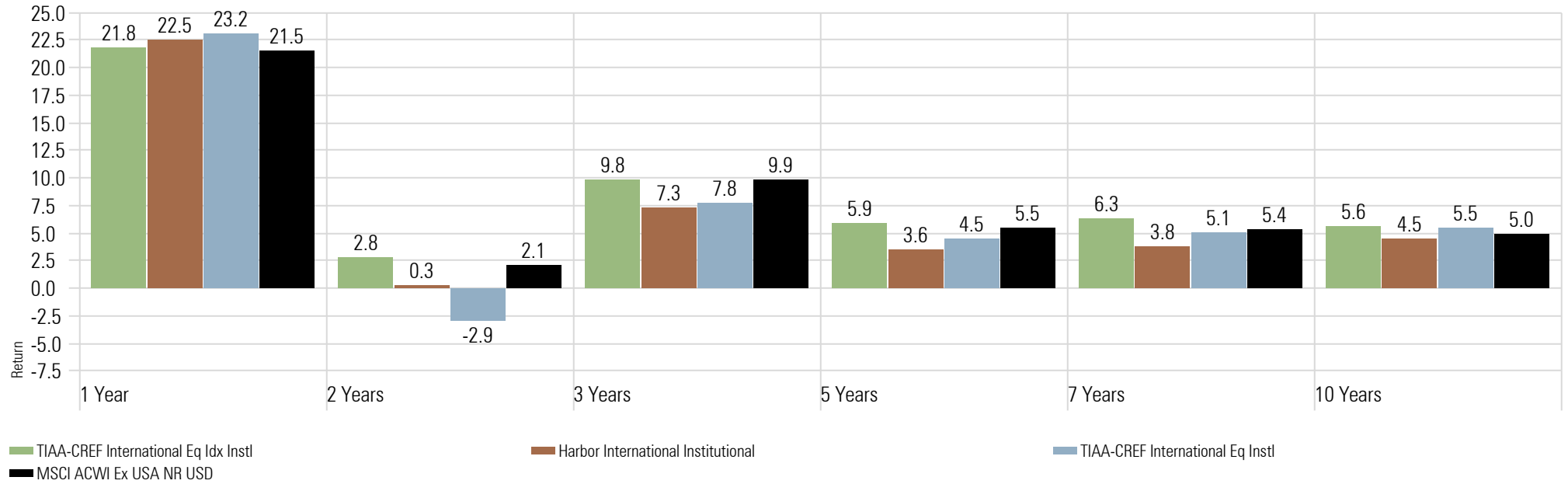
Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

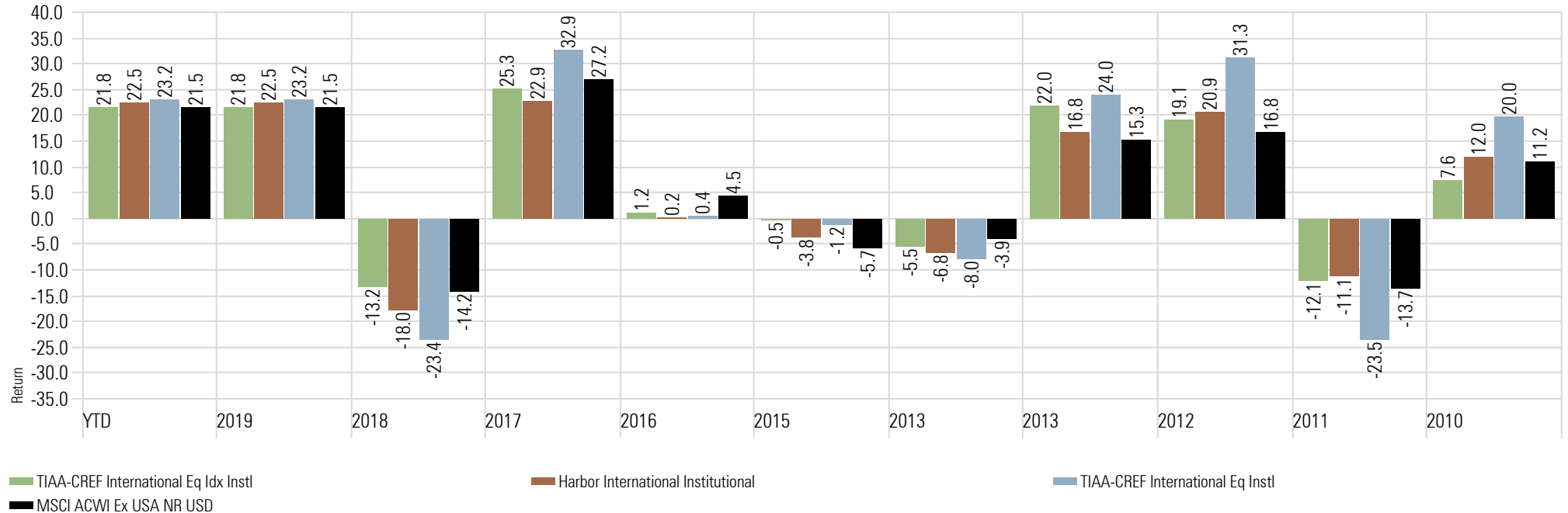


# Trailing Performance

## Cumulative Returns



## Annual Returns





## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Foreign Large Blend</b>																		
TIAA-CREF International Eq Idx Instl	7.9	<b>72</b>	-0.27	21.8	<b>51</b>	-0.22	21.8	<b>51</b>	-0.22	9.8	<b>30</b>	0.25	5.9	<b>24</b>	0.26	5.6	<b>32</b>	0.14
Harbor International Institutional	9.6	<b>25</b>	1.43	22.5	<b>41</b>	0.51	22.5	<b>41</b>	0.51	7.3	<b>84</b>	-2.26	3.6	<b>92</b>	-2.11	4.5	<b>78</b>	-0.96
TIAA-CREF International Eq Instl	10.3	<b>15</b>	2.10	23.2	<b>34</b>	1.17	23.2	<b>34</b>	1.17	7.8	<b>78</b>	-1.73	4.5	<b>73</b>	-1.21	5.5	<b>39</b>	0.01
MSCI EAFE NR USD	8.2			22.0			22.0			9.6			5.7			5.5		
Average	8.8			22.3			22.3			9.0			5.2			5.2		

## Performance Summary - Calendar Year Periods

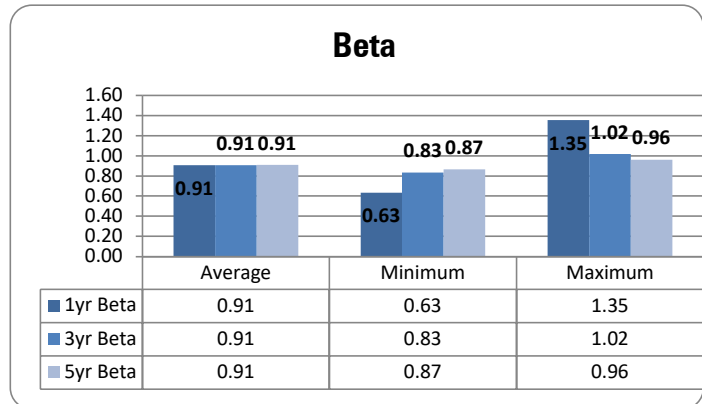
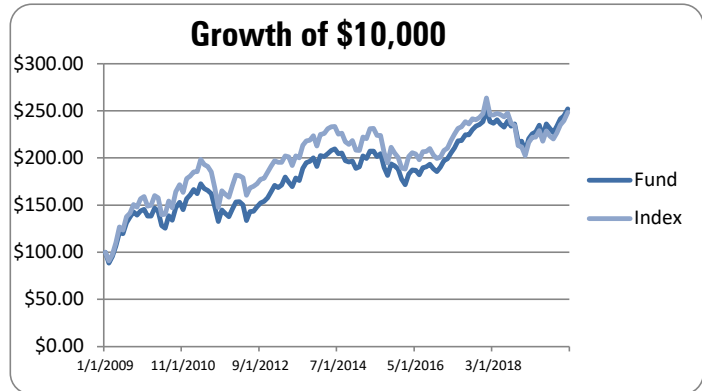
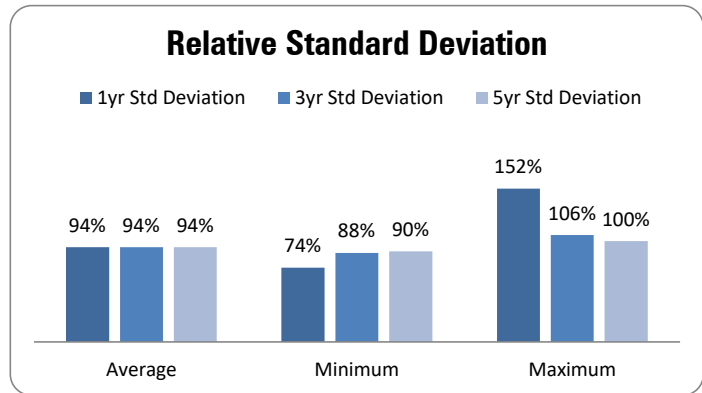
	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Foreign Large Blend</b>																					
TIAA-CREF International Eq Idx Instl	21.8	<b>51</b>	-0.22	-13.2	<b>17</b>	0.54	25.3	<b>50</b>	0.29	1.2	<b>44</b>	0.22	-0.5	<b>41</b>	0.32	-5.5	<b>52</b>	-0.61	22.0	<b>32</b>	-0.82
Harbor International Institutional	22.5	<b>41</b>	0.51	-18.0	<b>81</b>	-4.17	22.9	<b>83</b>	-2.14	0.2	<b>61</b>	-0.75	-3.8	<b>80</b>	-3.01	-6.8	<b>78</b>	-1.91	16.8	<b>78</b>	-5.94
TIAA-CREF International Eq Instl	23.2	<b>34</b>	1.17	-23.4	<b>98</b>	-9.64	32.9	<b>2</b>	7.91	0.4	<b>58</b>	-0.59	-1.2	<b>55</b>	-0.37	-8.0	<b>89</b>	-3.08	24.0	<b>16</b>	1.26
MSCI EAFE NR USD	22.0			-13.8			25.0			1.0			-0.8			-4.9			22.8		
Average	22.3			-15.5			25.5			1.0			-1.2			-4.9			20.2		

Fund Name	Comparative Index/Fund
TIAA-CREF International Eq Idx Instl	100% Harbor International Institutional

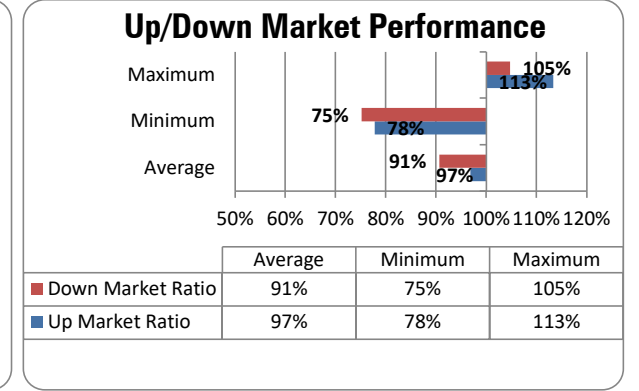
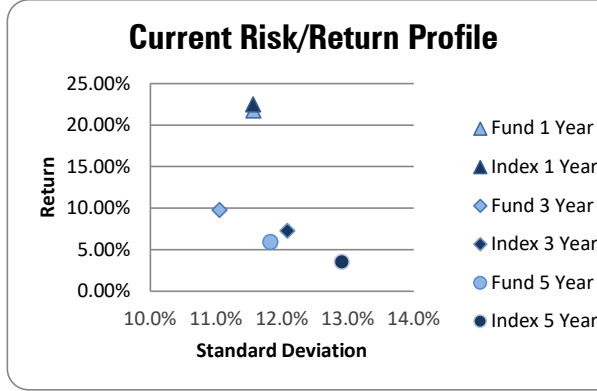
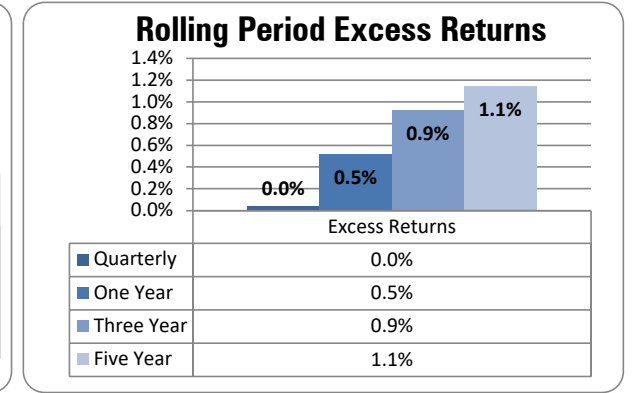
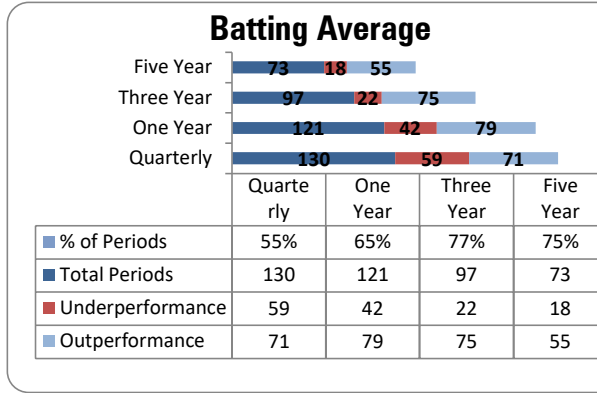
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## Risk Analysis



## Absolute Performance Summary



## Annualized Performance and Risk Statistics

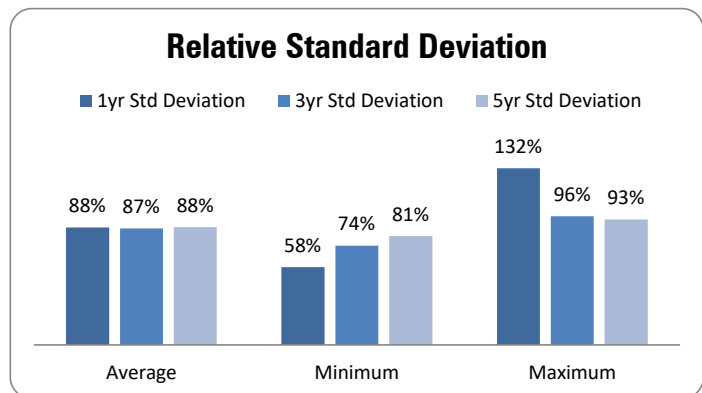
	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
TIAA-CREF International Eq Idx Instl	21.79%	-0.50%	11.57%	10.04%	-1.46%
100% Harbor International Institutional	22.52%		11.56%	9.75%	-2.54%
<b>Latest Three Years</b>					
TIAA-CREF International Eq Idx Instl	9.81%	3.37%	11.05%	10.04%	-12.29%
100% Harbor International Institutional	7.30%		12.08%	10.08%	-13.92%
<b>Latest Five Years</b>					
TIAA-CREF International Eq Idx Instl	5.93%	2.78%	11.82%	10.04%	-12.29%
100% Harbor International Institutional	3.56%		12.91%	10.96%	-13.92%
<b>Latest Ten Years</b>					
TIAA-CREF International Eq Idx Instl	5.65%	1.50%	14.55%	17.45%	-19.99%
100% Harbor International Institutional	4.55%		15.48%	17.02%	-22.75%

Fund Name	Comparative Index/Fund
TIAA-CREF International Eq Idx Instl	100% TIAA-CREF International Eq Instl

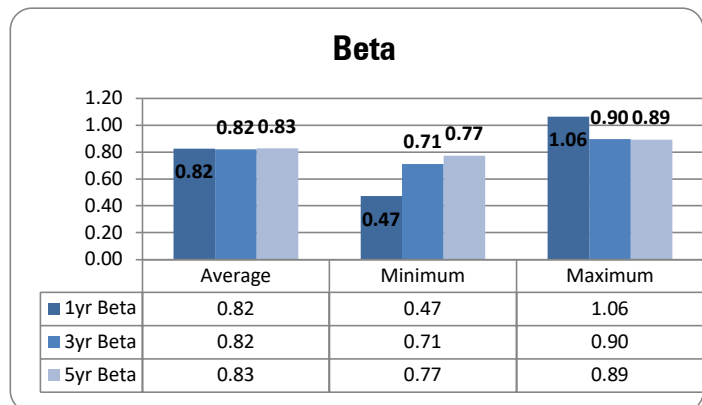
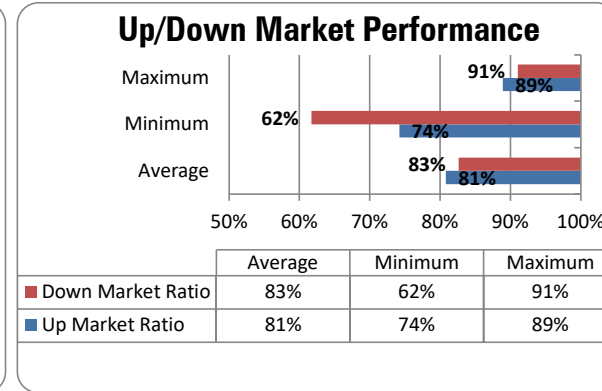
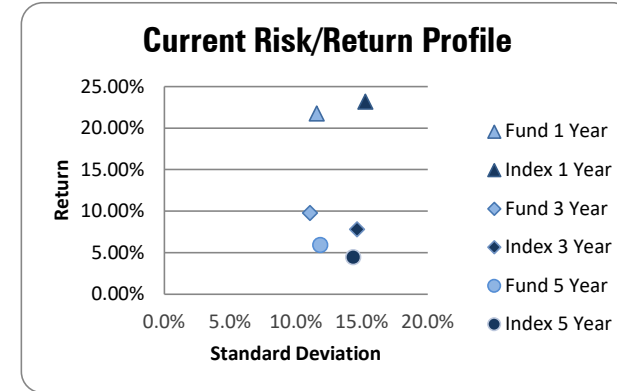
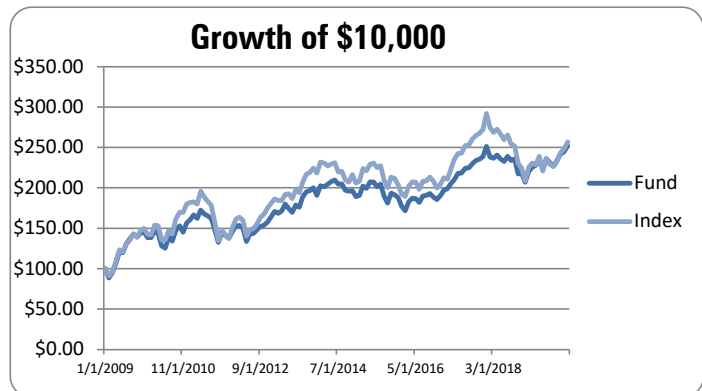
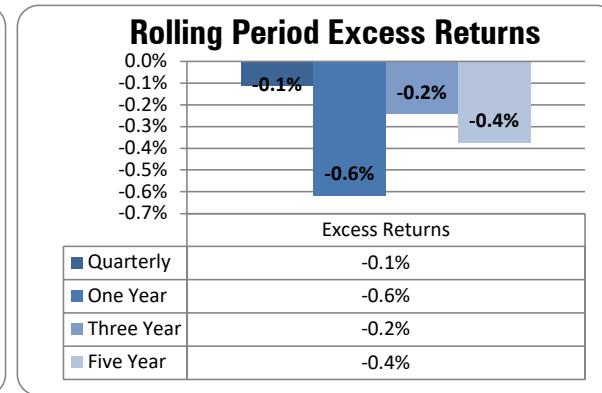
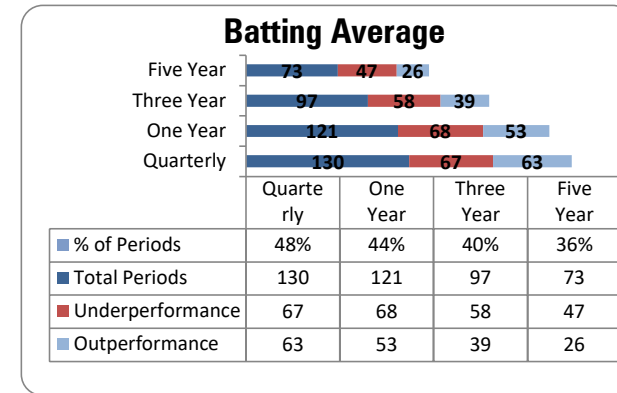
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## Risk Analysis



## Absolute Performance Summary



## Annualized Performance and Risk Statistics

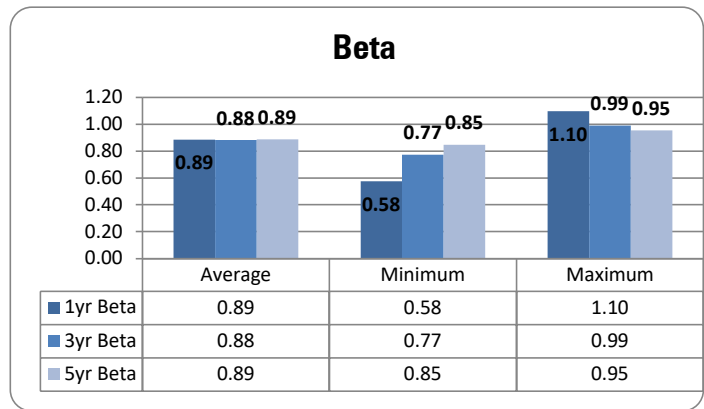
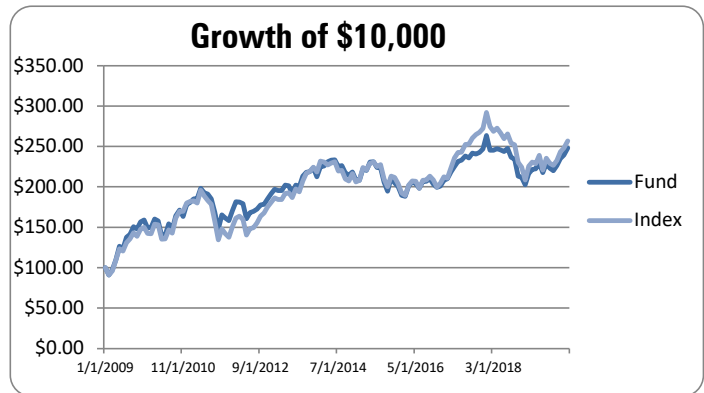
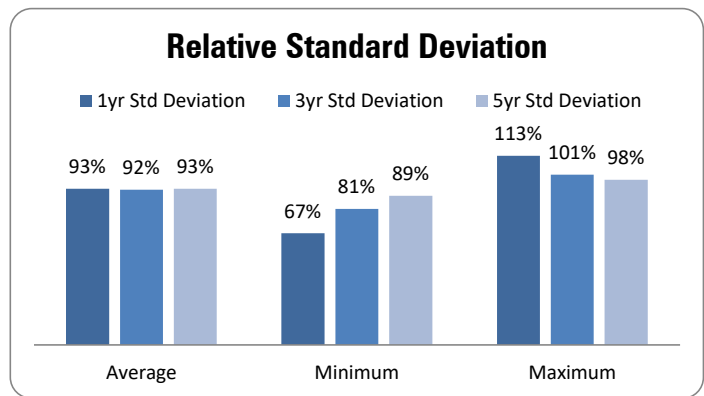
	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
TIAA-CREF International Eq Idx Instl	21.79%	4.59%	11.57%	10.04%	-1.46%
100% TIAA-CREF International Eq Ins	23.19%		15.25%	10.26%	-4.39%
<b>Latest Three Years</b>					
TIAA-CREF International Eq Idx Instl	9.81%	4.11%	11.05%	10.04%	-12.29%
100% TIAA-CREF International Eq Ins	7.83%		14.62%	14.98%	-17.41%
<b>Latest Five Years</b>					
TIAA-CREF International Eq Idx Instl	5.93%	2.38%	11.82%	10.04%	-12.29%
100% TIAA-CREF International Eq Ins	4.47%		14.33%	14.98%	-17.41%
<b>Latest Ten Years</b>					
TIAA-CREF International Eq Idx Instl	5.65%	1.12%	14.55%	17.45%	-19.99%
100% TIAA-CREF International Eq Ins	5.51%		16.79%	18.94%	-26.49%

Fund Name	Comparative Index/Fund
Harbor International Institutional	100% TIAA-CREF International Eq Instl

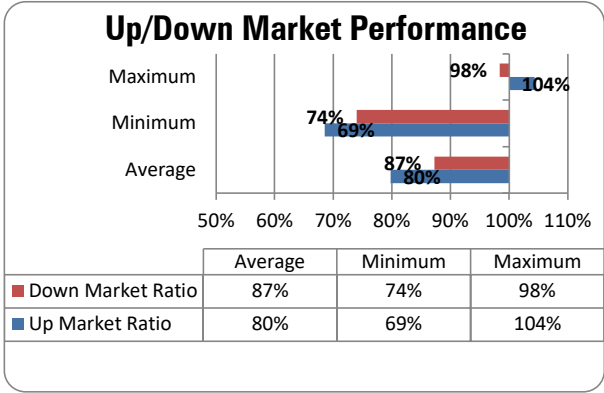
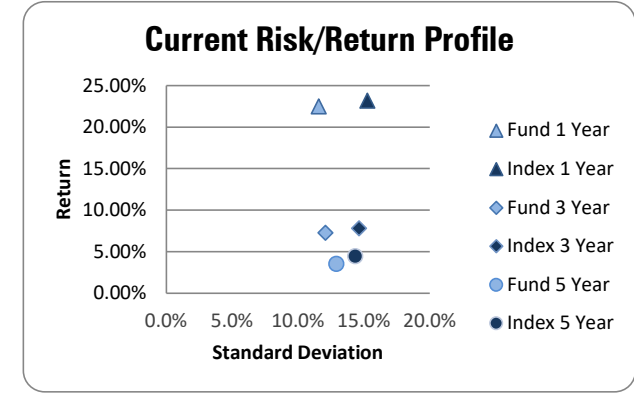
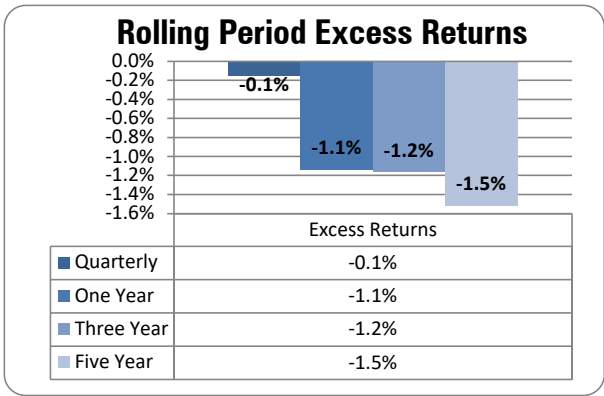
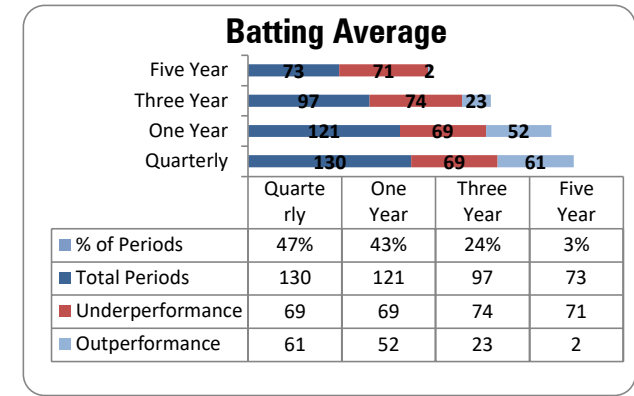
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## Risk Analysis



## Absolute Performance Summary



## Annualized Performance and Risk Statistics

	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
Harbor International Institutional	22.52%	5.20%	11.56%	9.75%	-2.54%
100% TIAA-CREF International Eq Ins	23.19%		15.25%	10.26%	-4.39%
<b>Latest Three Years</b>					
Harbor International Institutional	7.30%	1.11%	12.08%	10.08%	-13.92%
100% TIAA-CREF International Eq Ins	7.83%		14.62%	14.98%	-17.41%
<b>Latest Five Years</b>					
Harbor International Institutional	3.56%	-0.28%	12.91%	10.96%	-13.92%
100% TIAA-CREF International Eq Ins	4.47%		14.33%	14.98%	-17.41%
<b>Latest Ten Years</b>					
Harbor International Institutional	4.55%	-0.32%	15.48%	17.02%	-22.75%
100% TIAA-CREF International Eq Ins	5.51%		16.79%	18.94%	-26.49%

# TIAA-CREF International Eq Idx Instl

TCIEX

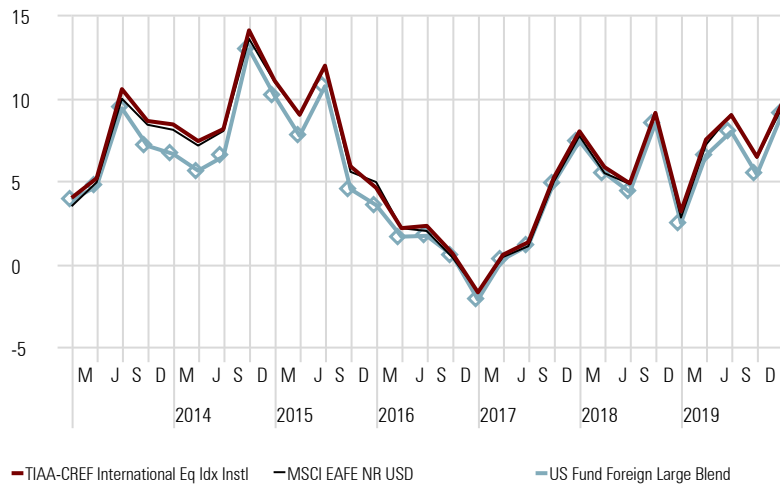
**Index:** MSCI EAFE NR USD  
**Category:** US Fund Foreign Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: MSCI EAFE NR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF International Eq Idx Instl	21.8	21.8	9.8	5.9	5.6	4.9
MSCI EAFE NR USD	22.0	22.0	9.6	5.7	5.5	4.8
US Fund Foreign Large Blend	21.5	21.5	9.2	5.2	5.1	4.5

## Returns (Rolling 36 Months)



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019

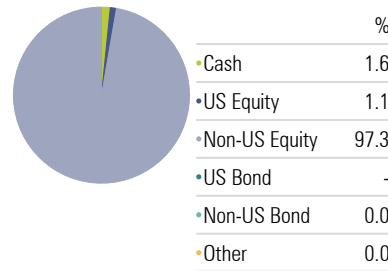


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.06	1.01	
Gross Expense Ratio	0.06	5.54	
LT Earn Growth	8.0	7.7	9.1
Avg Mkt Cap (\$MMM)	38.4	39.8	47.9
P/E Ratio	17.3	16.5	16.3
P/B Ratio	1.6	1.7	2.0
P/S Ratio	1.2	1.2	1.4
P/CF Ratio	10.0	9.9	10.5
ROE %	15.8	17.8	20.5
ROA %	5.8	6.4	7.2
Dividend Yld	3.4	3.3	2.8

## Asset Allocation

Portfolio Date: 12/31/2019

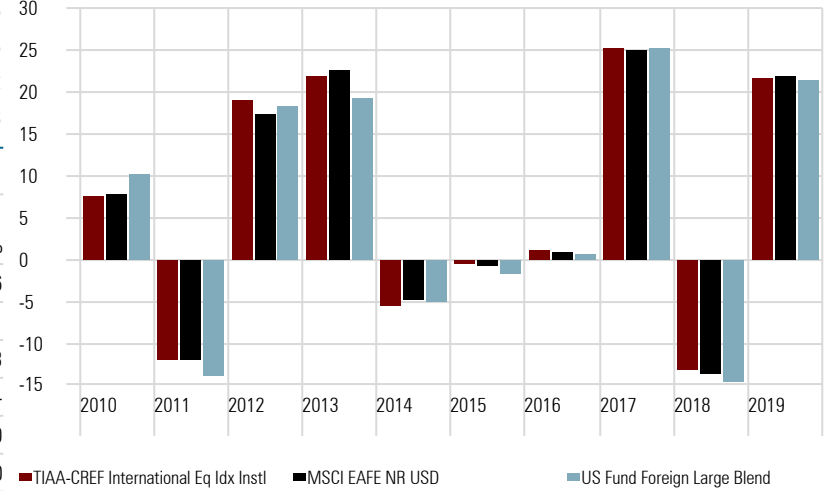


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: MSCI EAFE NR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF International Eq Idx Instl	60.0	40.0	10.8	-11.1	17.4	-20.0	99.5	98.6
MSCI EAFE NR USD	54.2	45.8	9.8	-11.5	16.5	-19.0	100.0	100.0
US Fund Foreign Large Blend	60.0	40.0	10.2	-11.8	17.1	-20.9	93.9	94.7

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.1	0.0	11.8	0.2
Down Deviation	0.8	-0.1	1.2	-0.3
Beta	1.0	0.0	1.0	0.0
Alpha	0.2	0.6	0.4	0.6
Sharpe	0.7	0.1	0.4	0.1
Sortino	1.1	0.1	0.7	0.1
Info Ratio	0.2	0.5	0.1	0.4
Down Capture	97.3	-0.4	94.6	1.6
Up Capture	99.5	2.7	97.2	4.7

## Top 10 Holdings

Holder	Fund %
Nestle SA	2.1
Msci Eafe Mar20 Ifus 20200320	1.5
Roche Holding AG Dividend Right Cert.	1.5
Novartis AG	1.3
Toyota Motor Corp	1.1
HSBC Holdings PLC	1.0
Total SA	0.9
SAP SE	0.9
AstraZeneca PLC	0.9
LVMH Moet Hennessy Louis Vuitton SE	0.8

## Sector Allocation (%)

Sector	Inv	Avg
Energy	5	5
Materials	7	7
Industrials	15	14
Cons Discretionary	12	13
Consumer Staples	11	10
Healthcare	12	11
Financials	19	19
Info Technology	7	9
Telecom Services	5	6
Utilities	4	3
Real Estate %	3.5	2.8

# Dodge & Cox International Stock

As of 12/31/2019



# Dodge & Cox International Stock

DODFX

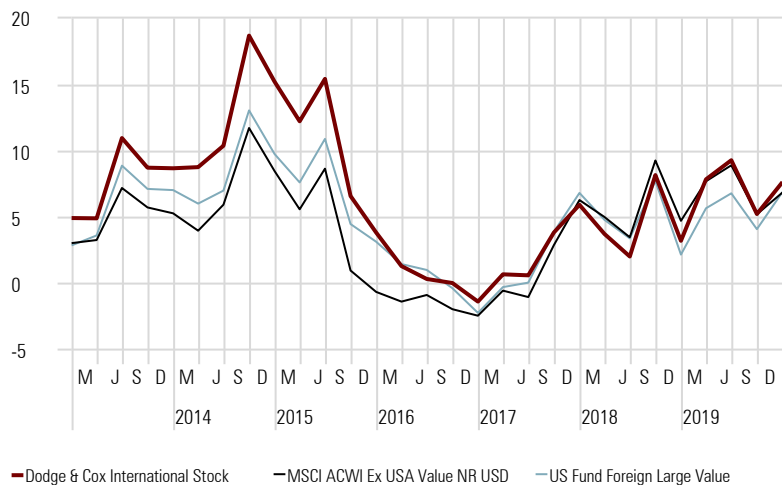
**Index:** MSCI ACWI Ex USA Value NR USD  
**Category:** US Fund Foreign Large Value  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: MSCI ACWI Ex USA Value NR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Dodge & Cox International Stock	22.8	22.8	7.7	3.7	5.8	5.7
MSCI ACWI Ex USA Value NR USD	15.7	15.7	6.9	3.6	3.6	4.4
US Fund Foreign Large Value	18.0	18.0	6.9	4.0	4.2	3.8

## Returns (Rolling 36 Months)

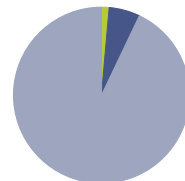


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.63	1.15	
Gross Expense Ratio	0.63	1.58	
LT Earn Growth	6.6	7.0	9.1
Avg Mkt Cap (\$MMM)	45.9	30.1	47.9
P/E Ratio	15.1	13.5	16.3
P/B Ratio	1.1	1.1	2.0
P/S Ratio	1.2	0.9	1.4
P/CF Ratio	8.6	7.1	10.5
ROE %	14.0	12.7	20.5
ROA %	4.9	4.4	7.2
Dividend Yld	3.5	4.3	2.8

## Asset Allocation

Portfolio Date: 12/31/2019



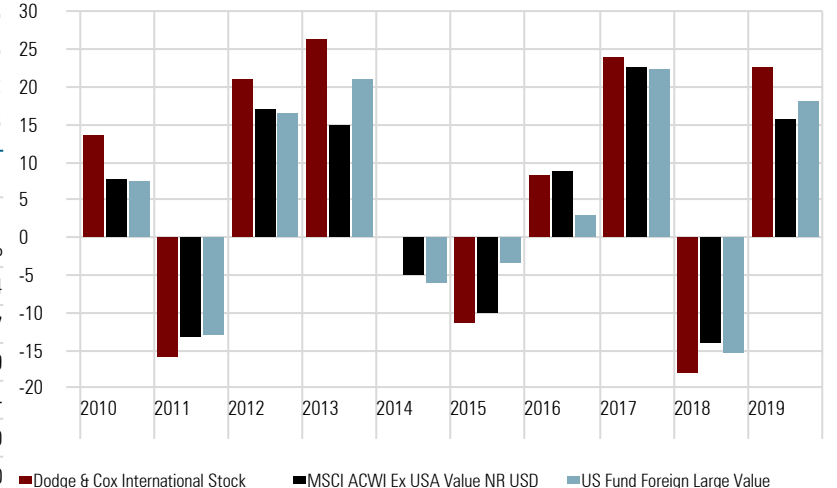
	%
Cash	1.4
US Equity	5.7
Non-US Equity	92.9
US Bond	-
Non-US Bond	0.0
Other	0.0

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: MSCI ACWI Ex USA Value NR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Dodge & Cox International Stock	55.0	45.0	10.9	-11.7	18.1	-21.7	110.0	101.0
MSCI ACWI Ex USA Value NR USD	55.0	45.0	9.9	-11.6	16.1	-19.5	100.0	100.0
US Fund Foreign Large Value	55.0	45.0	9.9	-11.1	16.2	-20.2	93.5	89.8

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	14.0	2.6	15.0	3.1
Down Deviation	2.6	1.2	3.0	0.9
Beta	1.1	0.2	1.1	0.2
Alpha	0.2	-0.1	0.0	-0.6
Sharpe	0.4	0.0	0.2	-0.1
Sortino	0.7	0.0	0.4	-0.1
Info Ratio	0.2	0.2	0.0	-0.1
Down Capture	113.3	20.7	109.6	25.5
Up Capture	112.9	17.9	108.3	20.1

## Top 10 Holdings

	Fund %
Sanofi SA	3.3
BNP Paribas	3.2
ICICI Bank Ltd	3.1
UBS Group AG	3.0
Roche Holding AG Dividend Right Cert.	2.8
UniCredit SpA	2.8
Bayer AG	2.7
Credit Suisse Group AG	2.7
Mitsubishi Electric Corp	2.6
GlaxoSmithKline PLC	2.5

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy		9	9
Materials		6	9
Industrials		8	12
Cons Discretionary		10	10
Consumer Staples		1	7
Healthcare		16	9
Financials		31	23
Info Technology		9	7
Telecom Services		7	8
Utilities		1	3
Real Estate %		1.3	2.1

# DFA International Small Company

As of 12/31/2019





# DFA International Small Company I

DFISX

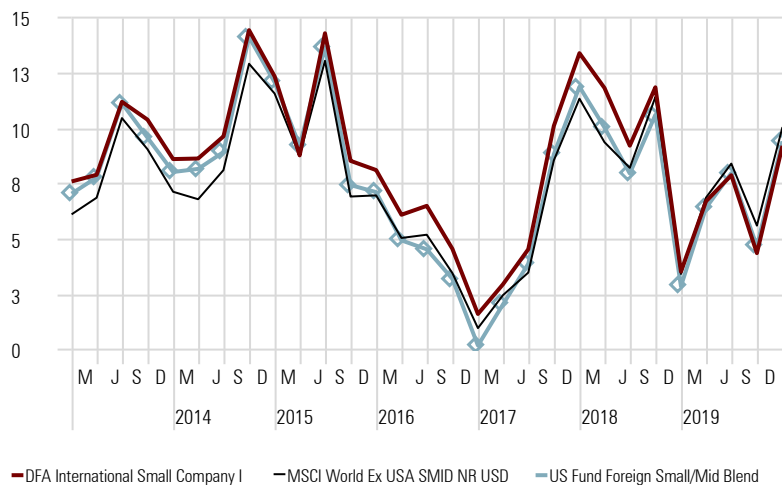
**Index:** MSCI World Ex USA SMID NR USD  
**Category:** US Fund Foreign Small/Mid Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: MSCI World Ex USA SMID NR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
DFA International Small Company I	24.2	24.2	9.2	7.9	8.1	7.1
MSCI World Ex USA SMID NR USD	24.8	24.8	10.1	7.3	7.3	6.3
US Fund Foreign Small/Mid Blend	22.6	22.6	9.4	6.7	7.3	6.7

## Returns (Rolling 36 Months)

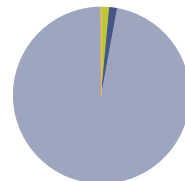


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.52	1.27	
Gross Expense Ratio	0.52	1.85	
LT Earn Growth	10.5	12.1	9.1
Avg Mkt Cap (\$MMM)	1.6	2.5	47.9
P/E Ratio	14.6	15.6	16.3
P/B Ratio	1.3	1.6	2.0
P/S Ratio	0.7	1.0	1.4
P/CF Ratio	7.9	8.8	10.5
ROE %	12.0	13.9	20.5
ROA %	5.2	6.3	7.2
Dividend Yld	3.1	3.1	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



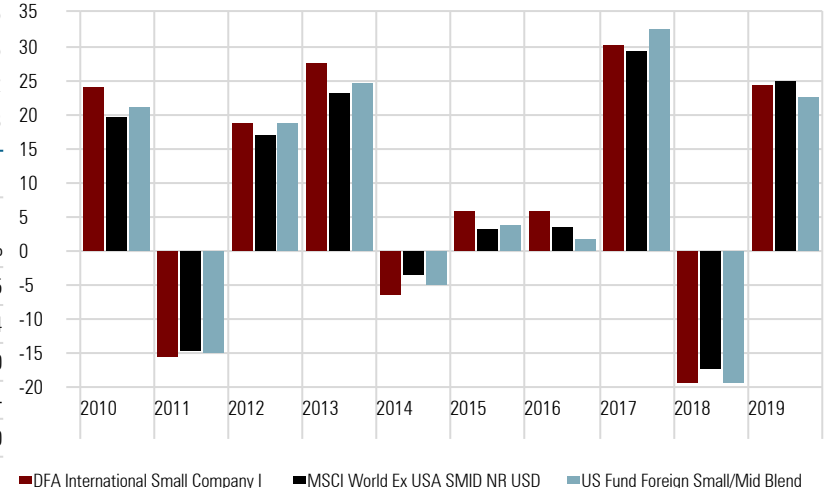
	%
Cash	1.5
US Equity	1.4
Non-US Equity	97.0
US Bond	-
Non-US Bond	0.0
Other	0.1

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: MSCI World Ex USA SMID NR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
DFA International Small Company I	55.8	44.2	11.0	-11.8	17.5	-19.5	100.3	95.9
MSCI World Ex USA SMID NR USD	56.7	43.3	11.1	-11.7	17.5	-18.9	100.0	100.0
US Fund Foreign Small/Mid Blend	56.7	43.3	10.4	-11.1	16.8	-18.9	92.9	90.2

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.5	0.2	12.5	0.2
Down Deviation	1.4	0.2	1.5	-0.3
Beta	1.1	0.0	1.0	0.0
Alpha	-1.1	-0.3	0.6	0.9
Sharpe	0.6	0.0	0.5	0.1
Sortino	0.9	0.0	0.9	0.1
Info Ratio	-0.5	-0.1	0.2	0.5
Down Capture	110.8	3.7	95.8	1.3
Up Capture	102.4	1.2	99.6	6.0

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
E-mini S&P 500 Futures Mar20	0.8	Energy	4	3
PSP Swiss Property AG	0.3	Materials	11	8
Ingenico Group SA	0.3	Industrials	25	23
Howden Joinery Group PLC	0.3	Cons Discretionary	14	14
Pennon Group PLC	0.3	Consumer Staples	6	6
Tate & Lyle PLC	0.3	Healthcare	5	8
ASM International NV	0.3	Financials	12	11
Rubis SCA	0.3	Info Technology	10	11
Lanxess AG	0.3	Telecom Services	5	4
Travis Perkins PLC	0.2	Utilities	4	2
		Real Estate %	5.5	10.2

# Emerging Markets Search

As of 12/31/2019



# US Fund Diversified Emerging Mkts

## DFA Emerging Markets I

### Investment Strategy

The investment seeks to achieve long-term capital appreciation. The Portfolio is a Feeder Portfolio and pursues its objective by investing substantially all of its assets in its corresponding master fund, the Emerging Markets Series (the "Emerging Markets Series") of the DFA Investment Trust Company (the "Trust"), which has the same investment objective and policies as the Portfolio. As a non-fundamental policy, under normal circumstances, the Emerging Markets Series will invest at least 80% of its net assets in emerging markets investments that are defined in the Prospectus as Approved Market securities.

### Manager Biography

Jed S. Fogdall since 2/28/2010

Bhanu P. Singh since 7/21/2015

Mary T. Phillips since 2/28/2017

### DFA Emerging Markets I - Operations

Inception Date	4/25/1994
Fund Size (\$mm)	6,205
Annual Report Net Expense Ratio	0.48
Prospectus Net Expense Ratio	0.47
Prospectus Gross Expense Ratio	0.57
Ticker	DFEMX
Manager Tenure (Longest)	9.92
Manager Tenure (Average)	5.78
Morningstar Inst Cat	Diversified Emerging Markets

### Other Notes:

None

## Lazard Emerging Markets Equity Instl

### Investment Strategy

The investment seeks long-term capital appreciation. The fund invests primarily in equity securities, principally common stocks, of non-U.S. companies whose principal activities are located in emerging market countries and that the Investment Manager believes are undervalued based on their earnings, cash flow or asset values. Under normal circumstances, it invests at least 80% of its assets in equity securities of companies whose principal business activities are located in emerging market countries.

### Manager Biography

James M. Donald since 11/30/2001

John R. Reinsberg since 7/15/1994

Rohit Chopra since 5/1/2007

Monika Shrestha since 12/31/2014

### Lazard Emerging Markets Equity Instl - Operations

Inception Date	7/15/1994
Fund Size (\$mm)	7,703
Annual Report Net Expense Ratio	1.07
Prospectus Net Expense Ratio	1.07
Prospectus Gross Expense Ratio	1.07
Ticker	LZEMX
Manager Tenure (Longest)	25.50
Manager Tenure (Average)	15.35
Morningstar Inst Cat	Diversified Emerging Markets

### Other Notes:

None

# Portfolio Analysis

## DFA Emerging Markets I

## Lazard Emerging Markets Equity Instl

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth
Large	28	30	21
Mid	9	7	4
Small	1	0	0

Market Cap	%
Market Cap Giant %	43
Market Cap Large %	35
Market Cap Mid %	20
Market Cap Small %	1
Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth
Large	46	25	8
Mid	12	5	3
Small	0	0	1

Market Cap	%
Market Cap Giant %	47
Market Cap Large %	31
Market Cap Mid %	21
Market Cap Small %	1
Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: MSCI EM NR USD

	Inv	Bmk1
Average Market Cap (bil)	20.4	35.4
Forward P/E	13.0	12.8
P/E Ratio (TTM)	13.7	14.4
LT Earn Growth	9.0	8.8
P/B Ratio (TTM)	1.5	1.7
Dividend Yield	3.5	3.1
ROE %	15.8	16.5
ROA %	6.8	7.1
Debt to Capital %	29	27

### Valuation Data

Display Benchmark 1: MSCI EM NR USD

	Inv	Bmk1
Average Market Cap (bil)	29.9	35.4
Forward P/E	10.1	12.8
P/E Ratio (TTM)	11.1	14.4
LT Earn Growth	6.2	8.8
P/B Ratio (TTM)	1.6	1.7
Dividend Yield	4.8	3.1
ROE %	20.0	16.5
ROA %	7.8	7.1
Debt to Capital %	29	27

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	8	
# of Stock Holdings	1,167	1,404
% in Top 10	17.8	24.5
Cash %	1.1	0.0
Developed %	31.6	26.3
US Equity %	0.4	0.3
Non-US Equity %	98	100
Emerging Mkt %	66.2	73.7

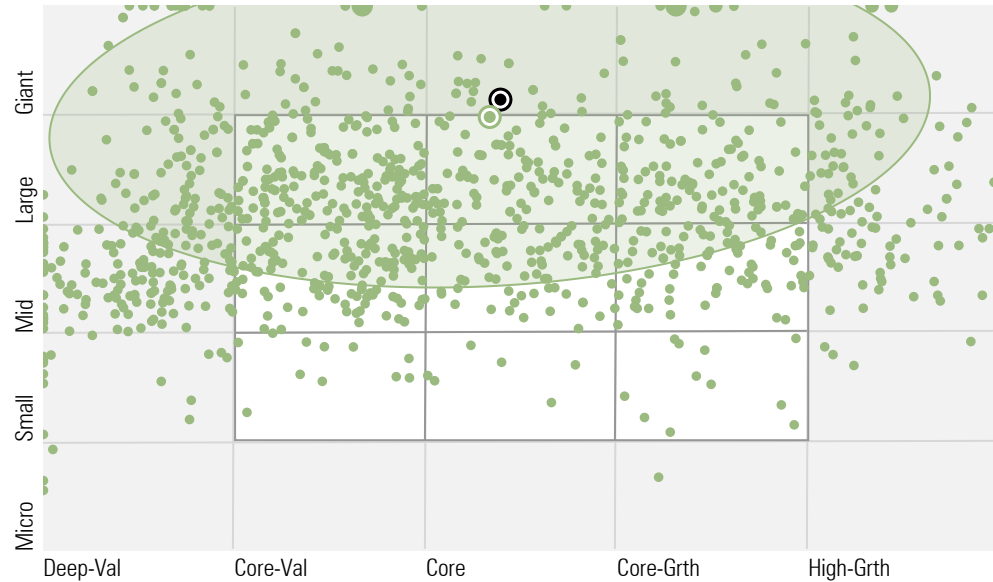
### Portfolio Data

	Inv	Bmk1
Turnover Ratio	16	
# of Stock Holdings	75	1,404
% in Top 10	32.1	24.5
Cash %	3.4	0.0
Developed %	25.1	26.3
US Equity %	1.2	0.3
Non-US Equity %	95	100
Emerging Mkt %	71.6	73.7

# Holdings-Based Style Analysis

## DFA Emerging Markets I

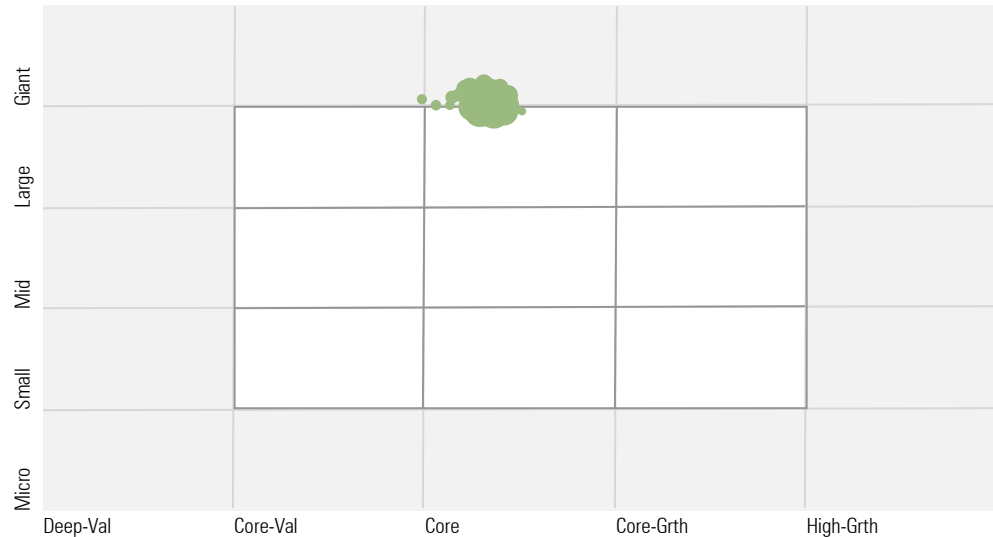
### Holdings-Based Style Map



● DFA Emerging Markets I 11/30/2019 ● MSCI EM NR USD 12/31/2019

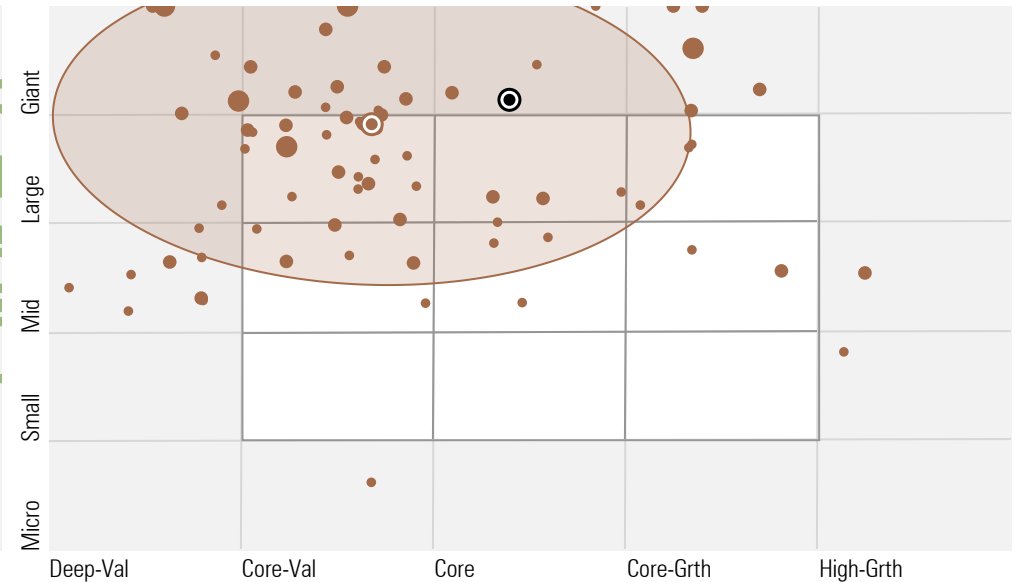
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



## Lazard Emerging Markets Equity Instl

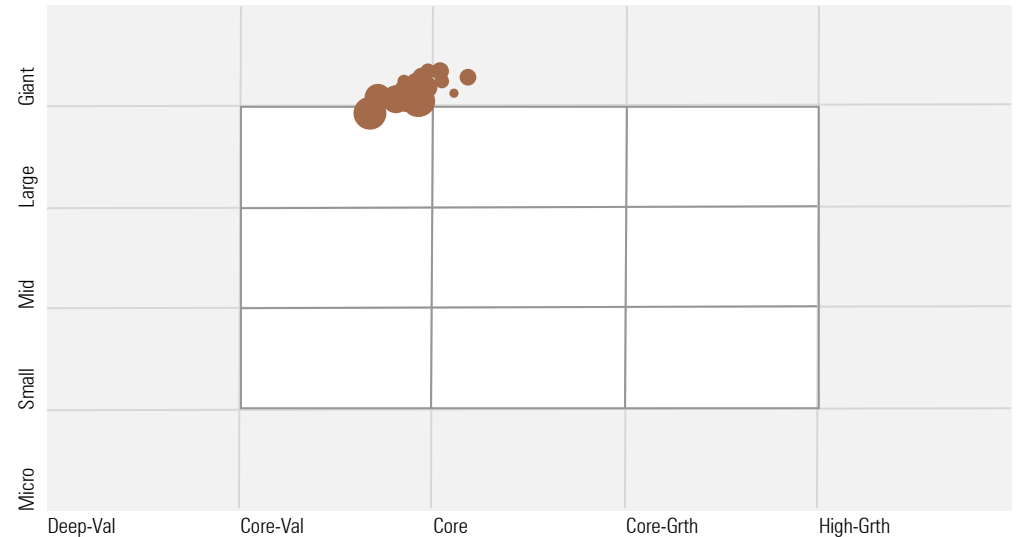
### Holdings-Based Style Map



● Lazard Emerging Markets Equity Instl 12/31/2019 ● MSCI EM NR USD 12/31/2019

### Holdings-Based Style Trail

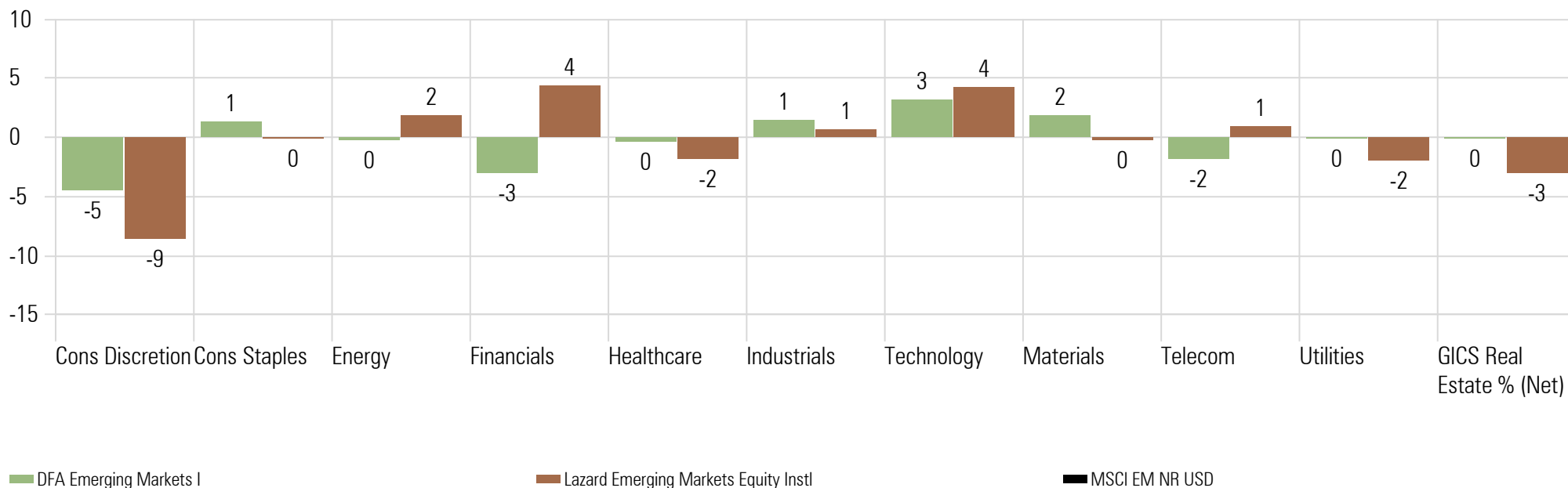
Time Period: 3/31/2015 to 12/31/2019



# Sector Exposure and Top 15 Holdings

## Relative Sector Allocation

Calculation Benchmark: MSCI EM NR USD



## DFA Emerging Markets I - Top Holdings

Portfolio Date: 11/30/2019

Equity Style Box	Portfolio Weighting %
Taiwan Semiconductor Manufacturing Co Ltd	3.8
Samsung Electronics Co Ltd	3.5
Tencent Holdings Ltd	2.6
Alibaba Group Holding Ltd ADR	1.7
Taiwan Semiconductor Manufacturing Co Ltd ADR	1.4
Reliance Industries Ltd	1.1
Samsung Electronics Co Ltd GDR	0.9
SK Hynix Inc	0.9
Ping An Insurance (Group) Co. of China Ltd Class H	0.8
HDFC Bank Ltd	0.8
China Construction Bank Corp Class H	0.7
Housing Development Finance Corp Ltd	0.6
Vale SA	0.6
Naspers Ltd Class N	0.6
America Movil SAB de CV Class L	0.6

## Lazard Emerging Markets Equity Instl - Top Holdings

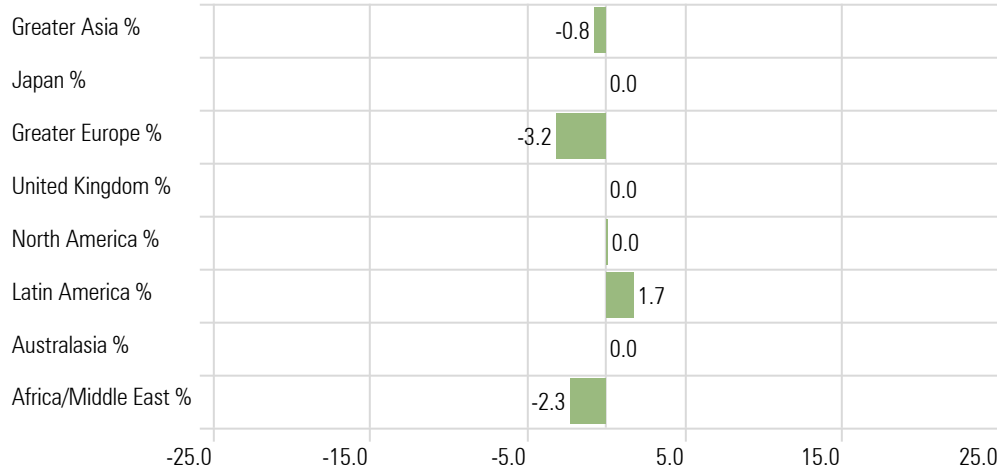
Portfolio Date: 12/31/2019

Equity Style Box	Portfolio Weighting %
China Construction Bank Corp Class H	5.2
Samsung Electronics Co Ltd	4.9
SK Hynix Inc	3.4
Banco do Brasil SA BB Brasil	3.3
Sberbank of Russia PJSC	3.1
China Mobile Ltd ADR	2.9
Taiwan Semiconductor Manufacturing Co Ltd	2.7
OTP Bank PLC	2.2
Weichai Power Co Ltd Class H	2.2
America Movil SAB de CV ADR	2.2
PT Bank Mandiri (Persero) Tbk	1.9
Shinhan Financial Group Co Ltd	1.8
CCR SA	1.8
BB Seguridade Participacoes SA	1.7
Tata Consultancy Services Ltd	1.7

# International Exposure

## DFA Emerging Markets I

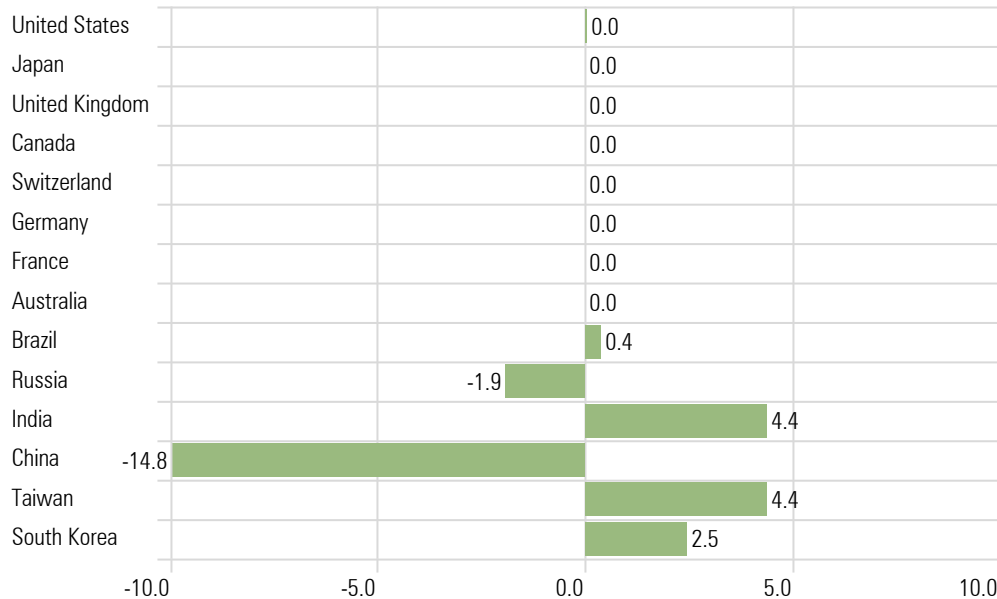
### Regional Allocation +/- Index



■ DFA Emerging Markets I

■ MSCI EM NR USD

### Country Allocation +/- Index

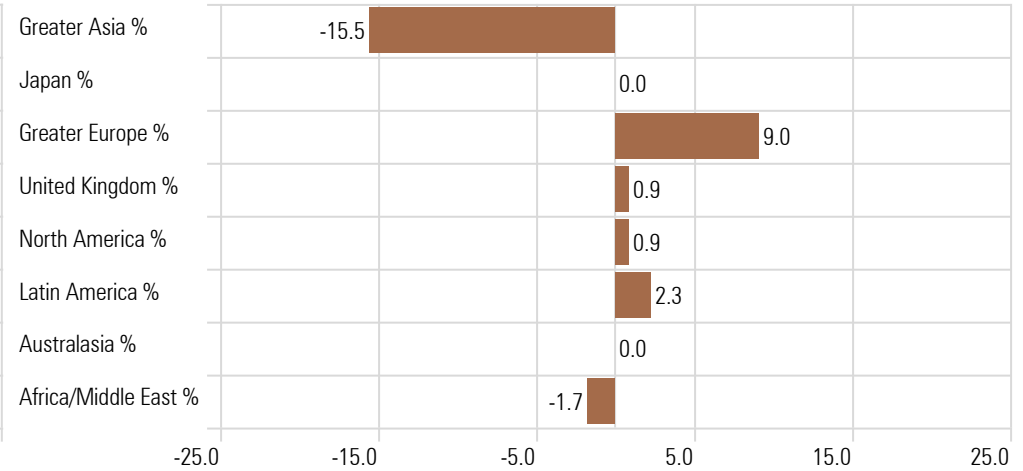


■ DFA Emerging Markets I

■ MSCI EM NR USD

## Lazard Emerging Markets Equity Instl

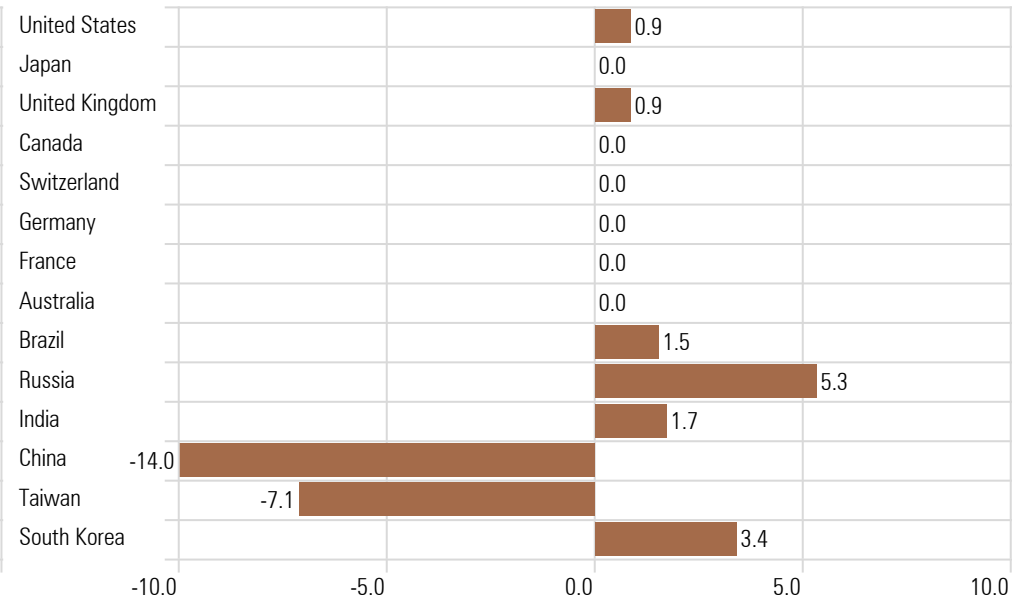
### Regional Allocation +/- Index



■ Lazard Emerging Markets Equity Instl

■ MSCI EM NR USD

### Country Allocation +/- Index

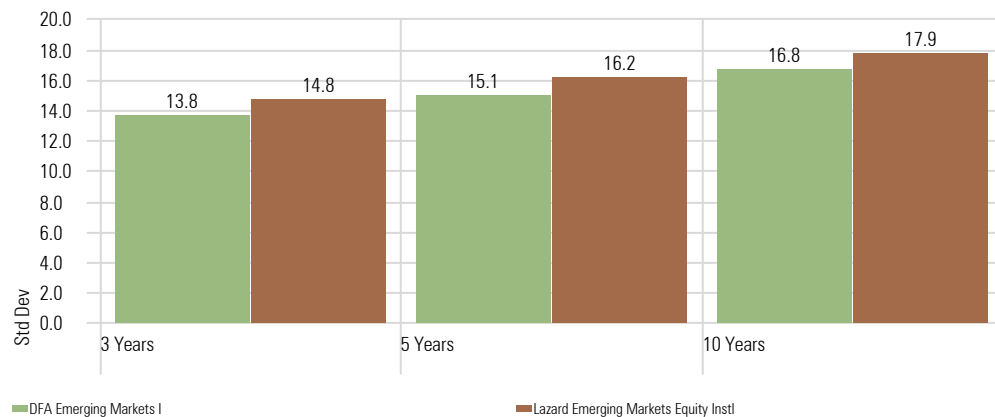


■ Lazard Emerging Markets Equity Instl

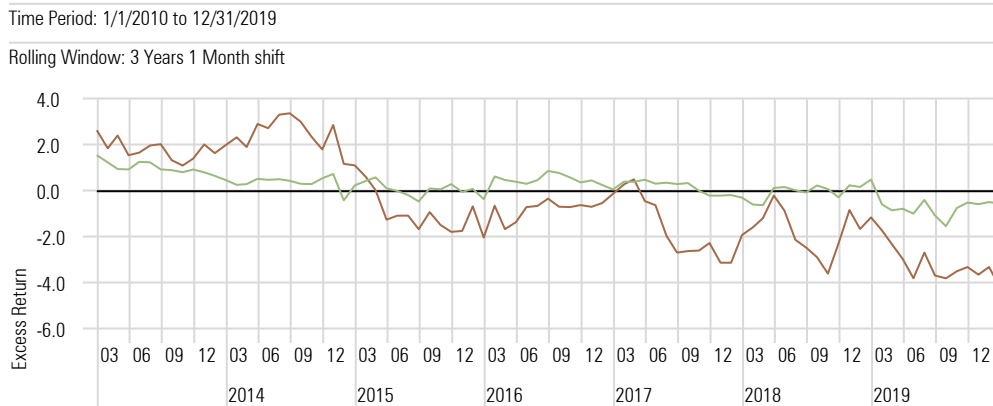
■ MSCI EM NR USD

# Risk/Return Performance Analysis

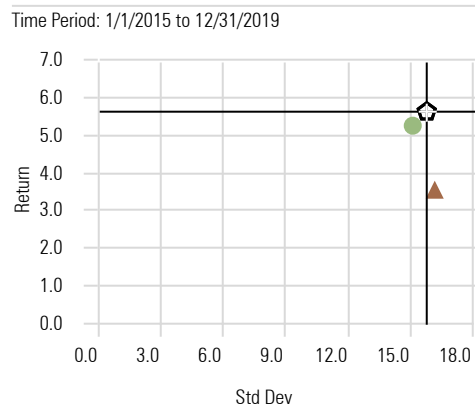
## Standard Deviation



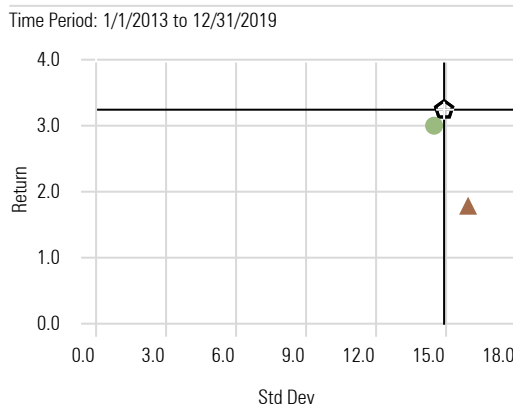
## 3 Year Relative Rolling Returns



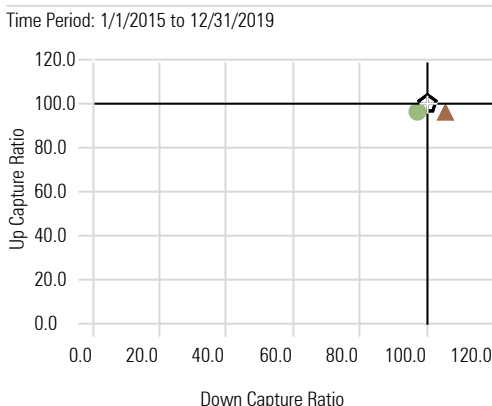
## 5 Year Risk-Reward



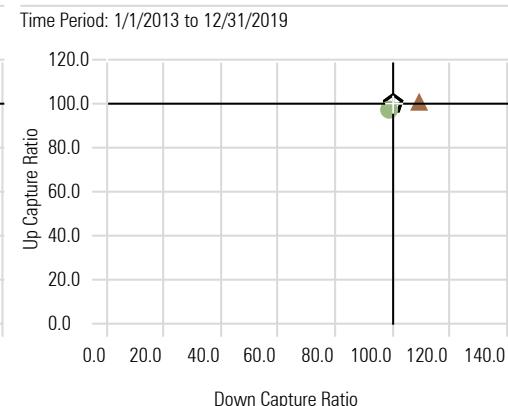
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● DFA Emerging Markets I

● Lazard Emerging Markets Equity Instl

◻ MSCI EM NR USD

## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (1/1/2001) to 12/31/2019

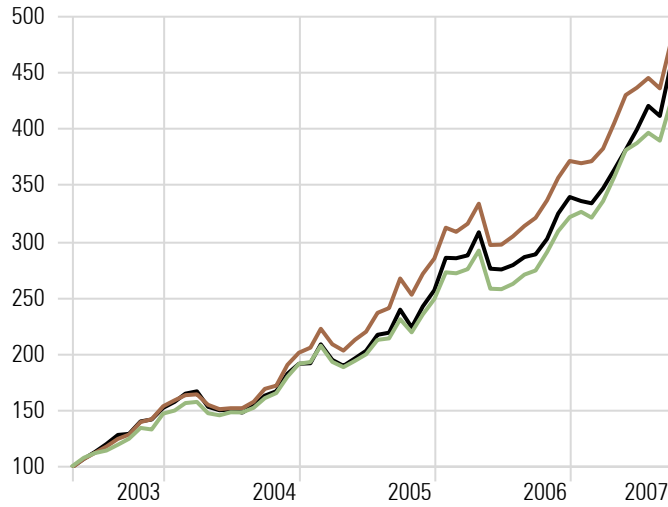
	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
DFA Emerging Markets I	9.0	20.5	0.3	0.94	96	33.1	-27.8	0.37	4.4
Lazard Emerging Markets Equity Instl	9.8	21.1	1.0	0.96	94	34.1	-30.5	0.39	5.4
MSCI EM NR USD	9.1	21.4	0.0	1.00	100	34.7	-27.6	0.36	0.0



# Time Period Performance Analysis

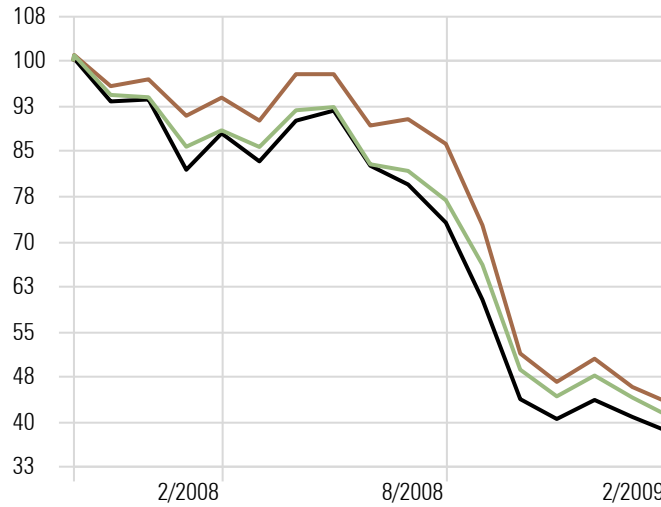
## Credit Buildup - Housing and Oil Boom

Time Period: 4/30/2003 to 9/30/2007



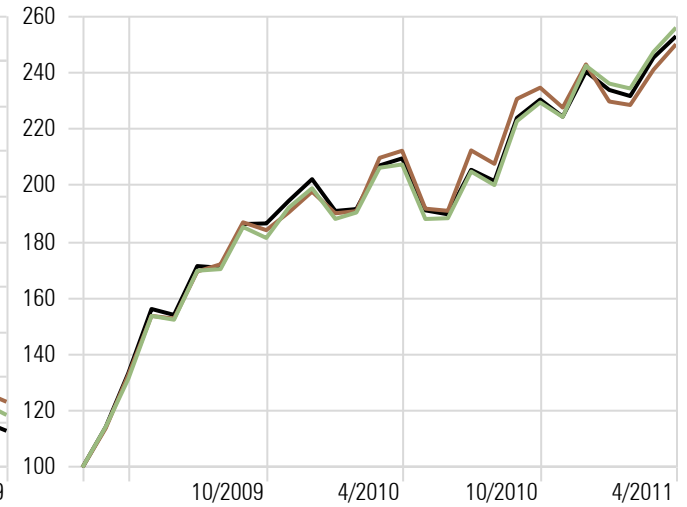
## Credit Crunch - Financial Crisis

Time Period: 10/31/2007 to 2/28/2009



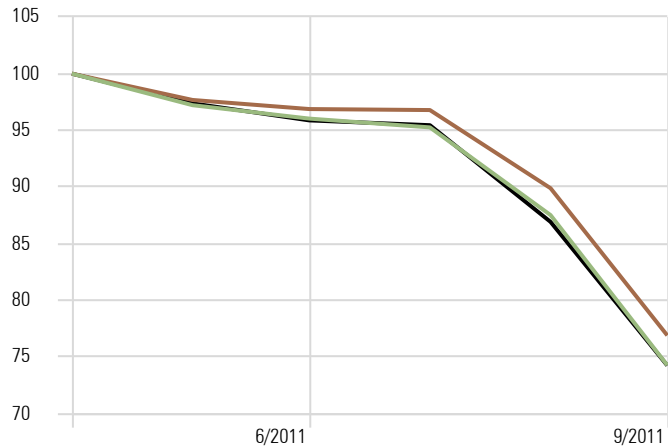
## Financial Crisis Recovery - QE1&2

Time Period: 3/1/2009 to 4/30/2011



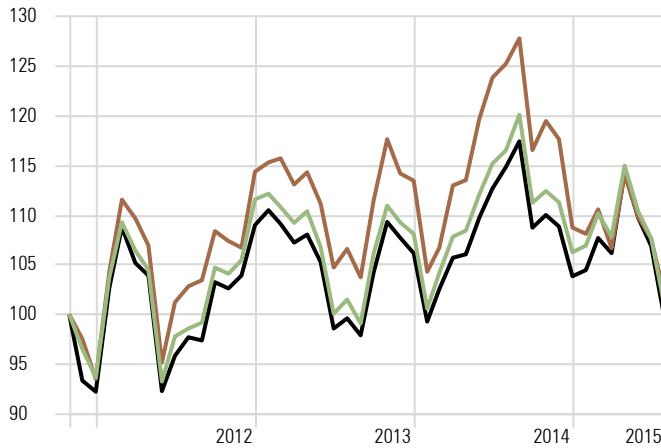
## Double Dip

Time Period: 5/1/2011 to 9/30/2011



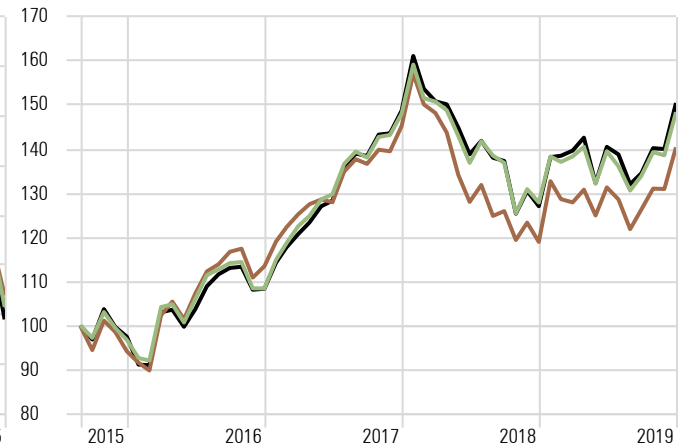
## US Recovery Continues - Global Markets Lag

Time Period: 11/1/2011 to 7/31/2015



## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



● DFA Emerging Markets I

● Lazard Emerging Markets Equity Instl

⬠ MSCI EM NR USD

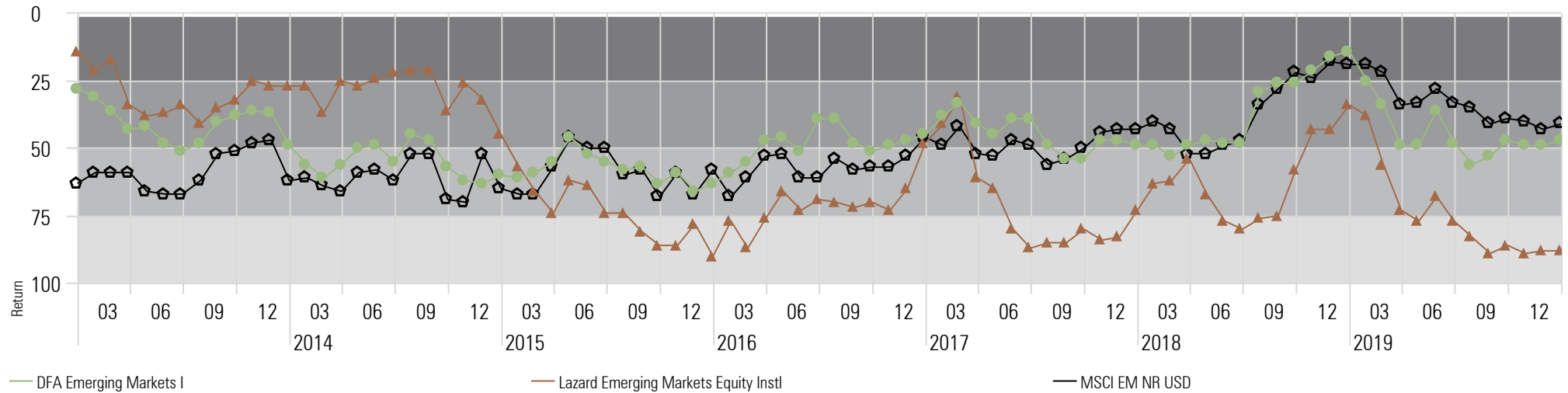
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

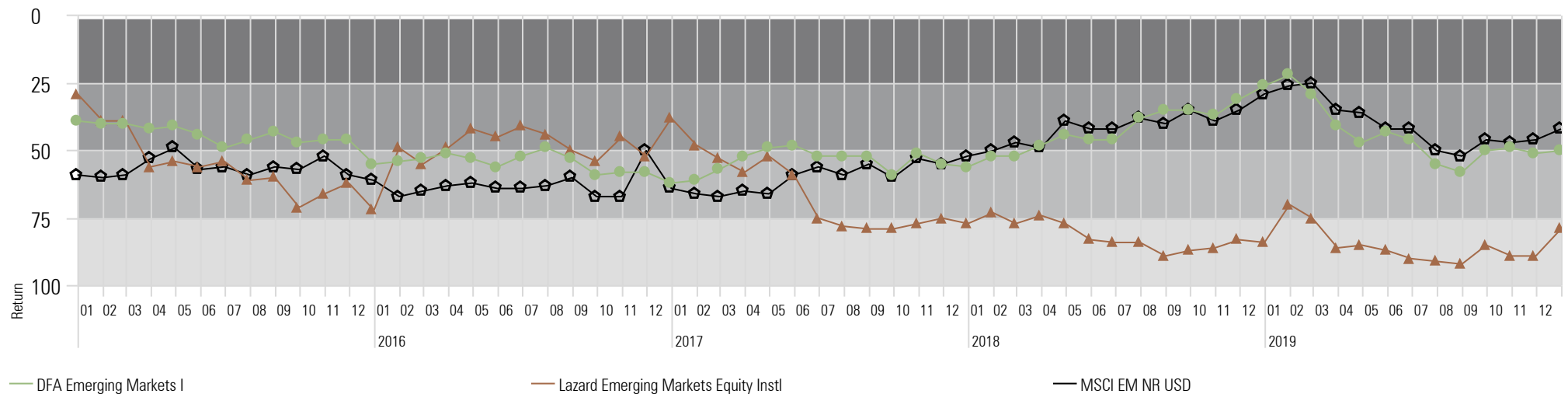


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

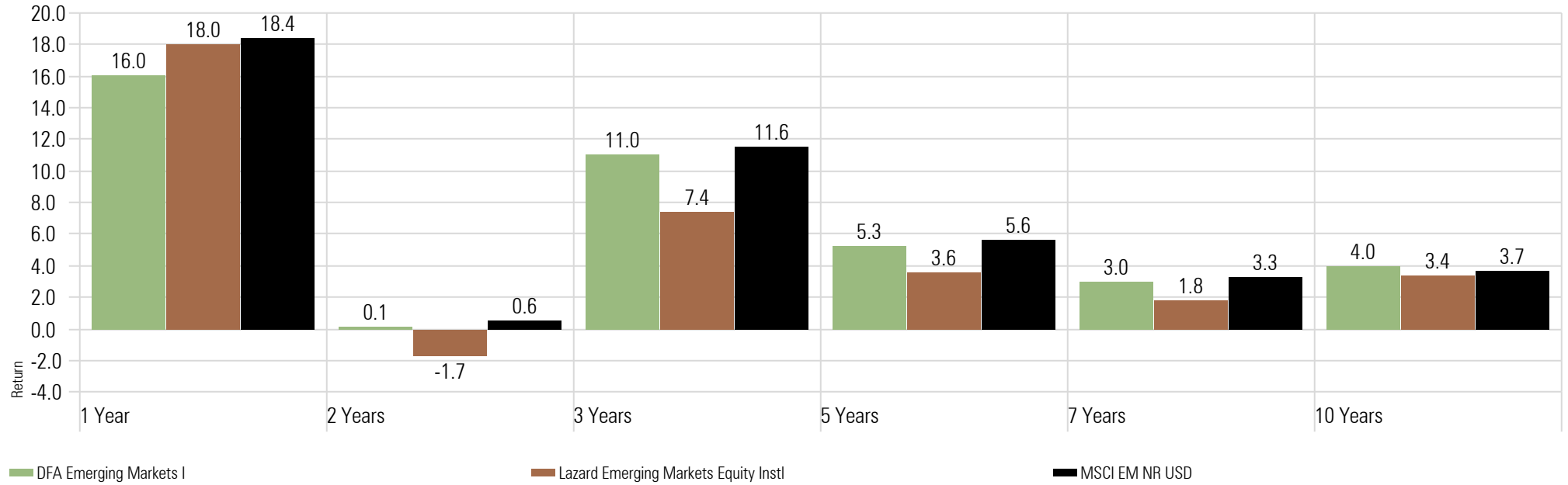
Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

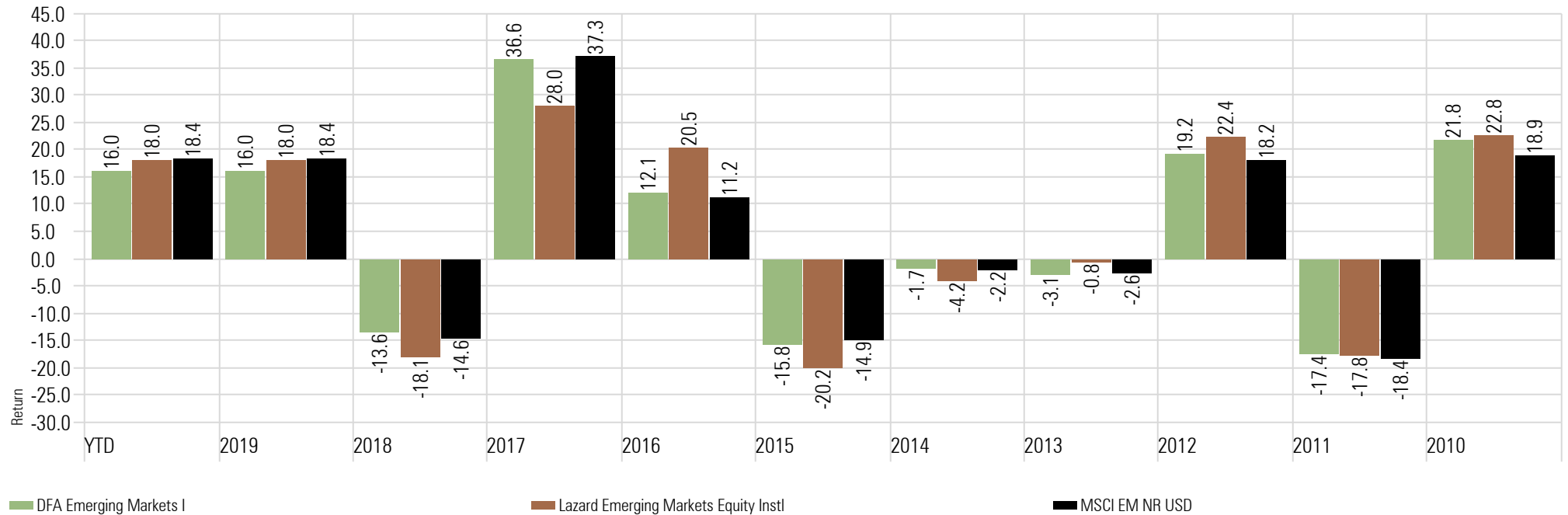


# Trailing Performance

## Cumulative Returns



## Annual Returns



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Diversified Emerging Mkts</b>																		
DFA Emerging Markets I	10.8	<b>58</b>	-1.07	16.0	<b>81</b>	-2.39	16.0	<b>81</b>	-2.39	11.0	<b>47</b>	-0.54	5.3	<b>50</b>	-0.36	4.0	<b>48</b>	0.28
Lazard Emerging Markets Equity Instl	11.1	<b>49</b>	-0.69	18.0	<b>69</b>	-0.38	18.0	<b>69</b>	-0.38	7.4	<b>88</b>	-4.20	3.6	<b>79</b>	-2.05	3.4	<b>63</b>	-0.26
MSCI EM NR USD	11.8			18.4			18.4			11.6			5.6			3.7		
Average	10.6			20.7			20.7			10.9			5.0			4.0		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Diversified Emerging Mkts</b>																					
DFA Emerging Markets I	16.0	<b>81</b>	-2.39	-13.6	<b>18</b>	0.94	36.6	<b>49</b>	-0.71	12.1	<b>22</b>	0.90	-15.8	<b>73</b>	-0.89	-1.7	<b>41</b>	0.48	-3.1	<b>69</b>	-0.52
Lazard Emerging Markets Equity Instl	18.0	<b>69</b>	-0.38	-18.1	<b>64</b>	-3.52	28.0	<b>84</b>	-9.27	20.5	<b>3</b>	9.33	-20.2	<b>94</b>	-5.24	-4.2	<b>69</b>	-1.98	-0.8	<b>50</b>	1.81
MSCI EM NR USD	18.4			-14.6			37.3			11.2			-14.9			-2.2			-2.6		
Average	20.7			-16.5			35.8			8.1			-12.9			-2.4			1.1		

Fund Name	Comparative Index/Fund
DFA Emerging Markets I	100% Lazard Emerging Markets Equity Instl

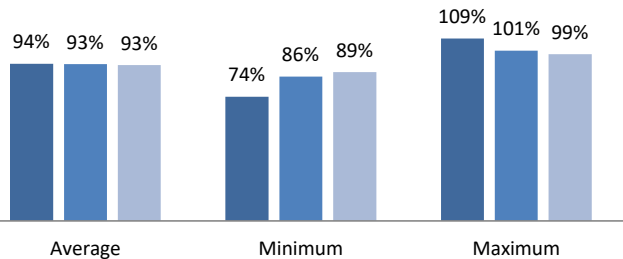
Home

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## Risk Analysis

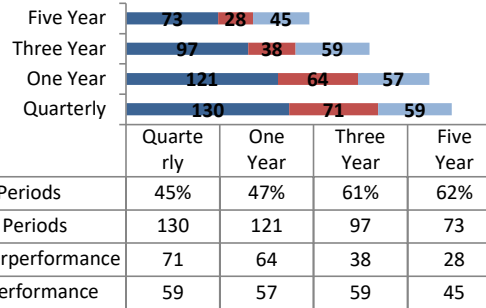
### Relative Standard Deviation

■ 1yr Std Deviation ■ 3yr Std Deviation ■ 5yr Std Deviation

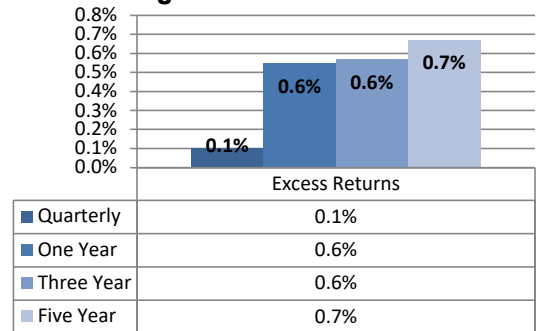


## Absolute Performance Summary

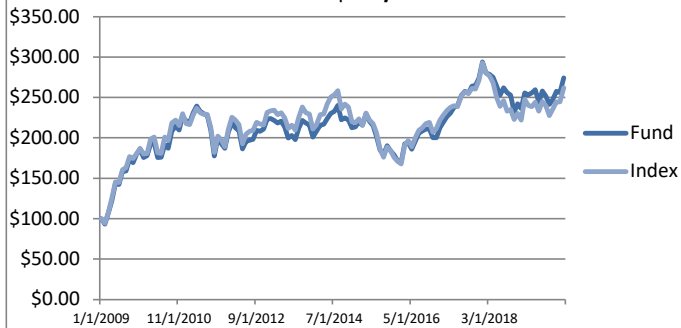
### Batting Average



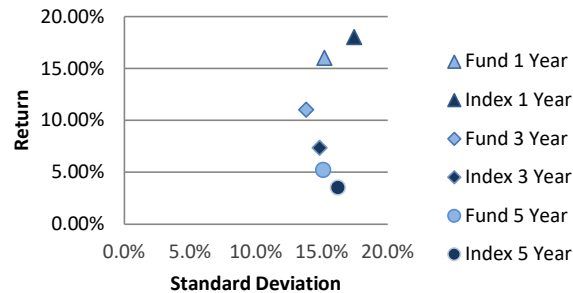
### Rolling Period Excess Returns



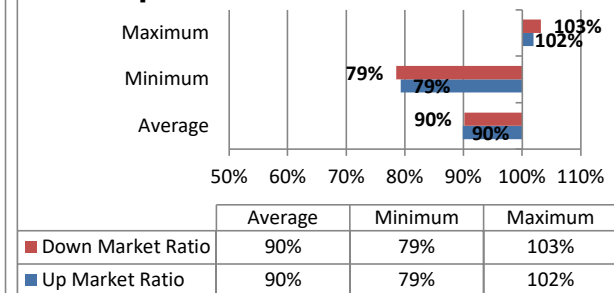
### Growth of \$10,000



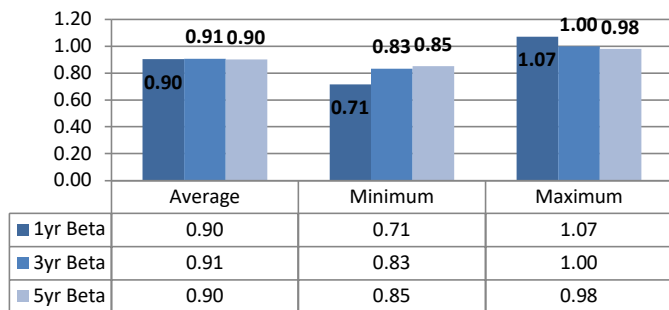
### Current Risk/Return Profile



### Up/Down Market Performance



### Beta



## Annualized Performance and Risk Statistics

	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
DFA Emerging Markets I	16.03%	0.96%	15.18%	10.77%	-3.99%
100% Lazard Emerging Markets Equi	18.04%		17.45%	11.17%	-3.80%
<b>Latest Three Years</b>					
DFA Emerging Markets I	11.03%	4.55%	13.80%	13.02%	-11.53%
100% Lazard Emerging Markets Equi	7.37%		14.81%	12.33%	-13.61%
<b>Latest Five Years</b>					
DFA Emerging Markets I	5.25%	2.08%	15.08%	13.17%	-16.53%
100% Lazard Emerging Markets Equi	3.56%		16.20%	15.15%	-19.07%
<b>Latest Ten Years</b>					
DFA Emerging Markets I	3.96%	0.84%	16.81%	18.28%	-22.66%
100% Lazard Emerging Markets Equi	3.42%		17.87%	20.79%	-20.62%

# DFA Emerging Markets I

DFEMX

Index: MSCI EM NR USD

Category: US Fund Diversified Emerging Mkts

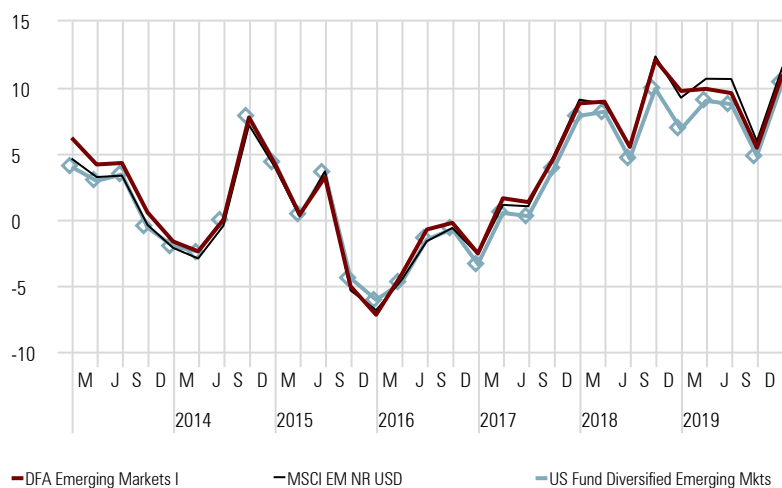
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: MSCI EM NR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
DFA Emerging Markets I	16.0	16.0	11.0	5.3	4.0	7.4
MSCI EM NR USD	18.4	18.4	11.6	5.6	3.7	7.5
US Fund Diversified Emerging Mkts	19.1	19.1	10.4	4.6	3.1	6.4

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.43	1.33	
Gross Expense Ratio	0.53	2.21	
LT Earn Growth	9.0	9.5	9.1
Avg Mkt Cap (\$MMM)	22.3	36.0	47.9
P/E Ratio	13.8	14.7	16.3
P/B Ratio	1.5	2.1	2.0
P/S Ratio	1.0	1.6	1.4
P/CF Ratio	7.3	9.9	10.5
ROE %	16.0	18.9	20.5
ROA %	6.9	8.4	7.2
Dividend Yld	3.4	3.0	2.8

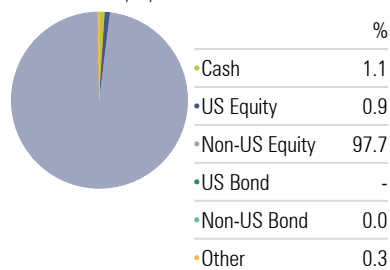
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: MSCI EM NR USD

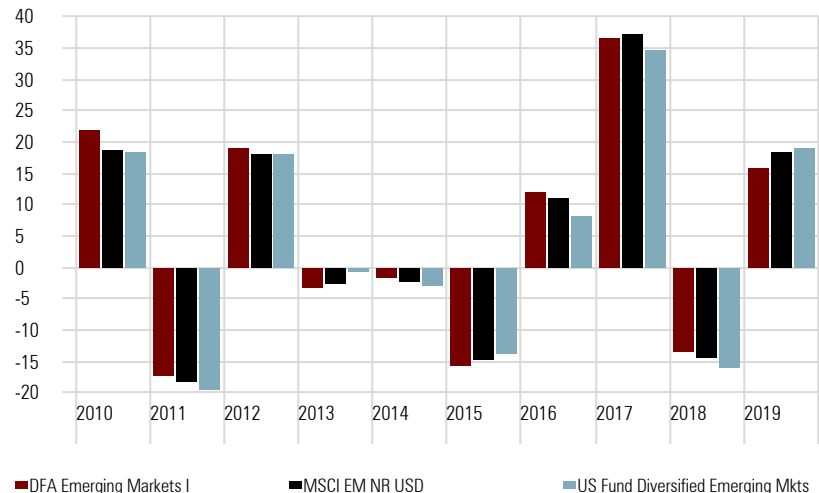
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
DFA Emerging Markets I	54.2	45.8	13.2	-15.1	18.3	-22.7	99.0	97.6
MSCI EM NR USD	53.3	46.7	13.2	-14.6	18.0	-22.6	100.0	100.0
US Fund Diversified Emerging Mkts	54.2	45.8	11.9	-15.5	18.6	-22.8	91.1	92.5

## Asset Allocation

Portfolio Date: 1/31/2020



## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	13.8	0.7	15.1	1.2
Down Deviation	1.5	-0.2	1.6	-0.5
Beta	0.9	0.0	0.9	0.1
Alpha	0.0	0.2	-0.1	0.4
Sharpe	0.7	0.0	0.3	0.0
Sortino	1.1	0.0	0.5	0.1
Info Ratio	-0.2	0.3	-0.2	0.2
Down Capture	99.3	6.0	97.5	7.3
Up Capture	97.7	5.9	96.6	8.3

## Top 10 Holdings

	Fund %	Sector	Inv	Avg
Taiwan Semiconductor Manufacturing Co Ltd	3.9	Energy	7	6
Samsung Electronics Co Ltd	3.8	Materials	9	5
Tencent Holdings Ltd	3.0	Industrials	7	5
Alibaba Group Holding Ltd ADR	1.9	Cons Discretionary	10	15
Taiwan Semiconductor Manufacturing Co Ltd ADR	1.2	Consumer Staples	8	9
Reliance Industries Ltd	1.0	Healthcare	3	3
Samsung Electronics Co Ltd GDR	1.0	Financials	21	25
SK Hynix Inc	1.0	Info Technology	20	17
Ping An Insurance (Group) Co. of China Ltd Class H	0.9	Telecom Services	10	10
HDFC Bank Ltd	0.8	Utilities	3	2
		Real Estate %	3.0	2.3

# TIAA Real Estate Account - Fact Sheet

As of 12/31/2019



# TIAA Real Estate Account

Real Estate

As of 12/31/2019

<b>Portfolio Net Assets</b> \$27.3 Billion	<b>Inception Date</b> 10/02/1995	<b>Symbol</b> QREARX	<b>Estimated Annual Expenses<sup>12</sup></b> 0.83%
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## Investment Description

The Account seeks to generate favorable total returns primarily through rental income and appreciation of real estate investments and real estate-related investments and offers investors guaranteed, daily liquidity. The Account intends to invest between 75% and 85% of its net assets directly in real estate or real estate-related investments, which TIAA believes have the potential to generate rental income and appreciation. The remainder of its investments will be invested in publicly traded, liquid investments.

## Learn More

For more information please contact:  
**800-842-2252**  
Weekdays, 8 a.m. to 10 p.m. (ET),  
Saturdays, 9 a.m. to 6 p.m. (ET),  
or visit [TIAA.org](http://TIAA.org)

## Performance

	Total Return		Average Annual Total Return				
	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception
TIAA Real Estate Account	1.19%	5.51%	5.51%	4.89%	5.60%	8.57%	6.25%

The returns quoted represent past performance, which is no guarantee of future results. Returns and the principal value of your investment will fluctuate. Current performance may be higher or lower than that shown, and you may have a gain or a loss when you redeem your accumulation units. For current performance information, including performance to the most recent month-end, please visit [TIAA.org](http://TIAA.org), or call 800-842-2252. Performance may reflect waivers or reimbursements of certain expenses. Absent these waivers or reimbursement arrangements, performance may be lower.

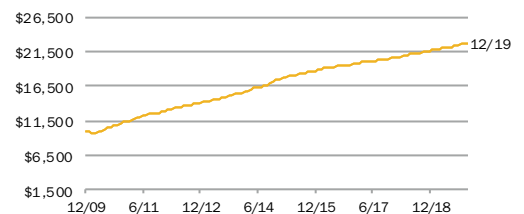
- <sup>1</sup> The total annual expense deduction, which includes investment management, administration, and distribution expenses, mortality and expense risk charges, and the liquidity guarantee, is estimated each year based on projected expense and asset levels. Differences between actual expenses and the estimate are adjusted quarterly and are reflected in current investment results. Historically, adjustments have been small.
- <sup>2</sup> The Account's total annual expense deduction appears in the Account's prospectus, and may be different than that shown herein due to rounding. Please refer to the prospectus for further details.

## Hypothetical Growth of \$10,000

The chart illustrates the performance of a hypothetical \$10,000 investment on December 31, 2009 and redeemed on December 31, 2019.

— TIAA Real Estate Account

\$22,766



The total returns are not adjusted to reflect sales charges, the effects of taxation or redemption fees, but are adjusted to reflect actual ongoing expenses, and assume reinvestment of dividends and capital gains, net of all recurring costs.

## Properties by Type (As of 12/31/2019)

	% of Real Estate Investments <sup>3 4</sup>
Office	37.0
Apartment	26.2
Retail	19.3
Industrial	15.8
Other	1.7

## Properties by Region (As of 12/31/2019)

	% of Real Estate Investments <sup>3</sup>
West	39.6
East	32.4
South	25.7
Midwest	2.3

<sup>3</sup> Wholly owned properties are represented at fair value and gross of any debt, while joint venture properties are represented at the net equity value.

<sup>4</sup> Other properties represents interests in Storage Portfolio investments, a hotel investment and land.





# TIAA Retirement Annuity Accounts TIAA Real Estate Account

Real Estate

As of 12/31/2019

## Portfolio Composition (As of 12/31/19)

Investments by Type	% of Net Assets
Real Estate Properties (Net Of Debt)	48.6%
Real Estate Joint Venture And Limited Partnerships	27.5%
Marketable Securities Other	15.2%
Loans Receivable (Net Of Debt)	5.6%
Marketable Securities Real Estate Related	3.0%
Other (Net Receivable/Liability)	0.1%

## Top 10 Holdings<sup>5</sup> (As of 12/31/19)

	% of Total Investments <sup>6</sup>
Fashion Show	3.4%
SITE Centers Corp	3.0%
The Florida Mall	2.7%
Simpson Housing Portfolio	2.5%
1001 Pennsylvania Avenue	2.4%
Colorado Center	1.9%
99 High Street	1.7%
Ontario Industrial Portfolio	1.5%
Four Oaks Place	1.3%
Lincoln Centre	1.3%
<b>Total</b>	<b>21.7%</b>

## Market Recap

### Real estate fundamentals to remain solid in near-term

The Bureau of Labor Statistics reported that the U.S. economy added 553,000 jobs during the fourth quarter of 2019 compared to 578,000 jobs during the third quarter of 2019. The economy created an average of 184,000 jobs over the past three months, above the trailing 12-month average of 176,000. The unemployment rate declined to 3.5% for the fourth quarter, 10 bps lower than the rate achieved at the end of the third quarter in 2019.

Finance and professional services have been the drivers of demand for office space. The financial services sector saw a decrease in jobs added, from 42,000 in the third quarter to 36,000 jobs in the fourth quarter. The professional and business services sector, which includes many facets of technology-related employment, experienced a slight decrease in jobs added, adding 98,000 jobs in the fourth quarter, down from 102,000 jobs added in the third quarter.

The national office vacancy rate remained unchanged at 12.1%. Suburban vacancy remained flat at 13.1%, while downtown vacancy increased by 10 bps, to 10.3%. Of the 63 markets tracked by CB Richard Ellis Econometric Advisors ("CBRE-EA"), vacancy rates declined in 31, rose in 31 and were unchanged in 1 market. The office sector continues to shift from traditional to flexible space as tenants continue to customize their space. The share of employees telecommuting to work had reached 3% according to Federal Reserve.

The national industrial availability rate edged up by 3.5 bps reaching 7.3% in the fourth quarter. The availability rates decreased in 27 of the 64 industrial markets tracked by CBRE-EA. Industrial market conditions are influenced by GDP growth, international trade, and consumer spending, specifically e-commerce spending. Rising e-commerce demand should continue to drive demand for warehouse space.

The national apartment vacancy rate increased by 60 bps, to 4.3% in the fourth quarter, up from a historically low 3.7% vacancy rate achieved in the third quarter, according to RealPage. Fourth quarter's occupancy continued with the strong upward trend achieved during the previous quarter. Strong job growth, wage growth and delayed deliveries have helped sustain strong occupancy.

Preliminary data from the U.S. Census Bureau indicates that retail sales excluding motor vehicles and parts increased 0.3% in the third quarter and 3.8% on a year-over-year basis. The national retail availability rate (for neighborhood, community and strip centers) decreased slightly to 8.6% in the fourth quarter, according to CBRE-EA. A tight labor market and stable unemployment are supporting strong consumer confidence, which should ultimately continue to generate retail real estate demand.

Note: Data subject to revision.

## Important Information

<sup>5</sup> The top 10 holdings are subject to change and may not be representative of the Account's current or future investments. The holdings listed only include the Account's long-term investments. Money market instruments and/or futures contracts, if applicable, are excluded. The holdings do not include the Account's entire investment portfolio and should not be considered a recommendation to buy or sell a particular security.

<sup>6</sup>Real estate fair value is presented gross of debt. Investments in joint ventures are presented at the Account's ownership interest.

**Fashion Show** is held in a joint venture with Brookfield Property Partners LP, in which the Account holds 50% interest, and is presented gross of debt. As of December 31, 2019, this debt had a fair value of \$427.0 million.

The joint venture with **SITE Centers Corp**, in which the Account holds an 85% interest, consists of 21 retail properties located in 10 states, and is presented gross of debt. As of December 31, 2019, this debt had a fair value of \$159.2 million.

**The Florida Mall** is held in a joint venture with Simon Property Group, L.P., in which the Account holds a 50% interest, and is presented gross of debt. As of December 31, 2019, this debt had a fair value of \$156.9 million.

**Simpson Housing Portfolio** is held in a joint venture with Simpson Housing LP, in which the Account holds an 80% interest, and is presented gross of debt. As of December 31, 2019, this debt had a fair value of \$401.3 million.

**1001 Pennsylvania Avenue** is presented gross of debt. As of December 31, 2019, this debt had a fair value of \$322.8 million.

**Colorado Center** is held in a joint venture with EOP Operating LP, in which the Account holds a 50% interest, and is presented gross of debt. As of December 31, 2019, this debt had a fair value of \$277.2 million.

**99 High Street** is presented gross of debt. As of December 31, 2019, this debt had a fair value of \$286.3 million.

**Four Oaks Place** is held in a joint venture with Allianz US Private REIT LP, in which the Account holds a 51% interest, and is presented gross of debt. As of December 31, 2019, this debt had a fair value of \$84.9 million.

# TIAA Retirement Annuity Accounts TIAA Real Estate Account

Real Estate

As of 12/31/2019

Real estate investment portfolio turnover rate was 7.8% for the year ended 12/31/2019. Real estate investment portfolio turnover rate is calculated by dividing the lesser of purchases or sales of real estate property investments (including contributions to, or return of capital distributions received from, existing joint venture and limited partnership investments) by the average value of the portfolio of real estate investments held during the period. Marketable securities portfolio turnover rate was 28.7% for the year ended 12/31/2019. Marketable securities portfolio turnover rate is calculated by dividing the lesser of purchases or sales of securities, excluding securities having maturity dates at acquisition of one year or less, by the average value of the portfolio securities held during the period.

Teachers Insurance and Annuity Association of America (TIAA), New York, NY, issues annuity contracts and certificates.

TIAA-CREF Individual & Institutional Services, LLC, Member FINRA and SIPC, distributes securities products.

**Investment, insurance and annuity products are not FDIC insured, are not bank guaranteed, are not deposits, are not insured by any federal government agency, are not a condition to any banking service or activity and may lose value.**

**THIS MATERIAL MUST BE PRECEDED OR ACCOMPANIED BY A CURRENT PROSPECTUS FOR THE TIAA REAL ESTATE ACCOUNT. PLEASE CAREFULLY CONSIDER THE INVESTMENT OBJECTIVES, RISKS, CHARGES, AND EXPENSES BEFORE INVESTING AND CAREFULLY READ THE PROSPECTUS. ADDITIONAL COPIES OF THE PROSPECTUS CAN BE OBTAINED BY CALLING 877-518-9161.**

## A Note About Risks

In general, the value of the TIAA Real Estate Account will fluctuate based on the underlying value of the direct real estate or real estate-related securities in which it invests.

The risks associated with investing in the Real Estate Account include the risks associated with real estate ownership including among other things fluctuations in property values, higher expenses or lower income than expected, risks associated with borrowing and potential environmental problems and liability, as well as risks associated with participant flows and conflicts of interest. For a more complete discussion of these and other risks, please consult the prospectus.

# Real Estate Investment Trust (REIT) Search

As of 12/31/2019



# US Fund Real Estate

## TIAA-CREF Real Estate Sec Instl

### Investment Strategy

The investment seeks to obtain a favorable long-term total return through both capital appreciation and current income, by investing primarily in equity securities of companies principally engaged in or related to the real estate industry. The fund invests at least 80% of its assets in the securities of companies that are principally engaged in or related to the real estate industry, including those that own significant real estate assets. It may invest up to 15% of its assets in real estate securities of foreign issuers and up to 20% of its assets in equity and debt securities of issuers that are not engaged in or related to the real estate industry.

### Manager Biography

David Copp since 12/31/2005

Brendan W. Lee since 7/10/2006

### TIAA-CREF Real Estate Sec Instl - Operations

Inception Date	10/1/2002
Fund Size (\$mm)	2,871
Annual Report Net Expense Ratio	0.51
Prospectus Net Expense Ratio	0.51
Prospectus Gross Expense Ratio	0.51
Ticker	TIREX
Manager Tenure (Longest)	14.08
Manager Tenure (Average)	13.79
Morningstar Inst Cat	Domestic Real Estate

### Other Notes:

None

## Voya Global Real Estate R6

### Investment Strategy

The investment seeks high total return, consisting of capital appreciation and current income. Under normal market conditions, the fund invests at least 80% of its net assets (plus borrowings for investment purposes) in a portfolio of equity securities of companies that are principally engaged in the real estate industry. It may invest in companies located in countries with emerging securities markets. The fund may invest in other investment companies, including exchange-traded funds.

### Manager Biography

T. Ritson Ferguson since 11/5/2001

Steven D. Burton since 11/5/2001

Joseph P. Smith since 2/28/2007

### Voya Global Real Estate R6 - Operations

Inception Date	7/15/2014
Fund Size (\$mm)	412
Annual Report Net Expense Ratio	0.98
Prospectus Net Expense Ratio	0.92
Prospectus Gross Expense Ratio	0.92
Ticker	VGRQX
Manager Tenure (Longest)	18.17
Manager Tenure (Average)	16.42
Morningstar Inst Cat	World Real Estate

### Other Notes:

None

# Portfolio Analysis

## TIAA-CREF Real Estate Sec Instl

## Voya Global Real Estate R6

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth
Large	8	20	19
Mid	7	28	11
Small	2	1	4

Market Cap	%
Market Cap Giant %	0
Market Cap Large %	48
Market Cap Mid %	45
Market Cap Small %	7
Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth
Large	7	21	7
Mid	11	35	9
Small	2	4	4

Market Cap	%
Market Cap Giant %	3
Market Cap Large %	32
Market Cap Mid %	55
Market Cap Small %	11
Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: S&P United States REIT TR USD

	Inv	Bmk1
Average Market Cap (bil)	19.4	12.8
Forward P/E	45.3	39.4
P/E Ratio (TTM)	36.8	29.8
LT Earn Growth	6.1	4.7
P/B Ratio (TTM)	3.0	2.4
Dividend Yield	3.1	4.0
ROE %	11.9	12.0
ROA %	3.4	3.8
Debt to Capital %	52	50

### Valuation Data

Display Benchmark 1: S&P Global REIT TR USD

	Inv	Bmk1
Average Market Cap (bil)	10.7	9.1
Forward P/E	26.6	28.1
P/E Ratio (TTM)	17.4	21.5
LT Earn Growth	9.1	6.1
P/B Ratio (TTM)	1.6	1.8
Dividend Yield	3.7	4.3
ROE %	10.5	10.4
ROA %	4.2	4.0
Debt to Capital %	44	45

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	34	
# of Stock Holdings	51	153
% in Top 10	40.4	35.0
Cash %	3.1	0.0
Developed %	95.9	100.0
US Equity %	95.7	99.9
Non-US Equity %	1	0
Emerging Mkt %	1.0	0.0

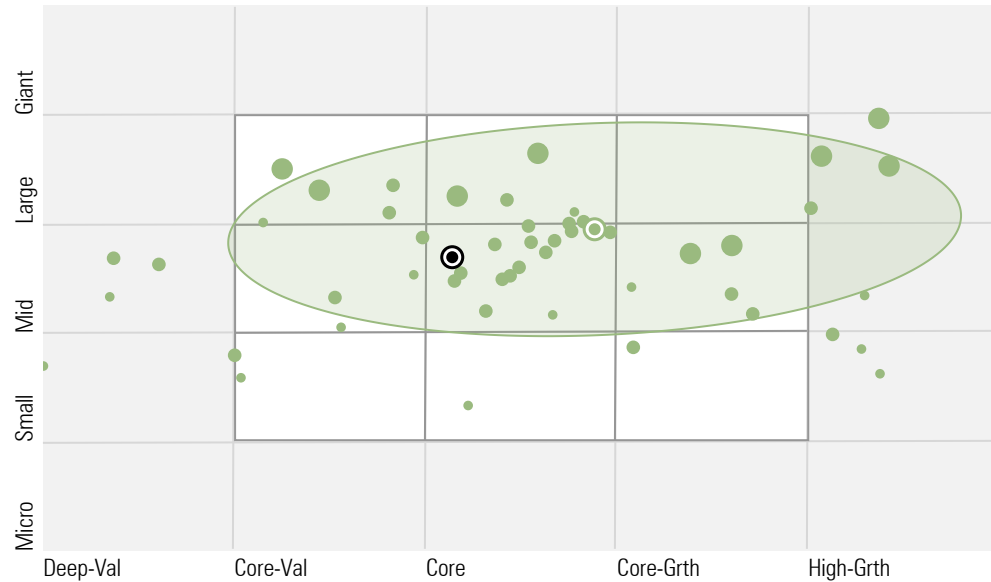
### Portfolio Data

	Inv	Bmk1
Turnover Ratio	71	
# of Stock Holdings	89	395
% in Top 10	28.7	22.7
Cash %	0.0	0.0
Developed %	99.6	97.0
US Equity %	54.8	64.7
Non-US Equity %	45	34
Emerging Mkt %	0.4	2.2

# Holdings-Based Style Analysis

## TIAA-CREF Real Estate Sec Instl

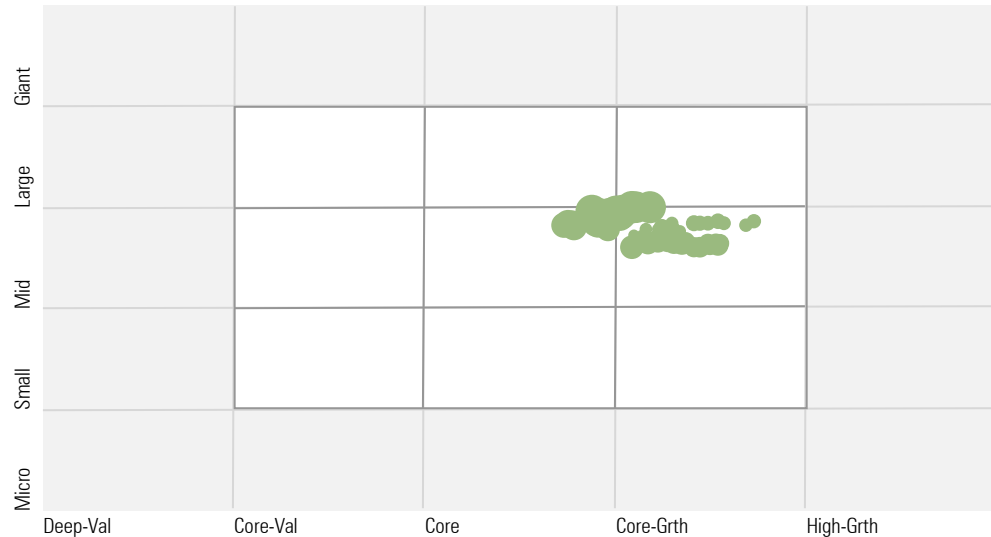
### Holdings-Based Style Map



● TIAA-CREF Real Estate Sec Instl 11/30/2019 ● S&P United States REIT TR USD 12/31/2019

### Holdings-Based Style Trail

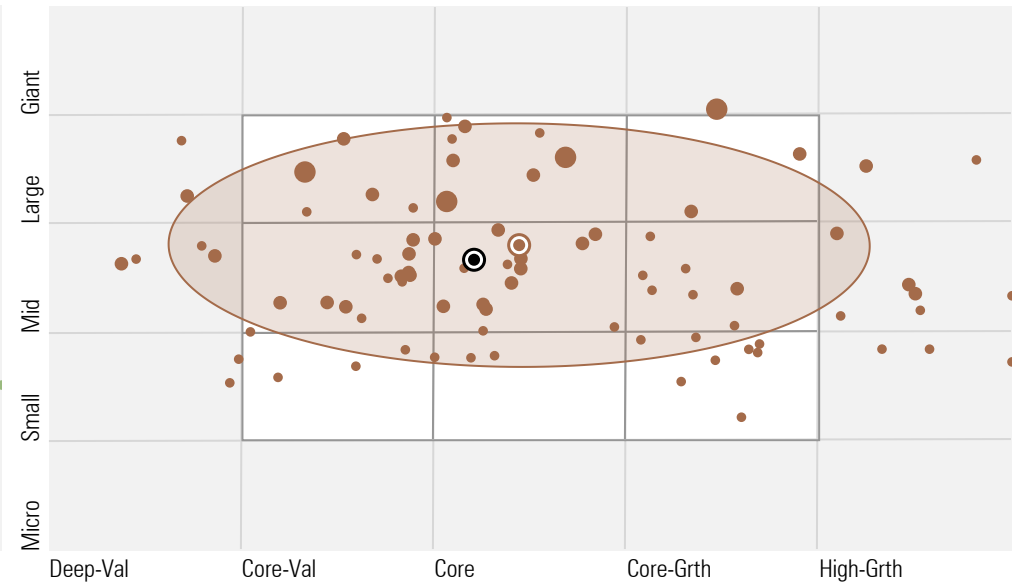
Time Period: 1/31/2015 to 11/30/2019



Source: Morningstar Direct

## Voya Global Real Estate R6

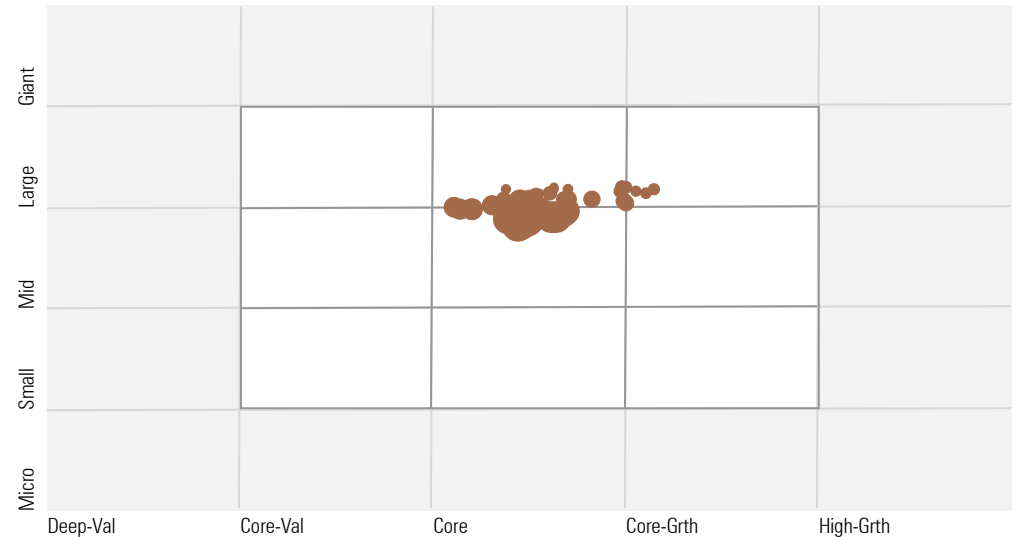
### Holdings-Based Style Map



● Voya Global Real Estate R6 12/31/2019 ● S&P Global REIT TR USD 12/31/2019

### Holdings-Based Style Trail

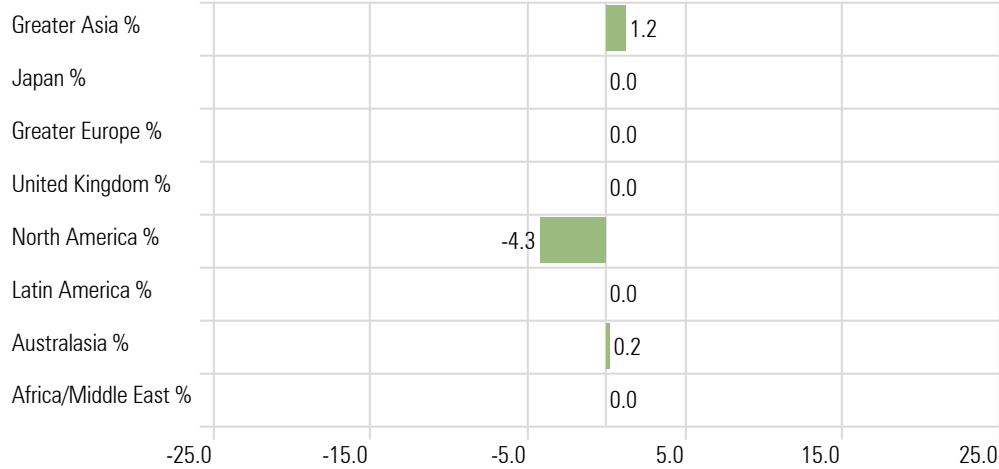
Time Period: 3/31/2015 to 12/31/2019



# International Exposure

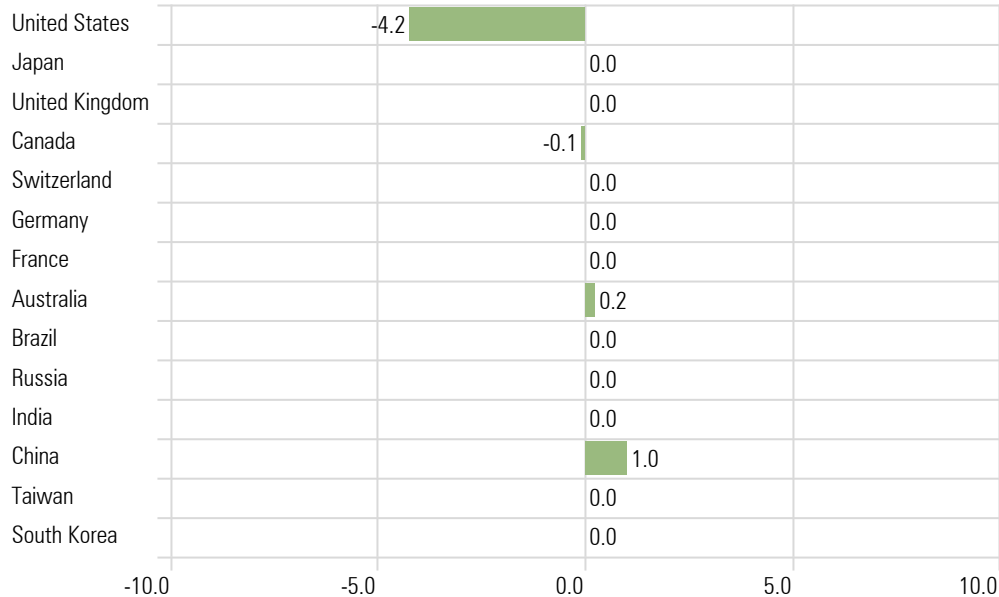
## TIAA-CREF Real Estate Sec Instl

### Regional Allocation +/- Index



■ TIAA-CREF Real Estate Sec Instl    ■ S&P United States REIT TR USD

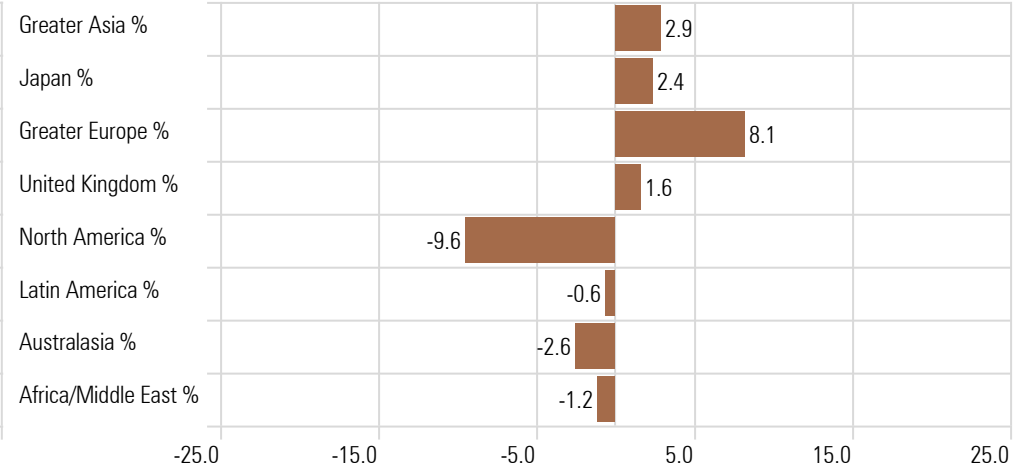
### Country Allocation +/- Index



■ TIAA-CREF Real Estate Sec Instl    ■ S&P United States REIT TR USD

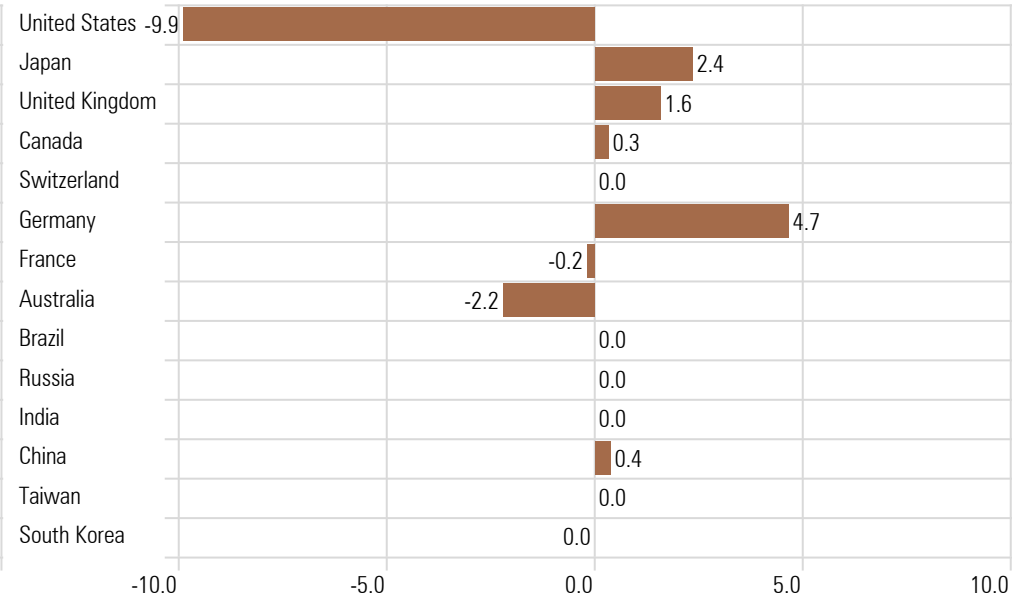
## Voya Global Real Estate R6

### Regional Allocation +/- Index



■ Voya Global Real Estate R6    ■ S&P Global REIT TR USD

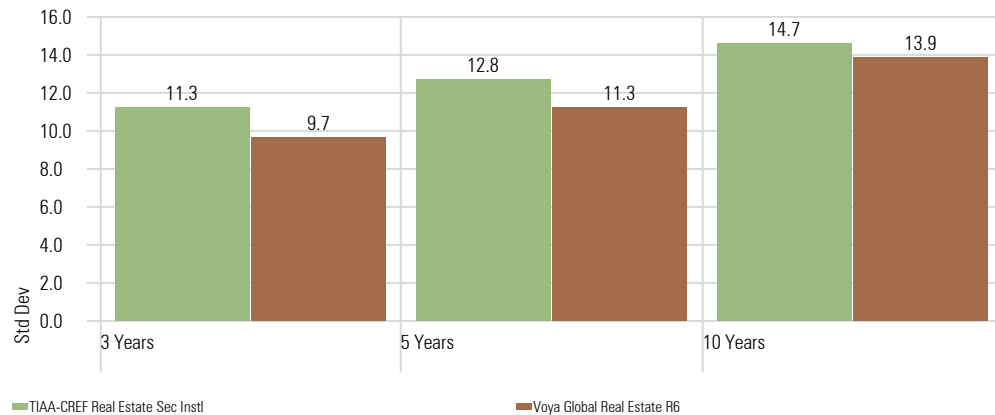
### Country Allocation +/- Index



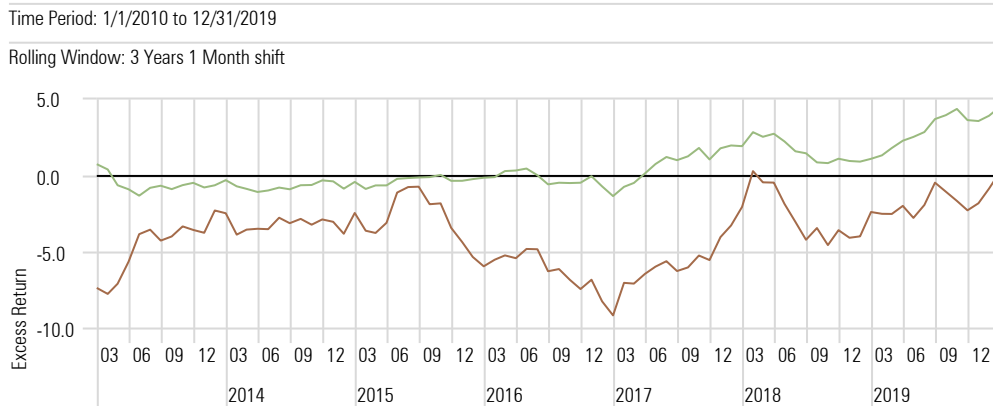
■ Voya Global Real Estate R6    ■ S&P Global REIT TR USD

# Risk/Return Performance Analysis

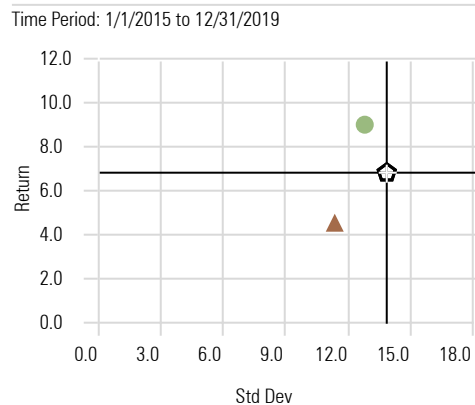
## Standard Deviation



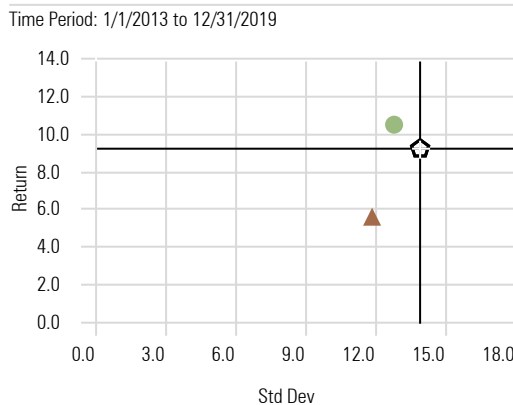
## 3 Year Relative Rolling Returns



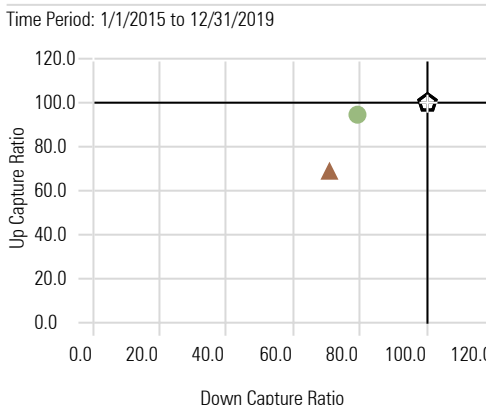
## 5 Year Risk-Reward



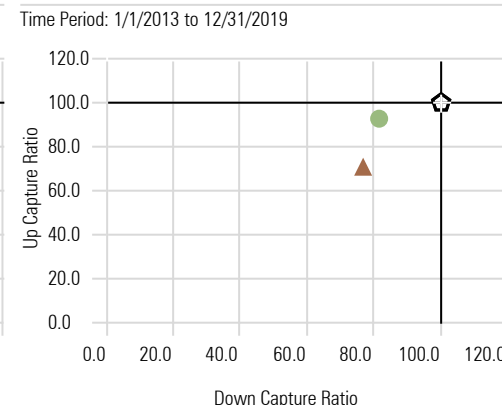
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● TIAA-CREF Real Estate Sec Instl

● Voya Global Real Estate R6

◊ S&P United States REIT TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (8/1/2014) to 12/31/2019

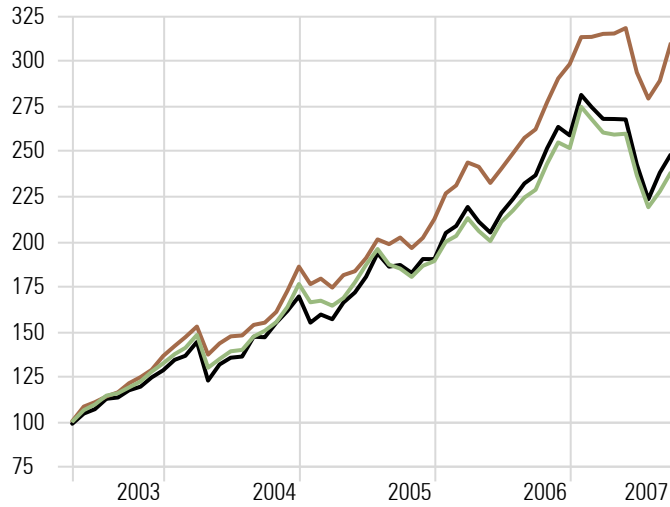
	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
TIAA-CREF Real Estate Sec Instl	10.5	13.2	2.6	0.91	96	17.3	-9.2	0.72	2.9
Voya Global Real Estate R6	4.6	11.6	-1.8	0.74	83	15.2	-7.2	0.30	6.0
S&P United States REIT TR USD	8.3	14.2	0.0	1.00	100	15.8	-10.3	0.51	0.0



# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

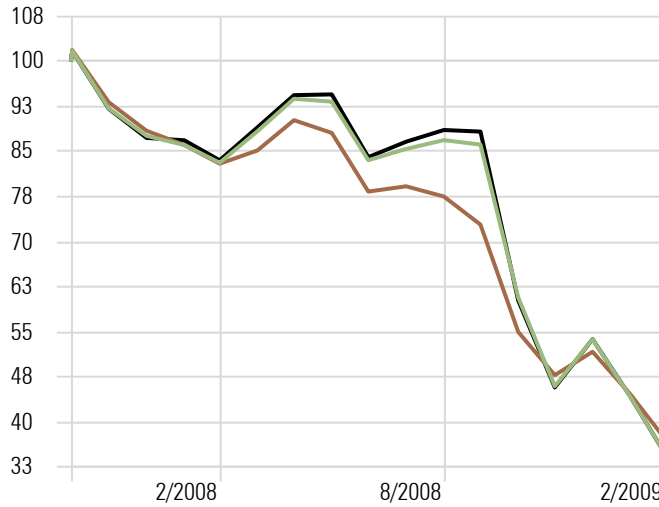
Time Period: 4/30/2003 to 9/30/2007



239 TIAA-CREF Real Estate Sec Instl 310 Voya Global Real Estate R6 249 S&P United States REIT TR USD

## Credit Crunch - Financial Crisis

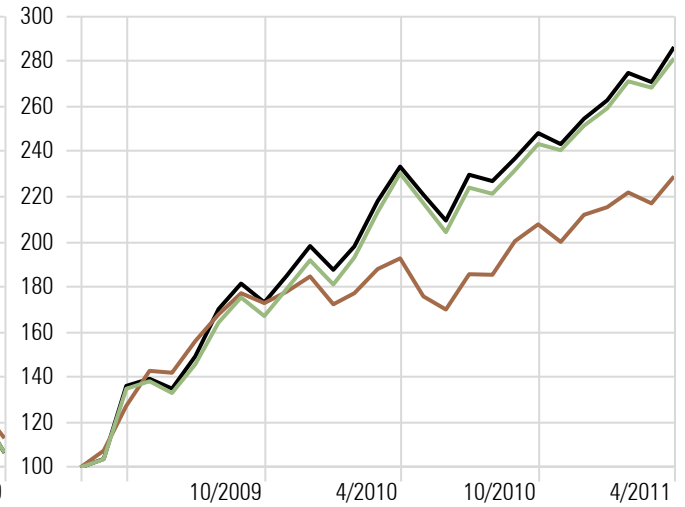
Time Period: 10/31/2007 to 2/28/2009



35 TIAA-CREF Real Estate Sec Instl 37 Voya Global Real Estate R6 35 S&P United States REIT TR USD

## Financial Crisis Recovery - QE1&2

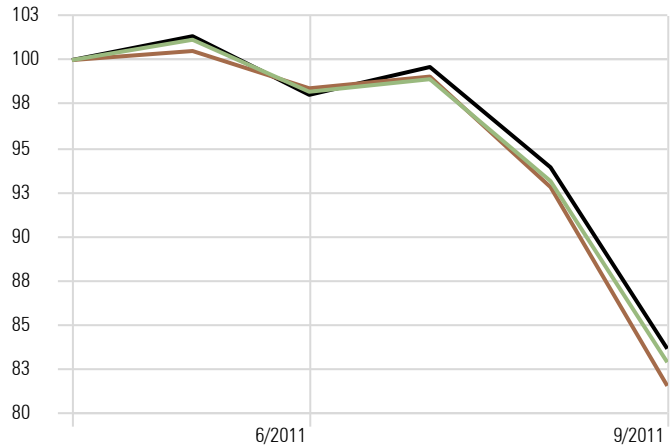
Time Period: 3/1/2009 to 4/30/2011



281.3 TIAA-CREF Real Estate Sec Instl 229.0 Voya Global Real Estate R6 286.4 S&P United States REIT TR USD

## Double Dip

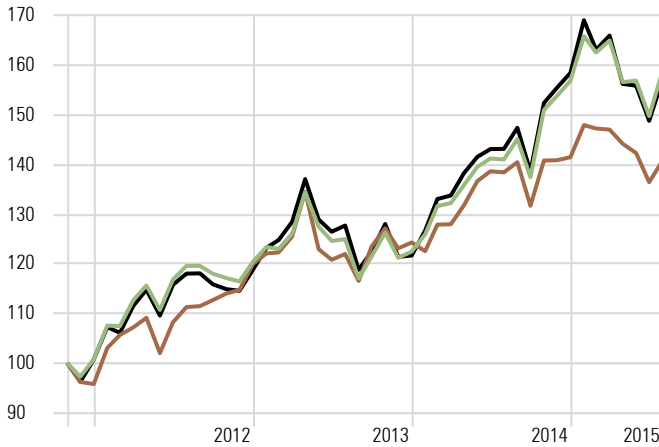
Time Period: 5/1/2011 to 9/30/2011



82.9 TIAA-CREF Real Estate Sec Instl 81.5 Voya Global Real Estate R6 83.6 S&P United States REIT TR USD

## US Recovery Continues - Global Markets Lag

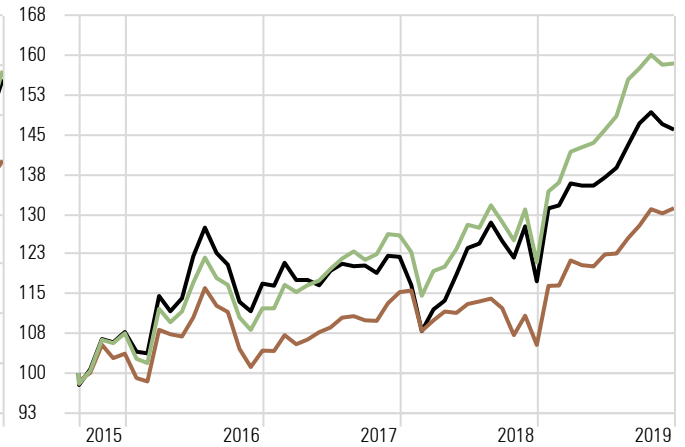
Time Period: 11/1/2011 to 7/31/2015



159.0 TIAA-CREF Real Estate Sec Instl 140.9 Voya Global Real Estate R6 157.2 S&P United States REIT TR USD

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



158.5 TIAA-CREF Real Estate Sec Instl 131.1 Voya Global Real Estate R6 146.0 S&P United States REIT TR USD

TIAA-CREF Real Estate Sec Instl

Voya Global Real Estate R6

S&P United States REIT TR USD

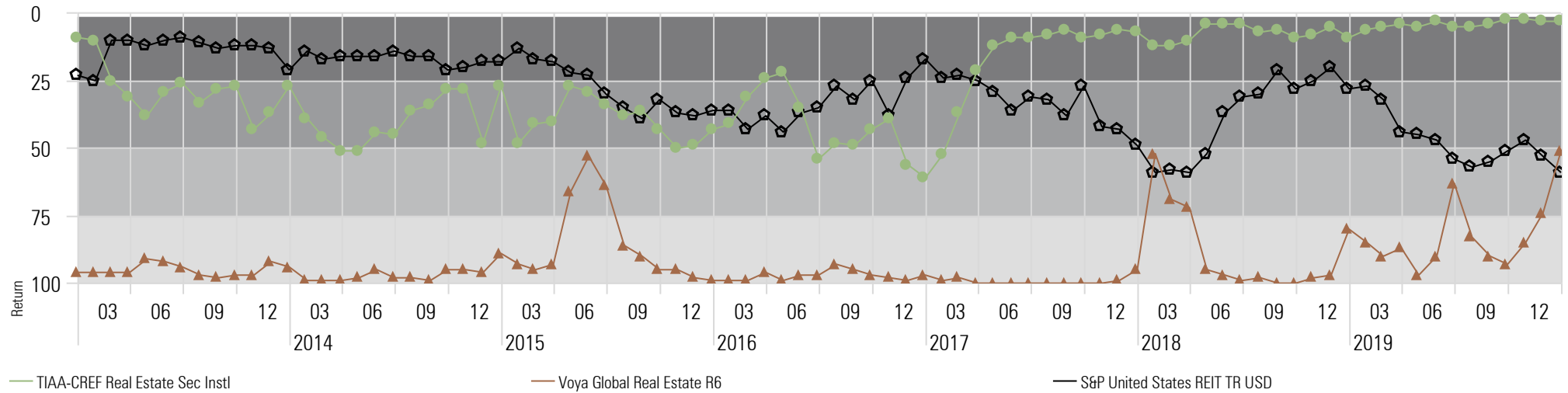
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

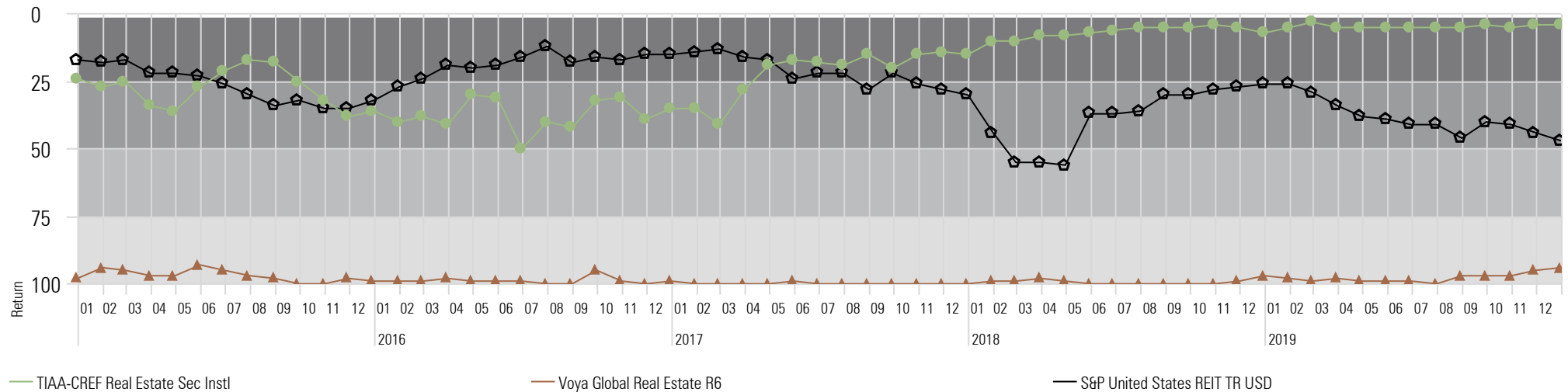


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

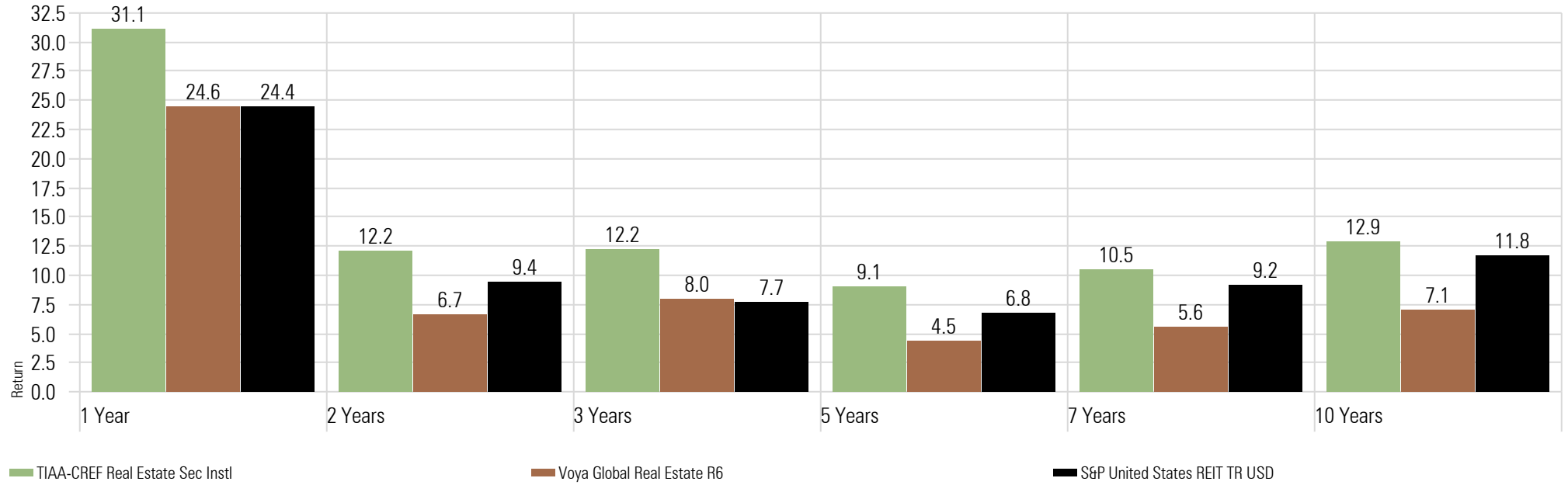
Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

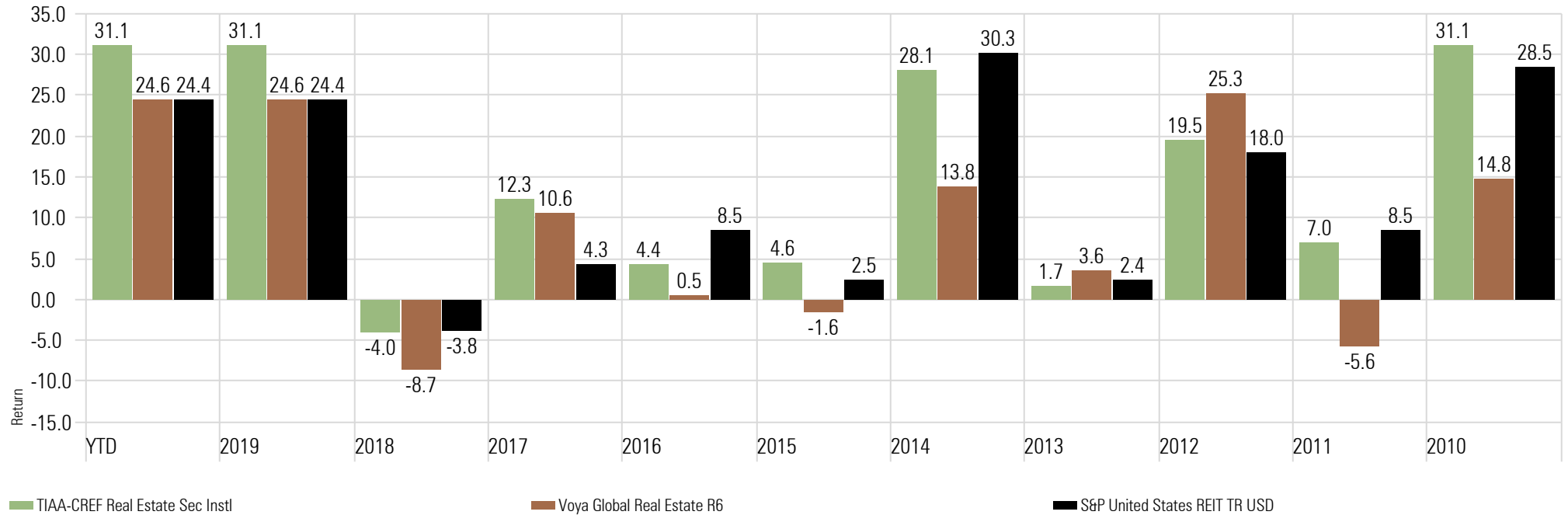


# Trailing Performance

## Cumulative Returns



## Annual Returns



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Global Real Estate</b>																		
Voya Global Real Estate R6	2.6	<b>57</b>	1.50	24.6	<b>36</b>	0.07	24.6	<b>36</b>	0.07	8.0	<b>74</b>	-0.83	4.5	<b>82</b>	-2.24	7.1	<b>80</b>	-3.36
S&P Global REIT TR USD	1.1			24.5			24.5			8.8			6.7			10.5		
Average	3.4			23.8			23.8			9.7			6.1			8.2		
<b>Real Estate</b>																		
TIAA-CREF Real Estate Sec Instl	0.6	<b>27</b>	1.38	31.1	<b>17</b>	6.65	31.1	<b>17</b>	6.65	12.2	<b>3</b>	4.51	9.1	<b>4</b>	2.25	12.9	<b>7</b>	1.13
S&P United States REIT TR USD	-0.8			24.4			24.4			7.7			6.8			11.8		
Average	0.5			27.8			27.8			8.4			6.8			11.3		

## Performance Summary - Calendar Year Periods

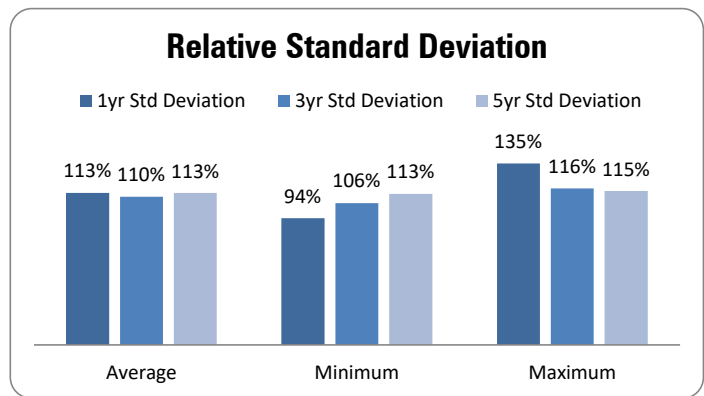
	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Global Real Estate</b>																					
Voya Global Real Estate R6	24.6	<b>36</b>	0.07	-8.7	<b>85</b>	-3.89	10.6	<b>70</b>	1.98	0.5	<b>68</b>	-6.35	-1.6	<b>73</b>	-2.15	13.8	<b>54</b>	-8.97	3.6	<b>51</b>	0.80
S&P Global REIT TR USD	24.5			-4.8			8.6			6.9			0.6			22.8			2.8		
Average	23.8			-6.4			13.7			2.2			-0.5			12.6			3.9		
<b>Real Estate</b>																					
TIAA-CREF Real Estate Sec Instl	31.1	<b>17</b>	6.65	-4.0	<b>14</b>	-0.24	12.3	<b>5</b>	7.97	4.4	<b>86</b>	-4.11	4.6	<b>12</b>	2.07	28.1	<b>79</b>	-2.13	1.7	<b>51</b>	-0.69
S&P United States REIT TR USD	24.4			-3.8			4.3			8.5			2.5			30.3			2.4		
Average	27.8			-6.4			6.6			6.3			2.6			28.6			2.3		

Fund Name	Comparative Index/Fund
TIAA-CREF Real Estate Sec Instl	100% Voya Global Real Estate R6

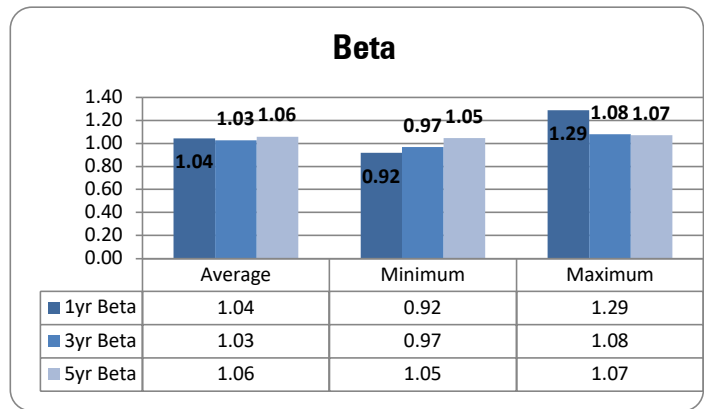
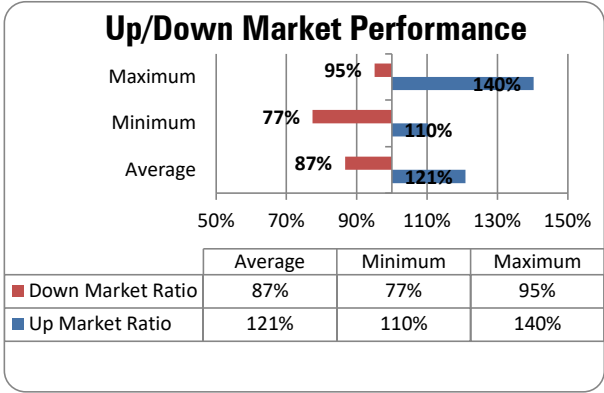
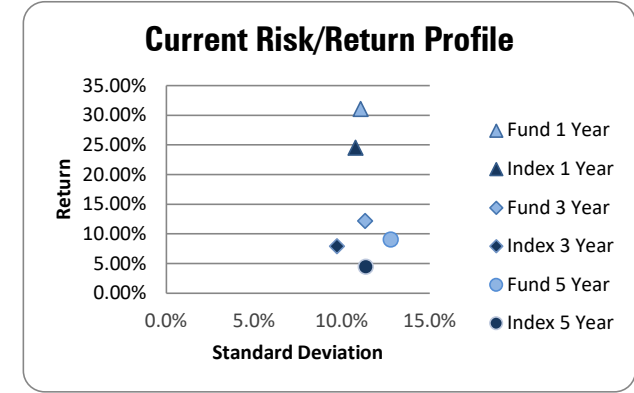
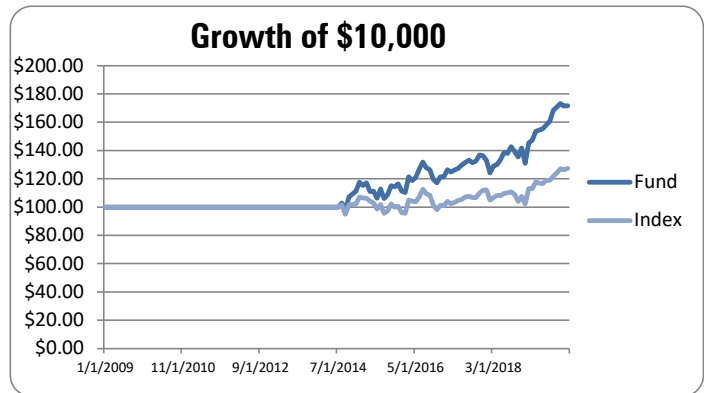
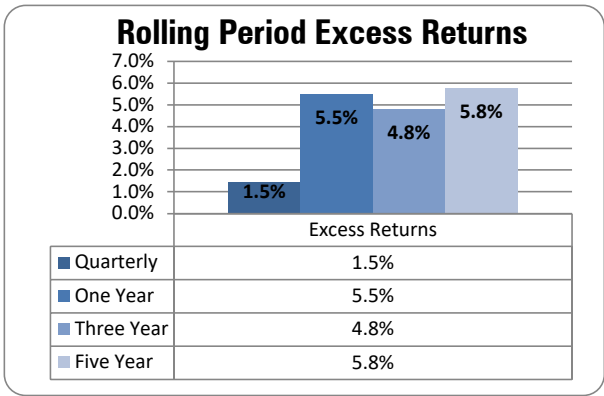
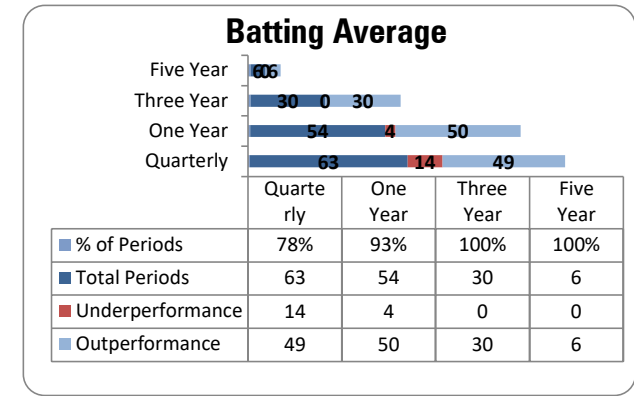
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## Risk Analysis



## Absolute Performance Summary



## Annualized Performance and Risk Statistics

	Return	Alpha	Standard Deviation	Best Qtr	Worst Qtr
<b>Latest One Year</b>					
TIAA-CREF Real Estate Sec Instl	31.09%	7.19%	11.06%	17.29%	0.58%
100% Voya Global Real Estate R6	24.56%		10.78%	15.18%	0.94%
<b>Latest Three Years</b>					
TIAA-CREF Real Estate Sec Instl	12.21%	3.80%	11.31%	17.29%	-9.24%
100% Voya Global Real Estate R6	7.96%		9.71%	15.18%	-6.19%
<b>Latest Five Years</b>					
TIAA-CREF Real Estate Sec Instl	9.06%	4.35%	12.78%	17.29%	-9.30%
100% Voya Global Real Estate R6	4.49%		11.35%	15.18%	-10.28%
<b>Latest Ten Years</b>					
TIAA-CREF Real Estate Sec Instl				17.29%	-9.30%
100% Voya Global Real Estate R6				15.18%	-10.28%

# TIAA-CREF Real Estate Sec Instl

TIREX

Index: S&P United States REIT TR USD

Category: US Fund Real Estate

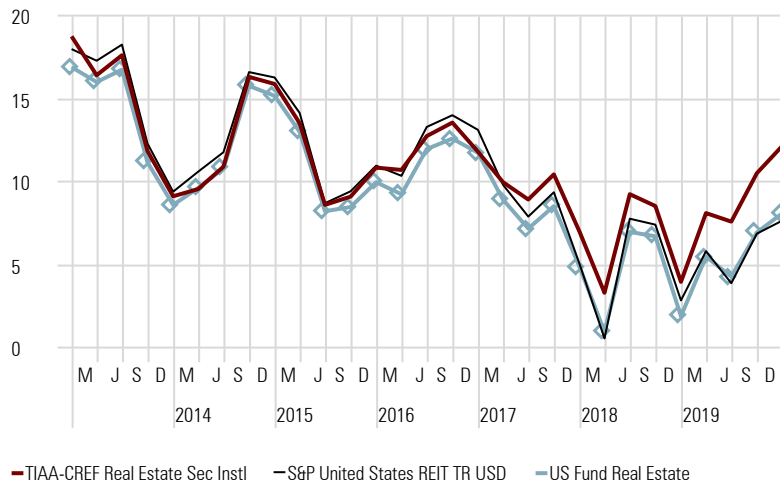
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P United States REIT TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Real Estate Sec Instl	31.1	31.1	12.2	9.1	12.9	7.8
S&P United States REIT TR USD	24.4	24.4	7.7	6.8	11.8	7.8
US Fund Real Estate	27.4	27.4	8.1	6.7	11.1	7.1

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.51	1.21	
Gross Expense Ratio	0.51	2.16	
LT Earn Growth	6.1	4.6	9.1
Avg Mkt Cap (\$MMM)	19.4	19.3	47.9
P/E Ratio	36.5	31.7	16.3
P/B Ratio	3.0	2.7	2.0
P/S Ratio	8.6	7.6	1.4
P/CF Ratio	20.7	19.2	10.5
ROE %	11.9	11.6	20.5
ROA %	3.3	3.9	7.2
Dividend Yld	3.1	3.4	2.8

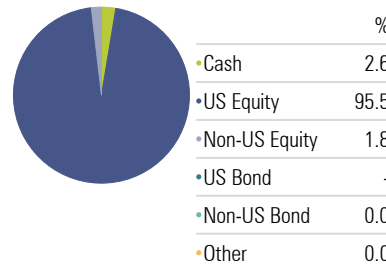
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P United States REIT TR USD

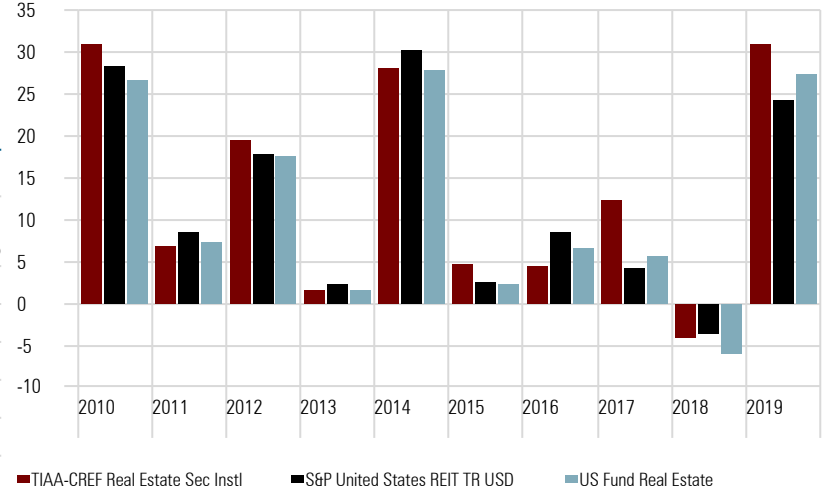
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Real Estate Sec Instl	63.3	36.7	14.6	-11.0	17.3	-15.6	95.6	86.4
S&P United States REIT TR USD	60.8	39.2	14.5	-11.0	15.8	-14.7	100.0	100.0
US Fund Real Estate	60.0	40.0	14.0	-10.6	16.1	-14.9	92.2	90.8

## Asset Allocation

Portfolio Date: 12/31/2019

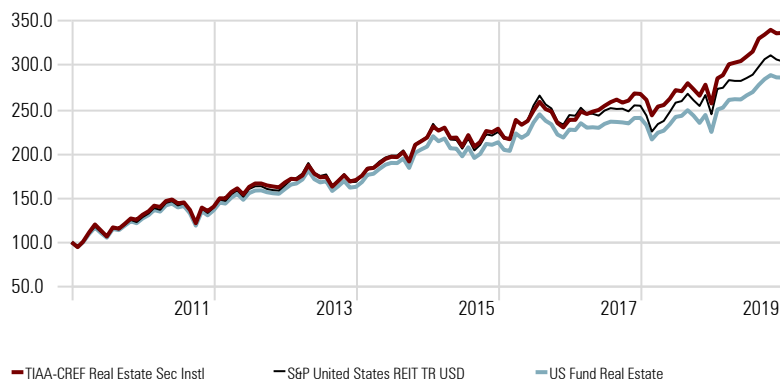


## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.3	0.0	12.8	0.2
Down Deviation	1.8	0.6	1.9	0.5
Beta	0.9	0.0	0.9	0.0
Alpha	4.7	3.9	2.6	2.3
Sharpe	0.9	0.4	0.6	0.2
Sortino	1.6	0.6	1.1	0.3
Info Ratio	1.4	1.2	0.7	0.8
Down Capture	63.5	-20.2	79.3	-8.1
Up Capture	99.5	7.4	95.0	4.6

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
American Tower Corp	8.2	Energy	0	0
Prologis Inc	5.5	Materials	0	0
Equinix Inc	4.4	Industrials	0	0
Crown Castle International Corp	3.8	Cons Discretionary	0	1
Simon Property Group Inc	3.5	Consumer Staples	0	0
Welltower Inc	3.1	Healthcare	0	0
Sun Communities Inc	3.1	Financials	1	0
Equity Lifestyle Properties Inc	3.1	Info Technology	2	1
Equity Residential	3.0	Telecom Services	0	0
AvalonBay Communities Inc	2.9	Utilities	0	0
		Real Estate %	97.2	98.1

# TIAA-CREF Lifecycle Retirement Date Funds

As of 12/31/2019



# TIAA-CREF Lifecycle Retire Income Instl

TLRIX

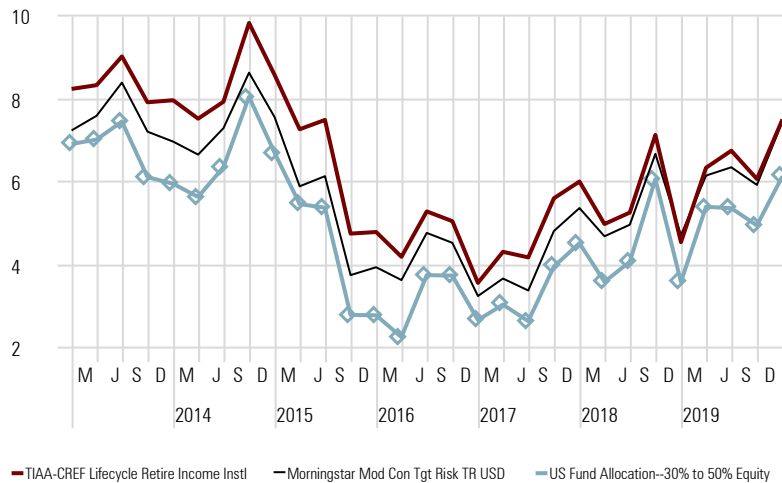
**Index:** Morningstar Mod Con Tgt Risk TR USD  
**Category:** US Fund Allocation--30% to 50% Equity  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Mod Con Tgt Risk TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Lifecycle Retire Income Instl	15.3	15.3	7.5	5.7	6.8	5.2
Morningstar Mod Con Tgt Risk TR USD	15.3	15.3	7.5	5.6	6.3	5.7
US Fund Allocation--30% to 50% Equity	14.8	14.8	6.1	4.5	5.4	4.5

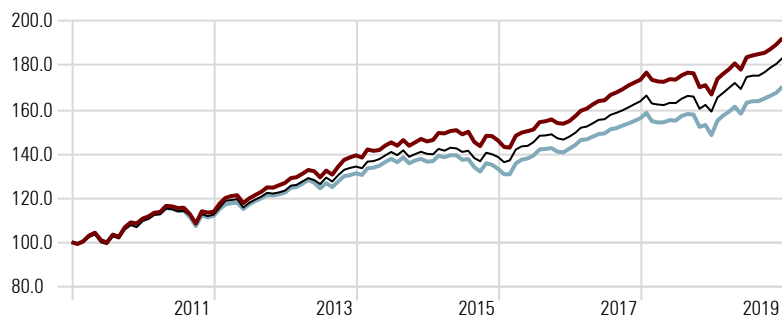
## Returns (Rolling 36 Months)



— TIAA-CREF Lifecycle Retire Income Instl — Morningstar Mod Con Tgt Risk TR USD — US Fund Allocation--30% to 50% Equity

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



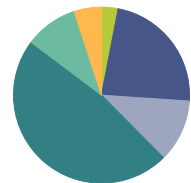
— TIAA-CREF Lifecycle Retire Income Instl — Morningstar Mod Con Tgt Risk TR USD — US Fund Allocation--30% to 50% Equity

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.37	1.09	
Gross Expense Ratio	0.53	1.27	
LT Earn Growth	10.1	9.0	9.1
Avg Mkt Cap (\$MMM)	52.7	77.5	47.9
P/E Ratio	19.1	19.5	16.3
P/B Ratio	2.5	2.6	2.0
P/S Ratio	1.7	1.9	1.4
P/CF Ratio	12.3	12.2	10.5
ROE %	21.5	22.6	20.5
ROA %	7.6	7.6	7.2
Dividend Yld	2.0	2.5	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



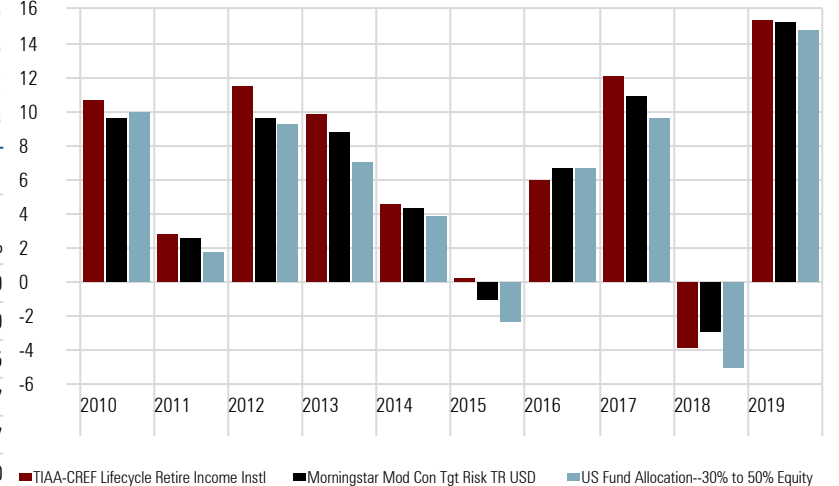
• Cash	3.0
• US Equity	23.0
• Non-US Equity	11.5
• US Bond	47.7
• Non-US Bond	9.7
• Other	5.0

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Mod Con Tgt Risk TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Lifecycle Retire Income Instl	68.3	31.7	5.2	-3.8	7.0	-6.1	104.5	99.9
Morningstar Mod Con Tgt Risk TR USD	67.5	32.5	4.3	-3.5	6.7	-5.2	100.0	100.0
US Fund Allocation--30% to 50% Equity	69.2	30.8	4.5	-3.6	7.1	-6.0	95.9	107.8

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	4.8	-0.3	5.1	0.0
Down Deviation	0.6	-0.3	0.8	0.0
Beta	1.0	-0.1	1.1	0.0
Alpha	-0.1	1.6	0.0	1.3
Sharpe	1.2	0.3	0.9	0.2
Sortino	1.8	0.6	1.5	0.4
Info Ratio	0.1	1.5	0.2	1.3
Down Capture	102.7	-17.7	99.8	-14.8
Up Capture	101.3	6.7	101.7	6.2

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
TIAA-CREF Bond W	21.3	Energy	4	6
TIAA-CREF Bond Plus W	13.1	Materials	4	4
TIAA-CREF Short-Term Bond W	10.2	Industrials	11	10
TIAA-CREF Inflation Link Bd W	10.1	Cons Discretionary	13	9
TIAA-CREF Growth & Income W	5.2	Consumer Staples	6	7
TIAA-CREF Large-Cap Growth W	4.9	Healthcare	13	13
TIAA-CREF Large-Cap Value W	4.4	Financials	15	14
Tiaa Cref Real Property Fnd Lp	4.3	Info Technology	21	18
TIAA-CREF Quant Large-Cap Growth W	4.3	Telecom Services	8	8
TIAA-CREF Quant Intl Eq W	3.2	Utilities	2	4
		Real Estate %	2.3	7.6



# TIAA-CREF Lifecycle 2010 Institutional

TCTIX

Index: Morningstar Lifetime Mod 2010 TR USD

Category: US Fund Target-Date 2000-2010

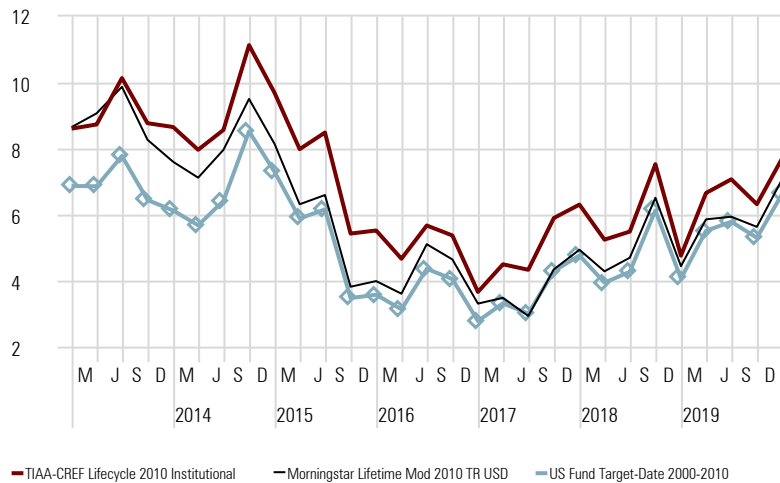
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2010 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Lifecycle 2010 Institutional	15.4	15.4	7.7	5.9	7.2	5.6
Morningstar Lifetime Mod 2010 TR USD	14.9	14.9	7.1	5.2	6.6	6.0
US Fund Target-Date 2000-2010	13.8	13.8	6.7	4.9	5.7	4.6

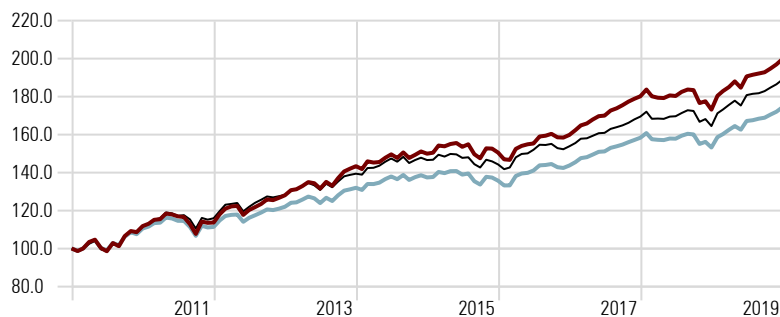
## Returns (Rolling 36 Months)



— TIAA-CREF Lifecycle 2010 Institutional — Morningstar Lifetime Mod 2010 TR USD — US Fund Target-Date 2000-2010

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



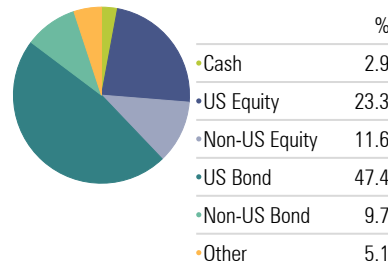
— TIAA-CREF Lifecycle 2010 Institutional — Morningstar Lifetime Mod 2010 TR USD — US Fund Target-Date 2000-2010

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.37	0.62	
Gross Expense Ratio	0.50	0.84	
LT Earn Growth	10.1	9.3	9.1
Avg Mkt Cap (\$MMM)	52.8	56.2	47.9
P/E Ratio	19.1	19.2	16.3
P/B Ratio	2.5	2.4	2.0
P/S Ratio	1.7	1.8	1.4
P/CF Ratio	12.3	11.7	10.5
ROE %	21.5	20.2	20.5
ROA %	7.6	6.7	7.2
Dividend Yld	2.0	2.5	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

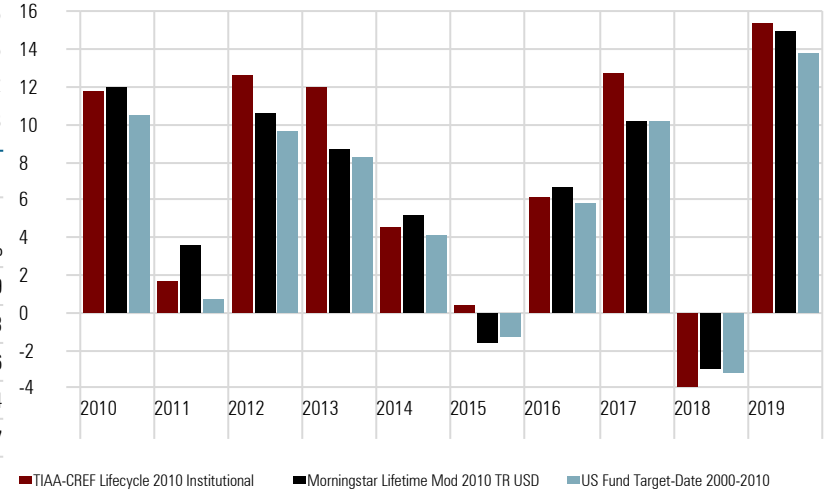


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2010 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Lifecycle 2010 Institutional	67.5	32.5	6.1	-4.6	8.1	-7.9	107.7	106.3
Morningstar Lifetime Mod 2010 TR USD	70.0	30.0	5.1	-4.4	8.0	-5.7	100.0	100.0
US Fund Target-Date 2000-2010	68.3	31.7	5.0	-4.2	7.2	-6.9	91.8	97.7

## Calendar Year Returns



■ TIAA-CREF Lifecycle 2010 Institutional ■ Morningstar Lifetime Mod 2010 TR USD ■ US Fund Target-Date 2000-2010

## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	5.0	0.8	5.4	0.7
Down Deviation	0.6	0.0	0.9	0.3
Beta	1.1	0.2	1.1	0.1
Alpha	0.2	0.2	0.3	0.5
Sharpe	1.2	0.0	0.9	0.1
Sortino	1.8	0.0	1.4	0.1
Info Ratio	0.7	1.4	0.5	1.0
Down Capture	107.7	17.5	102.6	9.1
Up Capture	108.3	15.6	108.4	15.2

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
TIAA-CREF Bond W	21.2	Energy	4	6
TIAA-CREF Bond Plus W	13.1	Materials	4	5
TIAA-CREF Short-Term Bond W	10.0	Industrials	11	10
TIAA-CREF Inflation Link Bd W	9.9	Cons Discretionary	13	10
TIAA-CREF Growth & Income W	5.3	Consumer Staples	6	7
TIAA-CREF Large-Cap Growth W	4.9	Healthcare	13	13
TIAA-CREF Large-Cap Value W	4.4	Financials	15	17
TIAA-CREF Quant Large-Cap Growth W	4.3	Info Technology	21	17
Tiaa Cref Real Property Fnd Lp	4.3	Telecom Services	8	8
TIAA-CREF Quant Intl Eq W	3.2	Utilities	2	3
		Real Estate %	2.3	3.7

# TIAA-CREF Lifecycle 2015 Institutional

TCNIX

Index: Morningstar Lifetime Mod 2015 TR USD

Category: US Fund Target-Date 2015

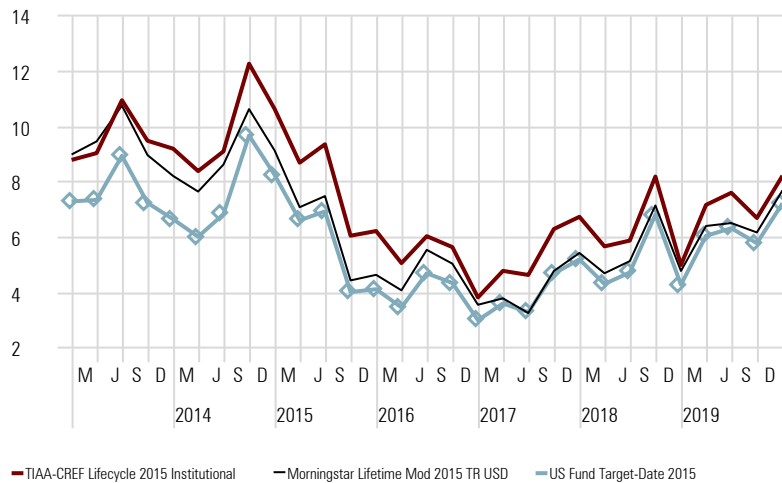
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2015 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Lifecycle 2015 Institutional	16.5	16.5	8.2	6.3	7.6	5.8
Morningstar Lifetime Mod 2015 TR USD	16.3	16.3	7.7	5.6	7.1	6.4
US Fund Target-Date 2015	15.4	15.4	7.2	5.2	6.2	4.8

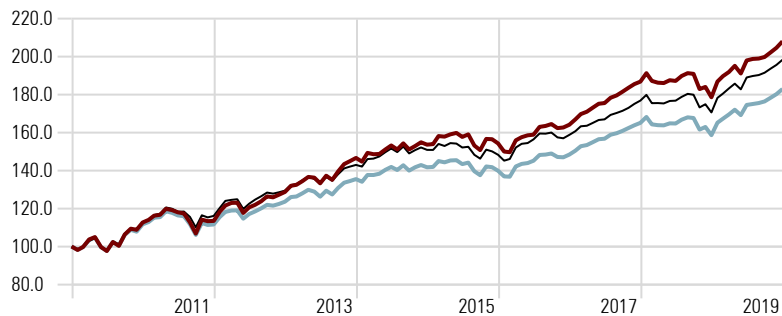
## Returns (Rolling 36 Months)



— TIAA-CREF Lifecycle 2015 Institutional — Morningstar Lifetime Mod 2015 TR USD — US Fund Target-Date 2015

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



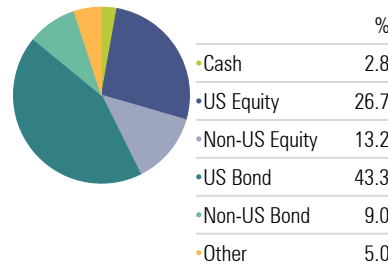
— TIAA-CREF Lifecycle 2015 Institutional — Morningstar Lifetime Mod 2015 TR USD — US Fund Target-Date 2015

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.38	0.67	
Gross Expense Ratio	0.50	5.43	
LT Earn Growth	10.1	9.3	9.1
Avg Mkt Cap (\$MMM)	52.5	53.4	47.9
P/E Ratio	19.1	19.1	16.3
P/B Ratio	2.5	2.3	2.0
P/S Ratio	1.7	1.7	1.4
P/CF Ratio	12.3	11.7	10.5
ROE %	21.5	20.0	20.5
ROA %	7.6	6.7	7.2
Dividend Yld	2.0	2.5	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

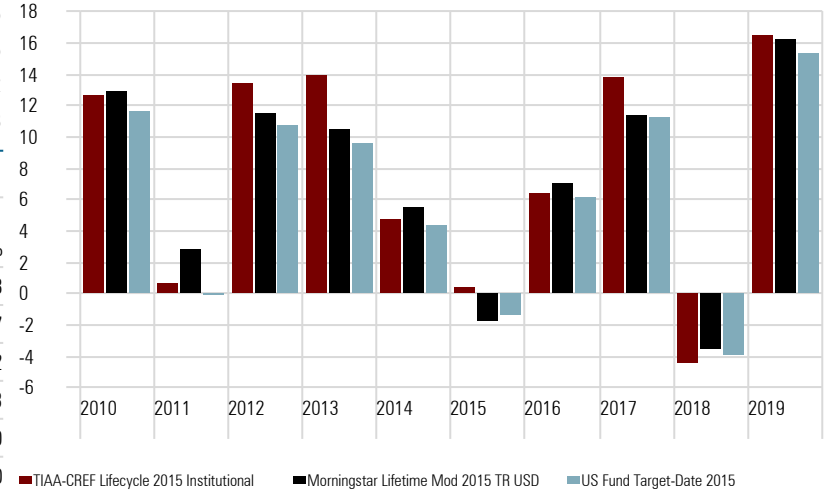


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2015 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Lifecycle 2015 Institutional	68.3	31.7	6.9	-5.3	9.0	-9.5	106.6	106.1
Morningstar Lifetime Mod 2015 TR USD	69.2	30.8	5.8	-5.1	9.0	-7.0	100.0	100.0
US Fund Target-Date 2015	67.5	32.5	6.0	-5.1	8.6	-8.9	94.3	102.2

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	5.6	0.6	5.9	0.7
Down Deviation	0.7	0.3	1.0	0.4
Beta	1.1	0.1	1.1	0.1
Alpha	0.0	0.3	0.2	0.5
Sharpe	1.2	0.1	0.9	0.1
Sortino	1.7	0.1	1.4	0.1
Info Ratio	0.5	1.4	0.4	1.0
Down Capture	110.3	10.6	100.8	4.7
Up Capture	107.9	12.0	106.3	11.9

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
TIAA-CREF Bond W	20.7	Energy	4	5
TIAA-CREF Bond Plus W	12.8	Materials	4	5
TIAA-CREF Short-Term Bond W	8.0	Industrials	11	11
TIAA-CREF Inflation Link Bd W	7.9	Cons Discretionary	13	10
TIAA-CREF Growth & Income W	6.0	Consumer Staples	6	7
TIAA-CREF Large-Cap Growth W	5.6	Healthcare	13	13
TIAA-CREF Large-Cap Value W	5.1	Financials	15	16
TIAA-CREF Quant Large-Cap Growth W	4.9	Info Technology	21	17
Tiaa Cref Real Property Fnd Lp	4.3	Telecom Services	8	8
TIAA-CREF Quant Intl Eq W	3.6	Utilities	2	3
		Real Estate %	2.3	4.2

# TIAA-CREF Lifecycle 2020 Institutional

TCWIX

Index: Morningstar Lifetime Mod 2020 TR USD

Category: US Fund Target-Date 2020

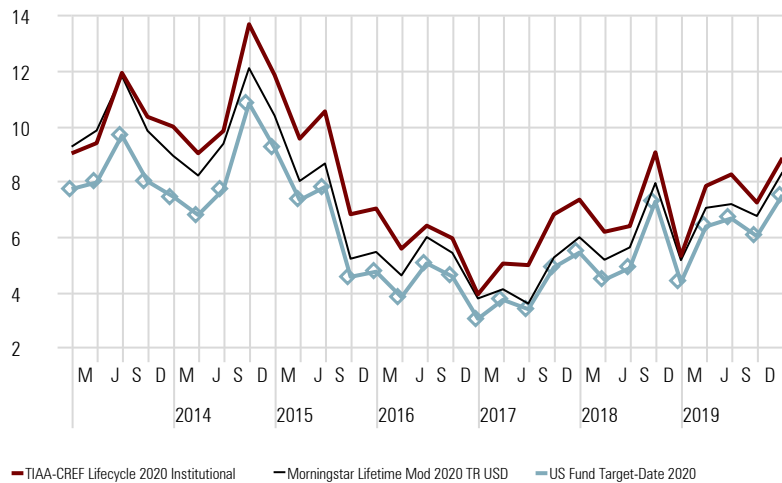
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2020 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Lifecycle 2020 Institutional	17.8	17.8	8.9	6.7	8.2	6.0
Morningstar Lifetime Mod 2020 TR USD	17.7	17.7	8.4	6.1	7.7	6.7
US Fund Target-Date 2020	16.2	16.2	7.5	5.4	6.6	5.1

## Returns (Rolling 36 Months)

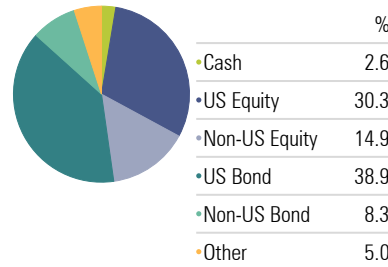


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.39	0.75	
Gross Expense Ratio	0.51	2.43	
LT Earn Growth	10.1	9.4	9.1
Avg Mkt Cap (\$MMM)	52.3	55.4	47.9
P/E Ratio	19.1	19.5	16.3
P/B Ratio	2.5	2.4	2.0
P/S Ratio	1.7	1.8	1.4
P/CF Ratio	12.3	12.2	10.5
ROE %	21.4	20.6	20.5
ROA %	7.6	7.1	7.2
Dividend Yld	2.0	2.3	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

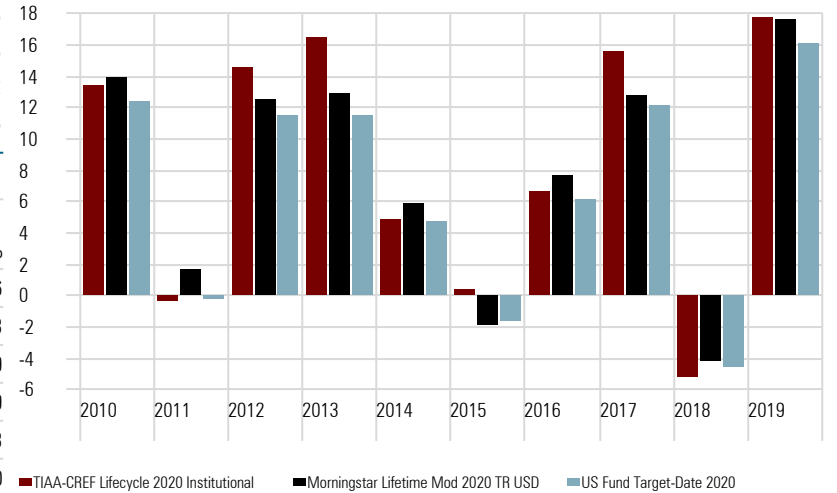


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2020 TR USD

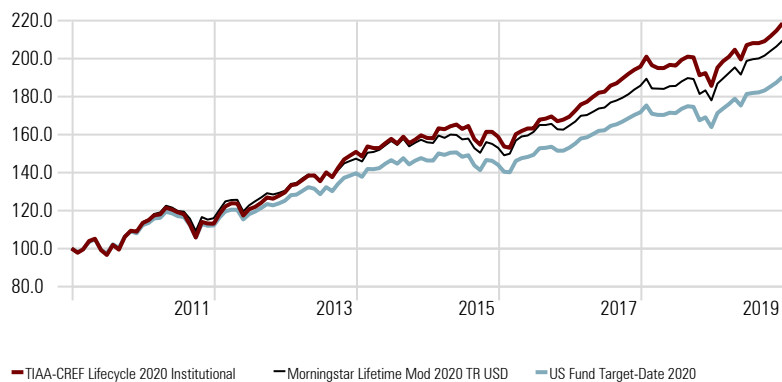
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Lifecycle 2020 Institutional	68.3	31.7	7.8	-6.0	9.8	-11.1	105.9	105.9
Morningstar Lifetime Mod 2020 TR USD	68.3	31.7	6.8	-6.0	10.1	-8.8	100.0	100.0
US Fund Target-Date 2020	66.7	33.3	6.7	-5.8	9.1	-9.6	91.6	97.3

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	6.3	0.8	6.7	0.9
Down Deviation	0.8	0.3	1.1	0.5
Beta	1.1	0.1	1.1	0.1
Alpha	-0.1	0.5	0.2	0.7
Sharpe	1.1	0.1	0.8	0.1
Sortino	1.7	0.1	1.3	0.2
Info Ratio	0.4	2.0	0.4	1.3
Down Capture	115.1	14.3	105.0	7.3
Up Capture	109.1	15.2	107.4	14.6

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
TIAA-CREF Bond W	20.0	Energy	4	4
TIAA-CREF Bond Plus W	12.4	Materials	4	4
TIAA-CREF Growth & Income W	6.8	Industrials	11	11
TIAA-CREF Large-Cap Growth W	6.4	Cons Discretionary	13	11
TIAA-CREF Short-Term Bond W	6.0	Consumer Staples	6	7
TIAA-CREF Inflation Link Bd W	5.9	Healthcare	13	12
TIAA-CREF Large-Cap Value W	5.7	Financials	15	16
TIAA-CREF Quant Large-Cap Growth W	5.6	Info Technology	21	18
Tiaa Cref Real Property Fnd Lp	4.3	Telecom Services	8	8
TIAA-CREF Quant Intl Eq W	4.0	Utilities	2	3
		Real Estate %	2.3	5.6

# TIAA-CREF Lifecycle 2025 Institutional

TCYIX

Index: Morningstar Lifetime Mod 2025 TR USD

Category: US Fund Target-Date 2025

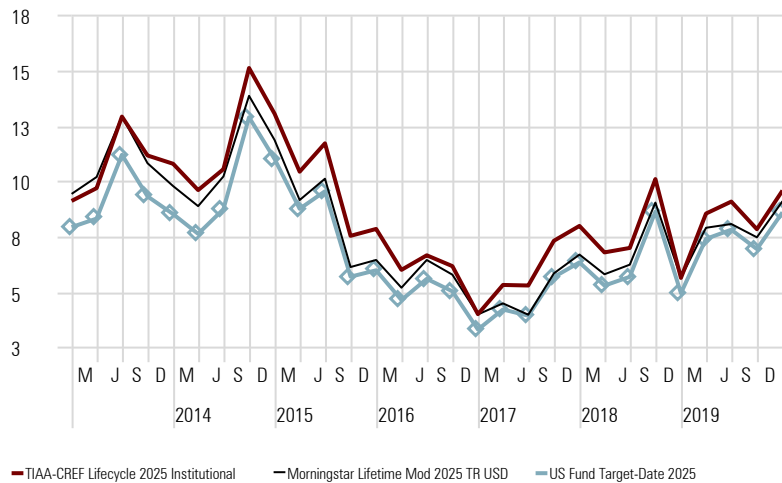
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2025 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Lifecycle 2025 Institutional	19.4	19.4	9.6	7.2	8.7	6.2
Morningstar Lifetime Mod 2025 TR USD	19.4	19.4	9.1	6.7	8.4	7.0
US Fund Target-Date 2025	18.3	18.3	8.6	6.1	7.5	5.6

## Returns (Rolling 36 Months)

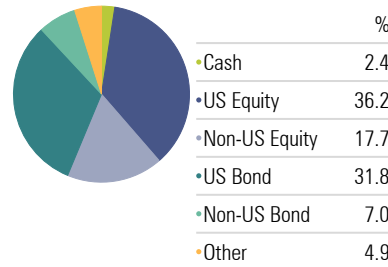


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.41	0.73	
Gross Expense Ratio	0.52	2.27	
LT Earn Growth	10.1	9.4	9.1
Avg Mkt Cap (\$MMM)	52.0	52.7	47.9
P/E Ratio	19.1	19.3	16.3
P/B Ratio	2.5	2.3	2.0
P/S Ratio	1.7	1.7	1.4
P/CF Ratio	12.3	12.1	10.5
ROE %	21.4	20.4	20.5
ROA %	7.5	7.1	7.2
Dividend Yld	2.0	2.3	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

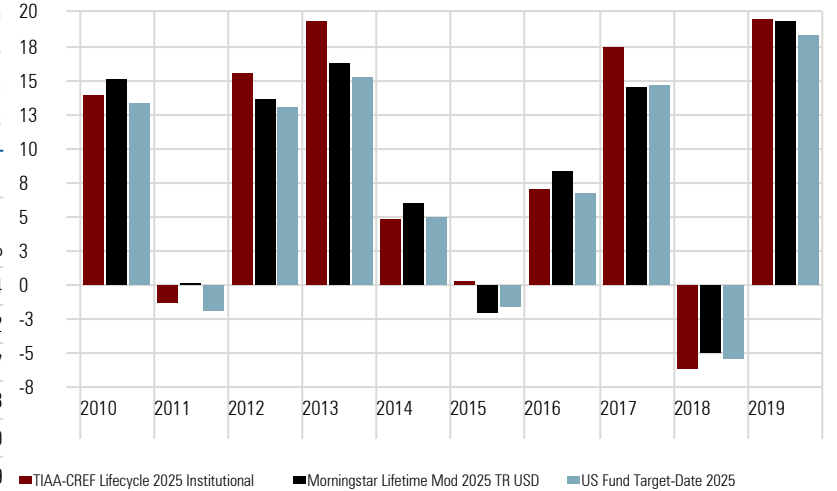


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2025 TR USD

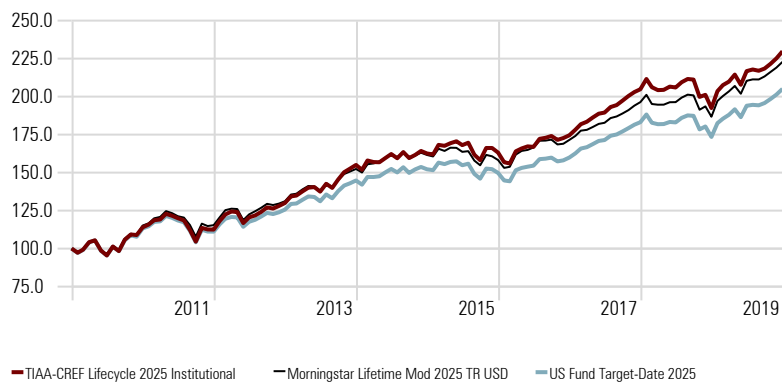
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Lifecycle 2025 Institutional	65.8	34.2	8.6	-6.8	10.9	-12.9	104.5	104.9
Morningstar Lifetime Mod 2025 TR USD	68.3	31.7	8.0	-7.0	11.2	-11.1	100.0	100.0
US Fund Target-Date 2025	66.7	33.3	8.0	-6.8	10.6	-12.2	95.7	101.9

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	7.3	0.7	7.7	0.7
Down Deviation	1.0	0.5	1.2	0.5
Beta	1.1	0.1	1.1	0.1
Alpha	-0.3	0.2	0.0	0.6
Sharpe	1.1	0.0	0.8	0.1
Sortino	1.6	0.1	1.2	0.1
Info Ratio	0.3	1.2	0.3	0.9
Down Capture	119.0	13.1	107.6	6.3
Up Capture	110.2	11.4	107.7	10.9

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
TIAA-CREF Bond W	17.5	Energy	4	4
TIAA-CREF Bond Plus W	10.8	Materials	4	4
TIAA-CREF Growth & Income W	8.1	Industrials	11	11
TIAA-CREF Large-Cap Growth W	7.6	Cons Discretionary	13	11
TIAA-CREF Large-Cap Value W	6.8	Consumer Staples	6	7
TIAA-CREF Quant Large-Cap Growth W	6.6	Healthcare	13	12
TIAA-CREF Quant Intl Eq W	4.7	Financials	15	16
Tiaa Cref Real Property Fnd Lp	4.3	Info Technology	21	18
TIAA-CREF Short-Term Bond W	4.0	Telecom Services	8	8
TIAA-CREF Inflation Link Bd W	3.9	Utilities	2	3
		Real Estate %	2.3	5.3

# TIAA-CREF Lifecycle 2030 Institutional

TCRIX

Index: Morningstar Lifetime Mod 2030 TR USD

Category: US Fund Target-Date 2030

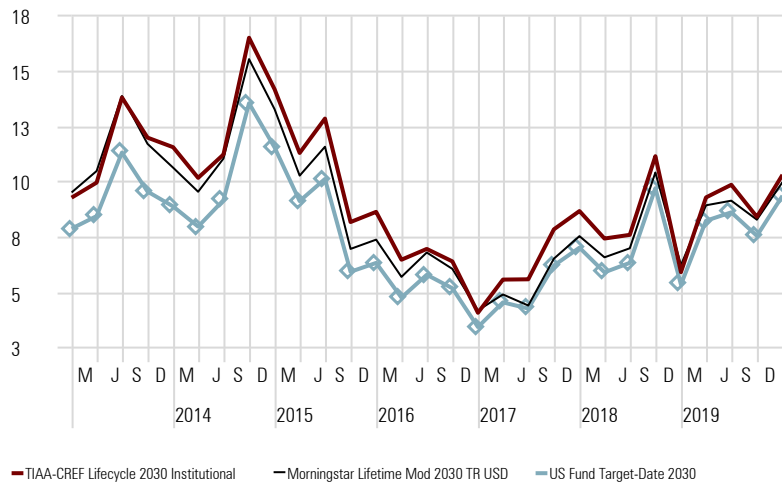
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2030 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Lifecycle 2030 Institutional	21.3	21.3	10.3	7.7	9.2	6.3
Morningstar Lifetime Mod 2030 TR USD	21.2	21.2	10.0	7.3	9.0	7.4
US Fund Target-Date 2030	20.1	20.1	9.4	6.6	7.8	5.7

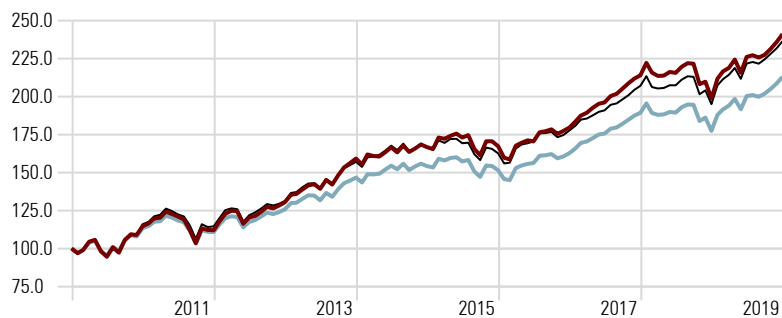
## Returns (Rolling 36 Months)



— TIAA-CREF Lifecycle 2030 Institutional — Morningstar Lifetime Mod 2030 TR USD — US Fund Target-Date 2030

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



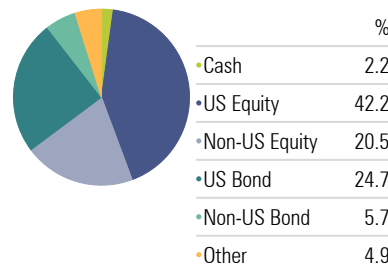
— TIAA-CREF Lifecycle 2030 Institutional — Morningstar Lifetime Mod 2030 TR USD — US Fund Target-Date 2030

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.42	0.77	
Gross Expense Ratio	0.53	2.07	
LT Earn Growth	10.1	9.4	9.1
Avg Mkt Cap (\$MMM)	51.8	51.2	47.9
P/E Ratio	19.1	19.3	16.3
P/B Ratio	2.5	2.4	2.0
P/S Ratio	1.7	1.7	1.4
P/CF Ratio	12.3	12.1	10.5
ROE %	21.4	20.2	20.5
ROA %	7.5	7.0	7.2
Dividend Yld	2.0	2.3	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

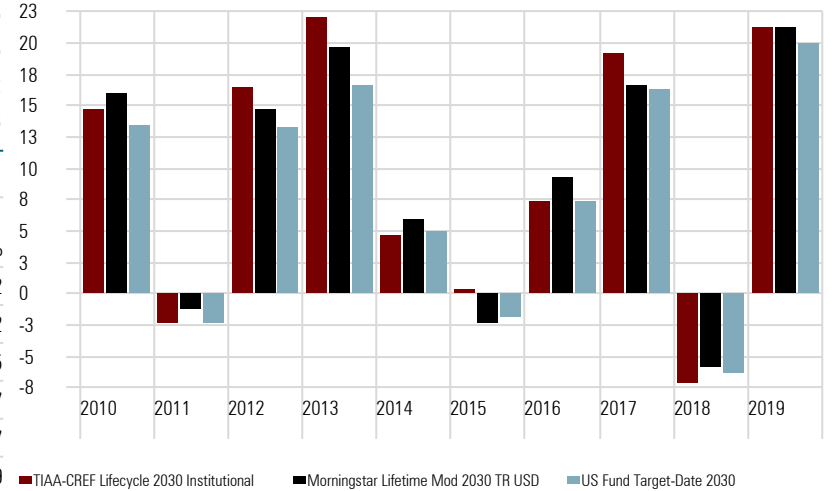


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2030 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Lifecycle 2030 Institutional	65.8	34.2	9.5	-7.5	11.6	-14.6	102.9	103.4
Morningstar Lifetime Mod 2030 TR USD	69.2	30.8	9.1	-7.7	12.1	-13.2	100.0	100.0
US Fund Target-Date 2030	65.8	34.2	8.5	-7.4	10.7	-12.8	91.3	95.2

## Calendar Year Returns



■ TIAA-CREF Lifecycle 2030 Institutional ■ Morningstar Lifetime Mod 2030 TR USD ■ US Fund Target-Date 2030

## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	8.4	0.7	8.8	0.8
Down Deviation	0.9	0.4	1.1	0.4
Beta	1.1	0.1	1.1	0.1
Alpha	-0.3	0.2	0.0	0.5
Sharpe	1.0	0.0	0.8	0.1
Sortino	1.5	0.0	1.2	0.1
Info Ratio	0.2	1.4	0.2	1.0
Down Capture	114.7	10.6	106.2	7.1
Up Capture	107.8	9.8	105.8	10.4

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
TIAA-CREF Bond W	14.9	Energy	4	5
TIAA-CREF Growth & Income W	9.4	Materials	4	4
TIAA-CREF Bond Plus W	9.2	Industrials	11	11
TIAA-CREF Large-Cap Growth W	8.8	Cons Discretionary	13	11
TIAA-CREF Large-Cap Value W	7.9	Consumer Staples	6	7
TIAA-CREF Quant Large-Cap Growth W	7.7	Healthcare	13	12
TIAA-CREF Quant Intl Eq W	5.4	Financials	15	16
Tiaa Cref Real Property Fnd Lp	4.3	Info Technology	21	18
TIAA-CREF International Opps W	4.1	Telecom Services	8	8
TIAA-CREF International Eq W	4.0	Utilities	2	3
		Real Estate %	2.3	4.8

# TIAA-CREF Lifecycle 2035 Institutional

TCIIX

Index: Morningstar Lifetime Mod 2035 TR USD

Category: US Fund Target-Date 2035

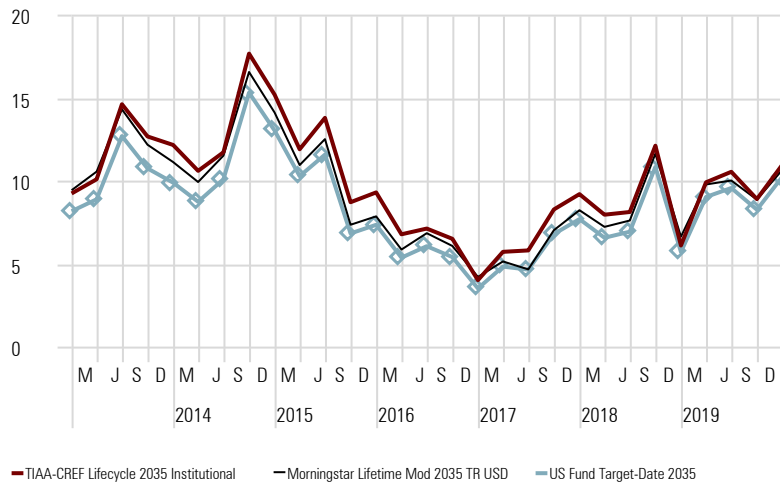
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2035 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Lifecycle 2035 Institutional	23.0	23.0	11.1	8.1	9.7	6.6
Morningstar Lifetime Mod 2035 TR USD	23.0	23.0	10.8	7.8	9.5	7.6
US Fund Target-Date 2035	22.0	22.0	10.3	7.3	8.6	6.2

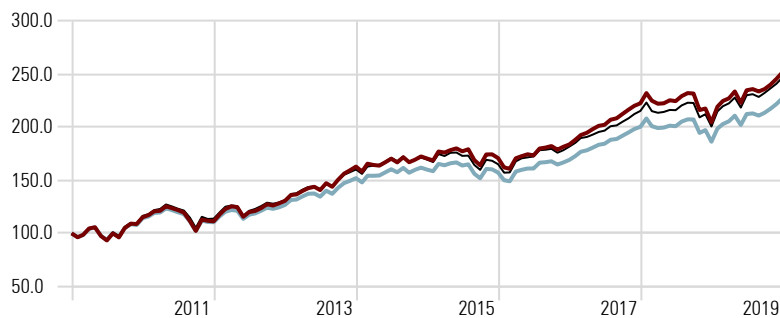
## Returns (Rolling 36 Months)



— TIAA-CREF Lifecycle 2035 Institutional — Morningstar Lifetime Mod 2035 TR USD — US Fund Target-Date 2035

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



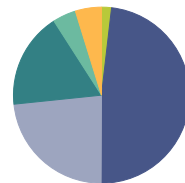
— TIAA-CREF Lifecycle 2035 Institutional — Morningstar Lifetime Mod 2035 TR USD — US Fund Target-Date 2035

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.43	0.75	
Gross Expense Ratio	0.54	2.71	
LT Earn Growth	10.1	9.4	9.1
Avg Mkt Cap (\$MMM)	51.7	50.3	47.9
P/E Ratio	19.1	19.2	16.3
P/B Ratio	2.5	2.3	2.0
P/S Ratio	1.7	1.7	1.4
P/CF Ratio	12.3	12.0	10.5
ROE %	21.4	20.2	20.5
ROA %	7.5	7.1	7.2
Dividend Yld	2.0	2.3	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



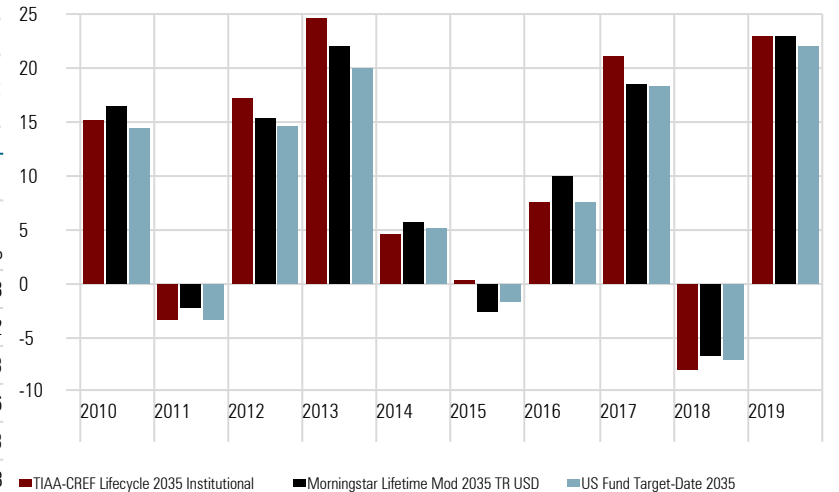
	%
Cash	1.8
US Equity	48.2
Non-US Equity	23.3
US Bond	17.6
Non-US Bond	4.3
Other	4.8

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2035 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Lifecycle 2035 Institutional	65.8	34.2	10.3	-8.3	12.7	-16.1	102.8	103.3
Morningstar Lifetime Mod 2035 TR USD	69.2	30.8	9.9	-8.3	12.6	-14.6	100.0	100.0
US Fund Target-Date 2035	65.8	34.2	9.6	-8.1	11.9	-14.7	94.4	97.7

## Calendar Year Returns



■ TIAA-CREF Lifecycle 2035 Institutional ■ Morningstar Lifetime Mod 2035 TR USD ■ US Fund Target-Date 2035

## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	9.4	0.6	9.7	0.7
Down Deviation	0.9	0.4	1.1	0.3
Beta	1.1	0.1	1.0	0.1
Alpha	-0.1	0.1	0.1	0.4
Sharpe	1.0	0.0	0.7	0.0
Sortino	1.4	0.0	1.1	0.1
Info Ratio	0.2	0.9	0.2	0.8
Down Capture	108.4	7.8	102.9	5.4
Up Capture	105.2	7.1	103.2	7.8

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
TIAA-CREF Bond W	12.1	Energy	4	4
TIAA-CREF Growth & Income W	10.8	Materials	4	4
TIAA-CREF Large-Cap Growth W	10.1	Industrials	11	11
TIAA-CREF Large-Cap Value W	9.0	Cons Discretionary	13	11
TIAA-CREF Quant Large-Cap Growth W	8.8	Consumer Staples	6	7
TIAA-CREF Bond Plus W	7.5	Healthcare	13	12
TIAA-CREF Quant Intl Eq W	6.1	Financials	15	16
TIAA-CREF International Opps W	4.7	Info Technology	21	18
TIAA-CREF International Eq W	4.6	Telecom Services	8	8
Tiaa Cref Real Property Fnd Lp	4.4	Utilities	2	3
		Real Estate %	2.3	5.4

# TIAA-CREF Lifecycle 2040 Institutional

TCOIX

Index: Morningstar Lifetime Mod 2040 TR USD

Category: US Fund Target-Date 2040

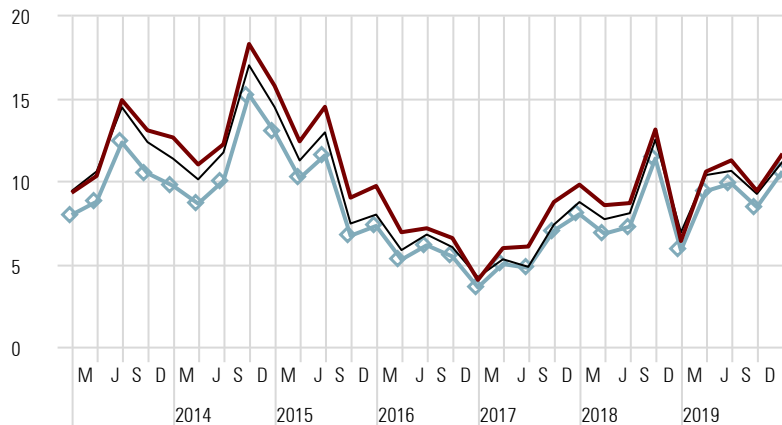
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2040 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Lifecycle 2040 Institutional	24.6	24.6	11.7	8.5	10.0	6.9
Morningstar Lifetime Mod 2040 TR USD	24.3	24.3	11.2	8.1	9.7	7.8
US Fund Target-Date 2040	23.2	23.2	10.7	7.5	8.6	6.2

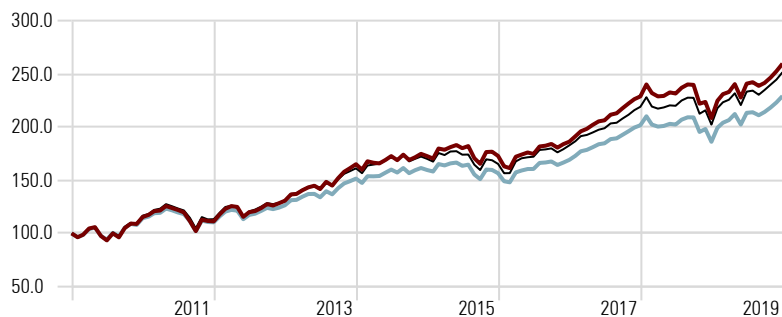
## Returns (Rolling 36 Months)



— TIAA-CREF Lifecycle 2040 Institutional — Morningstar Lifetime Mod 2040 TR USD — US Fund Target-Date 2040

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



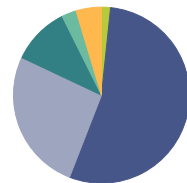
— TIAA-CREF Lifecycle 2040 Institutional — Morningstar Lifetime Mod 2040 TR USD — US Fund Target-Date 2040

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.44	0.79	
Gross Expense Ratio	0.55	2.58	
LT Earn Growth	10.1	9.4	9.1
Avg Mkt Cap (\$MMM)	51.6	47.9	47.9
P/E Ratio	19.1	19.1	16.3
P/B Ratio	2.5	2.3	2.0
P/S Ratio	1.7	1.7	1.4
P/CF Ratio	12.3	11.9	10.5
ROE %	21.4	20.0	20.5
ROA %	7.5	7.0	7.2
Dividend Yld	2.0	2.3	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



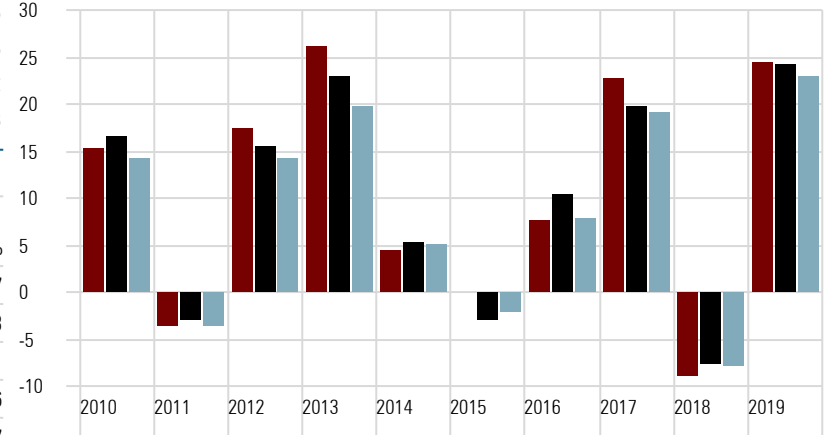
	%
Cash	1.7
US Equity	54.3
Non-US Equity	26.1
US Bond	10.6
Non-US Bond	2.7
Other	4.7

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2040 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Lifecycle 2040 Institutional	65.8	34.2	10.5	-8.4	13.0	-16.4	103.2	102.8
Morningstar Lifetime Mod 2040 TR USD	69.2	30.8	10.2	-8.6	12.9	-15.2	100.0	100.0
US Fund Target-Date 2040	66.7	33.3	9.6	-8.4	11.8	-14.7	92.1	94.6

## Calendar Year Returns



■ TIAA-CREF Lifecycle 2040 Institutional ■ Morningstar Lifetime Mod 2040 TR USD ■ US Fund Target-Date 2040

## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	10.5	1.0	10.7	1.1
Down Deviation	1.0	0.4	1.2	0.4
Beta	1.1	0.1	1.0	0.1
Alpha	-0.1	0.2	0.1	0.4
Sharpe	1.0	0.0	0.7	0.0
Sortino	1.4	0.0	1.1	0.1
Info Ratio	0.3	1.1	0.2	0.8
Down Capture	108.2	10.6	103.7	9.0
Up Capture	106.0	9.8	104.0	10.6

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
TIAA-CREF Growth & Income W	12.1	Energy	4	4
TIAA-CREF Large-Cap Growth W	11.3	Materials	4	4
TIAA-CREF Large-Cap Value W	10.1	Industrials	11	11
TIAA-CREF Quant Large-Cap Growth W	9.9	Cons Discretionary	13	11
TIAA-CREF Bond W	7.4	Consumer Staples	6	7
TIAA-CREF Quant Intl Eq W	6.8	Healthcare	13	12
TIAA-CREF International Opps W	5.2	Financials	15	16
TIAA-CREF International Eq W	5.2	Info Technology	21	18
TIAA-CREF Bond Plus W	4.6	Telecom Services	8	8
TIAA-CREF Quant Large-Cap Value W	4.4	Utilities	2	3
		Real Estate %	2.3	5.7

# TIAA-CREF Lifecycle 2045 Institutional

TTFIX

Index: Morningstar Lifetime Mod 2045 TR USD

Category: US Fund Target-Date 2045

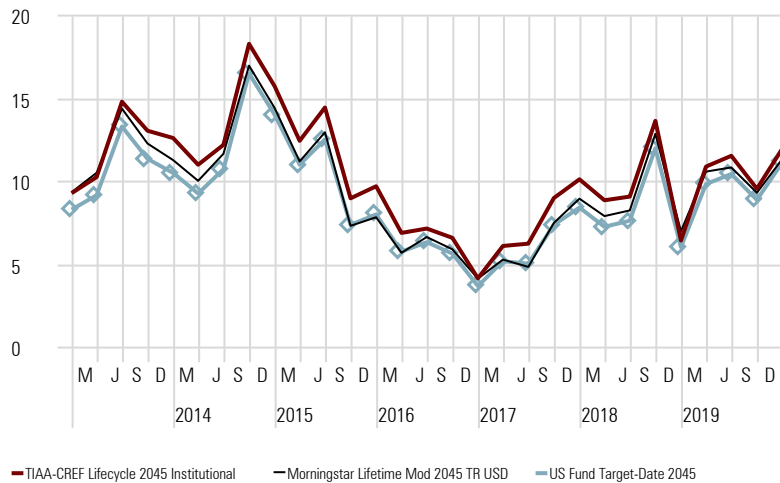
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2045 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Lifecycle 2045 Institutional	25.9	25.9	12.0	8.8	10.1	6.2
Morningstar Lifetime Mod 2045 TR USD	25.0	25.0	11.4	8.3	9.7	7.8
US Fund Target-Date 2045	24.3	24.3	11.2	7.8	9.1	6.6

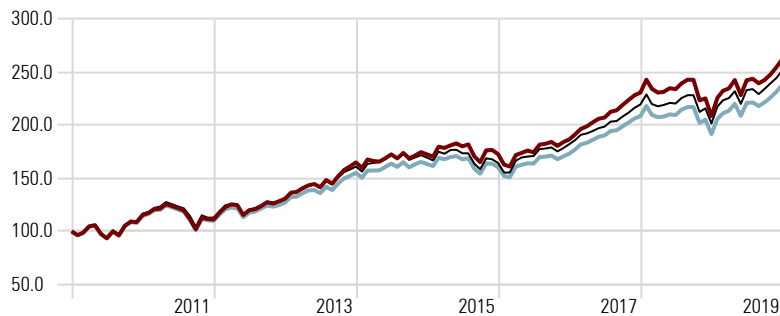
## Returns (Rolling 36 Months)



— TIAA-CREF Lifecycle 2045 Institutional — Morningstar Lifetime Mod 2045 TR USD — US Fund Target-Date 2045

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



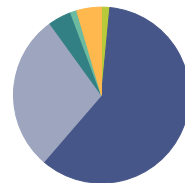
— TIAA-CREF Lifecycle 2045 Institutional — Morningstar Lifetime Mod 2045 TR USD — US Fund Target-Date 2045

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.45	0.76	
Gross Expense Ratio	0.56	2.74	
LT Earn Growth	10.1	9.4	9.1
Avg Mkt Cap (\$MMM)	51.6	51.7	47.9
P/E Ratio	19.1	19.3	16.3
P/B Ratio	2.5	2.3	2.0
P/S Ratio	1.7	1.8	1.4
P/CF Ratio	12.3	12.1	10.5
ROE %	21.4	19.8	20.5
ROA %	7.5	7.0	7.2
Dividend Yld	2.0	2.3	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



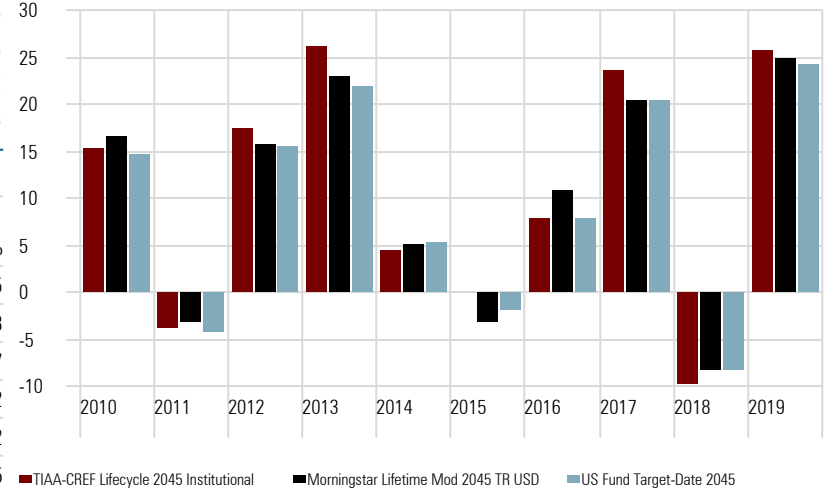
	%
Cash	1.5
US Equity	59.8
Non-US Equity	28.7
US Bond	4.2
Non-US Bond	1.2
Other	4.5

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2045 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Lifecycle 2045 Institutional	65.8	34.2	10.6	-8.5	12.9	-16.5	102.5	100.9
Morningstar Lifetime Mod 2045 TR USD	68.3	31.7	10.3	-8.8	13.1	-15.5	100.0	100.0
US Fund Target-Date 2045	66.7	33.3	10.4	-8.7	12.4	-16.0	95.8	97.4

## Calendar Year Returns



■ TIAA-CREF Lifecycle 2045 Institutional ■ Morningstar Lifetime Mod 2045 TR USD ■ US Fund Target-Date 2045

## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.2	1.1	11.2	1.0
Down Deviation	1.2	0.6	1.3	0.5
Beta	1.1	0.1	1.1	0.1
Alpha	-0.1	-0.1	0.2	0.3
Sharpe	0.9	0.0	0.7	0.0
Sortino	1.3	0.0	1.1	0.0
Info Ratio	0.4	0.7	0.3	0.7
Down Capture	110.6	12.3	101.9	7.2
Up Capture	107.8	9.6	103.7	9.0

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
TIAA-CREF Growth & Income W	13.3	Energy	4	4
TIAA-CREF Large-Cap Growth W	12.5	Materials	4	4
TIAA-CREF Large-Cap Value W	11.2	Industrials	11	11
TIAA-CREF Quant Large-Cap Growth W	10.9	Cons Discretionary	13	11
TIAA-CREF Quant Intl Eq W	7.4	Consumer Staples	6	7
TIAA-CREF International Opps W	5.8	Healthcare	13	12
TIAA-CREF International Eq W	5.7	Financials	15	16
TIAA-CREF Quant Large-Cap Value W	4.9	Info Technology	21	18
Nuveen Dividend Value R6	4.9	Telecom Services	8	8
TIAA-CREF Emerging Markets Eq W	4.7	Utilities	2	3
		Real Estate %	2.3	5.7



# TIAA-CREF Lifecycle 2050 Institutional

TFTIX

Index: Morningstar Lifetime Mod 2050 TR USD

Category: US Fund Target-Date 2050

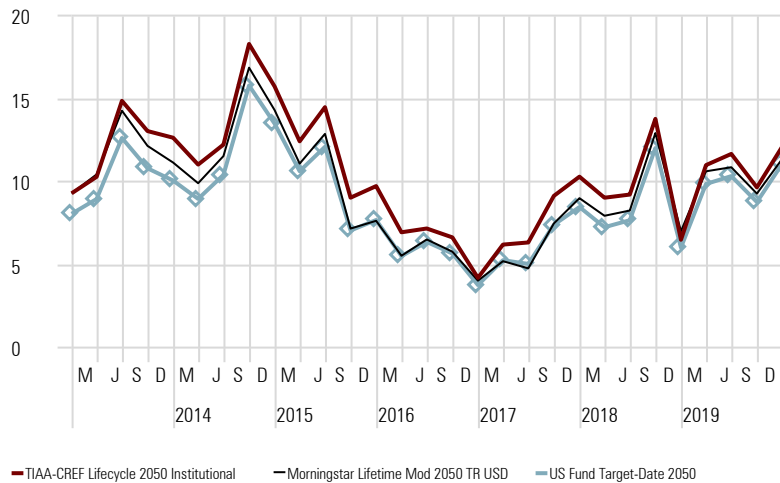
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2050 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Lifecycle 2050 Institutional	26.2	26.2	12.2	8.9	10.2	6.2
Morningstar Lifetime Mod 2050 TR USD	25.1	25.1	11.4	8.2	9.6	7.8
US Fund Target-Date 2050	24.5	24.5	11.1	7.8	8.9	6.5

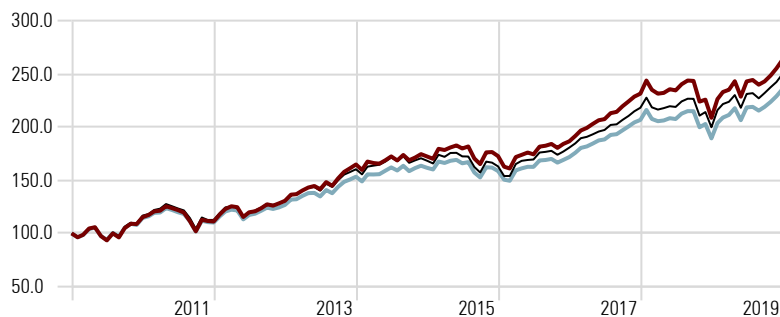
## Returns (Rolling 36 Months)



— TIAA-CREF Lifecycle 2050 Institutional — Morningstar Lifetime Mod 2050 TR USD — US Fund Target-Date 2050

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



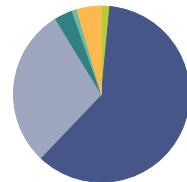
— TIAA-CREF Lifecycle 2050 Institutional — Morningstar Lifetime Mod 2050 TR USD — US Fund Target-Date 2050

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.45	0.79	
Gross Expense Ratio	0.57	2.34	
LT Earn Growth	10.1	9.4	9.1
Avg Mkt Cap (\$MMM)	51.5	46.2	47.9
P/E Ratio	19.1	19.2	16.3
P/B Ratio	2.5	2.3	2.0
P/S Ratio	1.7	1.7	1.4
P/CF Ratio	12.3	12.0	10.5
ROE %	21.4	19.3	20.5
ROA %	7.5	6.8	7.2
Dividend Yld	2.0	2.3	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



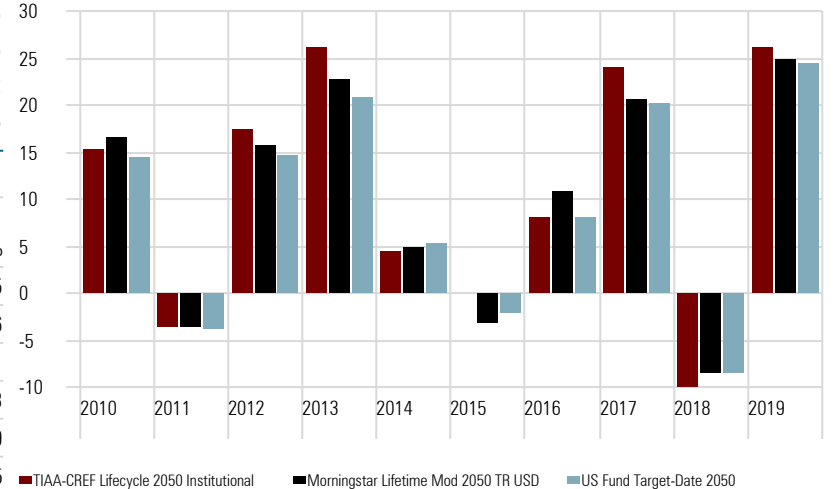
	%
Cash	1.5
US Equity	60.6
Non-US Equity	29.1
US Bond	3.3
Non-US Bond	0.9
Other	4.5

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2050 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Lifecycle 2050 Institutional	65.8	34.2	10.6	-8.5	12.9	-16.4	102.6	100.2
Morningstar Lifetime Mod 2050 TR USD	68.3	31.7	10.3	-8.9	13.2	-15.6	100.0	100.0
US Fund Target-Date 2050	65.8	34.2	9.9	-8.7	12.0	-15.1	93.8	94.7

## Calendar Year Returns



■ TIAA-CREF Lifecycle 2050 Institutional ■ Morningstar Lifetime Mod 2050 TR USD ■ US Fund Target-Date 2050

## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.4	1.2	11.3	1.1
Down Deviation	1.2	0.6	1.4	0.5
Beta	1.1	0.1	1.0	0.1
Alpha	-0.1	0.0	0.3	0.4
Sharpe	0.9	0.0	0.7	0.0
Sortino	1.3	0.0	1.1	0.0
Info Ratio	0.4	0.8	0.3	0.7
Down Capture	110.9	12.4	101.3	7.3
Up Capture	108.5	10.6	104.0	9.6

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
TIAA-CREF Growth & Income W	13.5	Energy	4	4
TIAA-CREF Large-Cap Growth W	12.6	Materials	4	5
TIAA-CREF Large-Cap Value W	11.3	Industrials	11	11
TIAA-CREF Quant Large-Cap Growth W	11.0	Cons Discretionary	13	11
TIAA-CREF Quant Intl Eq W	7.5	Consumer Staples	6	7
TIAA-CREF International Opps W	5.9	Healthcare	13	12
TIAA-CREF International Eq W	5.8	Financials	15	16
TIAA-CREF Quant Large-Cap Value W	5.0	Info Technology	21	18
Nuveen Dividend Value R6	4.9	Telecom Services	8	8
TIAA-CREF Emerging Markets Eq W	4.8	Utilities	2	3
		Real Estate %	2.3	6.1

# TIAA-CREF Lifecycle 2055 Institutional

TTRIX

Index: Morningstar Lifetime Mod 2055 TR USD

Category: US Fund Target-Date 2055

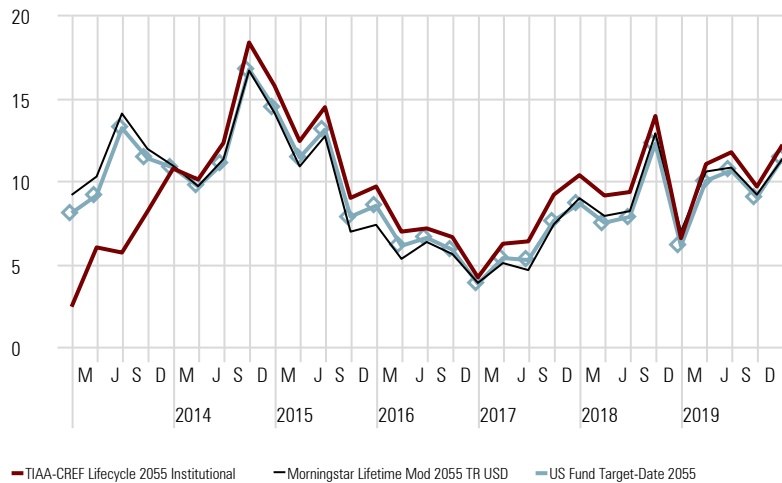
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2055 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Lifecycle 2055 Institutional	26.4	26.4	12.3	8.9	9.0	9.0
Morningstar Lifetime Mod 2055 TR USD	25.1	25.1	11.4	8.2	9.5	7.8
US Fund Target-Date 2055	24.9	24.9	11.4	8.0	9.2	6.7

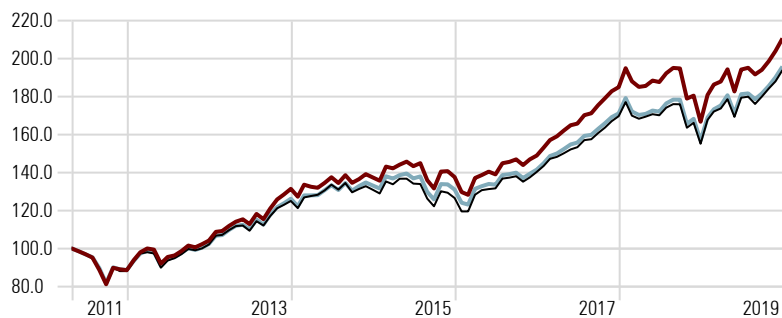
## Returns (Rolling 36 Months)



— TIAA-CREF Lifecycle 2055 Institutional — Morningstar Lifetime Mod 2055 TR USD — US Fund Target-Date 2055

## Investment Growth

Time Period: 4/30/2011 to 12/31/2019



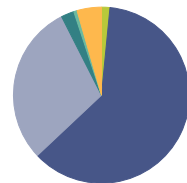
— TIAA-CREF Lifecycle 2055 Institutional — Morningstar Lifetime Mod 2055 TR USD — US Fund Target-Date 2055

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.45	0.77	
Gross Expense Ratio	0.59	3.35	
LT Earn Growth	10.1	9.4	9.1
Avg Mkt Cap (\$MMM)	51.5	52.4	47.9
P/E Ratio	19.1	19.4	16.3
P/B Ratio	2.5	2.3	2.0
P/S Ratio	1.7	1.8	1.4
P/CF Ratio	12.3	12.1	10.5
ROE %	21.4	19.7	20.5
ROA %	7.5	6.9	7.2
Dividend Yld	2.0	2.3	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



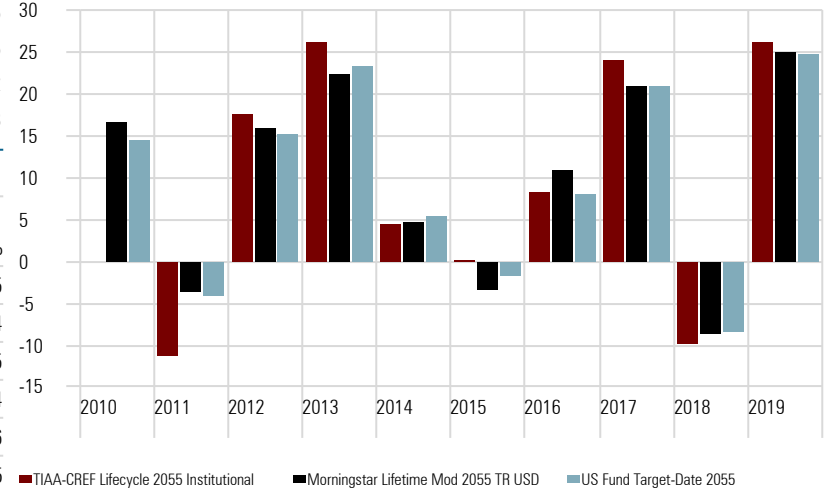
	%
Cash	1.5
US Equity	61.4
Non-US Equity	29.5
US Bond	2.4
Non-US Bond	0.6
Other	4.5

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2055 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Lifecycle 2055 Institutional	65.4	34.6	10.7	-8.5	12.9	-16.4	104.6	99.2
Morningstar Lifetime Mod 2055 TR USD	68.3	31.7	10.3	-8.9	13.3	-15.7	100.0	100.0
US Fund Target-Date 2055	66.7	33.3	10.2	-8.8	12.2	-15.6	96.5	96.1

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.5	1.1	11.4	0.9
Down Deviation	1.3	0.7	1.4	0.5
Beta	1.1	0.1	1.1	0.1
Alpha	0.0	-0.1	0.4	0.4
Sharpe	0.9	0.0	0.7	0.0
Sortino	1.3	0.0	1.1	0.0
Info Ratio	0.5	0.4	0.4	0.5
Down Capture	110.9	11.0	101.2	6.0
Up Capture	109.0	9.0	104.5	8.2

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
TIAA-CREF Growth & Income W	13.7	Energy	4	5
TIAA-CREF Large-Cap Growth W	12.8	Materials	4	4
TIAA-CREF Large-Cap Value W	11.5	Industrials	11	11
TIAA-CREF Quant Large-Cap Growth W	11.2	Cons Discretionary	13	11
TIAA-CREF Quant Intl Eq W	7.6	Consumer Staples	6	7
TIAA-CREF International Opps W	5.9	Healthcare	13	13
TIAA-CREF International Eq W	5.9	Financials	15	15
TIAA-CREF Quant Large-Cap Value W	5.0	Info Technology	21	18
Nuveen Dividend Value R6	5.0	Telecom Services	8	8
TIAA-CREF Emerging Markets Eq W	4.8	Utilities	2	3
		Real Estate %	2.3	5.3

# TIAA-CREF Lifecycle 2060 Institutional

TLXNX

**Index:** Morningstar Lifetime Mod 2060 TR USD

**Category:** US Fund Target-Date 2060+

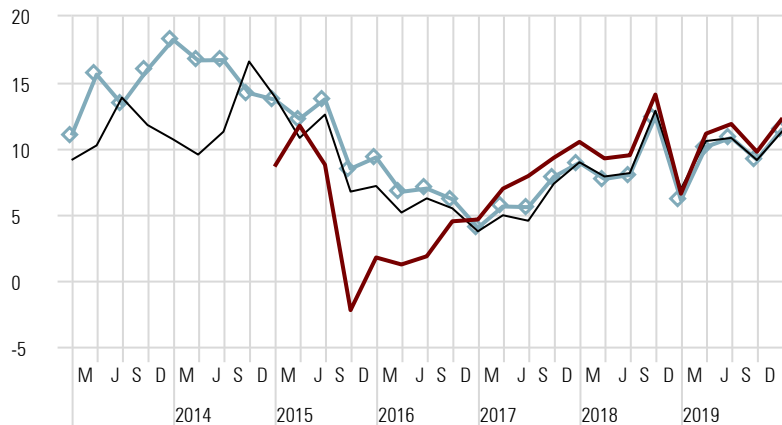
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2060 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
TIAA-CREF Lifecycle 2060 Institutional	26.7	26.7	12.3	9.0	9.0	9.0
Morningstar Lifetime Mod 2060 TR USD	25.0	25.0	11.4	8.1	9.4	7.8
US Fund Target-Date 2060+	25.2	25.2	11.5	8.2	10.2	10.2

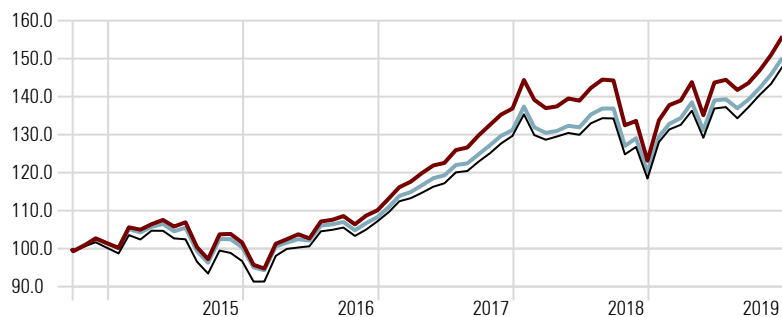
## Returns (Rolling 36 Months)



— TIAA-CREF Lifecycle 2060 Institutional — Morningstar Lifetime Mod 2060 TR USD — US Fund Target-Date 2060+

## Investment Growth

Time Period: 9/27/2014 to 12/31/2019



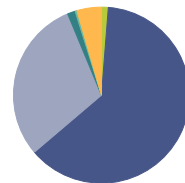
— TIAA-CREF Lifecycle 2060 Institutional — Morningstar Lifetime Mod 2060 TR USD — US Fund Target-Date 2060+

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.45	0.76	
Gross Expense Ratio	0.71	8.52	
LT Earn Growth	10.1	9.4	9.1
Avg Mkt Cap (\$MMM)	51.6	47.9	47.9
P/E Ratio	19.1	19.1	16.3
P/B Ratio	2.5	2.3	2.0
P/S Ratio	1.7	1.7	1.4
P/CF Ratio	12.3	11.8	10.5
ROE %	21.4	19.7	20.5
ROA %	7.5	6.8	7.2
Dividend Yld	2.0	2.4	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



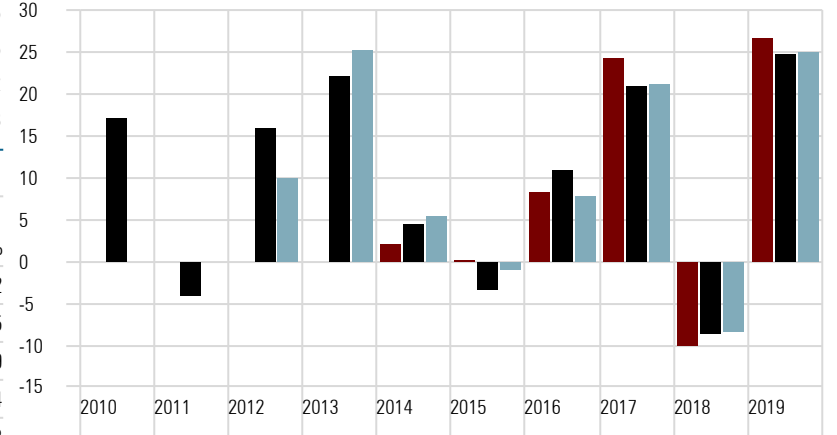
	%
Cash	1.2
US Equity	62.5
Non-US Equity	29.9
US Bond	1.4
Non-US Bond	0.3
Other	4.5

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2060 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
TIAA-CREF Lifecycle 2060 Institutional	69.8	30.2	8.7	-8.2	12.9	-14.7	105.2	99.3
Morningstar Lifetime Mod 2060 TR USD	67.5	32.5	10.3	-9.0	13.2	-15.7	100.0	100.0
US Fund Target-Date 2060+	69.5	30.5	7.8	-7.2	11.9	-12.3	99.0	92.9

## Calendar Year Returns



■ TIAA-CREF Lifecycle 2060 Institutional ■ Morningstar Lifetime Mod 2060 TR USD ■ US Fund Target-Date 2060+

## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.7	1.2	11.5	1.0
Down Deviation	1.4	0.8	1.5	0.5
Beta	1.1	0.1	1.1	0.1
Alpha	-0.1	-0.2	0.5	0.3
Sharpe	0.9	0.0	0.7	0.0
Sortino	1.3	0.0	1.1	0.0
Info Ratio	0.5	0.3	0.4	0.4
Down Capture	112.8	12.2	99.6	6.1
Up Capture	110.5	9.3	104.3	7.8

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
TIAA-CREF Growth & Income W	13.9	Energy	4	5
TIAA-CREF Large-Cap Growth W	13.0	Materials	4	5
TIAA-CREF Large-Cap Value W	11.7	Industrials	11	11
TIAA-CREF Quant Large-Cap Growth W	11.4	Cons Discretionary	13	11
TIAA-CREF Quant Intl Eq W	7.7	Consumer Staples	6	7
TIAA-CREF International Opps W	6.0	Healthcare	13	12
TIAA-CREF International Eq W	6.0	Financials	15	16
TIAA-CREF Quant Large-Cap Value W	5.1	Info Technology	21	18
Nuveen Dividend Value R6	5.1	Telecom Services	8	8
TIAA-CREF Emerging Markets Eq W	4.9	Utilities	2	3
		Real Estate %	2.3	4.6



## Searches: Voya Voluntary Plan

# Voya Fixed Plus Account III

As of 12/31/2019



# Voya Fixed Plus Account III

The Voya Fixed Plus Account III is available through a group annuity or other type of contract issued by Voya Retirement Insurance and Annuity Company ("VRIAC"). The Voya Fixed Plus Account III is an obligation of VRIAC's general account which supports all of the company's insurance and annuity commitments. All guarantees are based on the financial strength and claims-paying ability of VRIAC, who is solely responsible for all obligations under its contracts.

Asset Class: **Stability of Principal**

## Important Information

This information should be read in conjunction with your contract prospectus, contract prospectus summary or disclosure booklet, as applicable. Please read them carefully before investing.

## Voya Retirement Insurance and Annuity Company

One Orange Way  
Windsor, CT 06095-4774  
www.voyaretirementplans.com

## Objective

Stability of principal is the primary objective of this investment option. The Voya Fixed Plus Account III guarantees minimum rates of interest and may credit interest that exceeds the guaranteed minimum rates. Daily credited interest becomes part of principal and the investment increases through compound interest. All amounts invested by your plan in the Voya Fixed Plus Account III receive the same credited rate. This is known as a portfolio method of interest rate crediting.

## Key Features

The Voya Fixed Plus Account III is intended to be a long-term investment for participants seeking stability of principal. The assets supporting it are invested by VRIAC with this goal in mind. Therefore, VRIAC may impose restrictions on the ability to move funds into or out of this investment option or among investment options in general. These restrictions help VRIAC to provide stable credited interest rates which historically have not varied significantly from month to month despite the general market's volatility in new money interest rates.

The Voya Fixed Plus Account III requires the sponsoring employer to select from several different product design options for their plan. This choice, which applies to all participants in the plan, affects the limitations imposed on transfers from the Voya Fixed Plus Account III to other investment options within the contract and partial withdrawals from the Voya Fixed

Plus Account III as well as the credited interest rate. In general, options without transfer or withdrawal limitations will credit a lower interest rate. Please consult your employer or your Voya® representative for which Voya Fixed Plus Account III option applies to your plan. Full withdrawals from the Voya Fixed Plus Account III generally may be made for death, retirement, separation from service, hardship, and small account balances. Full withdrawals from the Voya Fixed Plus Account III for other reasons may be limited depending on the Voya Fixed Plus Account III option selected by your employer. All withdrawals are subject to Internal Revenue Code restrictions.

## Interest Rate Structure

The Voya Fixed Plus Account III guarantees principal and a guaranteed minimum interest rate ("GMIR") for the life of the contract, as well as featuring two declared interest rates: a current rate, determined at least monthly, and a guaranteed minimum floor rate declared for a defined period- currently one calendar year. The guaranteed minimum floor rate may change after a defined period, but it will never be lower than the GMIR that applies for the life of the contract. The current rate, the guaranteed minimum floor rate and the GMIR are expressed as annual effective yields. Taking the effect of compounding into account, the interest credited to your account daily yields the then current rate.

VRIAC's determination of credited interest rates reflects a number of factors, which may include mortality and expense risks, interest rate guarantees, the investment income earned on invested assets and the amortization of any capital gains and/or losses realized on the sale of invested assets. Under this option, VRIAC assumes the risk of investment gain or loss by guaranteeing the principal amount you allocate to this option and promising a minimum interest rate during the accumulation period and also throughout the annuity payout period, if applicable.

Currently, the guaranteed minimum floor rate equals the GMIR. The current rate to be credited under a contract may be higher than the GMIR/guaranteed minimum floor rate and may be changed at any time, except that we will not apply a decrease to the current rate following a rate change initiated solely by us prior to the last day of the three-month period measured from the first day of the month in which such change was effective. The current rate for a plan's initial investment in the Voya Fixed Plus Account III may be in effect for less than a full three-month period.

Any insurance products, annuities and funding agreements that you may have purchased are issued by Voya Retirement Insurance and Annuity Company ("VRIAC"). VRIAC is solely responsible for meeting its obligations. Plan administrative services provided by VRIAC or Voya Institutional Plan Services, LLC ("VIPS"). Neither VRIAC nor VIPS engage in the sale or solicitation of securities. If custodial or trust agreements are part of this arrangement, they may be provided by Voya Institutional Trust Company. All companies are members of the Voya® family of companies. Securities distributed by Voya Financial Partners, LLC (member SIPC) or other broker-dealers with which it has a selling agreement. All products or services may not be available in all states.

## Fixed Account – Yield

Actual Minimum: 1.00%  
Current: 2.00%  
1 Yr: 2.15%  
3Yr: 2.18%  
5 Yr: 2.32%  
10 YR: 2.65%

# Vanguard Treas. Money Market

As of 12/31/2019



# Vanguard Treasury Money Market Investor

VUSXX

Index: BBgBarc US Treasury Bill 1-3 Mon TR USD

Category: US Fund Money Market - Taxable

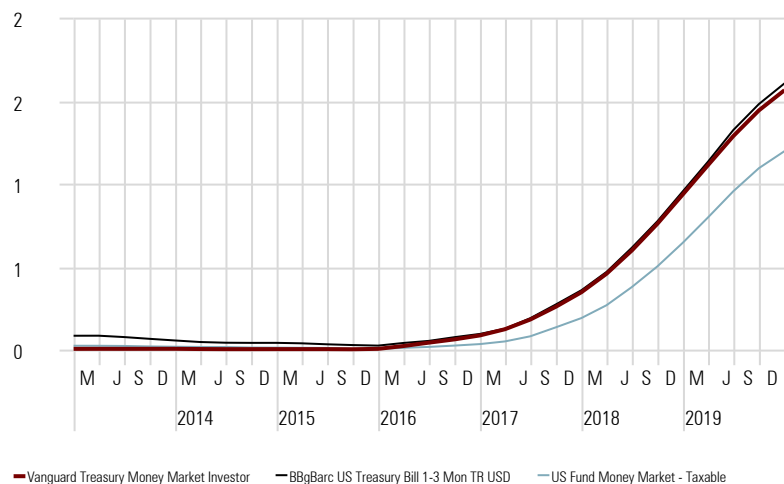
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: BBgBarc US Treasury Bill 1-3 Mon TR USD

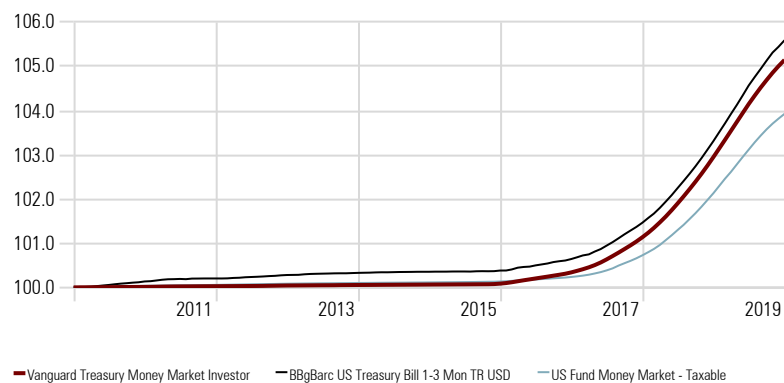
	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Treasury Money Market Investor	2.1	2.1	1.6	1.0	0.5	1.3
BBgBarc US Treasury Bill 1-3 Mon TR USD	2.2	2.2	1.6	1.0	0.5	1.3
US Fund Money Market - Taxable	1.8	1.8	1.2	0.7	0.4	1.2

## Returns (Rolling 36 Months)



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019

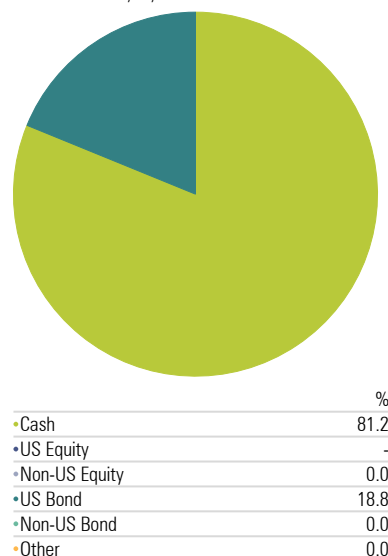


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.09	0.46	
Gross Expense Ratio	0.09	0.54	

## Asset Allocation

Portfolio Date: 1/31/2020

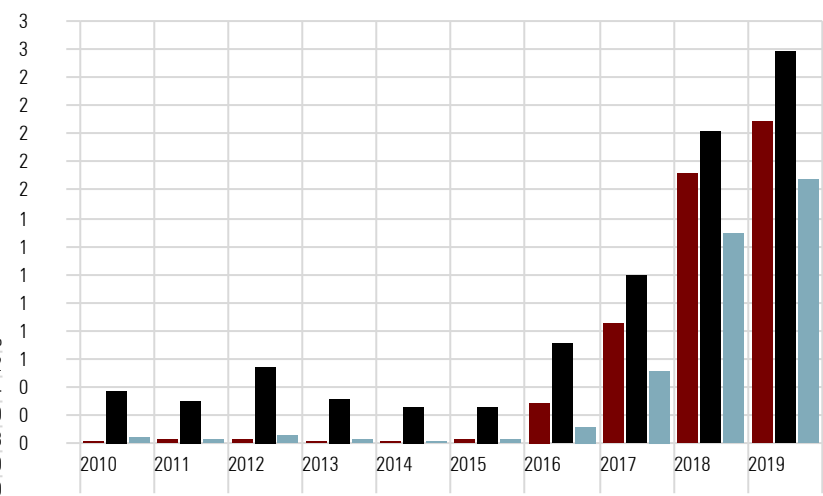


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: BBgBarc US Treasury Bill 1-3 Mon TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Treasury Money Market Investor	100.0	0.0	0.2	0.0	0.6	0.0	92.0	-64.4
BBgBarc US Treasury Bill 1-3 Mon TR USD	93.3	6.7	0.2	0.0	0.6	0.0	100.0	100.0
US Fund Money Market - Taxable	99.2	0.8	0.2	0.0	0.5	0.0	70.1	-135.8

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	0.2	0.0	0.2	0.0
Down Deviation	0.0	-0.1	0.0	-0.1
Beta	0.6	0.0	0.6	-0.2
Alpha	-0.1	0.4	-0.1	0.2
Sharpe	-0.8	2.2	-0.4	1.3
Sortino	-2.6	0.7	-2.4	0.5
Info Ratio	-1.4	10.8	-1.0	3.9
Down Capture			-65.3	64.0
Up Capture	97.5	22.6	97.3	24.4

## Top 10 Holdings

Holder	Fund %	
United States Treasury Notes	1.84%	3.6
United States Treasury Bills	1.56%	3.5
United States Treasury Notes	1.76%	3.4
United States Treasury Notes	1.68%	2.3
United States Treasury Bills	1.59%	1.6
United States Treasury Bills	1.55%	1.5
United States Treasury Bills	1.57%	1.1
United States Treasury Bills	1.58%	1.1
United States Treasury Notes	3.5%	0.7



# Core Bond - Index

As of 12/31/2019



# US Fund Intermediate Core Bond

## Fidelity® US Bond Index

### Investment Strategy

The investment seeks to provide investment results that correspond to the aggregate price and interest performance of the debt securities in the Bloomberg Barclays U.S. Aggregate Bond Index. The fund normally invests at least 80% of the fund's assets in bonds included in the Bloomberg Barclays U.S. Aggregate Bond Index. Its manager uses statistical sampling techniques based on duration, maturity, interest rate sensitivity, security structure, and credit quality to attempt to replicate the returns of the Bloomberg Barclays U.S. Aggregate Bond Index using a smaller number of securities. The fund invests in Fidelity's central funds.

### Manager Biography

Brandon Bettencourt since 5/19/2014

Jay Small since 4/30/2015

### Fidelity® US Bond Index - Operations

Inception Date	5/4/2011
Fund Size (\$mm)	46,117
Annual Report Net Expense Ratio	0.03
Prospectus Net Expense Ratio	0.03
Prospectus Gross Expense Ratio	0.03
Ticker	FXNAX
Manager Tenure (Longest)	5.67
Manager Tenure (Average)	5.21
Morningstar Institutional Category	Intermediate Investment Grade (4-6)

### Other Notes:

None

## Voya US Bond Index Port A

### Investment Strategy

The investment seeks investment results that correspond to the total return (which includes capital appreciation and income) of the Bloomberg Barclays U.S. Aggregate Bond Index ("index"). The fund invests at least 80% of its net assets (plus borrowings for investment purposes) in investment-grade debt instruments rated at least A by Moody's Investors Service, Inc., at least A by S&P Global Ratings, or are of comparable quality if unrated, which are at the time of purchase, included in the index; derivatives whose economic returns are, by design, closely equivalent to the returns of the index or its components; and exchange-traded funds that track the index.

### Manager Biography

Robert N. Kase since 2/21/2012

Matthew Toms since 2/21/2012

### Voya US Bond Index Port A - Operations

Inception Date	3/10/2008
Fund Size (\$mm)	3,153
Annual Report Net Expense Ratio	0.40
Prospectus Net Expense Ratio	0.88
Prospectus Gross Expense Ratio	0.88
Ticker	ILUAX
Manager Tenure (Longest)	7.92
Manager Tenure (Average)	7.92
Morningstar Institutional Category	Intermediate Investment Grade (4-6)

### Other Notes:

None

# Portfolio Analysis

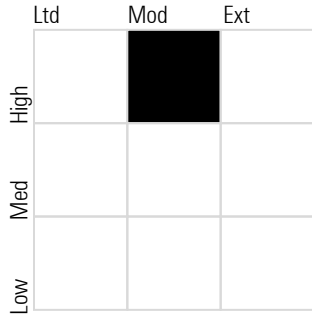
## Fidelity® US Bond Index

## Voya US Bond Index Port A

### Style Allocation

Portfolio Date: 11/30/2019

#### Morningstar Fixed Income Style Box™



#### Credit Quality

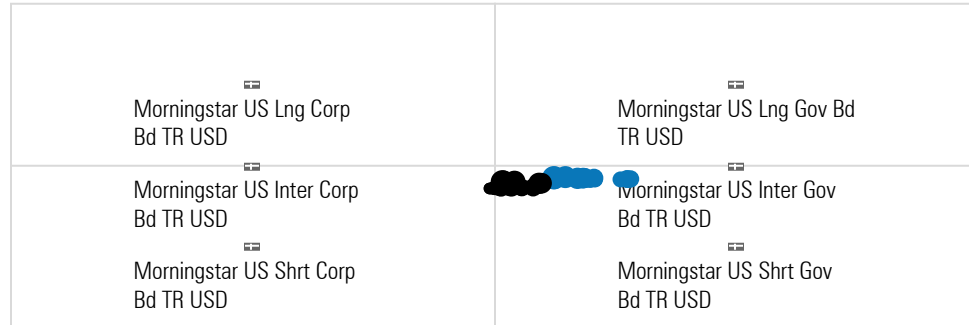
Credit Quality	%
Credit Qual AAA %	-
Credit Qual AA %	-
Credit Qual A %	-
Credit Qual BBB %	-
Credit Qual BB %	-
Credit Qual B %	-
Credit Qual Below B %	-
Credit Qual Not Rated %	-

### Portfolio Data

Average Credit Quality	AA
Average Eff Duration	5.7
Modified Duration	
Average Eff Maturity	
Average Coupon	3.1
Average Price	106.3
SEC Yield	2.2

### Returns-Based Style Map

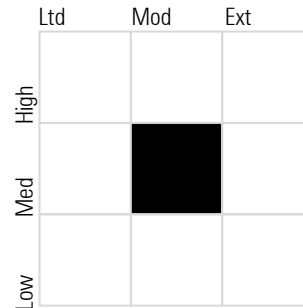
Time Period: 1/1/2015 to 12/31/2019



### Style Allocation

Portfolio Date: 12/31/2019

#### Morningstar Fixed Income Style Box™



#### Credit Quality

Credit Quality	%
Credit Qual AAA %	52.7
Credit Qual AA %	4.4
Credit Qual A %	20.1
Credit Qual BBB %	22.7
Credit Qual BB %	0.1
Credit Qual B %	0.0
Credit Qual Below B %	0.0
Credit Qual Not Rated %	0.0

### Portfolio Data

Average Credit Quality	A
Average Eff Duration	5.8
Modified Duration	6.1
Average Eff Maturity	7.7
Average Coupon	3.1
Average Price	105.5
SEC Yield	1.5

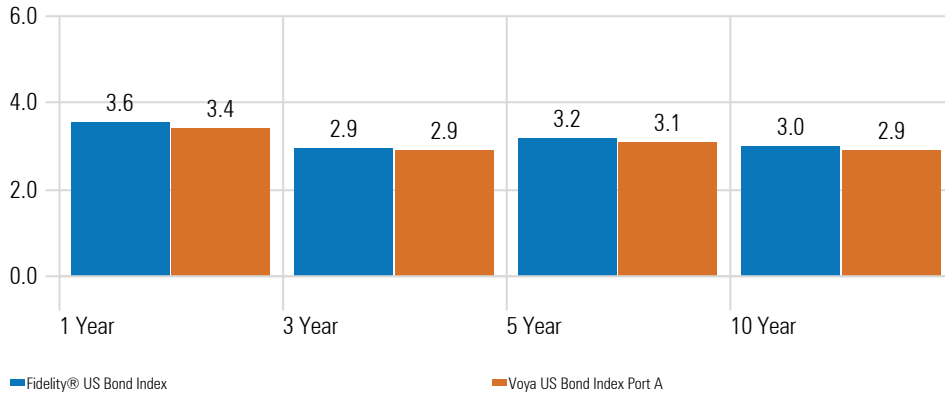
### Returns-Based Style Map

Time Period: 1/1/2015 to 12/31/2019



# Risk/Return Performance Analysis

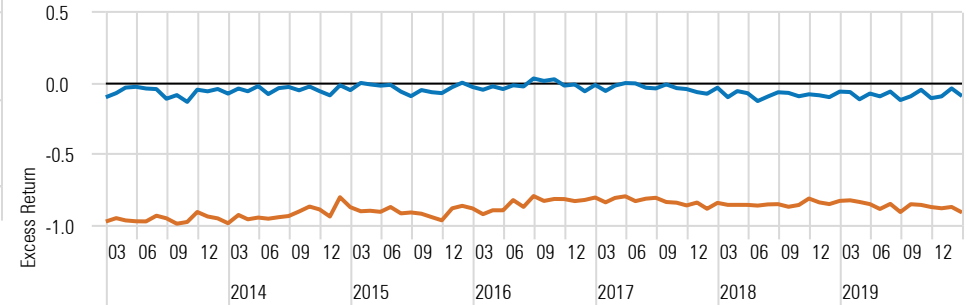
## Standard Deviation



## 3 Year Relative Rolling Returns

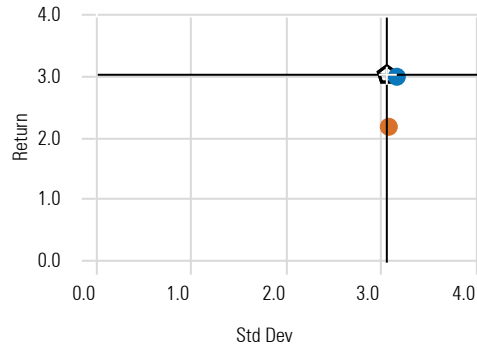
Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift



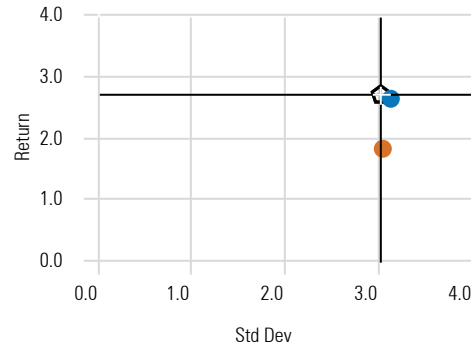
## 5 Year Risk-Reward

Time Period: 1/1/2015 to 12/31/2019



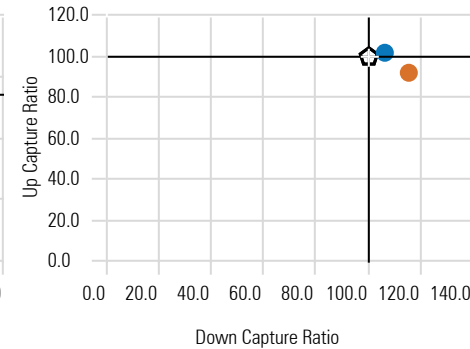
## 7 Year Risk-Reward

Time Period: 1/1/2013 to 12/31/2019



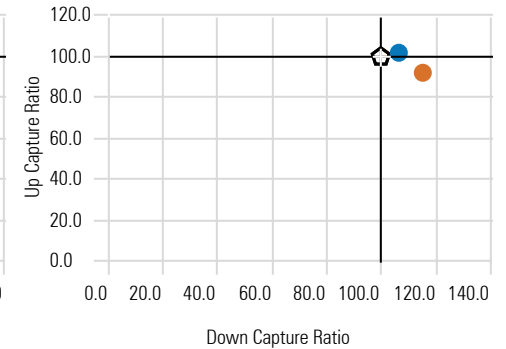
## 5 Year Market Capture

Time Period: 1/1/2015 to 12/31/2019



## 7 Year Market Capture

Time Period: 1/1/2013 to 12/31/2019



## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (6/1/2011) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
Fidelity® US Bond Index	3.2	3.0	-0.1	1.03	99	4.0	-3.1	0.84	0.3
Voya US Bond Index Port A	2.4	2.9	-0.9	1.01	99	3.5	-3.3	0.58	0.3
BBgBarc US Agg Bond TR USD	3.3	2.9	0.0	1.00	100	3.8	-3.0	0.89	0.0
US Fund Intermediate Core Bond	3.1	2.7	0.2	0.88	89	3.1	-2.6	0.92	1.0

# Performance Analysis

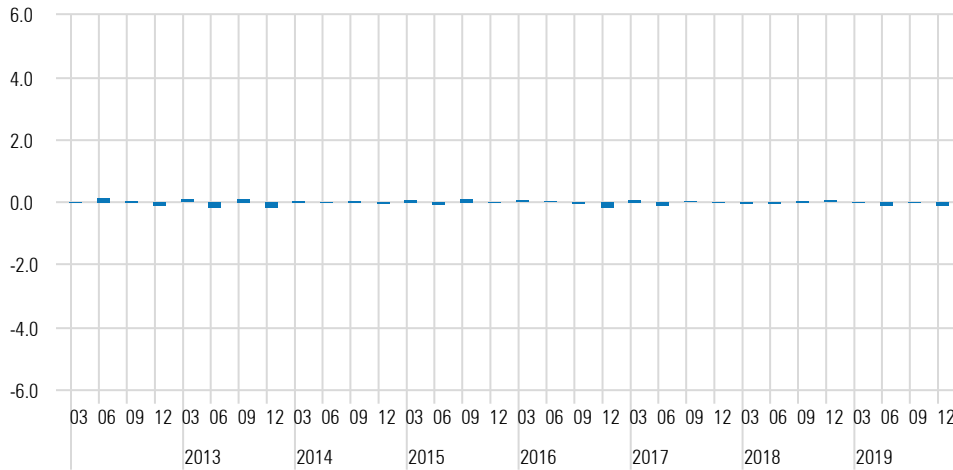
## Fidelity® US Bond Index

## Voya US Bond Index Port A

### Quarterly Return +/- Index

Time Period: 1/1/2012 to 12/31/2019

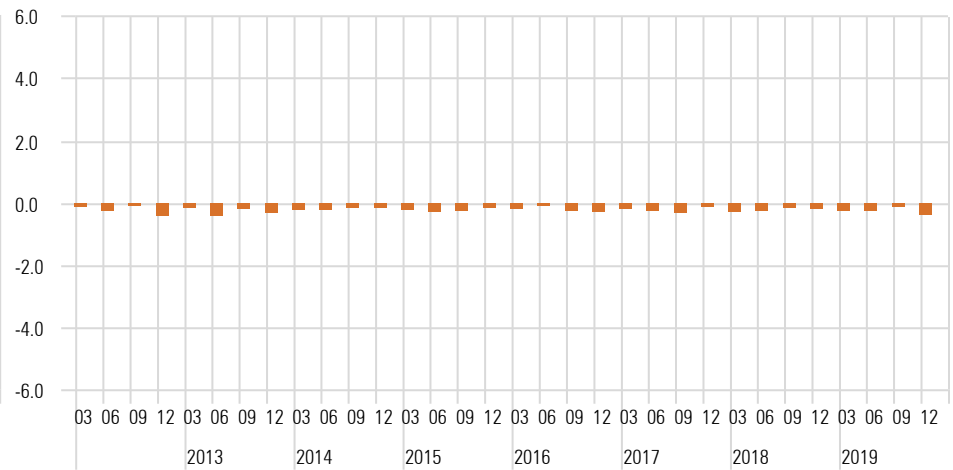
Rolling Window: 3 Months 3 Months shift



### Quarterly Return +/- Index

Time Period: 1/1/2012 to 12/31/2019

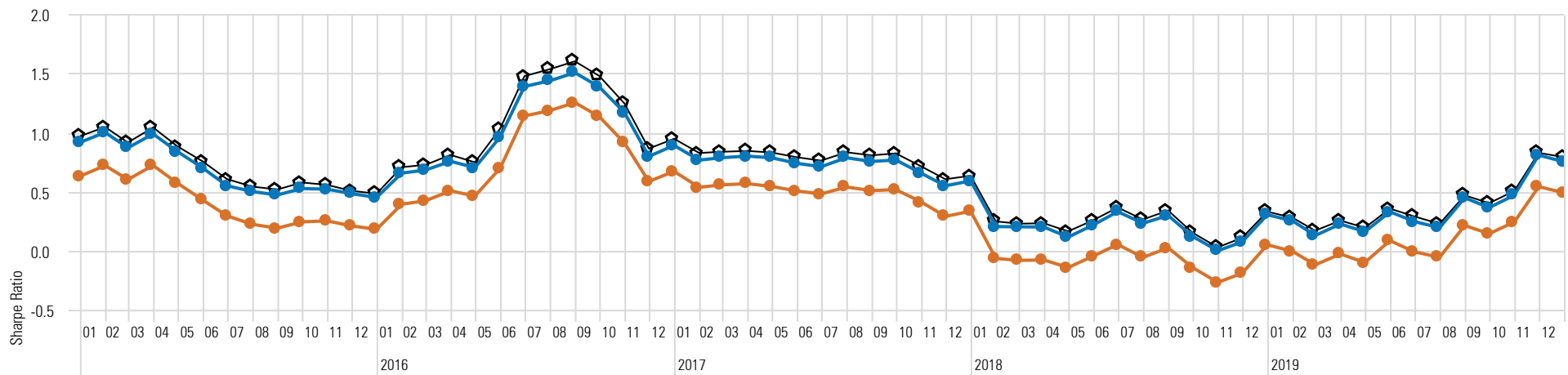
Rolling Window: 3 Months 3 Months shift



### Rolling 3 Year Sharpe Ratio

Time Period: 1/1/2012 to 12/31/2019

Rolling Window: 3 Years 1 Month shift



— Fidelity® US Bond Index

— Voya US Bond Index Port A

— BbgBarc US Agg Bond TR USD

## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Intermediate Core Bond</b>																		
Fidelity® US Bond Index	0.1	<b>53</b>	-0.12	8.5	<b>45</b>	-0.23	8.5	<b>45</b>	-0.23	3.9	<b>32</b>	-0.09	3.0	<b>31</b>	-0.06	3.7	<b>47</b>	-0.07
Voya US Bond Index Port A	-0.2	<b>84</b>	-0.37	7.7	<b>70</b>	-1.03	7.7	<b>70</b>	-1.03	3.1	<b>78</b>	-0.91	2.2	<b>84</b>	-0.88	2.8	<b>85</b>	-0.91
BBgBarc US Agg Bond TR USD	0.2			8.7			8.7			4.0			3.0			3.7		
Average	0.1			8.1			8.1			3.6			2.7			3.5		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Intermediate Core Bond</b>																					
Fidelity® US Bond Index	8.5	<b>45</b>	-0.23	0.0	<b>27</b>	0.00	3.5	<b>38</b>	-0.04	2.5	<b>49</b>	-0.13	0.6	<b>24</b>	0.08	6.0	<b>28</b>	0.02	-2.2	<b>53</b>	-0.17
Voya US Bond Index Port A	7.7	<b>70</b>	-1.03	-0.8	<b>76</b>	-0.85	2.7	<b>77</b>	-0.86	1.9	<b>81</b>	-0.78	-0.3	<b>78</b>	-0.89	5.2	<b>62</b>	-0.74	-3.0	<b>88</b>	-1.00
BBgBarc US Agg Bond TR USD	8.7			0.0			3.5			2.6			0.5			6.0			-2.0		
Average	8.1			-0.4			3.2			2.6			0.2			5.4			-2.1		

# Fidelity® US Bond Index

FXNAX

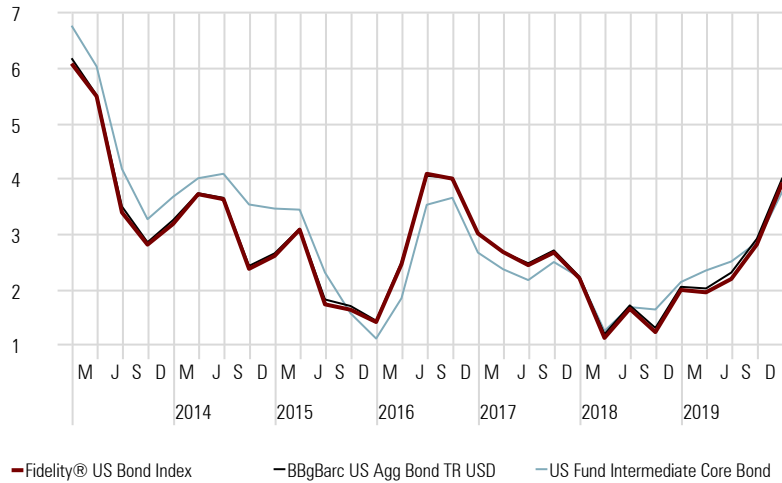
**Index:** BBgBarc US Agg Bond TR USD  
**Category:** US Fund Intermediate Core Bond  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: BBgBarc US Agg Bond TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Fidelity® US Bond Index	8.5	8.5	3.9	3.0	3.7	3.9
BBgBarc US Agg Bond TR USD	8.7	8.7	4.0	3.0	3.7	4.2
US Fund Intermediate Core Bond	8.3	8.3	3.8	2.9	3.8	3.7

## Returns (Rolling 36 Months)



## Investment Growth

Time Period: 5/5/2011 to 12/31/2019

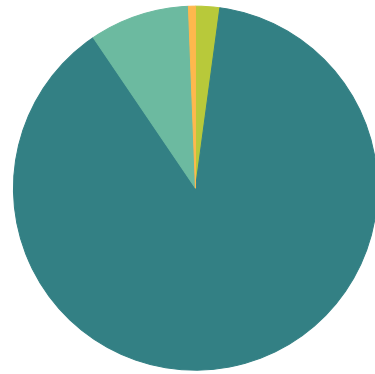


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.03	0.67	
Gross Expense Ratio	0.03	1.14	

## Asset Allocation

Portfolio Date: 1/31/2020



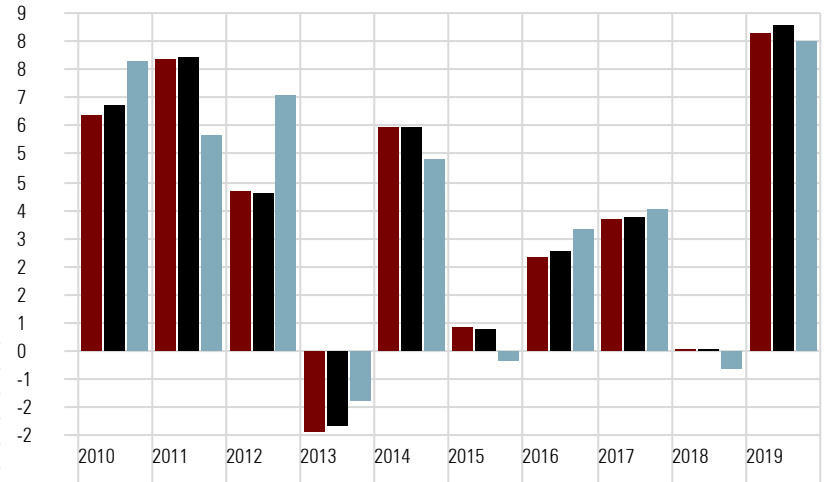
	%
•Cash	2.1
•US Equity	-
•Non-US Equity	0.0
•US Bond	88.4
•Non-US Bond	8.9
•Other	0.6

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: BBgBarc US Agg Bond TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Fidelity® US Bond Index	63.3	36.7	2.6	-2.5	4.0	-3.1	101.4	106.9
BBgBarc US Agg Bond TR USD	65.0	35.0	2.6	-2.4	3.8	-3.0	100.0	100.0
US Fund Intermediate Core Bond	66.7	33.3	2.3	-2.2	3.3	-2.6	96.4	88.0

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	2.9	0.4	3.2	0.5
Down Deviation	0.2	-0.3	0.2	-0.4
Beta	1.0	0.2	1.0	0.2
Alpha	-0.1	-0.2	-0.1	-0.2
Sharpe	0.8	-0.1	0.6	-0.1
Sortino	1.5	-0.1	1.0	-0.1
Info Ratio	-0.4	0.0	-0.2	0.0
Down Capture	103.8	22.3	106.2	20.0
Up Capture	99.8	10.0	101.7	11.5

## Top 10 Holdings

	Fund %
Ginnie Mae 3.5% 30 Year	2.6
Fannie Mae 3% 30 Year	2.5
Fannie Mae 3.5% 30 Year	2.5
Fannie Mae 4% 30 Year	2.5
Freddie Mac 3.5% 30 Year	2.3
Ginnie Mae 3% 30 Year	1.9
Freddie Mac 3% 30 Year	1.7
Ginnie Mae 4% 30 Year	1.5
United States Treasury Notes 2.25%	1.3
Fidelity Revere Str Tr	1.1

# Core-Plus Bonds

As of 12/31/2019





# US Fund Intermediate Core-Plus Bond

## PIMCO Total Return Instl

### Investment Strategy

The investment seeks maximum total return, consistent with preservation of capital and prudent investment management. The fund invests at least 65% of its total assets in a diversified portfolio of Fixed Income Instruments of varying maturities, which may be represented by forwards or derivatives such as options, futures contracts, or swap agreements. It invests primarily in investment-grade debt securities, but may invest up to 20% of its total assets in high yield securities. It may invest up to 30% of its total assets in securities denominated in foreign currencies, and may invest beyond this limit in U.S. dollar-denominated securities of foreign issuers.

### Manager Biography

Mark R. Kiesel since 9/26/2014

Scott A. Mather since 9/26/2014

Mohit Mittal since 12/11/2019

### PIMCO Total Return Instl - Operations

Inception Date	5/11/1987
Fund Size (\$mm)	67,096
Annual Report Net Expense Ratio	0.71
Prospectus Net Expense Ratio	0.71
Prospectus Gross Expense Ratio	0.71
Ticker	PTTRX
Manager Tenure (Longest)	5.33
Manager Tenure (Average)	3.58
Morningstar Institutional Category	Intermediate Investment Grade (4-6)

### Other Notes:

None

## Voya Intermediate Bond Port A

### Investment Strategy

The investment seeks to maximize total return consistent with reasonable risk. Under normal market conditions, the Portfolio invests at least 80% of its net assets (plus borrowings for investment purposes) in a portfolio of bonds, including but not limited to corporate, government and mortgage bonds, which, at the time of purchase, are rated investment-grade (e.g., rated at least BBB- by S&P Global Ratings or Baa3 by Moody's Investors Service, Inc.) or have an equivalent rating by a nationally recognized statistical rating organization ("NRSRO"), or are of comparable quality if unrated.

### Manager Biography

Matthew Toms since 8/2/2010

Randall Parrish since 4/3/2017

Dave Goodson since 4/3/2017

### Voya Intermediate Bond Port A - Operations

Inception Date	12/20/2006
Fund Size (\$mm)	3,547
Annual Report Net Expense Ratio	1.03
Prospectus Net Expense Ratio	1.05
Prospectus Gross Expense Ratio	1.05
Ticker	IIBPX
Manager Tenure (Longest)	9.42
Manager Tenure (Average)	4.97
Morningstar Institutional Category	BBB-Rated

### Other Notes:

None

# Portfolio Analysis

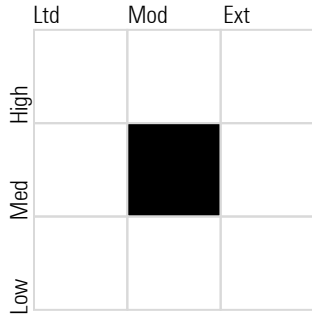
## PIMCO Total Return Instl

## Voya Intermediate Bond Port A

### Style Allocation

Portfolio Date: 9/30/2019

#### Morningstar Fixed Income Style Box™



#### Credit Quality

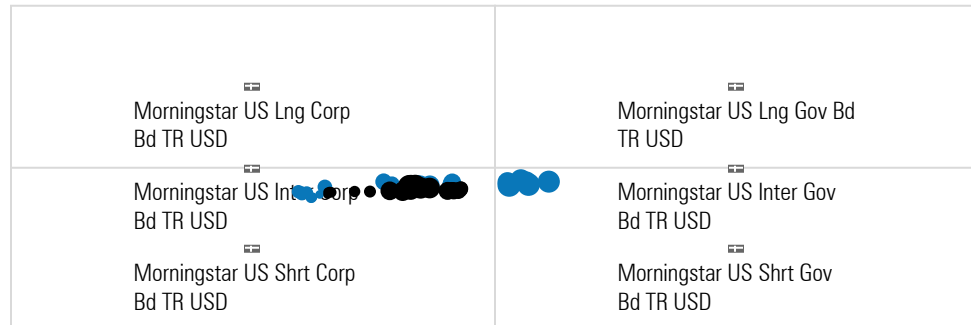
Credit Quality	%
Credit Qual AAA %	64.0
Credit Qual AA %	9.0
Credit Qual A %	13.0
Credit Qual BBB %	8.0
Credit Qual BB %	3.0
Credit Qual B %	2.0
Credit Qual Below B %	1.0
Credit Qual Not Rated %	0.0

### Portfolio Data

Average Credit Quality	
Average Eff Duration	5.6
Modified Duration	5.6
Average Eff Maturity	7.7
Average Coupon	4.1
Average Price	112.1
SEC Yield	2.5

### Returns-Based Style Map

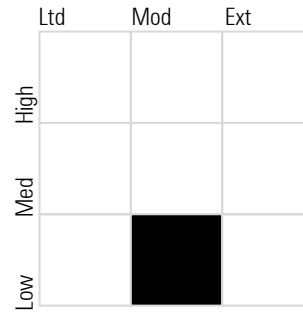
Time Period: 1/1/2015 to 12/31/2019



### Style Allocation

Portfolio Date: 12/31/2019

#### Morningstar Fixed Income Style Box™



#### Credit Quality

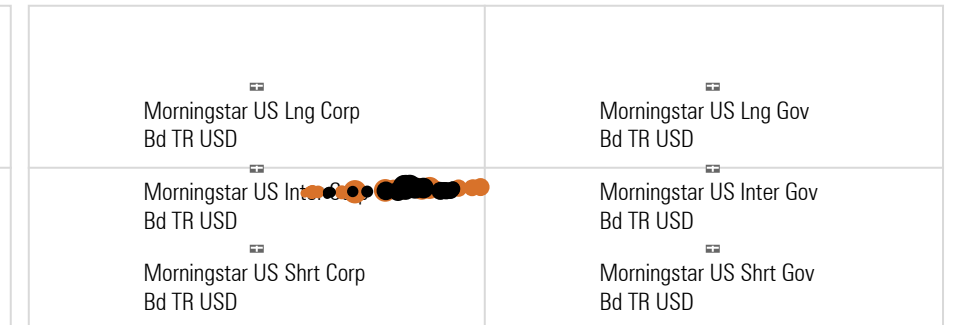
Credit Quality	%
Credit Qual AAA %	39.5
Credit Qual AA %	4.7
Credit Qual A %	14.3
Credit Qual BBB %	24.6
Credit Qual BB %	7.5
Credit Qual B %	5.9
Credit Qual Below B %	3.4
Credit Qual Not Rated %	0.1

### Portfolio Data

Average Credit Quality	BB
Average Eff Duration	6.0
Modified Duration	6.1
Average Eff Maturity	6.8
Average Coupon	4.0
Average Price	103.7
SEC Yield	2.8

### Returns-Based Style Map

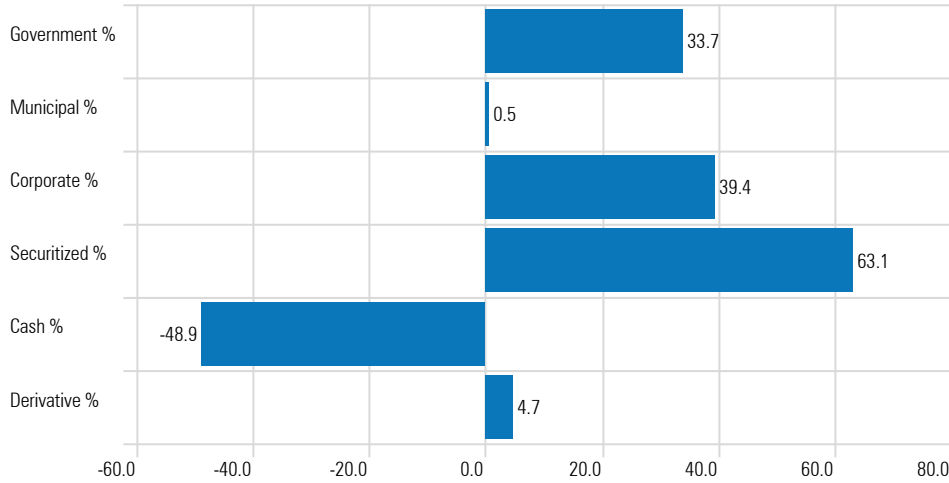
Time Period: 1/1/2015 to 12/31/2019



# Sector Exposure and Top 15 Holdings

## PIMCO Total Return Instl

### Sector Allocation



■ PIMCO Total Return Instl

### PIMCO Total Return Instl - Top Holdings

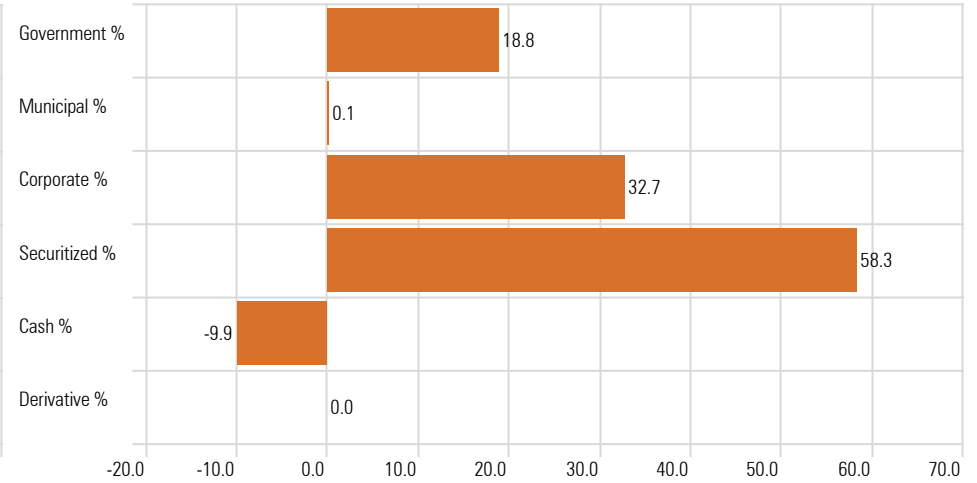
Portfolio Date: 9/30/2019

	Portfolio Weighting %
Fin Fut Us 5yr Cbt 12/31/19	32.1
US 10 Year Note (CBT) Dec19	9.7
Pimco Fds	7.5
Long-Term Euro-BTP Futures Dec19	6.4
Federal National Mortgage Association 3%	5.0
US Ultra Bond (CBT) Dec19	4.4
Government National Mortgage Association 4%	3.6
Government National Mortgage Association 3.5%	3.4
Euro BUND Future Dec19	3.4
Federal National Mortgage Association 3.5%	2.8
Irs Usd 2.80000 08/22/18-5y Cme	2.8
Irs Jpy 0.38000 06/18/18-10y Lch	2.7
Secretaria Tesouro Nacional 0%	2.6
Irs Mxn 8.70000 11/05/18-2y Cme	2.6
United States Treasury Notes 0.88%	2.4

Source: Morningstar Direct

## Voya Intermediate Bond Port A

### Sector Allocation



■ Voya Intermediate Bond Port A

### Voya Intermediate Bond Port A - Top Holdings

Portfolio Date: 12/31/2019

	Portfolio Weighting %
Ultra US Treasury Bond Future Mar20	5.5
Voya Investment Grade Credit P	4.5
Future on US 5 Year Note (CBT)	4.1
Voya Emerging Markets Hard Ccy Dbt P	3.7
Voya Securitized Credit P	3.3
Future on U.S. Treasury Bond	3.0
Voya Emerging Markets Corporate Debt P	2.6
Federal National Mortgage Association 3%	2.0
Voya High Yield Bond P	1.9
Voya Emerging Markets Local Ccy Dbt P	1.7
Future on US 10 Year Note (CBT)	1.4
United States Treasury Notes 0.25%	1.4
2 Year Treasury Note Future Mar20	1.3
Federal National Mortgage Association 3.5%	0.9
Federal Home Loan Mortgage Corporation 4.5%	0.8

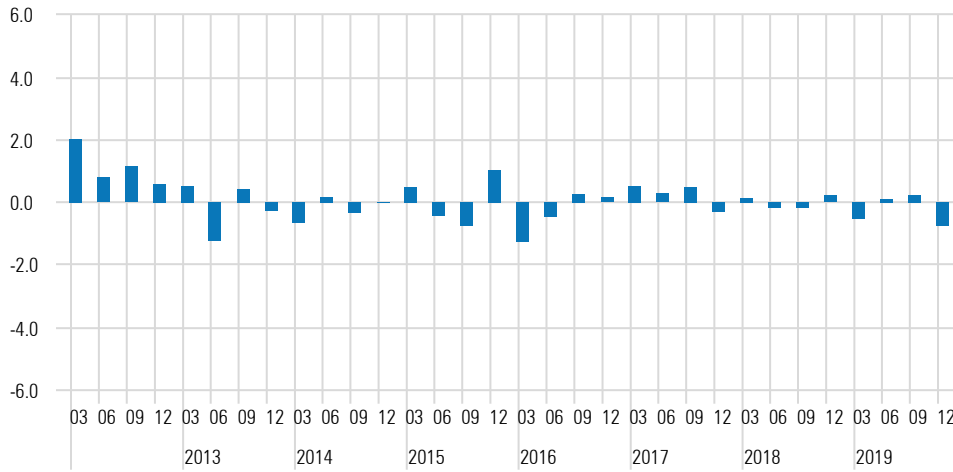
# Performance Analysis

## PIMCO Total Return Instl

### Quarterly Return +/- Index

Time Period: 1/1/2012 to 12/31/2019

Rolling Window: 3 Months 3 Months shift

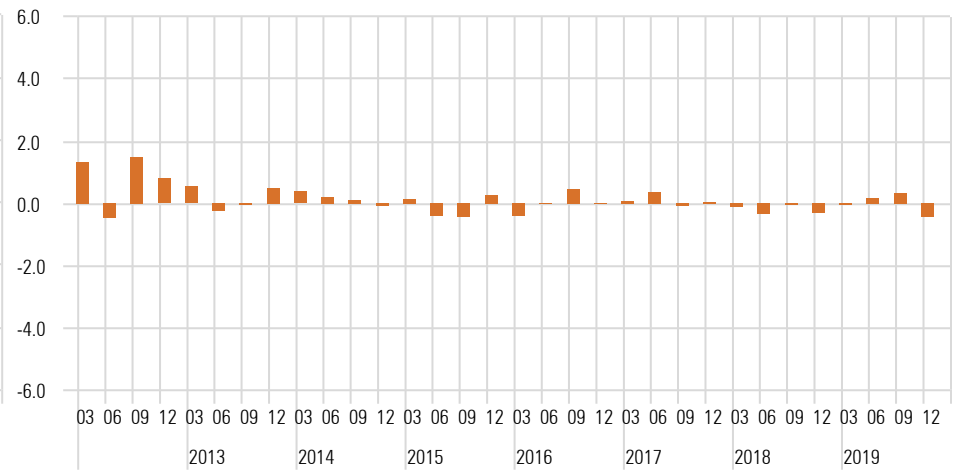


## Voya Intermediate Bond Port A

### Quarterly Return +/- Index

Time Period: 1/1/2012 to 12/31/2019

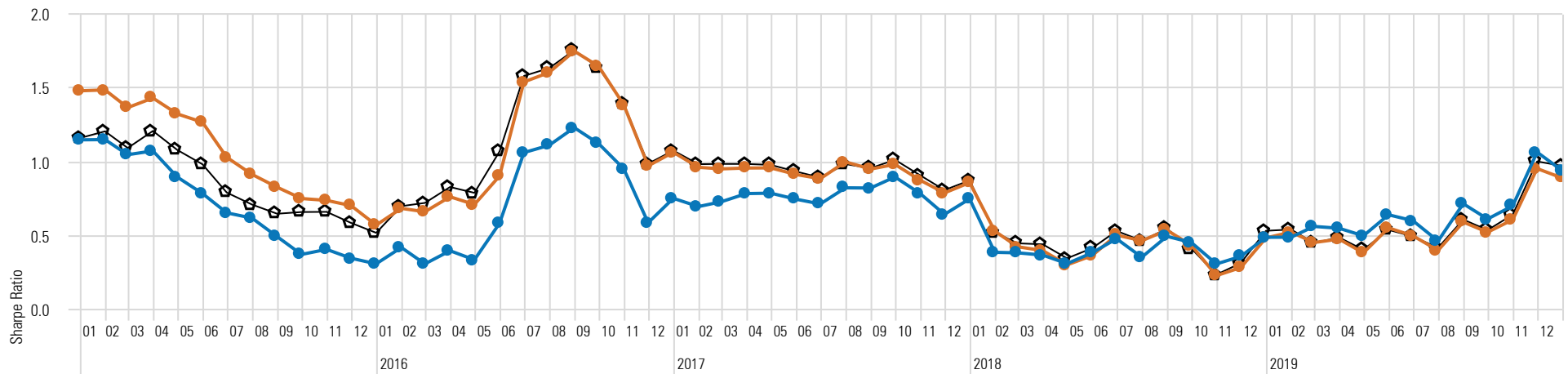
Rolling Window: 3 Months 3 Months shift



### Rolling 3 Year Sharpe Ratio

Time Period: 1/1/2012 to 12/31/2019

Rolling Window: 3 Years 1 Month shift



— PIMCO Total Return Instl

— Voya Intermediate Bond Port A

— BBgBarc US Universal TR USD

## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Intermediate Core-Plus Bond</b>																		
PIMCO Total Return Instl	-0.3	<b>94</b>	<b>-0.75</b>	8.3	<b>75</b>	<b>-1.03</b>	8.3	<b>75</b>	<b>-1.03</b>	4.3	<b>35</b>	0.01	3.2	<b>43</b>	<b>-0.19</b>	4.2	<b>56</b>	0.06
Voya Intermediate Bond Port A	0.0	<b>80</b>	<b>-0.43</b>	9.3	<b>48</b>	0.00	9.3	<b>48</b>	0.00	4.2	<b>45</b>	<b>-0.14</b>	3.3	<b>42</b>	<b>-0.17</b>	4.6	<b>27</b>	0.52
BBgBarc US Universal TR USD	0.5			9.3			9.3			4.3			3.4			4.1		
Average	0.3			9.0			9.0			4.1			3.1			4.3		

## Performance Summary - Calendar Year Periods

	2019			2018			2017			2016			2015			2014			2013		
	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Intermediate Core-Plus Bond</b>																					
PIMCO Total Return Instl	8.3	<b>75</b>	<b>-1.03</b>	-0.3	<b>27</b>	<b>-0.01</b>	5.1	<b>20</b>	1.04	2.6	<b>82</b>	<b>-1.31</b>	0.7	<b>12</b>	0.30	4.7	<b>75</b>	<b>-0.86</b>	-1.9	<b>82</b>	<b>-0.58</b>
Voya Intermediate Bond Port A	9.3	<b>48</b>	0.00	-1.1	<b>62</b>	<b>-0.82</b>	4.5	<b>38</b>	0.44	3.9	<b>49</b>	0.01	0.0	<b>42</b>	<b>-0.44</b>	6.2	<b>28</b>	0.65	-0.6	<b>39</b>	0.73
BBgBarc US Universal TR USD	9.3			-0.3			4.1			3.9			0.4			5.6			-1.3		
Average	9.0			-0.7			4.3			4.0			-0.5			5.5			-0.8		

# PIMCO Total Return Instl

PTTRX

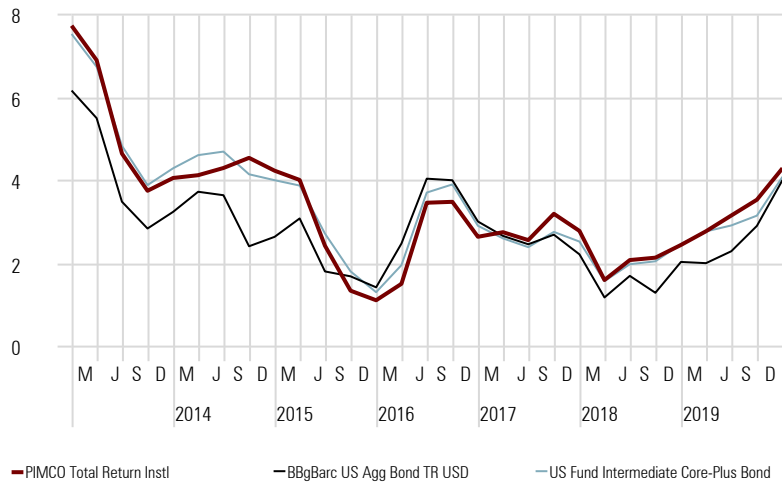
**Index:** BBgBarc US Agg Bond TR USD  
**Category:** US Fund Intermediate Core-Plus Bond  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: BBgBarc US Agg Bond TR USD

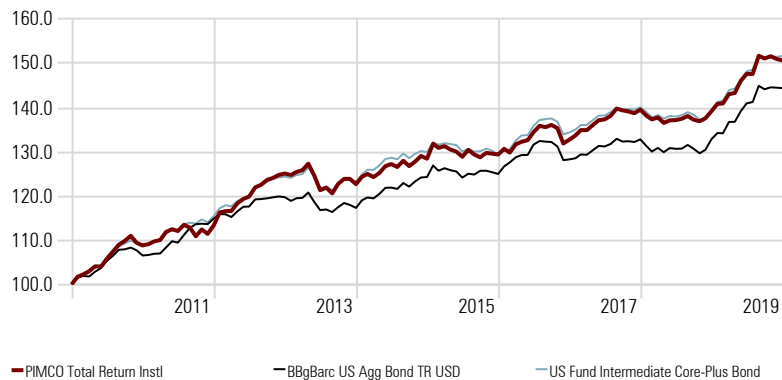
	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
PIMCO Total Return Instl	8.3	8.3	4.3	3.2	4.2	5.1
BBgBarc US Agg Bond TR USD	8.7	8.7	4.0	3.0	3.7	4.2
US Fund Intermediate Core-Plus Bond	8.9	8.9	4.1	3.1	4.3	4.3

## Returns (Rolling 36 Months)



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019

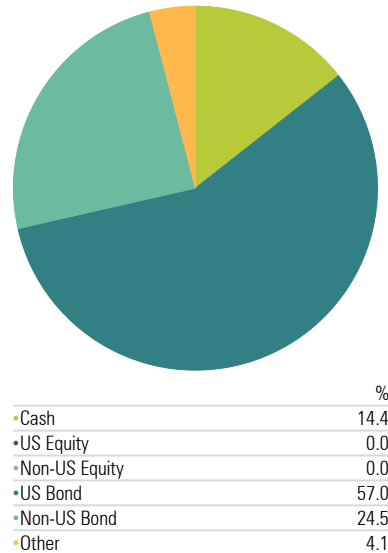


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.71	0.80	
Gross Expense Ratio	0.71	1.14	

## Asset Allocation

Portfolio Date: 12/31/2019

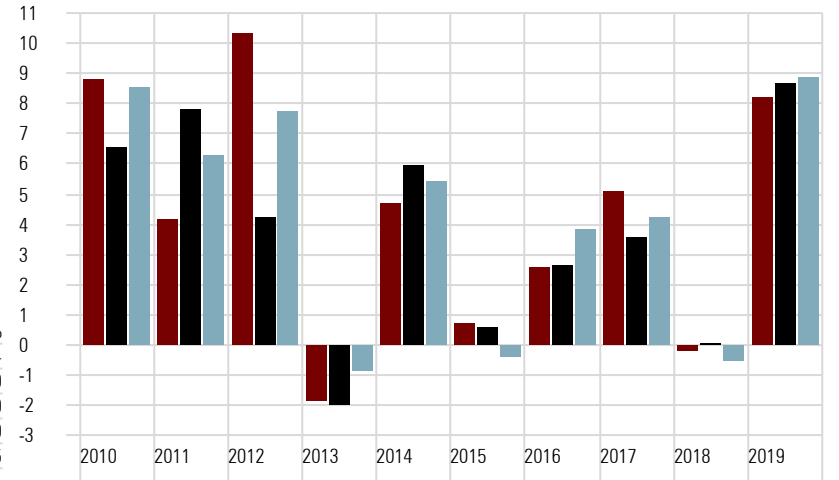


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: BBgBarc US Agg Bond TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
PIMCO Total Return Instl	65.8	34.2	2.8	-2.6	3.8	-3.6	108.1	102.3
BBgBarc US Agg Bond TR USD	65.0	35.0	2.6	-2.4	3.8	-3.0	100.0	100.0
US Fund Intermediate Core-Plus Bond	70.0	30.0	2.1	-2.2	3.5	-2.6	100.7	79.8

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	2.7	0.3	3.1	0.5
Down Deviation	0.6	0.0	1.0	0.3
Beta	0.9	0.1	0.9	0.1
Alpha	0.5	0.0	0.3	-0.1
Sharpe	0.9	0.0	0.7	-0.1
Sortino	2.0	0.1	1.2	-0.1
Info Ratio	0.3	0.2	0.1	0.1
Down Capture	80.7	10.4	90.6	12.1
Up Capture	98.2	6.8	99.2	7.4

## Top 10 Holdings

	Fund %
5 Year Treasury Note Future Mar 20	28.5
Fin Fut Eur-Bund 10yr Eux 03/06/20	10.9
Federal National Mortgage Association 3%	8.5
Pimco Fds	7.7
Fin Fut Eux Euro-Btp 03/06/20	7.4
Government National Mortgage Association 4%	7.2
10 Year Treasury Note Future Mar 20	6.3
Government National Mortgage Association 3.5%	3.4
Zcs Brl 5.96 11/26/19-01/02/23 Cme	3.4
Ultra US Treasury Bond Future Mar 20	2.9

# Inflation Linked Bonds

As of 12/31/2019



# US Fund Inflation-Protected Bond

## American Funds Inflation Linked Bd R6

### Investment Strategy

The investment seeks to provide inflation protection and income consistent with investment in inflation-linked securities. The fund seeks to provide inflation protection and income by investing primarily in inflation linked securities. Normally, at least 80% of the fund's assets will be invested in inflation linked bonds issued by U.S. and non-U.S. governments, their agencies or instrumentalities, and corporations. Inflation linked bonds are structured to protect against inflation by linking the bond's principal and interest payments to an inflation index so that principal and interest adjust to reflect changes in the index.

### Manager Biography

David A. Hoag since 12/14/2012

Ritchie Tuazon since 11/1/2013

### American Funds Inflation Linked Bd R6 - Operations

Inception Date	11/1/2013
Fund Size (\$mm)	6,460
Annual Report Net Expense Ratio	0.36
Prospectus Net Expense Ratio	0.36
Prospectus Gross Expense Ratio	0.36
Ticker	RILFX
Manager Tenure (Longest)	7.08
Manager Tenure (Average)	6.63
Morningstar Institutional Category	Inflation-Protected Bond

### Other Notes:

None

## American Century Short Dur Inf PrBd R

### Investment Strategy

The investment seeks total return using a strategy that seeks to protect against U.S. inflation. The fund normally invests at least 80% of its net assets in inflation-linked debt securities. It invests primarily in investment-grade securities, but may also invest a portion of its assets in high-yield securities, or junk bonds. The fund also may invest a portion of its net assets in fixed-income securities that are not linked to inflation. It may invest up to 20% of its total assets in securities denominated in foreign currencies and may invest beyond this limit in U.S. dollar denominated securities of foreign issuers.

### Manager Biography

Robert V. Gahagan since 5/31/2005

Brian Howell since 5/31/2006

James E. Platz since 9/28/2007

Miguel Castillo since 2/26/2014

### American Century Short Dur Inf PrBd R - Operations

Inception Date	5/31/2005
Fund Size (\$mm)	1,725
Annual Report Net Expense Ratio	1.07
Prospectus Net Expense Ratio	1.07
Prospectus Gross Expense Ratio	1.07
Ticker	APORX
Manager Tenure (Longest)	14.67
Manager Tenure (Average)	11.65
Morningstar Institutional Category	Inflation-Protected Bond

### Other Notes:

None



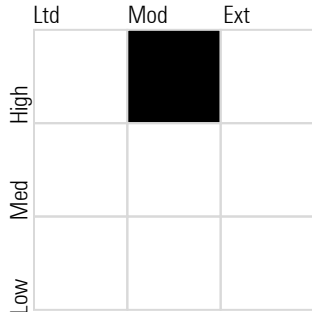
# Portfolio Analysis

## American Funds Inflation Linked Bd R6

### Style Allocation

Portfolio Date: 12/31/2019

#### Morningstar Fixed Income Style Box™



#### Credit Quality

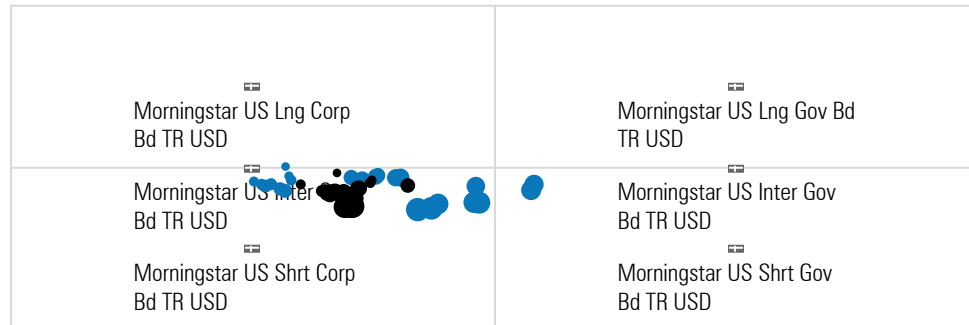
	%
Credit Qual AAA %	-
Credit Qual AA %	-
Credit Qual A %	-
Credit Qual BBB %	-
Credit Qual BB %	-
Credit Qual B %	-
Credit Qual Below B %	-
Credit Qual Not Rated %	-

### Portfolio Data

Average Credit Quality	AA
Average Eff Duration	5.4
Modified Duration	
Average Eff Maturity	
Average Coupon	0.8
Average Price	104.2
SEC Yield	2.6

### Returns-Based Style Map

Time Period: 1/1/2015 to 12/31/2019



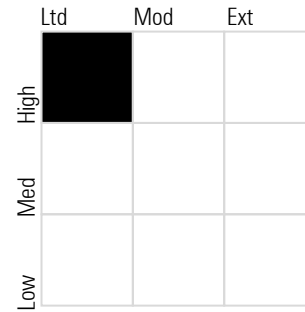
Source: Morningstar Direct

## American Century Short Dur Inf PrBd R

### Style Allocation

Portfolio Date: 12/31/2019

#### Morningstar Fixed Income Style Box™



#### Credit Quality

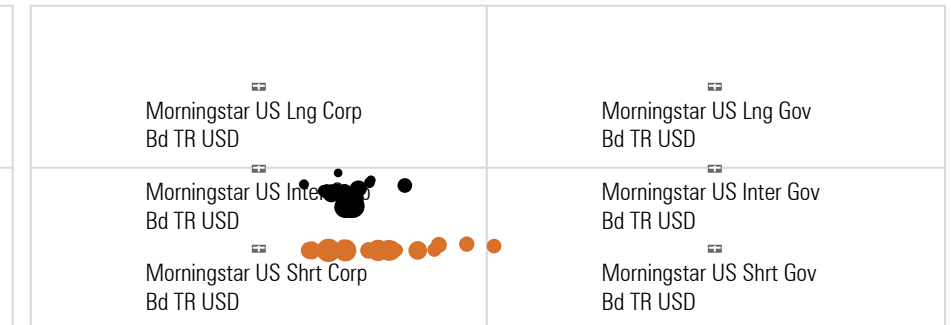
	%
Credit Qual AAA %	93.9
Credit Qual AA %	3.0
Credit Qual A %	1.0
Credit Qual BBB %	0.9
Credit Qual BB %	0.7
Credit Qual B %	0.1
Credit Qual Below B %	0.3
Credit Qual Not Rated %	0.2

### Portfolio Data

Average Credit Quality	AA
Average Eff Duration	2.8
Modified Duration	
Average Eff Maturity	2.7
Average Coupon	0.7
Average Price	101.6
SEC Yield	1.8

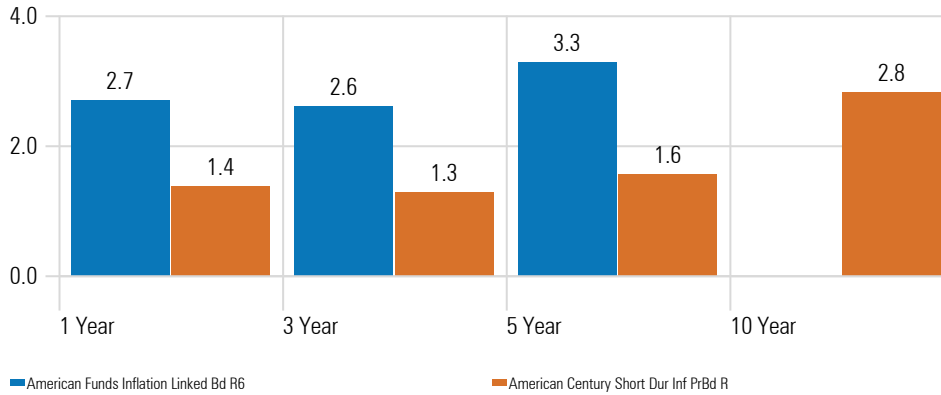
### Returns-Based Style Map

Time Period: 1/1/2015 to 12/31/2019



# Risk/Return Performance Analysis

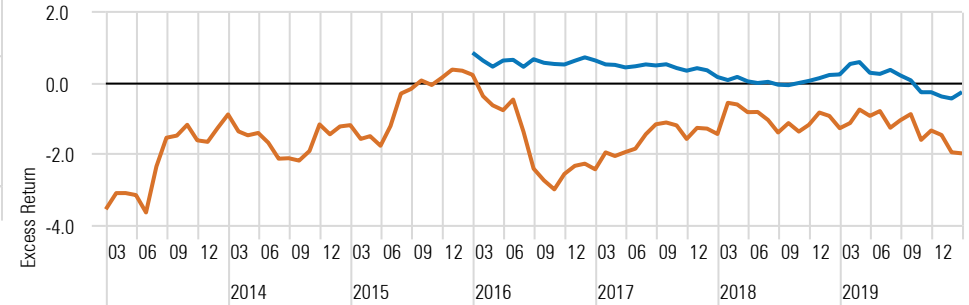
## Standard Deviation



## 3 Year Relative Rolling Returns

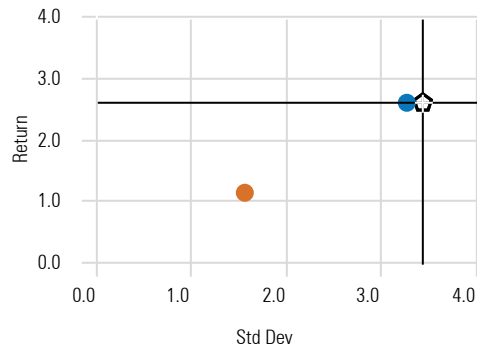
Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift



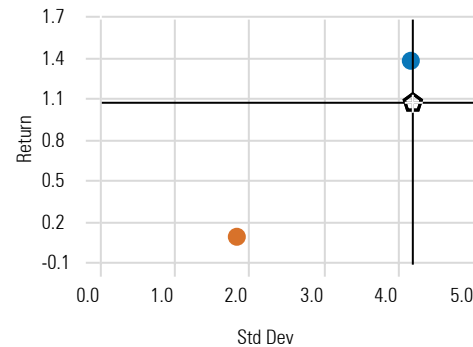
## 5 Year Risk-Reward

Time Period: 1/1/2015 to 12/31/2019



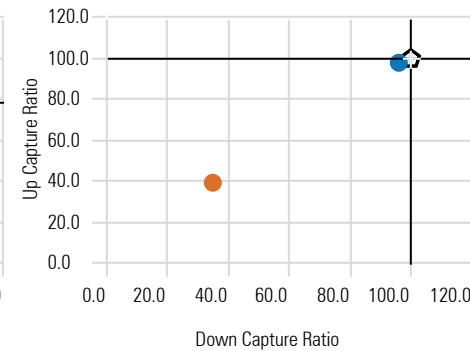
## 7 Year Risk-Reward

Time Period: 1/1/2013 to 12/31/2019



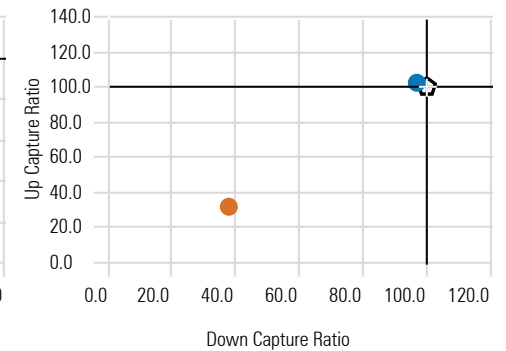
## 5 Year Market Capture

Time Period: 1/1/2015 to 12/31/2019



## 7 Year Market Capture

Time Period: 1/1/2013 to 12/31/2019



## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (12/1/2013) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
American Funds Inflation Linked Bd R6	2.7	3.5	0.3	0.93	93	4.0	-2.0	0.52	1.0
American Century Short Dur Inf PrBd R	0.5	1.7	-1.0	0.38	67	2.0	-1.8	-0.25	2.4
BBgBarc US Treasury US TIPS TR USD	2.5	3.6	0.0	1.00	100	4.5	-2.4	0.44	0.0
US Fund Inflation-Protected Bond	1.9	3.2	-0.4	0.86	97	3.6	-2.2	0.31	0.8

## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Inflation-Protected Bond</b>																		
American Funds Inflation Linked Bd R6	1.2	<b>18</b>	0.44	7.1	<b>57</b>	-1.37	7.1	<b>57</b>	-1.37	3.1	<b>27</b>	-0.24	2.6	<b>11</b>	-0.01			
American Century Short Dur Inf PrBd R	1.0	<b>48</b>	0.19	4.3	<b>99</b>	-4.13	4.3	<b>99</b>	-4.13	1.3	<b>97</b>	-1.97	1.1	<b>94</b>	-1.48	1.6	<b>89</b>	-1.72
BBgBarc US Treasury US TIPS TR USD	0.8			8.4			8.4			3.3			2.6			3.4		
Average	1.0			7.3			7.3			2.7			2.0			2.6		

## Performance Summary - Calendar Year Periods

	2019			2018			2017			2016			2015			2014			2013		
	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Inflation-Protected Bond</b>																					
American Funds Inflation Linked Bd R6	7.1	<b>57</b>	-1.37	-0.6	<b>15</b>	0.69	2.9	<b>35</b>	-0.13	4.9	<b>27</b>	0.19	-1.0	<b>16</b>	0.48	4.9	<b>7</b>	1.30	-7.7	<b>31</b>	0.86
American Century Short Dur Inf PrBd R	4.3	<b>99</b>	-4.13	-0.4	<b>12</b>	0.84	0.2	<b>99</b>	-2.78	2.8	<b>90</b>	-1.90	-1.1	<b>21</b>	0.36	-2.1	<b>93</b>	-5.75	-2.9	<b>21</b>	5.76
BBgBarc US Treasury US TIPS TR USD	8.4			-1.3			3.0			4.7			-1.4		3.6				-8.6		
Average	7.3			-1.6			2.5			4.4			-2.2		1.8				-7.1		

# American Funds Inflation Linked Bd R6

RILFX

Index: BBgBarc US Treasury US TIPS TR USD

Category: US Fund Inflation-Protected Bond

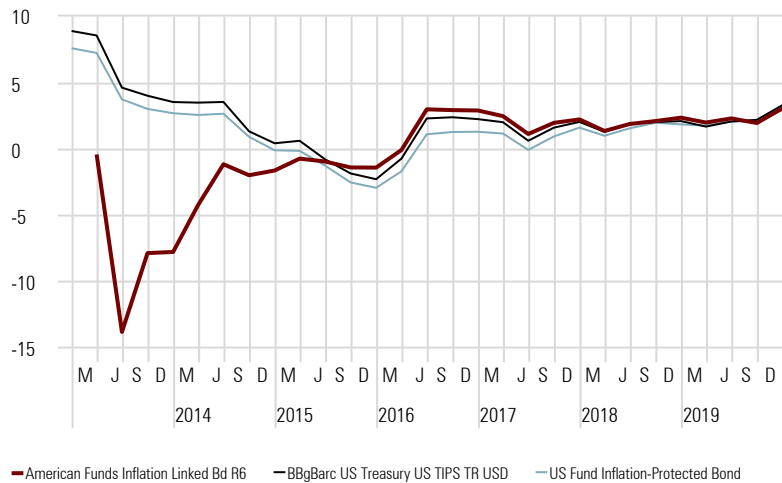
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: BBgBarc US Treasury US TIPS TR USD

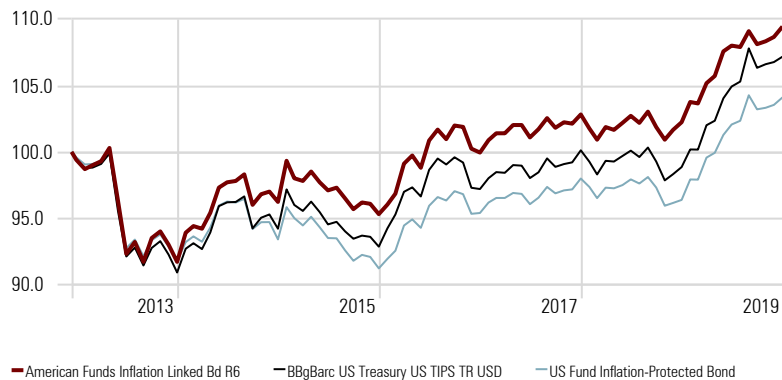
	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
American Funds Inflation Linked Bd R6	7.1	7.1	3.1	2.6	1.4	1.4
BBgBarc US Treasury US TIPS TR USD	8.4	8.4	3.3	2.6	3.4	3.8
US Fund Inflation-Protected Bond	8.0	8.0	3.0	2.2	2.7	3.0

## Returns (Rolling 36 Months)



## Investment Growth

Time Period: 12/15/2012 to 12/31/2019

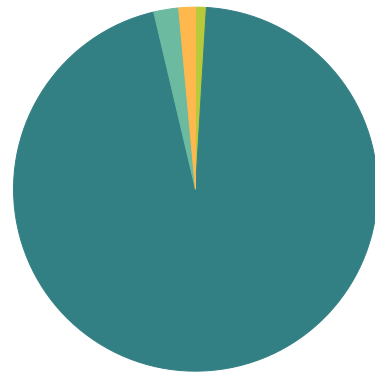


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.32	0.85	
Gross Expense Ratio	0.32	1.91	

## Asset Allocation

Portfolio Date: 12/31/2019



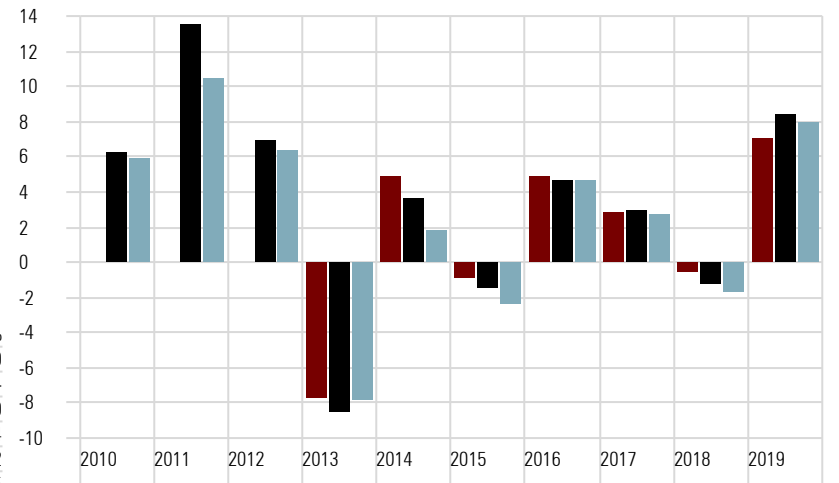
Cash	1.0	%
US Equity	-	
Non-US Equity	0.0	
US Bond	95.4	%
Non-US Bond	2.2	
Other	1.5	

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: BBgBarc US Treasury US TIPS TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
American Funds Inflation Linked Bd R6	59.5	40.5	3.2	-4.2	4.0	-7.0	102.4	96.6
BBgBarc US Treasury US TIPS TR USD	63.3	36.7	3.9	-4.4	4.5	-7.1	100.0	100.0
US Fund Inflation-Protected Bond	62.5	37.5	3.3	-3.9	3.6	-6.6	85.4	90.1

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	2.6	0.0	3.3	0.3
Down Deviation	0.9	0.4	0.8	0.2
Beta	0.8	0.0	0.9	0.1
Alpha	0.1	0.2	0.1	0.3
Sharpe	0.5	0.0	0.5	0.1
Sortino	0.8	0.0	0.8	0.2
Info Ratio	-0.2	0.4	0.0	0.5
Down Capture	92.0	9.3	95.9	7.6
Up Capture	92.5	6.3	97.6	11.1

## Top 10 Holdings

	Fund %
United States Treasury Notes 0.25%	11.2
United States Treasury Notes 0.38%	7.8
United States Treasury Bonds 1%	4.7
United States Treasury Notes 0.12%	4.5
United States Treasury Notes 0.25%	4.3
United States Treasury Notes 0.12%	4.3
United States Treasury Notes 0.5%	3.9
United States Treasury Notes 0.12%	3.9
United States Treasury Notes 0.62%	3.6
United States Treasury Bonds 2.38%	3.6

# High Yield

As of 12/31/2019



# US Fund High Yield Bond

## PGIM High Yield R6

### Investment Strategy

The investment seeks to maximize current income; and capital appreciation is a secondary objective. The fund normally invests at least 80% of its investable assets in a diversified portfolio of high yield fixed-income instruments rated Ba or lower by Moody's Investors Service (Moody's) or BB or lower by S&P Global Ratings (Standard & Poor's), and instruments either rated by another nationally recognized statistical rating organization (NRSRO), or considered to be of comparable quality, that is, junk bonds.

### Manager Biography

Robert Spano since 10/16/2007

Ryan Kelly since 2/29/2012

Brian Clapp since 6/1/2013

Daniel Thorogood since 3/5/2014

Robert Cignarella since 3/5/2014

### PGIM High Yield R6 - Operations

Inception Date	10/31/2011
Fund Size (\$mm)	12,020
Annual Report Net Expense Ratio	0.40
Prospectus Net Expense Ratio	0.40
Prospectus Gross Expense Ratio	0.40
Ticker	PHYQX
Manager Tenure (Longest)	12.25
Manager Tenure (Average)	7.68
Morningstar Institutional Category	High Yield Bond

### Other Notes:

None

## Columbia High Yield Bond R

### Investment Strategy

The investment seeks to provide shareholders with high current income as its primary objective and, as its secondary objective, capital growth. Under normal market conditions, the fund invests at least 80% of its net assets (including the amount of any borrowings for investment purposes) in high-yield debt instruments (commonly referred to as "junk" bonds or securities). It may invest up to 25% of its net assets in debt instruments of foreign issuers. The fund may invest in debt instruments of any maturity and does not seek to maintain a particular dollar-weighted average maturity.

### Manager Biography

Brian J. Lavin since 5/26/2010

Daniel J. DeYoung since 2/8/2019

### Columbia High Yield Bond R - Operations

Inception Date	12/11/2006
Fund Size (\$mm)	1,472
Annual Report Net Expense Ratio	1.29
Prospectus Net Expense Ratio	1.28
Prospectus Gross Expense Ratio	1.28
Ticker	CHBRX
Manager Tenure (Longest)	9.67
Manager Tenure (Average)	5.29
Morningstar Institutional Category	High Yield Bond

### Other Notes:

None

## PIMCO High Yield R

### Investment Strategy

The investment seeks maximum total return, consistent with preservation of capital and prudent investment management. The fund invests at least 80% of its assets in a diversified portfolio of high yield securities ("junk bonds"), which may be represented by forwards or derivatives. It may invest up to 20% of its total assets in securities rated Caa or below by Moody's, or equivalently rated by S&P or Fitch, or, if unrated, determined by PIMCO to be of comparable quality. The fund may invest, without limitation, in derivative instruments, such as options, futures contracts or swap agreements, or in mortgage- or asset-backed securities.

### Manager Biography

Andrew Jessop since 1/10/2010

Sonali Pier since 7/26/2019

### PIMCO High Yield R - Operations

Inception Date	12/31/2002
Fund Size (\$mm)	8,815
Annual Report Net Expense Ratio	1.19
Prospectus Net Expense Ratio	1.19
Prospectus Gross Expense Ratio	1.19
Ticker	PHYRX
Manager Tenure (Longest)	10.00
Manager Tenure (Average)	5.25
Morningstar Institutional Category	High Yield Bond

### Other Notes:

None

# Portfolio Analysis

## PGIM High Yield R6

## Columbia High Yield Bond R

## PIMCO High Yield R

### Style Allocation

Portfolio Date: 12/31/2019

Morningstar Fixed Income Style Box™			Credit Quality	%
Ltd	Mod	Ext		
			Credit Qual AAA %	10.0
			Credit Qual AA %	0.0
			Credit Qual A %	0.0
			Credit Qual BBB %	3.6
			Credit Qual BB %	35.4
			Credit Qual B %	39.1
			Credit Qual Below B %	11.2
			Credit Qual Not Rated %	0.8

### Style Allocation

Portfolio Date: 9/30/2019

Morningstar Fixed Income Style Box™			Credit Quality	%
Ltd	Mod	Ext		
			Credit Qual AAA %	3.8
			Credit Qual AA %	0.0
			Credit Qual A %	0.0
			Credit Qual BBB %	0.7
			Credit Qual BB %	32.8
			Credit Qual B %	49.9
			Credit Qual Below B %	12.8
			Credit Qual Not Rated %	0.0

### Style Allocation

Portfolio Date: 9/30/2019

Morningstar Fixed Income Style Box™			Credit Quality	%
Ltd	Mod	Ext		
			Credit Qual AAA %	1.0
			Credit Qual AA %	0.0
			Credit Qual A %	5.0
			Credit Qual BBB %	10.0
			Credit Qual BB %	35.0
			Credit Qual B %	34.0
			Credit Qual Below B %	15.0
			Credit Qual Not Rated %	0.0

### Portfolio Data

Average Credit Quality	B
Average Eff Duration	3.3
Modified Duration	
Average Eff Maturity	
Average Coupon	6.7
Average Price	101.9
SEC Yield	6.3

### Portfolio Data

Average Credit Quality	B
Average Eff Duration	3.1
Modified Duration	4.8
Average Eff Maturity	4.0
Average Coupon	6.2
Average Price	105.0
SEC Yield	3.3

### Portfolio Data

Average Credit Quality	B
Average Eff Duration	2.9
Modified Duration	2.9
Average Eff Maturity	4.6
Average Coupon	5.8
Average Price	102.9
SEC Yield	3.0

### Returns-Based Style Map

Time Period: 1/1/2015 to 10/31/2019

Morningstar US Lng Corp Bd TR USD	Morningstar US Lng Gov Bd TR USD
Morningstar US Inter Corp Bd TR USD	Morningstar US Inter Gov Bd TR USD
Morningstar US Shrt Corp Bd TR USD	Morningstar US Shrt Gov Bd TR USD

### Returns-Based Style Map

Time Period: 1/1/2015 to 10/31/2019

Morningstar US Lng Corp Bd TR USD	Morningstar US Lng Gov Bd TR USD
Morningstar US Inter Corp Bd TR USD	Morningstar US Inter Gov Bd TR USD
Morningstar US Shrt Corp Bd TR USD	Morningstar US Shrt Gov Bd TR USD

### Returns-Based Style Map

Time Period: 1/1/2015 to 10/31/2019

Morningstar US Lng Corp Bd TR USD	Morningstar US Lng Gov Bd TR USD
Morningstar US Inter Corp Bd TR USD	Morningstar US Inter Gov Bd TR USD
Morningstar US Shrt Corp Bd TR USD	Morningstar US Shrt Gov Bd TR USD

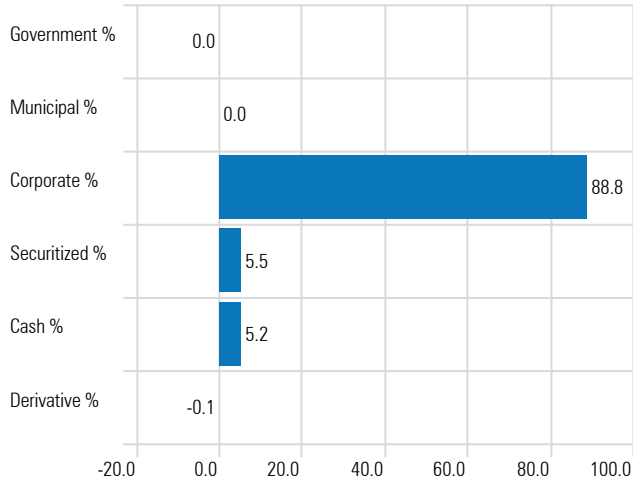
# Sector Exposure and Top 15 Holdings

## PGIM High Yield R6

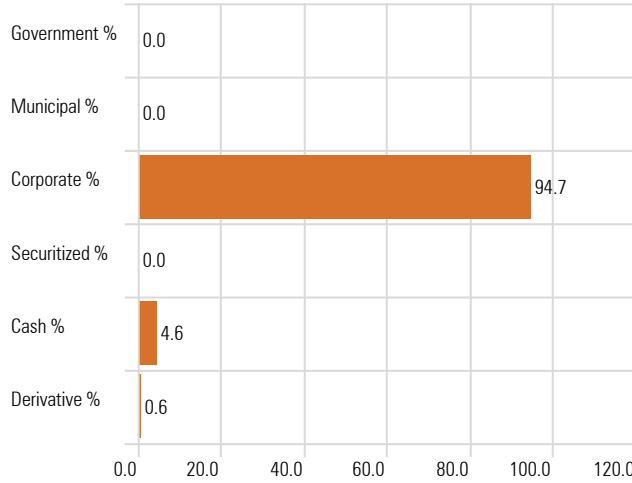
## Columbia High Yield Bond R

## PIMCO High Yield R

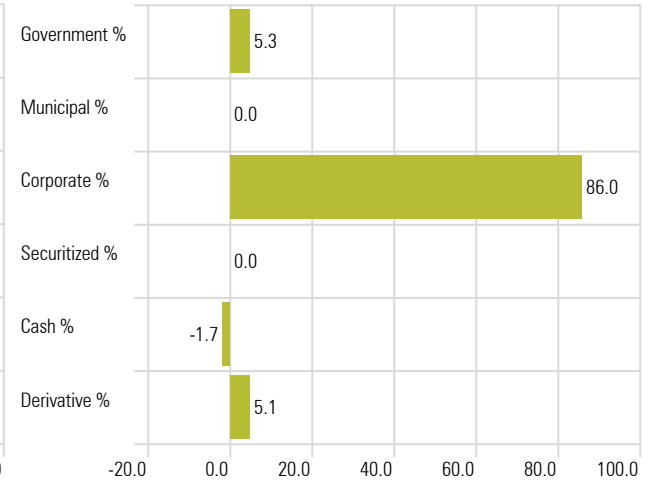
### Sector Allocation



### Sector Allocation



### Sector Allocation



■ PGIM High Yield R6

■ Columbia High Yield Bond R

■ PIMCO High Yield R

### PGIM High Yield R6 - Top Holdings

Portfolio Date: 12/31/2019

Company	Portfolio Weighting %
Clear Channel Worldwide Holdings Inc.	9.25%
Embarq Corporation	8%
Calpine Corporation	5.75%
Bombardier Inc.	7.88%
Financial & Risk US Holdings Inc	8.25%
Wand Merger Corporation	9.12%
DISH DBS Corporation	7.75%
Calpine Corporation	5.12%
Banff Merger Sub Inc	9.75%
Sprint Capital Corporation	8.75%
Chesapeake Energy Corp Term Loan Filo	
Intelsat Jackson Holdings, Ltd.	9.75%
MEG Energy Corporation	6.38%
LifePoint Health, Inc	9.75%
Xplornet Communications Inc	9.62%

### Columbia High Yield Bond R - Top Holdings

Portfolio Date: 9/30/2019

Company	Portfolio Weighting %
DISH DBS Corporation	7.75%
Targa Resources Partners LP/Targa Resources Finance Corporation	5%
CSC Holdings, LLC	6.5%
Element Solutions Inc	5.88%
TransDigm, Inc.	6.25%
CrownRock LP	5.62%
T-Mobile USA, Inc.	6.5%
DCP Midstream Operating, LP	5.6%
SBA Communications Corporation	4.88%
ALTICE FRANCE S.A	7.38%
NextEra Energy Operating Partners LP	4.5%
Ziggo Bond Finance B.V.	6%
TransDigm, Inc.	6.38%
Novelis Corporation	5.88%
Quicken Loans Inc.	5.75%

### PIMCO High Yield R - Top Holdings

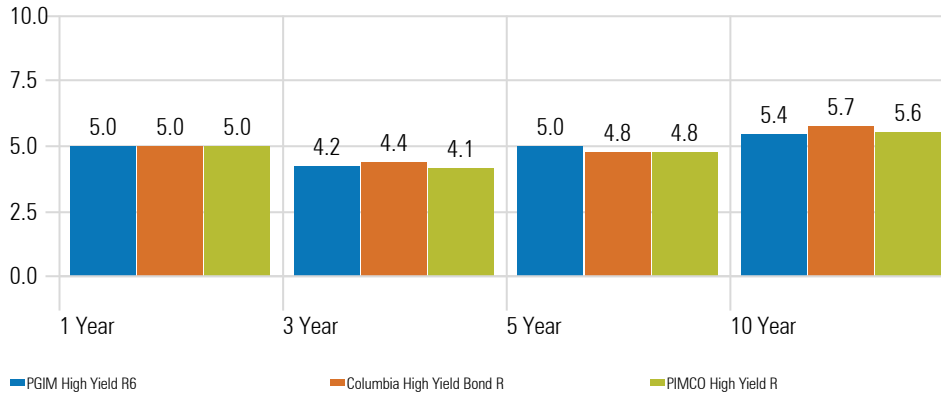
Portfolio Date: 9/30/2019

Company	Portfolio Weighting %
Cdx Hy32 5y Ice	2.8
Cdx Hy31 5y Ice	1.9
Pimco Fds	1.8
United States Treasury Notes	2.62%
United States Treasury Notes	2.12%
Crimson Merger Sub Inc / Ortho-Clinical Diagnostics SA	6.62%
United States Treasury Notes	2.75%
Trs Iboxhy/3ml Indx 12/20/19 Gst	0.6
Trs Iboxhy/3ml Indx 03/20/20 Bps	0.6
Sprint Corporation	7.88%
United States Treasury Notes	2%
Trs Iboxhy/3ml Indx 03/20/20 Brc	0.5
Jaguar Holding Co II/Pharmaceutical Product Development LLC	6.38%
Caesars Resort Collection LLC/CRC Finco Inc	5.25%
United States Treasury Notes	2.5%



# Risk/Return Performance Analysis

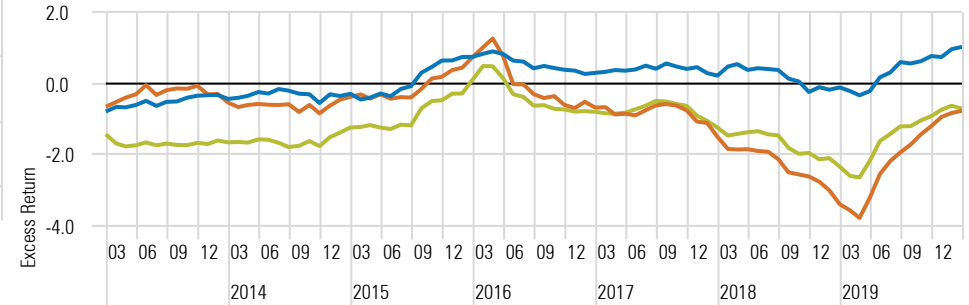
## Standard Deviation



## 3 Year Relative Rolling Returns

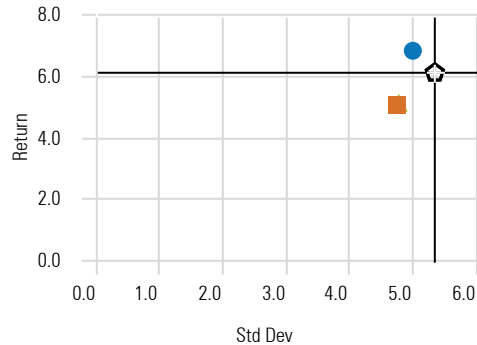
Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift



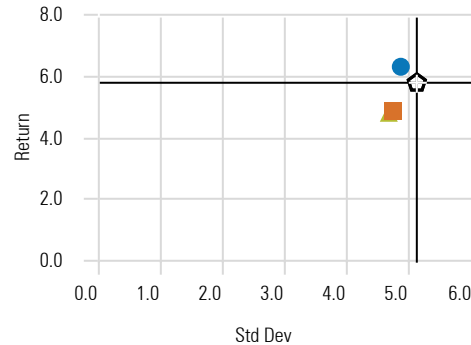
## 5 Year Risk-Reward

Time Period: 1/1/2015 to 12/31/2019



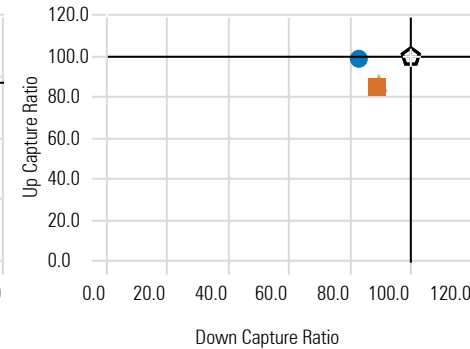
## 7 Year Risk-Reward

Time Period: 1/1/2013 to 12/31/2019



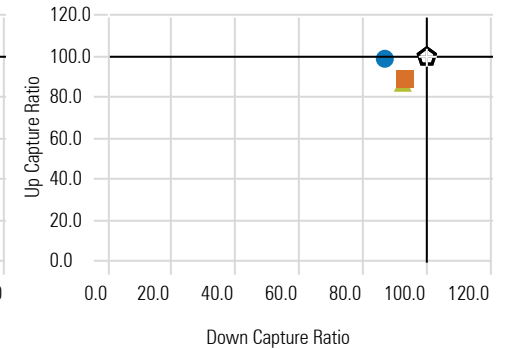
## 5 Year Market Capture

Time Period: 1/1/2015 to 12/31/2019



## 7 Year Market Capture

Time Period: 1/1/2013 to 12/31/2019



## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (11/1/2011) to 12/31/2019

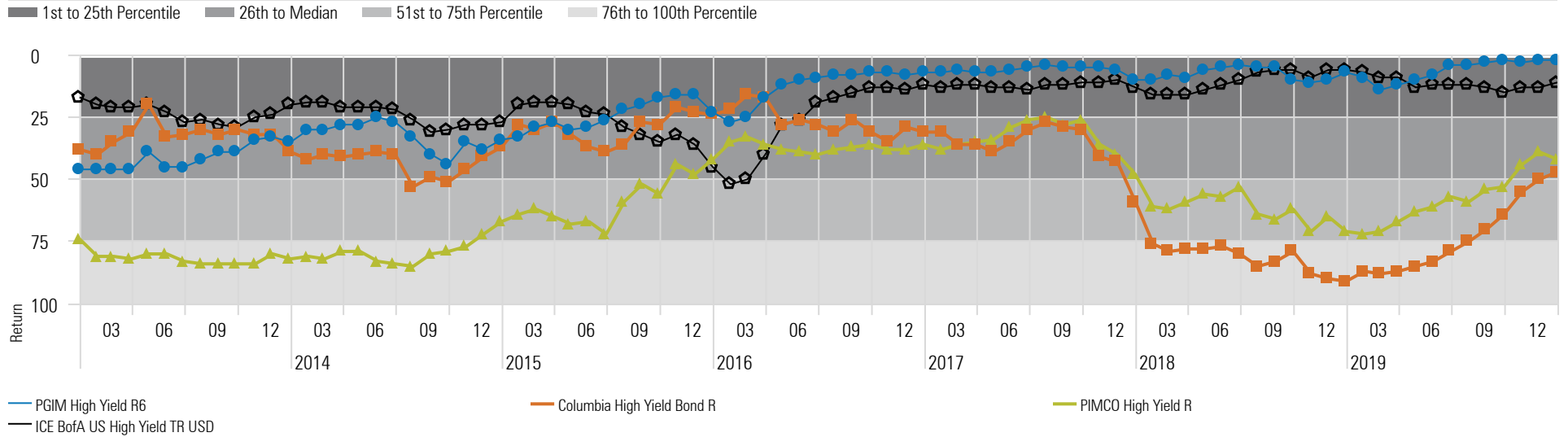
	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
PGIM High Yield R6	7.3	4.9	0.8	0.94	98	7.2	-4.1	1.35	0.8
Columbia High Yield Bond R	6.1	4.9	-0.2	0.92	90	7.6	-5.0	1.09	1.6
PIMCO High Yield R	5.8	4.8	-0.4	0.90	95	7.3	-4.3	1.07	1.2
ICE BofA US High Yield TR USD	6.8	5.1	0.0	1.00	100	7.4	-4.9	1.20	0.0
US Fund High Yield Bond	5.7	4.6	-0.5	0.90	99	6.3	-4.5	1.07	0.7

# Rolling Peer Group Rankings

## Rolling 3 Year Peer Group Rank

Time Period: 1/1/2010 to 12/31/2019

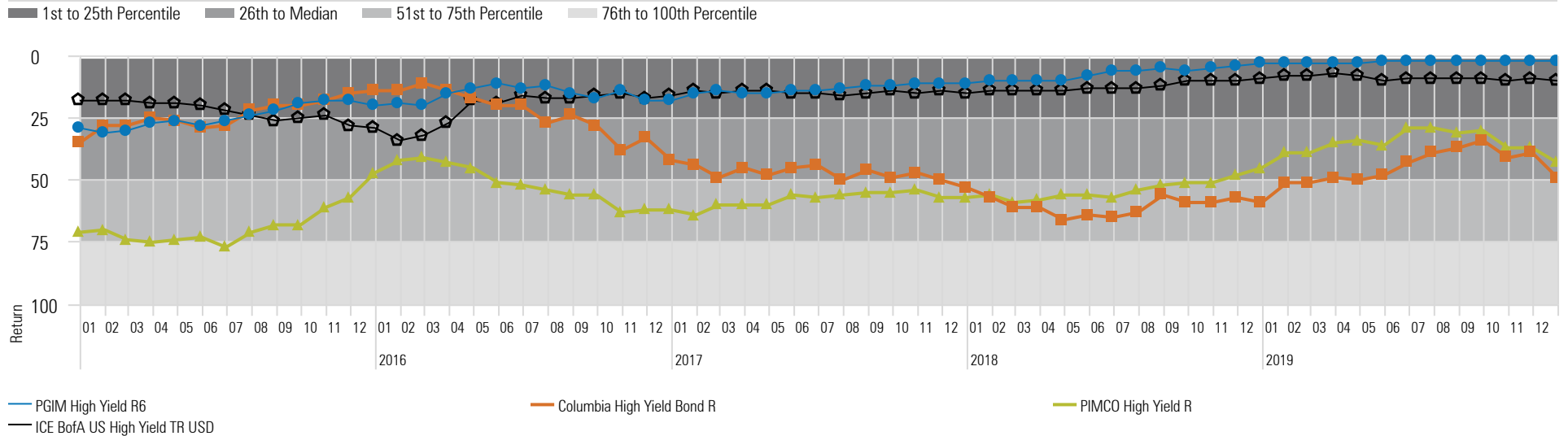
Rolling Window: 3 Years 1 Month shift



## Rolling 5 Year Peer Group Rank

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>High Yield Bond</b>																		
PGIM High Yield R6	3.1	11	0.48	16.3	5	1.94	16.3	5	1.94	7.4	2	0.99	6.8	2	0.71	7.6	7	0.08
Columbia High Yield Bond R	2.9	18	0.30	16.3	4	2.03	16.3	4	2.03	5.6	47	-0.81	5.1	49	-1.06	6.7	44	-0.88
PIMCO High Yield R	2.3	58	-0.27	14.3	35	-0.07	14.3	35	-0.07	5.6	42	-0.75	5.2	43	-0.95	6.4	60	-1.18
BBgBarc US Corporate High Yield TR USD	2.6			14.3			14.3			6.4			6.1			7.6		
Average	2.4			12.9			12.9			5.4			5.0			6.5		

## Performance Summary - Calendar Year Periods

	2019			2018			2017			2016			2015			2014			2013		
	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>High Yield Bond</b>																					
PGIM High Yield R6	16.3	5	1.94	-1.2	15	0.90	7.7	21	0.20	15.6	23	-1.52	-2.7	37	1.79	3.0	18	0.50	7.1	39	-0.30
Columbia High Yield Bond R	16.3	4	2.03	-4.6	87	-2.52	6.0	74	-1.54	10.8	82	-6.29	-1.8	23	2.71	3.4	13	0.97	5.6	75	-1.81
PIMCO High Yield R	14.3	35	-0.07	-3.1	55	-0.99	6.4	60	-1.13	12.0	74	-5.10	-2.4	34	2.03	2.7	21	0.24	5.1	86	-2.30
BBgBarc US Corporate High Yield TR USD	14.3			-2.1			7.5			17.1			-4.5		2.5				7.4		
Average	12.9			-2.8			6.7			13.6			-3.9		1.4				7.2		

# PGIM High Yield R6

PHYQX

Index: ICE BofA US High Yield TR USD

Category: US Fund High Yield Bond

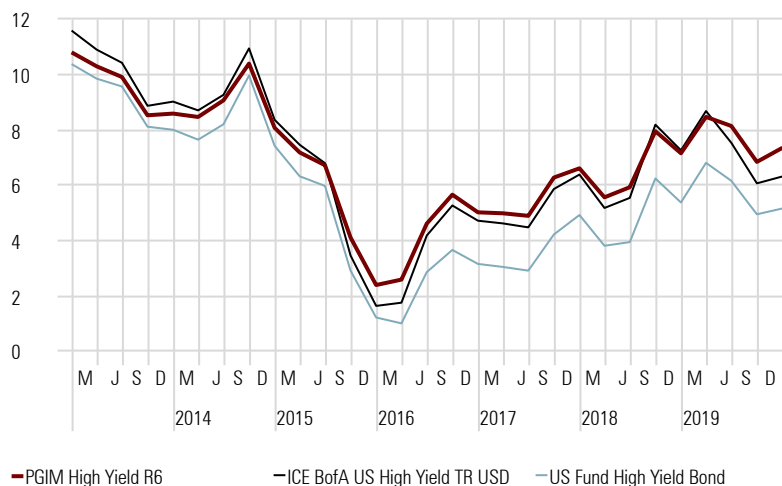
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: ICE BofA US High Yield TR USD

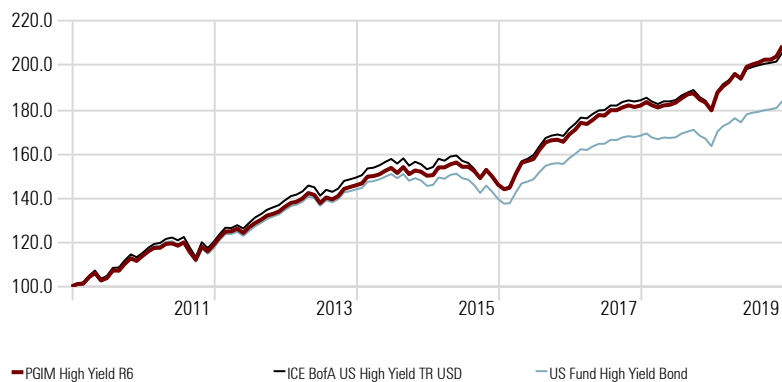
	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
PGIM High Yield R6	16.3	16.3	7.4	6.8	7.6	6.9
ICE BofA US High Yield TR USD	14.4	14.4	6.3	6.1	7.5	7.1
US Fund High Yield Bond	12.5	12.5	5.2	4.8	6.3	5.5

## Returns (Rolling 36 Months)



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019

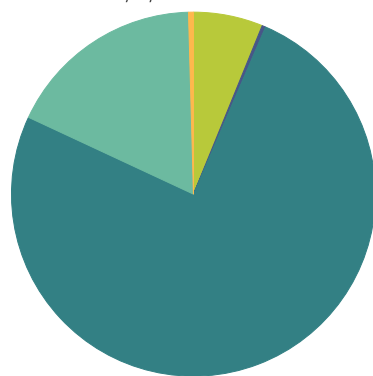


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.40	1.02	
Gross Expense Ratio	0.40	1.27	

## Asset Allocation

Portfolio Date: 1/31/2020



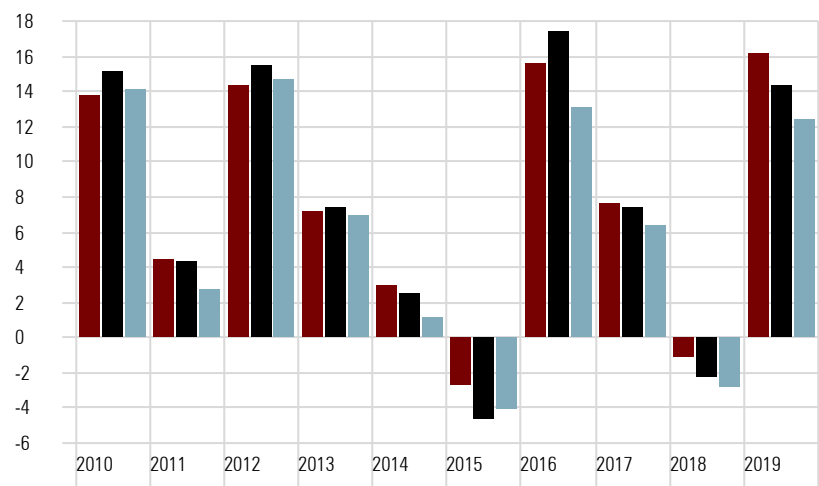
	%
Cash	6.2
US Equity	0.3
Non-US Equity	0.0
US Bond	75.5
Non-US Bond	17.6
Other	0.4

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: ICE BofA US High Yield TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
PGIM High Yield R6	71.7	28.3	5.2	-3.7	7.2	-5.4	96.2	87.7
ICE BofA US High Yield TR USD	71.7	28.3	6.0	-4.0	7.4	-6.3	100.0	100.0
US Fund High Yield Bond	71.7	28.3	5.5	-4.4	6.4	-6.6	88.7	95.9

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	4.2	0.5	5.0	0.4
Down Deviation	0.4	-0.2	0.6	-0.3
Beta	1.0	0.1	0.9	0.1
Alpha	1.0	1.6	1.0	1.7
Sharpe	1.3	0.4	1.1	0.3
Sortino	2.8	1.1	2.2	0.9
Info Ratio	1.5	3.6	0.8	2.3
Down Capture	88.5	-5.8	82.8	-7.7
Up Capture	107.5	21.7	99.1	15.6

## Top 10 Holdings

	Fund %
Clear Channel Worldwide Holdings Inc. 9.25%	1.3
Embarq Corporation 8%	1.1
Calpine Corporation 5.75%	1.0
Wand Merger Corporation 9.12%	0.9
Financial & Risk US Holdings Inc 8.25%	0.9
Bombardier Inc. 7.88%	0.9
Calpine Corporation 5.12%	0.9
Sprint Capital Corporation 8.75%	0.9
DISH DBS Corporation 7.75%	0.8
Banff Merger Sub Inc 9.75%	0.8

# Vanguard Total Intl Bond Index

As of 12/31/2019



# Vanguard Total Intl Bd Idx Admiral™

VTABX

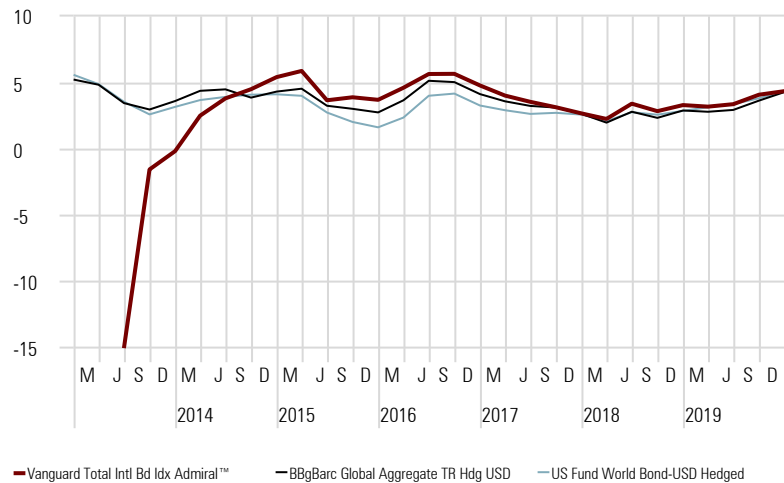
**Index:** BBgBarc Global Aggregate TR Hdg USD  
**Category:** US Fund World Bond-USD Hedged  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: BBgBarc Global Aggregate TR Hdg USD

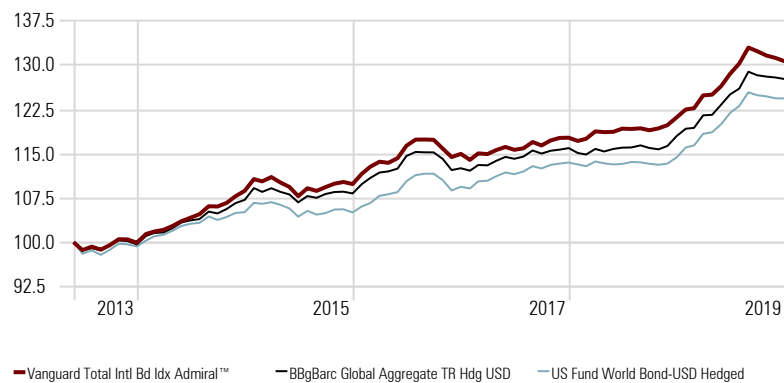
	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Total Intl Bd Idx Admiral™	7.9	7.9	4.4	3.8	4.2	4.2
BBgBarc Global Aggregate TR Hdg USD	8.2	8.2	4.3	3.6	4.1	4.3
US Fund World Bond-USD Hedged	8.7	8.7	4.4	3.4	3.9	3.9

## Returns (Rolling 36 Months)



## Investment Growth

Time Period: 6/1/2013 to 12/31/2019

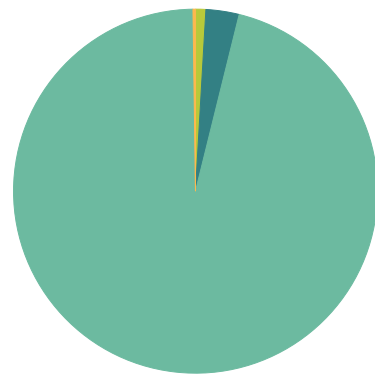


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.11	0.77	
Gross Expense Ratio	0.11	3.12	

## Asset Allocation

Portfolio Date: 1/31/2020



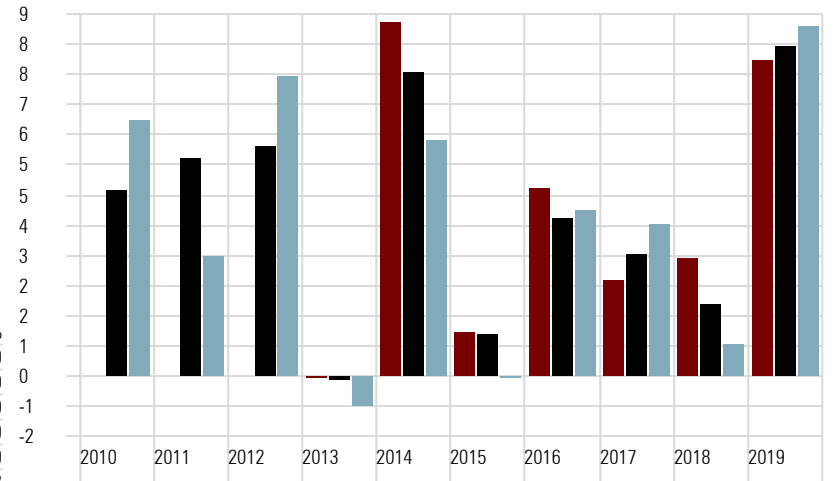
	%
Cash	0.9
US Equity	0.0
Non-US Equity	0.0
US Bond	2.9
Non-US Bond	95.9
Other	0.2

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: BBgBarc Global Aggregate TR Hdg USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Total Intl Bd Idx Admiral™	65.8	34.2	2.1	-1.4	3.4	-2.9	106.9	101.7
BBgBarc Global Aggregate TR Hdg USD	65.8	34.2	2.3	-1.7	3.3	-2.3	100.0	100.0
US Fund World Bond-USD Hedged	68.3	31.7	1.9	-2.0	3.5	-2.5	92.0	84.9

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	2.5	0.3	2.8	0.3
Down Deviation	0.6	0.0	0.5	-0.1
Beta	1.0	0.1	1.0	0.1
Alpha	0.2	-0.2	0.2	0.0
Sharpe	1.1	-0.1	0.9	0.0
Sortino	2.4	-0.9	1.8	0.0
Info Ratio	0.1	0.0	0.2	0.4
Down Capture	98.1	27.5	104.7	17.1
Up Capture	100.7	6.8	105.1	12.2

## Top 10 Holdings

	Fund %
Pfandbriefzentrale der schweizerischen Kantonalbanken AG	0.5%
Germany (Federal Republic Of)	0%
United Kingdom of Great Britain and Northern Ireland	1.625%
Ireland (Republic Of)	0.9%
France(Govt Of)	1.75%
Italy (Republic Of)	3%
France(Govt Of)	0%
Italy (Republic Of)	2.1%
Italy (Republic Of)	2.45%
Germany (Federal Republic Of)	0.25%

# Amana Participation

As of 12/31/2019



# Amana Participation Institutional

AMIPX

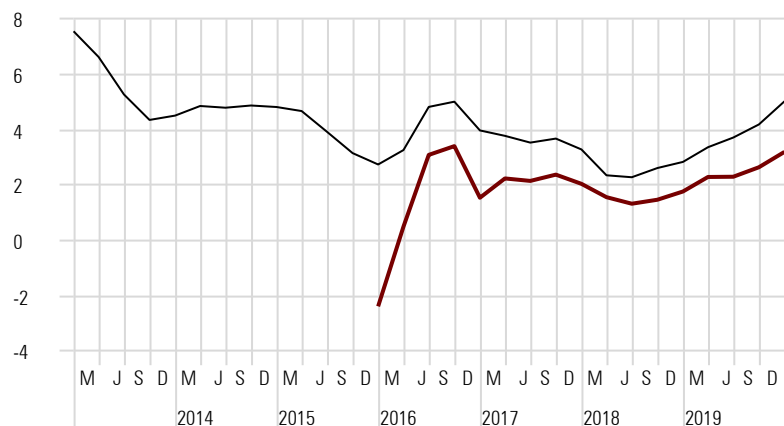
**Index:** FTSE Sukuk TR USD  
**Category:** US Fund Emerging Markets Bond  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: FTSE Sukuk TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Amana Participation Institutional	6.9	6.9	3.2	2.7	2.7	2.7
FTSE Sukuk TR USD	10.8	10.8	5.0	4.1	5.0	4.5

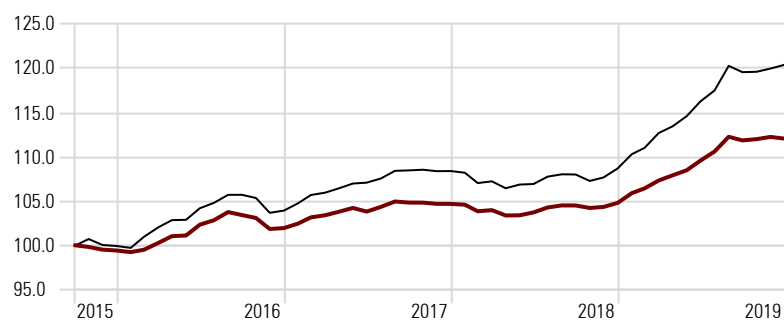
## Returns (Rolling 36 Months)



— Amana Participation Institutional — FTSE Sukuk TR USD

## Investment Growth

Time Period: 9/29/2015 to 12/31/2019



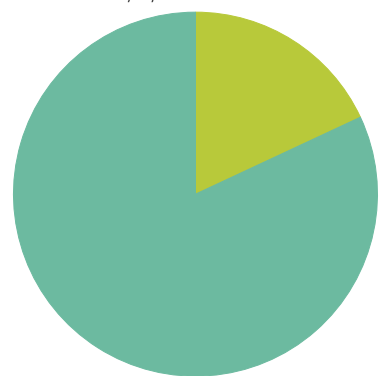
— Amana Participation Institutional — FTSE Sukuk TR USD

## Portfolio Characteristics

	Fund	Idx
Net Expense Ratio	0.64	
Gross Expense Ratio	0.64	

## Asset Allocation

Portfolio Date: 2/29/2020



	%
• Cash	18.1
• US Equity	-
• Non-US Equity	0.0
• US Bond	0.0
• Non-US Bond	81.9
• Other	0.0

## Risk Statistics

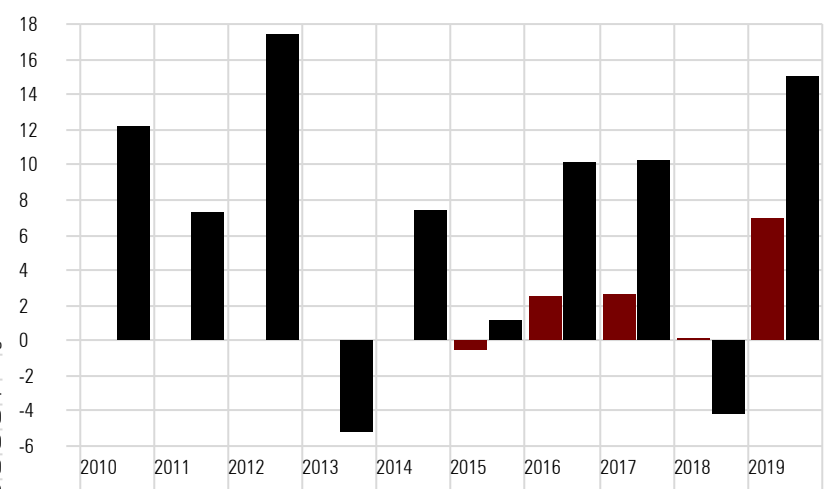
	3 Year	5 Year
Std Deviation	1.7	1.8
Down Deviation	1.0	1.1
Beta	0.7	0.7
Alpha	-0.6	-0.7
Sharpe	0.9	0.8
Sortino	1.7	1.4
Info Ratio	-1.9	-1.6
Down Capture	62.9	67.1
Up Capture	63.9	62.5

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: FTSE Sukuk TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Amana Participation Institutional	62.7	37.3	1.5	-1.2	2.4	-1.4	62.5	67.1
FTSE Sukuk TR USD	76.7	23.3	2.4	-2.3	3.7	-2.4	100.0	100.0

## Calendar Year Returns



## Top 10 Holdings

	Fund %
Soq Sukuk A Q.S.C 3.24%	4.5
KSA Sukuk Limited 3.63%	4.5
Icd Sukuk Co 5%	4.5
Almarai Co 4.31%	4.4
Difc Sukuk 4.32%	4.4
Qib Sukuk Ltd. 2.75%	4.2
Emg Sukuk 4.56%	4.0
Dp World Crescent Ltd Tr Ctf 3.91%	3.9
El Sukuk Company Limited 3.54	3.8
Dib Sukuk Co 2.92%	3.8



# Balanced Funds

As of 12/31/2019



# US Fund Allocation--50% to 70% Equity

## VY® T. Rowe Price Capital Apprec

### Investment Strategy

The investment seeks over the long-term, a high total investment return, consistent with the preservation of capital and with prudent investment risk. Under normal market conditions, the Portfolio pursues an active asset allocation strategy whereby investments are allocated among three asset classes: equity securities, debt instruments, and money market instruments. The Portfolio invests at least 50% of its total assets in common stocks. It may invest up to 15% of its total net assets in Rule 144A securities.

### Manager Biography

David R. Giroux since 7/31/2006

## American Funds American Balanced R2

### Investment Strategy

The investment seeks conservation of capital, current income and long-term growth of capital and income. The fund uses a balanced approach to invest in a broad range of securities, including common stocks and investment-grade bonds. It also invests in securities issued and guaranteed by the U.S. government and by federal agencies and instrumentalities. In addition, the fund may invest a portion of its assets in common stocks, most of which have a history of paying dividends, bonds and other securities of issuers domiciled outside the United States.

### Manager Biography

Hilda L. Appelbaum since 1/1/1999  
 Gregory D. Johnson since 3/1/2003  
 Alan N. Berro since 3/1/2006  
 James R. Mulally since 3/1/2006  
 Jeffrey T. Lager since 3/1/2011  
 Michael T. Kerr since 3/1/2014  
 Paul Benjamin since 7/2/2014  
 Alan J. Wilson since 1/23/2016  
 John R. Queen since 7/1/2016  
 Pramod Atluri since 3/1/2018

## Pax Sustainable Allocation Indiv Inv

### Investment Strategy

The investment seeks income and conservation of principal; as a secondary investment objective, the Balanced Fund seeks long-term growth of capital. The fund follows a multi-asset environmental, social and governance (ESG) strategy that invests in underlying funds that integrate ESG analysis into security selection and portfolio construction. The adviser normally expects to invest approximately 50-75% of its assets in equity securities and 25-50% of its assets in debt securities (including but not limited to debt securities convertible into equity securities).

### Manager Biography

Anthony Trzcinka since 12/31/2005

Nathan Moser since 1/2/2015

Peter Schwab since 9/30/2017

Andrew I. Braun since 9/30/2017

## VY® T. Rowe Price Capital Apprec A

### Investment Strategy

The investment seeks over the long-term, a high total investment return, consistent with the preservation of capital and with prudent investment risk. Under normal market conditions, the Portfolio pursues an active asset allocation strategy whereby investments are allocated among three asset classes: equity securities, debt instruments, and money market instruments. The Portfolio invests at least 50% of its total assets in common stocks. It may invest up to 15% of its total net assets in Rule 144A securities.

### Manager Biography

David R. Giroux since 7/31/2006

## VY® T. Rowe Price Capital Apprec I - O

Inception Date	5/2/2003
Fund Size (\$mm)	7,640
Annual Report Net Expense Ratio	0.64
Prospectus Net Expense Ratio	0.64
Prospectus Gross Expense Ratio	0.64
Ticker	ITRIX
Manager Tenure (Longest)	13.50
Manager Tenure (Average)	13.50
Morningstar Institutional Category	Flexible Allocation

### Other Notes:

None

## American Funds American Balanced R2 - C

Inception Date	5/21/2002
Fund Size (\$mm)	163,934
Annual Report Net Expense Ratio	1.37
Prospectus Net Expense Ratio	1.37
Prospectus Gross Expense Ratio	1.37
Ticker	RLBBX
Manager Tenure (Longest)	21.00
Manager Tenure (Average)	9.50
Morningstar Institutional Category	Moderate Allocation

### Other Notes:

None

## Pax Sustainable Allocation Indiv Inv - Ope

Inception Date	8/10/1971
Fund Size (\$mm)	1,915
Annual Report Net Expense Ratio	0.30
Prospectus Net Expense Ratio	0.91
Prospectus Gross Expense Ratio	0.91
Ticker	PAXWX
Manager Tenure (Longest)	14.08
Manager Tenure (Average)	5.94
Morningstar Institutional Category	Moderate Allocation

### Other Notes:

None

## VY® T. Rowe Price Capital Apprec A - Op

Inception Date	12/16/2003
Fund Size (\$mm)	7,640
Annual Report Net Expense Ratio	1.24
Prospectus Net Expense Ratio	1.24
Prospectus Gross Expense Ratio	1.24
Ticker	ITRAX
Manager Tenure (Longest)	13.50
Manager Tenure (Average)	13.50
Morningstar Institutional Category	Flexible Allocation

### Other Notes:

None

# Portfolio Analysis

VY® T. Rowe Price Capital Apprec

American Funds American Balanced R2

Pax Sustainable Allocation Indiv Inv

VY® T. Rowe Price Capital Apprec A

## Equity Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	12	33	44	Market Cap Giant %	34.1
				Market Cap Large %	54.8
Mid	3	2	6	Market Cap Mid %	11.1
				Market Cap Small %	0.0
Small	0	0	0	Market Cap Micro %	0.0

## Equity Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	26	40	28	Market Cap Giant %	62.6
				Market Cap Large %	31.5
Mid	2	2	2	Market Cap Mid %	5.9
				Market Cap Small %	0.0
Small	0	0	0	Market Cap Micro %	0.0

## Equity Style Allocation

Portfolio Date: 9/30/2019

	Value	Blend	Growth	Market Cap	%
Large	23	33	28	Market Cap Giant %	42.2
				Market Cap Large %	41.0
Mid	8	2	4	Market Cap Mid %	14.6
				Market Cap Small %	2.0
Small	1	1	1	Market Cap Micro %	0.3

## Equity Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	12	33	44	Market Cap Giant %	34.1
				Market Cap Large %	54.8
Mid	3	2	6	Market Cap Mid %	11.1
				Market Cap Small %	0.0
Small	0	0	0	Market Cap Micro %	0.0

## Fixed Income Stats

Portfolio Date: 12/31/2019

Morningstar Fixed Income Style Box™	Fixed-Income Stats	
Not Available	Average Eff Duration	-
	Average Eff Maturity	-
	Average Coupon	5.1
	Average Price	104.5

## Fixed Income Stats

Portfolio Date: 12/31/2019

Morningstar Fixed Income Style Box™	Fixed-Income Stats																	
<table border="1"> <tr> <td></td> <td>Ltd</td> <td>Mod</td> <td>Ext</td> </tr> <tr> <td>High</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Med</td> <td></td> <td>■</td> <td></td> </tr> <tr> <td>Low</td> <td></td> <td></td> <td></td> </tr> </table>		Ltd	Mod	Ext	High				Med		■		Low				Average Eff Duration	6.0
		Ltd	Mod	Ext														
	High																	
	Med		■															
Low																		
Average Eff Maturity	-																	
Average Coupon	3.1																	
Average Price	104.0																	

## Fixed Income Stats

Portfolio Date: 9/30/2019

Morningstar Fixed Income Style Box™	Fixed-Income Stats																	
<table border="1"> <tr> <td></td> <td>Ltd</td> <td>Mod</td> <td>Ext</td> </tr> <tr> <td>High</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Med</td> <td></td> <td>■</td> <td></td> </tr> <tr> <td>Low</td> <td></td> <td></td> <td></td> </tr> </table>		Ltd	Mod	Ext	High				Med		■		Low				Average Eff Duration	5.7
		Ltd	Mod	Ext														
	High																	
	Med		■															
Low																		
Average Eff Maturity	-																	
Average Coupon	3.5																	
Average Price	105.9																	

## Fixed Income Stats

Portfolio Date: 12/31/2019

Morningstar Fixed Income Style Box™	Fixed-Income Stats	
Not Available	Average Eff Duration	-
	Average Eff Maturity	-
	Average Coupon	5.1
	Average Price	104.5

## Portfolio Data

Average Market Cap (mil)	76,995
P/E Ratio (TTM)	34.4
P/B Ratio (TTM)	3.7
Debt to Capital % (trailing)	43.6
Asset Alloc US Equity %	58
Asset Alloc Non-US Equity %	4
Asset Alloc Bond %	21
Asset Alloc Cash %	11

## Portfolio Data

Average Market Cap (mil)	133,676
P/E Ratio (TTM)	22.1
P/B Ratio (TTM)	3.0
Debt to Capital % (trailing)	43.3
Asset Alloc US Equity %	55
Asset Alloc Non-US Equity %	10
Asset Alloc Bond %	31
Asset Alloc Cash %	4

## Portfolio Data

Average Market Cap (mil)	70,379
P/E Ratio (TTM)	19.4
P/B Ratio (TTM)	2.6
Debt to Capital % (trailing)	40.1
Asset Alloc US Equity %	47
Asset Alloc Non-US Equity %	9
Asset Alloc Bond %	38
Asset Alloc Cash %	6

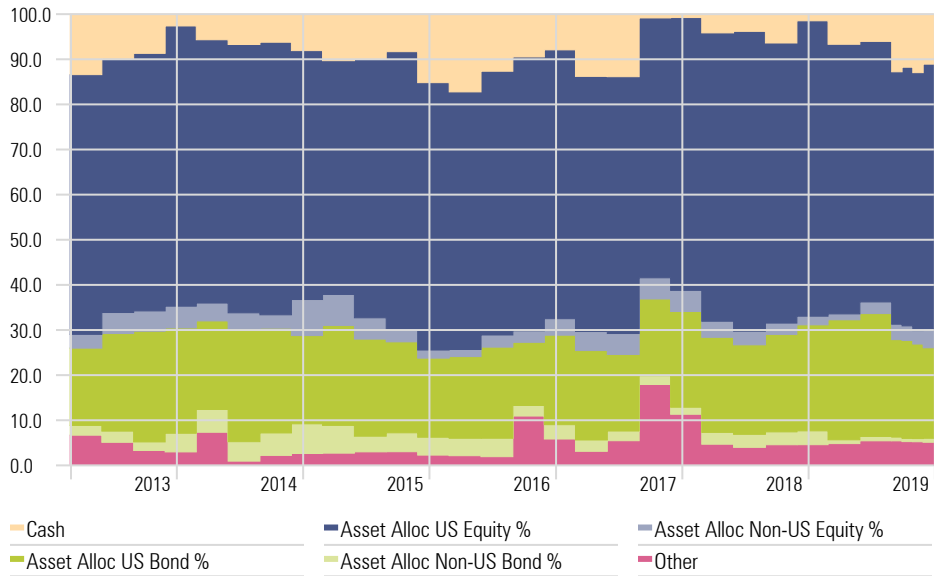
## Portfolio Data

Average Market Cap (mil)	76,995
P/E Ratio (TTM)	34.4
P/B Ratio (TTM)	3.7
Debt to Capital % (trailing)	43.6
Asset Alloc US Equity %	58
Asset Alloc Non-US Equity %	4
Asset Alloc Bond %	21
Asset Alloc Cash %	11

# Historical Asset Allocation

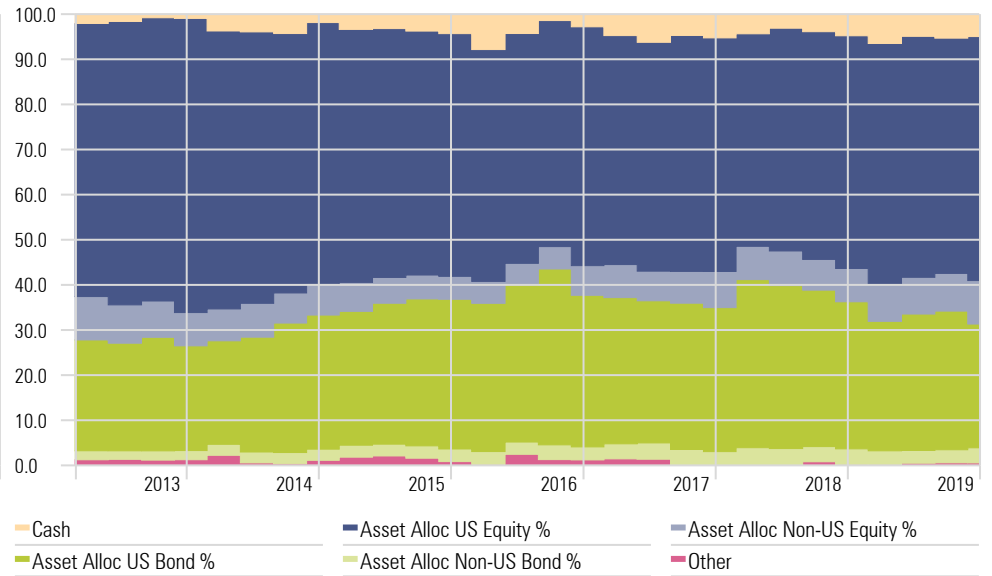
## VY® T. Rowe Price Capital Apprec I - Asset Allocation (US)

Time Period: 3/1/2013 to 12/31/2019



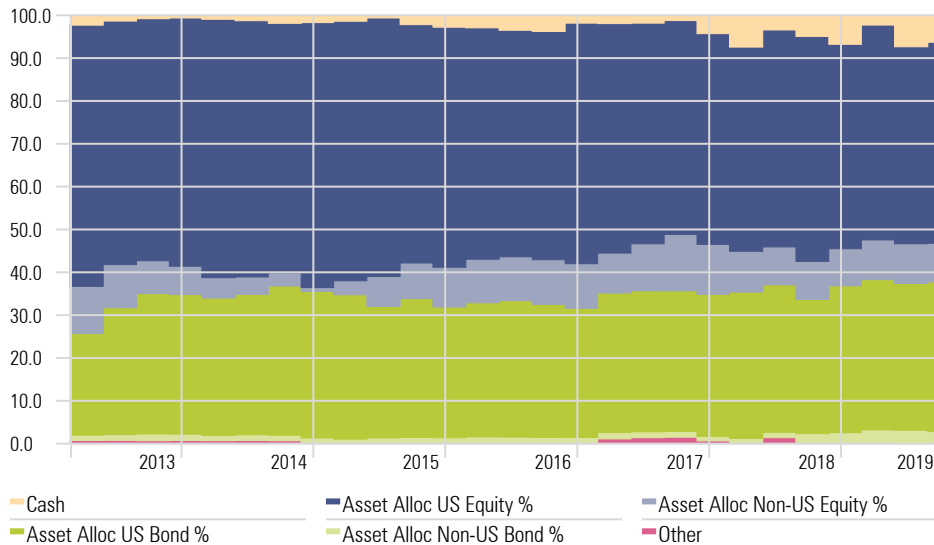
## American Funds American Balanced R2 - Asset Allocation (US)

Time Period: 3/1/2013 to 12/31/2019



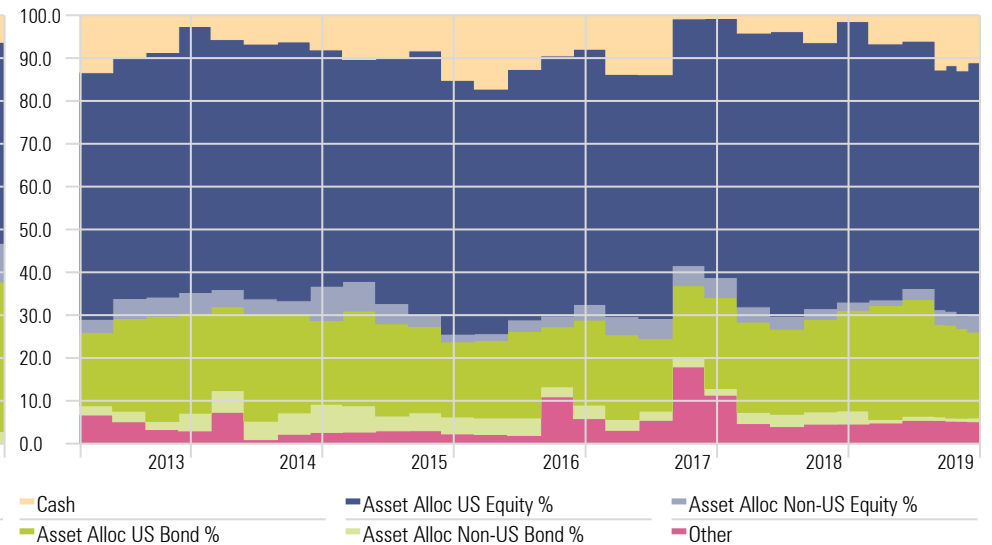
## Pax Sustainable Allocation Indiv Inv - Asset Allocation (US)

Time Period: 3/1/2013 to 9/30/2019



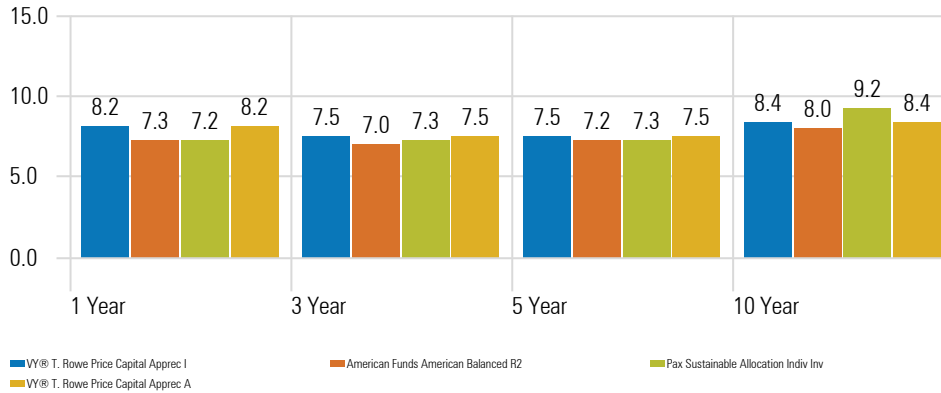
## VY® T. Rowe Price Capital Apprec A - Asset Allocation (US)

Time Period: 3/1/2013 to 12/31/2019



# Risk/Return Performance Analysis

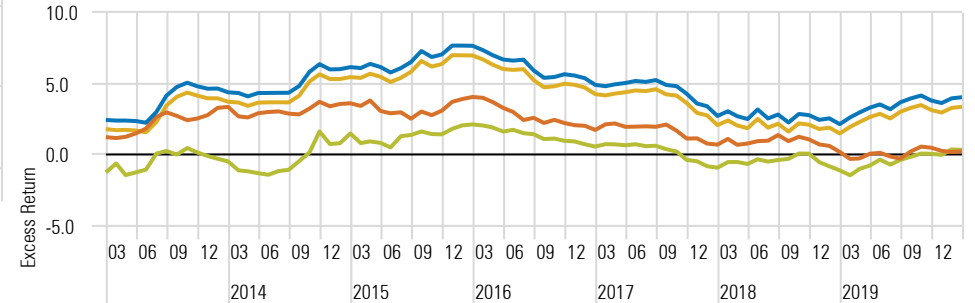
## Standard Deviation



## 3 Year Relative Rolling Returns

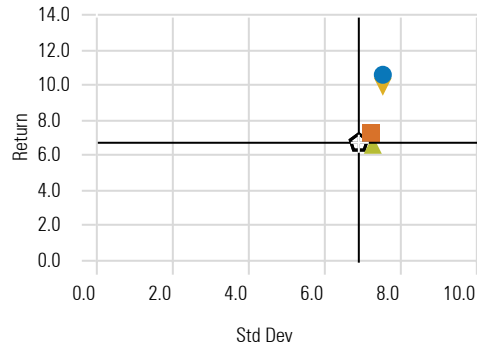
Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift



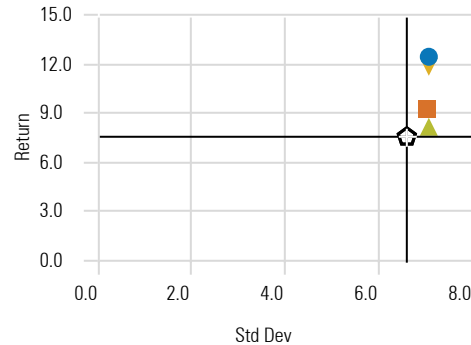
## 5 Year Risk-Reward

Time Period: 1/1/2015 to 12/31/2019



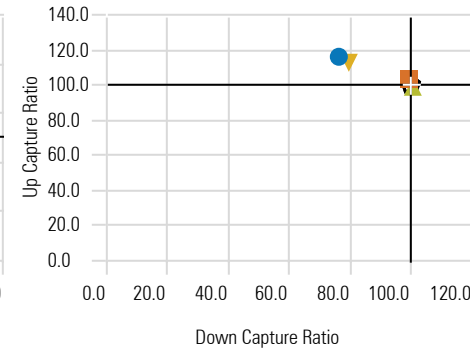
## 7 Year Risk-Reward

Time Period: 1/1/2013 to 12/31/2019



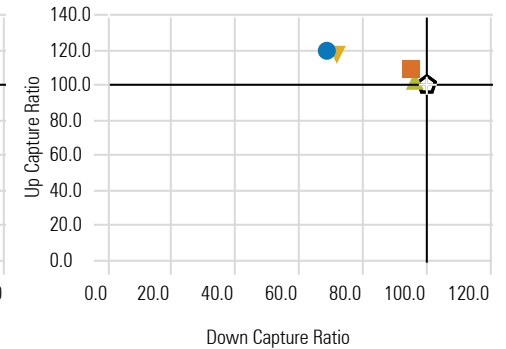
## 5 Year Market Capture

Time Period: 1/1/2015 to 12/31/2019



## 7 Year Market Capture

Time Period: 1/1/2013 to 12/31/2019



## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (1/1/2004) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
VY® T. Rowe Price Capital Apprec I	9.9	10.3	2.2	1.14	90	18.6	-19.0	0.83	3.5
American Funds American Balanced R2	6.6	8.9	-0.3	1.00	93	11.5	-14.6	0.59	2.3
Pax Sustainable Allocation Indiv Inv	6.1	10.0	-1.3	1.12	93	10.7	-16.8	0.47	2.8
VY® T. Rowe Price Capital Apprec A	9.3	10.3	1.6	1.14	90	18.4	-19.2	0.77	3.5
Morningstar Mod Tgt Risk TR USD	6.9	8.6	0.0	1.00	100	12.4	-11.5	0.64	0.0
US Fund Allocation--50% to 70% Equity	5.8	9.2	-1.4	1.06	98	13.2	-15.1	0.48	1.3

# Performance Analysis

VY® T. Rowe Price Capital Apprec I

American Funds American Balanced R2

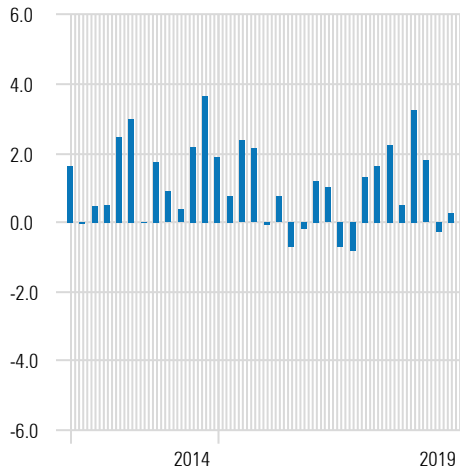
Pax Sustainable Allocation Indiv Inv

VY® T. Rowe Price Capital Apprec A

## Quarterly Return +/- Index

Time Period: 1/1/2012 to 12/31/2019

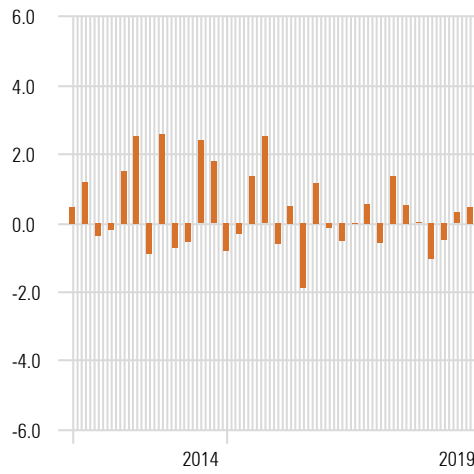
Rolling Window: 3 Months 3 Months shift



## Quarterly Return +/- Index

Time Period: 1/1/2012 to 12/31/2019

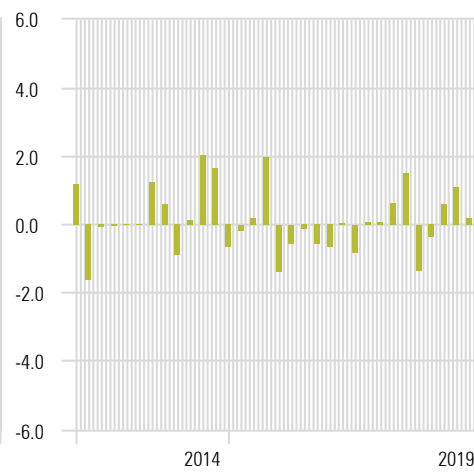
Rolling Window: 3 Months 3 Months shift



## Quarterly Return +/- Index

Time Period: 1/1/2012 to 12/31/2019

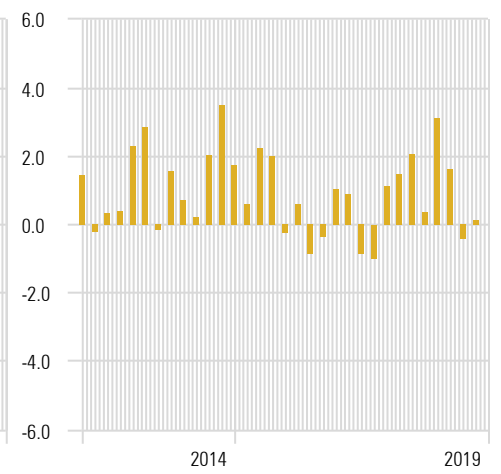
Rolling Window: 3 Months 3 Months shift



## Quarterly Return +/- Index

Time Period: 1/1/2012 to 12/31/2019

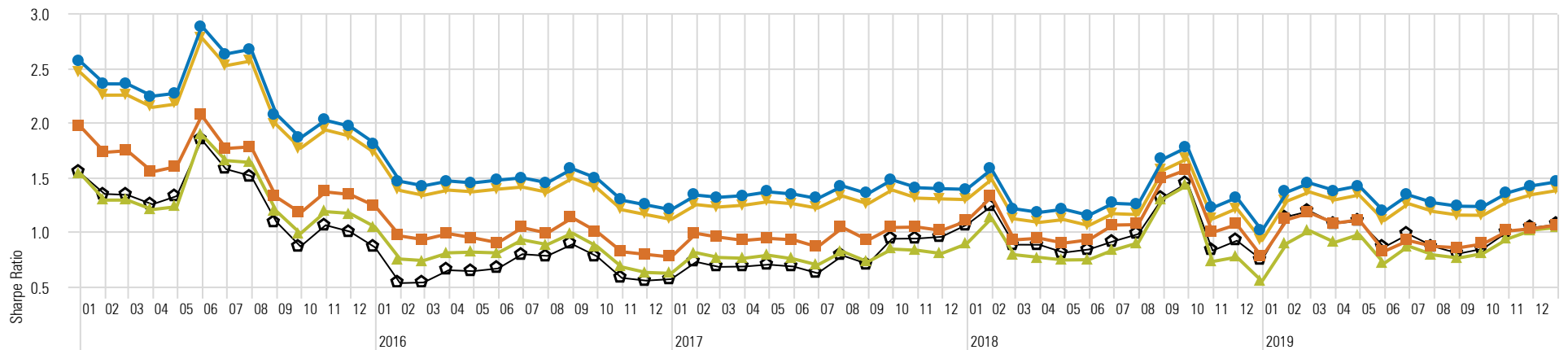
Rolling Window: 3 Months 3 Months shift



## Rolling 3 Year Sharpe Ratio

Time Period: 1/1/2012 to 12/31/2019

Rolling Window: 3 Years 1 Month shift



VY® T. Rowe Price Capital Apprec I  
 VY® T. Rowe Price Capital Apprec A

American Funds American Balanced R2  
 Morningstar Mod Tgt Risk TR USD

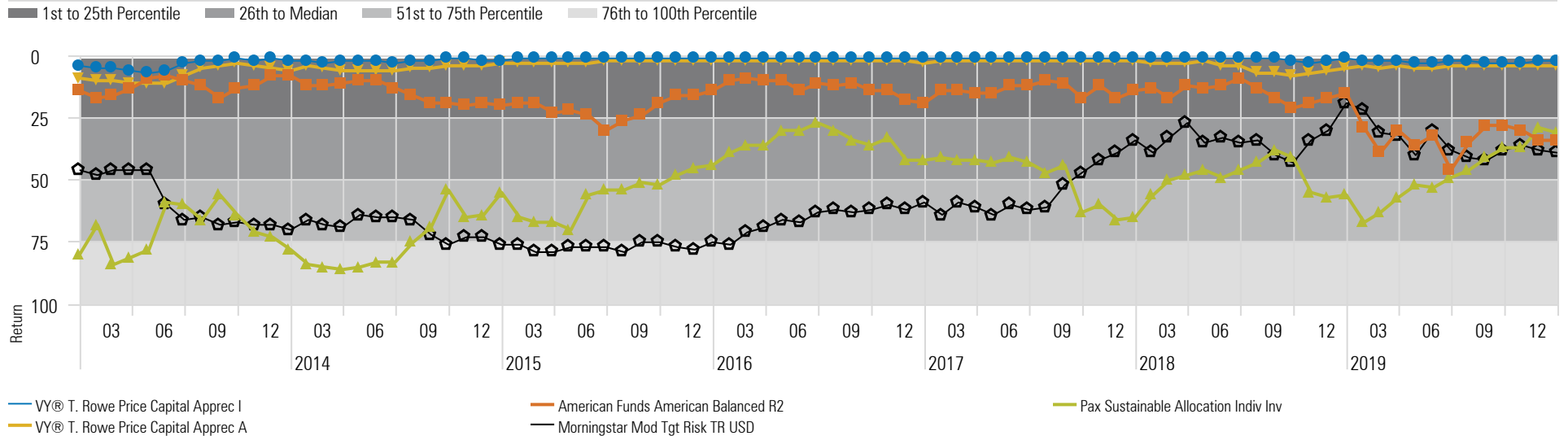
Pax Sustainable Allocation Indiv Inv

# Rolling Peer Group Rankings

## Rolling 3 Year Peer Group Rank

Time Period: 1/1/2010 to 12/31/2019

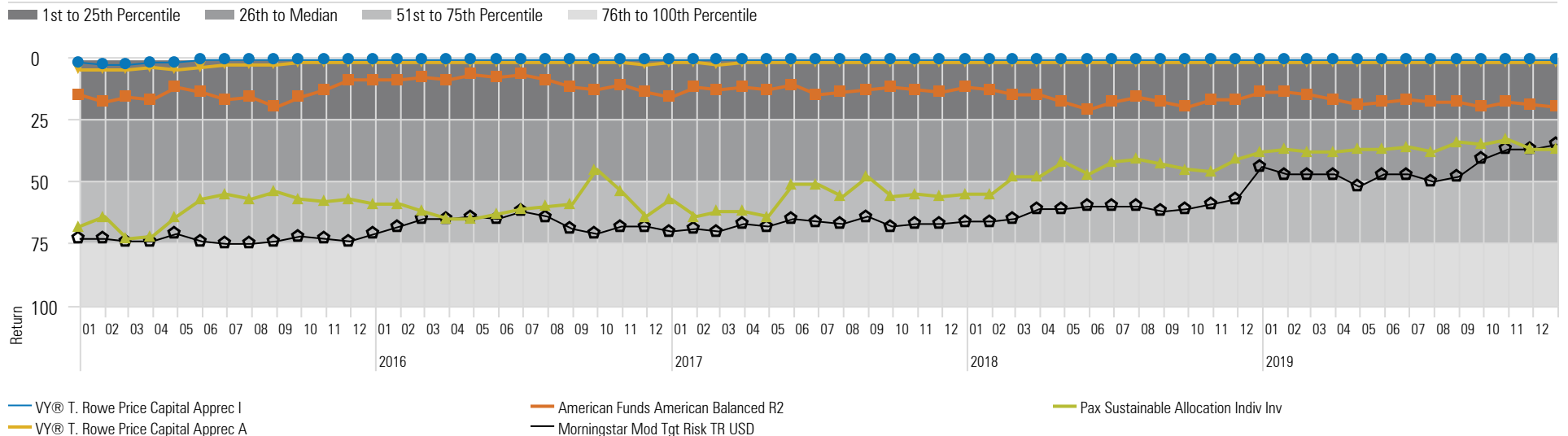
Rolling Window: 3 Years 1 Month shift



## Rolling 5 Year Peer Group Rank

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Allocation-50% to 70% Equity</b>																		
VY® T. Rowe Price Capital Apprec I	5.5	<b>36</b>	0.25	24.7	<b>2</b>	3.91	24.7	<b>2</b>	3.91	13.2	<b>2</b>	3.67	10.6	<b>1</b>	3.16	11.9	<b>1</b>	2.38
American Funds American Balanced R2	5.7	<b>24</b>	0.46	18.2	<b>67</b>	-2.55	18.2	<b>67</b>	-2.55	9.4	<b>34</b>	-0.14	7.3	<b>20</b>	-0.15	9.3	<b>15</b>	-0.25
Pax Sustainable Allocation Indiv Inv	5.4	<b>40</b>	0.17	20.8	<b>26</b>	0.03	20.8	<b>26</b>	0.03	9.5	<b>31</b>	-0.04	6.7	<b>37</b>	-0.80	7.8	<b>56</b>	-1.75
VY® T. Rowe Price Capital Apprec A	5.4	<b>45</b>	0.11	24.0	<b>5</b>	3.19	24.0	<b>5</b>	3.19	12.5	<b>4</b>	3.00	10.0	<b>2</b>	2.50	11.3	<b>2</b>	1.72
DJ US Moderate TR USD	5.2			20.8			20.8			9.5			7.5			9.6		
Average	5.1			19.2			19.2			8.5			6.2			7.9		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Allocation-50% to 70% Equity</b>																					
VY® T. Rowe Price Capital Apprec I	24.7	<b>2</b>	3.91	0.7	<b>1</b>	4.66	15.4	<b>23</b>	2.27	8.3	<b>30</b>	-0.94	5.5	<b>1</b>	5.60	12.5	<b>2</b>	3.39	22.5	<b>8</b>	2.93
American Funds American Balanced R2	18.2	<b>67</b>	-2.55	-3.5	<b>17</b>	0.45	14.6	<b>38</b>	1.45	7.7	<b>38</b>	-1.51	1.0	<b>10</b>	1.10	8.0	<b>33</b>	-1.05	20.9	<b>18</b>	1.31
Pax Sustainable Allocation Indiv Inv	20.8	<b>26</b>	0.03	-4.1	<b>26</b>	-0.16	13.2	<b>64</b>	0.04	5.8	<b>78</b>	-3.46	-0.5	<b>33</b>	-0.40	8.0	<b>33</b>	-1.08	16.3	<b>60</b>	-3.22
VY® T. Rowe Price Capital Apprec A	24.0	<b>5</b>	3.19	0.1	<b>3</b>	4.03	14.7	<b>35</b>	1.60	7.7	<b>40</b>	-1.61	4.9	<b>2</b>	4.98	11.8	<b>4</b>	2.70	21.8	<b>12</b>	2.19
DJ US Moderate TR USD	20.8			-3.9			13.1			9.3			-0.1		9.1				19.6		
Average	19.2			-5.7			13.7			7.5			-1.6		6.6				17.1		



# VY® T. Rowe Price Capital Apprec I

ITRIX

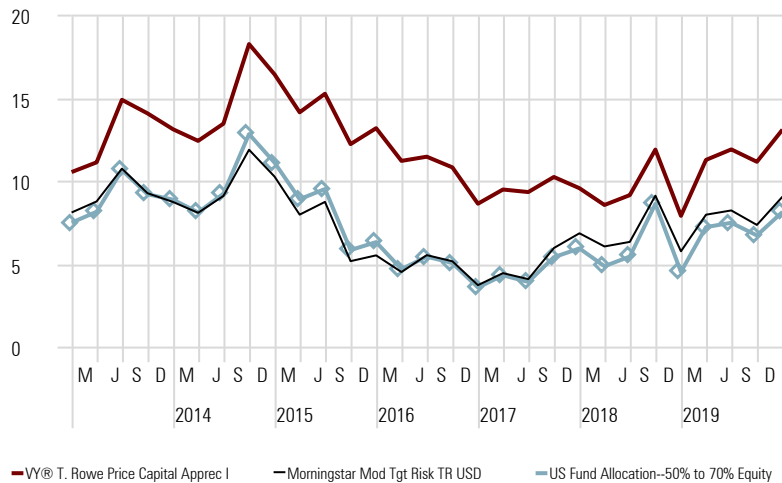
**Index:** Morningstar Mod Tgt Risk TR USD  
**Category:** US Fund Allocation--50% to 70% Equity  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Mod Tgt Risk TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
VY® T. Rowe Price Capital Apprec I	24.7	24.7	13.2	10.6	11.9	9.5
Morningstar Mod Tgt Risk TR USD	19.0	19.0	9.1	6.7	7.7	6.6
US Fund Allocation--50% to 70% Equity	18.9	18.9	8.2	5.9	7.4	5.6

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.64	1.10	
Gross Expense Ratio	0.64	1.19	
LT Earn Growth	11.8	9.6	9.1
Avg Mkt Cap (\$MMM)	70.4	81.8	47.9
P/E Ratio	33.1	20.0	16.3
P/B Ratio	3.6	2.7	2.0
P/S Ratio	3.5	1.9	1.4
P/CF Ratio	17.8	12.4	10.5
ROE %	17.0	21.6	20.5
ROA %	7.1	7.5	7.2
Dividend Yld	1.0	2.1	2.8

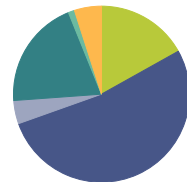
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Mod Tgt Risk TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
VY® T. Rowe Price Capital Apprec I	70.8	29.2	9.0	-5.5	11.9	-11.5	118.5	83.7
Morningstar Mod Tgt Risk TR USD	67.5	32.5	6.4	-5.4	8.8	-9.1	100.0	100.0
US Fund Allocation--50% to 70% Equity	68.3	31.7	7.1	-5.6	8.9	-10.4	101.3	106.9

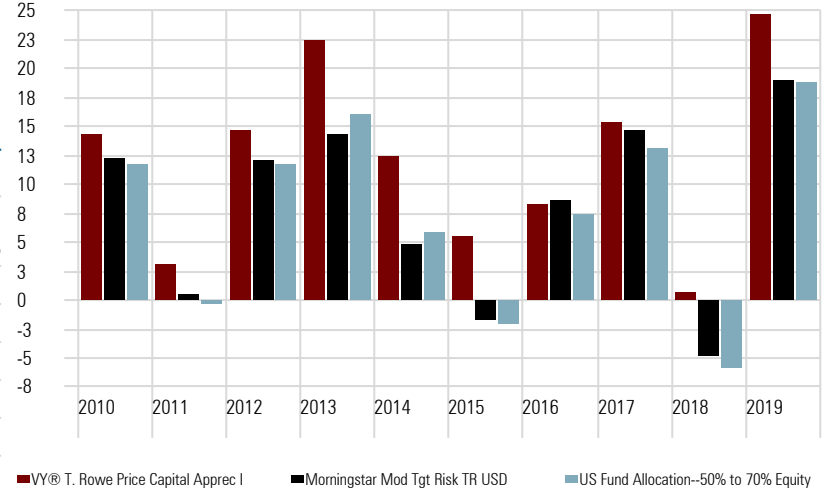
## Asset Allocation

Portfolio Date: 1/31/2020



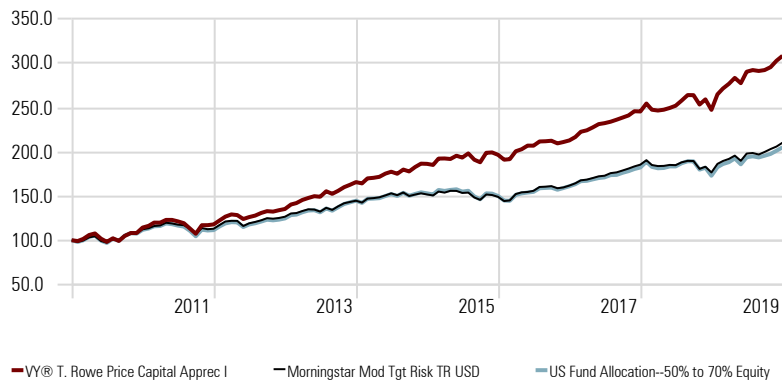
Cash	16.9
US Equity	52.7
Non-US Equity	4.3
US Bond	20.0
Non-US Bond	1.1
Other	5.0

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	7.5	0.2	7.5	0.1
Down Deviation	1.3	0.3	1.4	0.3
Beta	1.1	0.0	1.0	0.0
Alpha	3.3	4.7	3.5	4.6
Sharpe	1.5	0.6	1.3	0.6
Sortino	2.6	1.3	2.3	1.3
Info Ratio	1.7	2.5	1.5	2.1
Down Capture	83.6	-30.1	76.4	-33.9
Up Capture	119.6	20.3	116.4	17.3

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
T. Rowe Price Gov. Reserve	14.1	Energy	0	5
General Electric Co	3.9	Materials	0	4
Fiserv Inc	3.2	Industrials	17	11
Microsoft Corp	3.0	Cons Discretionary	9	10
Marsh & McLennan Companies Inc	2.9	Consumer Staples	2	7
PerkinElmer Inc	2.7	Healthcare	24	14
Danaher Corp	2.7	Financials	9	15
Alphabet Inc Class C	2.3	Info Technology	23	20
Thermo Fisher Scientific Inc	2.3	Telecom Services	6	8
Roper Technologies Inc	2.3	Utilities	10	4
		Real Estate %	0.0	3.9

# Balanced Funds 2

As of 12/31/2019



## US Fund Allocation--50% to 70% Equity

VY® T. Rowe Price Capital Apprec I

### Investment Strategy

The investment seeks over the long-term, a high total investment return, consistent with the preservation of capital and with prudent investment risk. Under normal market conditions, the Portfolio pursues an active asset allocation strategy whereby investments are allocated among three asset classes: equity securities, debt instruments, and money market instruments. The Portfolio invests at least 50% of its total assets in common stocks. It may invest up to 15% of its total net assets in Rule 144A securities.

### Manager Biography

David R. Giroux since 7/31/2006

### VY® T. Rowe Price Capital Apprec I - Operations

Inception Date	5/2/2003
Fund Size (\$mm)	7,640
Annual Report Net Expense Ratio	0.64
Prospectus Net Expense Ratio	0.64
Prospectus Gross Expense Ratio	0.64
Ticker	ITRIX
Manager Tenure (Longest)	13.50
Manager Tenure (Average)	13.50
Morningstar Institutional Category	Flexible Allocation

#### Other Notes:

None

American Funds Income Fund of Amer R2

### Investment Strategy

The investment seeks to provide investors with current income while secondarily striving for capital growth. Normally the fund invests primarily in income-producing securities. These include equity securities, such as dividend-paying common stocks, and debt securities, such as interest-paying bonds. Generally at least 60% of the fund's assets will be invested in common stocks and other equity-type securities. The fund may also invest up to 30% of its assets in equity securities of issuers domiciled outside the United States, including issuers in developing countries.

### Manager Biography

Dina N. Perry since 1/1/1992

Hilda L. Applbaum since 10/1/1997

Andrew B. Suzman since 10/1/1999

David A. Daigle since 10/1/2006

James R. Mulally since 10/1/2006

Paul Flynn since 10/1/2012

Anirudh A. Samsi since 7/1/2015

Pramod Atluri since 10/1/2017

Shannon Ward since 10/1/2017

### American Funds Income Fund of Amer R2 - Operations

Inception Date	5/31/2002
Fund Size (\$mm)	117,240
Annual Report Net Expense Ratio	1.38
Prospectus Net Expense Ratio	1.36
Prospectus Gross Expense Ratio	1.36
Ticker	RIDBX
Manager Tenure (Longest)	28.00
Manager Tenure (Average)	12.58
Morningstar Institutional Category	Multi-Asset Income

#### Other Notes:

None

# Portfolio Analysis

VY® T. Rowe Price Capital Apprec I

American Funds Income Fund of Amer R2

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth
Large	12	33	44
Mid	3	2	6
Small	0	0	0

Market Cap	%
Market Cap Giant %	34
Market Cap Large %	55
Market Cap Mid %	11
Market Cap Small %	0
Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth
Large	40	41	7
Mid	5	5	1
Small	0	0	0

Market Cap	%
Market Cap Giant %	49
Market Cap Large %	39
Market Cap Mid %	11
Market Cap Small %	1
Market Cap Micro %	0

## Valuation Data

	Inv	Bmk1
Average Market Cap (bil)	77.0	37.2
Forward P/E	23.5	16.0
P/E Ratio (TTM)	34.4	18.4
LT Earn Growth	11.7	8.4
P/B Ratio (TTM)	3.7	2.1
Dividend Yield	1.0	2.6
Average Eff Duration		
Average Eff Maturity		
Average Credit Quality		

## Valuation Data

	Inv	Bmk1
Average Market Cap (bil)	76.7	35.6
Forward P/E	15.7	16.1
P/E Ratio (TTM)	19.1	18.5
LT Earn Growth	8.3	8.5
P/B Ratio (TTM)	2.9	2.1
Dividend Yield	3.6	2.6
Average Eff Duration	4.1	
Average Eff Maturity	5.5	
Average Credit Quality	BBB	

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	75	
# of Stock Holdings	42	0
# of Bond Holdings	146	0
% in Top 10	30.5	86.5
Cash %	11.1	0.0
Bond %	21.2	38.4
US Equity %	58.3	35.0
Non-US Equity %	4	25
Emerging Mkt %	1.2	5.3

## Portfolio Data

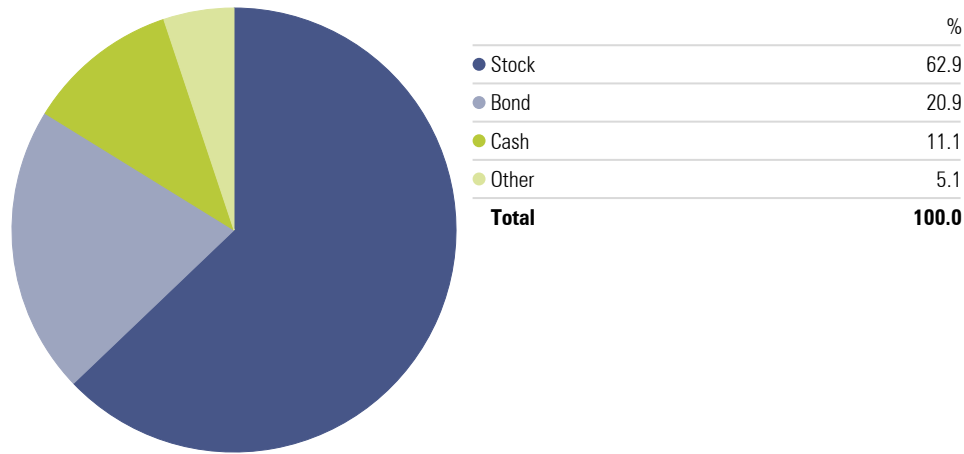
	Inv	Bmk1
Turnover Ratio	67	
# of Stock Holdings	190	0
# of Bond Holdings	1,817	0
% in Top 10	18.3	89.0
Cash %	7.0	0.0
Bond %	24.6	19.6
US Equity %	47.9	46.9
Non-US Equity %	21	33
Emerging Mkt %	2.5	7.5

# Asset Allocation Comparison

## VY® T. Rowe Price Capital Apprec I

### VY® T. Rowe Price Capital Apprec I - Asset Allocation

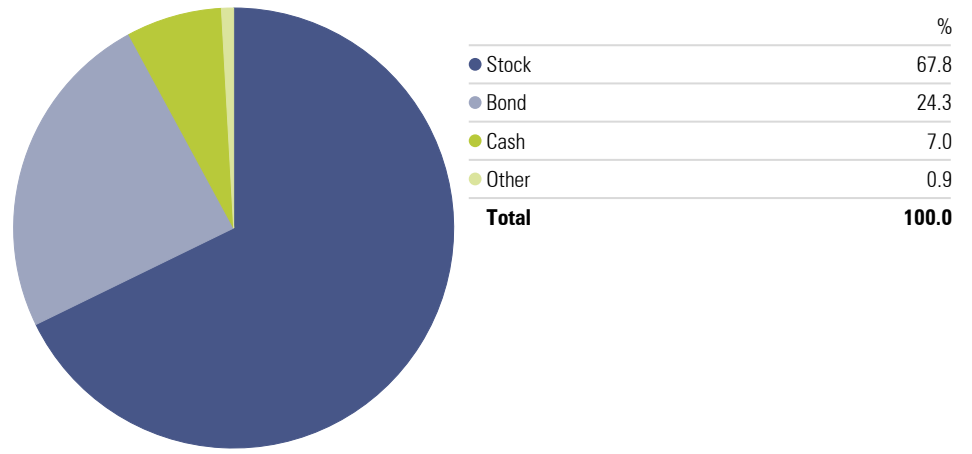
Portfolio Date: 12/31/2019



## American Funds Income Fund of Amer R2

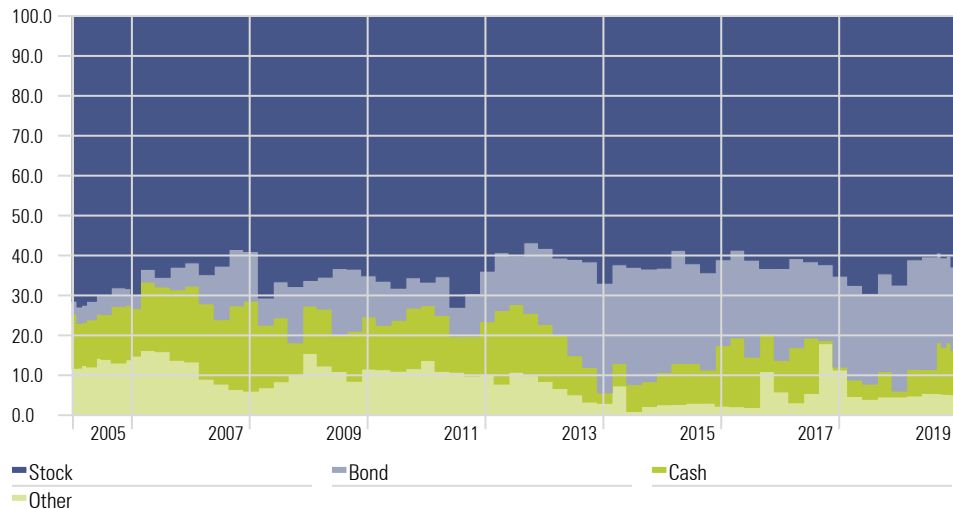
### American Funds Income Fund of Amer R2 - Asset Allocation

Portfolio Date: 12/31/2019



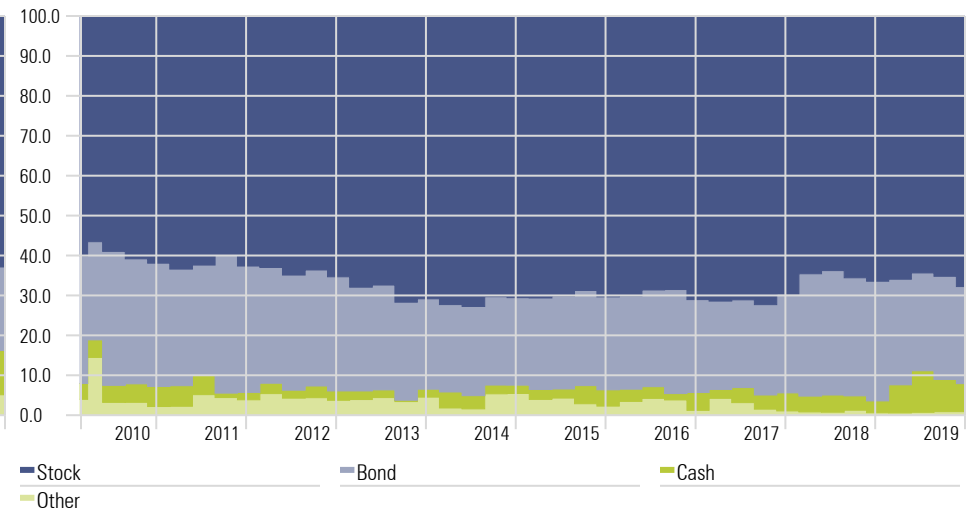
### VY® T. Rowe Price Capital Apprec I - Asset Allocation

Time Period: 1/1/2005 to 12/31/2019



### American Funds Income Fund of Amer R2 - Asset Allocation

Time Period: 3/1/2010 to 12/31/2019



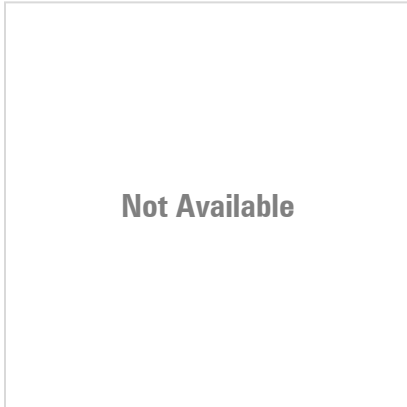
# Holdings Based Style Analysis

## VY® T. Rowe Price Capital Apprec I

### Morningstar Style Box - VY® T. Rowe Price Capital Apprec I

Portfolio Date: 12/31/2019

#### Morningstar Fixed Income Style Box™



#### Fixed-Income Stats

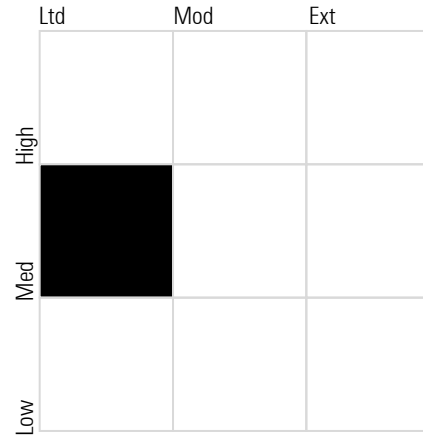
Average Eff Duration	-
Average Eff Maturity	-
Average Coupon	5.1
Average Price	104.5

## American Funds Income Fund of Amer R2

### Morningstar Style Box - American Funds Income Fund of Amer R2

Portfolio Date: 12/31/2019

#### Morningstar Fixed Income Style Box™

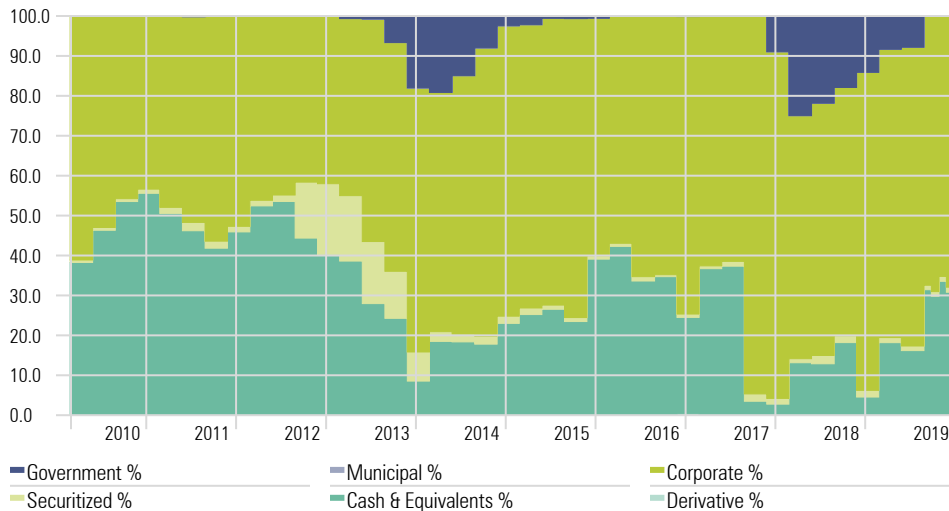


#### Fixed-Income Stats

Average Eff Duration	4.1
Average Eff Maturity	5.5
Average Coupon	4.1
Average Price	103.3

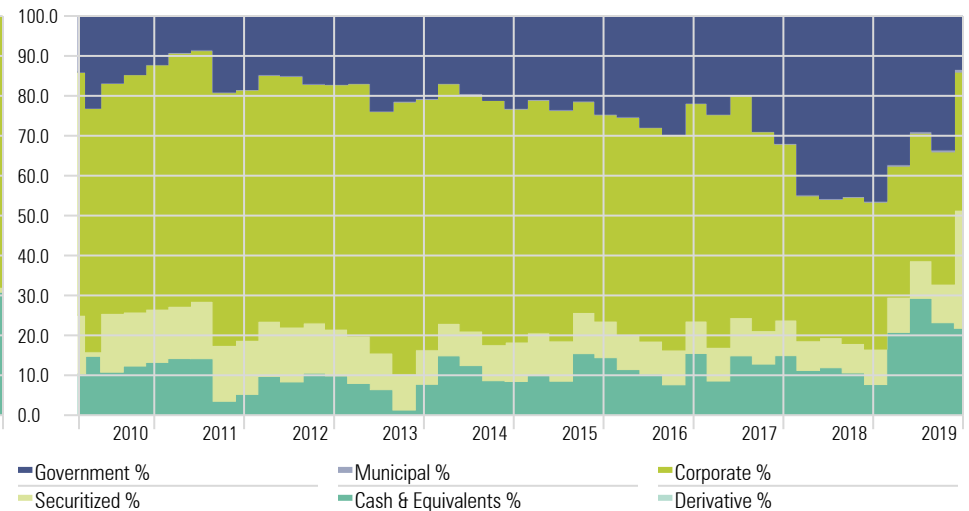
### VY® T. Rowe Price Capital Apprec I - Fixed-Inc Super Sectors (Morningstar)

Time Period: 3/1/2010 to 12/31/2019



### American Funds Income Fund of Amer R2 - Fixed-Inc Super Sectors (Morningstar)

Time Period: 3/1/2010 to 12/31/2019



# Risk/Return Performance Analysis

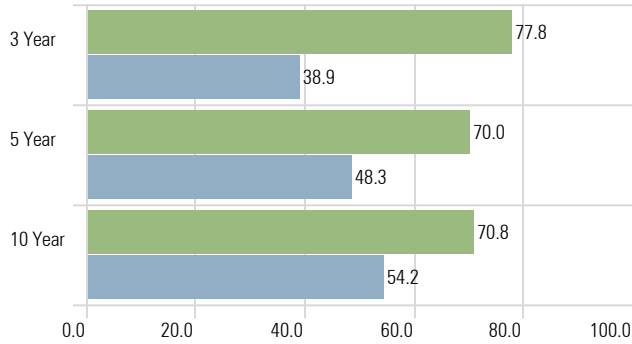
## Relative Standard Deviation



■ VY@ T. Rowe Price Capital Apprec I

■ American Funds Income Fund of Amer R2

## Batting Average vs. Index



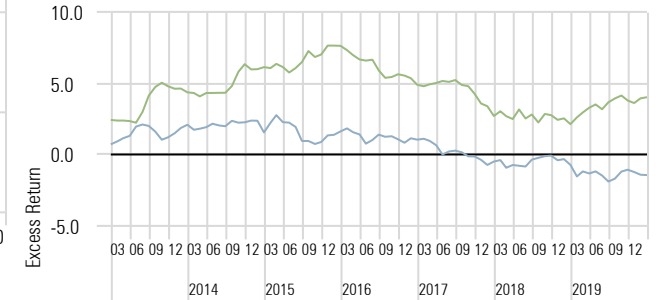
■ VY@ T. Rowe Price Capital Apprec I

■ American Funds Income Fund of Amer R2

## 3 Year Relative Rolling Returns

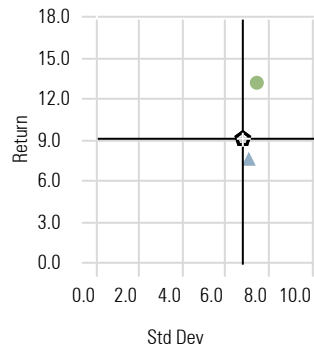
Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift



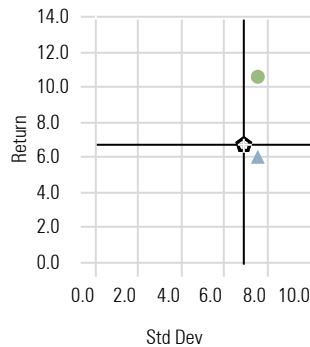
## 3 Year Risk-Reward

Time Period: 1/1/2017 to 12/31/2019



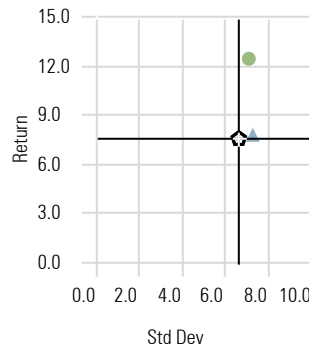
## 5 Year Risk-Reward

Time Period: 1/1/2015 to 12/31/2019



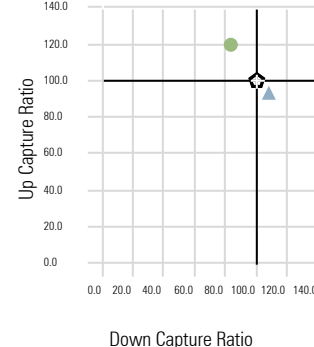
## 7 Year Risk-Reward

Time Period: 1/1/2013 to 12/31/2019



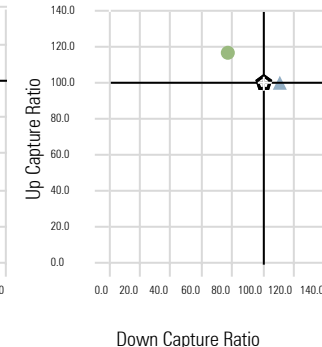
## 3 Year Market Capture

Time Period: 1/1/2017 to 12/31/2019



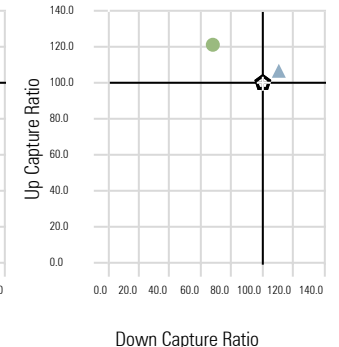
## 5 Year Market Capture

Time Period: 1/1/2015 to 12/31/2019

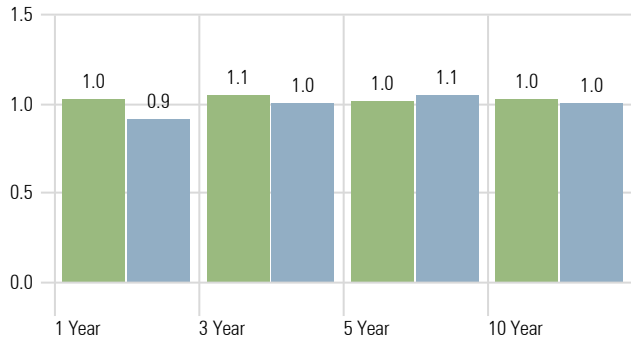


## 7 Year Market Capture

Time Period: 1/1/2013 to 12/31/2019



## Beta



■ VY@ T. Rowe Price Capital Apprec I

■ American Funds Income Fund of Amer R2

## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (6/1/2003) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
VY@ T. Rowe Price Capital Apprec I	10.6	10.3	2.2	1.14	90	18.6	-19.0	0.90	3.4
American Funds Income Fund of Amer R2	7.0	9.3	-0.7	1.04	92	13.9	-15.7	0.61	2.6
Morningstar Mod Tgt Risk TR USD	7.5	8.6	0.0	1.00	100	12.4	-11.5	0.71	0.0

## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Allocation--50% to 70% Equity</b>																		
VY® T. Rowe Price Capital Apprec I	5.5	<b>36</b>	0.25	24.7	<b>2</b>	3.91	24.7	<b>2</b>	3.91	13.2	<b>2</b>	3.67	10.6	<b>1</b>	3.16	11.9	<b>1</b>	2.38
DJ US Moderate TR USD	5.2			20.8			20.8			9.5			7.5			9.6		
Average	5.1			19.2			19.2			8.5			6.2			7.9		
<b>Allocation--70% to 85% Equity</b>																		
American Funds Income Fund of Amer R2	5.3	<b>85</b>	-3.19	18.0	<b>89</b>	-12.37	18.0	<b>89</b>	-12.37	7.7	<b>84</b>	-5.50	6.0	<b>74</b>	-4.21	8.1	<b>66</b>	-5.09
DJ US Aggressive TR USD	8.5			30.3			30.3			13.2			10.2			13.2		
Average	6.4			21.5			21.5			9.3			6.5			8.4		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Allocation--50% to 70% Equity</b>																					
VY® T. Rowe Price Capital Apprec I	24.7	<b>2</b>	3.91	0.7	<b>1</b>	4.66	15.4	<b>23</b>	2.27	8.3	<b>30</b>	-0.94	5.5	<b>1</b>	5.60	12.5	<b>2</b>	3.39	22.5	<b>8</b>	2.93
DJ US Moderate TR USD	20.8			-3.9			13.1			9.3			-0.1		9.1				19.6		
Average	19.2			-5.7			13.7			7.5			-1.6		6.6				17.1		
<b>Allocation--70% to 85% Equity</b>																					
American Funds Income Fund of Amer R2	18.0	<b>89</b>	-12.37	-5.9	<b>18</b>	1.54	12.5	<b>88</b>	-7.70	9.7	<b>21</b>	-3.78	-2.3	<b>64</b>	-1.11	7.5	<b>16</b>	-3.91	17.3	<b>86</b>	-16.98
DJ US Aggressive TR USD	30.3			-7.4			20.2			13.5			-1.2		11.4				34.3		
Average	21.5			-8.0			16.8			8.0			-2.6		5.5				21.4		



# VY® T. Rowe Price Capital Apprec I

ITRIX

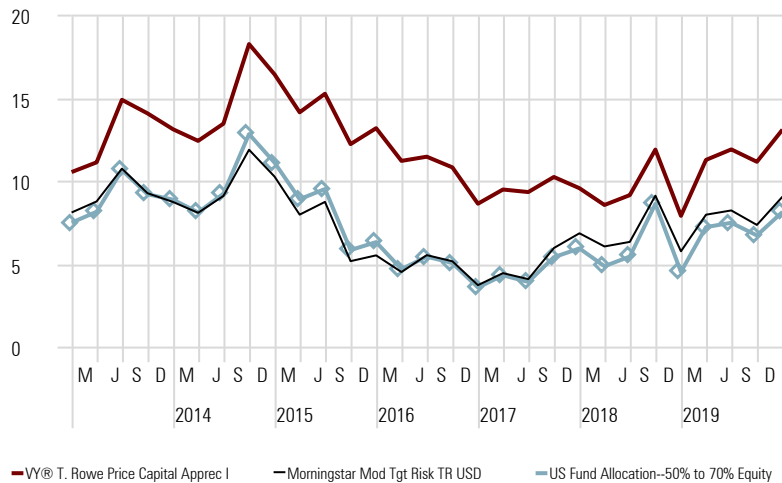
**Index:** Morningstar Mod Tgt Risk TR USD  
**Category:** US Fund Allocation--50% to 70% Equity  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Mod Tgt Risk TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
VY® T. Rowe Price Capital Apprec I	24.7	24.7	13.2	10.6	11.9	9.5
Morningstar Mod Tgt Risk TR USD	19.0	19.0	9.1	6.7	7.7	6.6
US Fund Allocation--50% to 70% Equity	18.9	18.9	8.2	5.9	7.4	5.6

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.64	1.10	
Gross Expense Ratio	0.64	1.19	
LT Earn Growth	11.8	9.6	9.1
Avg Mkt Cap (\$MMM)	70.4	81.8	47.9
P/E Ratio	33.1	20.0	16.3
P/B Ratio	3.6	2.7	2.0
P/S Ratio	3.5	1.9	1.4
P/CF Ratio	17.8	12.4	10.5
ROE %	17.0	21.6	20.5
ROA %	7.1	7.5	7.2
Dividend Yld	1.0	2.1	2.8

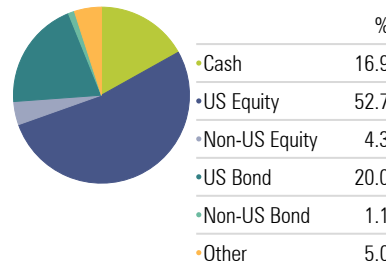
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Mod Tgt Risk TR USD

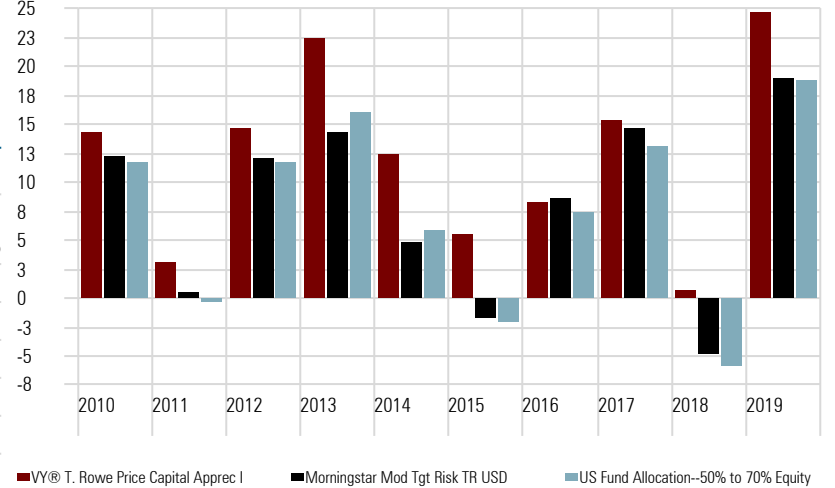
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
VY® T. Rowe Price Capital Apprec I	70.8	29.2	9.0	-5.5	11.9	-11.5	118.5	83.7
Morningstar Mod Tgt Risk TR USD	67.5	32.5	6.4	-5.4	8.8	-9.1	100.0	100.0
US Fund Allocation--50% to 70% Equity	68.3	31.7	7.1	-5.6	8.9	-10.4	101.3	106.9

## Asset Allocation

Portfolio Date: 1/31/2020

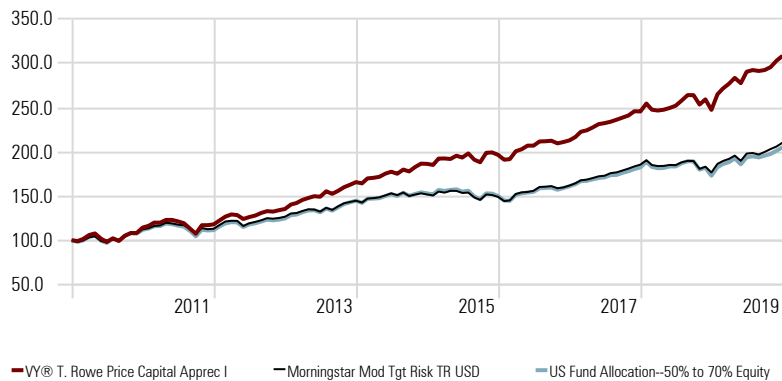


## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	7.5	0.2	7.5	0.1
Down Deviation	1.3	0.3	1.4	0.3
Beta	1.1	0.0	1.0	0.0
Alpha	3.3	4.7	3.5	4.6
Sharpe	1.5	0.6	1.3	0.6
Sortino	2.6	1.3	2.3	1.3
Info Ratio	1.7	2.5	1.5	2.1
Down Capture	83.6	-30.1	76.4	-33.9
Up Capture	119.6	20.3	116.4	17.3

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
T. Rowe Price Gov. Reserve	14.1	Energy	0	5
General Electric Co	3.9	Materials	0	4
Fiserv Inc	3.2	Industrials	17	11
Microsoft Corp	3.0	Cons Discretionary	9	10
Marsh & McLennan Companies Inc	2.9	Consumer Staples	2	7
PerkinElmer Inc	2.7	Healthcare	24	14
Danaher Corp	2.7	Financials	9	15
Alphabet Inc Class C	2.3	Info Technology	23	20
Thermo Fisher Scientific Inc	2.3	Telecom Services	6	8
Roper Technologies Inc	2.3	Utilities	10	4
		Real Estate %	0.0	3.9

# Large Cap Growth Funds

As of 12/31/2019



# US Fund Large Growth

## Amana Growth Institutional

### Investment Strategy

The investment seeks long-term capital growth, consistent with Islamic principles. The fund normally invests at least 80% of total net assets in common stocks. It invests only in common stocks, including foreign stocks. Investment decisions are made in accordance with Islamic principles. The fund diversifies its investments across industries and companies, and principally follows a large-cap value investment style.

### Manager Biography

Nicholas F. Kaiser since 2/3/1994

Scott F. Klimo since 9/14/2012

Monem Salam since 7/31/2018

### Amana Growth Institutional - Oper

Inception Date	9/25/2013
Fund Size (\$mm)	2,289
Annual Report Net Expense Ratio	0.84
Prospectus Net Expense Ratio	0.79
Prospectus Gross Expense Ratio	0.79
Ticker	AMIGX
Manager Tenure (Longest)	25.92
Manager Tenure (Average)	11.58
Morningstar Inst Cat	Large Core Growth

### Other Notes:

None

## Voya Large Cap Growth Port I

### Investment Strategy

The investment seeks long-term capital growth. The Portfolio invests at least 80% of its net assets (plus borrowings for investment purposes) in common stocks of large-capitalization companies. It normally invests in companies that the sub-adviser believes have above-average growth prospects. For this Portfolio, the Sub-Adviser defines large-capitalization companies as companies with market capitalizations which fall within the range of companies in the Russell 1000® Growth Index at the time of purchase.

### Manager Biography

Jeffrey Bianchi since 6/11/2010

Michael Pytosh since 3/1/2012

Kristy Finnegan since 8/1/2019

### Voya Large Cap Growth Port I - Op

Inception Date	5/2/2005
Fund Size (\$mm)	6,072
Annual Report Net Expense Ratio	0.67
Prospectus Net Expense Ratio	0.67
Prospectus Gross Expense Ratio	0.67
Ticker	IEOHX
Manager Tenure (Longest)	9.58
Manager Tenure (Average)	5.94
Morningstar Inst Cat	Large Core Growth

### Other Notes:

None

## Alger Responsible Investing A

### Investment Strategy

The investment seeks long-term capital appreciation. The fund invests at least 80% of its net assets, plus any borrowings for investment purposes, in equity securities of companies of any size with an environmental, social and governance ("ESG") rating of BB or above by MSCI (or an equivalent rating by another ESG rating agency) that also demonstrate, in the view of the adviser, promising growth potential. It can leverage, that is, borrow money to purchase additional securities.

### Manager Biography

Gregory S. Adams since 12/30/2016

### Alger Responsible Investing A - Op

Inception Date	12/4/2000
Fund Size (\$mm)	68
Annual Report Net Expense Ratio	1.35
Prospectus Net Expense Ratio	1.35
Prospectus Gross Expense Ratio	1.41
Ticker	SPEGX
Manager Tenure (Longest)	3.08
Manager Tenure (Average)	3.08
Morningstar Inst Cat	Large Core Growth

### Other Notes:

None

## American Century Growth R

### Investment Strategy

The investment seeks long-term capital growth. The fund invests in stocks of companies that the adviser believes will increase in value over time. The portfolio managers use a variety of analytical research tools and techniques to identify the stocks of larger-sized companies that meet their investment criteria. Normally, the fund's portfolio will primarily consist of securities of companies demonstrating business improvement. Although the portfolio managers intend to invest the fund's assets primarily in U.S. securities, the fund may invest in securities of foreign companies when these securities meet the portfolio managers' standards of selection.

### Manager Biography

Gregory J. Woodhams since 9/30/1997

Justin M. Brown since 1/31/2016

### American Century Growth R - Oper

Inception Date	8/29/2003
Fund Size (\$mm)	8,671
Annual Report Net Expense Ratio	1.48
Prospectus Net Expense Ratio	1.47
Prospectus Gross Expense Ratio	1.47
Ticker	AGWRX
Manager Tenure (Longest)	22.33
Manager Tenure (Average)	13.17
Morningstar Inst Cat	Large Core Growth

### Other Notes:

None

## American Funds Growth Fund of Amer R2

### Investment Strategy

The investment seeks growth of capital. The fund invests primarily in common stocks and seeks to invest in companies that appear to offer superior opportunities for growth of capital. It may invest up to 25% of its assets in securities of issuers domiciled outside the United States. The investment adviser uses a system of multiple portfolio managers in managing the fund's assets. Under this approach, the portfolio of the fund is divided into segments managed by individual managers.

### Manager Biography

Donald D. O'Neal since 11/1/1993  
Michael T. Kern since 11/1/1998  
J. Blair Frank since 11/1/2001  
Bary S. Crosthwaite since 11/1/2007  
James Ferlie since 11/1/2008  
Lawrence R. Solomon since 5/1/2010  
Martin Horne since 11/1/2010  
Carl M. Kuepke since 11/1/2010  
Mark L. Casey since 11/1/2012  
Alan J. Wilson since 11/1/2012  
Anne-Marie Peterson since 7/2/2013  
Christopher D. Buchholder since 11/1/2013  
Jody F. Jonsson since 3/1/2016

### American Funds Growth Fund of A

Inception Date	5/21/2002
Fund Size (\$mm)	207,107
Annual Report Net Expense Ratio	1.42
Prospectus Net Expense Ratio	1.41
Prospectus Gross Expense Ratio	1.41
Ticker	RGABX
Manager Tenure (Longest)	26.17
Manager Tenure (Average)	11.36
Morningstar Inst Cat	Large Core Growth

### Other Notes:

None

# Portfolio Analysis

## Amana Growth Institutional

## Voya Large Cap Growth Port I

## Alger Responsible Investing A

## American Century Growth R

## American Funds Growth Fund of Amer R2

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	8	44	29	Market Cap Giant %	45
Mid	0	9	10	Market Cap Large %	36
Small	0	0	0	Market Cap Mid %	19
				Market Cap Small %	0
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	7	36	46	Market Cap Giant %	49
Mid	0	1	9	Market Cap Large %	40
Small	0	0	0	Market Cap Mid %	10
				Market Cap Small %	0
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 10/31/2019

	Value	Blend	Growth	Market Cap	%
Large	7	28	55	Market Cap Giant %	68
Mid	2	3	5	Market Cap Large %	22
Small	0	0	0	Market Cap Mid %	9
				Market Cap Small %	0
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	5	35	55	Market Cap Giant %	66
Mid	0	1	4	Market Cap Large %	27
Small	0	0	0	Market Cap Mid %	6
				Market Cap Small %	1
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	8	26	54	Market Cap Giant %	55
Mid	1	4	6	Market Cap Large %	32
Small	0	0	0	Market Cap Mid %	12
				Market Cap Small %	1
				Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell 1000 Growth TR USD

	Inv Bmk1
Average Market Cap (bil)	80.3 144.0
Forward P/E	21.6 23.5
P/E Ratio (TTM)	26.5 28.6
LT Earn Growth	10.9 11.9
P/B Ratio (TTM)	7.3 7.8
Dividend Yield	1.5 1.2
ROE %	39.6 34.6
ROA %	14.0 11.5
Debt to Capital %	40 46

### Valuation Data

Display Benchmark 1: Russell 1000 Growth TR USD

	Inv Bmk1
Average Market Cap (bil)	129.2 144.0
Forward P/E	22.9 23.5
P/E Ratio (TTM)	30.4 28.6
LT Earn Growth	12.3 11.9
P/B Ratio (TTM)	6.4 7.8
Dividend Yield	1.1 1.2
ROE %	30.9 34.6
ROA %	10.9 11.5
Debt to Capital %	47 46

### Valuation Data

Display Benchmark 1: Russell 1000 Growth TR USD

	Inv Bmk1
Average Market Cap (bil)	167.7 144.0
Forward P/E	25.6 23.5
P/E Ratio (TTM)	27.1 28.6
LT Earn Growth	12.0 11.9
P/B Ratio (TTM)	6.1 7.8
Dividend Yield	1.1 1.2
ROE %	31.4 34.6
ROA %	11.7 11.5
Debt to Capital %	40 46

### Valuation Data

Display Benchmark 1: Russell 1000 Growth TR USD

	Inv Bmk1
Average Market Cap (bil)	193.7 144.0
Forward P/E	24.3 23.5
P/E Ratio (TTM)	28.1 28.6
LT Earn Growth	12.2 11.9
P/B Ratio (TTM)	6.7 7.8
Dividend Yield	1.1 1.2
ROE %	30.4 34.6
ROA %	11.5 11.5
Debt to Capital %	38 46

### Valuation Data

Display Benchmark 1: Russell 1000 Growth TR USD

	Inv Bmk1
Average Market Cap (bil)	107.6 144.0
Forward P/E	22.5 23.5
P/E Ratio (TTM)	26.3 28.6
LT Earn Growth	12.7 11.9
P/B Ratio (TTM)	4.1 7.8
Dividend Yield	1.0 1.2
ROE %	21.0 34.6
ROA %	8.0 11.5
Debt to Capital %	39 46

### Portfolio Data

	Inv Bmk1
Turnover Ratio	0
# of Stock Holdings	34 530
% in Top 10	44.7 36.9
Cash %	5.7 0.0
Developed %	94.3 99.9
US Equity %	82.5 99.8
Non-US Equity %	12 0
Emerging Mkt %	0.0 0.1

### Portfolio Data

	Inv Bmk1
Turnover Ratio	85
# of Stock Holdings	52 530
% in Top 10	41.7 36.9
Cash %	0.9 0.0
Developed %	97.5 99.9
US Equity %	97.5 99.8
Non-US Equity %	2 0
Emerging Mkt %	1.6 0.1

### Portfolio Data

	Inv Bmk1
Turnover Ratio	15
# of Stock Holdings	62 530
% in Top 10	48.4 36.9
Cash %	2.6 0.0
Developed %	97.4 99.9
US Equity %	96.4 99.8
Non-US Equity %	1 0
Emerging Mkt %	0.0 0.1

### Portfolio Data

	Inv Bmk1
Turnover Ratio	30
# of Stock Holdings	67 530
% in Top 10	49.9 36.9
Cash %	0.9 0.0
Developed %	99.1 99.9
US Equity %	96.4 99.8
Non-US Equity %	3 0
Emerging Mkt %	0.0 0.1

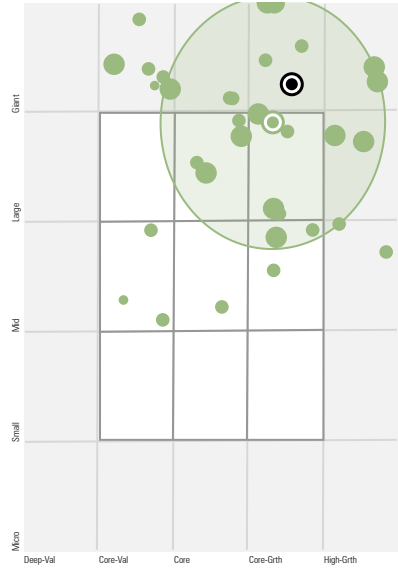
### Portfolio Data

	Inv Bmk1
Turnover Ratio	36
# of Stock Holdings	318 530
% in Top 10	31.4 36.9
Cash %	5.1 0.0
Developed %	92.8 99.9
US Equity %	83.0 99.8
Non-US Equity %	11 0
Emerging Mkt %	1.6 0.1

# Holdings-Based Style Analysis

## Amana Growth Institutional

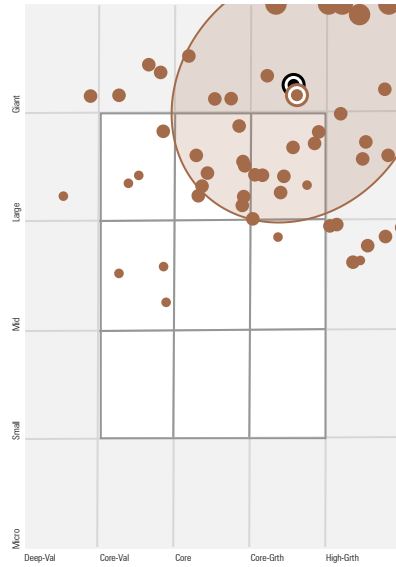
### Holdings-Based Style Map



● Amana Growth Institutional 12/31/2019 ● Russell 1000 Growth TR USD 12/31/2019

## Voya Large Cap Growth Port I

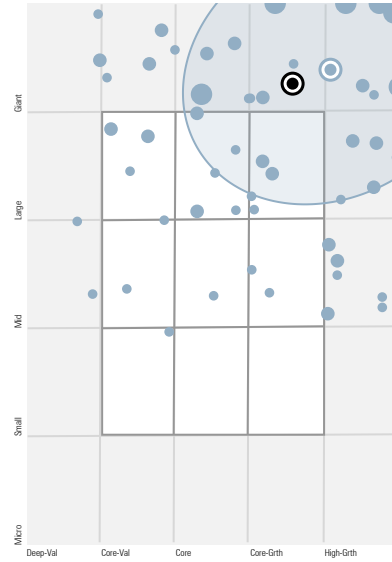
### Holdings-Based Style Map



● Voya Large Cap Growth Port I 12/31/2019 ● Russell 1000 Growth TR USD 12/31/2019

## Alger Responsible Investing A

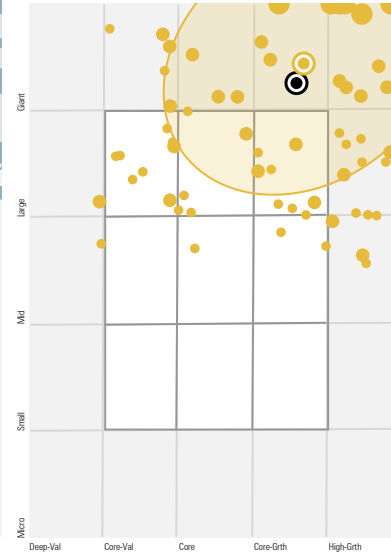
### Holdings-Based Style Map



● Alger Responsible Investing A 10/31/2019 ● Russell 1000 Growth TR USD 12/31/2019

## American Century Growth R

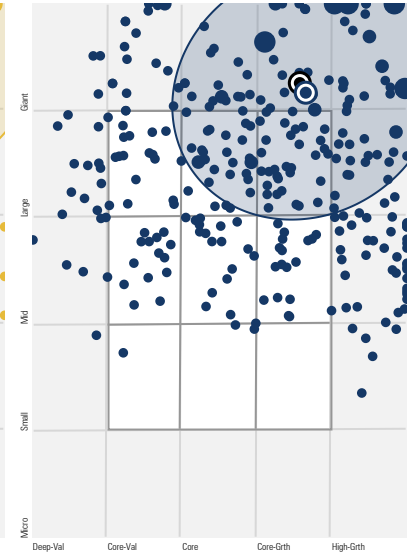
### Holdings-Based Style Map



● American Century Growth R 12/31/2019 ● Russell 1000 Growth TR USD 12/31/2019

## American Funds Growth Fund of Amer R2

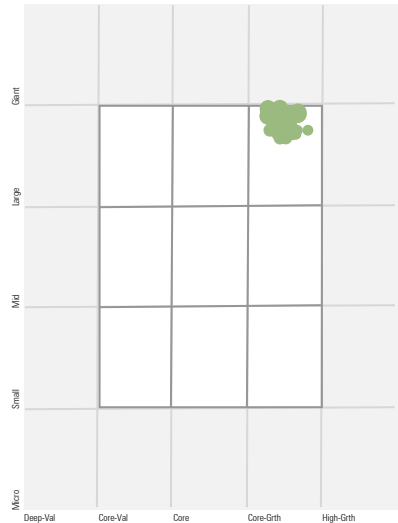
### Holdings-Based Style Map



● American Funds Growth Fund of Amer R2 12/31/2019 ● Russell 1000 Growth TR USD 12/31/2019

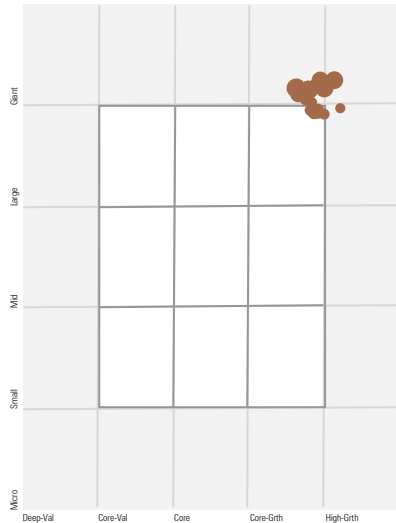
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



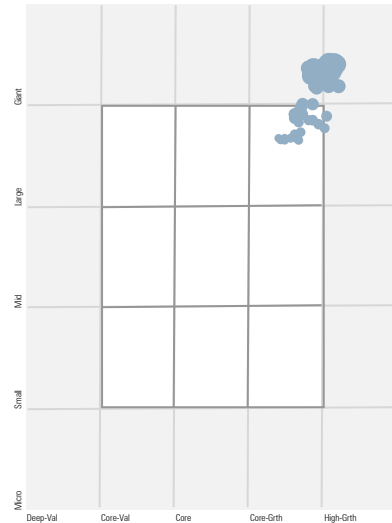
### Holdings-Based Style Trail

Time Period: 6/30/2015 to 12/31/2019



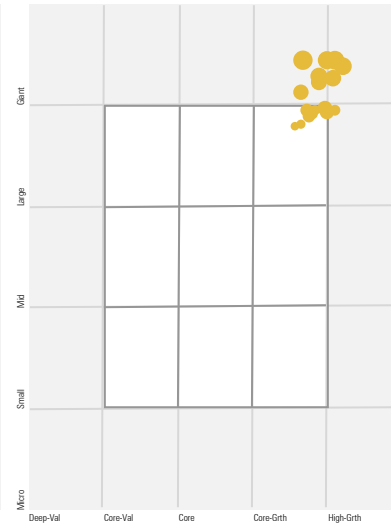
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 10/31/2019



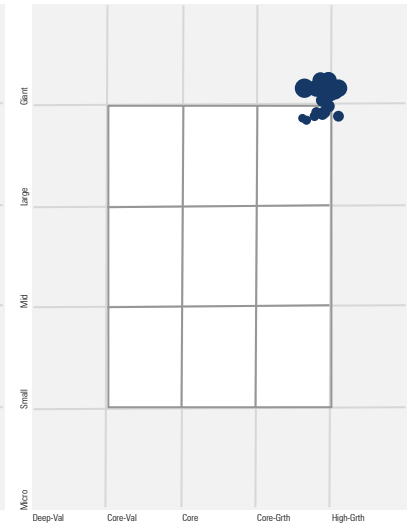
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



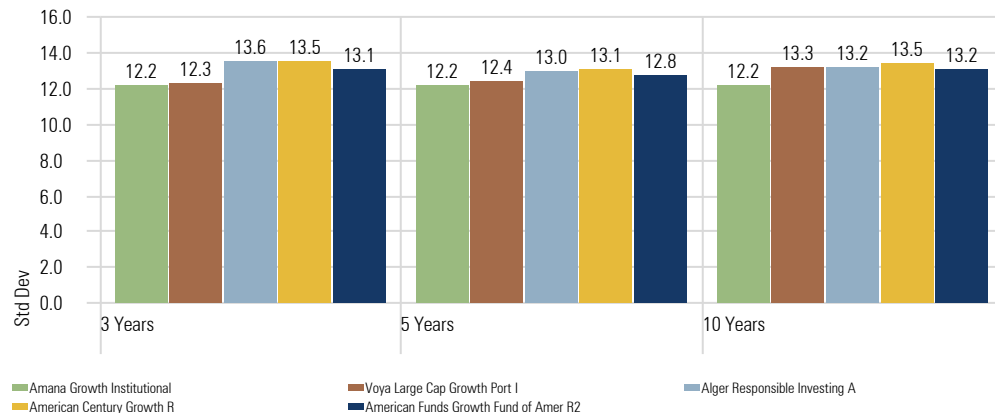
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019

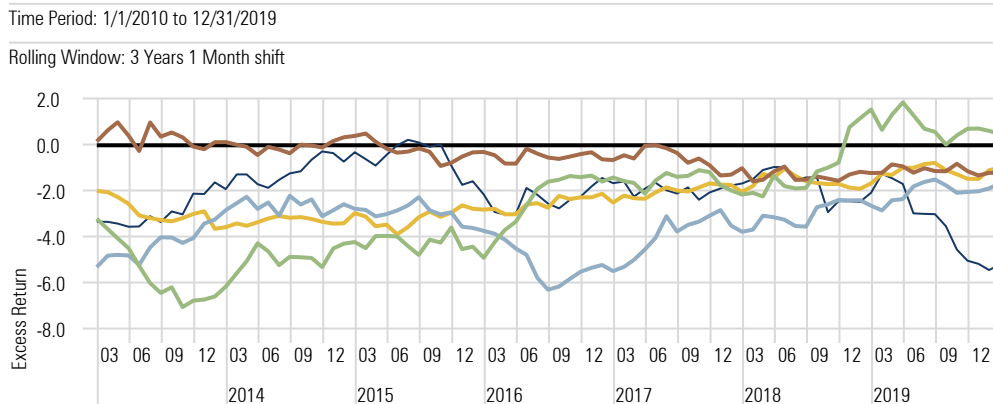


# Risk/Return Performance Analysis

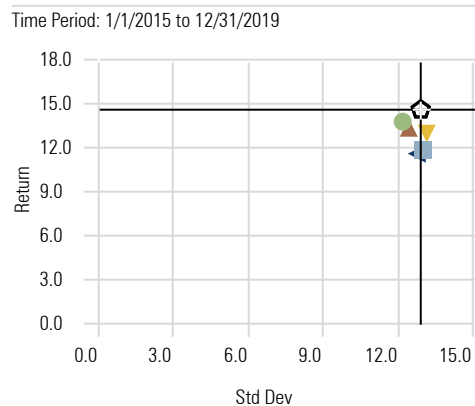
## Standard Deviation



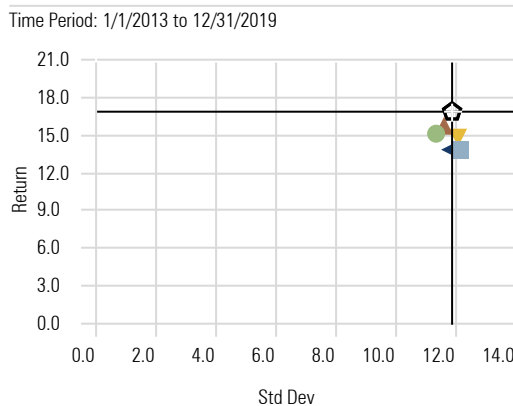
## 3 Year Relative Rolling Returns



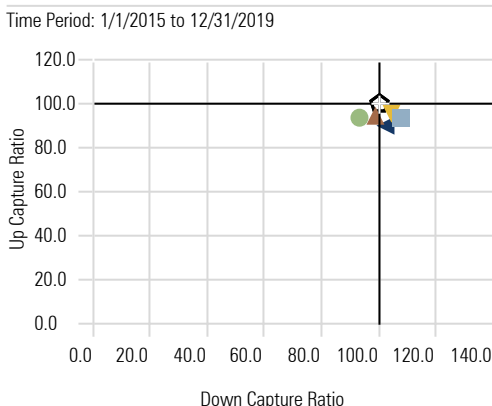
## 5 Year Risk-Reward



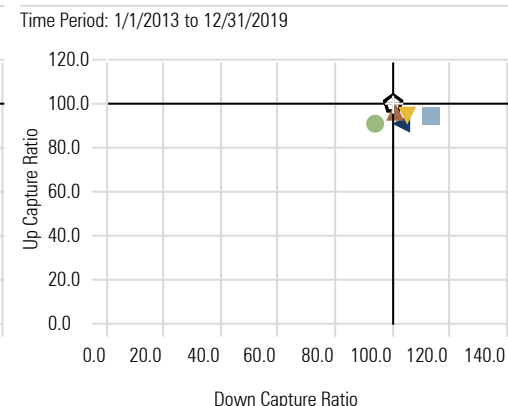
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



- Amana Growth Institutional
- American Century Growth R

- Voya Large Cap Growth Port I
- American Funds Growth Fund of Amer R2

- Alger Responsible Investing A
- Russell 1000 Growth TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

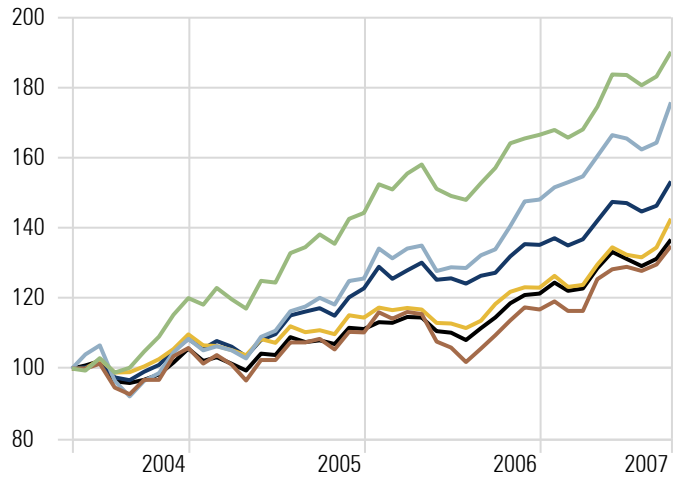
Time Period: Since Common Inception (6/1/2004) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
Amana Growth Institutional	12.1	13.0	2.6	0.88	92	17.5	-18.3	0.82	4.2
Voya Large Cap Growth Port I	11.2	14.7	0.9	0.99	92	16.7	-19.1	0.67	4.2
Alger Responsible Investing A	9.3	15.4	-1.2	1.04	92	18.3	-24.4	0.52	4.4
American Century Growth R	9.6	14.2	-0.6	0.99	98	15.8	-23.0	0.58	2.2
American Funds Growth Fund of Amer R2	8.9	14.1	-1.1	0.96	94	16.6	-23.3	0.53	3.4
Russell 1000 Growth TR USD	10.4	14.2	0.0	1.00	100	16.3	-22.8	0.64	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

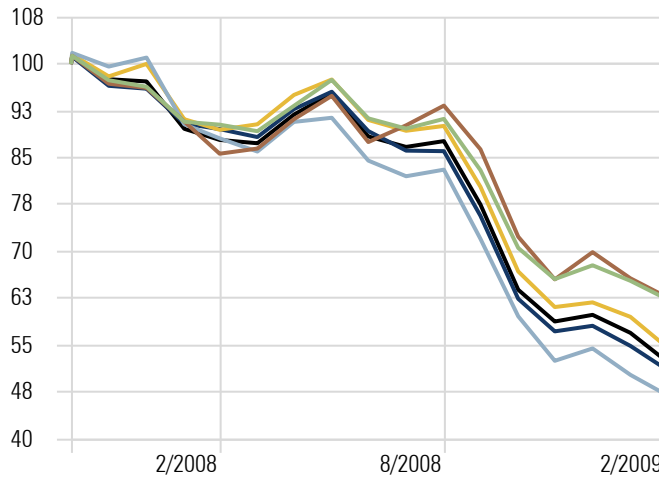
Time Period: 5/4/2004 to 9/30/2007



190	135	Amana Growth Institutional	Alger Responsible Investing A
143	153	American Century Growth R	Russell 1000 Growth TR USD
		American Funds Growth Fund of Amer R2	Voya Large Cap Growth Port I

## Credit Crunch - Financial Crisis

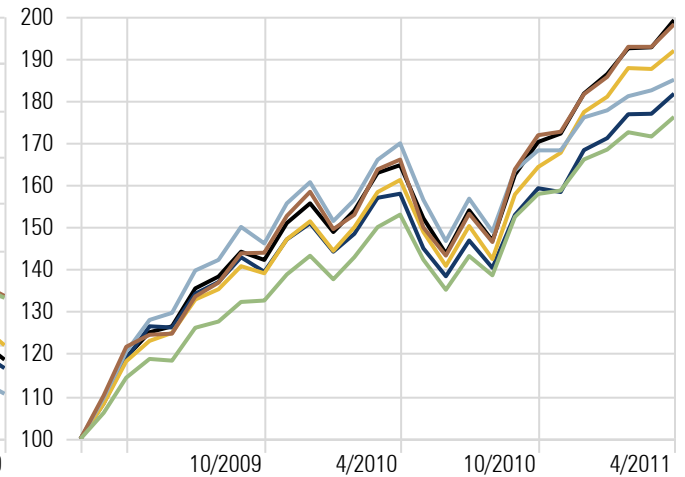
Time Period: 10/31/2007 to 2/28/2009



63	63	Amana Growth Institutional	Alger Responsible Investing A
55	51	American Century Growth R	Russell 1000 Growth TR USD
		American Funds Growth Fund of Amer R2	Voya Large Cap Growth Port I

## Financial Crisis Recovery - QE1&2

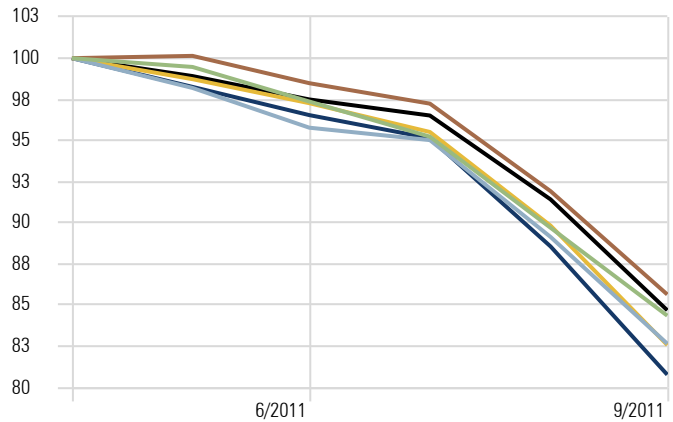
Time Period: 3/1/2009 to 4/30/2011



176.4	183	Amana Growth Institutional	Alger Responsible Investing A
192.1	181.9	American Century Growth R	Russell 1000 Growth TR USD
		American Funds Growth Fund of Amer R2	Voya Large Cap Growth Port I

## Double Dip

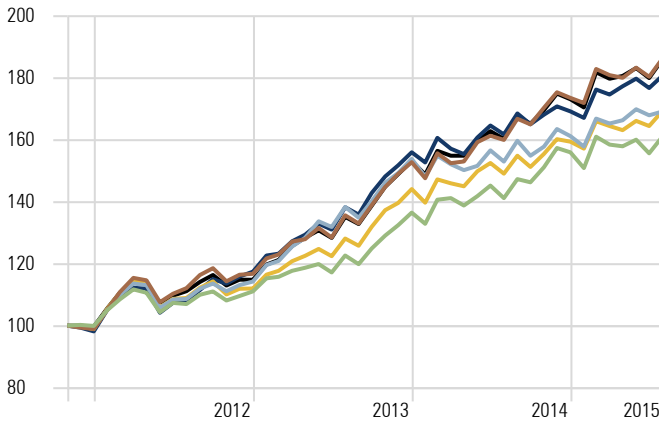
Time Period: 5/1/2011 to 9/30/2011



84.4	85.6	Amana Growth Institutional	Alger Responsible Investing A
82.6	80.8	American Century Growth R	Russell 1000 Growth TR USD
		American Funds Growth Fund of Amer R2	Voya Large Cap Growth Port I

## US Recovery Continues - Global Markets Lag

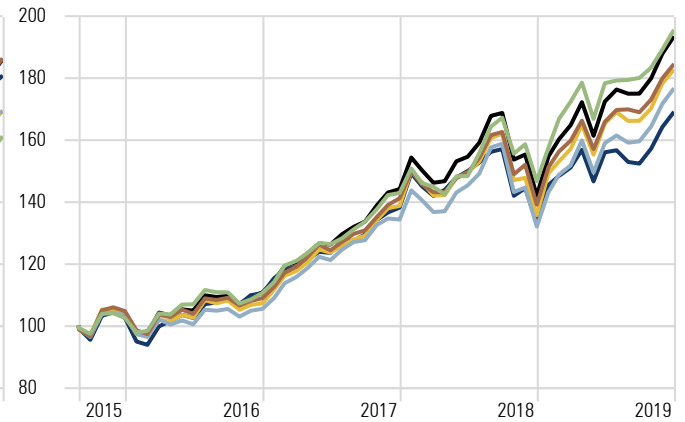
Time Period: 11/1/2011 to 7/31/2015



161.4	186.6	Amana Growth Institutional	Alger Responsible Investing A
169.6	181.1	American Century Growth R	Russell 1000 Growth TR USD
		American Funds Growth Fund of Amer R2	Voya Large Cap Growth Port I

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



169.4	195.9	Amana Growth Institutional	Alger Responsible Investing A
183.0	169.3	American Century Growth R	Russell 1000 Growth TR USD
		American Funds Growth Fund of Amer R2	Voya Large Cap Growth Port I

- Amana Growth Institutional
- American Century Growth R

- Voya Large Cap Growth Port I
- ◀ American Funds Growth Fund of Amer R2

- Alger Responsible Investing A
- ◻ Russell 1000 Growth TR USD

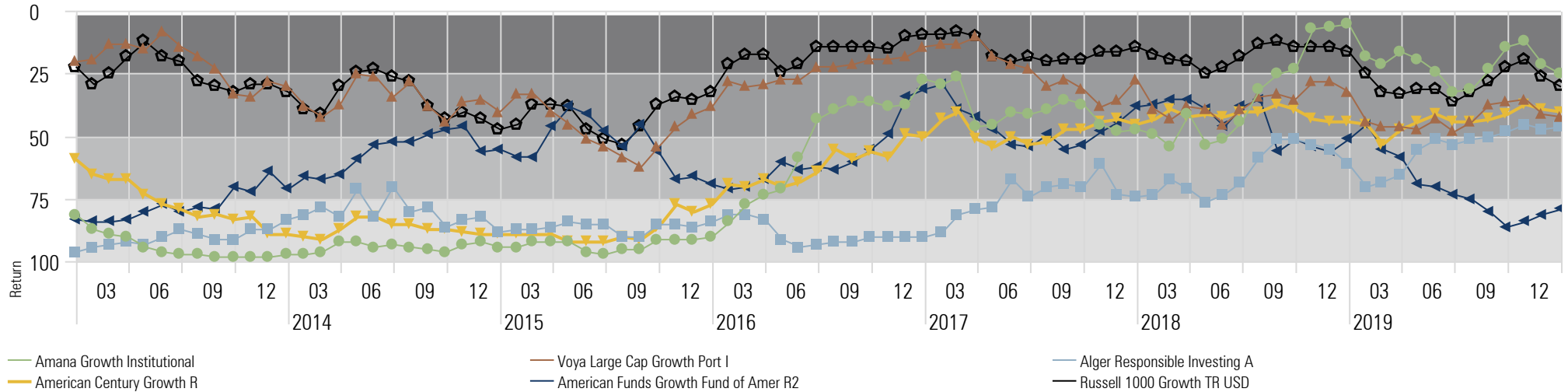
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

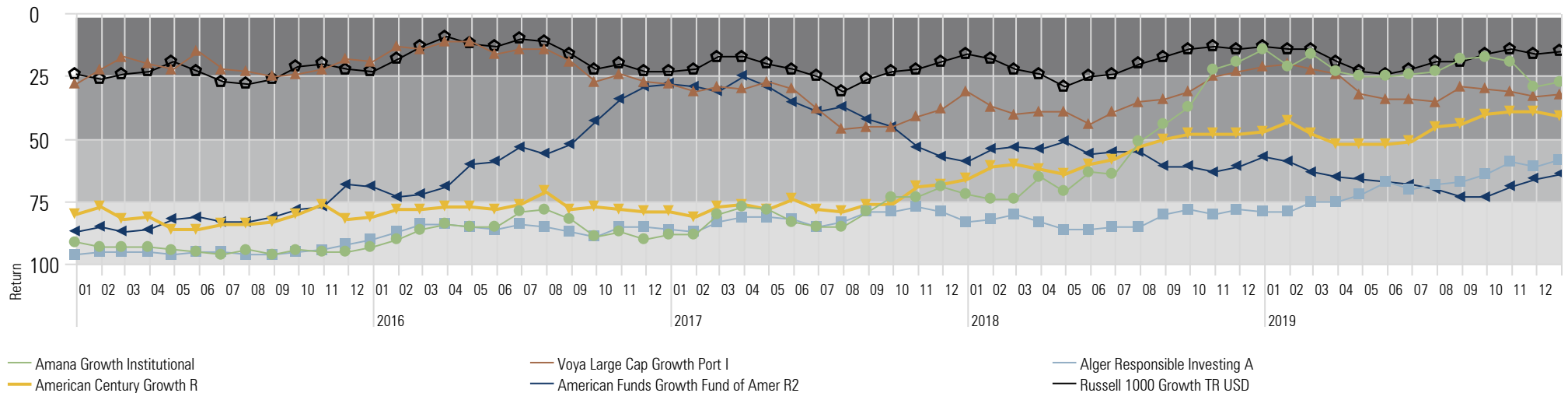


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile





## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Large Growth</b>																		
Amana Growth Institutional	8.7	<b>70</b>	-1.97	33.4	<b>40</b>	-2.98	33.4	<b>40</b>	-2.98	21.0	<b>25</b>	0.50	13.8	<b>27</b>	-0.86	13.0	<b>66</b>	-2.24
Voya Large Cap Growth Port I	9.3	<b>56</b>	-1.36	32.8	<b>47</b>	-3.63	32.8	<b>47</b>	-3.63	19.3	<b>42</b>	-1.21	13.4	<b>32</b>	-1.21	14.5	<b>23</b>	-0.72
Alger Responsible Investing A	10.8	<b>23</b>	0.14	33.9	<b>37</b>	-2.48	33.9	<b>37</b>	-2.48	18.8	<b>46</b>	-1.66	11.9	<b>58</b>	-2.74	11.4	<b>89</b>	-3.78
American Century Growth R	10.0	<b>39</b>	-0.63	34.7	<b>31</b>	-1.65	34.7	<b>31</b>	-1.65	19.5	<b>40</b>	-0.97	13.0	<b>41</b>	-1.65	13.1	<b>62</b>	-2.10
American Funds Growth Fund of Amer R2	11.0	<b>20</b>	0.38	27.1	<b>88</b>	-9.28	27.1	<b>88</b>	-9.28	15.3	<b>79</b>	-5.19	11.5	<b>64</b>	-3.09	12.1	<b>81</b>	-3.11
Russell 1000 Growth TR USD	10.6			36.4			36.4			20.5			14.6			15.2		
Average	9.5			32.2			32.2			18.4			12.2			13.4		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Large Growth</b>																					
Amana Growth Institutional	33.4	<b>40</b>	-2.98	2.7	<b>11</b>	4.18	29.3	<b>42</b>	-0.92	7.9	<b>19</b>	0.77	-0.2	<b>84</b>	-5.88	14.3	<b>10</b>	1.24	23.0	<b>99</b>	-10.53
Voya Large Cap Growth Port I	32.8	<b>47</b>	-3.63	-1.5	<b>43</b>	0.03	29.7	<b>39</b>	-0.47	4.0	<b>45</b>	-3.11	6.4	<b>32</b>	0.71	13.6	<b>17</b>	0.57	31.0	<b>79</b>	-2.53
Alger Responsible Investing A	33.9	<b>37</b>	-2.48	-1.7	<b>46</b>	-0.16	27.4	<b>56</b>	-2.78	2.0	<b>61</b>	-5.09	2.5	<b>66</b>	-3.19	4.8	<b>93</b>	-8.26	34.7	<b>50</b>	1.26
American Century Growth R	34.7	<b>31</b>	-1.65	-2.1	<b>50</b>	-0.63	29.5	<b>41</b>	-0.75	3.6	<b>47</b>	-3.48	4.1	<b>51</b>	-1.59	10.6	<b>49</b>	-2.41	28.8	<b>93</b>	-4.73
American Funds Growth Fund of Amer R2	27.1	<b>88</b>	-9.28	-3.7	<b>65</b>	-2.15	25.2	<b>71</b>	-5.04	7.6	<b>20</b>	0.57	4.6	<b>47</b>	-1.04	8.5	<b>73</b>	-4.57	32.9	<b>67</b>	-0.58
Russell 1000 Growth TR USD	36.4			-1.5			30.2			7.1			5.7			13.0			33.5		
Average	32.2			-2.1			28.2			3.5			4.0			10.3			34.8		

# Voya Large Cap Growth Port I

IEOHX

Index: Russell 1000 Growth TR USD

Category: US Fund Large Growth

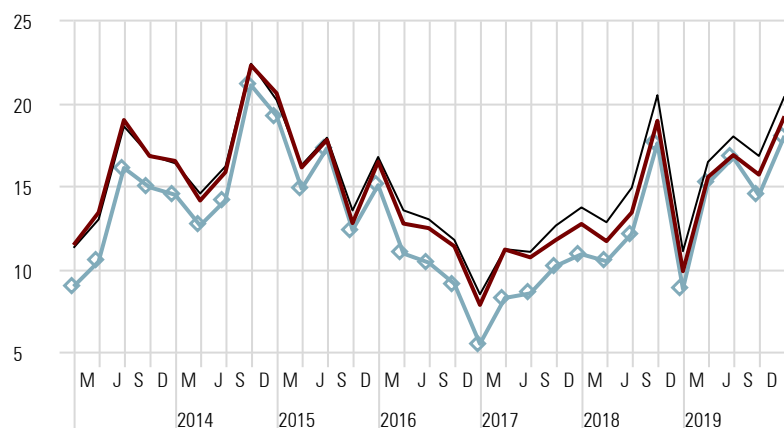
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 1000 Growth TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Voya Large Cap Growth Port I	32.8	32.8	19.3	13.4	14.5	11.3
Russell 1000 Growth TR USD	36.4	36.4	20.5	14.6	15.2	10.5
US Fund Large Growth	31.7	31.7	18.1	12.0	12.9	8.6

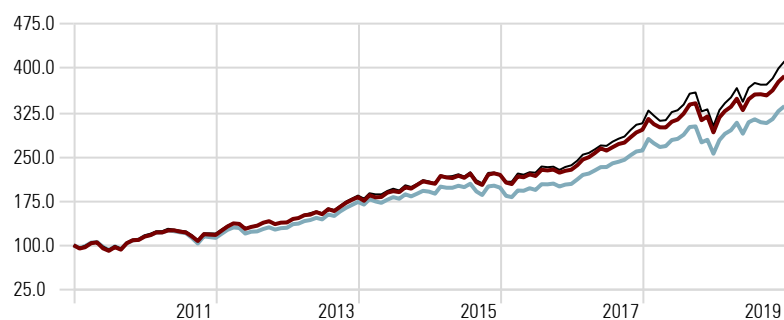
## Returns (Rolling 36 Months)



— Voya Large Cap Growth Port I — Russell 1000 Growth TR USD — US Fund Large Growth

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



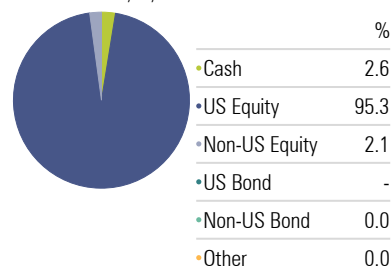
— Voya Large Cap Growth Port I — Russell 1000 Growth TR USD — US Fund Large Growth

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.67	1.06	
Gross Expense Ratio	0.67	1.49	
LT Earn Growth	12.5	11.9	9.1
Avg Mkt Cap (\$MMM)	129.1	191.3	47.9
P/E Ratio	30.6	27.0	16.3
P/B Ratio	6.6	5.8	2.0
P/S Ratio	4.1	3.6	1.4
P/CF Ratio	19.0	19.0	10.5
ROE %	31.4	30.8	20.5
ROA %	11.2	10.7	7.2
Dividend Yld	0.9	1.0	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

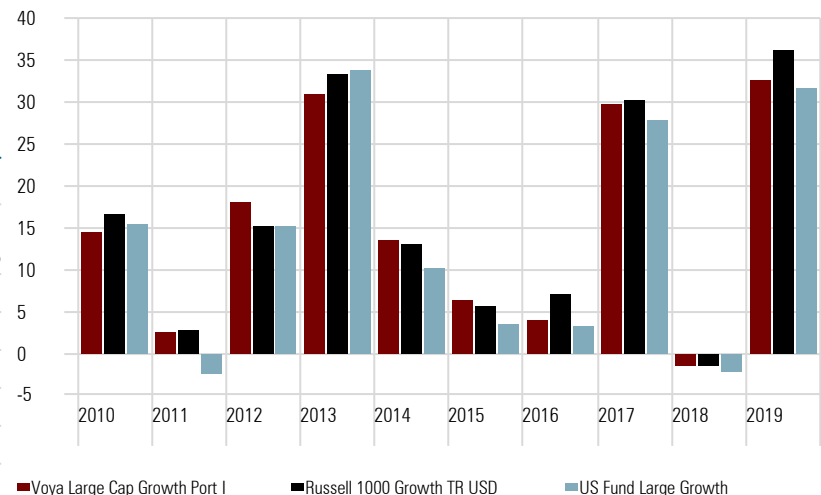


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 1000 Growth TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Voya Large Cap Growth Port I	65.8	34.2	11.8	-9.7	16.7	-14.5	98.7	102.5
Russell 1000 Growth TR USD	65.8	34.2	11.0	-8.9	16.1	-15.9	100.0	100.0
US Fund Large Growth	65.0	35.0	11.8	-9.0	15.8	-15.6	96.4	109.4

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.3	-0.7	12.4	-0.5
Down Deviation	1.6	0.3	1.6	0.0
Beta	0.9	-0.1	1.0	0.0
Alpha	0.3	1.9	-0.5	1.7
Sharpe	1.4	0.2	1.0	0.1
Sortino	2.1	0.2	1.6	0.2
Info Ratio	-0.6	1.1	-0.6	1.0
Down Capture	93.8	-5.1	98.9	-6.8
Up Capture	94.2	1.5	95.2	2.1

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
Amazon.com Inc	6.9	Energy	0	1
Microsoft Corp	6.8	Materials	1	2
Apple Inc	6.0	Industrials	10	8
Facebook Inc A	5.3	Cons Discretionary	14	15
Visa Inc Class A	4.5	Consumer Staples	5	4
Intuit Inc	3.0	Healthcare	15	15
Merck & Co Inc	2.7	Financials	3	5
Alphabet Inc A	2.6	Info Technology	40	36
Goldman Sachs FS Government Instl	2.6	Telecom Services	9	12
Salesforce.com Inc	2.5	Utilities	0	1
		Real Estate %	2.4	1.6

# Amana Growth Institutional

AMIGX

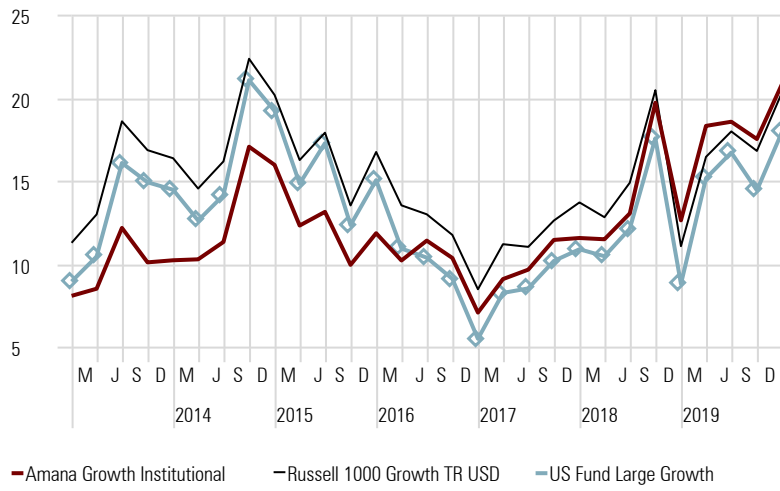
**Index:** Russell 1000 Growth TR USD  
**Category:** US Fund Large Growth  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 1000 Growth TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Amana Growth Institutional	33.4	33.4	21.0	13.8	13.0	11.2
Russell 1000 Growth TR USD	36.4	36.4	20.5	14.6	15.2	10.5
US Fund Large Growth	31.7	31.7	18.1	12.0	12.9	8.6

## Returns (Rolling 36 Months)

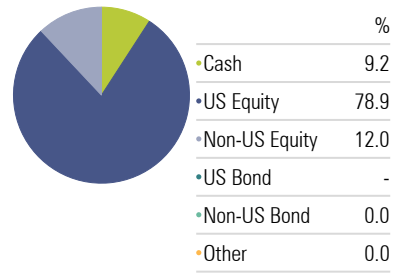


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.79	1.06	
Gross Expense Ratio	0.79	1.49	
LT Earn Growth	11.4	11.9	9.1
Avg Mkt Cap (\$MMM)	77.0	191.3	47.9
P/E Ratio	24.8	27.0	16.3
P/B Ratio	7.4	5.8	2.0
P/S Ratio	3.3	3.6	1.4
P/CF Ratio	18.8	19.0	10.5
ROE %	39.3	30.8	20.5
ROA %	13.8	10.7	7.2
Dividend Yld	1.7	1.0	2.8

## Asset Allocation

Portfolio Date: 2/29/2020

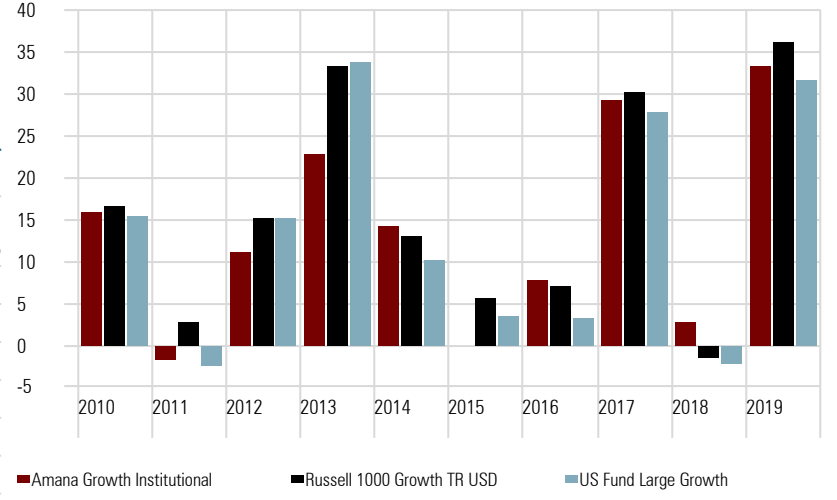


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 1000 Growth TR USD

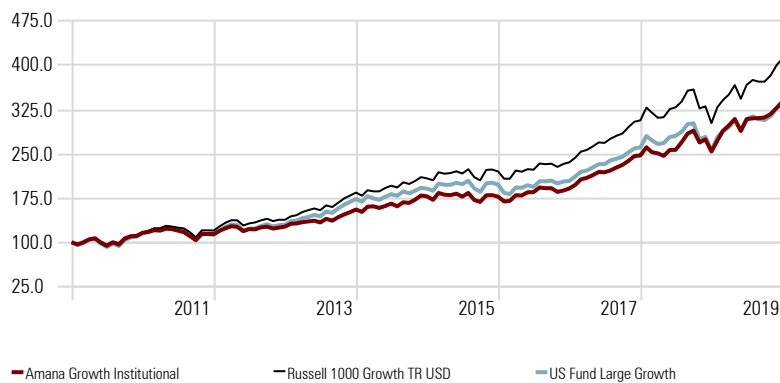
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Amana Growth Institutional	65.8	34.2	10.0	-7.5	17.5	-13.4	88.9	92.7
Russell 1000 Growth TR USD	65.8	34.2	11.0	-8.9	16.1	-15.9	100.0	100.0
US Fund Large Growth	65.0	35.0	11.8	-9.0	15.8	-15.6	96.4	109.4

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.2	-0.8	12.2	-0.7
Down Deviation	2.5	1.1	2.5	0.9
Beta	0.9	-0.1	0.9	-0.1
Alpha	2.4	4.0	0.4	2.6
Sharpe	1.6	0.3	1.0	0.2
Sortino	2.4	0.5	1.7	0.3
Info Ratio	0.1	1.8	-0.3	1.3
Down Capture	83.4	-15.5	93.5	-12.2
Up Capture	95.3	2.7	93.9	0.8

## Top 10 Holdings

Company	Fund %
Adobe Inc	6.7
Apple Inc	6.7
Intuit Inc	5.8
ASML Holding NV ADR	4.1
The Estee Lauder Companies Inc Class A	4.1
TJX Companies Inc	4.0
Church & Dwight Co Inc	4.0
Amgen Inc	3.4
Agilent Technologies Inc	3.3
Taiwan Semiconductor Manufacturing Co Ltd ADR	3.2

## Sector Allocation (%)

Sector	Fund %	Inv	Avg
Energy	0.0	0	
Materials	0.0	0	
Industrials	12.0	12	
Cons Discretionary	7.0	7	
Consumer Staples	13.0	13	
Healthcare	19.0	19	
Financials	0.0	0	
Info Technology	49.0	49	
Telecom Services	0.0	0	
Utilities	0.0	0	
Real Estate %	0.0	0.0	

# Large Cap Growth Funds 2

As of 12/31/2019



# US Fund Large Growth

## Amana Growth Institutional

### Investment Strategy

The investment seeks long-term capital growth, consistent with Islamic principles. The fund normally invests at least 80% of total net assets in common stocks. It invests only in common stocks, including foreign stocks. Investment decisions are made in accordance with Islamic principles. The fund diversifies its investments across industries and companies, and principally follows a large-cap value investment style.

### Manager Biography

Nicholas F. Kaiser since 2/3/1994

Scott F. Klimo since 9/14/2012

Monem Salam since 7/31/2018

## Amana Growth Institutional - Oper

Inception Date	9/25/2013
Fund Size (\$mm)	2,289
Annual Report Net Expense Ratio	0.84
Prospectus Net Expense Ratio	0.79
Prospectus Gross Expense Ratio	0.79
Ticker	AMIGX
Manager Tenure (Longest)	25.92
Manager Tenure (Average)	11.58
Morningstar Inst Cat	Large Core Growth

### Other Notes:

None

## Voya Large Cap Growth Port I

### Investment Strategy

The investment seeks long-term capital growth. The Portfolio invests at least 80% of its net assets (plus borrowings for investment purposes) in common stocks of large-capitalization companies. It normally invests in companies that the sub-adviser believes have above-average growth prospects. For this Portfolio, the Sub-Adviser defines large-capitalization companies as companies with market capitalizations which fall within the range of companies in the Russell 1000® Growth Index at the time of purchase.

### Manager Biography

Jeffrey Bianchi since 6/11/2010

Michael Pytosh since 3/1/2012

Kristy Finnegan since 8/1/2019

## Voya Large Cap Growth Port I - Op

Inception Date	5/2/2005
Fund Size (\$mm)	6,072
Annual Report Net Expense Ratio	0.67
Prospectus Net Expense Ratio	0.67
Prospectus Gross Expense Ratio	0.67
Ticker	IEOHX
Manager Tenure (Longest)	9.58
Manager Tenure (Average)	5.94
Morningstar Inst Cat	Large Core Growth

### Other Notes:

None

## MFS Massachusetts Inv Gr Stk R2

### Investment Strategy

The investment seeks capital appreciation. The fund normally invests at least 80% of the fund's net assets in stocks. Stocks include common stocks and other securities that represent an ownership interest (or right to acquire an ownership interest) in a company or other issuer. The advisor focuses on investing the fund's assets in the stocks of companies its advisor believes to have above average earnings growth potential compared to other companies (growth companies).

### Manager Biography

Jeffrey C. Constantino since 11/16/2006

Joseph Skorski since 7/1/2019

## MFS Massachusetts Inv Gr Stk R2

Inception Date	10/31/2003
Fund Size (\$mm)	8,898
Annual Report Net Expense Ratio	0.97
Prospectus Net Expense Ratio	0.98
Prospectus Gross Expense Ratio	0.98
Ticker	MIRGX
Manager Tenure (Longest)	13.17
Manager Tenure (Average)	6.83
Morningstar Inst Cat	Large Core Growth

### Other Notes:

None

## Voya Large Cap Growth Port A

### Investment Strategy

The investment seeks long-term capital growth. The Portfolio invests at least 80% of its net assets (plus borrowings for investment purposes) in common stocks of large-capitalization companies. It normally invests in companies that the sub-adviser believes have above-average growth prospects. For this Portfolio, the Sub-Adviser defines large-capitalization companies as companies with market capitalizations which fall within the range of companies in the Russell 1000® Growth Index at the time of purchase.

### Manager Biography

Jeffrey Bianchi since 6/11/2010

Michael Pytosh since 3/1/2012

Kristy Finnegan since 8/1/2019

## Voya Large Cap Growth Port A - Op

Inception Date	12/29/2006
Fund Size (\$mm)	6,072
Annual Report Net Expense Ratio	1.27
Prospectus Net Expense Ratio	1.27
Prospectus Gross Expense Ratio	1.27
Ticker	IEOPX
Manager Tenure (Longest)	9.58
Manager Tenure (Average)	5.94
Morningstar Inst Cat	Large Core Growth

### Other Notes:

None

## VY® T. Rowe Price Growth Equity A

### Investment Strategy

The investment seeks long-term growth through investments in stocks. Under normal market conditions, the Portfolio invests at least 80% of its net assets (plus borrowings for investment purposes) in common stocks of large-capitalization companies. The Portfolio concentrates its investments in growth companies. The sub-adviser ("Sub-Adviser") seeks investments in companies that have the ability to pay increasing dividends through strong cash flows and whose rates of earnings growth are considered above average.

### Manager Biography

Joseph B. Fath since 1/16/2014

## VY® T. Rowe Price Growth Equity

Inception Date	12/10/2001
Fund Size (\$mm)	1,747
Annual Report Net Expense Ratio	1.21
Prospectus Net Expense Ratio	1.21
Prospectus Gross Expense Ratio	1.23
Ticker	IGEAX
Manager Tenure (Longest)	6.00
Manager Tenure (Average)	6.00
Morningstar Inst Cat	Large High Growth

### Other Notes:

None

# Portfolio Analysis

## Amana Growth Institutional

## Voya Large Cap Growth Port I

## MFS Massachusetts Inv Gr Stk R2

## Voya Large Cap Growth Port A

## VY® T. Rowe Price Growth Equity A

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	8	44	29	Market Cap Giant %	45
	0	9	10	Market Cap Large %	36
Mid				Market Cap Mid %	19
Small	0	0	0	Market Cap Small %	0
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	7	36	46	Market Cap Giant %	49
	0	1	9	Market Cap Large %	40
Mid				Market Cap Mid %	10
Small	0	0	0	Market Cap Small %	0
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	5	41	46	Market Cap Giant %	51
	0	1	6	Market Cap Large %	42
Mid				Market Cap Mid %	7
Small	0	0	0	Market Cap Small %	0
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	7	36	46	Market Cap Giant %	49
	0	1	9	Market Cap Large %	40
Mid				Market Cap Mid %	10
Small	0	0	0	Market Cap Small %	0
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	2	25	64	Market Cap Giant %	56
	2	2	5	Market Cap Large %	35
Mid				Market Cap Mid %	8
Small	0	0	0	Market Cap Small %	0
				Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell 1000 Growth TR USD

	Inv Bmk1
Average Market Cap (bil)	80.3 144.0
Forward P/E	21.6 23.5
P/E Ratio (TTM)	26.5 28.6
LT Earn Growth	10.9 11.9
P/B Ratio (TTM)	7.3 7.8
Dividend Yield	1.5 1.2
ROE %	39.6 34.6
ROA %	14.0 11.5
Debt to Capital %	40 46

### Valuation Data

Display Benchmark 1: Russell 1000 Growth TR USD

	Inv Bmk1
Average Market Cap (bil)	129.2 144.0
Forward P/E	22.9 23.5
P/E Ratio (TTM)	30.4 28.6
LT Earn Growth	12.3 11.9
P/B Ratio (TTM)	6.4 7.8
Dividend Yield	1.1 1.2
ROE %	30.9 34.6
ROA %	10.9 11.5
Debt to Capital %	47 46

### Valuation Data

Display Benchmark 1: Russell 1000 Growth TR USD

	Inv Bmk1
Average Market Cap (bil)	108.9 144.0
Forward P/E	24.1 23.5
P/E Ratio (TTM)	27.1 28.6
LT Earn Growth	10.5 11.9
P/B Ratio (TTM)	5.6 7.8
Dividend Yield	1.3 1.2
ROE %	32.7 34.6
ROA %	11.5 11.5
Debt to Capital %	43 46

### Valuation Data

Display Benchmark 1: Russell 1000 Growth TR USD

	Inv Bmk1
Average Market Cap (bil)	129.2 144.0
Forward P/E	22.9 23.5
P/E Ratio (TTM)	30.4 28.6
LT Earn Growth	12.3 11.9
P/B Ratio (TTM)	6.4 7.8
Dividend Yield	1.1 1.2
ROE %	30.9 34.6
ROA %	10.9 11.5
Debt to Capital %	47 46

### Valuation Data

Display Benchmark 1: Russell 1000 Growth TR USD

	Inv Bmk1
Average Market Cap (bil)	155.8 144.0
Forward P/E	26.1 23.5
P/E Ratio (TTM)	31.5 28.6
LT Earn Growth	14.3 11.9
P/B Ratio (TTM)	5.5 7.8
Dividend Yield	0.7 1.2
ROE %	25.9 34.6
ROA %	10.6 11.5
Debt to Capital %	39 46

### Portfolio Data

	Inv Bmk1
Turnover Ratio	0
# of Stock Holdings	34 530
% in Top 10	44.7 36.9
Cash %	5.7 0.0
Developed %	94.3 99.9
US Equity %	82.5 99.8
Non-US Equity %	12 0
Emerging Mkt %	0.0 0.1

### Portfolio Data

	Inv Bmk1
Turnover Ratio	85
# of Stock Holdings	52 530
% in Top 10	41.7 36.9
Cash %	0.9 0.0
Developed %	97.5 99.9
US Equity %	97.5 99.8
Non-US Equity %	2 0
Emerging Mkt %	1.6 0.1

### Portfolio Data

	Inv Bmk1
Turnover Ratio	18
# of Stock Holdings	58 530
% in Top 10	34.2 36.9
Cash %	0.8 0.0
Developed %	97.4 99.9
US Equity %	90.7 99.8
Non-US Equity %	8 0
Emerging Mkt %	1.8 0.1

### Portfolio Data

	Inv Bmk1
Turnover Ratio	85
# of Stock Holdings	52 530
% in Top 10	41.7 36.9
Cash %	0.9 0.0
Developed %	97.5 99.9
US Equity %	97.5 99.8
Non-US Equity %	2 0
Emerging Mkt %	1.6 0.1

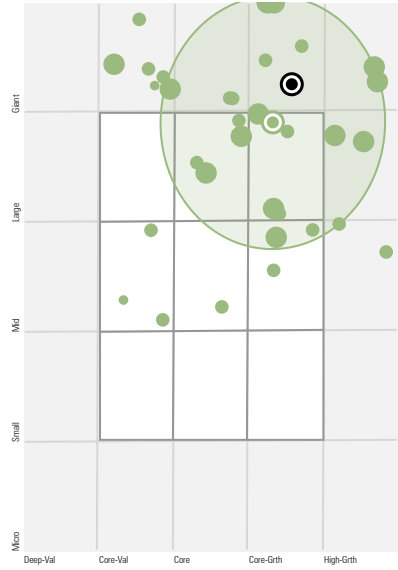
### Portfolio Data

	Inv Bmk1
Turnover Ratio	47
# of Stock Holdings	84 530
% in Top 10	41.9 36.9
Cash %	0.4 0.0
Developed %	91.0 99.9
US Equity %	85.4 99.8
Non-US Equity %	12 0
Emerging Mkt %	6.2 0.1

# Holdings-Based Style Analysis

## Amana Growth Institutional

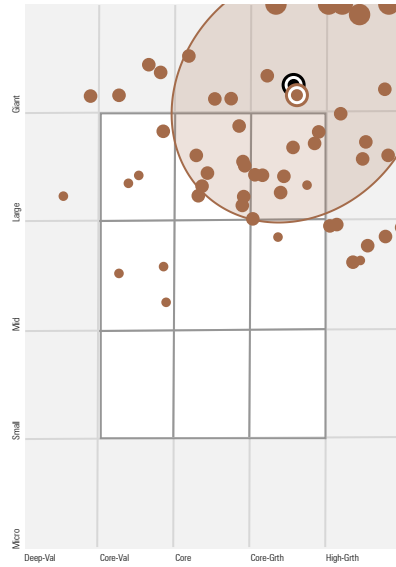
### Holdings-Based Style Map



● Amana Growth Institutional 12/31/2019 ● Russell 1000 Growth TR USD 12/31/2019

## Voya Large Cap Growth Port I

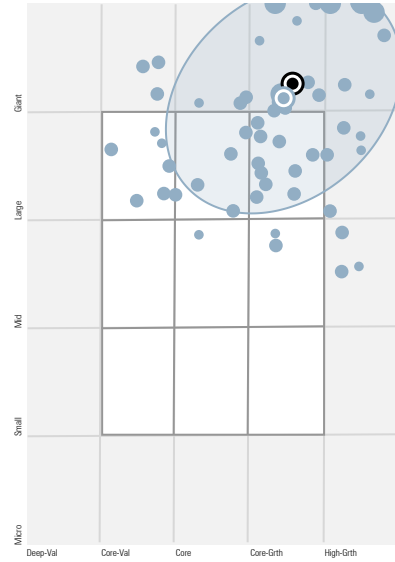
### Holdings-Based Style Map



● Voya Large Cap Growth Port I 12/31/2019 ● Russell 1000 Growth TR USD 12/31/2019

## MFS Massachusetts Inv Gr Stk R2

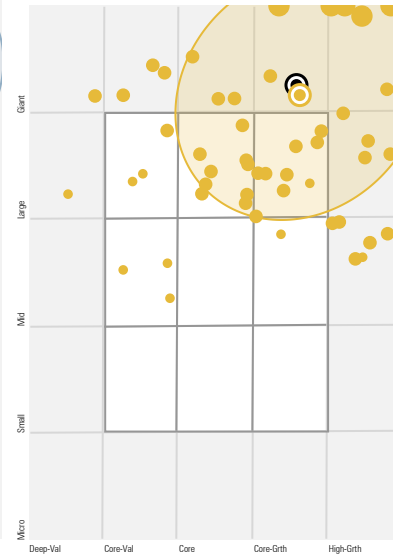
### Holdings-Based Style Map



● MFS Massachusetts Inv Gr Stk R2 11/30/2019 ● Russell 1000 Growth TR USD 12/31/2019

## Voya Large Cap Growth Port A

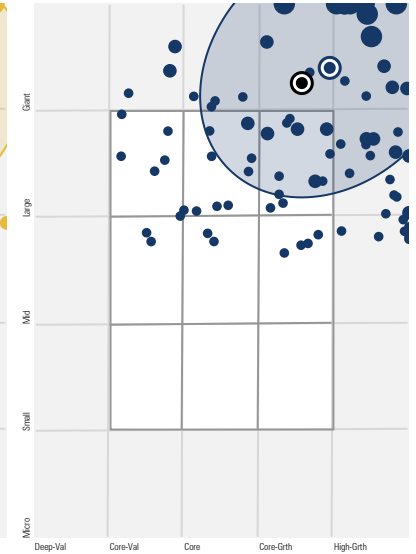
### Holdings-Based Style Map



● Voya Large Cap Growth Port A 12/31/2019 ● Russell 1000 Growth TR USD 12/31/2019

## VY® T. Rowe Price Growth Equity A

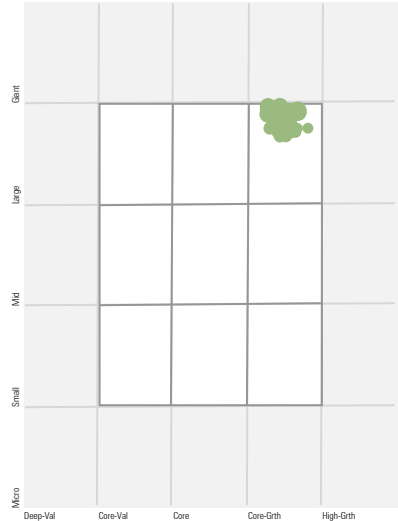
### Holdings-Based Style Map



● VY® T. Rowe Price Growth Equity A 12/31/2019 ● Russell 1000 Growth TR USD 12/31/2019

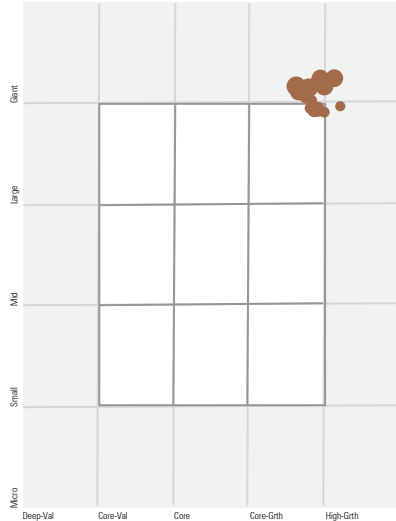
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



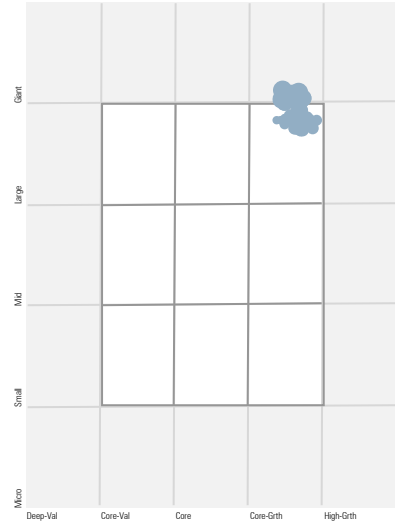
### Holdings-Based Style Trail

Time Period: 6/30/2015 to 12/31/2019



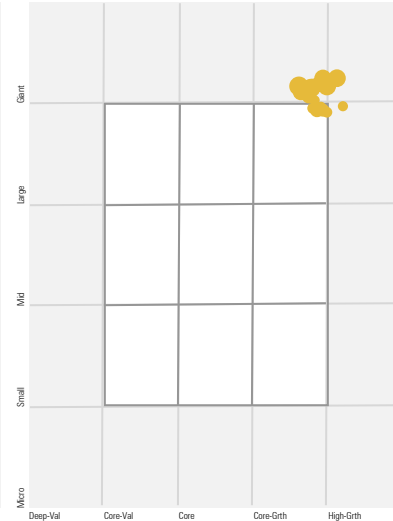
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



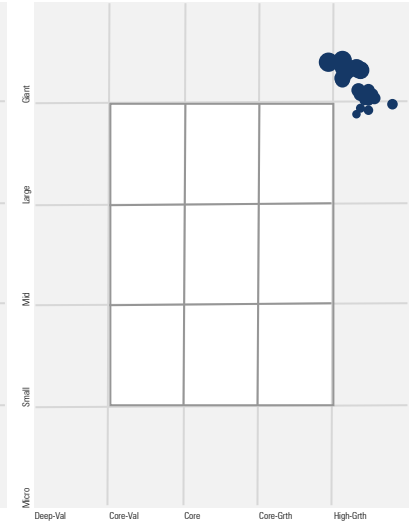
### Holdings-Based Style Trail

Time Period: 6/30/2015 to 12/31/2019



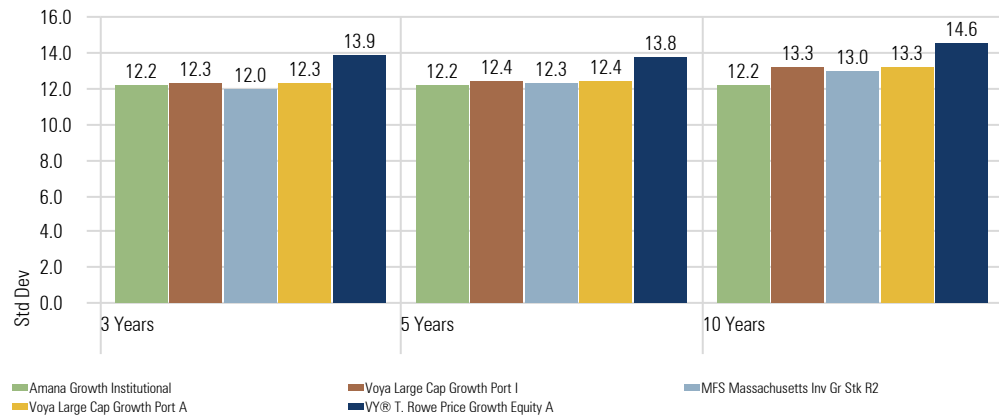
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019

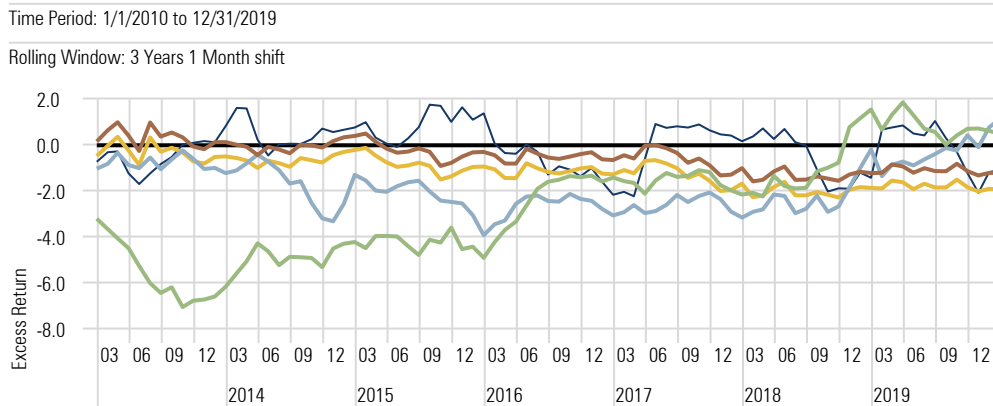


# Risk/Return Performance Analysis

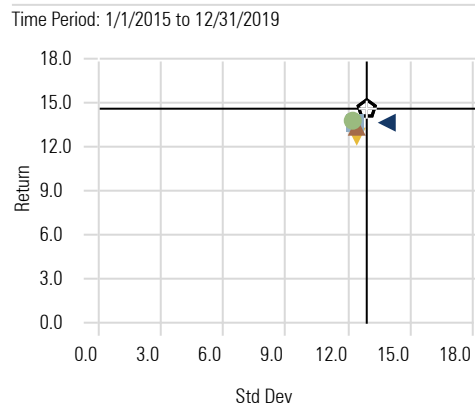
## Standard Deviation



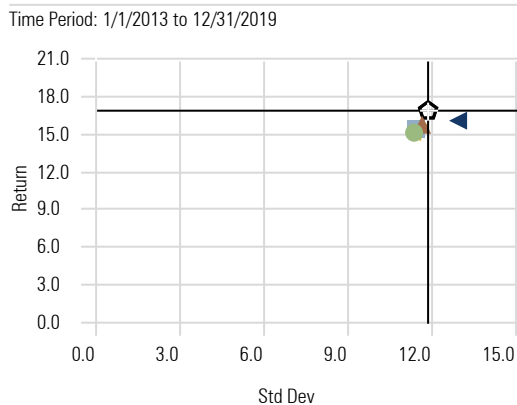
## 3 Year Relative Rolling Returns



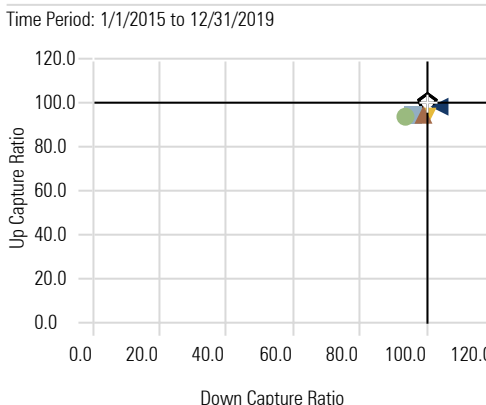
## 5 Year Risk-Reward



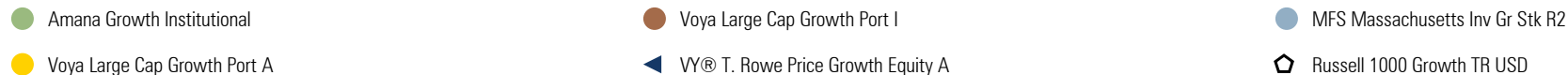
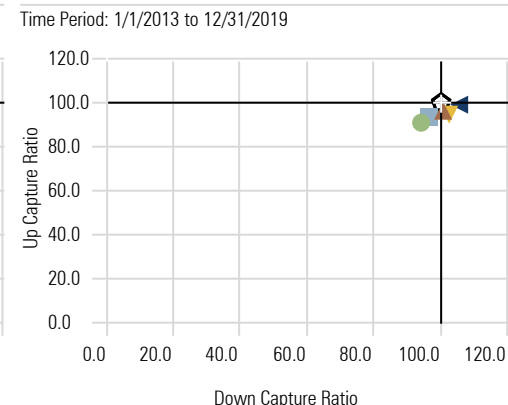
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (6/1/2004) to 12/31/2019

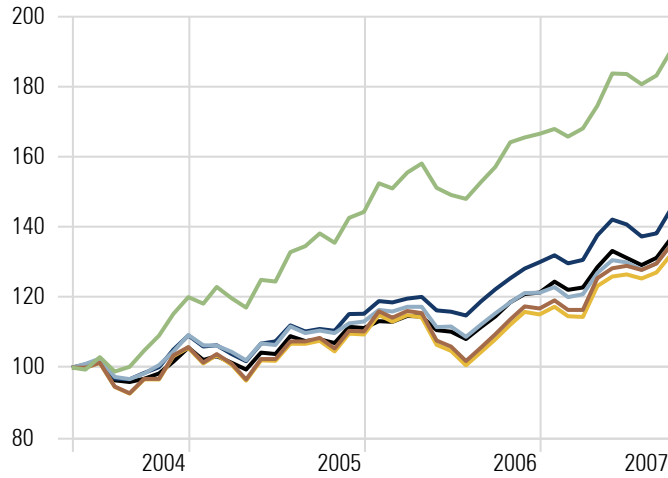
	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
Amana Growth Institutional	12.1	13.0	2.6	0.88	92	17.5	-18.3	0.82	4.2
Voya Large Cap Growth Port I	11.2	14.7	0.9	0.99	92	16.7	-19.1	0.67	4.2
MFS Massachusetts Inv Gr Stk R2	9.9	13.9	-0.1	0.96	96	17.5	-23.8	0.61	2.9
Voya Large Cap Growth Port A	10.6	14.7	0.3	0.99	92	16.6	-19.2	0.63	4.2
VY® T. Rowe Price Growth Equity A	10.1	15.3	-0.6	1.05	95	19.0	-23.7	0.57	3.5
Russell 1000 Growth TR USD	10.4	14.2	0.0	1.00	100	16.3	-22.8	0.64	0.0



# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

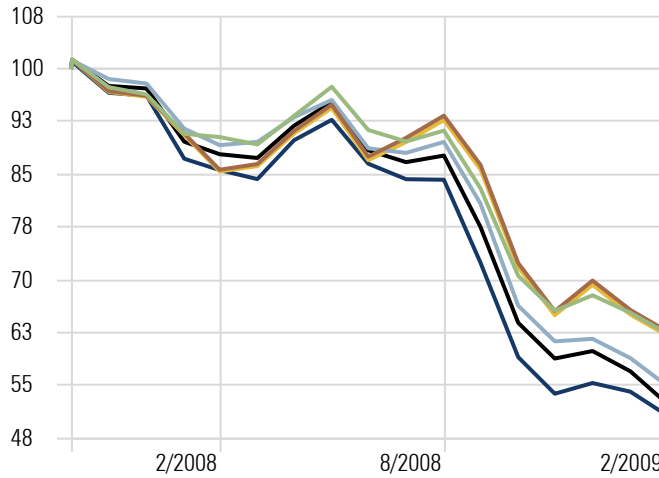
Time Period: 5/4/2004 to 9/30/2007



● Amana Growth Institutional 190  
● Voya Large Cap Growth Port I 135  
● MFS Massachusetts Inv Gr Stk R2 135  
● Voya Large Cap Growth Port A 132  
● VY® T. Rowe Price Growth Equity A 145  
● Russell 1000 Growth TR USD 137

## Credit Crunch - Financial Crisis

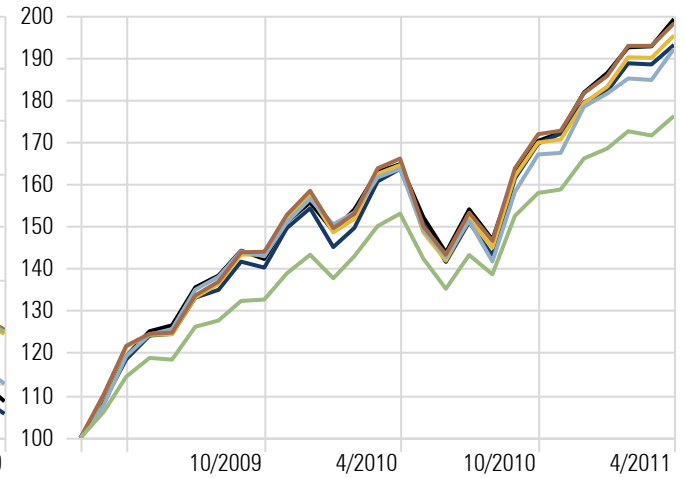
Time Period: 10/31/2007 to 2/28/2009



● Amana Growth Institutional 63  
● Voya Large Cap Growth Port I 63  
● MFS Massachusetts Inv Gr Stk R2 55  
● Voya Large Cap Growth Port A 62  
● VY® T. Rowe Price Growth Equity A 51  
● Russell 1000 Growth TR USD 53

## Financial Crisis Recovery - QE1&2

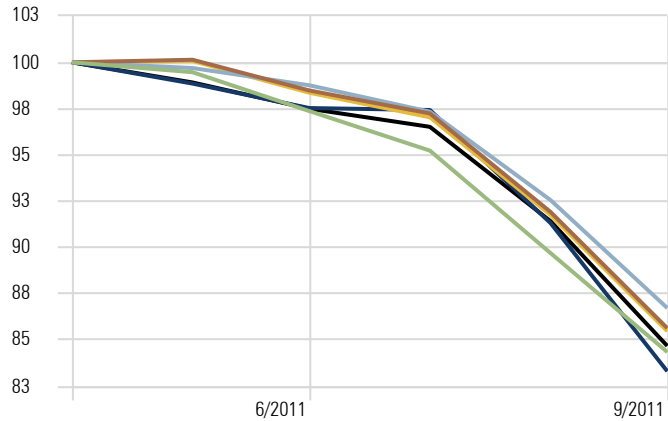
Time Period: 3/1/2009 to 4/30/2011



● Amana Growth Institutional 176.4  
● Voya Large Cap Growth Port I 198.3  
● MFS Massachusetts Inv Gr Stk R2 192.3  
● Voya Large Cap Growth Port A 195.4  
● VY® T. Rowe Price Growth Equity A 193.2  
● Russell 1000 Growth TR USD 199.3

## Double Dip

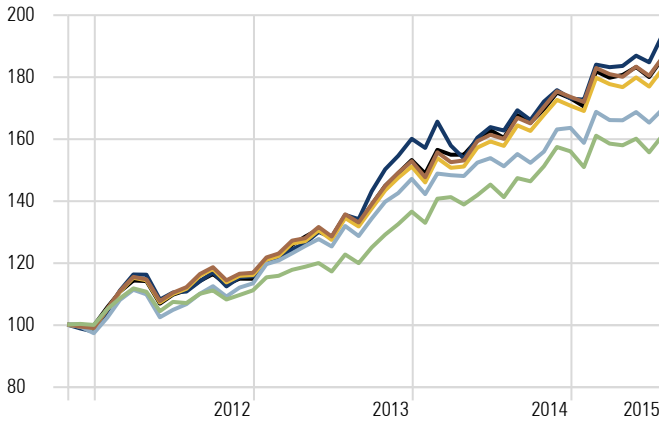
Time Period: 5/1/2011 to 9/30/2011



● Amana Growth Institutional 84.4  
● Voya Large Cap Growth Port I 85.6  
● MFS Massachusetts Inv Gr Stk R2 86.7  
● Voya Large Cap Growth Port A 85.5  
● VY® T. Rowe Price Growth Equity A 83.3  
● Russell 1000 Growth TR USD 84.7

## US Recovery Continues - Global Markets Lag

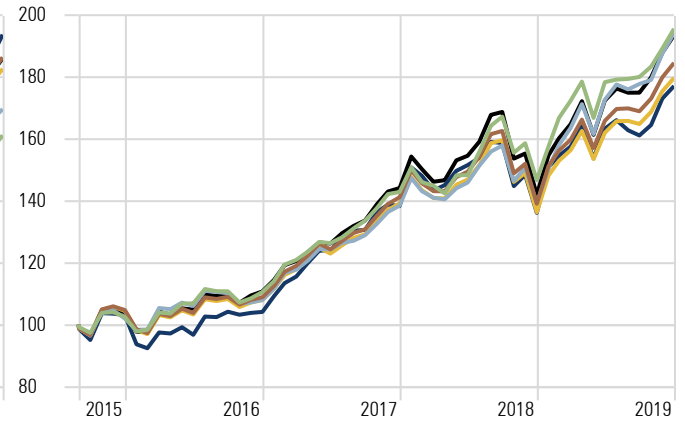
Time Period: 11/1/2011 to 7/31/2015



● Amana Growth Institutional 161.4  
● Voya Large Cap Growth Port I 186.6  
● MFS Massachusetts Inv Gr Stk R2 169.8  
● Voya Large Cap Growth Port A 182.9  
● VY® T. Rowe Price Growth Equity A 194.0  
● Russell 1000 Growth TR USD 186.3

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



● Amana Growth Institutional 195.9  
● Voya Large Cap Growth Port I 184.8  
● MFS Massachusetts Inv Gr Stk R2 194.4  
● Voya Large Cap Growth Port A 179.9  
● VY® T. Rowe Price Growth Equity A 177.3  
● Russell 1000 Growth TR USD 193.8

● Amana Growth Institutional  
● Voya Large Cap Growth Port A

● Voya Large Cap Growth Port I  
● VY® T. Rowe Price Growth Equity A

● MFS Massachusetts Inv Gr Stk R2  
● Russell 1000 Growth TR USD

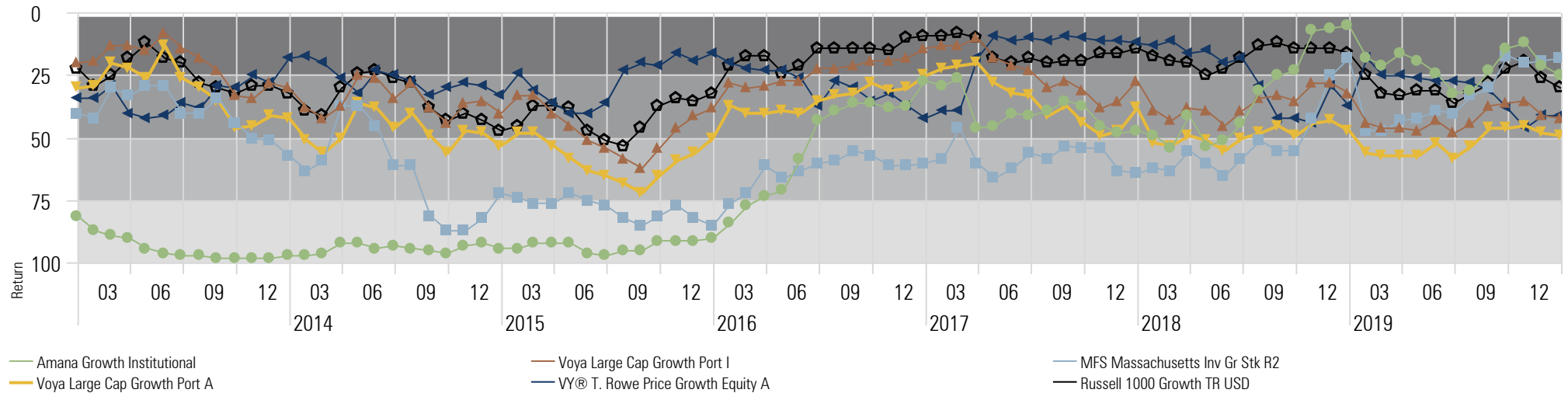
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

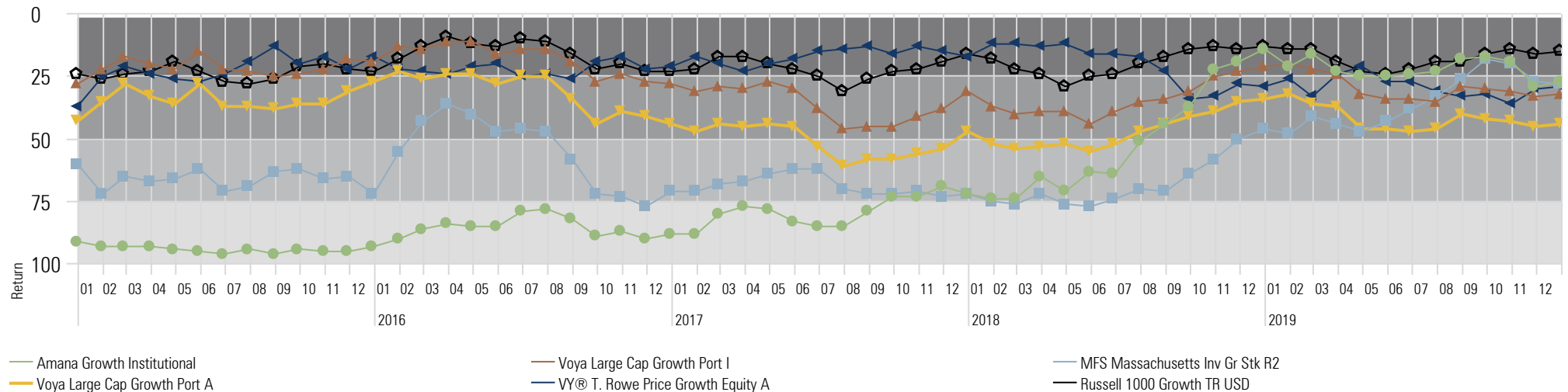


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Large Growth</b>																		
Amana Growth Institutional	8.7	<b>70</b>	-1.97	33.4	<b>40</b>	-2.98	33.4	<b>40</b>	-2.98	21.0	<b>25</b>	0.50	13.8	<b>27</b>	-0.86	13.0	<b>66</b>	-2.24
Voya Large Cap Growth Port I	9.3	<b>56</b>	-1.36	32.8	<b>47</b>	-3.63	32.8	<b>47</b>	-3.63	19.3	<b>42</b>	-1.21	13.4	<b>32</b>	-1.21	14.5	<b>23</b>	-0.72
MFS Massachusetts Inv Gr Stk R2	9.2	<b>57</b>	-1.39	39.5	<b>4</b>	3.12	39.5	<b>4</b>	3.12	21.6	<b>18</b>	1.16	13.7	<b>28</b>	-0.93	13.9	<b>40</b>	-1.28
Voya Large Cap Growth Port A	9.0	<b>61</b>	-1.57	31.9	<b>55</b>	-4.49	31.9	<b>55</b>	-4.49	18.6	<b>49</b>	-1.93	12.7	<b>44</b>	-1.90	13.8	<b>42</b>	-1.38
VY® T. Rowe Price Growth Equity A	9.9	<b>41</b>	-0.70	30.1	<b>69</b>	-6.24	30.1	<b>69</b>	-6.24	19.4	<b>41</b>	-1.07	13.7	<b>29</b>	-0.98	14.4	<b>24</b>	-0.79
Russell 1000 Growth TR USD	10.6			36.4			36.4			20.5			14.6			15.2		
Average	9.5			32.2			32.2			18.4			12.2			13.4		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Large Growth</b>																					
Amana Growth Institutional	33.4	<b>40</b>	-2.98	2.7	<b>11</b>	4.18	29.3	<b>42</b>	-0.92	7.9	<b>19</b>	0.77	-0.2	<b>84</b>	-5.88	14.3	<b>10</b>	1.24	23.0	<b>99</b>	-10.53
Voya Large Cap Growth Port I	32.8	<b>47</b>	-3.63	-1.5	<b>43</b>	0.03	29.7	<b>39</b>	-0.47	4.0	<b>45</b>	-3.11	6.4	<b>32</b>	0.71	13.6	<b>17</b>	0.57	31.0	<b>79</b>	-2.53
MFS Massachusetts Inv Gr Stk R2	39.5	<b>4</b>	3.12	0.6	<b>24</b>	2.08	28.3	<b>50</b>	-1.92	5.9	<b>31</b>	-1.17	-0.3	<b>84</b>	-5.99	11.2	<b>42</b>	-1.83	29.9	<b>86</b>	-3.63
Voya Large Cap Growth Port A	31.9	<b>55</b>	-4.49	-2.1	<b>50</b>	-0.55	29.0	<b>45</b>	-1.20	3.3	<b>49</b>	-3.74	5.7	<b>39</b>	0.05	13.0	<b>23</b>	-0.02	30.3	<b>83</b>	-3.19
VY® T. Rowe Price Growth Equity A	30.1	<b>69</b>	-6.24	-1.6	<b>44</b>	-0.06	32.9	<b>20</b>	2.70	1.0	<b>71</b>	-6.07	10.3	<b>9</b>	4.59	8.2	<b>77</b>	-4.90	38.5	<b>18</b>	5.06
Russell 1000 Growth TR USD	36.4			-1.5			30.2			7.1			5.7			13.0			33.5		
Average	32.2			-2.1			28.2			3.5			4.0			10.3			34.8		

# Voya Large Cap Growth Port I

IEOHX

Index: Russell 1000 Growth TR USD

Category: US Fund Large Growth

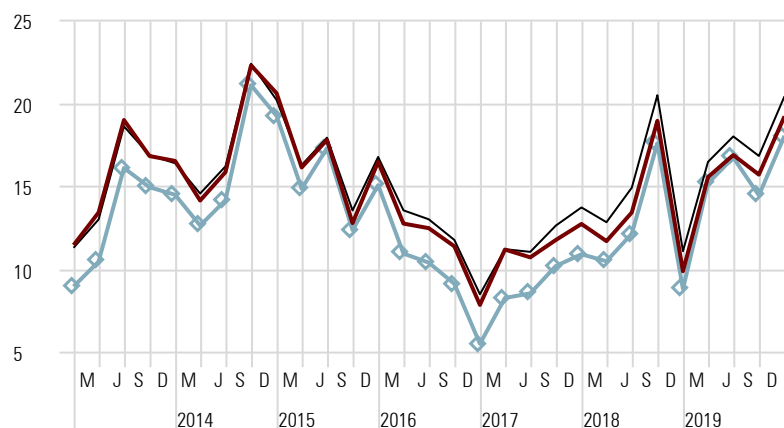
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 1000 Growth TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Voya Large Cap Growth Port I	32.8	32.8	19.3	13.4	14.5	11.3
Russell 1000 Growth TR USD	36.4	36.4	20.5	14.6	15.2	10.5
US Fund Large Growth	31.7	31.7	18.1	12.0	12.9	8.6

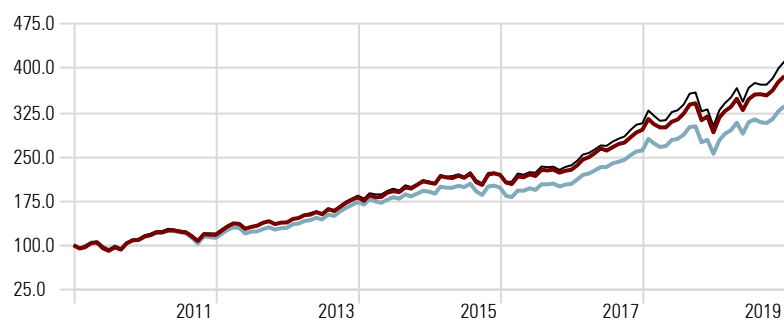
## Returns (Rolling 36 Months)



— Voya Large Cap Growth Port I — Russell 1000 Growth TR USD — US Fund Large Growth

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



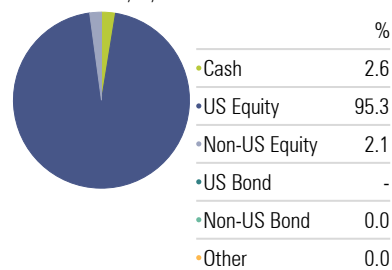
— Voya Large Cap Growth Port I — Russell 1000 Growth TR USD — US Fund Large Growth

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.67	1.06	
Gross Expense Ratio	0.67	1.49	
LT Earn Growth	12.5	11.9	9.1
Avg Mkt Cap (\$MMM)	129.1	191.3	47.9
P/E Ratio	30.6	27.0	16.3
P/B Ratio	6.6	5.8	2.0
P/S Ratio	4.1	3.6	1.4
P/CF Ratio	19.0	19.0	10.5
ROE %	31.4	30.8	20.5
ROA %	11.2	10.7	7.2
Dividend Yld	0.9	1.0	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

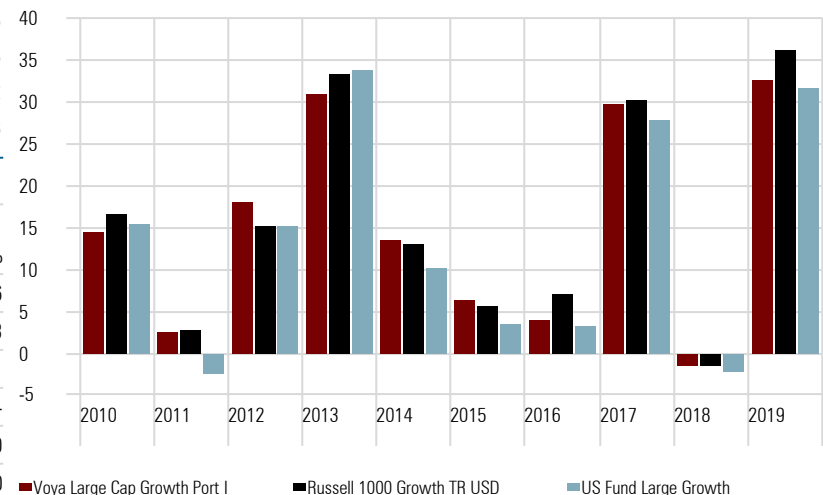


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 1000 Growth TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Voya Large Cap Growth Port I	65.8	34.2	11.8	-9.7	16.7	-14.5	98.7	102.5
Russell 1000 Growth TR USD	65.8	34.2	11.0	-8.9	16.1	-15.9	100.0	100.0
US Fund Large Growth	65.0	35.0	11.8	-9.0	15.8	-15.6	96.4	109.4

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.3	-0.7	12.4	-0.5
Down Deviation	1.6	0.3	1.6	0.0
Beta	0.9	-0.1	1.0	0.0
Alpha	0.3	1.9	-0.5	1.7
Sharpe	1.4	0.2	1.0	0.1
Sortino	2.1	0.2	1.6	0.2
Info Ratio	-0.6	1.1	-0.6	1.0
Down Capture	93.8	-5.1	98.9	-6.8
Up Capture	94.2	1.5	95.2	2.1

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
Amazon.com Inc	6.9	Energy	0	1
Microsoft Corp	6.8	Materials	1	2
Apple Inc	6.0	Industrials	10	8
Facebook Inc A	5.3	Cons Discretionary	14	15
Visa Inc Class A	4.5	Consumer Staples	5	4
Intuit Inc	3.0	Healthcare	15	15
Merck & Co Inc	2.7	Financials	3	5
Alphabet Inc A	2.6	Info Technology	40	36
Goldman Sachs FS Government Instl	2.6	Telecom Services	9	12
Salesforce.com Inc	2.5	Utilities	0	1
		Real Estate %	2.4	1.6

# Amana Growth Institutional

AMIGX

Index: Russell 1000 Growth TR USD

Category: US Fund Large Growth

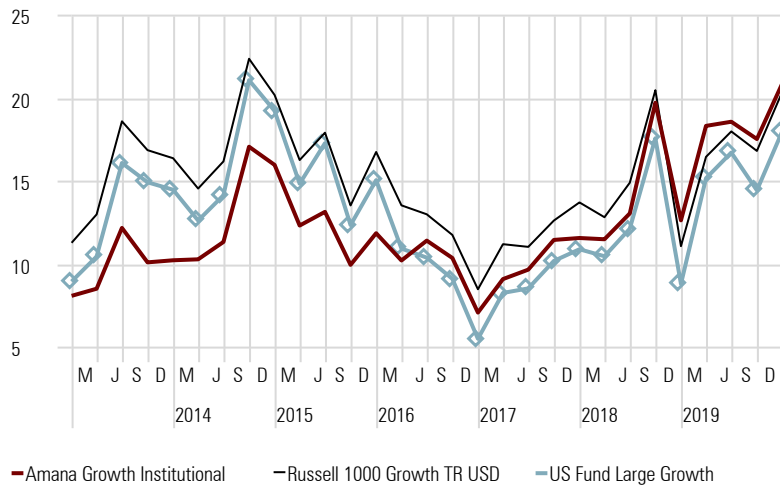
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 1000 Growth TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Amana Growth Institutional	33.4	33.4	21.0	13.8	13.0	11.2
Russell 1000 Growth TR USD	36.4	36.4	20.5	14.6	15.2	10.5
US Fund Large Growth	31.7	31.7	18.1	12.0	12.9	8.6

## Returns (Rolling 36 Months)

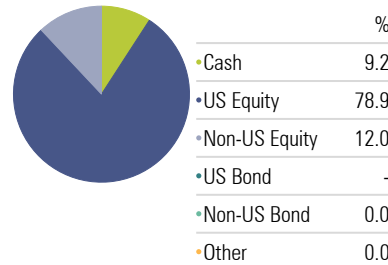


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.79	1.06	
Gross Expense Ratio	0.79	1.49	
LT Earn Growth	11.4	11.9	9.1
Avg Mkt Cap (\$MMM)	77.0	191.3	47.9
P/E Ratio	24.8	27.0	16.3
P/B Ratio	7.4	5.8	2.0
P/S Ratio	3.3	3.6	1.4
P/CF Ratio	18.8	19.0	10.5
ROE %	39.3	30.8	20.5
ROA %	13.8	10.7	7.2
Dividend Yld	1.7	1.0	2.8

## Asset Allocation

Portfolio Date: 2/29/2020

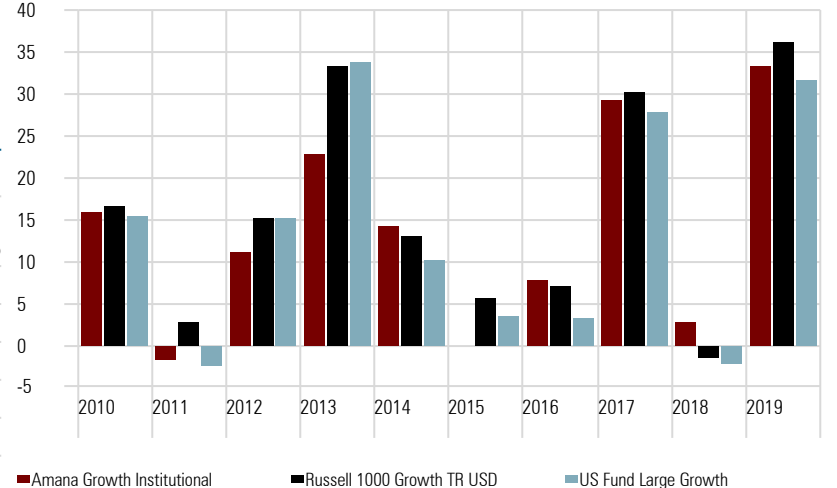


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 1000 Growth TR USD

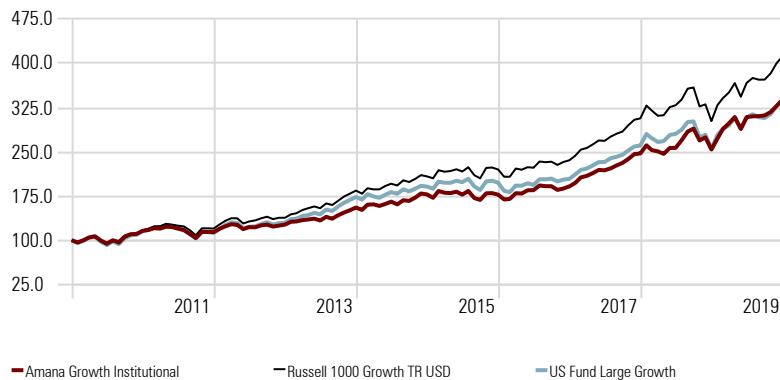
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Amana Growth Institutional	65.8	34.2	10.0	-7.5	17.5	-13.4	88.9	92.7
Russell 1000 Growth TR USD	65.8	34.2	11.0	-8.9	16.1	-15.9	100.0	100.0
US Fund Large Growth	65.0	35.0	11.8	-9.0	15.8	-15.6	96.4	109.4

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.2	-0.8	12.2	-0.7
Down Deviation	2.5	1.1	2.5	0.9
Beta	0.9	-0.1	0.9	-0.1
Alpha	2.4	4.0	0.4	2.6
Sharpe	1.6	0.3	1.0	0.2
Sortino	2.4	0.5	1.7	0.3
Info Ratio	0.1	1.8	-0.3	1.3
Down Capture	83.4	-15.5	93.5	-12.2
Up Capture	95.3	2.7	93.9	0.8

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
Adobe Inc	6.7	Energy	0	
Apple Inc	6.7	Materials	0	
Intuit Inc	5.8	Industrials	12	
ASML Holding NV ADR	4.1	Cons Discretionary	7	
The Estee Lauder Companies Inc Class A	4.1	Consumer Staples	13	
TJX Companies Inc	4.0	Healthcare	19	
Church & Dwight Co Inc	4.0	Financials	0	
Amgen Inc	3.4	Info Technology	49	
Agilent Technologies Inc	3.3	Telecom Services	0	
Taiwan Semiconductor Manufacturing Co Ltd ADR	3.2	Utilities	0	
		Real Estate %	0.0	

# Large Cap Blend Funds

As of 12/31/2019



# US Fund Large Blend

## American Funds Fundamental Invs R6

### Investment Strategy

The investment seeks long-term growth of capital and income. The fund invests primarily in common stocks of companies that appear to offer superior opportunities for capital growth and most of which have a history of paying dividends. It may invest significantly in securities of issuers domiciled outside the United States. The investment adviser uses a system of multiple portfolio managers in managing the fund's assets.

### Manager Biography

Dina N. Perry since 3/1/1993

Michael T. Kerr since 1/1/1999

Brady L. Enright since 3/1/2006

Mark L. Casey since 3/1/2011

Gregory D. Johnson since 3/1/2013

Julian N. Abdey since 3/1/2018

## American Funds Fundamental Invs

Inception Date	5/1/2009
Fund Size (\$mm)	110,627
Annual Report Net Expense Ratio	0.30
Prospectus Net Expense Ratio	0.30
Prospectus Gross Expense Ratio	0.30
Ticker	RFNGX
Manager Tenure (Longest)	26.83
Manager Tenure (Average)	13.19
Morningstar Inst Cat	Large Core

### Other Notes:

None

## Parnassus Core Equity Institutional

### Investment Strategy

The investment seeks to achieve both capital appreciation and current income. The fund's objective is to achieve both capital appreciation and current income by investing primarily in a diversified portfolio of equity securities. Equity securities include common and preferred stock. Under normal circumstances, the fund will invest a minimum of 80% of its net assets (plus borrowings for investment purposes) in equity securities. At least 75% of the fund's total assets will normally be invested in equity securities that pay interest or dividends.

### Manager Biography

Todd C. Ahlsten since 5/1/2001

Benjamin E. Allen since 5/1/2012

## Parnassus Core Equity Institutiona

Inception Date	4/28/2006
Fund Size (\$mm)	19,120
Annual Report Net Expense Ratio	0.63
Prospectus Net Expense Ratio	0.63
Prospectus Gross Expense Ratio	0.63
Ticker	PRILX
Manager Tenure (Longest)	18.67
Manager Tenure (Average)	13.17
Morningstar Inst Cat	Large Core

### Other Notes:

None

## Vanguard Institutional Index I

### Investment Strategy

The investment seeks to track the performance of a benchmark index that measures the investment return of large-capitalization stocks. The fund employs an indexing investment approach designed to track the performance of the Standard & Poor's 500 Index, a widely recognized benchmark of U.S. stock market performance that is dominated by the stocks of large U.S. companies. The advisor attempts to replicate the target index by investing all, or substantially all, of its assets in the stocks that make up the index, holding each stock in approximately the same proportion as its weighting in the index.

### Manager Biography

Donald M. Butler since 12/31/2000

Michelle Louie since 11/30/2017

## Vanguard Institutional Index I - Op

Inception Date	7/31/1990
Fund Size (\$mm)	242,173
Annual Report Net Expense Ratio	0.04
Prospectus Net Expense Ratio	0.04
Prospectus Gross Expense Ratio	0.04
Ticker	VINIX
Manager Tenure (Longest)	19.08
Manager Tenure (Average)	10.63
Morningstar Inst Cat	S&P 500 Tracking

### Other Notes:

None

## American Funds Fundamental Invs R2

### Investment Strategy

The investment seeks long-term growth of capital and income. The fund invests primarily in common stocks of companies that appear to offer superior opportunities for capital growth and most of which have a history of paying dividends. It may invest significantly in securities of issuers domiciled outside the United States. The investment adviser uses a system of multiple portfolio managers in managing the fund's assets.

### Manager Biography

Dina N. Perry since 3/1/1993

Michael T. Kerr since 1/1/1999

Brady L. Enright since 3/1/2006

Mark L. Casey since 3/1/2011

Gregory D. Johnson since 3/1/2013

Julian N. Abdey since 3/1/2018

## American Funds Fundamental Invs

Inception Date	5/21/2002
Fund Size (\$mm)	110,627
Annual Report Net Expense Ratio	1.41
Prospectus Net Expense Ratio	1.41
Prospectus Gross Expense Ratio	1.41
Ticker	RFNBX
Manager Tenure (Longest)	26.83
Manager Tenure (Average)	13.19
Morningstar Inst Cat	Large Core

### Other Notes:

None

## American Funds Washington Mutual R2

### Investment Strategy

The investment seeks to produce income and to provide an opportunity for growth of principal consistent with sound common stock investing. The fund invests primarily in common stocks of established companies that are listed on, or meet the financial listing requirements of, the New York Stock Exchange and have a strong record of earnings and dividends. Its advisor strives to maintain a fully invested, diversified portfolio, consisting primarily of high-quality common stocks.

### Manager Biography

Alan N. Berro since 7/1/1997

Jeffrey T. Lager since 7/1/2004

Alan J. Wilson since 7/1/2013

Jin Lee since 7/1/2014

Eric H. Stern since 11/1/2014

Brady L. Enright since 7/1/2016

Mark L. Casey since 7/1/2016

## American Funds Washington Mutu

Inception Date	5/31/2002
Fund Size (\$mm)	130,853
Annual Report Net Expense Ratio	1.39
Prospectus Net Expense Ratio	1.37
Prospectus Gross Expense Ratio	1.37
Ticker	RWMBX
Manager Tenure (Longest)	22.50
Manager Tenure (Average)	8.88
Morningstar Inst Cat	Large Core

### Other Notes:

None

# Portfolio Analysis

American Funds Fundamental Invs R6

Parnassus Core Equity Institutional

Vanguard Institutional Index I

American Funds Fundamental Invs R2

American Funds Washington Mutual R2

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	21	37	34	Market Cap Giant %	58
Mid	2	2	3	Market Cap Large %	34
Small	0	0	0	Market Cap Mid %	8
				Market Cap Small %	1
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	21	40	25	Market Cap Giant %	45
Mid	2	6	6	Market Cap Large %	41
Small	0	0	0	Market Cap Mid %	14
				Market Cap Small %	0
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	29	34	27	Market Cap Giant %	55
Mid	4	4	2	Market Cap Large %	35
Small	0	0	0	Market Cap Mid %	10
				Market Cap Small %	0
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	21	37	34	Market Cap Giant %	58
Mid	2	2	3	Market Cap Large %	34
Small	0	0	0	Market Cap Mid %	8
				Market Cap Small %	1
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	31	48	17	Market Cap Giant %	56
Mid	2	2	1	Market Cap Large %	39
Small	0	0	0	Market Cap Mid %	5
				Market Cap Small %	0
				Market Cap Micro %	0

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	108.2	95.5
Forward P/E	18.2	18.8
P/E Ratio (TTM)	22.6	22.5
LT Earn Growth	10.2	9.4
P/B Ratio (TTM)	3.0	3.3
Dividend Yield	2.0	1.8
ROE %	22.3	24.4
ROA %	7.8	8.2
Debt to Capital %	42	44

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	94.0	95.5
Forward P/E	20.8	18.8
P/E Ratio (TTM)	26.4	22.5
LT Earn Growth	8.1	9.4
P/B Ratio (TTM)	4.2	3.3
Dividend Yield	1.7	1.8
ROE %	25.2	24.4
ROA %	8.3	8.2
Debt to Capital %	44	44

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	123.9	95.5
Forward P/E	18.7	18.8
P/E Ratio (TTM)	22.6	22.5
LT Earn Growth	9.3	9.4
P/B Ratio (TTM)	3.4	3.3
Dividend Yield	1.9	1.8
ROE %	26.1	24.4
ROA %	8.8	8.2
Debt to Capital %	44	44

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P/B Ratio (TTM)	3.2	3.3
Dividend Yield	2.3	1.8
ROE %	24.7	24.4
ROA %	7.9	8.2
Debt to Capital %	46	44

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	34	
# of Stock Holdings	284	997
% in Top 10	25.9	20.7
Cash %	2.6	0.0
Developed %	96.4	99.8
US Equity %	77.7	99.1
Non-US Equity %	20	1
Emerging Mkt %	0.9	0.2

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	31	
# of Stock Holdings	40	997
% in Top 10	37.7	20.7
Cash %	1.5	0.0
Developed %	98.5	99.8
US Equity %	95.3	99.1
Non-US Equity %	3	1
Emerging Mkt %	0.0	0.2

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	6	
# of Stock Holdings	507	997
% in Top 10	22.6	20.7
Cash %	0.3	0.0
Developed %	99.6	99.8
US Equity %	98.7	99.1
Non-US Equity %	1	1
Emerging Mkt %	0.0	0.2

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	34	
# of Stock Holdings	284	997
% in Top 10	25.9	20.7
Cash %	2.6	0.0
Developed %	96.4	99.8
US Equity %	77.7	99.1
Non-US Equity %	20	1
Emerging Mkt %	0.9	0.2

## Portfolio Data

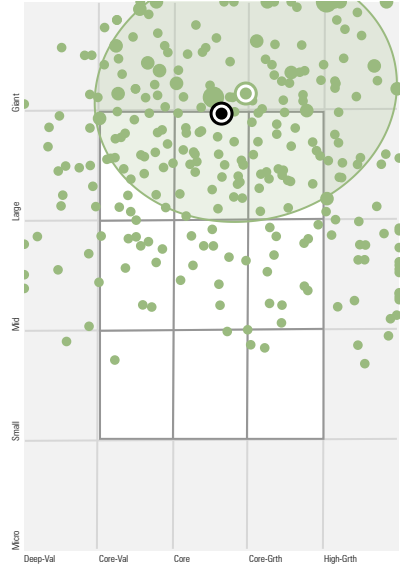
	Inv	Bmk1
Turnover Ratio	25	
# of Stock Holdings	156	997
% in Top 10	29.4	20.7
Cash %	3.7	0.0
Developed %	96.0	99.8
US Equity %	87.8	99.1
Non-US Equity %	8	1
Emerging Mkt %	0.0	0.2



# Holdings-Based Style Analysis

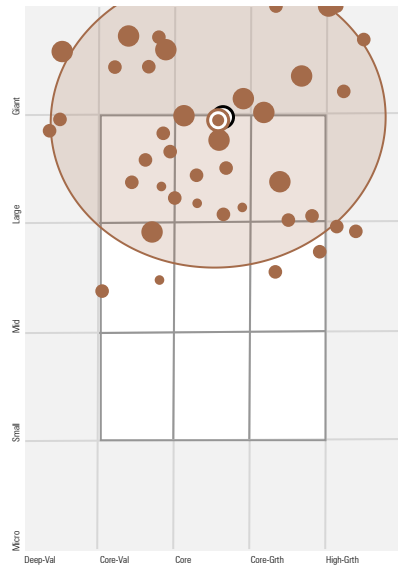
American Funds Fundamental Invs R6

## Holdings-Based Style Map



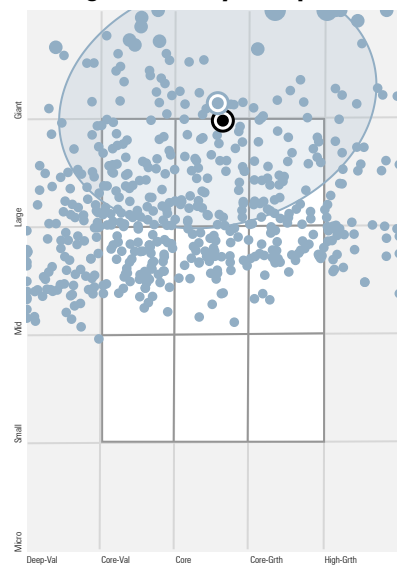
Parnassus Core Equity Institutional

## Holdings-Based Style Map



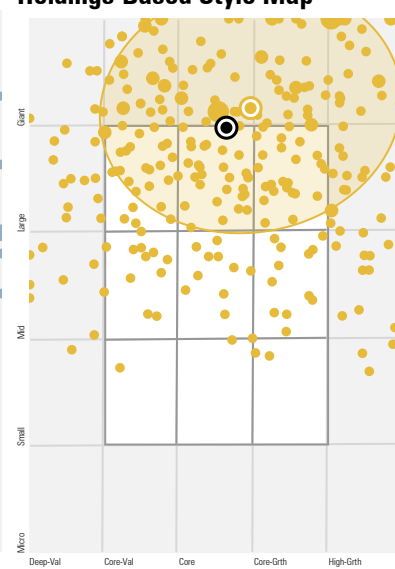
Vanguard Institutional Index I

## Holdings-Based Style Map



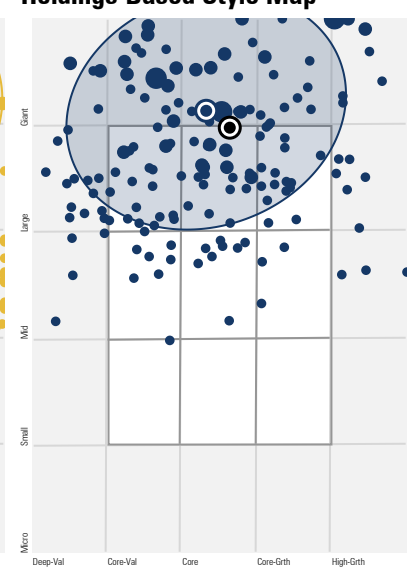
American Funds Fundamental Invs R2

## Holdings-Based Style Map



American Funds Washington Mutual R2

## Holdings-Based Style Map



American Funds Fundamental Invs R6 12/31/2019

Russell 1000 TR USD 12/31/2019

Parnassus Core Equity Institutional 12/31/2019

Russell 1000 TR USD 12/31/2019

Vanguard Institutional Index I 12/31/2019

Russell 1000 TR USD 12/31/2019

American Funds Fundamental Invs R2 12/31/2019

Russell 1000 TR USD 12/31/2019

American Funds Washington Mutual R2 12/31/2019

Russell 1000 TR USD 12/31/2019

Russell 1000 TR USD 12/31/2019

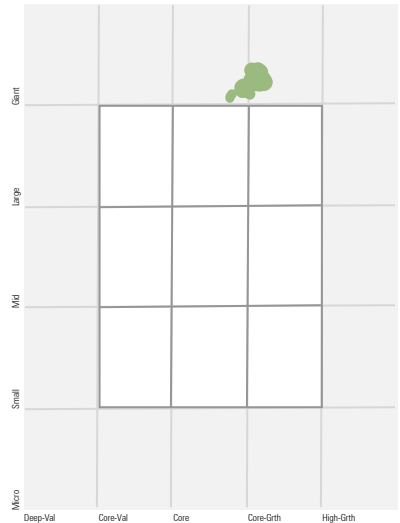
Russell 1000 TR USD 12/31/2019

Russell 1000 TR USD 12/31/2019

Russell 1000 TR USD 12/31/2019

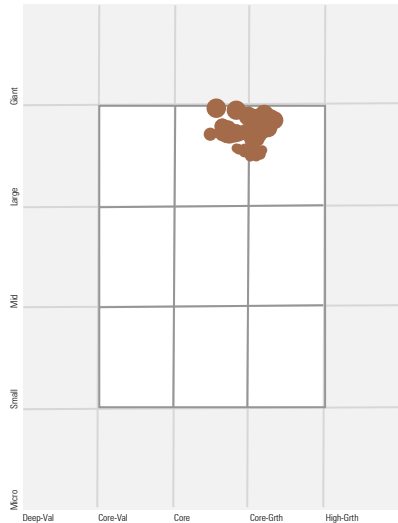
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



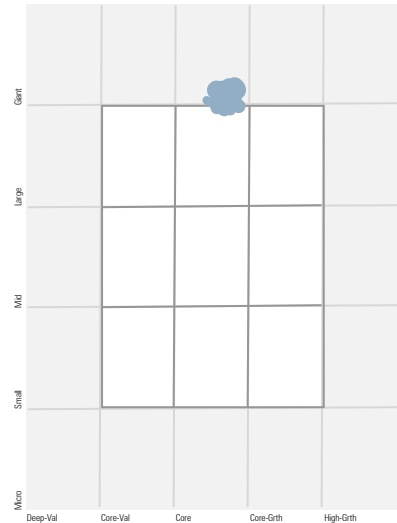
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



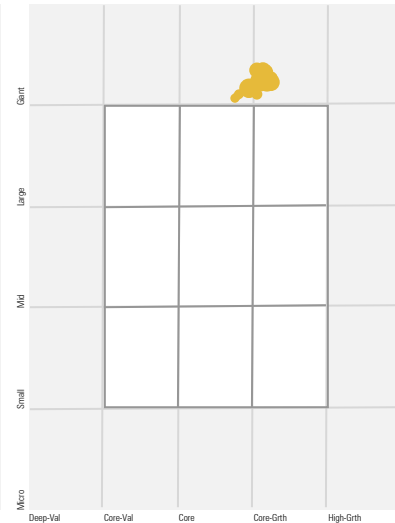
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



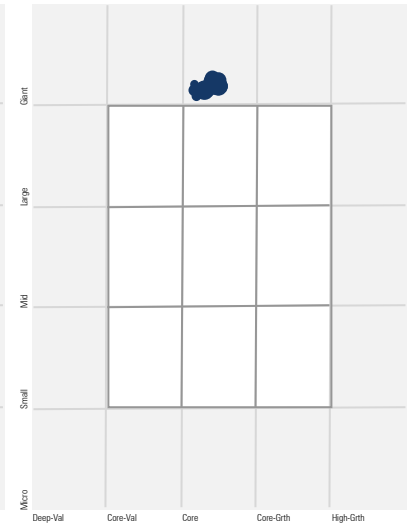
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



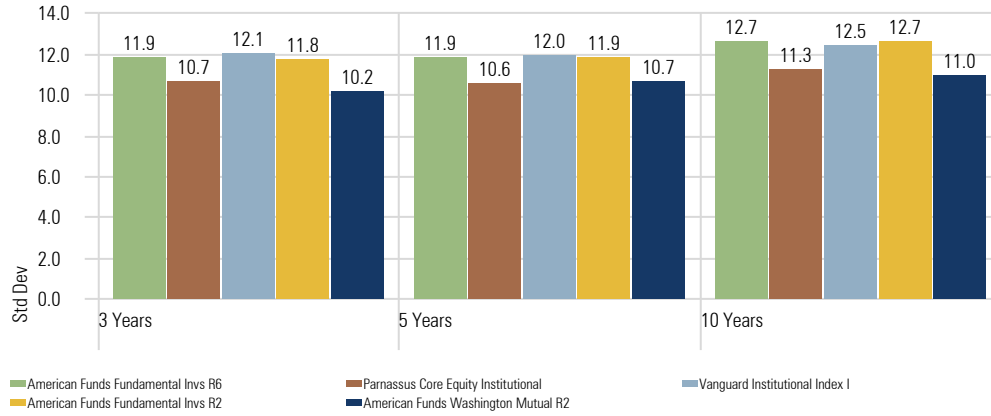
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019

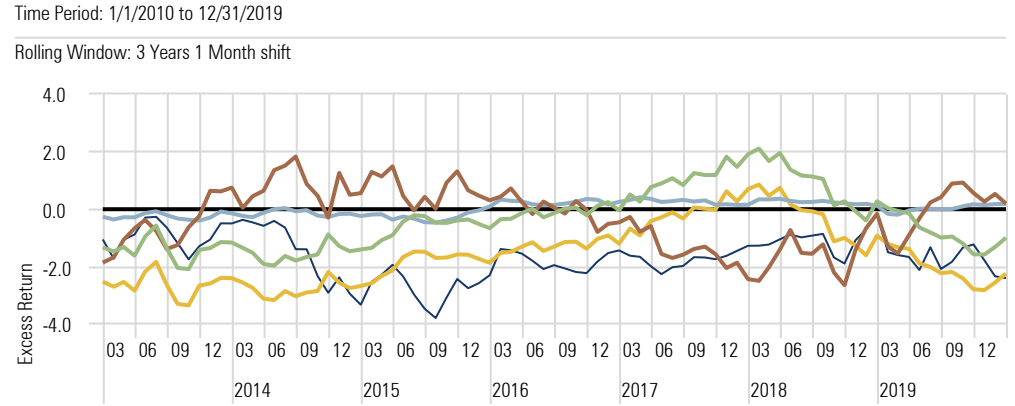


# Risk/Return Performance Analysis

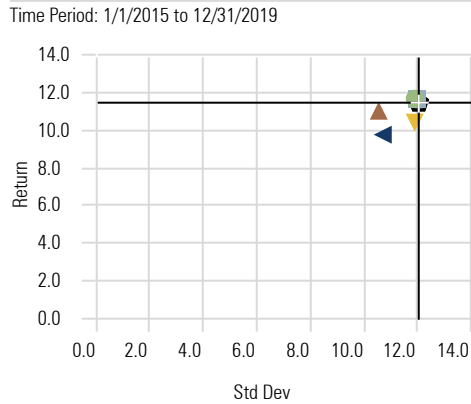
## Standard Deviation



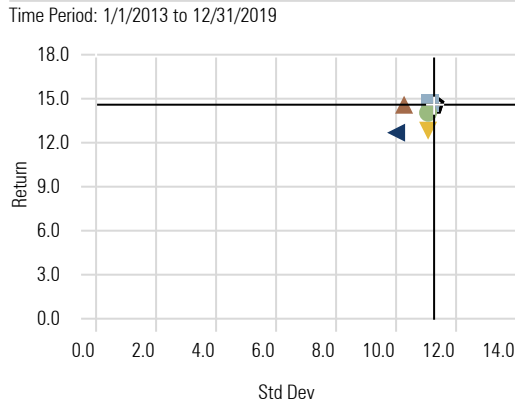
## 3 Year Relative Rolling Returns



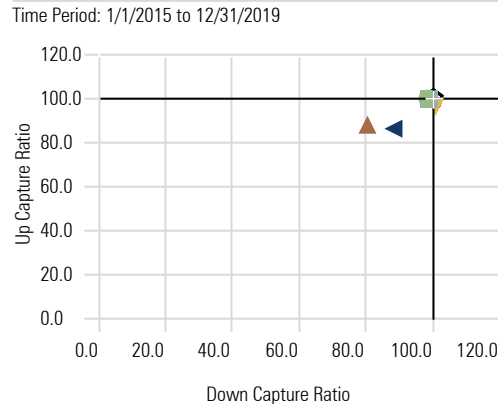
## 5 Year Risk-Reward



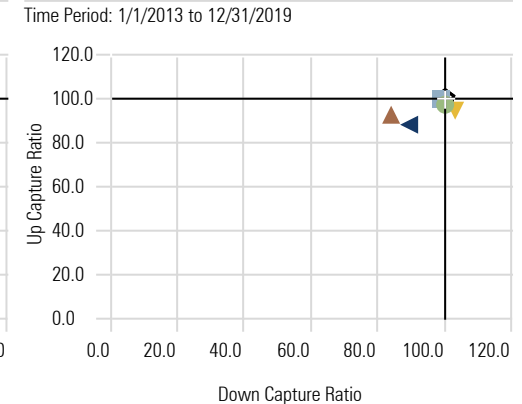
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● American Funds Fundamental Invs R6  
● American Funds Fundamental Invs R2

● Parnassus Core Equity Institutional  
◀ American Funds Washington Mutual R2

● Vanguard Institutional Index I  
◻ Russell 1000 TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

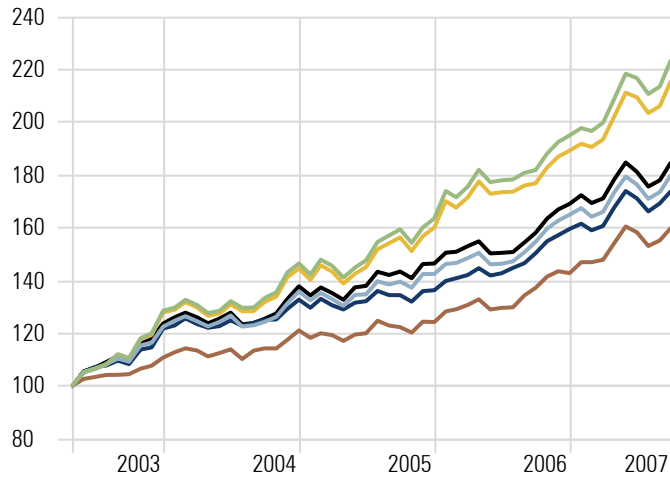
Time Period: Since Common Inception (9/1/1992) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
American Funds Fundamental Invs R6	11.2	13.8	1.5	0.93	93	17.1	-23.3	0.63	3.8
Parnassus Core Equity Institutional	11.1	11.9	2.6	0.76	82	23.4	-19.1	0.72	6.1
Vanguard Institutional Index I	10.0	14.1	0.0	0.99	99	21.4	-21.9	0.53	1.0
American Funds Fundamental Invs R2	10.3	13.8	0.7	0.93	93	16.9	-23.5	0.57	3.8
American Funds Washington Mutual R2	9.5	12.6	0.8	0.81	84	15.7	-20.4	0.55	5.7
Russell 1000 TR USD	10.1	14.3	0.0	1.00	100	21.9	-22.5	0.53	0.0

# Time Period Performance Analysis

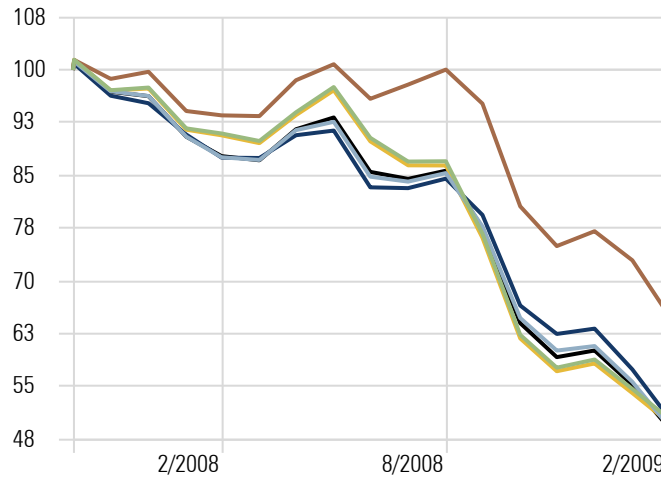
## Credit Buildup - Housing and Oil Boom

Time Period: 4/30/2003 to 9/30/2007



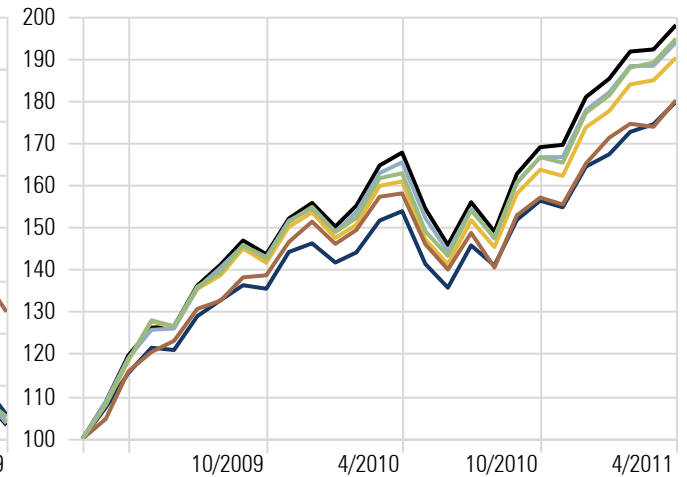
## Credit Crunch - Financial Crisis

Time Period: 10/31/2007 to 2/28/2009



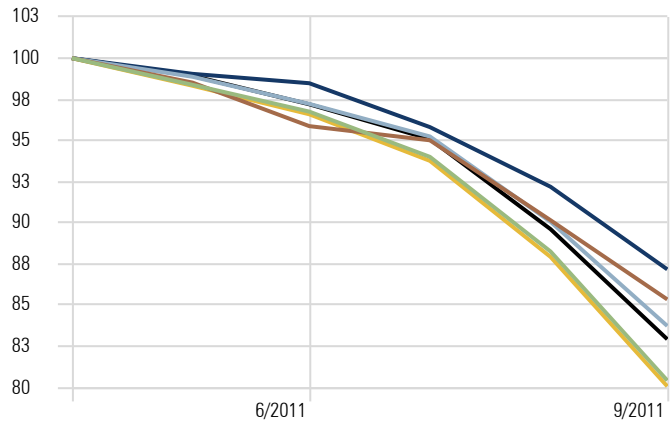
## Financial Crisis Recovery - QE1&2

Time Period: 3/1/2009 to 4/30/2011



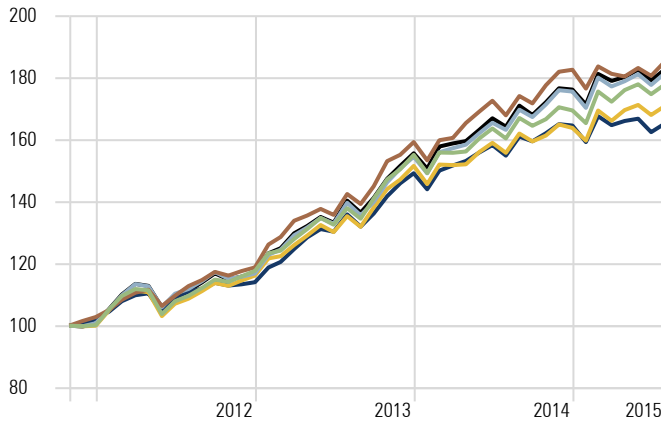
## Double Dip

Time Period: 5/1/2011 to 9/30/2011



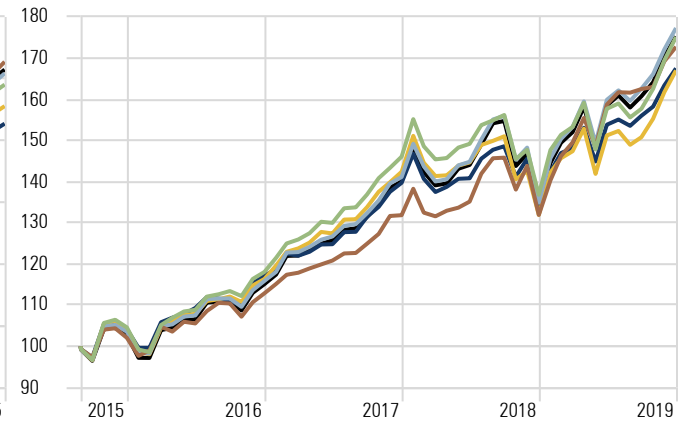
## US Recovery Continues - Global Markets Lag

Time Period: 11/1/2011 to 7/31/2015



## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



● American Funds Fundamental Invs R6  
● American Funds Fundamental Invs R2

● Parnassus Core Equity Institutional  
◀ American Funds Washington Mutual R2

● Vanguard Institutional Index I  
◻ Russell 1000 TR USD

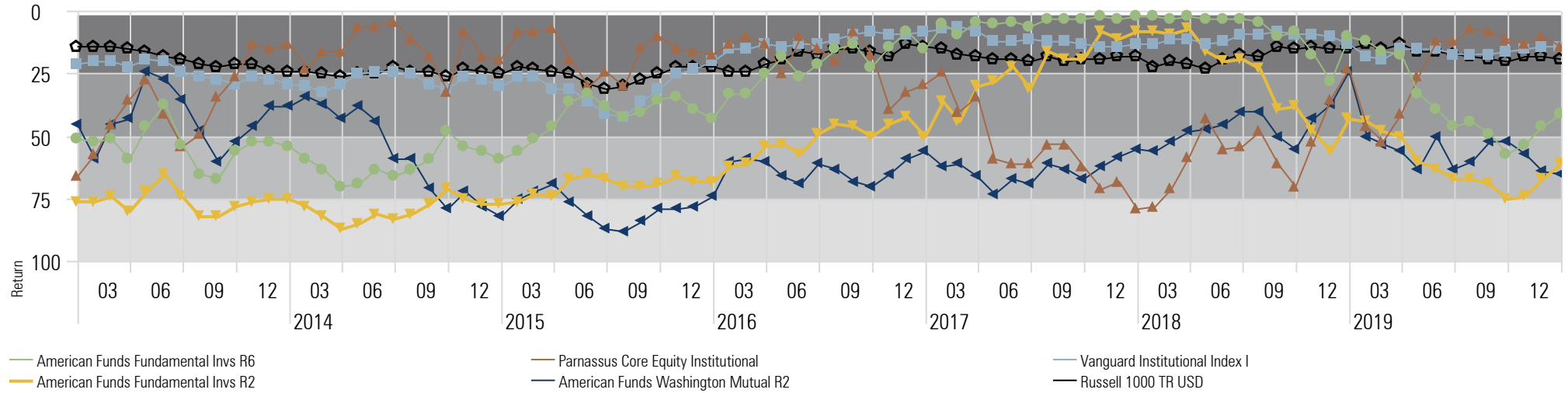
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

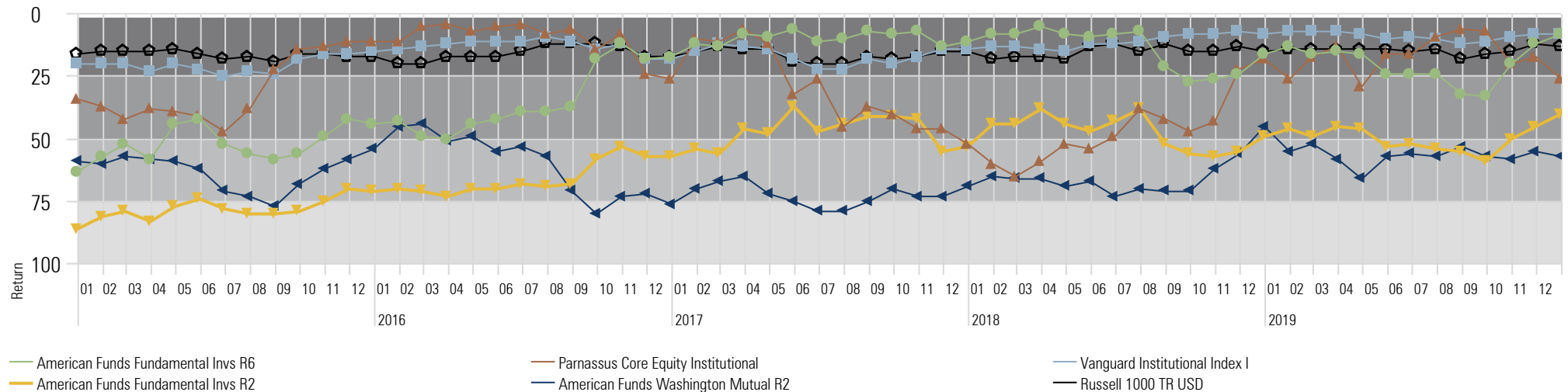


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Large Blend</b>																		
American Funds Fundamental Invs R6	11.1	<b>5</b>	2.03	28.0	<b>65</b>	-3.41	28.0	<b>65</b>	-3.41	14.1	<b>41</b>	-0.99	11.7	<b>8</b>	0.19	12.7	<b>33</b>	-0.82
Parnassus Core Equity Institutional	6.3	<b>87</b>	-2.72	31.0	<b>32</b>	-0.47	31.0	<b>32</b>	-0.47	15.2	<b>14</b>	0.20	11.0	<b>26</b>	-0.45	13.0	<b>25</b>	-0.57
Vanguard Institutional Index I	9.1	<b>30</b>	0.02	31.5	<b>21</b>	0.04	31.5	<b>21</b>	0.04	15.2	<b>14</b>	0.19	11.7	<b>8</b>	0.19	13.5	<b>7</b>	-0.01
American Funds Fundamental Invs R2	10.7	<b>7</b>	1.71	26.6	<b>76</b>	-4.81	26.6	<b>76</b>	-4.81	12.8	<b>61</b>	-2.24	10.5	<b>40</b>	-1.02	11.5	<b>69</b>	-2.03
American Funds Washington Mutual R2	7.4	<b>77</b>	-1.67	24.5	<b>88</b>	-6.89	24.5	<b>88</b>	-6.89	12.6	<b>65</b>	-2.40	9.8	<b>57</b>	-1.71	11.9	<b>61</b>	-1.67
Russell 1000 TR USD	9.0			31.4			31.4			15.0			11.5			13.5		
Average	8.3			28.8			28.8			13.2			9.8			12.0		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Large Blend</b>																					
American Funds Fundamental Invs R6	28.0	<b>65</b>	-3.41	-6.3	<b>56</b>	-1.55	23.7	<b>13</b>	2.04	12.9	<b>19</b>	0.82	3.7	<b>8</b>	2.79	9.3	<b>81</b>	-3.97	31.9	<b>53</b>	-1.17
Parnassus Core Equity Institutional	31.0	<b>32</b>	-0.47	0.1	<b>2</b>	4.84	16.8	<b>85</b>	-4.88	10.6	<b>51</b>	-1.45	-0.3	<b>54</b>	-1.25	14.7	<b>9</b>	1.46	34.2	<b>28</b>	1.04
Vanguard Institutional Index I	31.5	<b>21</b>	0.04	-4.4	<b>21</b>	0.36	21.8	<b>30</b>	0.10	11.9	<b>29</b>	-0.12	1.4	<b>24</b>	0.45	13.7	<b>19</b>	0.41	32.3	<b>45</b>	-0.76
American Funds Fundamental Invs R2	26.6	<b>76</b>	-4.81	-7.4	<b>70</b>	-2.59	22.4	<b>23</b>	0.70	11.7	<b>35</b>	-0.40	2.6	<b>14</b>	1.69	8.1	<b>87</b>	-5.12	30.6	<b>74</b>	-2.56
American Funds Washington Mutual R2	24.5	<b>88</b>	-6.89	-3.7	<b>15</b>	1.06	19.2	<b>73</b>	-2.47	12.5	<b>23</b>	0.48	-0.9	<b>60</b>	-1.83	10.3	<b>71</b>	-2.89	30.9	<b>70</b>	-2.16
Russell 1000 TR USD	31.4			-4.8			21.7			12.1			0.9			13.2			33.1		
Average	28.8			-6.5			20.5			10.6			-0.4			11.4			32.3		

# American Funds Fundamental Invs R6

RFNGX

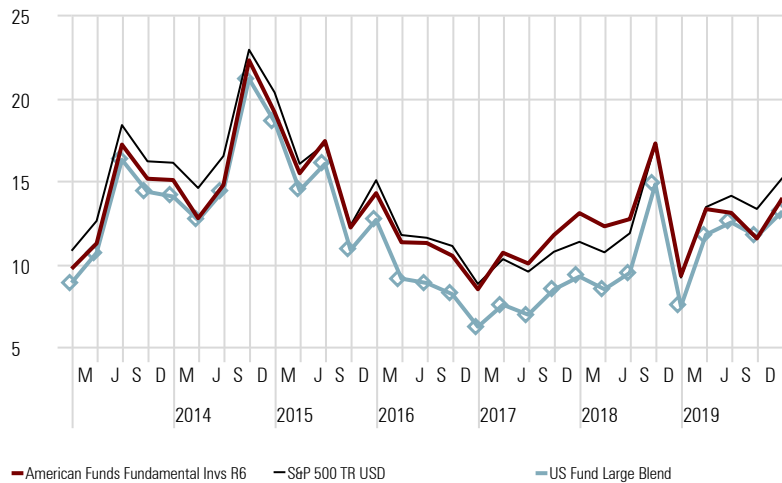
Index: S&P 500 TR USD  
 Category: US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
American Funds Fundamental Invs R6	28.0	28.0	14.1	11.7	12.7	9.8
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

## Returns (Rolling 36 Months)

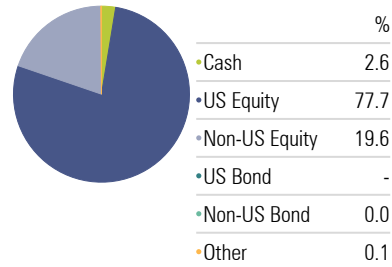


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.30	0.93	
Gross Expense Ratio	0.30	1.56	
LT Earn Growth	10.2	9.7	9.1
Avg Mkt Cap (\$MMM)	108.2	180.9	47.9
P/E Ratio	22.6	21.4	16.3
P/B Ratio	3.0	3.8	2.0
P/S Ratio	2.3	2.3	1.4
P/CF Ratio	13.8	14.7	10.5
ROE %	22.3	26.3	20.5
ROA %	7.8	8.7	7.2
Dividend Yld	2.0	1.8	2.8

## Asset Allocation

Portfolio Date: 12/31/2019

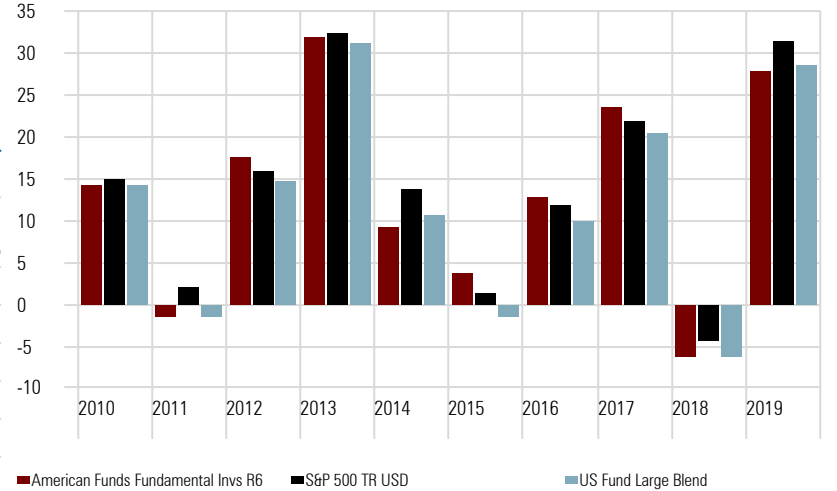


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

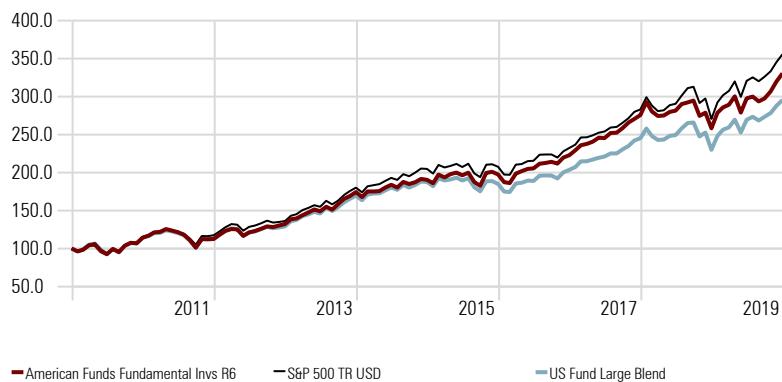
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
American Funds Fundamental Invs R6	69.2	30.8	11.2	-8.9	12.2	-16.9	98.4	103.0
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.9	0.0	11.9	0.2
Down Deviation	2.2	1.3	1.8	0.8
Beta	1.0	0.0	1.0	0.0
Alpha	-0.5	1.0	0.2	2.0
Sharpe	1.0	0.1	0.9	0.2
Sortino	1.5	0.1	1.4	0.3
Info Ratio	-0.4	2.2	0.0	2.5
Down Capture	99.3	-0.6	99.6	-3.2
Up Capture	95.3	2.7	99.7	7.3

## Top 10 Holdings

Company	Fund %
Microsoft Corp	5.5
Broadcom Inc	3.5
UnitedHealth Group Inc	2.9
Facebook Inc A	2.7
Capital Group Central Cash Fund	2.6
Berkshire Hathaway Inc A	2.4
Amazon.com Inc	2.2
Charter Communications Inc A	1.8
Taiwan Semiconductor Manufacturing Co Ltd	1.8
Boeing Co	1.7

## Sector Allocation (%)

Sector	Fund %	Inv	Avg
Energy		5	4
Materials		4	3
Industrials		11	10
Cons Discretionary		8	10
Consumer Staples		7	8
Healthcare		14	15
Financials		13	14
Info Technology		24	22
Telecom Services		11	10
Utilities		1	3
Real Estate %		1.6	2.9

# Vanguard Institutional Index I

VINIX

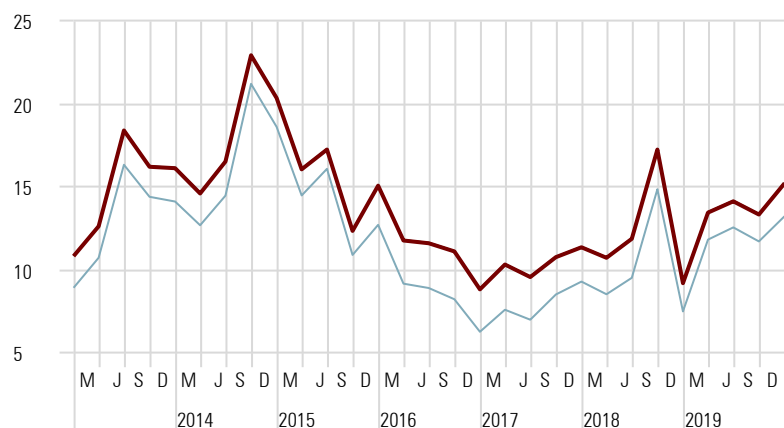
Index: S&P 500 TR USD  
 Category: US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Institutional Index I	31.5	31.5	15.2	11.7	13.5	9.0
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

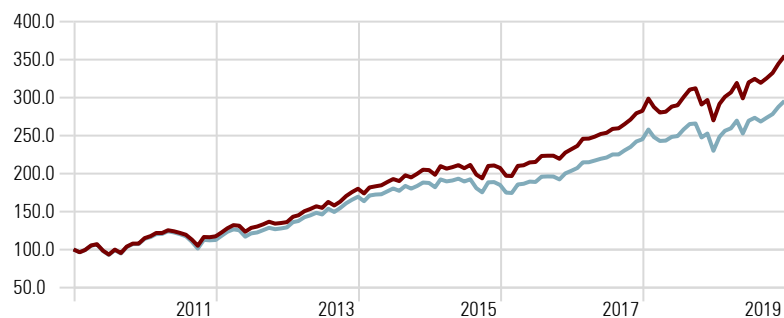
## Returns (Rolling 36 Months)



— Vanguard Institutional Index I — S&P 500 TR USD — US Fund Large Blend

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



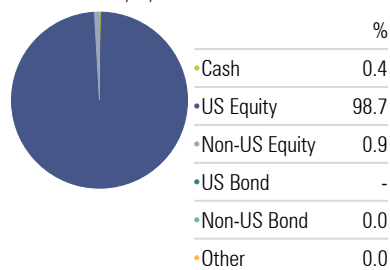
— Vanguard Institutional Index I — S&P 500 TR USD — US Fund Large Blend

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.04	0.93	
Gross Expense Ratio	0.04	1.56	
LT Earn Growth	9.8	9.7	9.1
Avg Mkt Cap (\$MMM)	127.0	180.9	47.9
P/E Ratio	22.2	21.4	16.3
P/B Ratio	3.4	3.8	2.0
P/S Ratio	2.4	2.3	1.4
P/CF Ratio	14.1	14.7	10.5
ROE %	26.4	26.3	20.5
ROA %	8.9	8.7	7.2
Dividend Yld	1.9	1.8	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

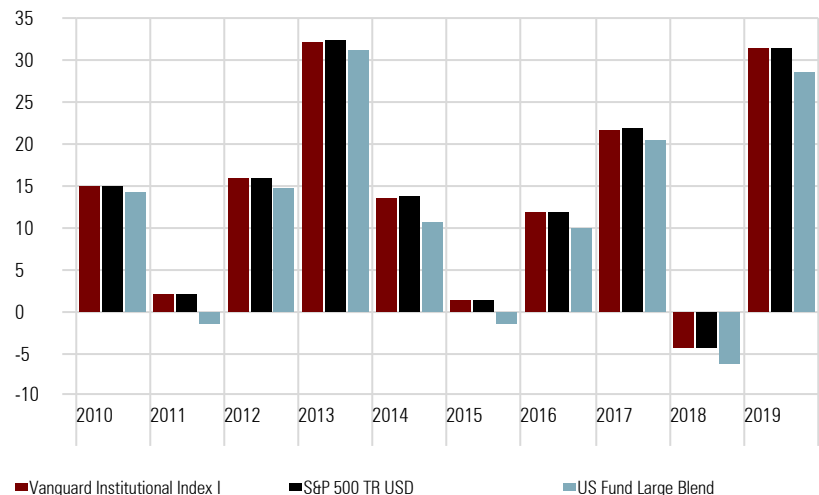


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Institutional Index I	71.7	28.3	10.9	-9.0	13.7	-13.9	99.9	100.1
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.1	0.3	12.0	0.2
Down Deviation	0.0	-0.9	0.0	-1.0
Beta	1.0	0.0	1.0	0.0
Alpha	0.0	1.5	0.0	1.8
Sharpe	1.1	0.1	0.9	0.2
Sortino	1.6	0.2	1.4	0.3
Info Ratio	-3.3	-0.7	-2.6	-0.1
Down Capture	100.1	0.1	100.1	-2.7
Up Capture	99.9	7.2	99.9	7.5

## Top 10 Holdings

Company	Fund %
Microsoft Corp	4.8
Apple Inc	4.8
Amazon.com Inc	3.1
Facebook Inc A	1.8
Berkshire Hathaway Inc B	1.6
Alphabet Inc A	1.6
Alphabet Inc Class C	1.6
JPMorgan Chase & Co	1.5
Johnson & Johnson	1.5
Visa Inc Class A	1.3

## Sector Allocation (%)

Sector	Fund %	Inv	Avg
Energy	4.8	4	4
Materials	4.8	2	3
Industrials	3.1	9	10
Cons Discretionary	1.8	10	10
Consumer Staples	1.6	7	7
Healthcare	1.6	14	14
Financials	1.6	13	14
Info Technology	1.6	24	22
Telecom Services	1.5	10	10
Utilities	1.5	4	3
Real Estate %	1.3	3.0	3.0

# Parnassus Core Equity Institutional

PRILX

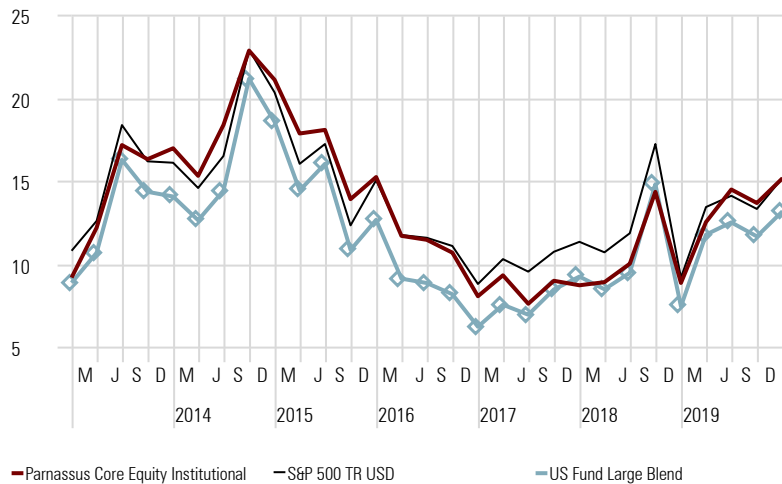
**Index:** S&P 500 TR USD  
**Category:** US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Parnassus Core Equity Institutional	31.0	31.0	15.2	11.0	13.0	10.6
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

## Returns (Rolling 36 Months)

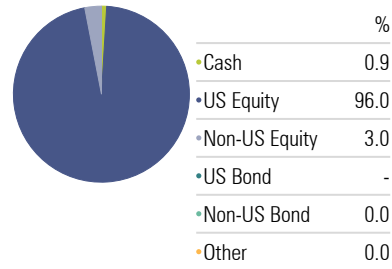


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.63	0.93	
Gross Expense Ratio	0.63	1.56	
LT Earn Growth	8.5	9.7	9.1
Avg Mkt Cap (\$MMM)	94.6	180.9	47.9
P/E Ratio	25.7	21.4	16.3
P/B Ratio	4.1	3.8	2.0
P/S Ratio	2.3	2.3	1.4
P/CF Ratio	16.1	14.7	10.5
ROE %	25.1	26.3	20.5
ROA %	8.5	8.7	7.2
Dividend Yld	1.7	1.8	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

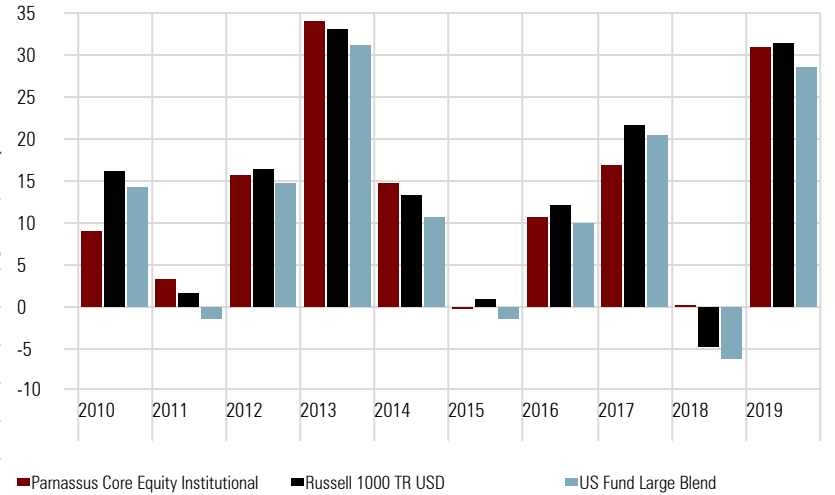


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

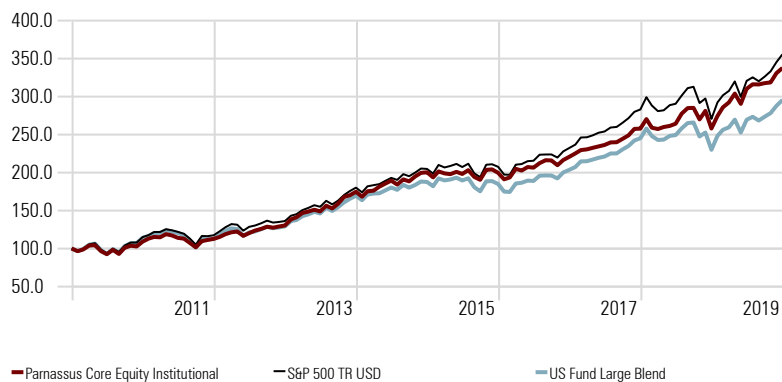
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Parnassus Core Equity Institutional	70.0	30.0	8.8	-8.3	13.4	-11.0	90.3	84.5
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	10.7	-1.1	10.6	-1.2
Down Deviation	2.6	1.7	2.6	1.6
Beta	0.8	-0.1	0.8	-0.1
Alpha	1.9	3.4	0.9	2.7
Sharpe	1.3	0.3	0.9	0.2
Sortino	1.9	0.5	1.5	0.4
Info Ratio	0.0	2.6	-0.2	2.3
Down Capture	76.8	-23.1	81.2	-21.5
Up Capture	89.8	-2.8	87.6	-4.7

## Top 10 Holdings

	Fund %	Sector	Inv	Avg
Microsoft Corp	6.8	Technology	0	4
The Walt Disney Co	4.7	Media	6	3
Danaher Corp	3.8	Industrials	14	10
CME Group Inc Class A	3.6	Financials	4	10
Verizon Communications Inc	3.4	Telecom Services	13	7
Costco Wholesale Corp	3.4	Consumer Staples	12	14
Verisk Analytics Inc	3.1	Financials	11	14
Linde PLC	3.0	Chemicals	22	22
VF Corp	3.0	Textiles	14	10
Waste Management Inc	3.0	Waste Management	0	3
		Real Estate %	4.4	3.0



# Large Cap Blend Funds 2

As of 12/31/2019



# US Fund Large Blend

## American Funds Fundamental Invs R6

### Investment Strategy

The investment seeks long-term growth of capital and income. The fund invests primarily in common stocks of companies that appear to offer superior opportunities for capital growth and most of which have a history of paying dividends. It may invest significantly in securities of issuers domiciled outside the United States. The investment adviser uses a system of multiple portfolio managers in managing the fund's assets.

### Manager Biography

Dina N. Perry since 3/1/1993

Michael T. Kerr since 1/1/1999

Brady L. Enright since 3/1/2006

Mark L. Casey since 3/1/2011

Gregory D. Johnson since 3/1/2013

Julian N. Abdey since 3/1/2018

## American Funds Fundamental Invs

Inception Date	5/1/2009
Fund Size (\$mm)	110,627
Annual Report Net Expense Ratio	0.30
Prospectus Net Expense Ratio	0.30
Prospectus Gross Expense Ratio	0.30
Ticker	RFNGX
Manager Tenure (Longest)	26.83
Manager Tenure (Average)	13.19
Morningstar Inst Cat	Large Core

### Other Notes:

None

## Parnassus Core Equity Institutional

### Investment Strategy

The investment seeks to achieve both capital appreciation and current income. The fund's objective is to achieve both capital appreciation and current income by investing primarily in a diversified portfolio of equity securities. Equity securities include common and preferred stock. Under normal circumstances, the fund will invest a minimum of 80% of its net assets (plus borrowings for investment purposes) in equity securities. At least 75% of the fund's total assets will normally be invested in equity securities that pay interest or dividends.

### Manager Biography

Todd C. Ahlsten since 5/1/2001

Benjamin E. Allen since 5/1/2012

## Parnassus Core Equity Institutional

Inception Date	4/28/2006
Fund Size (\$mm)	19,120
Annual Report Net Expense Ratio	0.63
Prospectus Net Expense Ratio	0.63
Prospectus Gross Expense Ratio	0.63
Ticker	PRILX
Manager Tenure (Longest)	18.67
Manager Tenure (Average)	13.17
Morningstar Inst Cat	Large Core

### Other Notes:

None

## Vanguard Institutional Index I

### Investment Strategy

The investment seeks to track the performance of a benchmark index that measures the investment return of large-capitalization stocks. The fund employs an indexing investment approach designed to track the performance of the Standard & Poor's 500 Index, a widely recognized benchmark of U.S. stock market performance that is dominated by the stocks of large U.S. companies. The advisor attempts to replicate the target index by investing all, or substantially all, of its assets in the stocks that make up the index, holding each stock in approximately the same proportion as its weighting in the index.

### Manager Biography

Donald M. Butler since 12/31/2000

Michelle Louie since 11/30/2017

## Vanguard Institutional Index I - Op

Inception Date	7/31/1990
Fund Size (\$mm)	242,173
Annual Report Net Expense Ratio	0.04
Prospectus Net Expense Ratio	0.04
Prospectus Gross Expense Ratio	0.04
Ticker	VINIX
Manager Tenure (Longest)	19.08
Manager Tenure (Average)	10.63
Morningstar Inst Cat	S&P 500 Tracking

### Other Notes:

None

## BlackRock Advantage Large Cap Core R

### Investment Strategy

The investment seeks long-term capital growth. The fund seeks to invest at least 80% of its net assets plus the amount of any borrowings for investment purposes in large cap equity securities and derivatives that have similar economic characteristics to such securities. The adviser primarily intends to invest in equity securities, which include common stock, preferred stock and convertible securities, or other financial instruments that are components of, or have characteristics similar to, the securities included in the Russell 1000® Index.

### Manager Biography

Travis Cooke since 6/12/2017

Richard Mathieson since 6/12/2017

Raffaele Savi since 6/12/2017

## BlackRock Advantage Large Cap C

Inception Date	1/3/2003
Fund Size (\$mm)	2,869
Annual Report Net Expense Ratio	0.98
Prospectus Net Expense Ratio	0.98
Prospectus Gross Expense Ratio	1.38
Ticker	MRLRX
Manager Tenure (Longest)	2.58
Manager Tenure (Average)	2.58
Morningstar Inst Cat	Large Core

### Other Notes:

None

## ClearBridge Appreciation R

### Investment Strategy

The investment seeks to provide long-term appreciation of shareholders' capital. The fund invests primarily in equity securities of U.S. companies. It typically invests in medium and large capitalization companies, but may also invest in small capitalization companies. The fund may invest up to 20% of its net assets in the equity securities of foreign issuers.

### Manager Biography

Scott K. Glasser since 12/31/2001

Michael A. Kagan since 8/6/2009

## ClearBridge Appreciation R - Oper

Inception Date	12/28/2006
Fund Size (\$mm)	6,919
Annual Report Net Expense Ratio	1.28
Prospectus Net Expense Ratio	1.28
Prospectus Gross Expense Ratio	1.28
Ticker	LMPPX
Manager Tenure (Longest)	18.08
Manager Tenure (Average)	14.25
Morningstar Inst Cat	Giant Core

### Other Notes:

None

# Portfolio Analysis

American Funds Fundamental Invs R6

Parnassus Core Equity Institutional

Vanguard Institutional Index I

BlackRock Advantage Large Cap Core R

ClearBridge Appreciation R

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	21	37	34	Market Cap Giant %	58
Mid	2	2	3	Market Cap Large %	34
Small	0	0	0	Market Cap Mid %	8
				Market Cap Small %	1
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	21	40	25	Market Cap Giant %	45
Mid	2	6	6	Market Cap Large %	41
Small	0	0	0	Market Cap Mid %	14
				Market Cap Small %	0
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	29	34	27	Market Cap Giant %	55
Mid	4	4	2	Market Cap Large %	35
Small	0	0	0	Market Cap Mid %	10
				Market Cap Small %	0
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	22	28	28	Market Cap Giant %	45
Mid	7	6	6	Market Cap Large %	33
Small	1	1	0	Market Cap Mid %	20
				Market Cap Small %	3
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	34	38	27	Market Cap Giant %	72
Mid	0	0	1	Market Cap Large %	27
Small	0	0	0	Market Cap Mid %	2
				Market Cap Small %	0
				Market Cap Micro %	0

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	108.2	95.5
Forward P/E	18.2	18.8
P/E Ratio (TTM)	22.6	22.5
LT Earn Growth	10.2	9.4
P/B Ratio (TTM)	3.0	3.3
Dividend Yield	2.0	1.8
ROE %	22.3	24.4
ROA %	7.8	8.2
Debt to Capital %	42	44

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	94.0	95.5
Forward P/E	20.8	18.8
P/E Ratio (TTM)	26.4	22.5
LT Earn Growth	8.1	9.4
P/B Ratio (TTM)	4.2	3.3
Dividend Yield	1.7	1.8
ROE %	25.2	24.4
ROA %	8.3	8.2
Debt to Capital %	44	44

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	123.9	95.5
Forward P/E	q8.7	18.8
P/E Ratio (TTM)	22.6	22.5
LT Earn Growth	9.3	9.4
P/B Ratio (TTM)	3.4	3.3
Dividend Yield	1.9	1.8
ROE %	26.1	24.4
ROA %	8.8	8.2
Debt to Capital %	44	44

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	82.7	95.5
Forward P/E	18.4	18.8
P/E Ratio (TTM)	21.9	22.5
LT Earn Growth	9.5	9.4
P/B Ratio (TTM)	3.4	3.3
Dividend Yield	1.8	1.8
ROE %	28.4	24.4
ROA %	9.6	8.2
Debt to Capital %	43	44

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	206.6	95.5
Forward P/E	19.2	18.8
P/E Ratio (TTM)	22.8	22.5
LT Earn Growth	9.2	9.4
P/B Ratio (TTM)	3.5	3.3
Dividend Yield	1.8	1.8
ROE %	26.8	24.4
ROA %	8.8	8.2
Debt to Capital %	41	44

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	34	
# of Stock Holdings	284	997
% in Top 10	25.9	20.7
Cash %	2.6	0.0
Developed %	96.4	99.8
US Equity %	77.7	99.1
Non-US Equity %	20	1
Emerging Mkt %	0.9	0.2

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	31	
# of Stock Holdings	40	997
% in Top 10	37.7	20.7
Cash %	1.5	0.0
Developed %	98.5	99.8
US Equity %	95.3	99.1
Non-US Equity %	3	1
Emerging Mkt %	0.0	0.2

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	6	
# of Stock Holdings	507	997
% in Top 10	22.6	20.7
Cash %	0.3	0.0
Developed %	99.6	99.8
US Equity %	98.7	99.1
Non-US Equity %	1	1
Emerging Mkt %	0.0	0.2

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	151	
# of Stock Holdings	294	997
% in Top 10	23.1	20.7
Cash %	1.1	0.0
Developed %	98.9	99.8
US Equity %	98.5	99.1
Non-US Equity %	0	1
Emerging Mkt %	0.0	0.2

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	10	
# of Stock Holdings	71	997
% in Top 10	33.9	20.7
Cash %	1.2	0.0
Developed %	98.8	99.8
US Equity %	98.2	99.1
Non-US Equity %	1	1
Emerging Mkt %	0.0	0.2

# Holdings-Based Style Analysis

American Funds Fundamental Invs R6

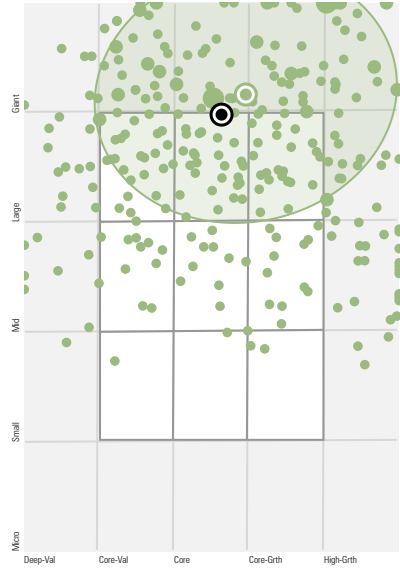
Parnassus Core Equity Institutional

Vanguard Institutional Index I

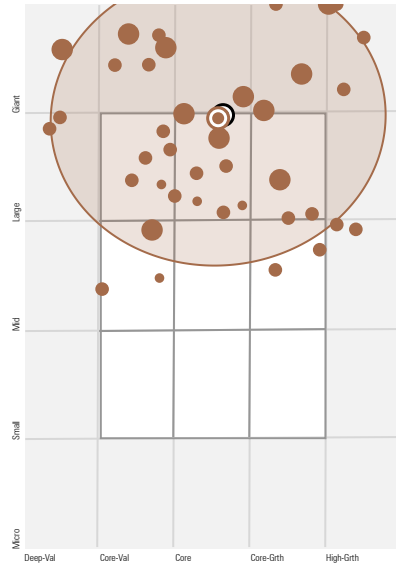
BlackRock Advantage Large Cap Core R

ClearBridge Appreciation R

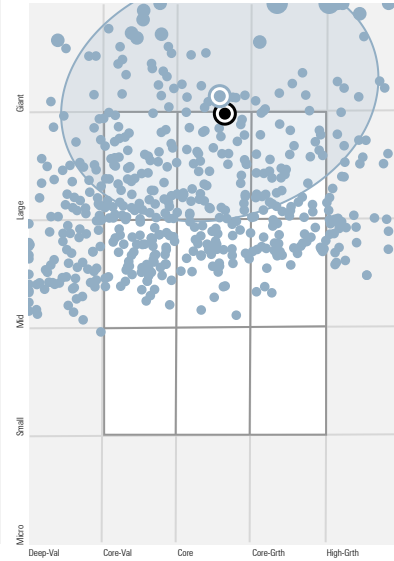
## Holdings-Based Style Map



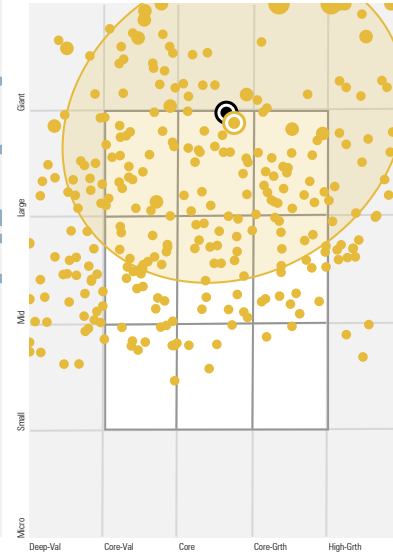
## Holdings-Based Style Map



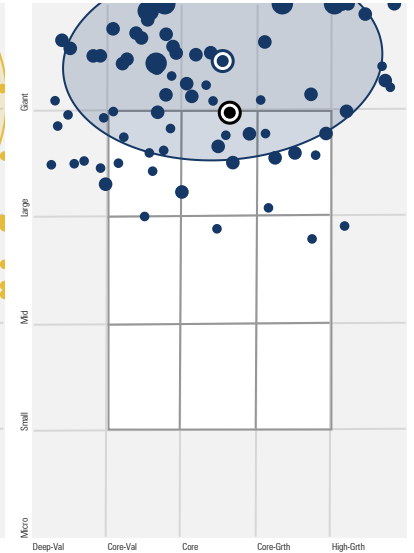
## Holdings-Based Style Map



## Holdings-Based Style Map



## Holdings-Based Style Map



American Funds Fundamental Invs R6 12/31/2019

Russell 1000 TR USD 12/31/2019

Parnassus Core Equity Institutional 12/31/2019

Russell 1000 TR USD 12/31/2019

Vanguard Institutional Index I 12/31/2019

Russell 1000 TR USD 12/31/2019

Vanguard Institutional Index I 12/31/2019

Russell 1000 TR USD 12/31/2019

BlackRock Advantage Large Cap Core R 12/31/2019

Russell 1000 TR USD 12/31/2019

BlackRock Advantage Large Cap Core R 12/31/2019

Russell 1000 TR USD 12/31/2019

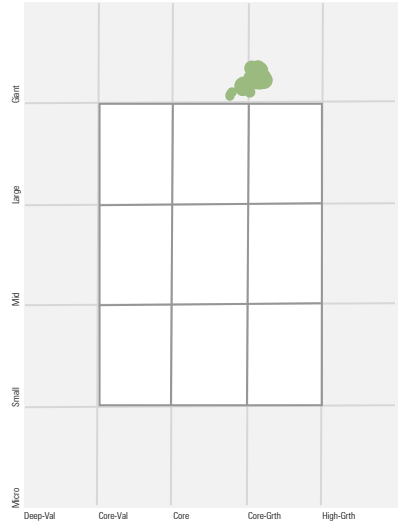
ClearBridge Appreciation R 12/31/2019

Russell 1000 TR USD 12/31/2019

ClearBridge Appreciation R 12/31/2019

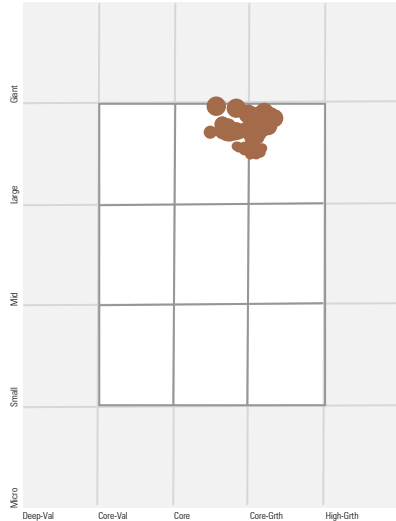
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



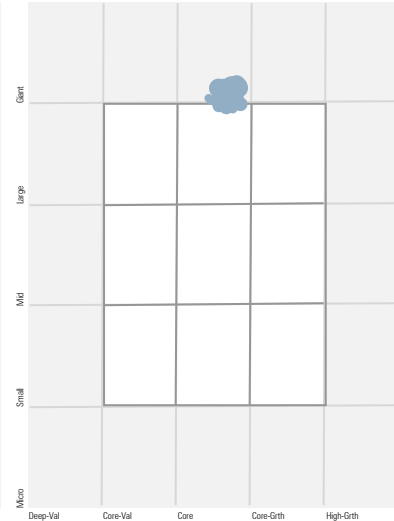
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



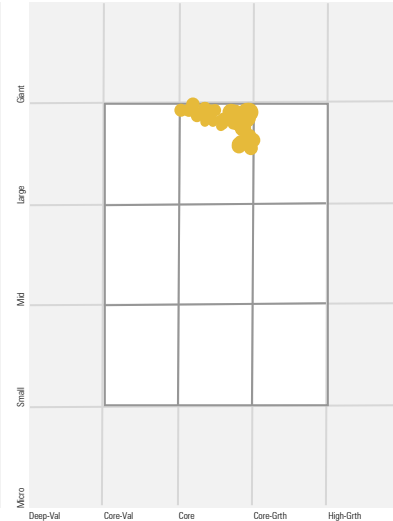
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



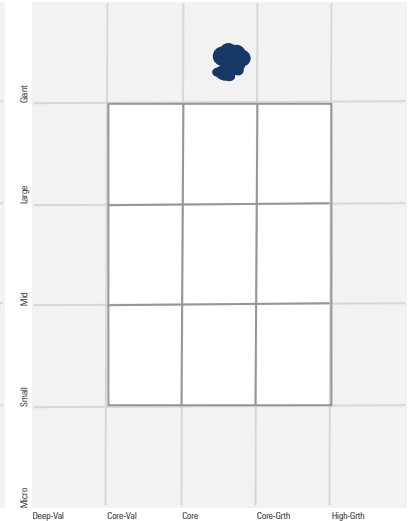
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



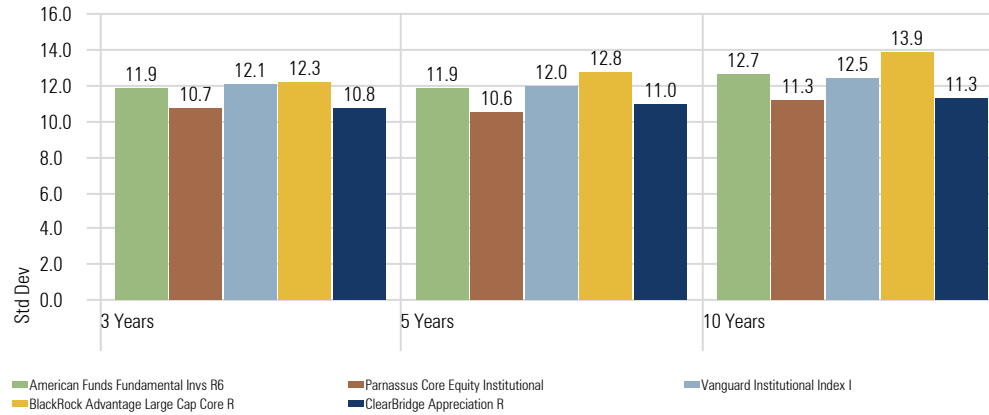
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019

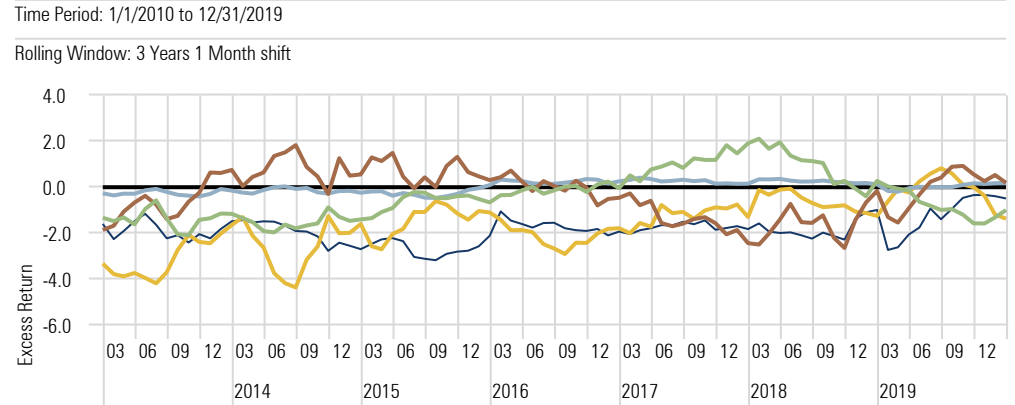


# Risk/Return Performance Analysis

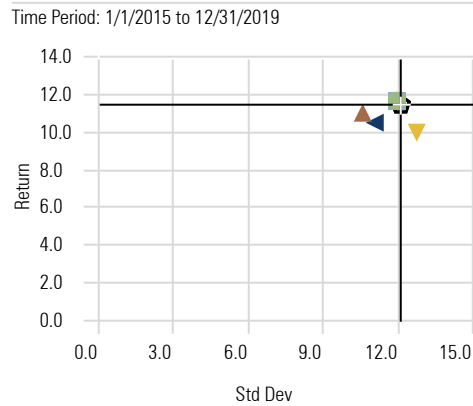
## Standard Deviation



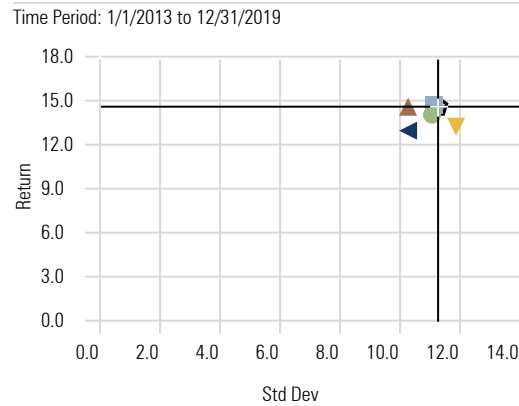
## 3 Year Relative Rolling Returns



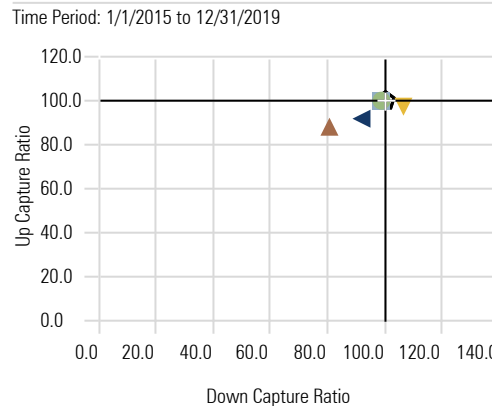
## 5 Year Risk-Reward



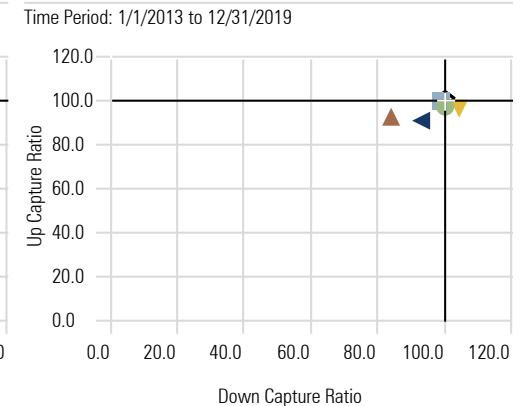
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● American Funds Fundamental Invs R6  
● BlackRock Advantage Large Cap Core R

● Parnassus Core Equity Institutional  
◀ ClearBridge Appreciation R

● Vanguard Institutional Index I  
◻ Russell 1000 TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

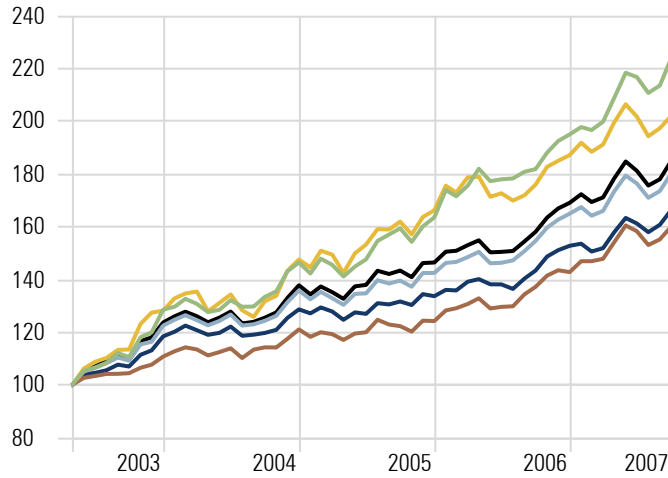
Time Period: Since Common Inception (1/1/2000) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
American Funds Fundamental Invs R6	8.1	14.6	1.9	0.96	94	17.1	-23.3	0.44	3.7
Parnassus Core Equity Institutional	9.8	12.3	4.1	0.78	87	17.7	-19.1	0.66	5.5
Vanguard Institutional Index I	6.1	14.5	-0.2	0.98	100	16.0	-21.9	0.30	1.0
BlackRock Advantage Large Cap Core R	6.4	15.8	0.3	1.00	87	15.5	-21.3	0.30	5.7
ClearBridge Appreciation R	6.7	12.2	1.1	0.81	95	13.9	-17.6	0.41	3.9
Russell 1000 TR USD	6.3	14.7	0.0	1.00	100	16.5	-22.5	0.31	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

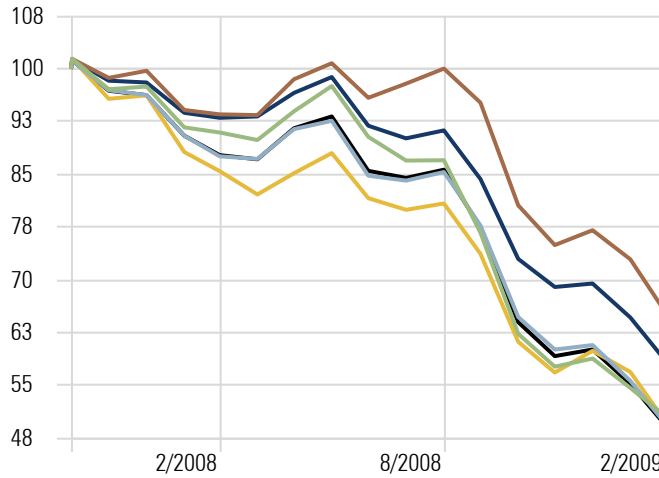
Time Period: 4/30/2003 to 9/30/2007



● American Funds Fundamental Invs R6 224  
● BlackRock Advantage Large Cap Core R 202  
● Parnassus Core Equity Institutional 160  
● Vanguard Institutional Index I 166  
● Russell 1000 TR USD 166  
● ClearBridge Appreciation R 166

## Credit Crunch - Financial Crisis

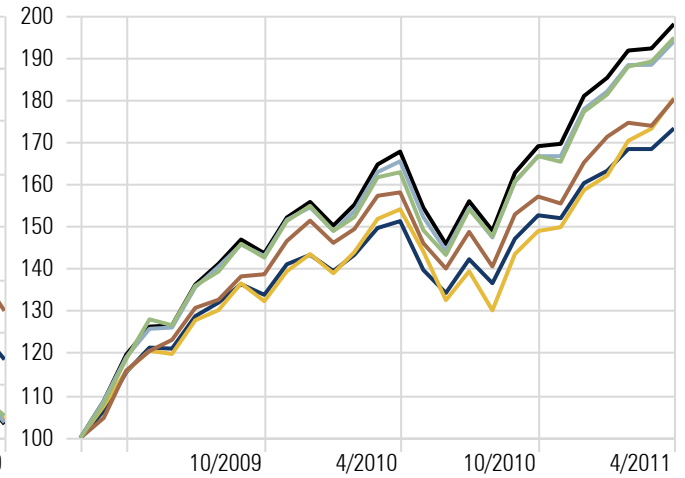
Time Period: 10/31/2007 to 2/28/2009



● American Funds Fundamental Invs R6 180  
● BlackRock Advantage Large Cap Core R 185  
● Parnassus Core Equity Institutional 51  
● Vanguard Institutional Index I 66  
● Russell 1000 TR USD 59  
● ClearBridge Appreciation R 50

## Financial Crisis Recovery - QE1&2

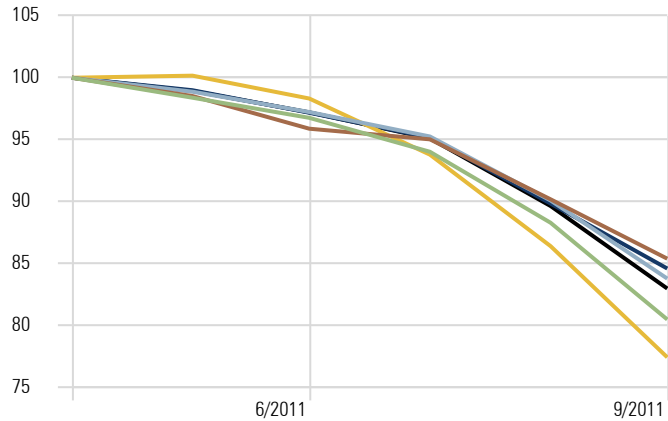
Time Period: 3/1/2009 to 4/30/2011



● American Funds Fundamental Invs R6 194.9  
● BlackRock Advantage Large Cap Core R 180.7  
● Parnassus Core Equity Institutional 180.3  
● Vanguard Institutional Index I 183  
● Russell 1000 TR USD 173.4  
● ClearBridge Appreciation R 180.7

## Double Dip

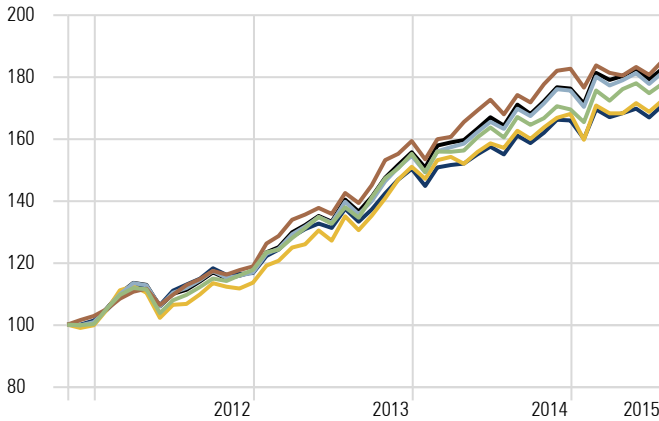
Time Period: 5/1/2011 to 9/30/2011



● American Funds Fundamental Invs R6 80.4  
● BlackRock Advantage Large Cap Core R 77.4  
● Parnassus Core Equity Institutional 85.3  
● Vanguard Institutional Index I 84.5  
● Russell 1000 TR USD 84.5  
● ClearBridge Appreciation R 84.5

## US Recovery Continues - Global Markets Lag

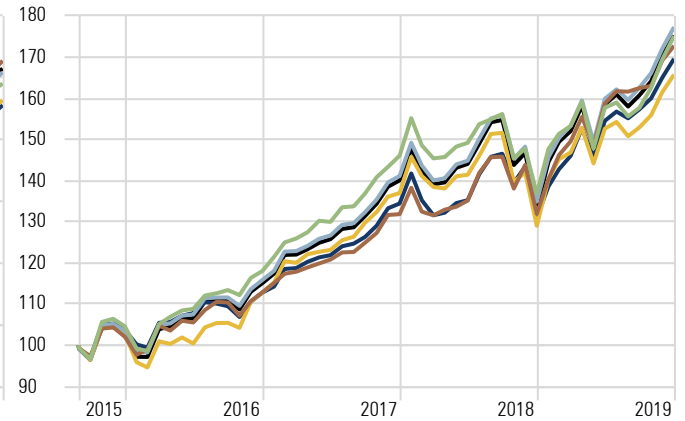
Time Period: 11/1/2011 to 7/31/2015



● American Funds Fundamental Invs R6 183.7  
● BlackRock Advantage Large Cap Core R 82.9  
● Parnassus Core Equity Institutional 178.1  
● Vanguard Institutional Index I 171.1  
● Russell 1000 TR USD 171.1  
● ClearBridge Appreciation R 172.7

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



● American Funds Fundamental Invs R6 181.7  
● BlackRock Advantage Large Cap Core R 165.8  
● Parnassus Core Equity Institutional 175.2  
● Vanguard Institutional Index I 172.8  
● Russell 1000 TR USD 169.6  
● ClearBridge Appreciation R 175.3

- American Funds Fundamental Invs R6
- BlackRock Advantage Large Cap Core R
- Parnassus Core Equity Institutional
- Vanguard Institutional Index I
- Russell 1000 TR USD
- ClearBridge Appreciation R

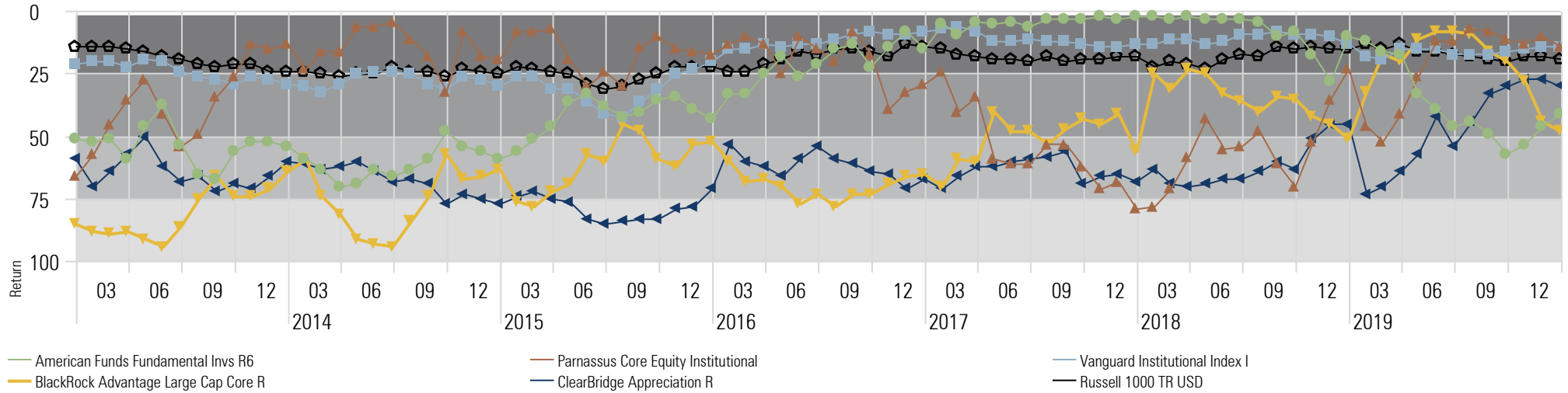
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

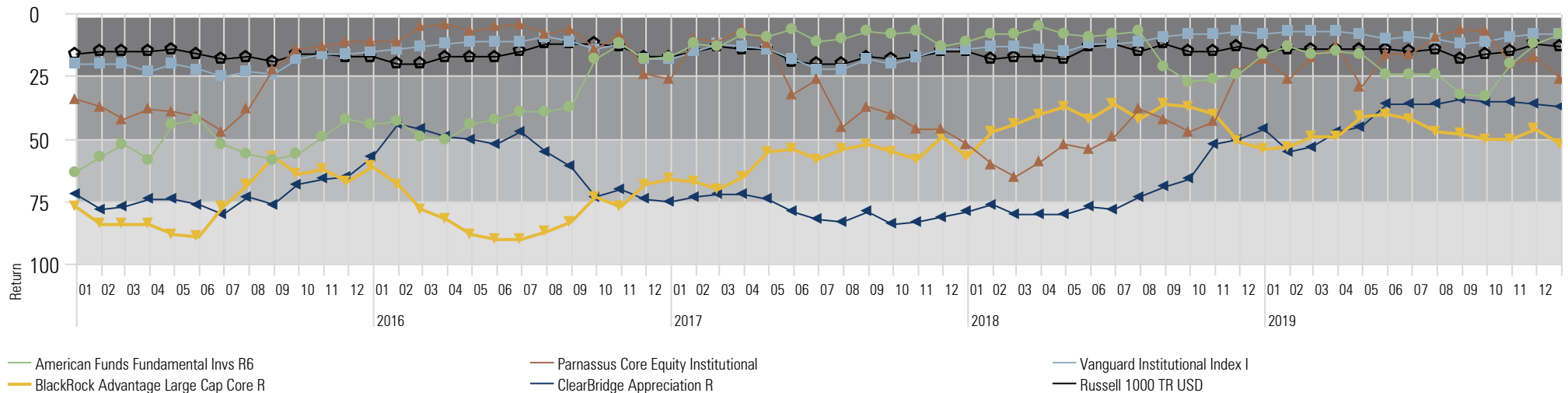


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Large Blend</b>																		
American Funds Fundamental Invs R6	11.1	<b>5</b>	2.03	28.0	<b>65</b>	-3.41	28.0	<b>65</b>	-3.41	14.1	<b>41</b>	-0.99	11.7	<b>8</b>	0.19	12.7	<b>33</b>	-0.82
Parnassus Core Equity Institutional	6.3	<b>87</b>	-2.72	31.0	<b>32</b>	-0.47	31.0	<b>32</b>	-0.47	15.2	<b>14</b>	0.20	11.0	<b>26</b>	-0.45	13.0	<b>25</b>	-0.57
Vanguard Institutional Index I	9.1	<b>30</b>	0.02	31.5	<b>21</b>	0.04	31.5	<b>21</b>	0.04	15.2	<b>14</b>	0.19	11.7	<b>8</b>	0.19	13.5	<b>7</b>	-0.01
BlackRock Advantage Large Cap Core R	8.4	<b>56</b>	-0.66	28.5	<b>61</b>	-2.96	28.5	<b>61</b>	-2.96	13.7	<b>48</b>	-1.37	10.0	<b>52</b>	-1.52	11.5	<b>68</b>	-2.00
ClearBridge Appreciation R	7.8	<b>67</b>	-1.23	29.4	<b>52</b>	-2.05	29.4	<b>52</b>	-2.05	14.6	<b>30</b>	-0.49	10.6	<b>37</b>	-0.92	11.9	<b>58</b>	-1.60
Russell 1000 TR USD	9.0			31.4			31.4			15.0			11.5			13.5		
Average	8.3			28.8			28.8			13.2			9.8			12.0		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Large Blend</b>																					
American Funds Fundamental Invs R6	28.0	<b>65</b>	-3.41	-6.3	<b>56</b>	-1.55	23.7	<b>13</b>	2.04	12.9	<b>19</b>	0.82	3.7	<b>8</b>	2.79	9.3	<b>81</b>	-3.97	31.9	<b>53</b>	-1.17
Parnassus Core Equity Institutional	31.0	<b>32</b>	-0.47	0.1	<b>2</b>	4.84	16.8	<b>85</b>	-4.88	10.6	<b>51</b>	-1.45	-0.3	<b>54</b>	-1.25	14.7	<b>9</b>	1.46	34.2	<b>28</b>	1.04
Vanguard Institutional Index I	31.5	<b>21</b>	0.04	-4.4	<b>21</b>	0.36	21.8	<b>30</b>	0.10	11.9	<b>29</b>	-0.12	1.4	<b>24</b>	0.45	13.7	<b>19</b>	0.41	32.3	<b>45</b>	-0.76
BlackRock Advantage Large Cap Core R	28.5	<b>61</b>	-2.96	-5.8	<b>49</b>	-1.02	21.4	<b>40</b>	-0.29	9.7	<b>63</b>	-2.37	-0.2	<b>53</b>	-1.13	11.3	<b>57</b>	-1.91	33.0	<b>37</b>	-0.06
ClearBridge Appreciation R	29.4	<b>52</b>	-2.05	-2.5	<b>10</b>	2.30	19.2	<b>73</b>	-2.52	8.7	<b>76</b>	-3.34	1.1	<b>30</b>	0.17	10.4	<b>70</b>	-2.82	28.9	<b>85</b>	-4.20
Russell 1000 TR USD	31.4			-4.8			21.7			12.1			0.9		13.2				33.1		
Average	28.8			-6.5			20.5			10.6			-0.4		11.4				32.3		



# American Funds Fundamental Invs R6

RFNGX

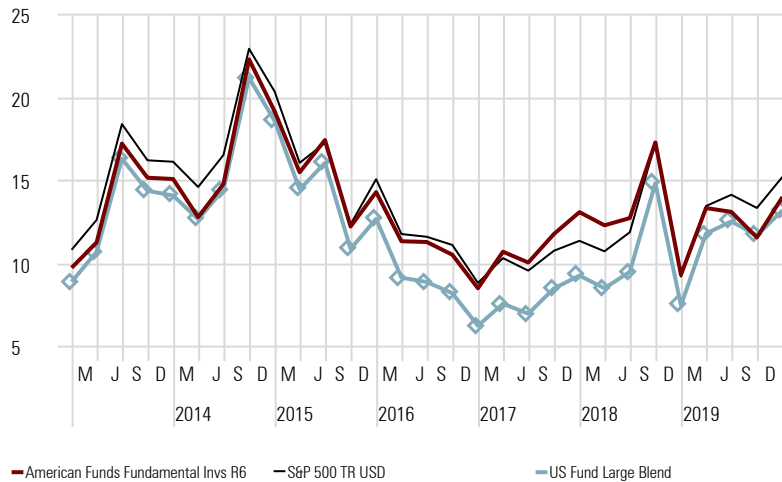
Index: S&P 500 TR USD  
 Category: US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
American Funds Fundamental Invs R6	28.0	28.0	14.1	11.7	12.7	9.8
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

## Returns (Rolling 36 Months)

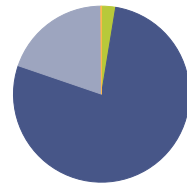


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.30	0.93	
Gross Expense Ratio	0.30	1.56	
LT Earn Growth	10.2	9.7	9.1
Avg Mkt Cap (\$MMM)	108.2	180.9	47.9
P/E Ratio	22.6	21.4	16.3
P/B Ratio	3.0	3.8	2.0
P/S Ratio	2.3	2.3	1.4
P/CF Ratio	13.8	14.7	10.5
ROE %	22.3	26.3	20.5
ROA %	7.8	8.7	7.2
Dividend Yld	2.0	1.8	2.8

## Asset Allocation

Portfolio Date: 12/31/2019



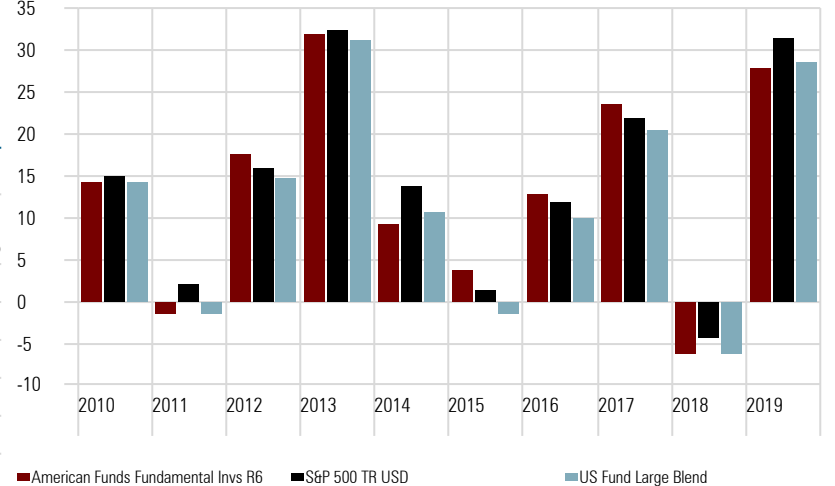
	%
Cash	2.6
US Equity	77.7
Non-US Equity	19.6
US Bond	-
Non-US Bond	0.0
Other	0.1

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

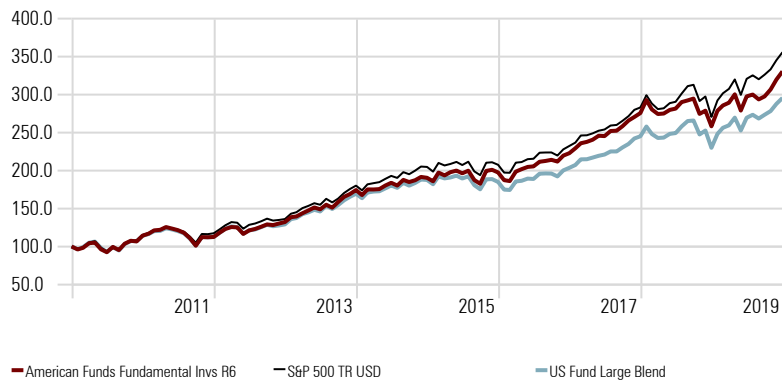
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
American Funds Fundamental Invs R6	69.2	30.8	11.2	-8.9	12.2	-16.9	98.4	103.0
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.9	0.0	11.9	0.2
Down Deviation	2.2	1.3	1.8	0.8
Beta	1.0	0.0	1.0	0.0
Alpha	-0.5	1.0	0.2	2.0
Sharpe	1.0	0.1	0.9	0.2
Sortino	1.5	0.1	1.4	0.3
Info Ratio	-0.4	2.2	0.0	2.5
Down Capture	99.3	-0.6	99.6	-3.2
Up Capture	95.3	2.7	99.7	7.3

## Top 10 Holdings

	Fund %
Microsoft Corp	5.5
Broadcom Inc	3.5
UnitedHealth Group Inc	2.9
Facebook Inc A	2.7
Capital Group Central Cash Fund	2.6
Berkshire Hathaway Inc A	2.4
Amazon.com Inc	2.2
Charter Communications Inc A	1.8
Taiwan Semiconductor Manufacturing Co Ltd	1.8
Boeing Co	1.7

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy		5	4
Materials		4	3
Industrials		11	10
Cons Discretionary		8	10
Consumer Staples		7	8
Healthcare		14	15
Financials		13	14
Info Technology		24	22
Telecom Services		11	10
Utilities		1	3
Real Estate %		1.6	2.9

# Vanguard Institutional Index I

VINIX

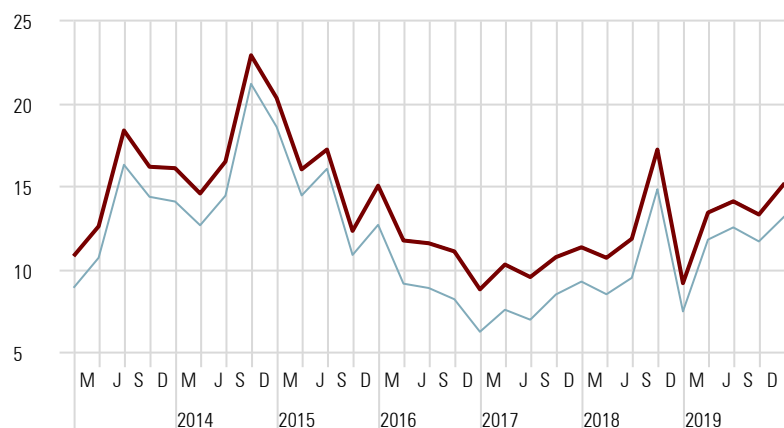
Index: S&P 500 TR USD  
 Category: US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Institutional Index I	31.5	31.5	15.2	11.7	13.5	9.0
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

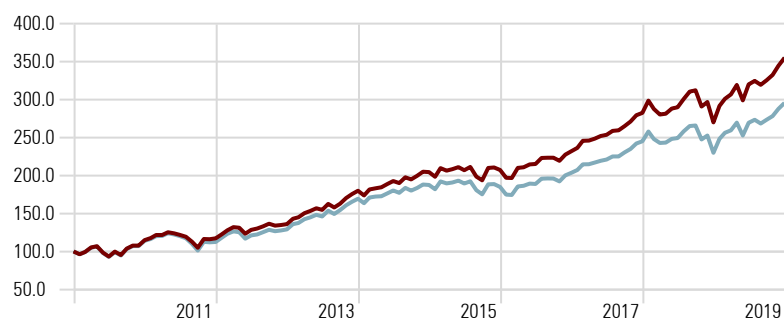
## Returns (Rolling 36 Months)



— Vanguard Institutional Index I — S&P 500 TR USD — US Fund Large Blend

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



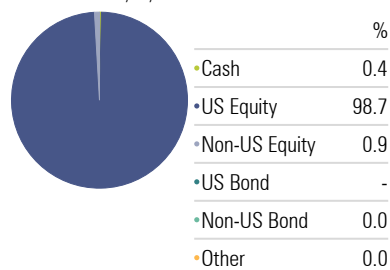
— Vanguard Institutional Index I — S&P 500 TR USD — US Fund Large Blend

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.04	0.93	
Gross Expense Ratio	0.04	1.56	
LT Earn Growth	9.8	9.7	9.1
Avg Mkt Cap (\$MMM)	127.0	180.9	47.9
P/E Ratio	22.2	21.4	16.3
P/B Ratio	3.4	3.8	2.0
P/S Ratio	2.4	2.3	1.4
P/CF Ratio	14.1	14.7	10.5
ROE %	26.4	26.3	20.5
ROA %	8.9	8.7	7.2
Dividend Yld	1.9	1.8	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

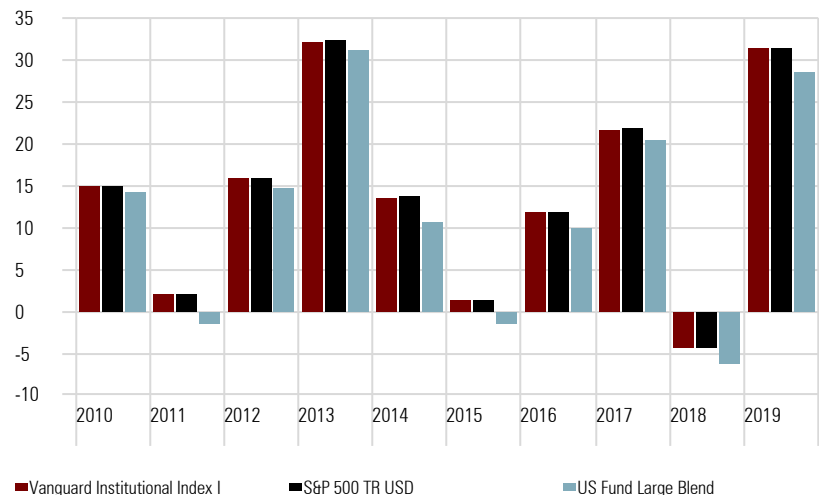


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Institutional Index I	71.7	28.3	10.9	-9.0	13.7	-13.9	99.9	100.1
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.1	0.3	12.0	0.2
Down Deviation	0.0	-0.9	0.0	-1.0
Beta	1.0	0.0	1.0	0.0
Alpha	0.0	1.5	0.0	1.8
Sharpe	1.1	0.1	0.9	0.2
Sortino	1.6	0.2	1.4	0.3
Info Ratio	-3.3	-0.7	-2.6	-0.1
Down Capture	100.1	0.1	100.1	-2.7
Up Capture	99.9	7.2	99.9	7.5

## Top 10 Holdings

Company	Fund %
Microsoft Corp	4.8
Apple Inc	4.8
Amazon.com Inc	3.1
Facebook Inc A	1.8
Berkshire Hathaway Inc B	1.6
Alphabet Inc A	1.6
Alphabet Inc Class C	1.6
JPMorgan Chase & Co	1.5
Johnson & Johnson	1.5
Visa Inc Class A	1.3

## Sector Allocation (%)

Sector	Fund %	Inv	Avg
Energy	4.8	4	4
Materials	2	2	3
Industrials	9	9	10
Cons Discretionary	10	10	10
Consumer Staples	7	7	7
Healthcare	14	14	14
Financials	13	13	14
Info Technology	24	24	22
Telecom Services	10	10	10
Utilities	4	4	3
Real Estate %	3.0	3.0	3.0

# Parnassus Core Equity Institutional

PRILX

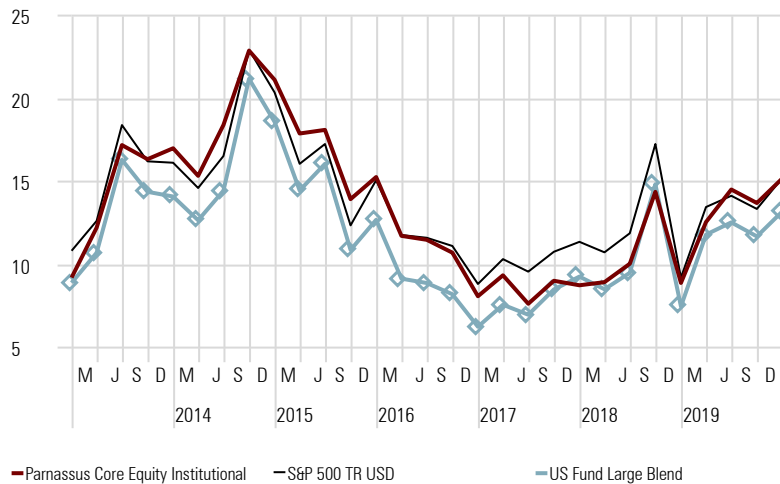
**Index:** S&P 500 TR USD  
**Category:** US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Parnassus Core Equity Institutional	31.0	31.0	15.2	11.0	13.0	10.6
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

## Returns (Rolling 36 Months)

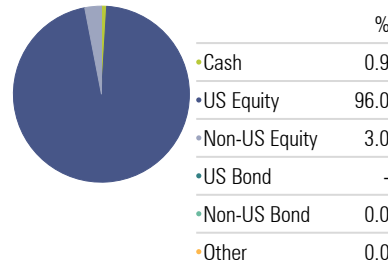


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.63	0.93	
Gross Expense Ratio	0.63	1.56	
LT Earn Growth	8.5	9.7	9.1
Avg Mkt Cap (\$MMM)	94.6	180.9	47.9
P/E Ratio	25.7	21.4	16.3
P/B Ratio	4.1	3.8	2.0
P/S Ratio	2.3	2.3	1.4
P/CF Ratio	16.1	14.7	10.5
ROE %	25.1	26.3	20.5
ROA %	8.5	8.7	7.2
Dividend Yld	1.7	1.8	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

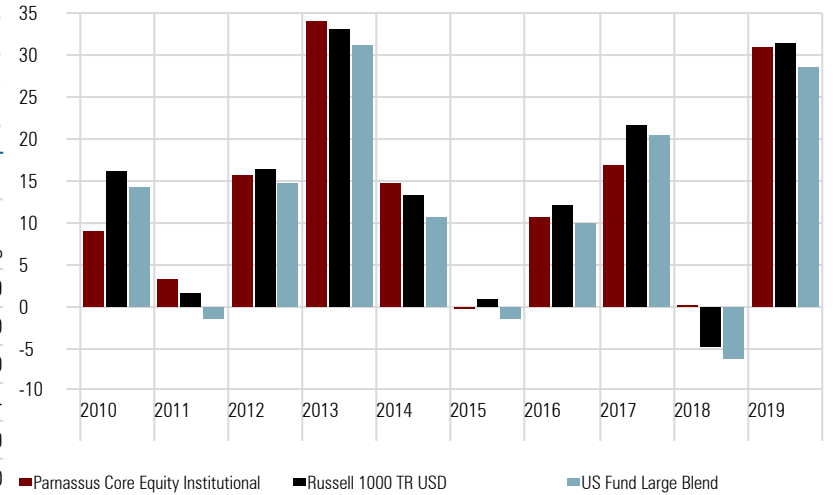


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

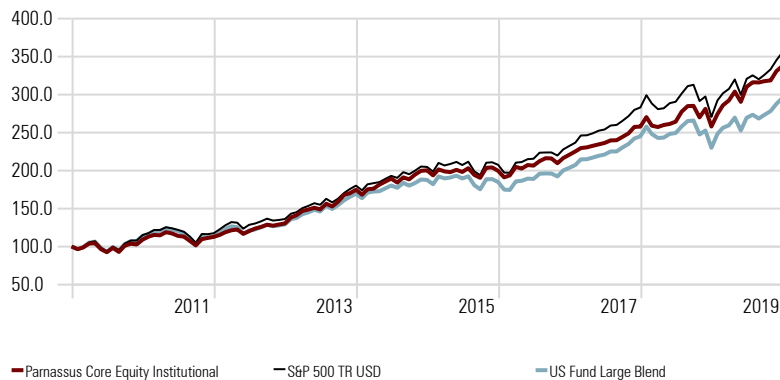
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Parnassus Core Equity Institutional	70.0	30.0	8.8	-8.3	13.4	-11.0	90.3	84.5
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	10.7	-1.1	10.6	-1.2
Down Deviation	2.6	1.7	2.6	1.6
Beta	0.8	-0.1	0.8	-0.1
Alpha	1.9	3.4	0.9	2.7
Sharpe	1.3	0.3	0.9	0.2
Sortino	1.9	0.5	1.5	0.4
Info Ratio	0.0	2.6	-0.2	2.3
Down Capture	76.8	-23.1	81.2	-21.5
Up Capture	89.8	-2.8	87.6	-4.7

## Top 10 Holdings

	Fund %	Inv	Avg
Microsoft Corp	6.8	0	4
The Walt Disney Co	4.7	6	3
Danaher Corp	3.8	14	10
CME Group Inc Class A	3.6	4	10
Verizon Communications Inc	3.4	13	7
Costco Wholesale Corp	3.4	12	14
Verisk Analytics Inc	3.1	11	14
Linde PLC	3.0	22	22
VF Corp	3.0	14	10
Waste Management Inc	3.0	0	3

## Sector Allocation (%)

	Inv	Avg
Energy	0	4
Materials	6	3
Industrials	14	10
Cons Discretionary	4	10
Consumer Staples	13	7
Healthcare	12	14
Financials	11	14
Info Technology	22	22
Telecom Services	14	10
Utilities	0	3
Real Estate %	4.4	3.0

# Large Cap Blend Funds 3

As of 12/31/2019



# US Fund Large Blend

## American Funds Fundamental Invs R6

### Investment Strategy

The investment seeks long-term growth of capital and income. The fund invests primarily in common stocks of companies that appear to offer superior opportunities for capital growth and most of which have a history of paying dividends. It may invest significantly in securities of issuers domiciled outside the United States. The investment adviser uses a system of multiple portfolio managers in managing the fund's assets.

### Manager Biography

Dina N. Perry since 3/1/1993

Michael T. Kerr since 1/1/1999

Brady L. Enright since 3/1/2006

Mark L. Casey since 3/1/2011

Gregory D. Johnson since 3/1/2013

Julian N. Abdey since 3/1/2018

## American Funds Fundamental Invs

Inception Date	5/1/2009
Fund Size (\$mm)	110,627
Annual Report Net Expense Ratio	0.30
Prospectus Net Expense Ratio	0.30
Prospectus Gross Expense Ratio	0.30
Ticker	RFNGX
Manager Tenure (Longest)	26.83
Manager Tenure (Average)	13.19
Morningstar Inst Cat	Large Core

### Other Notes:

None

## Parnassus Core Equity Institutional

### Investment Strategy

The investment seeks to achieve both capital appreciation and current income. The fund's objective is to achieve both capital appreciation and current income by investing primarily in a diversified portfolio of equity securities. Equity securities include common and preferred stock. Under normal circumstances, the fund will invest a minimum of 80% of its net assets (plus borrowings for investment purposes) in equity securities. At least 75% of the fund's total assets will normally be invested in equity securities that pay interest or dividends.

### Manager Biography

Todd C. Ahlsten since 5/1/2001

Benjamin E. Allen since 5/1/2012

## Parnassus Core Equity Institutional

Inception Date	4/28/2006
Fund Size (\$mm)	19,120
Annual Report Net Expense Ratio	0.63
Prospectus Net Expense Ratio	0.63
Prospectus Gross Expense Ratio	0.63
Ticker	PRILX
Manager Tenure (Longest)	18.67
Manager Tenure (Average)	13.17
Morningstar Inst Cat	Large Core

### Other Notes:

None

## Vanguard Institutional Index I

### Investment Strategy

The investment seeks to track the performance of a benchmark index that measures the investment return of large-capitalization stocks. The fund employs an indexing investment approach designed to track the performance of the Standard & Poor's 500 Index, a widely recognized benchmark of U.S. stock market performance that is dominated by the stocks of large U.S. companies. The advisor attempts to replicate the target index by investing all, or substantially all, of its assets in the stocks that make up the index, holding each stock in approximately the same proportion as its weighting in the index.

### Manager Biography

Donald M. Butler since 12/31/2000

Michelle Louie since 11/30/2017

## Vanguard Institutional Index I - Op

Inception Date	7/31/1990
Fund Size (\$mm)	242,173
Annual Report Net Expense Ratio	0.04
Prospectus Net Expense Ratio	0.04
Prospectus Gross Expense Ratio	0.04
Ticker	VINIX
Manager Tenure (Longest)	19.08
Manager Tenure (Average)	10.63
Morningstar Inst Cat	S&P 500 Tracking

### Other Notes:

None

## Invesco Charter A

### Investment Strategy

The investment seeks long-term growth of capital. The fund invests primarily in equity securities. The principal type of equity securities in which the fund invests is common stock. The fund may invest in the securities of issuers of all capitalization sizes and a substantial number of the issuers in which the fund invests are large-capitalization issuers. It may invest up to 25% of its net assets in foreign securities, which include foreign debt and foreign equity securities.

### Manager Biography

Manind V. Govil since 6/21/2019

Benjamin E. Ram since 6/21/2019

Paul Larson since 6/21/2019

## Invesco Charter A - Operations

Inception Date	11/26/1968
Fund Size (\$mm)	3,368
Annual Report Net Expense Ratio	1.07
Prospectus Net Expense Ratio	1.08
Prospectus Gross Expense Ratio	1.09
Ticker	CHTRX
Manager Tenure (Longest)	0.58
Manager Tenure (Average)	0.58
Morningstar Inst Cat	Large Relative Value

### Other Notes:

None

## Pioneer R

### Investment Strategy

The investment seeks reasonable income and capital growth. The fund invests in a broad group of carefully selected securities that the fund's adviser believes are reasonably priced, rather than in securities whose prices reflect a premium resulting from their current market popularity. It invests predominantly in equity securities. The fund primarily invests in securities of U.S. issuers. It may invest up to 15% of its total assets in securities of non-U.S. issuers. The fund will not invest more than 5% of its total assets in the securities of emerging markets issuers.

### Manager Biography

John A. Carey since 7/17/1986

Jeffrey L. Kripke since 7/1/2015

Craig Sterling since 7/31/2019

James Yu since 7/31/2019

## Pioneer R - Operations

Inception Date	4/1/2003
Fund Size (\$mm)	5,489
Annual Report Net Expense Ratio	1.37
Prospectus Net Expense Ratio	1.37
Prospectus Gross Expense Ratio	1.37
Ticker	PIORX
Manager Tenure (Longest)	33.50
Manager Tenure (Average)	9.75
Morningstar Inst Cat	Large Relative Value

### Other Notes:

None

# Portfolio Analysis

American Funds Fundamental Invs R6

Parnassus Core Equity Institutional

Vanguard Institutional Index I

Invesco Charter A

Pioneer R

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	21	37	34	Market Cap Giant %	58
Mid	2	2	3	Market Cap Large %	34
Small	0	0	0	Market Cap Mid %	8
				Market Cap Small %	1
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	21	40	25	Market Cap Giant %	45
Mid	2	6	6	Market Cap Large %	41
Small	0	0	0	Market Cap Mid %	14
				Market Cap Small %	0
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	29	34	27	Market Cap Giant %	55
Mid	4	4	2	Market Cap Large %	35
Small	0	0	0	Market Cap Mid %	10
				Market Cap Small %	0
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 9/30/2019

	Value	Blend	Growth	Market Cap	%
Large	19	43	30	Market Cap Giant %	65
Mid	5	2	1	Market Cap Large %	28
Small	0	0	0	Market Cap Mid %	7
				Market Cap Small %	0
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	29	36	24	Market Cap Giant %	75
Mid	1	6	4	Market Cap Large %	14
Small	0	0	0	Market Cap Mid %	11
				Market Cap Small %	0
				Market Cap Micro %	0

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	108.2	95.5
Forward P/E	18.2	18.8
P/E Ratio (TTM)	22.6	22.5
LT Earn Growth	10.2	9.4
P/B Ratio (TTM)	3.0	3.3
Dividend Yield	2.0	1.8
ROE %	22.3	24.4
ROA %	7.8	8.2
Debt to Capital %	42	44

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	94.0	95.5
Forward P/E	20.8	18.8
P/E Ratio (TTM)	26.4	22.5
LT Earn Growth	8.1	9.4
P/B Ratio (TTM)	4.2	3.3
Dividend Yield	1.7	1.8
ROE %	25.2	24.4
ROA %	8.3	8.2
Debt to Capital %	44	44

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	123.9	95.5
Forward P/E	18.7	18.8
P/E Ratio (TTM)	22.6	22.5
LT Earn Growth	9.3	9.4
P/B Ratio (TTM)	3.4	3.3
Dividend Yield	1.9	1.8
ROE %	26.1	24.4
ROA %	8.8	8.2
Debt to Capital %	44	44

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	124.1	95.5
Forward P/E	17.8	18.8
P/E Ratio (TTM)	20.0	22.5
LT Earn Growth	8.8	9.4
P/B Ratio (TTM)	3.2	3.3
Dividend Yield	1.9	1.8
ROE %	29.0	24.4
ROA %	9.2	8.2
Debt to Capital %	47	44

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	174.5	95.5
Forward P/E	20.3	18.8
P/E Ratio (TTM)	23.5	22.5
LT Earn Growth	9.2	9.4
P/B Ratio (TTM)	3.6	3.3
Dividend Yield	1.8	1.8
ROE %	26.0	24.4
ROA %	8.7	8.2
Debt to Capital %	42	44

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	34	
# of Stock Holdings	284	997
% in Top 10	25.9	20.7
Cash %	2.6	0.0
Developed %	96.4	99.8
US Equity %	77.7	99.1
Non-US Equity %	20	1
Emerging Mkt %	0.9	0.2

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	31	
# of Stock Holdings	40	997
% in Top 10	37.7	20.7
Cash %	1.5	0.0
Developed %	98.5	99.8
US Equity %	95.3	99.1
Non-US Equity %	3	1
Emerging Mkt %	0.0	0.2

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	6	
# of Stock Holdings	507	997
% in Top 10	22.6	20.7
Cash %	0.3	0.0
Developed %	99.6	99.8
US Equity %	98.7	99.1
Non-US Equity %	1	1
Emerging Mkt %	0.0	0.2

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	82	
# of Stock Holdings	53	997
% in Top 10	38.6	20.7
Cash %	1.8	0.0
Developed %	98.2	99.8
US Equity %	92.8	99.1
Non-US Equity %	5	1
Emerging Mkt %	0.0	0.2

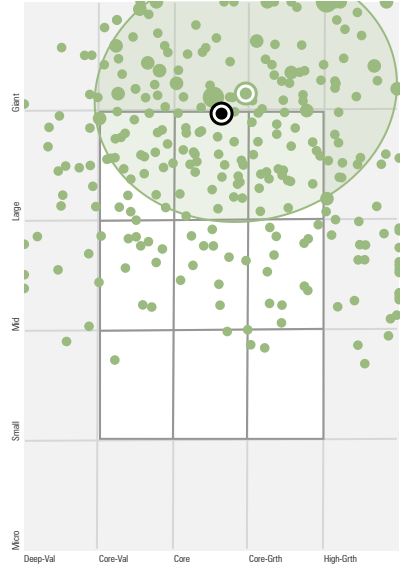
## Portfolio Data

	Inv	Bmk1
Turnover Ratio	60	
# of Stock Holdings	49	997
% in Top 10	41.8	20.7
Cash %	0.6	0.0
Developed %	99.4	99.8
US Equity %	98.5	99.1
Non-US Equity %	1	1
Emerging Mkt %	0.0	0.2

# Holdings-Based Style Analysis

American Funds Fundamental Invs R6

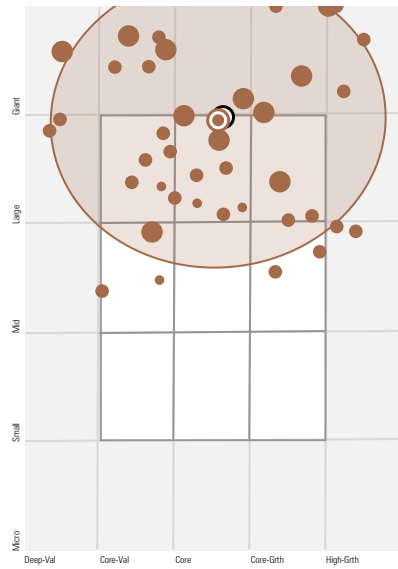
## Holdings-Based Style Map



American Funds Fundamental Invs R6 12/31/2019

Parnassus Core Equity Institutional

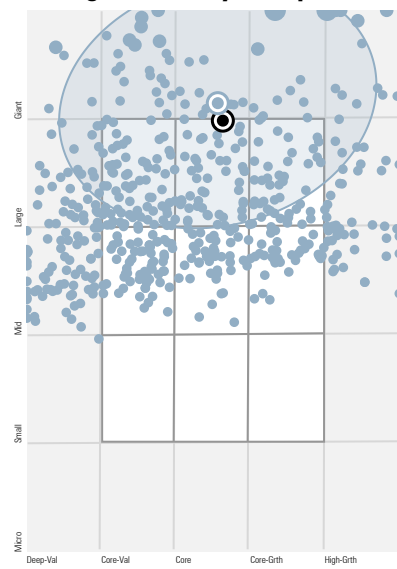
## Holdings-Based Style Map



Parnassus Core Equity Institutional 12/31/2019

Vanguard Institutional Index I

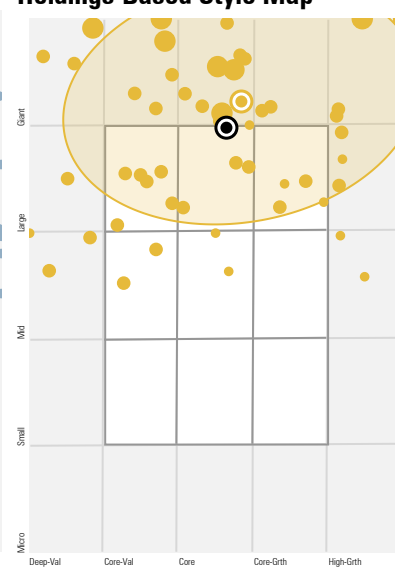
## Holdings-Based Style Map



Vanguard Institutional Index I 12/31/2019

Invesco Charter A

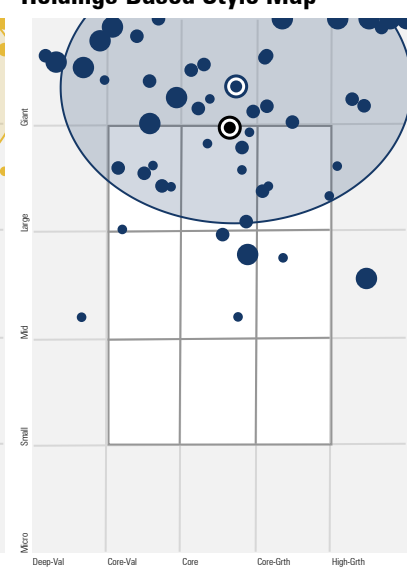
## Holdings-Based Style Map



Invesco Charter A 9/30/2019

Pioneer R

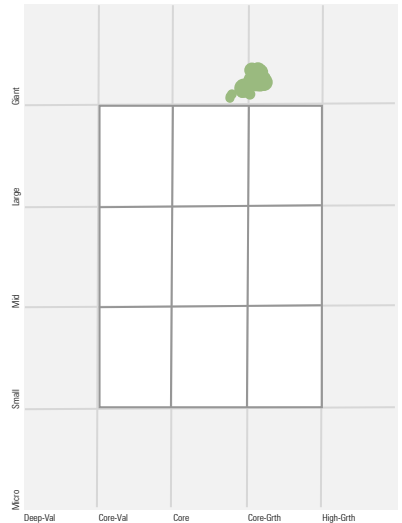
## Holdings-Based Style Map



Pioneer R 11/30/2019

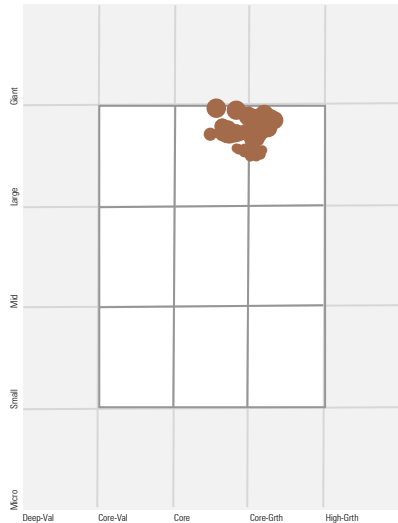
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



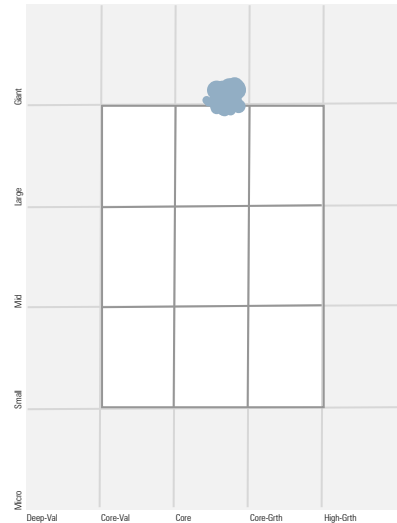
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



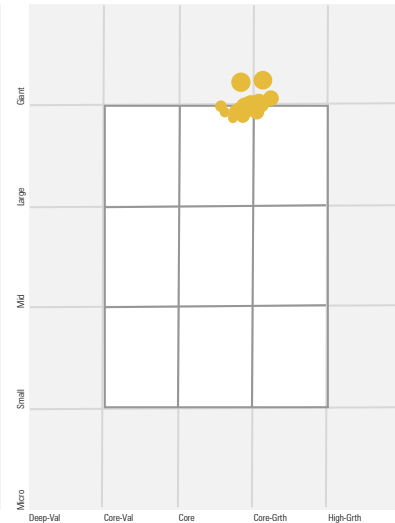
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



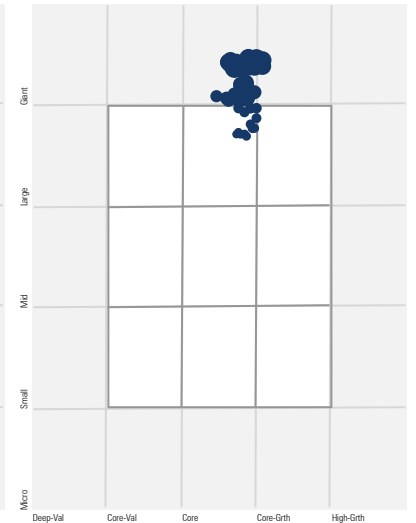
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 9/30/2019



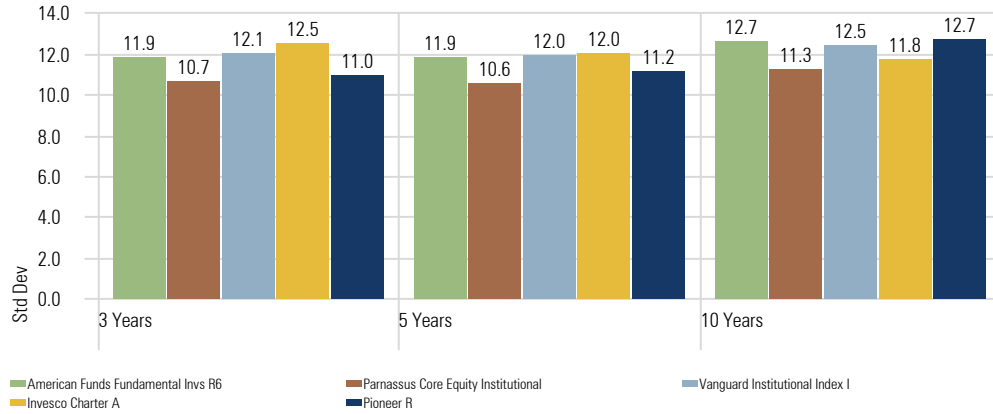
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019

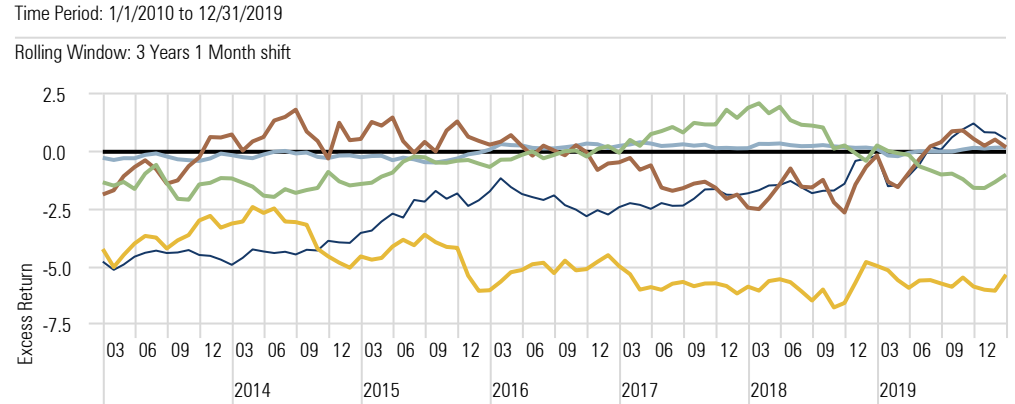


# Risk/Return Performance Analysis

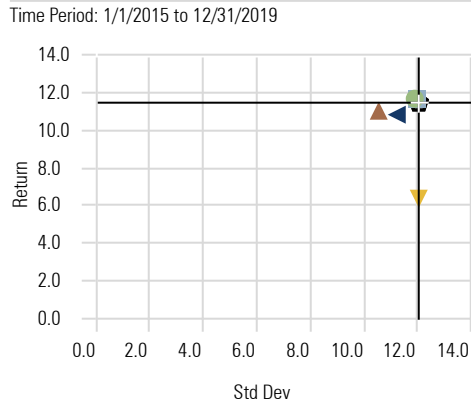
## Standard Deviation



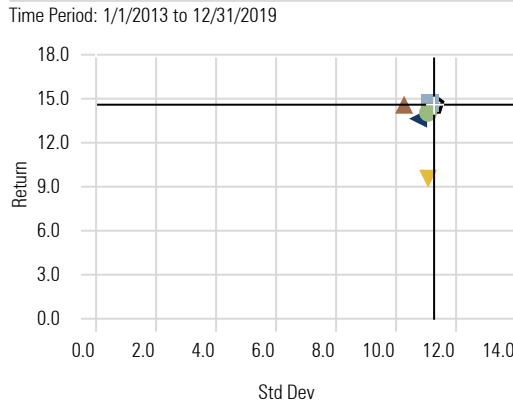
## 3 Year Relative Rolling Returns



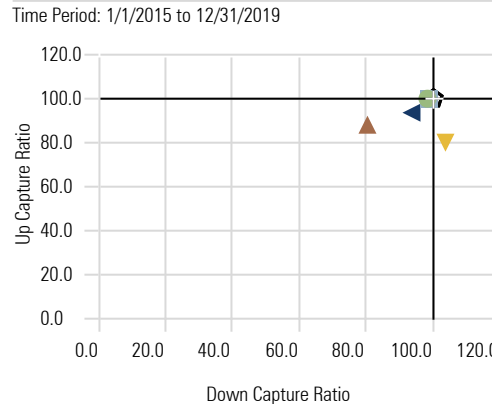
## 5 Year Risk-Reward



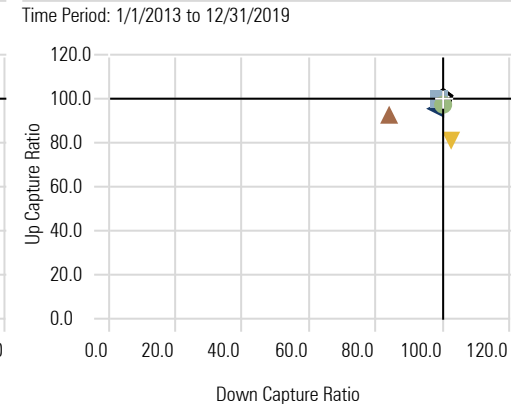
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● American Funds Fundamental Invs R6  
● Invesco Charter A

● Parnassus Core Equity Institutional  
◀ Pioneer R

● Vanguard Institutional Index I  
◻ Russell 1000 TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (9/1/1992) to 12/31/2019

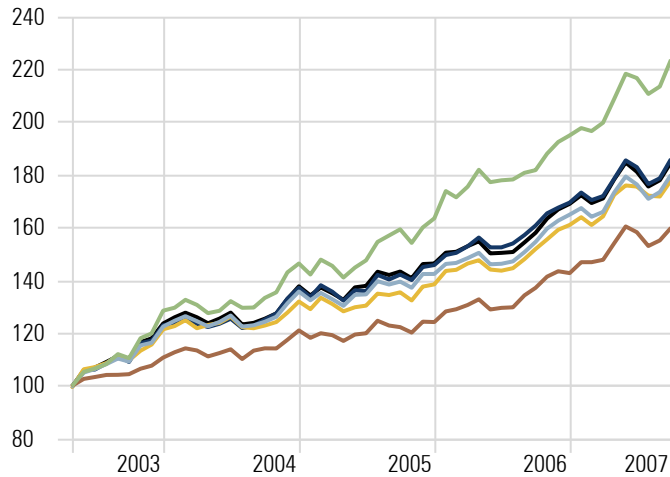
	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
American Funds Fundamental Invs R6	11.2	13.8	1.5	0.93	93	17.1	-23.3	0.63	3.8
Parnassus Core Equity Institutional	11.1	11.9	2.6	0.76	82	23.4	-19.1	0.72	6.1
Vanguard Institutional Index I	10.0	14.1	0.0	0.99	99	21.4	-21.9	0.53	1.0
Invesco Charter A	7.9	14.6	-1.7	0.97	91	26.1	-21.7	0.37	4.5
Pioneer R	9.2	13.6	-0.3	0.93	96	22.3	-22.1	0.49	3.0
Russell 1000 TR USD	10.1	14.3	0.0	1.00	100	21.9	-22.5	0.53	0.0



# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

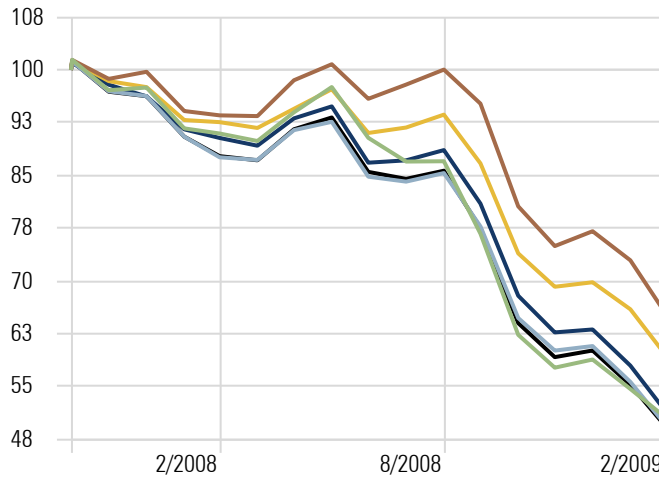
Time Period: 4/30/2003 to 9/30/2007



● American Funds Fundamental Invs R6 224  
● Parnassus Core Equity Institutional 160  
● Vanguard Institutional Index I 160  
● Invesco Charter A 178  
● Pioneer R 186  
● Russell 1000 TR USD 186

## Credit Crunch - Financial Crisis

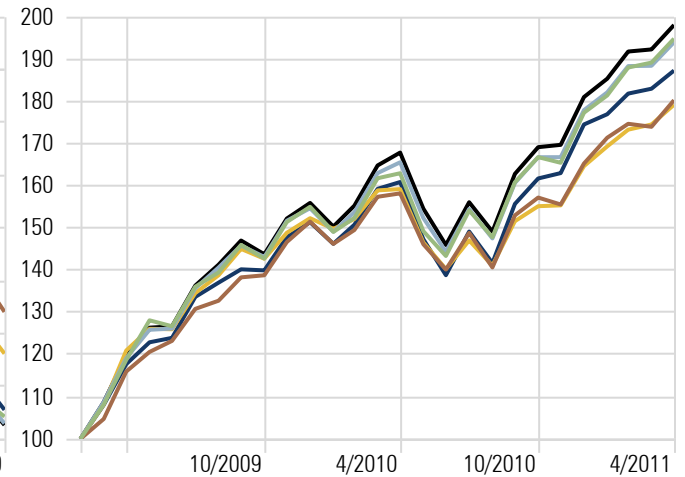
Time Period: 10/31/2007 to 2/28/2009



● American Funds Fundamental Invs R6 51  
● Parnassus Core Equity Institutional 66  
● Vanguard Institutional Index I 66  
● Invesco Charter A 60  
● Pioneer R 52  
● Russell 1000 TR USD 49

## Financial Crisis Recovery - QE1&2

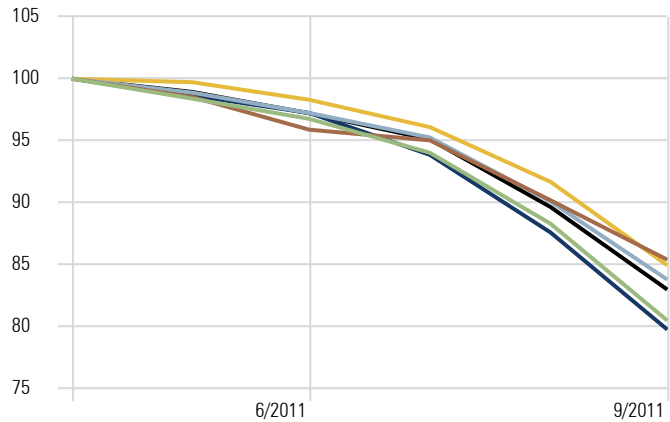
Time Period: 3/1/2009 to 4/30/2011



● American Funds Fundamental Invs R6 194.1  
● Parnassus Core Equity Institutional 180.3  
● Vanguard Institutional Index I 180.3  
● Invesco Charter A 179.3  
● Pioneer R 187.4  
● Russell 1000 TR USD 198.2

## Double Dip

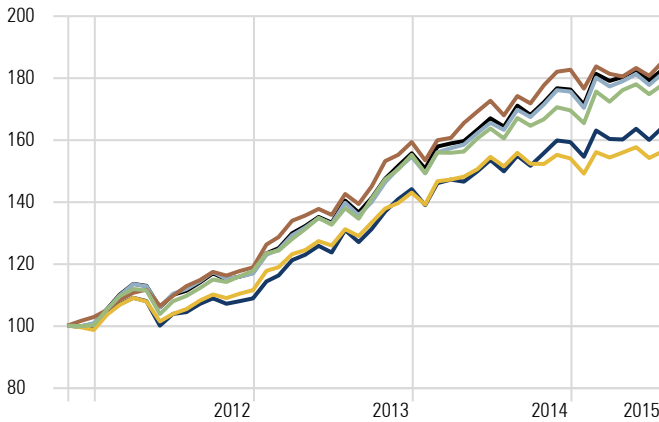
Time Period: 5/1/2011 to 9/30/2011



● American Funds Fundamental Invs R6 80.4  
● Parnassus Core Equity Institutional 85.3  
● Vanguard Institutional Index I 83.7  
● Invesco Charter A 84.9  
● Pioneer R 79.7  
● Russell 1000 TR USD 82.9

## US Recovery Continues - Global Markets Lag

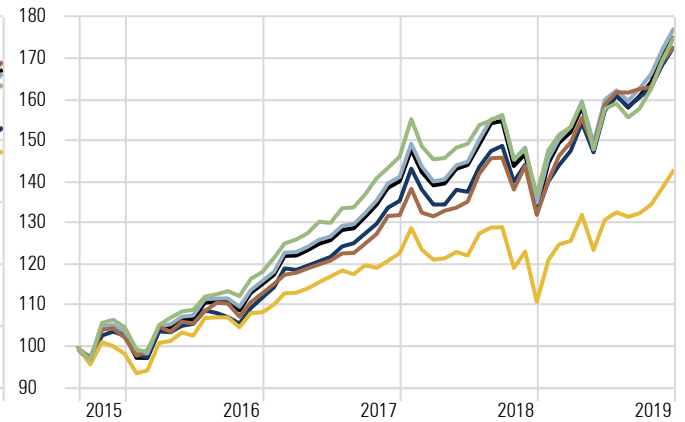
Time Period: 11/1/2011 to 7/31/2015



● American Funds Fundamental Invs R6 185.5  
● Parnassus Core Equity Institutional 178.1  
● Vanguard Institutional Index I 164.3  
● Invesco Charter A 156.4  
● Pioneer R 164.3  
● Russell 1000 TR USD 183.0

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



● American Funds Fundamental Invs R6 181.7  
● Parnassus Core Equity Institutional 175.2  
● Vanguard Institutional Index I 172.8  
● Invesco Charter A 142.9  
● Pioneer R 172.8  
● Russell 1000 TR USD 175.3

● American Funds Fundamental Invs R6  
● Invesco Charter A

● Parnassus Core Equity Institutional  
● Pioneer R

● Vanguard Institutional Index I  
● Russell 1000 TR USD

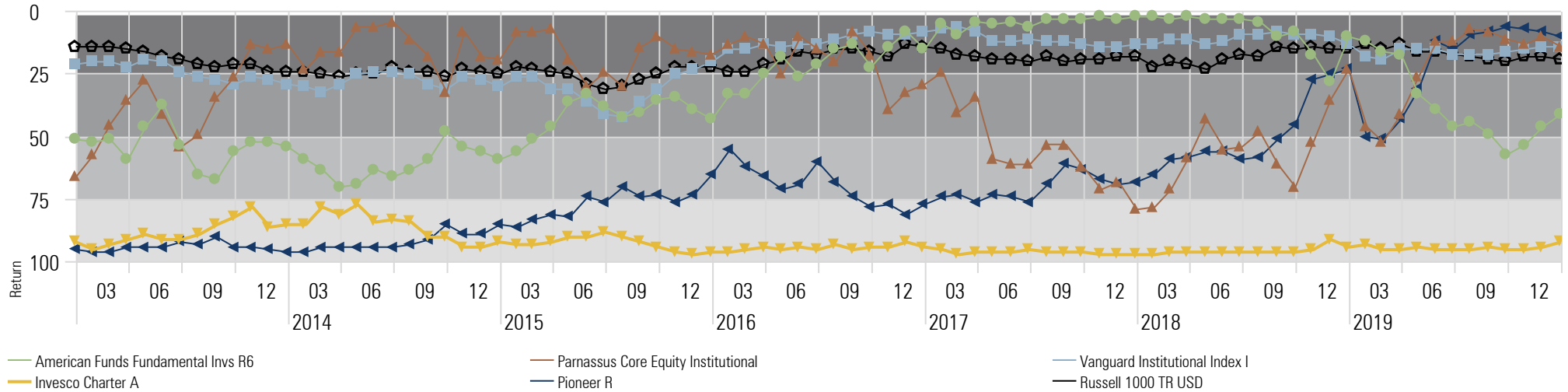
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

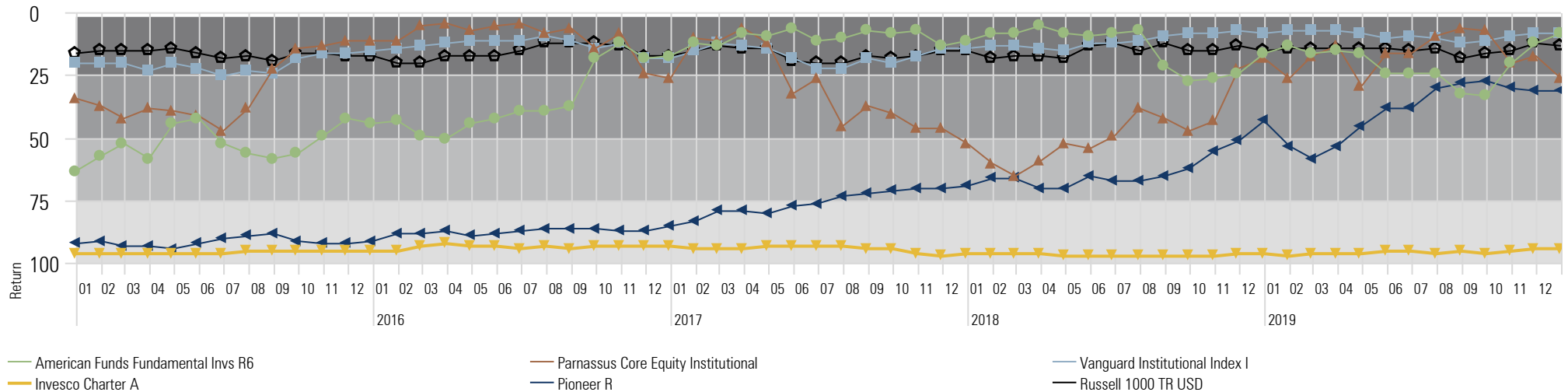


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Large Blend</b>																		
American Funds Fundamental Invs R6	11.1	<b>5</b>	2.03	28.0	<b>65</b>	-3.41	28.0	<b>65</b>	-3.41	14.1	<b>41</b>	-0.99	11.7	<b>8</b>	0.19	12.7	<b>33</b>	-0.82
Parnassus Core Equity Institutional	6.3	<b>87</b>	-2.72	31.0	<b>32</b>	-0.47	31.0	<b>32</b>	-0.47	15.2	<b>14</b>	0.20	11.0	<b>26</b>	-0.45	13.0	<b>25</b>	-0.57
Vanguard Institutional Index I	9.1	<b>30</b>	0.02	31.5	<b>21</b>	0.04	31.5	<b>21</b>	0.04	15.2	<b>14</b>	0.19	11.7	<b>8</b>	0.19	13.5	<b>7</b>	-0.01
Invesco Charter A	8.0	<b>62</b>	-1.03	29.0	<b>55</b>	-2.42	29.0	<b>55</b>	-2.42	9.7	<b>92</b>	-5.35	6.4	<b>94</b>	-5.09	8.7	<b>97</b>	-4.85
Pioneer R	7.7	<b>70</b>	-1.32	30.4	<b>41</b>	-0.98	30.4	<b>41</b>	-0.98	15.6	<b>10</b>	0.55	10.8	<b>31</b>	-0.64	11.4	<b>72</b>	-2.13
Russell 1000 TR USD	9.0			31.4			31.4			15.0			11.5			13.5		
Average	8.3			28.8			28.8			13.2			9.8			12.0		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Large Blend</b>																					
American Funds Fundamental Invs R6	28.0	<b>65</b>	-3.41	-6.3	<b>56</b>	-1.55	23.7	<b>13</b>	2.04	12.9	<b>19</b>	0.82	3.7	<b>8</b>	2.79	9.3	<b>81</b>	-3.97	31.9	<b>53</b>	-1.17
Parnassus Core Equity Institutional	31.0	<b>32</b>	-0.47	0.1	<b>2</b>	4.84	16.8	<b>85</b>	-4.88	10.6	<b>51</b>	-1.45	-0.3	<b>54</b>	-1.25	14.7	<b>9</b>	1.46	34.2	<b>28</b>	1.04
Vanguard Institutional Index I	31.5	<b>21</b>	0.04	-4.4	<b>21</b>	0.36	21.8	<b>30</b>	0.10	11.9	<b>29</b>	-0.12	1.4	<b>24</b>	0.45	13.7	<b>19</b>	0.41	32.3	<b>45</b>	-0.76
Invesco Charter A	29.0	<b>55</b>	-2.42	-9.6	<b>86</b>	-4.86	13.3	<b>96</b>	-8.44	10.3	<b>54</b>	-1.74	-6.4	<b>96</b>	-7.31	7.7	<b>89</b>	-5.50	28.3	<b>87</b>	-4.77
Pioneer R	30.4	<b>41</b>	-0.98	-2.1	<b>8</b>	2.67	21.0	<b>50</b>	-0.70	9.1	<b>71</b>	-2.93	-0.8	<b>60</b>	-1.68	10.6	<b>68</b>	-2.69	32.5	<b>43</b>	-0.59
Russell 1000 TR USD	31.4			-4.8			21.7			12.1			0.9			13.2			33.1		
Average	28.8			-6.5			20.5			10.6			-0.4			11.4			32.3		

# American Funds Fundamental Invs R6

RFNGX

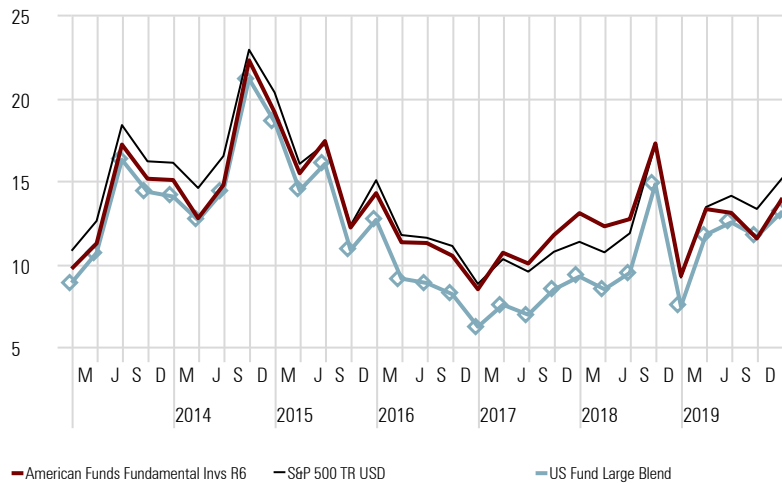
Index: S&P 500 TR USD  
 Category: US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
American Funds Fundamental Invs R6	28.0	28.0	14.1	11.7	12.7	9.8
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

## Returns (Rolling 36 Months)

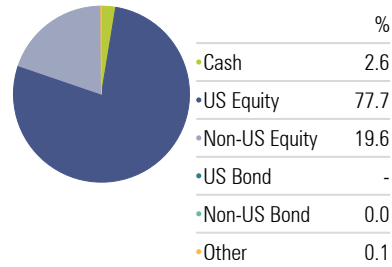


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.30	0.93	
Gross Expense Ratio	0.30	1.56	
LT Earn Growth	10.2	9.7	9.1
Avg Mkt Cap (\$MMM)	108.2	180.9	47.9
P/E Ratio	22.6	21.4	16.3
P/B Ratio	3.0	3.8	2.0
P/S Ratio	2.3	2.3	1.4
P/CF Ratio	13.8	14.7	10.5
ROE %	22.3	26.3	20.5
ROA %	7.8	8.7	7.2
Dividend Yld	2.0	1.8	2.8

## Asset Allocation

Portfolio Date: 12/31/2019

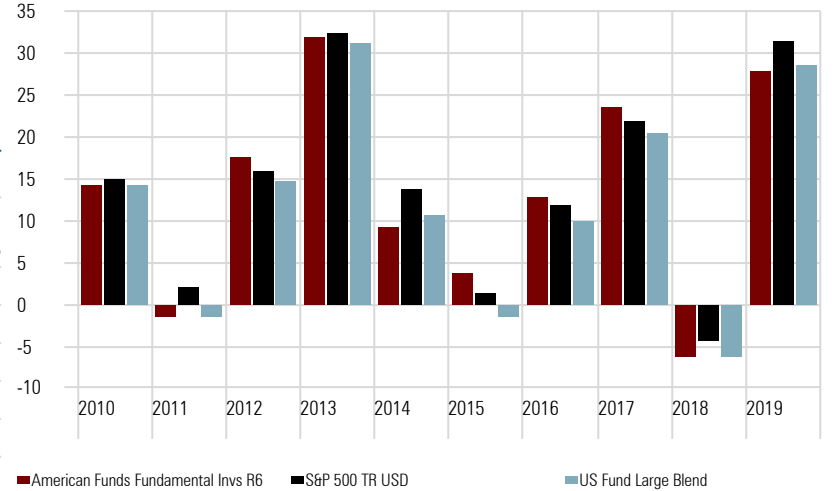


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

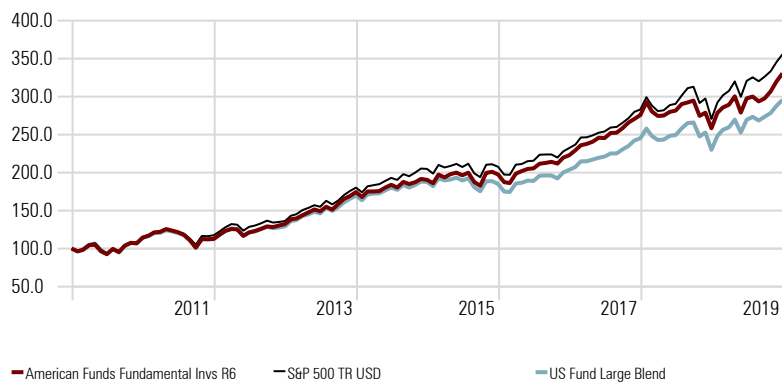
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
American Funds Fundamental Invs R6	69.2	30.8	11.2	-8.9	12.2	-16.9	98.4	103.0
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.9	0.0	11.9	0.2
Down Deviation	2.2	1.3	1.8	0.8
Beta	1.0	0.0	1.0	0.0
Alpha	-0.5	1.0	0.2	2.0
Sharpe	1.0	0.1	0.9	0.2
Sortino	1.5	0.1	1.4	0.3
Info Ratio	-0.4	2.2	0.0	2.5
Down Capture	99.3	-0.6	99.6	-3.2
Up Capture	95.3	2.7	99.7	7.3

## Top 10 Holdings

Company	Fund %
Microsoft Corp	5.5
Broadcom Inc	3.5
UnitedHealth Group Inc	2.9
Facebook Inc A	2.7
Capital Group Central Cash Fund	2.6
Berkshire Hathaway Inc A	2.4
Amazon.com Inc	2.2
Charter Communications Inc A	1.8
Taiwan Semiconductor Manufacturing Co Ltd	1.8
Boeing Co	1.7

## Sector Allocation (%)

Sector	Fund %	Inv	Avg
Energy		5	4
Materials		4	3
Industrials		11	10
Cons Discretionary		8	10
Consumer Staples		7	8
Healthcare		14	15
Financials		13	14
Info Technology		24	22
Telecom Services		11	10
Utilities		1	3
Real Estate %		1.6	2.9

# Vanguard Institutional Index I

VINIX

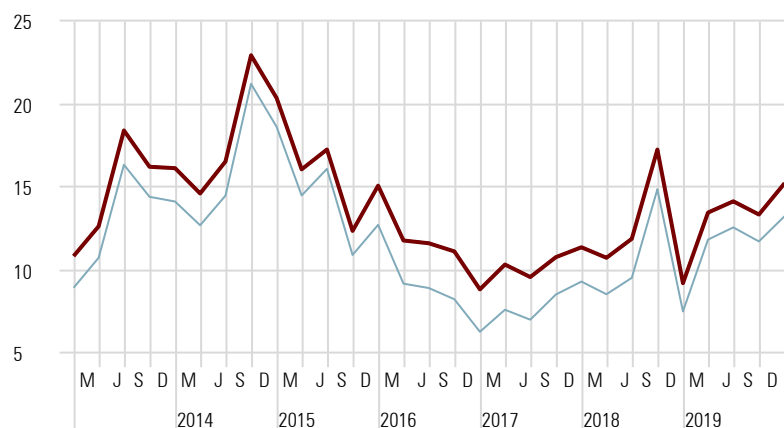
Index: S&P 500 TR USD  
 Category: US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Institutional Index I	31.5	31.5	15.2	11.7	13.5	9.0
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

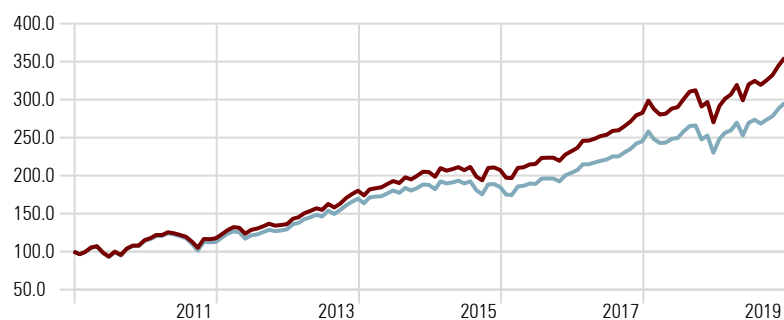
## Returns (Rolling 36 Months)



— Vanguard Institutional Index I — S&P 500 TR USD — US Fund Large Blend

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



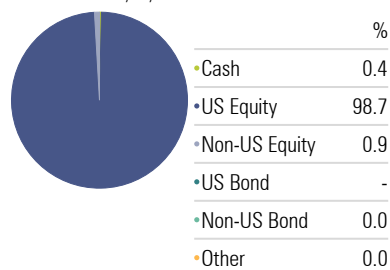
— Vanguard Institutional Index I — S&P 500 TR USD — US Fund Large Blend

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.04	0.93	
Gross Expense Ratio	0.04	1.56	
LT Earn Growth	9.8	9.7	9.1
Avg Mkt Cap (\$MMM)	127.0	180.9	47.9
P/E Ratio	22.2	21.4	16.3
P/B Ratio	3.4	3.8	2.0
P/S Ratio	2.4	2.3	1.4
P/CF Ratio	14.1	14.7	10.5
ROE %	26.4	26.3	20.5
ROA %	8.9	8.7	7.2
Dividend Yld	1.9	1.8	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

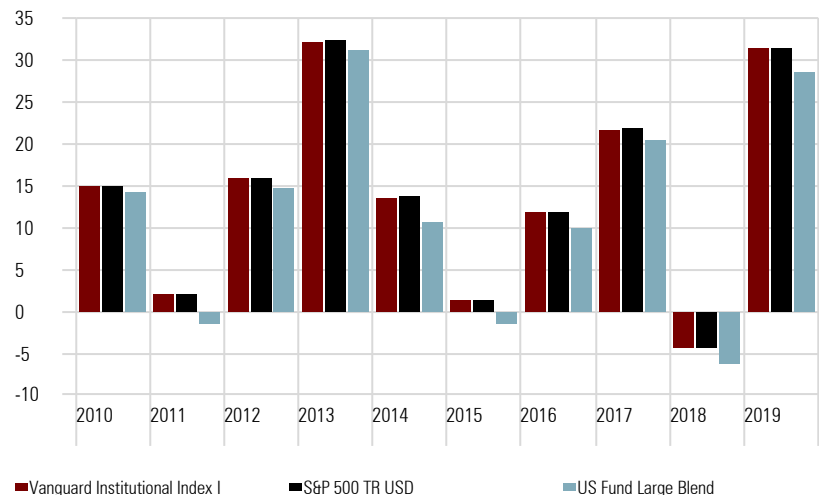


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Institutional Index I	71.7	28.3	10.9	-9.0	13.7	-13.9	99.9	100.1
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.1	0.3	12.0	0.2
Down Deviation	0.0	-0.9	0.0	-1.0
Beta	1.0	0.0	1.0	0.0
Alpha	0.0	1.5	0.0	1.8
Sharpe	1.1	0.1	0.9	0.2
Sortino	1.6	0.2	1.4	0.3
Info Ratio	-3.3	-0.7	-2.6	-0.1
Down Capture	100.1	0.1	100.1	-2.7
Up Capture	99.9	7.2	99.9	7.5

## Top 10 Holdings

Company	Fund %
Microsoft Corp	4.8
Apple Inc	4.8
Amazon.com Inc	3.1
Facebook Inc A	1.8
Berkshire Hathaway Inc B	1.6
Alphabet Inc A	1.6
Alphabet Inc Class C	1.6
JPMorgan Chase & Co	1.5
Johnson & Johnson	1.5
Visa Inc Class A	1.3

## Sector Allocation (%)

Sector	Fund %	Inv	Avg
Energy	4.8	4	4
Materials	2	2	3
Industrials	9	9	10
Cons Discretionary	10	10	10
Consumer Staples	7	7	7
Healthcare	14	14	14
Financials	13	13	14
Info Technology	24	24	22
Telecom Services	10	10	10
Utilities	4	4	3
Real Estate %	3.0	3.0	3.0

# Parnassus Core Equity Institutional

PRILX

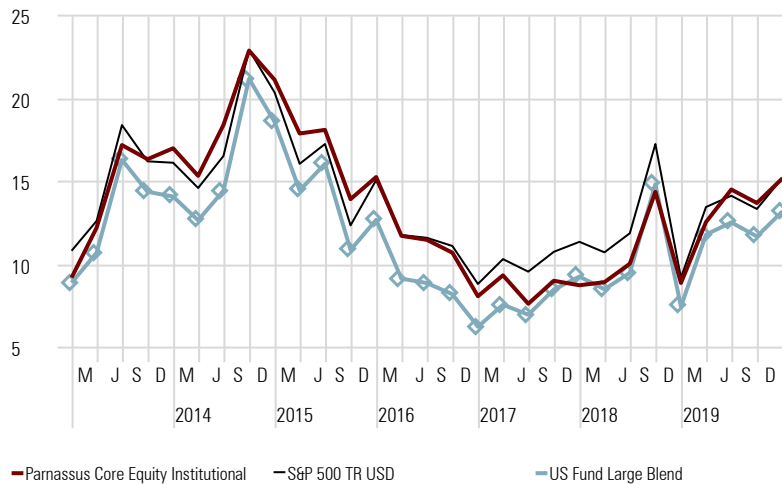
Index: S&P 500 TR USD  
 Category: US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Parnassus Core Equity Institutional	31.0	31.0	15.2	11.0	13.0	10.6
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

## Returns (Rolling 36 Months)

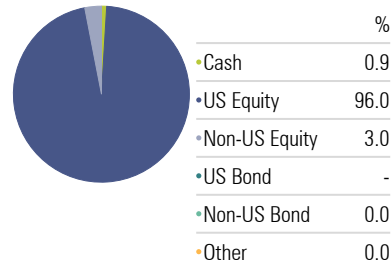


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.63	0.93	
Gross Expense Ratio	0.63	1.56	
LT Earn Growth	8.5	9.7	9.1
Avg Mkt Cap (\$MMM)	94.6	180.9	47.9
P/E Ratio	25.7	21.4	16.3
P/B Ratio	4.1	3.8	2.0
P/S Ratio	2.3	2.3	1.4
P/CF Ratio	16.1	14.7	10.5
ROE %	25.1	26.3	20.5
ROA %	8.5	8.7	7.2
Dividend Yld	1.7	1.8	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

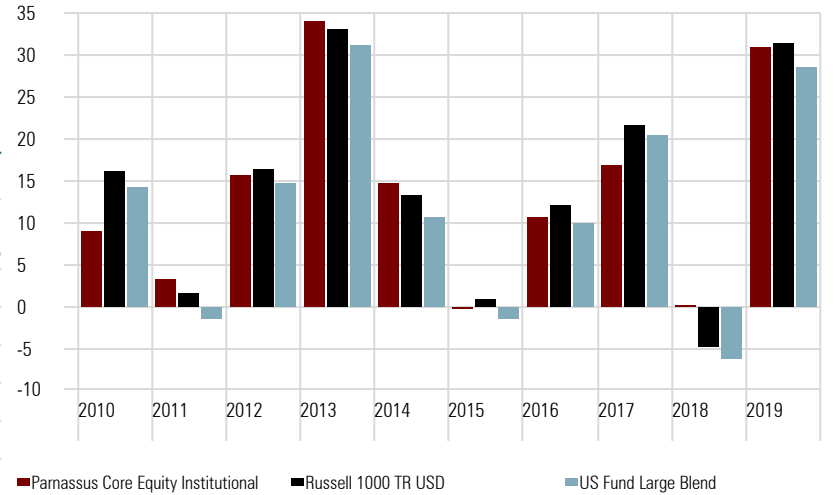


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

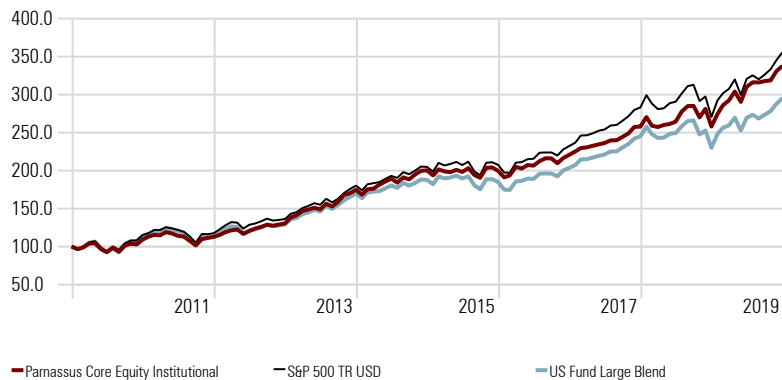
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Parnassus Core Equity Institutional	70.0	30.0	8.8	-8.3	13.4	-11.0	90.3	84.5
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	10.7	-1.1	10.6	-1.2
Down Deviation	2.6	1.7	2.6	1.6
Beta	0.8	-0.1	0.8	-0.1
Alpha	1.9	3.4	0.9	2.7
Sharpe	1.3	0.3	0.9	0.2
Sortino	1.9	0.5	1.5	0.4
Info Ratio	0.0	2.6	-0.2	2.3
Down Capture	76.8	-23.1	81.2	-21.5
Up Capture	89.8	-2.8	87.6	-4.7

## Top 10 Holdings

	Fund %	Inv	Avg
Microsoft Corp	6.8	0	4
The Walt Disney Co	4.7	6	3
Danaher Corp	3.8	14	10
CME Group Inc Class A	3.6	4	10
Verizon Communications Inc	3.4	13	7
Costco Wholesale Corp	3.4	12	14
Verisk Analytics Inc	3.1	11	14
Linde PLC	3.0	22	22
VF Corp	3.0	14	10
Waste Management Inc	3.0	0	3

## Sector Allocation (%)

	Inv	Avg
Energy	0	4
Materials	6	3
Industrials	14	10
Cons Discretionary	4	10
Consumer Staples	13	7
Healthcare	12	14
Financials	11	14
Info Technology	22	22
Telecom Services	14	10
Utilities	0	3
Real Estate %	4.4	3.0

# Large Cap Blend Funds 4

As of 12/31/2019



# US Fund Large Blend

## American Funds Fundamental Invs R6

## Parnassus Core Equity Institutional

## Vanguard Institutional Index I

## Victory Diversified Stock R

## Victory Special Value R

### Investment Strategy

The investment seeks long-term growth of capital and income. The fund invests primarily in common stocks of companies that appear to offer superior opportunities for capital growth and most of which have a history of paying dividends. It may invest significantly in securities of issuers domiciled outside the United States. The investment adviser uses a system of multiple portfolio managers in managing the fund's assets.

### Investment Strategy

The investment seeks to achieve both capital appreciation and current income. The fund's objective is to achieve both capital appreciation and current income by investing primarily in a diversified portfolio of equity securities. Equity securities include common and preferred stock. Under normal circumstances, the fund will invest a minimum of 80% of its net assets (plus borrowings for investment purposes) in equity securities. At least 75% of the fund's total assets will normally be invested in equity securities that pay interest or dividends.

### Investment Strategy

The investment seeks to track the performance of a benchmark index that measures the investment return of large-capitalization stocks. The fund employs an indexing investment approach designed to track the performance of the Standard & Poor's 500 Index, a widely recognized benchmark of U.S. stock market performance that is dominated by the stocks of large U.S. companies. The advisor attempts to replicate the target index by investing all, or substantially all, of its assets in the stocks that make up the index, holding each stock in approximately the same proportion as its weighting in the index.

### Investment Strategy

The investment seeks to provide long-term growth of capital. The fund pursues its investment objective by investing, under normal circumstances, at least 80% of its assets in common stock, which includes securities convertible or exchangeable into common stock traded on U.S. exchanges. The fund's investments include securities issued by established, large-cap companies, as well as securities of mid-cap companies. The fund's investments include foreign securities that are traded in the U.S., including American Depositary and Global Depositary Receipts (ADRs and GDRs).

### Investment Strategy

The investment seeks long-term growth of capital and dividend income. The fund pursues its investment objective by investing, under normal circumstances, in common stocks of companies that currently pay dividends or are expected to begin paying dividends in the near future, with consideration for companies that have increased their dividends over time. The fund may invest a portion of its assets in equity securities of foreign companies traded in the U.S., including American Depositary Receipts and Global Depositary Receipts (ADRs and GDRs).

### Manager Biography

Dina N. Perry since 3/1/1993

Michael T. Kerr since 1/1/1999

Brady L. Enright since 3/1/2006

Mark L. Casey since 3/1/2011

Gregory D. Johnson since 3/1/2013

Julian N. Abdey since 3/1/2018

### Manager Biography

Todd C. Ahlsten since 5/1/2001

Benjamin E. Allen since 5/1/2012

### Manager Biography

Donald M. Butler since 12/31/2000

Michelle Louie since 11/30/2017

### Manager Biography

Michael P. Gura since 5/15/2017

Gavin Hayman since 12/31/2019

Tony Y. Dong since 12/31/2019

Robert E. Crosby since 12/31/2019

### Manager Biography

Michael P. Gura since 5/15/2017

Gavin Hayman since 12/31/2019

Tony Y. Dong since 12/31/2019

Robert E. Crosby since 12/31/2019

### American Funds Fundamental Invs

### Parnassus Core Equity Institutional

### Vanguard Institutional Index I - Op

### Victory Diversified Stock R - Opera

### Victory Special Value R - Operator

Inception Date	5/1/2009	Inception Date	4/28/2006	Inception Date	7/31/1990	Inception Date	3/26/1999	Inception Date	12/21/1999
Fund Size (\$mm)	110,627	Fund Size (\$mm)	19,120	Fund Size (\$mm)	242,173	Fund Size (\$mm)	304	Fund Size (\$mm)	55
Annual Report Net Expense Ratio	0.30	Annual Report Net Expense Ratio	0.63	Annual Report Net Expense Ratio	0.04	Annual Report Net Expense Ratio	1.37	Annual Report Net Expense Ratio	1.50
Prospectus Net Expense Ratio	0.30	Prospectus Net Expense Ratio	0.63	Prospectus Net Expense Ratio	0.04	Prospectus Net Expense Ratio	1.34	Prospectus Net Expense Ratio	1.56
Prospectus Gross Expense Ratio	0.30	Prospectus Gross Expense Ratio	0.63	Prospectus Gross Expense Ratio	0.04	Prospectus Gross Expense Ratio	1.34	Prospectus Gross Expense Ratio	1.56
Ticker	RFNGX	Ticker	PRILX	Ticker	VINIX	Ticker	GRINX	Ticker	VSVGX
Manager Tenure (Longest)	26.83	Manager Tenure (Longest)	18.67	Manager Tenure (Longest)	19.08	Manager Tenure (Longest)	2.67	Manager Tenure (Longest)	2.67
Manager Tenure (Average)	13.19	Manager Tenure (Average)	13.17	Manager Tenure (Average)	10.63	Manager Tenure (Average)	0.73	Manager Tenure (Average)	0.73
Morningstar Inst Cat	Large Core	Morningstar Inst Cat	Large Core	Morningstar Inst Cat	S&P 500 Tracking	Morningstar Inst Cat	Giant Core	Morningstar Inst Cat	Large Core

### Other Notes:

None

### Other Notes:

None

### Other Notes:

None

### Other Notes:

None

### Other Notes:

None



# Portfolio Analysis

American Funds Fundamental Invs R6

Parnassus Core Equity Institutional

Vanguard Institutional Index I

Victory Diversified Stock R

Victory Special Value R

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	21	37	34	Market Cap Giant %	58
Mid	2	2	3	Market Cap Large %	34
Small	0	0	0	Market Cap Mid %	8
				Market Cap Small %	1
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	21	40	25	Market Cap Giant %	45
Mid	2	6	6	Market Cap Large %	41
Small	0	0	0	Market Cap Mid %	14
				Market Cap Small %	0
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	29	34	27	Market Cap Giant %	55
Mid	4	4	2	Market Cap Large %	35
Small	0	0	0	Market Cap Mid %	10
				Market Cap Small %	0
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	17	26	20	Market Cap Giant %	45
Mid	4	14	11	Market Cap Large %	15
Small	3	3	2	Market Cap Mid %	30
				Market Cap Small %	10
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	17	26	20	Market Cap Giant %	45
Mid	4	14	11	Market Cap Large %	15
Small	3	3	2	Market Cap Mid %	30
				Market Cap Small %	10
				Market Cap Micro %	0

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	108.2	95.5
Forward P/E	18.2	18.8
P/E Ratio (TTM)	22.6	22.5
LT Earn Growth	10.2	9.4
P/B Ratio (TTM)	3.0	3.3
Dividend Yield	2.0	1.8
ROE %	22.3	24.4
ROA %	7.8	8.2
Debt to Capital %	42	44

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	94.0	95.5
Forward P/E	20.8	18.8
P/E Ratio (TTM)	26.4	22.5
LT Earn Growth	8.1	9.4
P/B Ratio (TTM)	4.2	3.3
Dividend Yield	1.7	1.8
ROE %	25.2	24.4
ROA %	8.3	8.2
Debt to Capital %	44	44

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	123.9	95.5
Forward P/E	18.7	18.8
P/E Ratio (TTM)	22.6	22.5
LT Earn Growth	9.3	9.4
P/B Ratio (TTM)	3.4	3.3
Dividend Yield	1.9	1.8
ROE %	26.1	24.4
ROA %	8.8	8.2
Debt to Capital %	44	44

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	56.4	95.5
Forward P/E	14.8	18.8
P/E Ratio (TTM)	19.4	22.5
LT Earn Growth	11.6	9.4
P/B Ratio (TTM)	3.2	3.3
Dividend Yield	1.4	1.8
ROE %	27.0	24.4
ROA %	9.0	8.2
Debt to Capital %	43	44

## Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	56.1	95.5
Forward P/E	14.8	18.8
P/E Ratio (TTM)	19.4	22.5
LT Earn Growth	11.6	9.4
P/B Ratio (TTM)	3.2	3.3
Dividend Yield	1.4	1.8
ROE %	27.0	24.4
ROA %	9.0	8.2
Debt to Capital %	43	44

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	34	
# of Stock Holdings	284	997
% in Top 10	25.9	20.7
Cash %	2.6	0.0
Developed %	96.4	99.8
US Equity %	77.7	99.1
Non-US Equity %	20	1
Emerging Mkt %	0.9	0.2

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	31	
# of Stock Holdings	40	997
% in Top 10	37.7	20.7
Cash %	1.5	0.0
Developed %	98.5	99.8
US Equity %	95.3	99.1
Non-US Equity %	3	1
Emerging Mkt %	0.0	0.2

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	6	
# of Stock Holdings	507	997
% in Top 10	22.6	20.7
Cash %	0.3	0.0
Developed %	99.6	99.8
US Equity %	98.7	99.1
Non-US Equity %	1	1
Emerging Mkt %	0.0	0.2

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	132	
# of Stock Holdings	72	997
% in Top 10	30.8	20.7
Cash %	0.2	0.0
Developed %	99.8	99.8
US Equity %	99.7	99.1
Non-US Equity %	0	1
Emerging Mkt %	0.0	0.2

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	126	
# of Stock Holdings	72	997
% in Top 10	30.7	20.7
Cash %	0.9	0.0
Developed %	99.1	99.8
US Equity %	99.1	99.1
Non-US Equity %	0	1
Emerging Mkt %	0.0	0.2

# Holdings-Based Style Analysis

American Funds Fundamental Invs R6

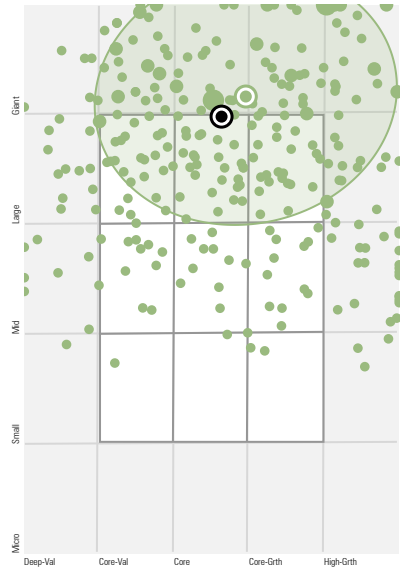
Parnassus Core Equity Institutional

Vanguard Institutional Index I

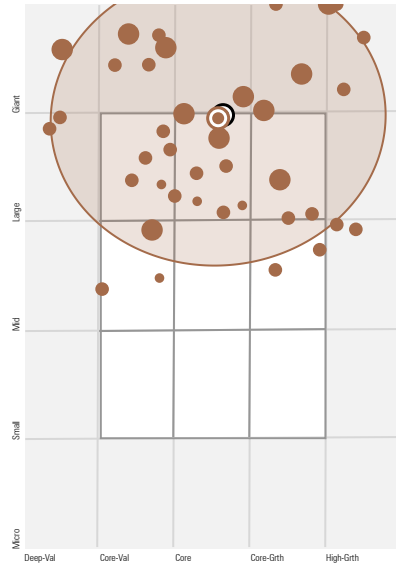
Victory Diversified Stock R

Victory Special Value R

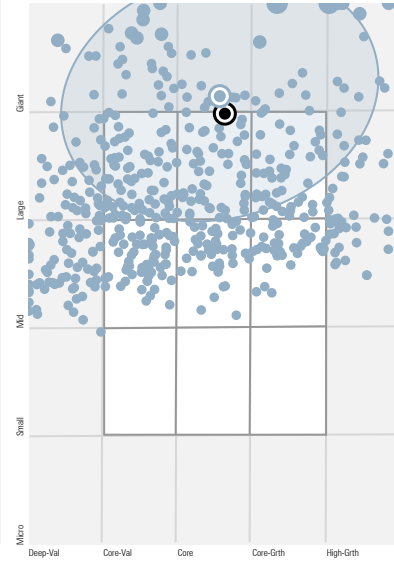
## Holdings-Based Style Map



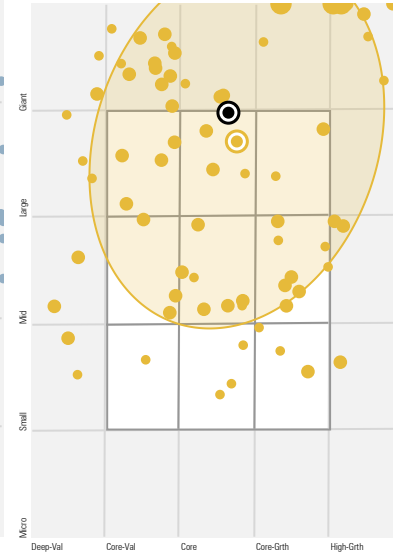
## Holdings-Based Style Map



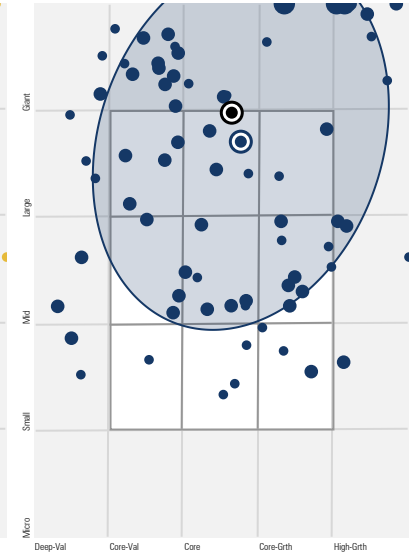
## Holdings-Based Style Map



## Holdings-Based Style Map



## Holdings-Based Style Map



American Funds Fundamental Invs R6 12/31/2019

Russell 1000 TR USD 12/31/2019

Parnassus Core Equity Institutional 12/31/2019

Russell 1000 TR USD 12/31/2019

Vanguard Institutional Index I 12/31/2019

Russell 1000 TR USD 12/31/2019

Victory Diversified Stock R 12/31/2019

Russell 1000 TR USD 12/31/2019

Victory Special Value R 12/31/2019

Russell 1000 TR USD 12/31/2019

Russell 1000 TR USD 12/31/2019

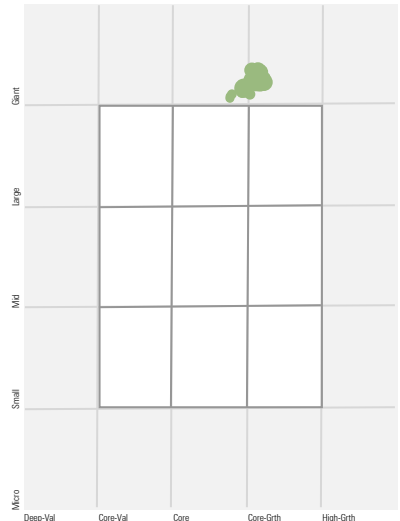
Russell 1000 TR USD 12/31/2019

Russell 1000 TR USD 12/31/2019

Russell 1000 TR USD 12/31/2019

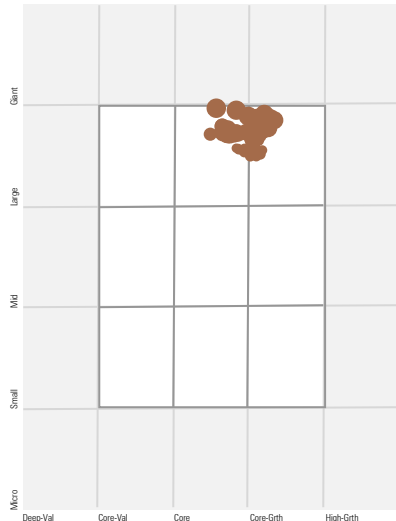
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



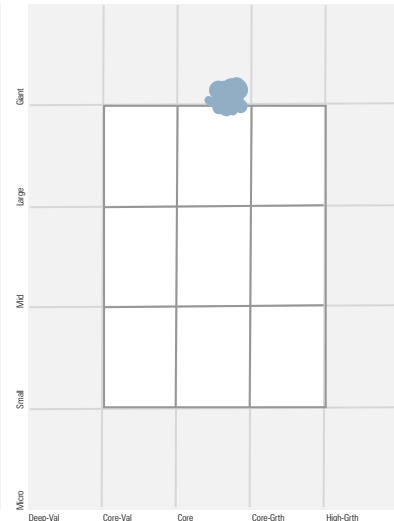
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



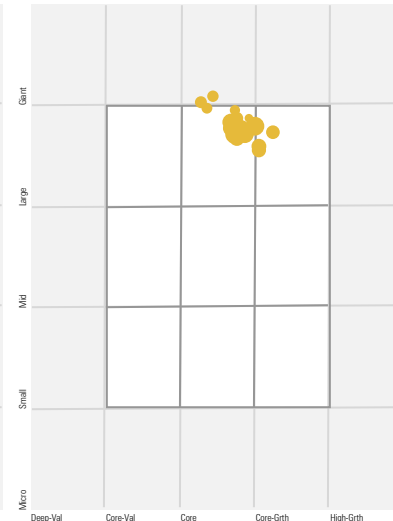
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



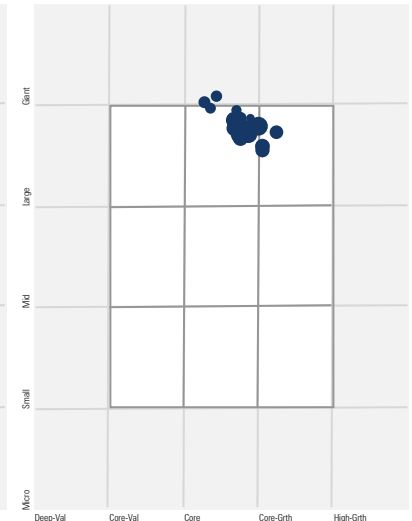
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



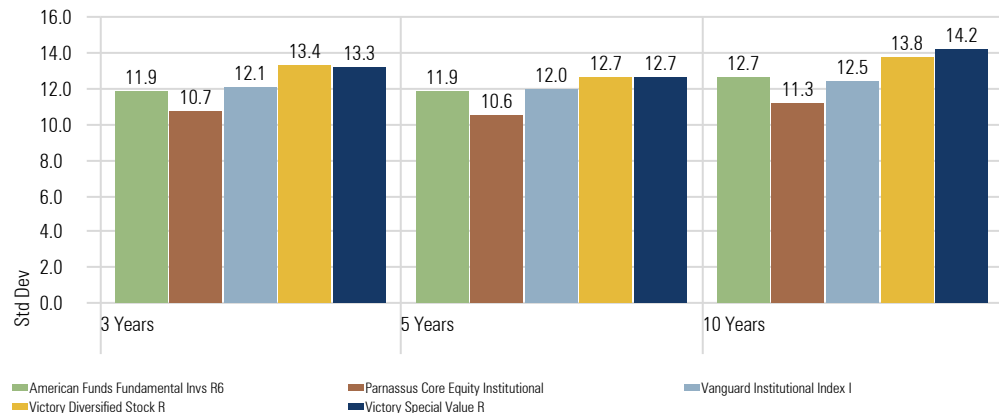
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019

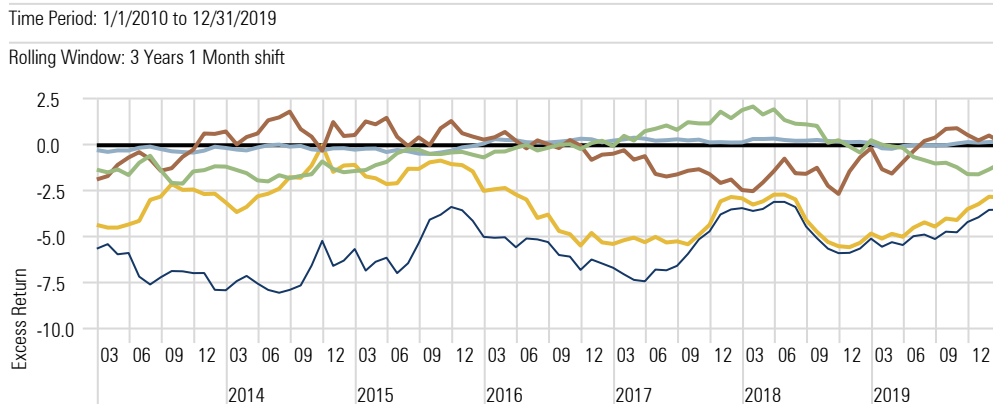


# Risk/Return Performance Analysis

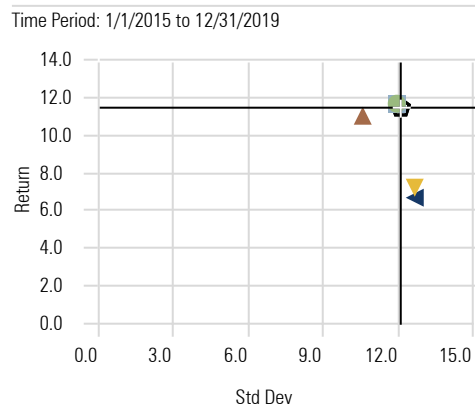
## Standard Deviation



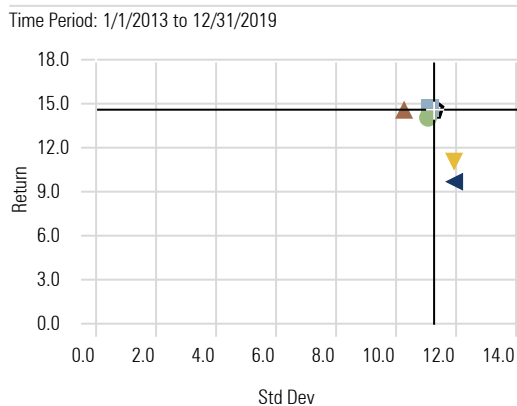
## 3 Year Relative Rolling Returns



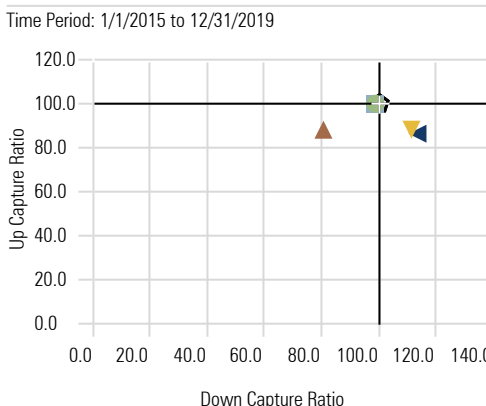
## 5 Year Risk-Reward



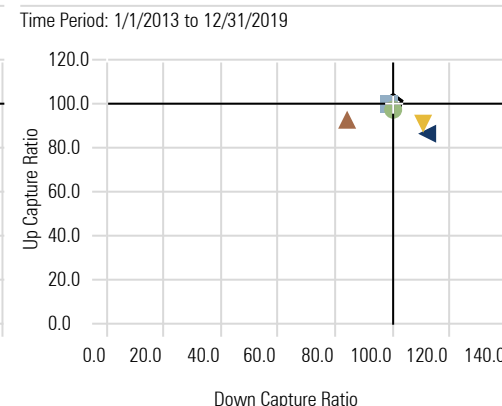
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● American Funds Fundamental Invs R6  
● Victory Diversified Stock R

● Parnassus Core Equity Institutional  
◀ Victory Special Value R

● Vanguard Institutional Index I  
◻ Russell 1000 TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

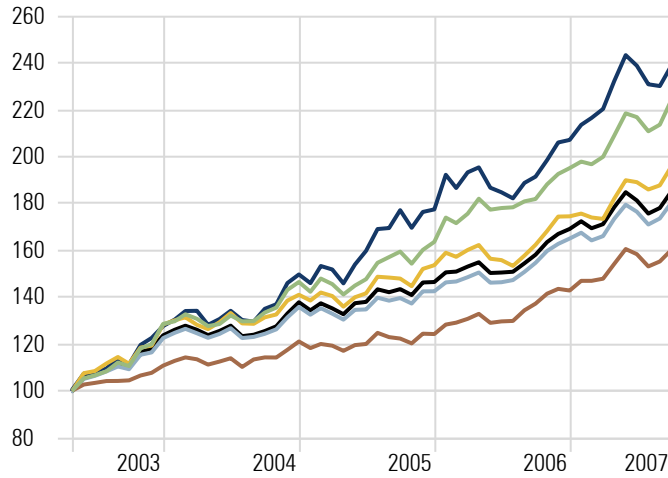
Time Period: Since Common Inception (1/1/1994) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
American Funds Fundamental Invs R6	10.7	14.1	1.2	0.93	93	17.1	-23.3	0.59	3.8
Parnassus Core Equity Institutional	10.7	12.1	2.3	0.76	83	23.4	-19.1	0.68	6.1
Vanguard Institutional Index I	9.9	14.4	0.0	0.99	100	21.4	-21.9	0.51	1.0
Victory Diversified Stock R	9.5	15.3	-0.4	1.01	92	19.9	-24.5	0.46	4.3
Victory Special Value R	8.4	16.0	-1.0	0.98	79	17.8	-26.7	0.37	7.3
Russell 1000 TR USD	9.9	14.6	0.0	1.00	100	21.9	-22.5	0.51	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

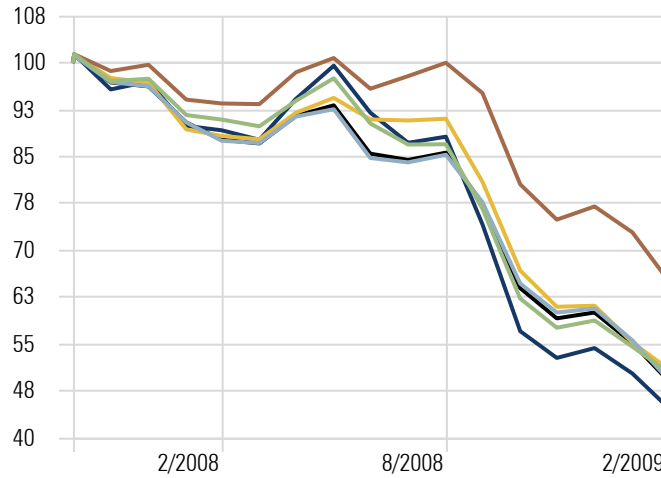
Time Period: 4/30/2003 to 9/30/2007



● American Funds Fundamental Invs R6 224  
● Parnassus Core Equity Institutional 160  
● Vanguard Institutional Index I 160  
● Victory Diversified Stock R 196  
● Victory Special Value R 239  
● Russell 1000 TR USD 185

## Credit Crunch - Financial Crisis

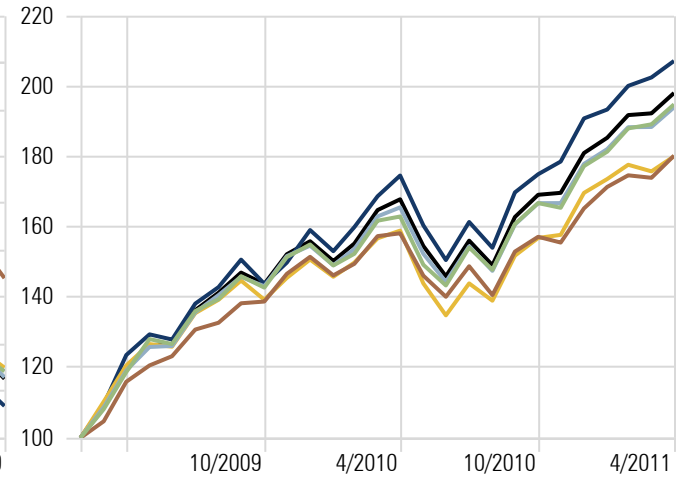
Time Period: 10/31/2007 to 2/28/2009



● American Funds Fundamental Invs R6 51  
● Parnassus Core Equity Institutional 66  
● Vanguard Institutional Index I 66  
● Victory Diversified Stock R 51  
● Victory Special Value R 45  
● Russell 1000 TR USD 45

## Financial Crisis Recovery - QE1&2

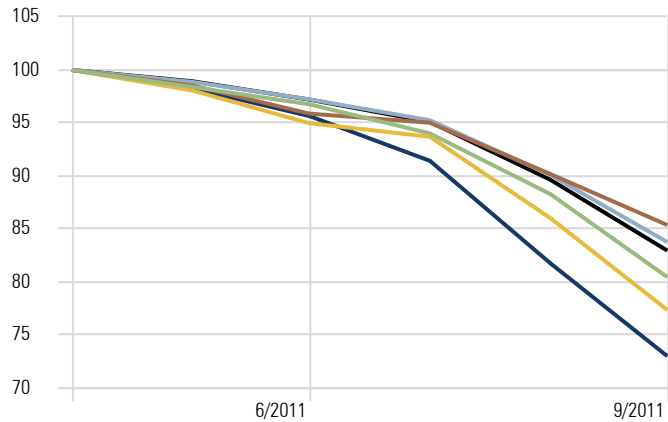
Time Period: 3/1/2009 to 4/30/2011



● American Funds Fundamental Invs R6 194.9  
● Parnassus Core Equity Institutional 180.3  
● Vanguard Institutional Index I 180.3  
● Victory Diversified Stock R 180.1  
● Victory Special Value R 207.3  
● Russell 1000 TR USD 198.2

## Double Dip

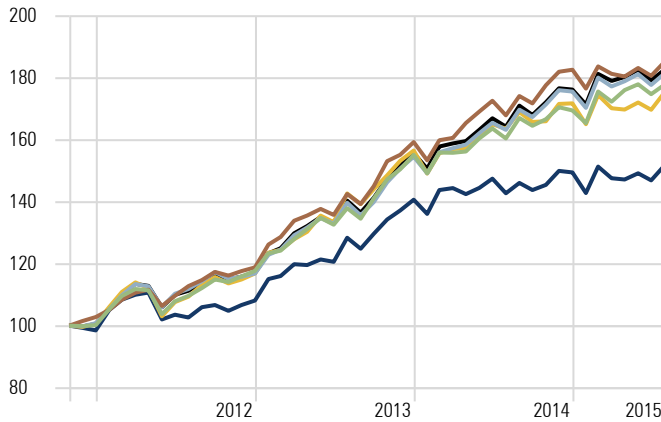
Time Period: 5/1/2011 to 9/30/2011



● American Funds Fundamental Invs R6 80.4  
● Parnassus Core Equity Institutional 85.3  
● Vanguard Institutional Index I 83.7  
● Victory Diversified Stock R 77.3  
● Victory Special Value R 73.0  
● Russell 1000 TR USD 82.9

## US Recovery Continues - Global Markets Lag

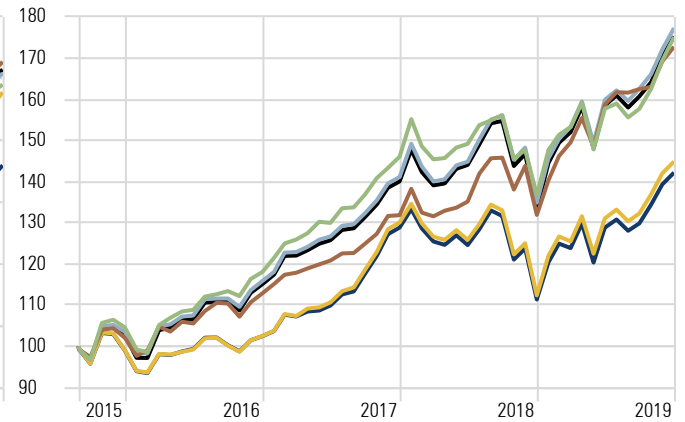
Time Period: 11/1/2011 to 7/31/2015



● American Funds Fundamental Invs R6 178.1  
● Parnassus Core Equity Institutional 185.5  
● Vanguard Institutional Index I 151.9  
● Victory Diversified Stock R 175.6  
● Victory Special Value R 151.9  
● Russell 1000 TR USD 183.0

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



● American Funds Fundamental Invs R6 175.2  
● Parnassus Core Equity Institutional 172.8  
● Vanguard Institutional Index I 177.3  
● Victory Diversified Stock R 144.9  
● Victory Special Value R 142.2  
● Russell 1000 TR USD 175.3

● American Funds Fundamental Invs R6  
● Victory Diversified Stock R

● Parnassus Core Equity Institutional  
● Victory Special Value R

● Vanguard Institutional Index I  
● Russell 1000 TR USD

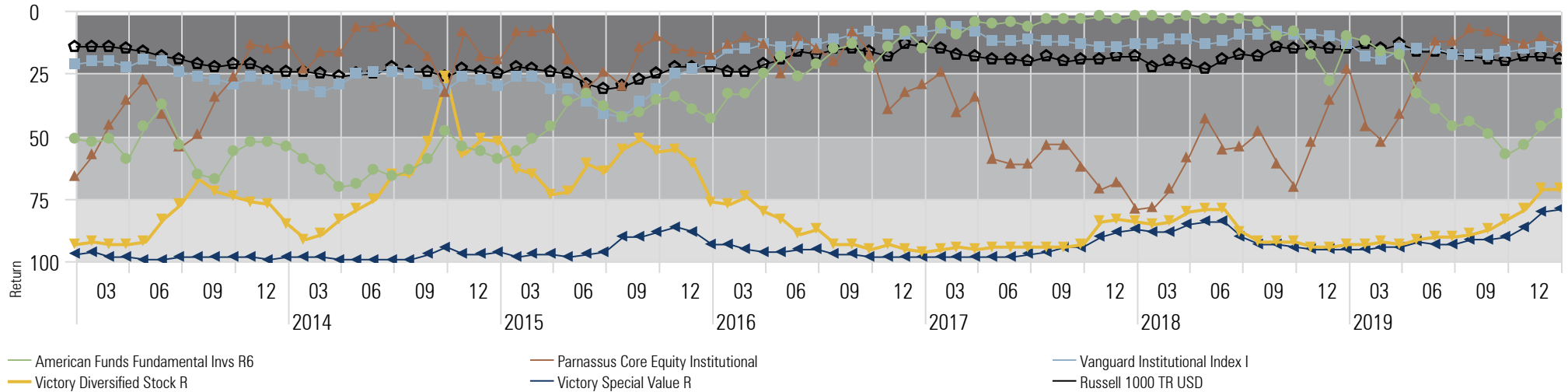
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

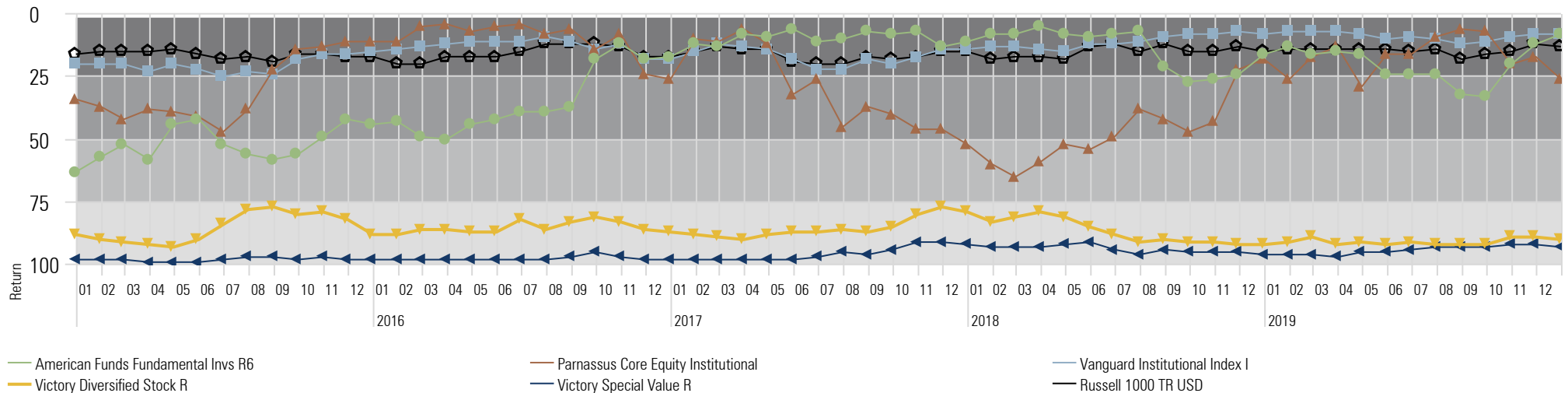


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Large Blend</b>																		
American Funds Fundamental Invs R6	11.1	<b>5</b>	2.03	28.0	<b>65</b>	-3.41	28.0	<b>65</b>	-3.41	14.1	<b>41</b>	-0.99	11.7	<b>8</b>	0.19	12.7	<b>33</b>	-0.82
Parnassus Core Equity Institutional	6.3	<b>87</b>	-2.72	31.0	<b>32</b>	-0.47	31.0	<b>32</b>	-0.47	15.2	<b>14</b>	0.20	11.0	<b>26</b>	-0.45	13.0	<b>25</b>	-0.57
Vanguard Institutional Index I	9.1	<b>30</b>	0.02	31.5	<b>21</b>	0.04	31.5	<b>21</b>	0.04	15.2	<b>14</b>	0.19	11.7	<b>8</b>	0.19	13.5	<b>7</b>	-0.01
Victory Diversified Stock R	9.5	<b>19</b>	0.47	28.9	<b>57</b>	-2.50	28.9	<b>57</b>	-2.50	12.2	<b>71</b>	-2.83	7.2	<b>90</b>	-4.28	9.8	<b>92</b>	-3.79
Victory Special Value R	9.5	<b>19</b>	0.45	27.7	<b>68</b>	-3.74	27.7	<b>68</b>	-3.74	11.5	<b>79</b>	-3.50	6.7	<b>93</b>	-4.78	8.4	<b>97</b>	-5.11
Russell 1000 TR USD	9.0			31.4			31.4			15.0			11.5			13.5		
Average	8.3			28.8			28.8			13.2			9.8			12.0		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Large Blend</b>																					
American Funds Fundamental Invs R6	28.0	<b>65</b>	-3.41	-6.3	<b>56</b>	-1.55	23.7	<b>13</b>	2.04	12.9	<b>19</b>	0.82	3.7	<b>8</b>	2.79	9.3	<b>81</b>	-3.97	31.9	<b>53</b>	-1.17
Parnassus Core Equity Institutional	31.0	<b>32</b>	-0.47	0.1	<b>2</b>	4.84	16.8	<b>85</b>	-4.88	10.6	<b>51</b>	-1.45	-0.3	<b>54</b>	-1.25	14.7	<b>9</b>	1.46	34.2	<b>28</b>	1.04
Vanguard Institutional Index I	31.5	<b>21</b>	0.04	-4.4	<b>21</b>	0.36	21.8	<b>30</b>	0.10	11.9	<b>29</b>	-0.12	1.4	<b>24</b>	0.45	13.7	<b>19</b>	0.41	32.3	<b>45</b>	-0.76
Victory Diversified Stock R	28.9	<b>57</b>	-2.50	-13.6	<b>96</b>	-8.84	26.9	<b>3</b>	5.21	3.5	<b>97</b>	-8.56	-3.2	<b>83</b>	-4.08	9.7	<b>78</b>	-3.49	34.1	<b>28</b>	0.95
Victory Special Value R	27.7	<b>68</b>	-3.74	-13.6	<b>96</b>	-8.78	25.8	<b>4</b>	4.07	3.5	<b>97</b>	-8.53	-3.8	<b>87</b>	-4.67	6.3	<b>95</b>	-6.96	30.2	<b>77</b>	-2.91
Russell 1000 TR USD	31.4			-4.8			21.7			12.1			0.9			13.2			33.1		
Average	28.8			-6.5			20.5			10.6			-0.4			11.4			32.3		

# American Funds Fundamental Invs R6

RFNGX

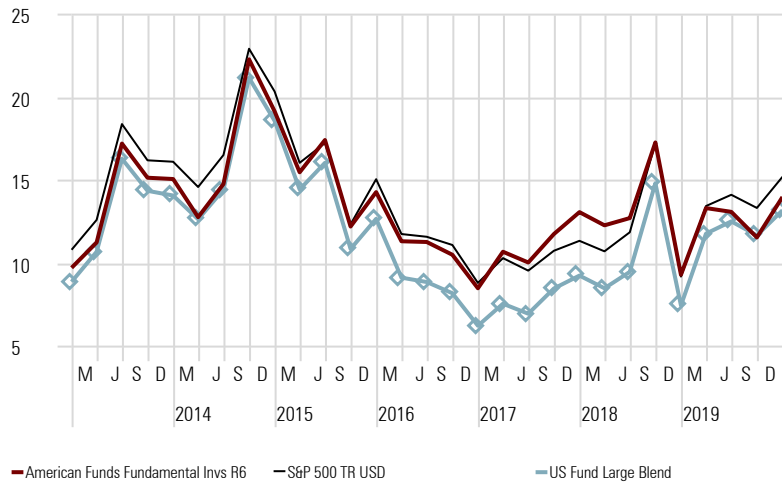
Index: S&P 500 TR USD  
 Category: US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
American Funds Fundamental Invs R6	28.0	28.0	14.1	11.7	12.7	9.8
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

## Returns (Rolling 36 Months)

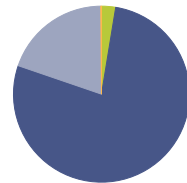


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.30	0.93	
Gross Expense Ratio	0.30	1.56	
LT Earn Growth	10.2	9.7	9.1
Avg Mkt Cap (\$MMM)	108.2	180.9	47.9
P/E Ratio	22.6	21.4	16.3
P/B Ratio	3.0	3.8	2.0
P/S Ratio	2.3	2.3	1.4
P/CF Ratio	13.8	14.7	10.5
ROE %	22.3	26.3	20.5
ROA %	7.8	8.7	7.2
Dividend Yld	2.0	1.8	2.8

## Asset Allocation

Portfolio Date: 12/31/2019



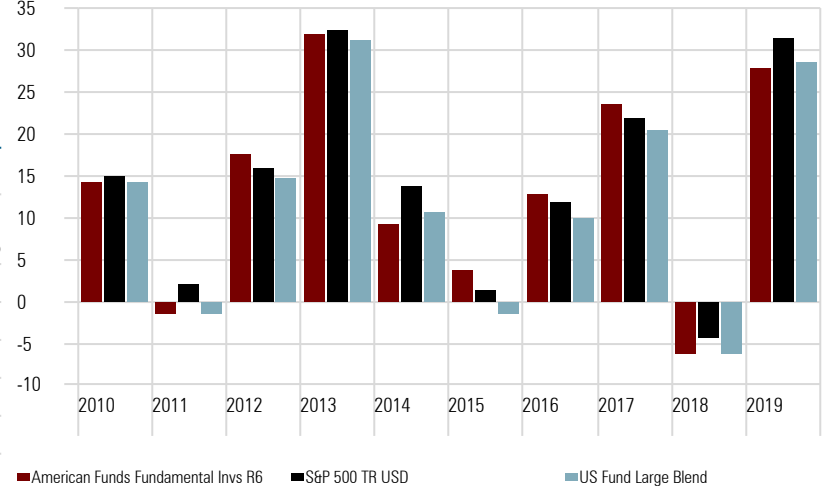
	%
Cash	2.6
US Equity	77.7
Non-US Equity	19.6
US Bond	-
Non-US Bond	0.0
Other	0.1

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

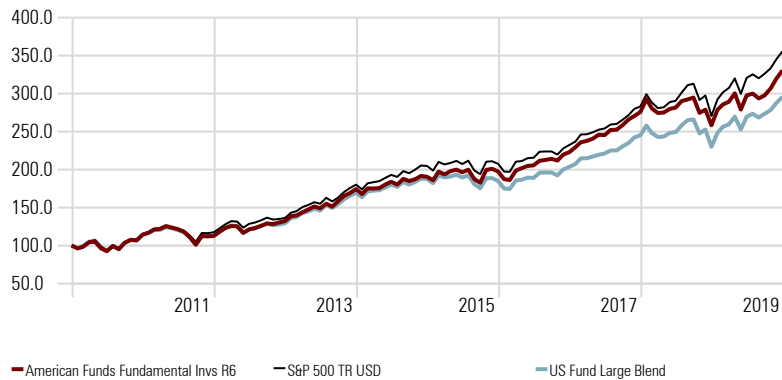
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
American Funds Fundamental Invs R6	69.2	30.8	11.2	-8.9	12.2	-16.9	98.4	103.0
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.9	0.0	11.9	0.2
Down Deviation	2.2	1.3	1.8	0.8
Beta	1.0	0.0	1.0	0.0
Alpha	-0.5	1.0	0.2	2.0
Sharpe	1.0	0.1	0.9	0.2
Sortino	1.5	0.1	1.4	0.3
Info Ratio	-0.4	2.2	0.0	2.5
Down Capture	99.3	-0.6	99.6	-3.2
Up Capture	95.3	2.7	99.7	7.3

## Top 10 Holdings

	Fund %
Microsoft Corp	5.5
Broadcom Inc	3.5
UnitedHealth Group Inc	2.9
Facebook Inc A	2.7
Capital Group Central Cash Fund	2.6
Berkshire Hathaway Inc A	2.4
Amazon.com Inc	2.2
Charter Communications Inc A	1.8
Taiwan Semiconductor Manufacturing Co Ltd	1.8
Boeing Co	1.7

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy		5	4
Materials		4	3
Industrials		11	10
Cons Discretionary		8	10
Consumer Staples		7	8
Healthcare		14	15
Financials		13	14
Info Technology		24	22
Telecom Services		11	10
Utilities		1	3
Real Estate %		1.6	2.9

# Vanguard Institutional Index I

VINIX

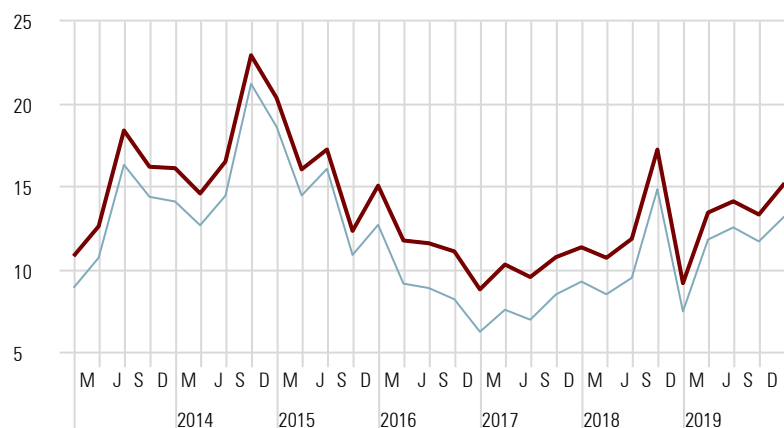
Index: S&P 500 TR USD  
 Category: US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Institutional Index I	31.5	31.5	15.2	11.7	13.5	9.0
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

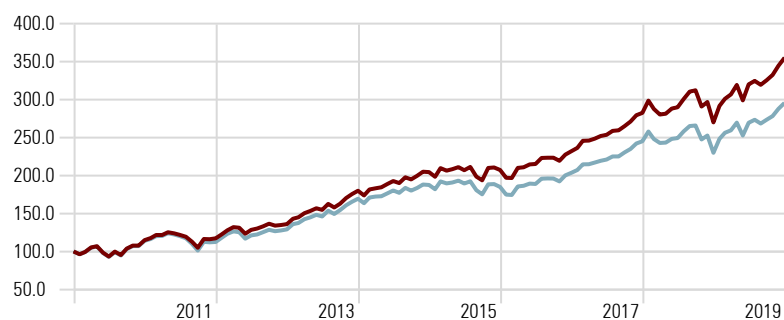
## Returns (Rolling 36 Months)



— Vanguard Institutional Index I — S&P 500 TR USD — US Fund Large Blend

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



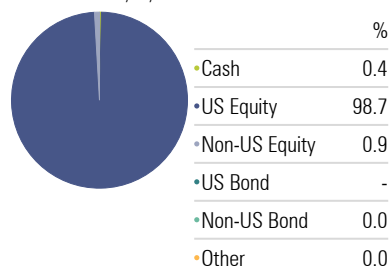
— Vanguard Institutional Index I — S&P 500 TR USD — US Fund Large Blend

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.04	0.93	
Gross Expense Ratio	0.04	1.56	
LT Earn Growth	9.8	9.7	9.1
Avg Mkt Cap (\$MMM)	127.0	180.9	47.9
P/E Ratio	22.2	21.4	16.3
P/B Ratio	3.4	3.8	2.0
P/S Ratio	2.4	2.3	1.4
P/CF Ratio	14.1	14.7	10.5
ROE %	26.4	26.3	20.5
ROA %	8.9	8.7	7.2
Dividend Yld	1.9	1.8	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

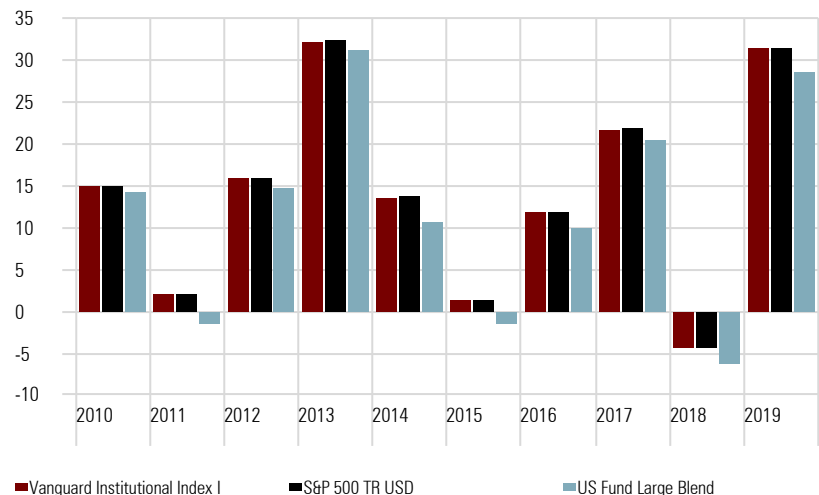


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Institutional Index I	71.7	28.3	10.9	-9.0	13.7	-13.9	99.9	100.1
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.1	0.3	12.0	0.2
Down Deviation	0.0	-0.9	0.0	-1.0
Beta	1.0	0.0	1.0	0.0
Alpha	0.0	1.5	0.0	1.8
Sharpe	1.1	0.1	0.9	0.2
Sortino	1.6	0.2	1.4	0.3
Info Ratio	-3.3	-0.7	-2.6	-0.1
Down Capture	100.1	0.1	100.1	-2.7
Up Capture	99.9	7.2	99.9	7.5

## Top 10 Holdings

	Fund %	Sector	Inv	Avg
Microsoft Corp	4.8	Energy	4	4
Apple Inc	4.8	Materials	2	3
Amazon.com Inc	3.1	Industrials	9	10
Facebook Inc A	1.8	Cons Discretionary	10	10
Berkshire Hathaway Inc B	1.6	Consumer Staples	7	7
Alphabet Inc A	1.6	Healthcare	14	14
Alphabet Inc Class C	1.6	Financials	13	14
JPMorgan Chase & Co	1.5	Info Technology	24	22
Johnson & Johnson	1.5	Telecom Services	10	10
Visa Inc Class A	1.3	Utilities	4	3
		Real Estate %	3.0	3.0



# Parnassus Core Equity Institutional

PRILX

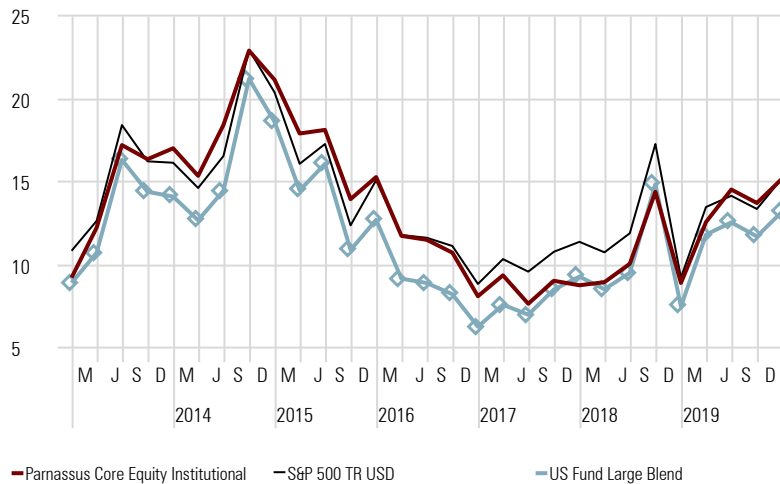
**Index:** S&P 500 TR USD  
**Category:** US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Parnassus Core Equity Institutional	31.0	31.0	15.2	11.0	13.0	10.6
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

## Returns (Rolling 36 Months)

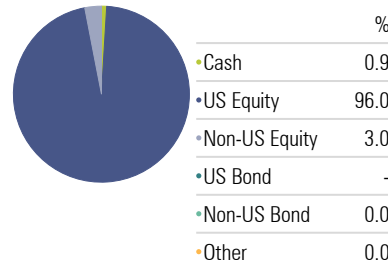


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.63	0.93	
Gross Expense Ratio	0.63	1.56	
LT Earn Growth	8.5	9.7	9.1
Avg Mkt Cap (\$MMM)	94.6	180.9	47.9
P/E Ratio	25.7	21.4	16.3
P/B Ratio	4.1	3.8	2.0
P/S Ratio	2.3	2.3	1.4
P/CF Ratio	16.1	14.7	10.5
ROE %	25.1	26.3	20.5
ROA %	8.5	8.7	7.2
Dividend Yld	1.7	1.8	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

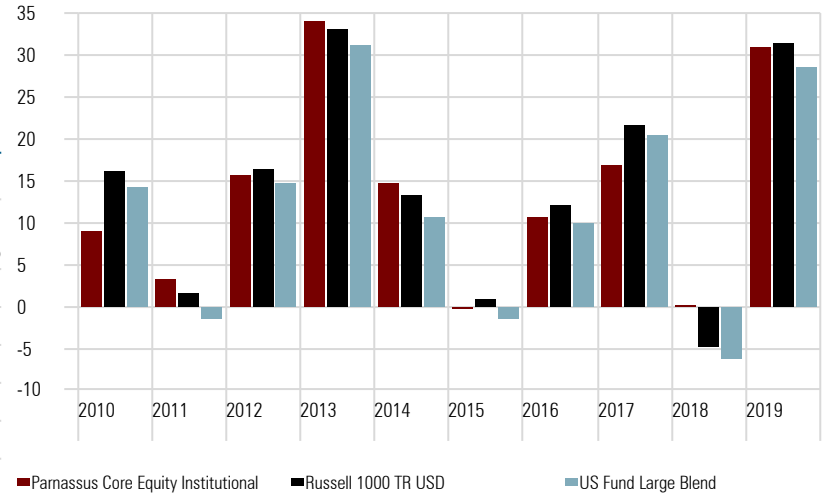


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

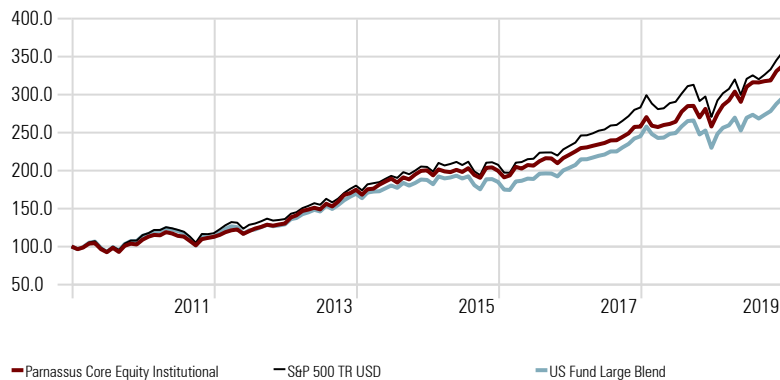
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Parnassus Core Equity Institutional	70.0	30.0	8.8	-8.3	13.4	-11.0	90.3	84.5
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	10.7	-1.1	10.6	-1.2
Down Deviation	2.6	1.7	2.6	1.6
Beta	0.8	-0.1	0.8	-0.1
Alpha	1.9	3.4	0.9	2.7
Sharpe	1.3	0.3	0.9	0.2
Sortino	1.9	0.5	1.5	0.4
Info Ratio	0.0	2.6	-0.2	2.3
Down Capture	76.8	-23.1	81.2	-21.5
Up Capture	89.8	-2.8	87.6	-4.7

## Top 10 Holdings

	Fund %	Sector	Inv	Avg
Microsoft Corp	6.8	Technology	0	4
The Walt Disney Co	4.7	Media	6	3
Danaher Corp	3.8	Industrials	14	10
CME Group Inc Class A	3.6	Financials	4	10
Verizon Communications Inc	3.4	Telecom Services	13	7
Costco Wholesale Corp	3.4	Consumer Staples	12	14
Verisk Analytics Inc	3.1	Financials	11	14
Linde PLC	3.0	Chemicals	22	22
VF Corp	3.0	Textiles	14	10
Waste Management Inc	3.0	Waste	0	3

## Sector Allocation (%)

# Large Cap Blend Funds 5

As of 12/31/2019



# US Fund Large Blend

## American Funds Fundamental Invs R6

### Investment Strategy

The investment seeks long-term growth of capital and income. The fund invests primarily in common stocks of companies that appear to offer superior opportunities for capital growth and most of which have a history of paying dividends. It may invest significantly in securities of issuers domiciled outside the United States. The investment adviser uses a system of multiple portfolio managers in managing the fund's assets.

### Manager Biography

Dina N. Perry since 3/1/1993

Michael T. Kerr since 1/1/1999

Brady L. Enright since 3/1/2006

Mark L. Casey since 3/1/2011

Gregory D. Johnson since 3/1/2013

Julian N. Abdey since 3/1/2018

## Parnassus Core Equity Institutional

### Investment Strategy

The investment seeks to achieve both capital appreciation and current income. The fund's objective is to achieve both capital appreciation and current income by investing primarily in a diversified portfolio of equity securities. Equity securities include common and preferred stock. Under normal circumstances, the fund will invest a minimum of 80% of its net assets (plus borrowings for investment purposes) in equity securities. At least 75% of the fund's total assets will normally be invested in equity securities that pay interest or dividends.

### Manager Biography

Todd C. Ahlsten since 5/1/2001

Benjamin E. Allen since 5/1/2012

## Vanguard Institutional Index I

### Investment Strategy

The investment seeks to track the performance of a benchmark index that measures the investment return of large-capitalization stocks. The fund employs an indexing investment approach designed to track the performance of the Standard & Poor's 500 Index, a widely recognized benchmark of U.S. stock market performance that is dominated by the stocks of large U.S. companies. The advisor attempts to replicate the target index by investing all, or substantially all, of its assets in the stocks that make up the index, holding each stock in approximately the same proportion as its weighting in the index.

### Manager Biography

Donald M. Butler since 12/31/2000

Michelle Louie since 11/30/2017

## Voya Russell Large Cap Index Port A

### Investment Strategy

The investment seeks investment results (before fees and expenses) that correspond to the total return (which includes capital appreciation and income) of the Russell Top 200® Index ("index"). The fund normally invests at least 80% of its net assets (plus borrowings for investment purposes) in equity securities of companies, which are at the time of purchase, included in the index; convertible securities that are convertible into stocks included in the index; other derivatives whose economic returns are, by design, closely equivalent to the returns of the index or its components; and exchange-traded funds that track the index.

### Manager Biography

Steven Wetter since 4/30/2012

Kai Yee Wong since 6/30/2013

## American Funds Fundamental Invs R6 - Oper

Inception Date	5/1/2009
Fund Size (\$mm)	110,627
Annual Report Net Expense Ratio	0.30
Prospectus Net Expense Ratio	0.30
Prospectus Gross Expense Ratio	0.30
Ticker	RFNGX
Manager Tenure (Longest)	26.83
Manager Tenure (Average)	13.19
Morningstar Inst Cat	Large Core

### Other Notes:

None

## Parnassus Core Equity Institutional - Opera

Inception Date	4/28/2006
Fund Size (\$mm)	19,120
Annual Report Net Expense Ratio	0.63
Prospectus Net Expense Ratio	0.63
Prospectus Gross Expense Ratio	0.63
Ticker	PRILX
Manager Tenure (Longest)	18.67
Manager Tenure (Average)	13.17
Morningstar Inst Cat	Large Core

### Other Notes:

None

## Vanguard Institutional Index I - Operations

Inception Date	7/31/1990
Fund Size (\$mm)	242,173
Annual Report Net Expense Ratio	0.04
Prospectus Net Expense Ratio	0.04
Prospectus Gross Expense Ratio	0.04
Ticker	VINIX
Manager Tenure (Longest)	19.08
Manager Tenure (Average)	10.63
Morningstar Inst Cat	S&P 500 Tracking

### Other Notes:

None

## Voya Russell Large Cap Index Port A - Oper

Inception Date	3/10/2008
Fund Size (\$mm)	1,051
Annual Report Net Expense Ratio	0.86
Prospectus Net Expense Ratio	0.86
Prospectus Gross Expense Ratio	0.89
Ticker	IRLIX
Manager Tenure (Longest)	7.75
Manager Tenure (Average)	7.17
Morningstar Inst Cat	Giant Core

### Other Notes:

None

# Portfolio Analysis

## American Funds Fundamental Invs R6

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	21	37	34	Market Cap Giant %	58
Mid	2	2	3	Market Cap Large %	34
Small	0	0	0	Market Cap Mid %	8
				Market Cap Small %	1
				Market Cap Micro %	0

## Parnassus Core Equity Institutional

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	21	40	25	Market Cap Giant %	45
Mid	2	6	6	Market Cap Large %	41
Small	0	0	0	Market Cap Mid %	14
				Market Cap Small %	0
				Market Cap Micro %	0

## Vanguard Institutional Index I

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	29	34	27	Market Cap Giant %	55
Mid	4	4	2	Market Cap Large %	35
Small	0	0	0	Market Cap Mid %	10
				Market Cap Small %	0
				Market Cap Micro %	0

## Voya Russell Large Cap Index Port A

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	32	37	31	Market Cap Giant %	68
Mid	0	0	0	Market Cap Large %	32
Small	0	0	0	Market Cap Mid %	0
				Market Cap Small %	0
				Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	108.2	95.5
Forward P/E	18.2	18.8
P/E Ratio (TTM)	22.6	22.5
LT Earn Growth	10.2	9.4
P/B Ratio (TTM)	3.0	3.3
Dividend Yield	2.0	1.8
ROE %	22.3	24.4
ROA %	7.8	8.2
Debt to Capital %	42.3	44.1

### Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	94.0	95.5
Forward P/E	20.8	18.8
P/E Ratio (TTM)	26.4	22.5
LT Earn Growth	8.1	9.4
P/B Ratio (TTM)	4.2	3.3
Dividend Yield	1.7	1.8
ROE %	25.2	24.4
ROA %	8.3	8.2
Debt to Capital %	44	44

### Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	123.9	95.5
Forward P/E	18.7	18.8
P/E Ratio (TTM)	22.6	22.5
LT Earn Growth	9.3	9.4
P/B Ratio (TTM)	3.4	3.3
Dividend Yield	1.9	1.8
ROE %	26.1	24.4
ROA %	8.8	8.2
Debt to Capital %	44	44

### Valuation Data

Display Benchmark 1: Russell 1000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	194.9	95.5
Forward P/E	18.9	18.8
P/E Ratio (TTM)	22.9	22.5
LT Earn Growth	9.3	9.4
P/B Ratio (TTM)	3.6	3.3
Dividend Yield	1.9	1.8
ROE %	27.7	24.4
ROA %	9.3	8.2
Debt to Capital %	44	44

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	34	
# of Stock Holdings	284	997
% in Top 10	25.9	20.7
Cash %	2.6	0.0
Developed %	96.4	99.8
US Equity %	77.7	99.1
Non-US Equity %	20	1
Emerging Mkt %	0.9	0.2

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	31	
# of Stock Holdings	40	997
% in Top 10	37.7	20.7
Cash %	1.5	0.0
Developed %	98.5	99.8
US Equity %	95.3	99.1
Non-US Equity %	3	1
Emerging Mkt %	0.0	0.2

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	6	
# of Stock Holdings	507	997
% in Top 10	22.6	20.7
Cash %	0.3	0.0
Developed %	99.6	99.8
US Equity %	98.7	99.1
Non-US Equity %	1	1
Emerging Mkt %	0.0	0.2

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	5	
# of Stock Holdings	195	997
% in Top 10	28.2	20.7
Cash %	0.5	0.0
Developed %	99.5	99.8
US Equity %	98.7	99.1
Non-US Equity %	1	1
Emerging Mkt %	0.0	0.2

# Holdings-Based Style Analysis

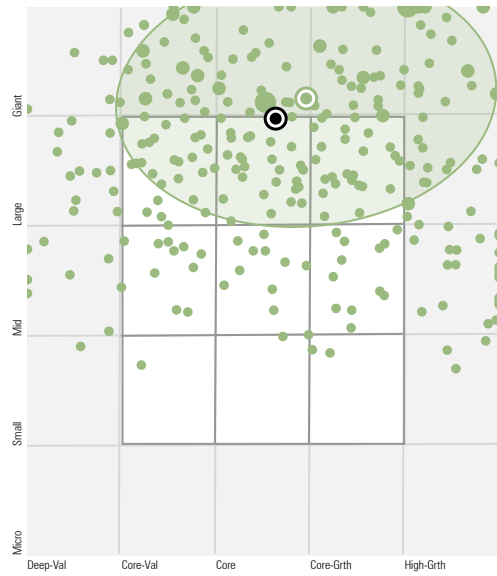
## American Funds Fundamental Invs R6

## Parnassus Core Equity Institutional

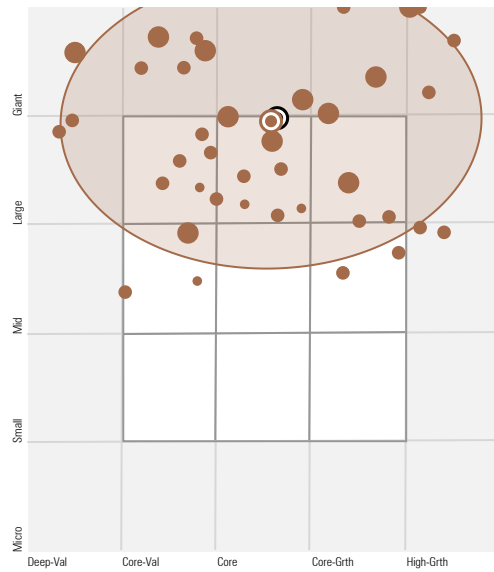
## Vanguard Institutional Index I

## Voya Russell Large Cap Index Port A

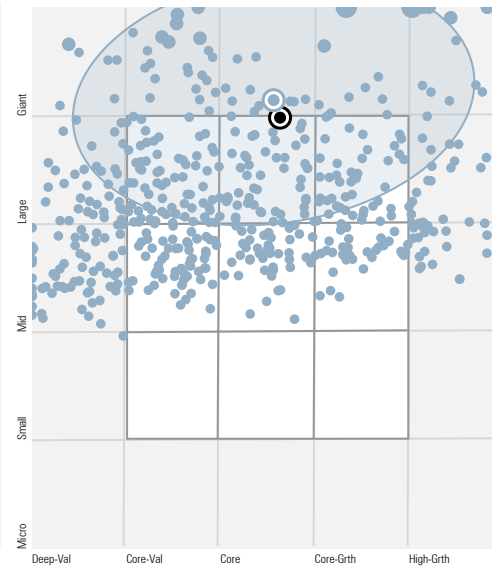
### Holdings-Based Style Map



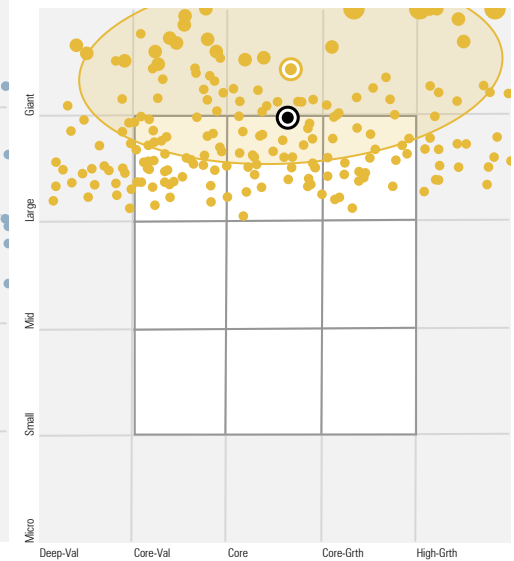
### Holdings-Based Style Map



### Holdings-Based Style Map



### Holdings-Based Style Map



American Funds Fundamental Invs R6 12/31/2019 ● Russell 1000 TR USD

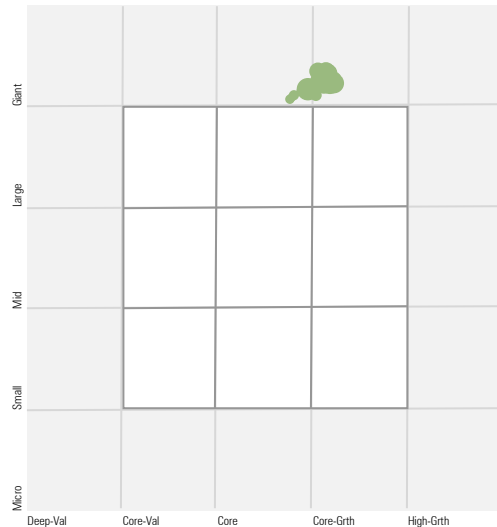
12/31/2019 ● Parnassus Core Equity Institutional 12/31/2019 ● Russell 1000 TR USD

12/31/2019 ● Vanguard Institutional Index I 12/31/2019 ● Russell 1000 TR USD

12/31/2019 ● Voya Russell Large Cap Index Port A 12/31/2019 ● Russell 1000 TR USD 12/31/2019

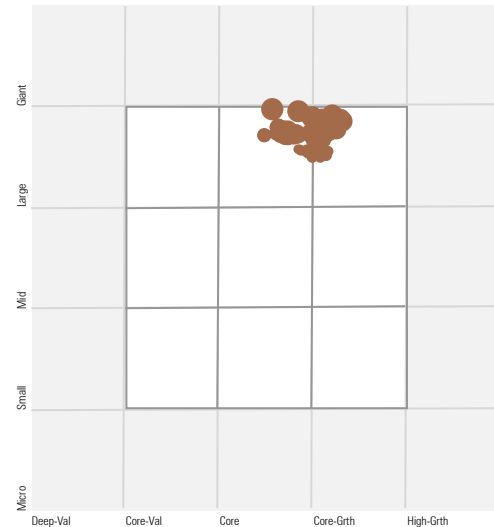
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



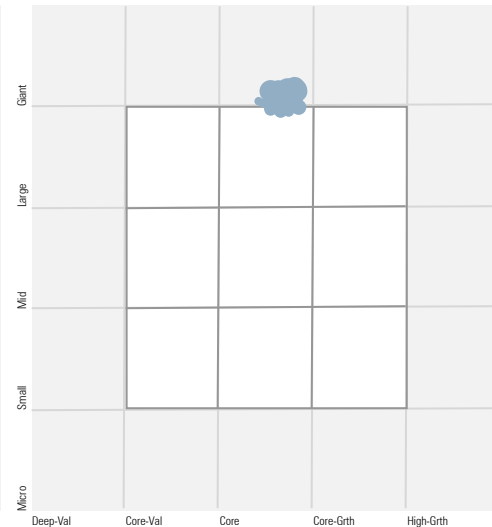
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



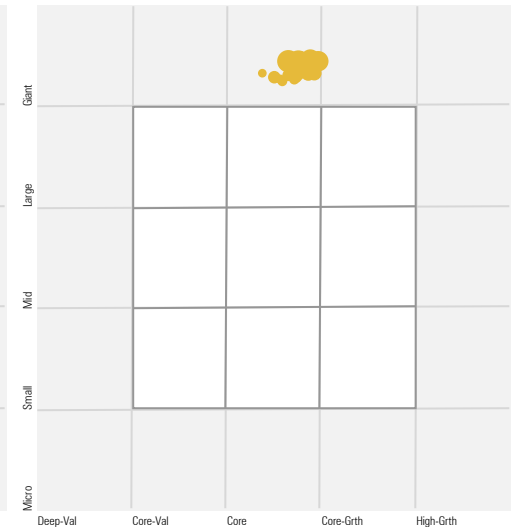
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



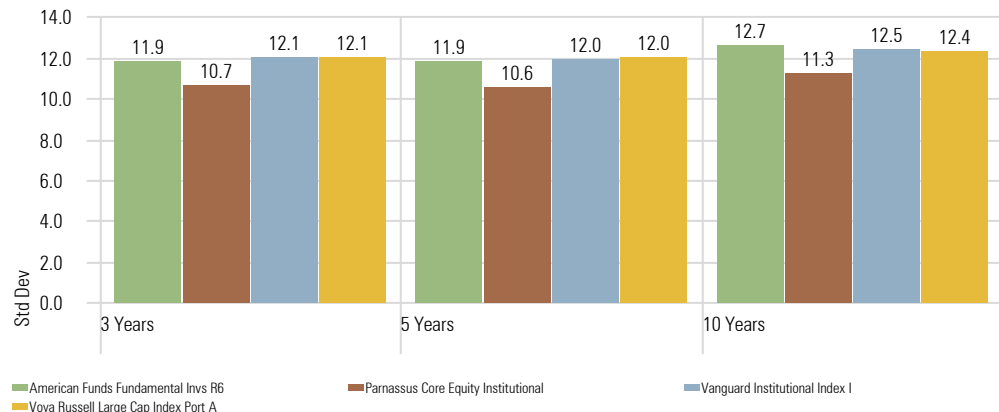
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019

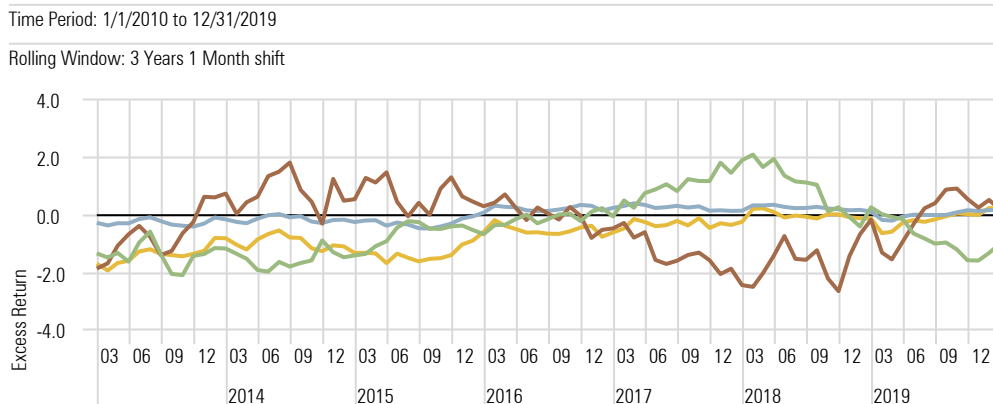


# Risk/Return Performance Analysis

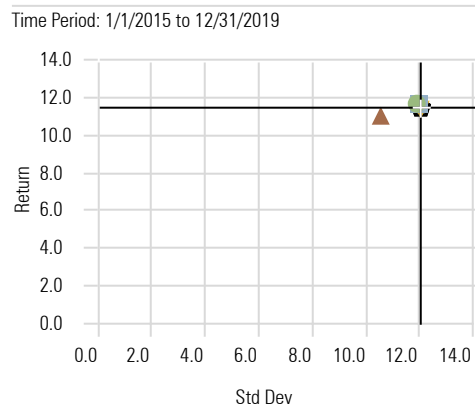
## Standard Deviation



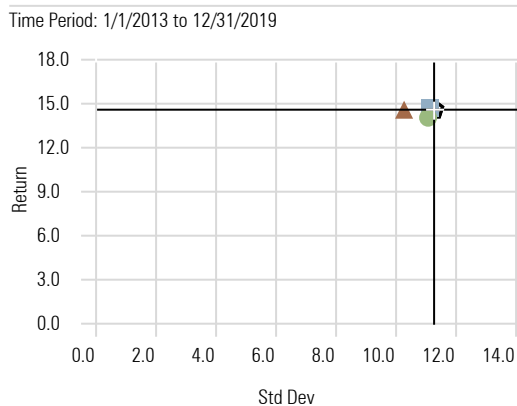
## 3 Year Relative Rolling Returns



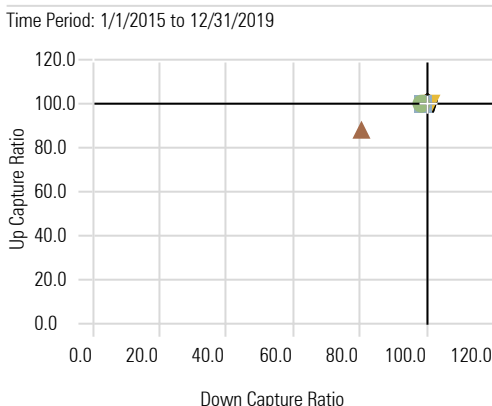
## 5 Year Risk-Reward



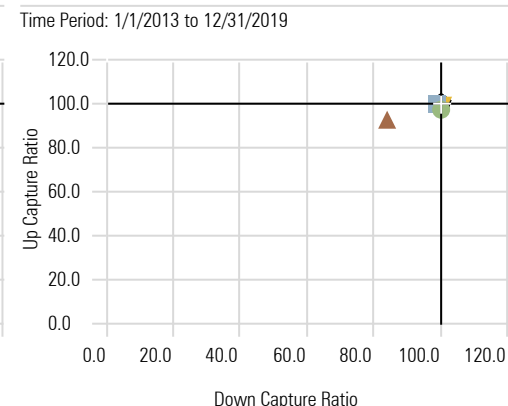
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● American Funds Fundamental Invs R6  
● Voya Russell Large Cap Index Port A

● Parnassus Core Equity Institutional  
◻ Russell 1000 TR USD

● Vanguard Institutional Index I

## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (4/1/2008) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
American Funds Fundamental Invs R6	9.5	15.4	-0.6	0.99	96	17.1	-23.3	0.58	2.9
Parnassus Core Equity Institutional	11.5	13.2	2.6	0.83	92	17.7	-19.1	0.83	4.5
Vanguard Institutional Index I	10.2	14.9	0.1	0.98	100	16.0	-21.9	0.64	0.8
Voya Russell Large Cap Index Port A	9.3	14.6	-0.5	0.95	99	14.6	-20.8	0.60	1.7
Russell 1000 TR USD	10.3	15.2	0.0	1.00	100	16.5	-22.5	0.64	0.0

# Time Period Performance Analysis

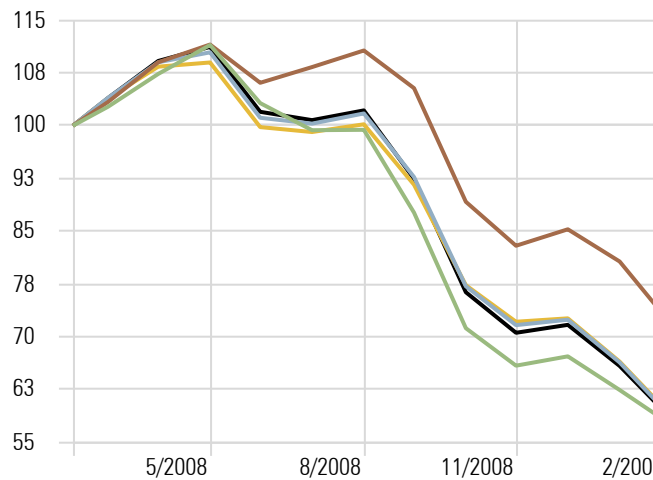
## Credit Buildup - Housing and Oil Boom

Time Period: 4/30/2003 to 9/30/2007



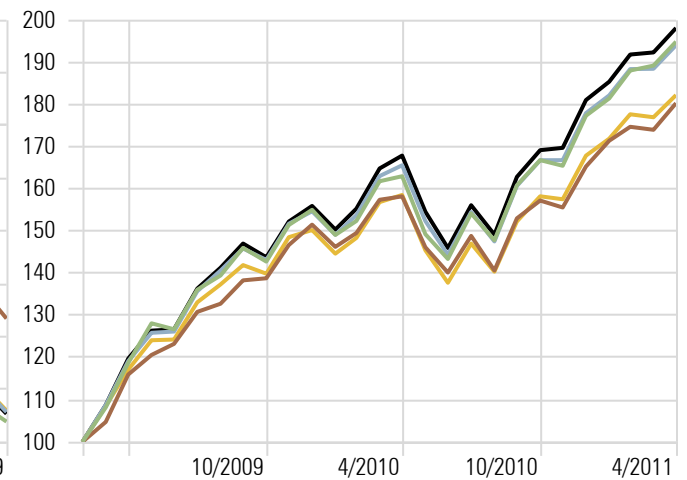
## Credit Crunch - Financial Crisis

Time Period: 3/11/2008 to 2/28/2009



## Financial Crisis Recovery - QE1&2

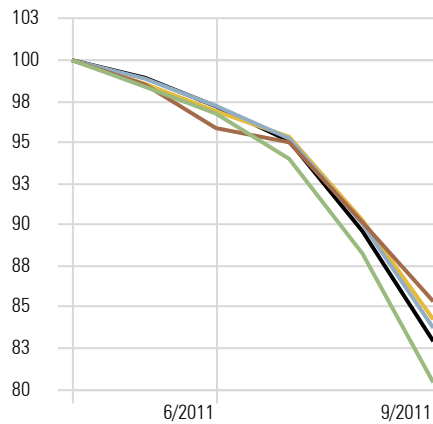
Time Period: 3/1/2009 to 4/30/2011



✘ American Funds Fundamental Invs R6    ✘ Parnassus Core Equity Institutional    ✘ Vanguard Institutional Index I  
✘ Voya Russell Large Cap Index Port A    ✘ Russell 1000 TR USD

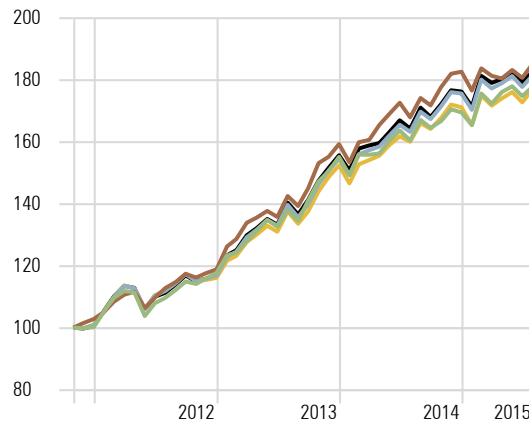
## Double Dip

Time Period: 5/1/2011 to 9/30/2011



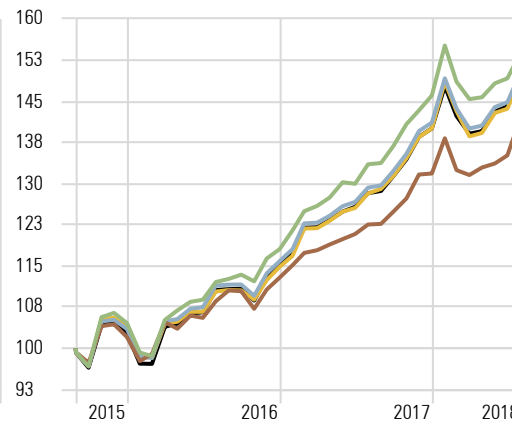
## US Recovery Continues - Global Markets Lag

Time Period: 11/1/2011 to 7/31/2015



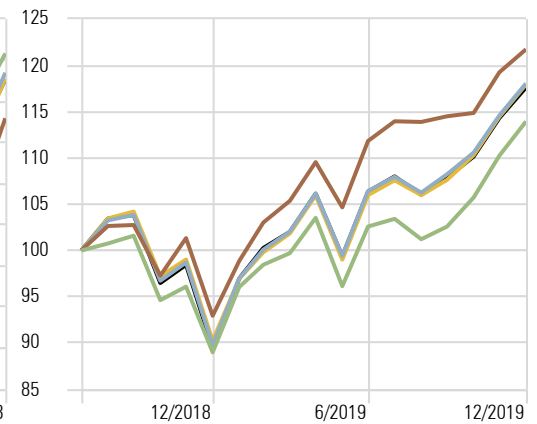
## Global Economic Strength

Time Period: 8/31/2015 to 7/31/2018



## Global Trade Tension

Time Period: 8/1/2018 to 12/31/2019



● American Funds Fundamental Invs R6    ● Parnassus Core Equity Institutional    ● Vanguard Institutional Index I  
● Voya Russell Large Cap Index Port A    ● Russell 1000 TR USD

● American Funds Fundamental Invs R6  
● Voya Russell Large Cap Index Port A

● Parnassus Core Equity Institutional  
● Russell 1000 TR USD

● Vanguard Institutional Index I

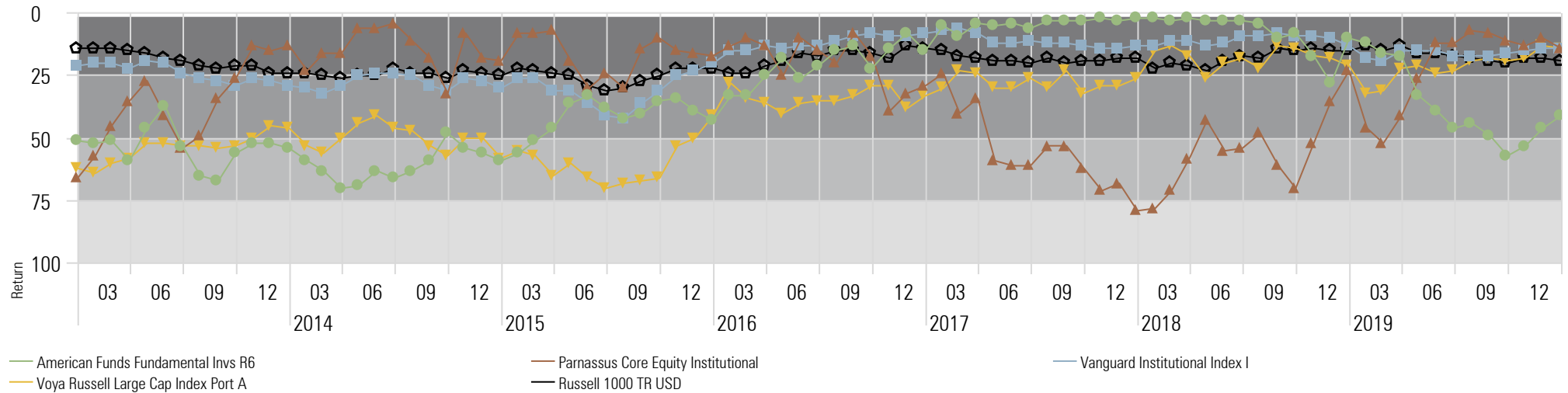
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

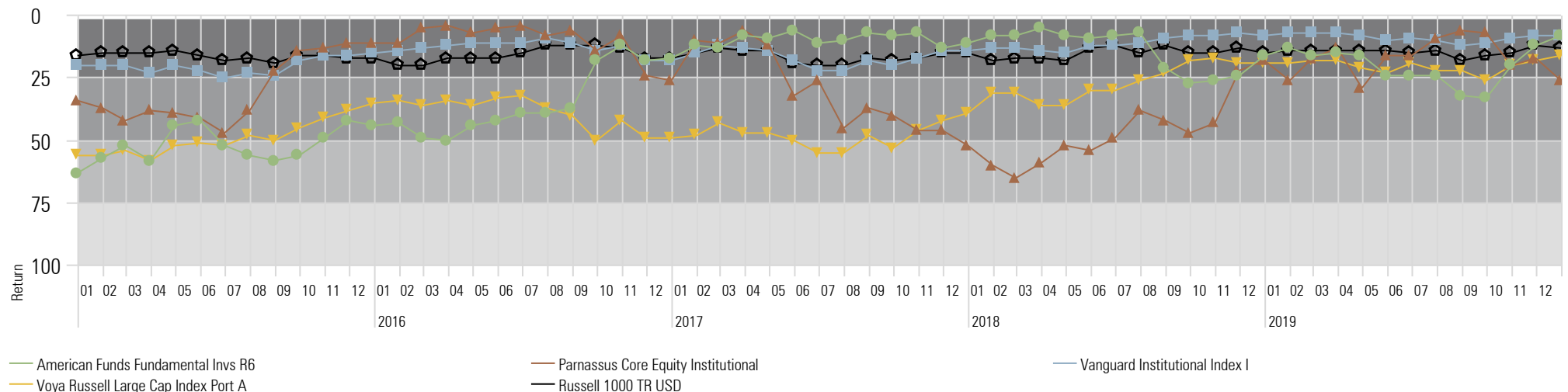


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile





## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Large Blend</b>																		
American Funds Fundamental Invs R6	11.1	<b>5</b>	2.03	28.0	<b>65</b>	-3.41	28.0	<b>65</b>	-3.41	14.1	<b>41</b>	-0.99	11.7	<b>8</b>	0.19	12.7	<b>33</b>	-0.82
Parnassus Core Equity Institutional	6.3	<b>87</b>	-2.72	31.0	<b>32</b>	-0.47	31.0	<b>32</b>	-0.47	15.2	<b>14</b>	0.20	11.0	<b>26</b>	-0.45	13.0	<b>25</b>	-0.57
Vanguard Institutional Index I	9.1	<b>30</b>	0.02	31.5	<b>21</b>	0.04	31.5	<b>21</b>	0.04	15.2	<b>14</b>	0.19	11.7	<b>8</b>	0.19	13.5	<b>7</b>	-0.01
Voya Russell Large Cap Index Port A	9.6	<b>18</b>	0.53	30.7	<b>39</b>	-0.77	30.7	<b>39</b>	-0.77	15.3	<b>14</b>	0.21	11.4	<b>16</b>	-0.07	12.7	<b>32</b>	-0.79
Russell 1000 TR USD	9.0			31.4			31.4			15.0			11.5			13.5		
Average	8.3			28.8			28.8			13.2			9.8			12.0		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Large Blend</b>																					
American Funds Fundamental Invs R6	28.0	<b>65</b>	-3.41	-6.3	<b>56</b>	-1.55	23.7	<b>13</b>	2.04	12.9	<b>19</b>	0.82	3.7	<b>8</b>	2.79	9.3	<b>81</b>	-3.97	31.9	<b>53</b>	-1.17
Parnassus Core Equity Institutional	31.0	<b>32</b>	-0.47	0.1	<b>2</b>	4.84	16.8	<b>85</b>	-4.88	10.6	<b>51</b>	-1.45	-0.3	<b>54</b>	-1.25	14.7	<b>9</b>	1.46	34.2	<b>28</b>	1.04
Vanguard Institutional Index I	31.5	<b>21</b>	0.04	-4.4	<b>21</b>	0.36	21.8	<b>30</b>	0.10	11.9	<b>29</b>	-0.12	1.4	<b>24</b>	0.45	13.7	<b>19</b>	0.41	32.3	<b>45</b>	-0.76
Voya Russell Large Cap Index Port A	30.7	<b>39</b>	-0.77	-3.9	<b>17</b>	0.87	22.0	<b>28</b>	0.27	10.4	<b>53</b>	-1.61	1.5	<b>22</b>	0.60	12.3	<b>43</b>	-0.91	31.4	<b>65</b>	-1.72
Russell 1000 TR USD	31.4			-4.8			21.7			12.1			0.9		13.2				33.1		
Average	28.8			-6.5			20.5			10.6			-0.4		11.4				32.3		

# American Funds Fundamental Invs R6

RFNGX

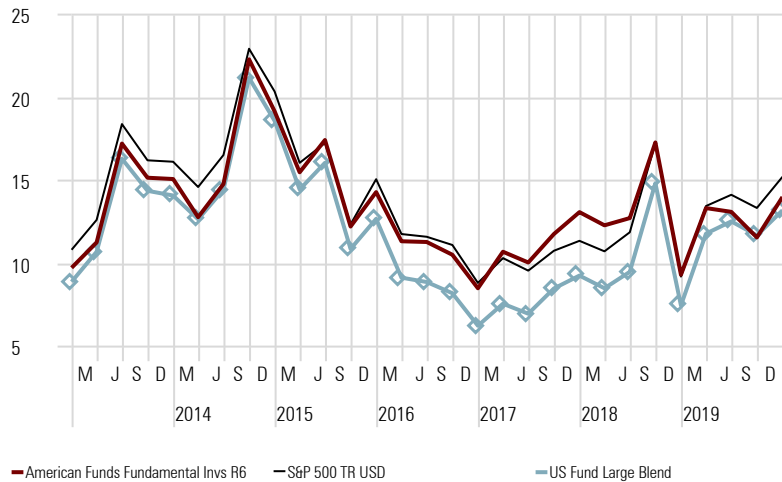
**Index:** S&P 500 TR USD  
**Category:** US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

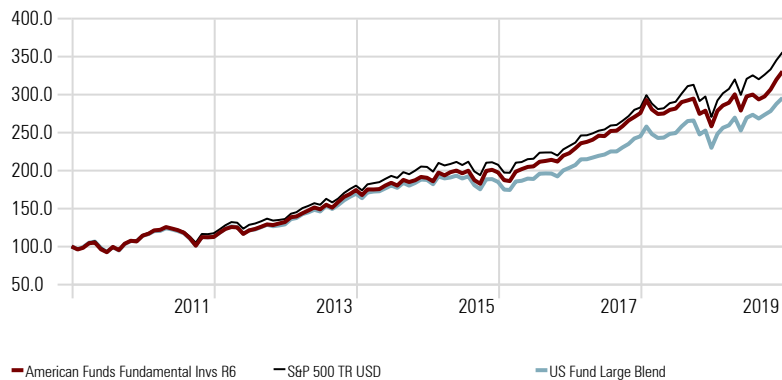
	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
American Funds Fundamental Invs R6	28.0	28.0	14.1	11.7	12.7	9.8
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

## Returns (Rolling 36 Months)



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019

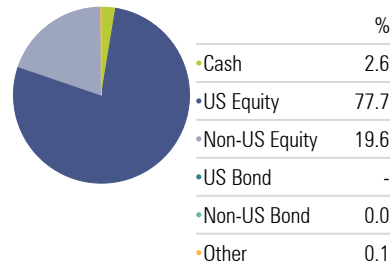


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.30	0.93	
Gross Expense Ratio	0.30	1.56	
LT Earn Growth	10.2	9.7	9.1
Avg Mkt Cap (\$MMM)	108.2	180.9	47.9
P/E Ratio	22.6	21.4	16.3
P/B Ratio	3.0	3.8	2.0
P/S Ratio	2.3	2.3	1.4
P/CF Ratio	13.8	14.7	10.5
ROE %	22.3	26.3	20.5
ROA %	7.8	8.7	7.2
Dividend Yld	2.0	1.8	2.8

## Asset Allocation

Portfolio Date: 12/31/2019

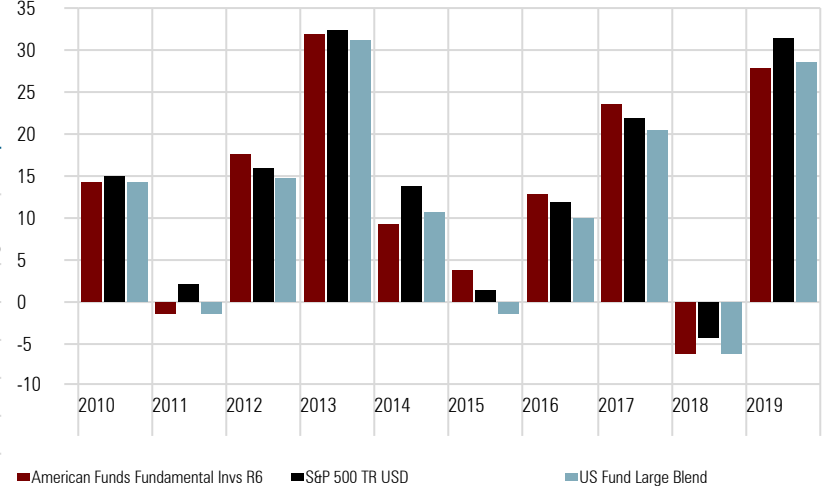


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
American Funds Fundamental Invs R6	69.2	30.8	11.2	-8.9	12.2	-16.9	98.4	103.0
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.9	0.0	11.9	0.2
Down Deviation	2.2	1.3	1.8	0.8
Beta	1.0	0.0	1.0	0.0
Alpha	-0.5	1.0	0.2	2.0
Sharpe	1.0	0.1	0.9	0.2
Sortino	1.5	0.1	1.4	0.3
Info Ratio	-0.4	2.2	0.0	2.5
Down Capture	99.3	-0.6	99.6	-3.2
Up Capture	95.3	2.7	99.7	7.3

## Top 10 Holdings

Company	Fund %
Microsoft Corp	5.5
Broadcom Inc	3.5
UnitedHealth Group Inc	2.9
Facebook Inc A	2.7
Capital Group Central Cash Fund	2.6
Berkshire Hathaway Inc A	2.4
Amazon.com Inc	2.2
Charter Communications Inc A	1.8
Taiwan Semiconductor Manufacturing Co Ltd	1.8
Boeing Co	1.7

## Sector Allocation (%)

Sector	Fund %	Inv	Avg
Energy		5	4
Materials		4	3
Industrials		11	10
Cons Discretionary		8	10
Consumer Staples		7	8
Healthcare		14	15
Financials		13	14
Info Technology		24	22
Telecom Services		11	10
Utilities		1	3
Real Estate %		1.6	2.9

# Vanguard Institutional Index I

VINIX

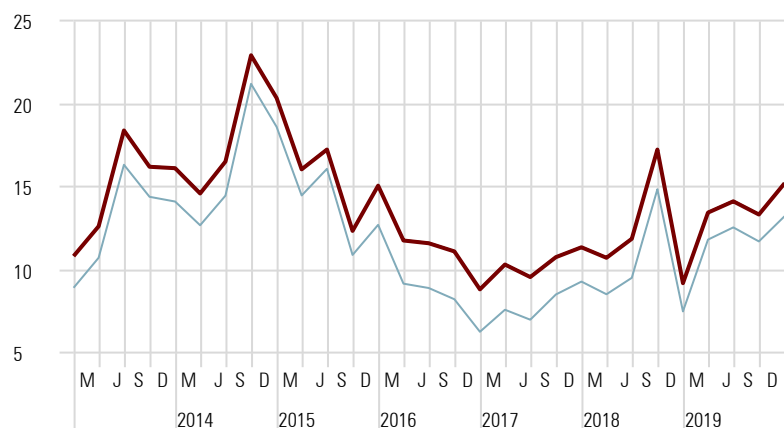
**Index:** S&P 500 TR USD  
**Category:** US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Institutional Index I	31.5	31.5	15.2	11.7	13.5	9.0
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

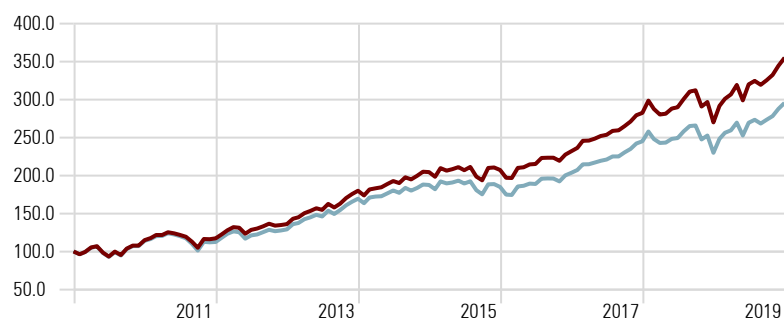
## Returns (Rolling 36 Months)



— Vanguard Institutional Index I — S&P 500 TR USD — US Fund Large Blend

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



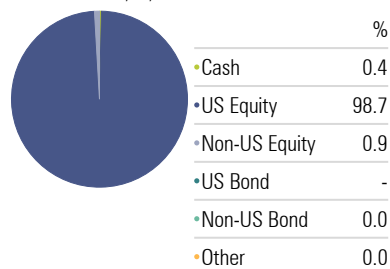
— Vanguard Institutional Index I — S&P 500 TR USD — US Fund Large Blend

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.04	0.93	
Gross Expense Ratio	0.04	1.56	
LT Earn Growth	9.8	9.7	9.1
Avg Mkt Cap (\$MMM)	127.0	180.9	47.9
P/E Ratio	22.2	21.4	16.3
P/B Ratio	3.4	3.8	2.0
P/S Ratio	2.4	2.3	1.4
P/CF Ratio	14.1	14.7	10.5
ROE %	26.4	26.3	20.5
ROA %	8.9	8.7	7.2
Dividend Yld	1.9	1.8	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

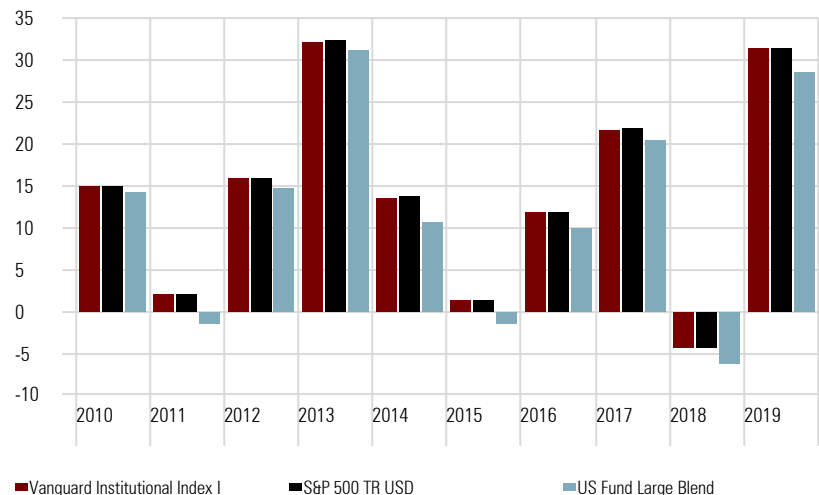


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Institutional Index I	71.7	28.3	10.9	-9.0	13.7	-13.9	99.9	100.1
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.1	0.3	12.0	0.2
Down Deviation	0.0	-0.9	0.0	-1.0
Beta	1.0	0.0	1.0	0.0
Alpha	0.0	1.5	0.0	1.8
Sharpe	1.1	0.1	0.9	0.2
Sortino	1.6	0.2	1.4	0.3
Info Ratio	-3.3	-0.7	-2.6	-0.1
Down Capture	100.1	0.1	100.1	-2.7
Up Capture	99.9	7.2	99.9	7.5

## Top 10 Holdings

	Fund %
Microsoft Corp	4.8
Apple Inc	4.8
Amazon.com Inc	3.1
Facebook Inc A	1.8
Berkshire Hathaway Inc B	1.6
Alphabet Inc A	1.6
Alphabet Inc Class C	1.6
JPMorgan Chase & Co	1.5
Johnson & Johnson	1.5
Visa Inc Class A	1.3

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy	4	4	4
Materials	2	3	3
Industrials	9	10	10
Cons Discretionary	10	10	10
Consumer Staples	7	7	7
Healthcare	14	14	14
Financials	13	14	14
Info Technology	24	22	22
Telecom Services	10	10	10
Utilities	4	3	3
Real Estate %	3.0	3.0	3.0

# Parnassus Core Equity Institutional

PRILX

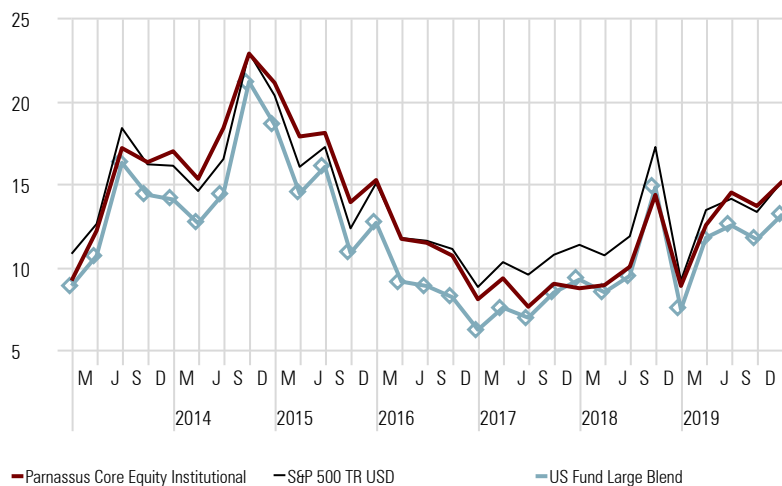
**Index:** S&P 500 TR USD  
**Category:** US Fund Large Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P 500 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Parnassus Core Equity Institutional	31.0	31.0	15.2	11.0	13.0	10.6
S&P 500 TR USD	31.5	31.5	15.3	11.7	13.6	9.0
US Fund Large Blend	28.6	28.6	13.3	9.5	11.5	7.6

## Returns (Rolling 36 Months)

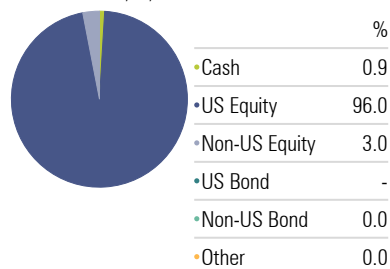


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.63	0.93	
Gross Expense Ratio	0.63	1.56	
LT Earn Growth	8.5	9.7	9.1
Avg Mkt Cap (\$MMM)	94.6	180.9	47.9
P/E Ratio	25.7	21.4	16.3
P/B Ratio	4.1	3.8	2.0
P/S Ratio	2.3	2.3	1.4
P/CF Ratio	16.1	14.7	10.5
ROE %	25.1	26.3	20.5
ROA %	8.5	8.7	7.2
Dividend Yld	1.7	1.8	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

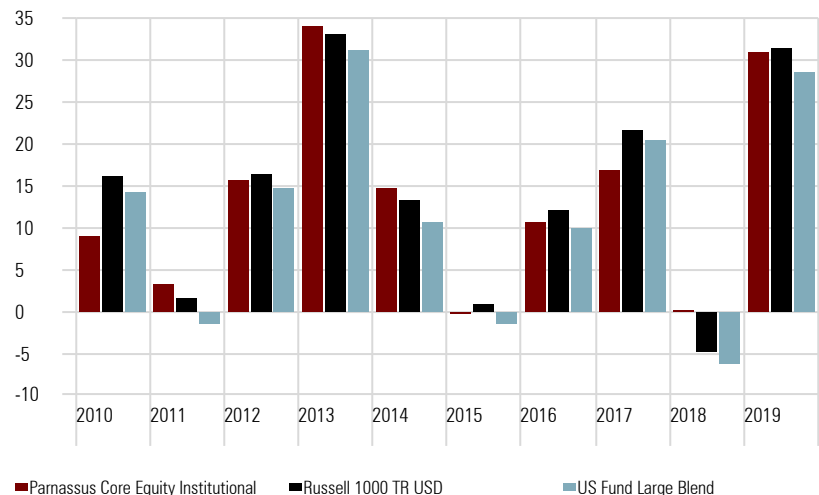


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P 500 TR USD

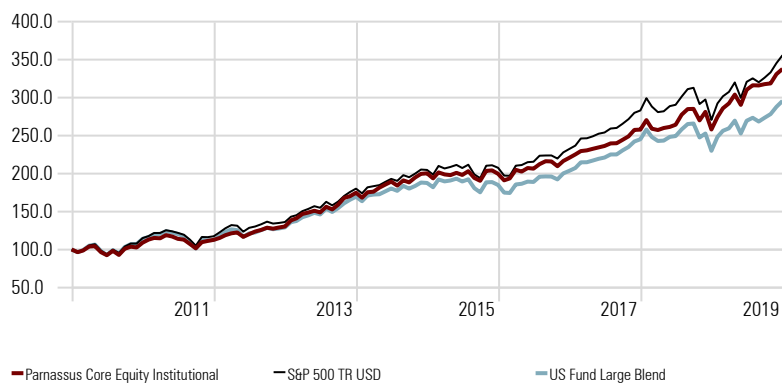
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Parnassus Core Equity Institutional	70.0	30.0	8.8	-8.3	13.4	-11.0	90.3	84.5
S&P 500 TR USD	71.7	28.3	10.9	-9.0	13.6	-13.9	100.0	100.0
US Fund Large Blend	70.0	30.0	11.3	-9.0	12.9	-15.8	94.8	105.2

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	10.7	-1.1	10.6	-1.2
Down Deviation	2.6	1.7	2.6	1.6
Beta	0.8	-0.1	0.8	-0.1
Alpha	1.9	3.4	0.9	2.7
Sharpe	1.3	0.3	0.9	0.2
Sortino	1.9	0.5	1.5	0.4
Info Ratio	0.0	2.6	-0.2	2.3
Down Capture	76.8	-23.1	81.2	-21.5
Up Capture	89.8	-2.8	87.6	-4.7

## Top 10 Holdings

	Fund %	Sector	Inv	Avg
Microsoft Corp	6.8	Energy	0	4
The Walt Disney Co	4.7	Materials	6	3
Danaher Corp	3.8	Industrials	14	10
CME Group Inc Class A	3.6	Cons Discretionary	4	10
Verizon Communications Inc	3.4	Consumer Staples	13	7
Costco Wholesale Corp	3.4	Healthcare	12	14
Verisk Analytics Inc	3.1	Financials	11	14
Linde PLC	3.0	Info Technology	22	22
VF Corp	3.0	Telecom Services	14	10
Waste Management Inc	3.0	Utilities	0	3
		Real Estate %	4.4	3.0

# Large Value Funds

As of 12/31/2019



# US Fund Large Value

## BlackRock Equity Dividend Instl

### Investment Strategy

The investment seeks long-term total return and current income. The fund seeks to achieve its objective by investing primarily in a diversified portfolio of equity securities. Under normal circumstances, it will invest at least 80% of its assets in equity securities and at least 80% of its assets in dividend paying securities. The fund may invest in securities of companies with any market capitalization, but will generally focus on large cap securities. It may also invest in convertible securities and non-convertible preferred stock. The fund may invest up to 25% of its total assets in securities of foreign issuers.

### Manager Biography

Tony DeSpirito since 8/4/2014

Franco Tapia since 8/31/2017

David Zhao since 8/31/2017

## JPMorgan Equity Income R5

### Investment Strategy

The investment seeks capital appreciation and current income. Under normal circumstances, at least 80% of the fund's assets will be invested in the equity securities of corporations that regularly pay dividends, including common stocks and debt securities and preferred stock convertible to common stock. "Assets" means net assets, plus the amount of borrowings for investment purposes. Although the fund invests primarily in securities of large cap companies, it may invest in equity investments of companies across all market capitalizations.

### Manager Biography

Clare Hart since 8/1/2004

Andrew Brandon since 11/1/2019

David Silberman since 11/1/2019

## AllianzGI NFJ Dividend Value R

### Investment Strategy

The investment seeks long-term growth of capital and income. The fund seeks to achieve its investment objective by normally investing at least 80% of its net assets (plus borrowings made for investment purposes) in common stocks and other equity securities of companies that pay or are expected to pay dividends. Under normal conditions, it will invest primarily in common stocks of companies with market capitalizations greater than \$3.5 billion.

### Manager Biography

Benno J. Fischer since 5/8/2000

Thomas W. Oliver since 11/22/2006

R. Burns McKinney since 11/1/2007

L. Baxter Hines since 5/11/2010

Jeff N. Reed since 11/1/2011

John R. Mowrey since 8/28/2015

## American Century Equity Income R

### Investment Strategy

The investment seeks current income; capital appreciation is a secondary objective. The portfolio managers look for equity securities of companies with a favorable income-paying history that have prospects for income payments to continue or increase. The portfolio managers also look for equity securities of companies that they believe are undervalued and have the potential for an increase in price. The fund may invest a portion of its assets in foreign securities when these securities meet the portfolio managers' standards of selection.

### Manager Biography

Phillip N. Davidson since 12/31/1994

Michael Liss since 12/31/1998

Kevin Toney since 8/30/2003

Brian Woglom since 4/29/2019

## Columbia Large Cap Value R

### Investment Strategy

The investment seeks a high level of current income and, as a secondary objective, steady growth of capital. The fund's assets primarily are invested in equity securities. Under normal market conditions, it will invest at least 80% of its net assets (including the amount of any borrowings for investment purposes) in common and preferred stocks of large capitalization companies. The fund may invest up to 25% of its net assets in foreign investments. It may from time to time emphasize one or more sectors in selecting its investments, including the financial services sector.

### Manager Biography

Hugh H. Mullin since 7/8/2013

## BlackRock Equity Dividend Instl - C

Inception Date	11/29/1988
Fund Size (\$mm)	20,033
Annual Report Net Expense Ratio	0.69
Prospectus Net Expense Ratio	0.71
Prospectus Gross Expense Ratio	0.71
Ticker	MADVX
Manager Tenure (Longest)	5.42
Manager Tenure (Average)	3.42
Morningstar Inst Cat	Large Deep Value

### Other Notes:

None

## JPMorgan Equity Income R5 - Ope

Inception Date	2/28/2011
Fund Size (\$mm)	32,322
Annual Report Net Expense Ratio	0.58
Prospectus Net Expense Ratio	0.59
Prospectus Gross Expense Ratio	0.60
Ticker	OIERX
Manager Tenure (Longest)	15.42
Manager Tenure (Average)	5.25
Morningstar Inst Cat	Large Core Value

### Other Notes:

None

## AllianzGI NFJ Dividend Value R - O

Inception Date	12/31/2002
Fund Size (\$mm)	1,229
Annual Report Net Expense Ratio	1.26
Prospectus Net Expense Ratio	1.29
Prospectus Gross Expense Ratio	1.36
Ticker	PNERX
Manager Tenure (Longest)	19.67
Manager Tenure (Average)	11.21
Morningstar Inst Cat	Large Deep Value

### Other Notes:

None

## American Century Equity Income R

Inception Date	8/29/2003
Fund Size (\$mm)	13,218
Annual Report Net Expense Ratio	1.41
Prospectus Net Expense Ratio	1.42
Prospectus Gross Expense Ratio	1.42
Ticker	AEURX
Manager Tenure (Longest)	25.08
Manager Tenure (Average)	15.83
Morningstar Inst Cat	Large Core Value

### Other Notes:

None

## Columbia Large Cap Value R - Oper

Inception Date	12/11/2006
Fund Size (\$mm)	2,063
Annual Report Net Expense Ratio	1.27
Prospectus Net Expense Ratio	1.27
Prospectus Gross Expense Ratio	1.27
Ticker	RDEIX
Manager Tenure (Longest)	6.50
Manager Tenure (Average)	6.50
Morningstar Inst Cat	Large Core Value

### Other Notes:

None

# Portfolio Analysis

## BlackRock Equity Dividend Instl

## JPMorgan Equity Income R5

## AllianzGI NFJ Dividend Value R

## American Century Equity Income R

## Columbia Large Cap Value R

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	58	30	5	Market Cap Giant %	49
Mid	4	2	0	Market Cap Large %	45
Small	0	0	0	Market Cap Mid %	6
				Market Cap Small %	0
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	43	45	4	Market Cap Giant %	45
Mid	1	7	0	Market Cap Large %	47
Small	0	0	0	Market Cap Mid %	8
				Market Cap Small %	0
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	47	22	6	Market Cap Giant %	43
Mid	8	12	5	Market Cap Large %	32
Small	0	0	0	Market Cap Mid %	25
				Market Cap Small %	0
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	48	29	5	Market Cap Giant %	47
Mid	9	8	0	Market Cap Large %	35
Small	0	1	0	Market Cap Mid %	17
				Market Cap Small %	1
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	46	31	4	Market Cap Giant %	47
Mid	12	7	0	Market Cap Large %	33
Small	0	0	0	Market Cap Mid %	21
				Market Cap Small %	0
				Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell 1000 Value TR USD

	Inv Bmk1
Average Market Cap (bil)	88.7 62.4
Forward P/E	13.8 15.5
P/E Ratio (TTM)	17.1 18.2
LT Earn Growth	8.7 7.7
P/B Ratio (TTM)	2.0 2.1
Dividend Yield	2.8 2.5
ROE %	16.7 13.6
ROA %	4.7 4.8
Debt to Capital %	45 42

### Valuation Data

Display Benchmark 1: Russell 1000 Value TR USD

	Inv Bmk1
Average Market Cap (bil)	86.3 62.4
Forward P/E	17.6 15.5
P/E Ratio (TTM)	18.7 18.2
LT Earn Growth	7.8 7.7
P/B Ratio (TTM)	2.5 2.1
Dividend Yield	2.6 2.5
ROE %	21.9 13.6
ROA %	7.1 4.8
Debt to Capital %	43 42

### Valuation Data

Display Benchmark 1: Russell 1000 Value TR USD

	Inv Bmk1
Average Market Cap (bil)	61.2 62.4
Forward P/E	15.3 15.5
P/E Ratio (TTM)	16.7 18.2
LT Earn Growth	8.0 7.7
P/B Ratio (TTM)	2.4 2.1
Dividend Yield	2.5 2.5
ROE %	21.4 13.6
ROA %	6.5 4.8
Debt to Capital %	45 42

### Valuation Data

Display Benchmark 1: Russell 1000 Value TR USD

	Inv Bmk1
Average Market Cap (bil)	73.8 62.4
Forward P/E	17.5 15.5
P/E Ratio (TTM)	19.7 18.2
LT Earn Growth	6.8 7.7
P/B Ratio (TTM)	2.7 2.1
Dividend Yield	3.0 2.5
ROE %	19.8 13.6
ROA %	6.9 4.8
Debt to Capital %	42 42

### Valuation Data

Display Benchmark 1: Russell 1000 Value TR USD

	Inv Bmk1
Average Market Cap (bil)	81.7 62.4
Forward P/E	14.8 15.5
P/E Ratio (TTM)	17.8 18.2
LT Earn Growth	9.0 7.7
P/B Ratio (TTM)	2.1 2.1
Dividend Yield	2.5 2.5
ROE %	17.0 13.6
ROA %	5.8 4.8
Debt to Capital %	44 42

### Portfolio Data

	Inv Bmk1
Turnover Ratio	43
# of Stock Holdings	81 764
% in Top 10	28.2 21.8
Cash %	7.9 0.0
Developed %	91.6 99.8
US Equity %	73.2 98.3
Non-US Equity %	19 2
Emerging Mkt %	0.5 0.2

### Portfolio Data

	Inv Bmk1
Turnover Ratio	23
# of Stock Holdings	89 764
% in Top 10	22.9 21.8
Cash %	2.8 0.0
Developed %	97.2 99.8
US Equity %	96.5 98.3
Non-US Equity %	1 2
Emerging Mkt %	0.0 0.2

### Portfolio Data

	Inv Bmk1
Turnover Ratio	52
# of Stock Holdings	77 764
% in Top 10	26.2 21.8
Cash %	0.7 0.0
Developed %	99.3 99.8
US Equity %	93.4 98.3
Non-US Equity %	6 2
Emerging Mkt %	0.0 0.2

### Portfolio Data

	Inv Bmk1
Turnover Ratio	80
# of Stock Holdings	66 764
% in Top 10	30.6 21.8
Cash %	2.7 0.0
Developed %	83.5 99.8
US Equity %	73.4 98.3
Non-US Equity %	10 2
Emerging Mkt %	0.0 0.2

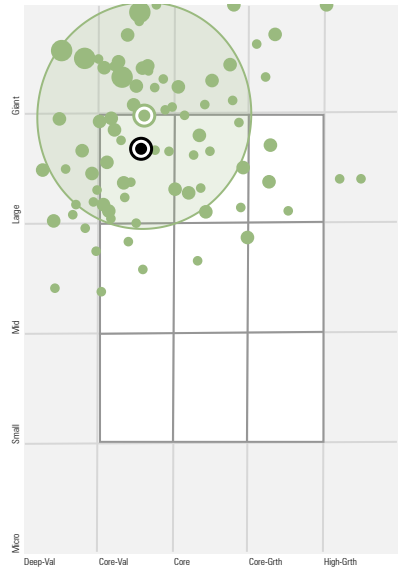
### Portfolio Data

	Inv Bmk1
Turnover Ratio	23
# of Stock Holdings	63 764
% in Top 10	30.0 21.8
Cash %	1.4 0.0
Developed %	98.1 99.8
US Equity %	95.8 98.3
Non-US Equity %	2 2
Emerging Mkt %	0.0 0.2

# Holdings-Based Style Analysis

## BlackRock Equity Dividend Instl

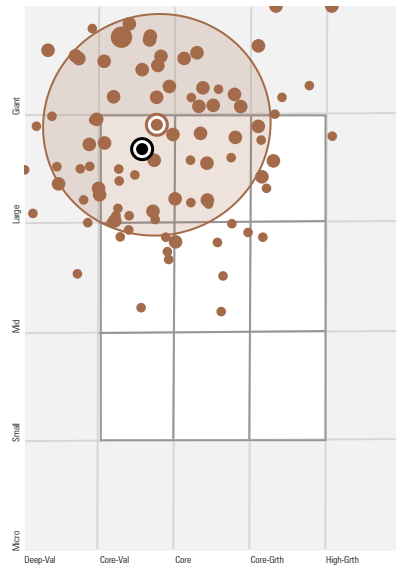
### Holdings-Based Style Map



● BlackRock Equity Dividend Instl 12/31/2019 ● Russell 1000 Value TR USD 12/31/2019

## JPMorgan Equity Income R5

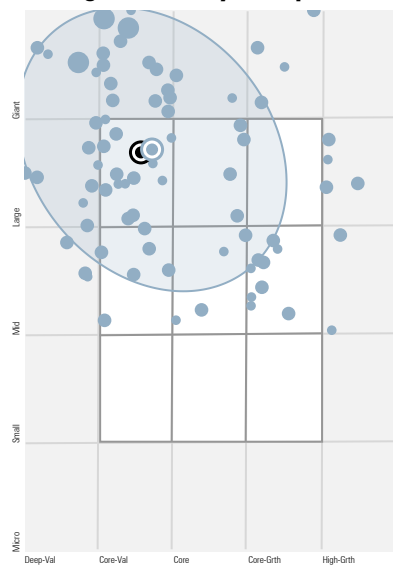
### Holdings-Based Style Map



● JPMorgan Equity Income R5 11/30/2019 ● Russell 1000 Value TR USD 12/31/2019

## AllianzGI NFJ Dividend Value R

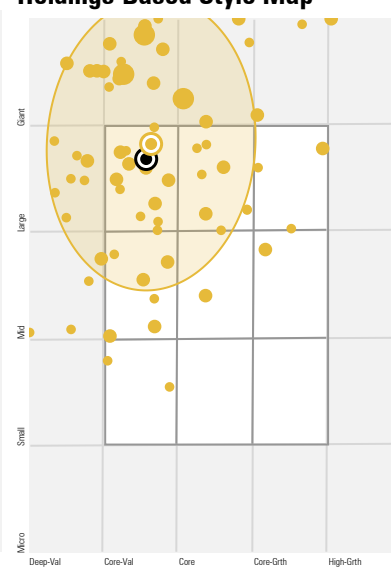
### Holdings-Based Style Map



● AllianzGI NFJ Dividend Value R 11/30/2019 ● Russell 1000 Value TR USD 12/31/2019

## American Century Equity Income R

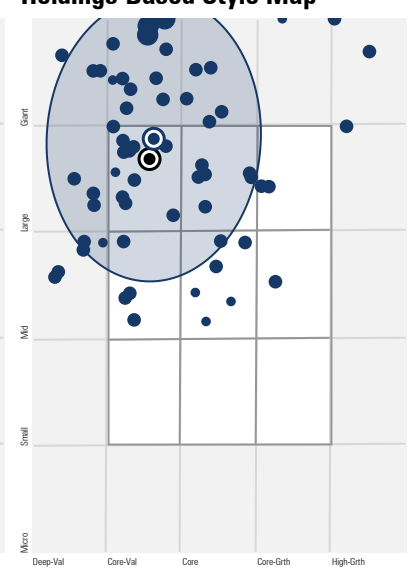
### Holdings-Based Style Map



● American Century Equity Income R 12/31/2019 ● Russell 1000 Value TR USD 12/31/2019

## Columbia Large Cap Value R

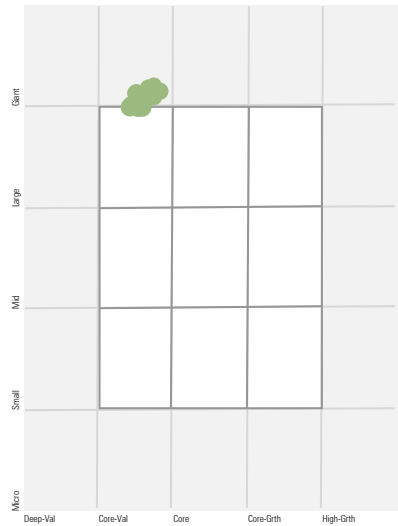
### Holdings-Based Style Map



● Columbia Large Cap Value R 12/31/2019 ● Russell 1000 Value TR USD 12/31/2019

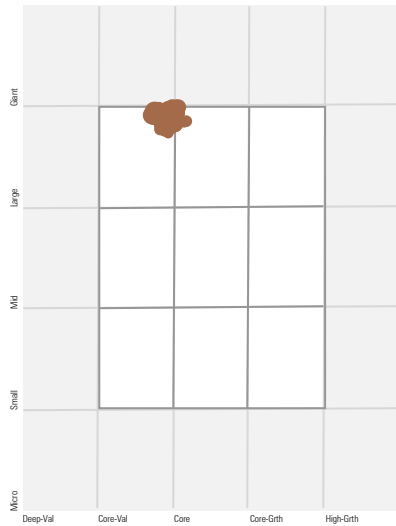
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



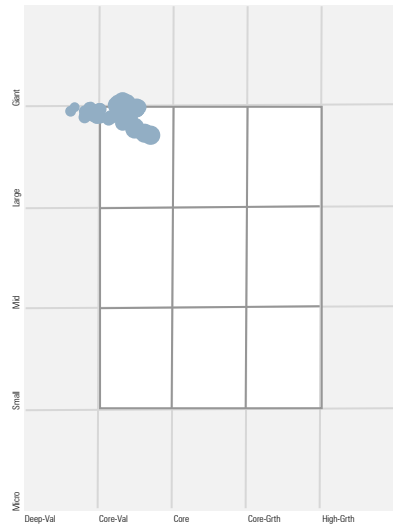
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



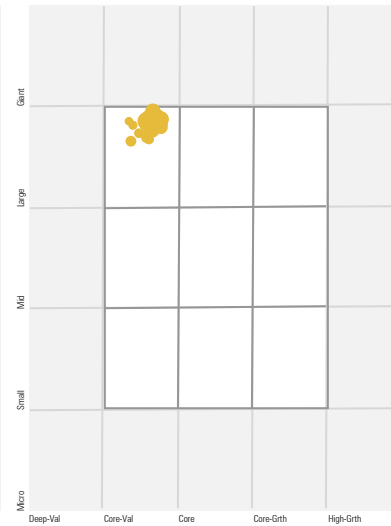
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



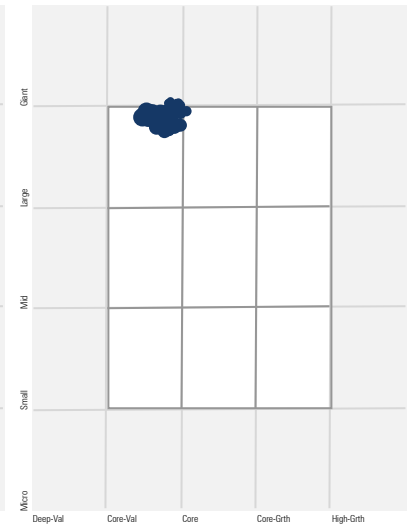
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



### Holdings-Based Style Trail

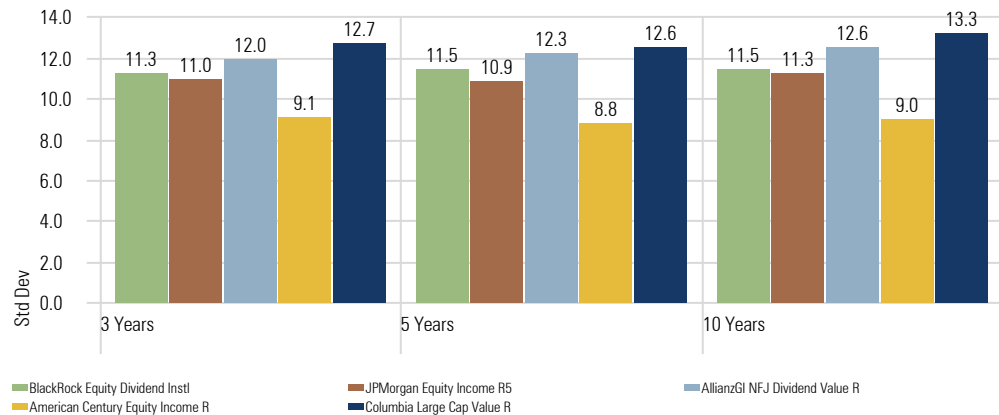
Time Period: 1/31/2015 to 12/31/2019



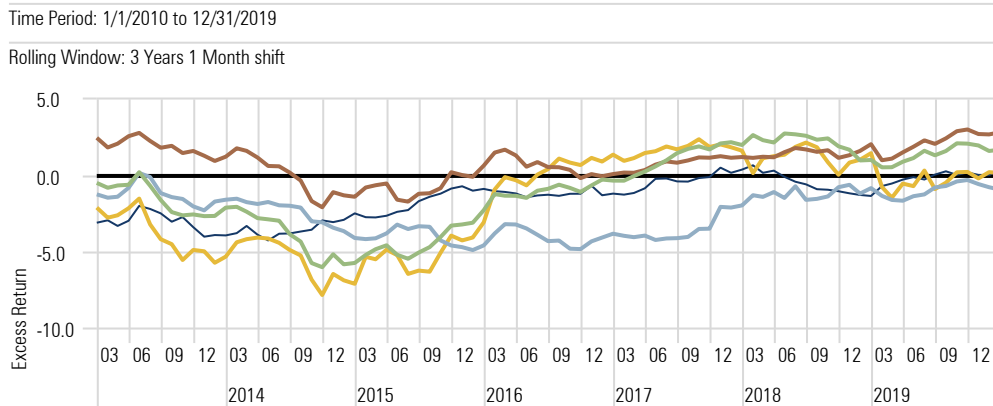


# Risk/Return Performance Analysis

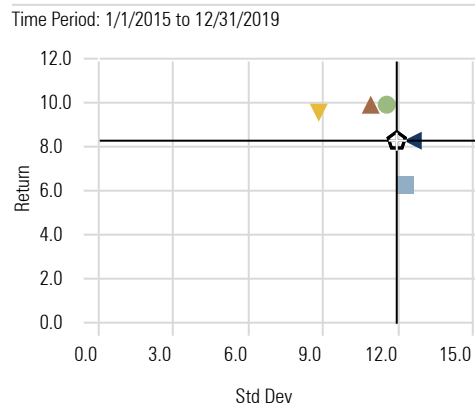
## Standard Deviation



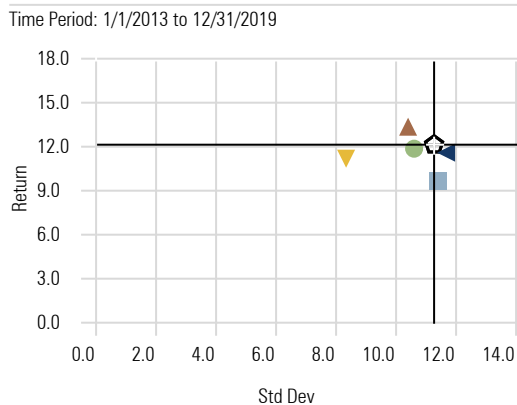
## 3 Year Relative Rolling Returns



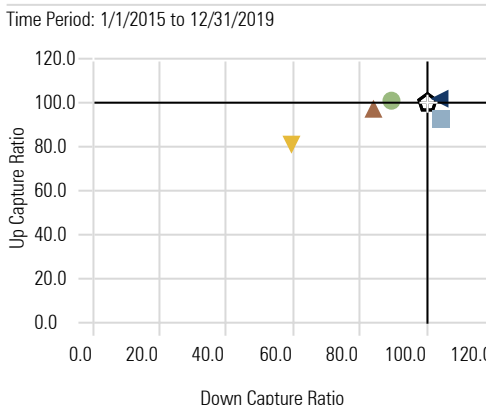
## 5 Year Risk-Reward



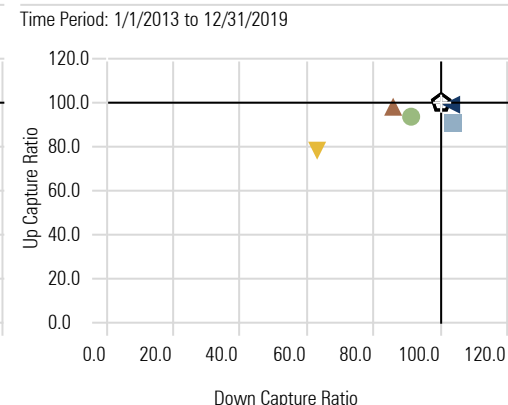
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



- BlackRock Equity Dividend Instl
- American Century Equity Income R

- JPMorgan Equity Income R5
- Columbia Large Cap Value R

- AllianzGI NFJ Dividend Value R
- Russell 1000 Value TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

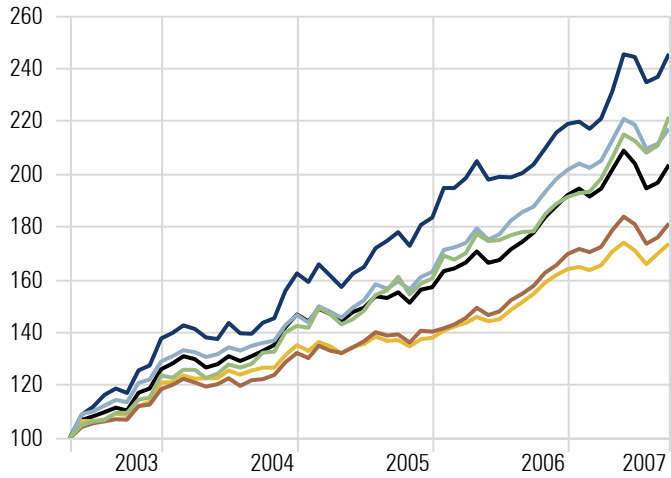
Time Period: Since Common Inception (6/1/2000) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
BlackRock Equity Dividend Instl	8.6	12.4	2.2	0.82	91	13.5	-19.2	0.56	4.6
JPMorgan Equity Income R5	7.6	12.2	1.3	0.83	95	13.6	-18.0	0.49	3.7
AllianzGI NFJ Dividend Value R	7.7	14.5	0.7	0.97	92	17.3	-23.7	0.42	4.0
American Century Equity Income R	8.6	10.0	3.0	0.66	90	13.5	-11.3	0.70	5.8
Columbia Large Cap Value R	7.5	15.5	0.2	1.05	94	22.6	-23.8	0.38	3.8
Russell 1000 Value TR USD	7.2	14.4	0.0	1.00	100	18.2	-22.2	0.39	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

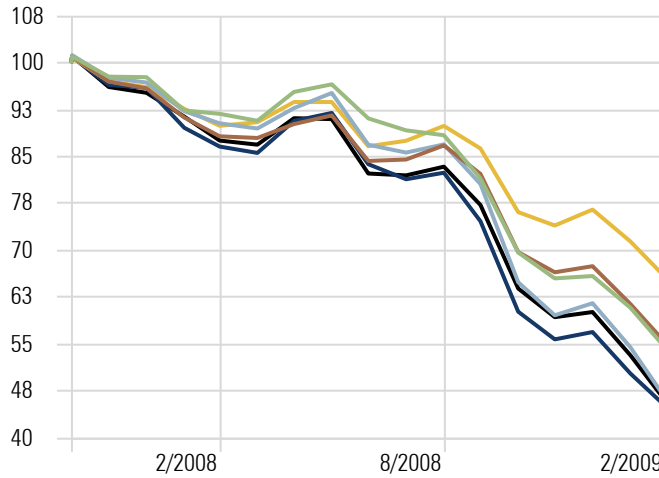
Time Period: 4/30/2003 to 9/30/2007



BlackRock Equity Dividend Instl	222	JPMorgan Equity Income R5	181	AllianzGI NFJ Dividend Value R	217
American Century Equity Income R	174	Columbia Large Cap Value R	246	Russell 1000 Value TR USD	204

## Credit Crunch - Financial Crisis

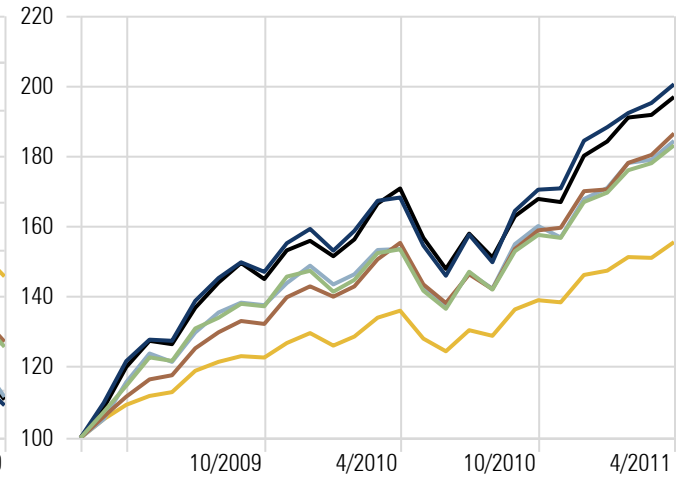
Time Period: 10/31/2007 to 2/28/2009



BlackRock Equity Dividend Instl	55	JPMorgan Equity Income R5	55	AllianzGI NFJ Dividend Value R	47
American Century Equity Income R	66	Columbia Large Cap Value R	45	Russell 1000 Value TR USD	46

## Financial Crisis Recovery - QE1&2

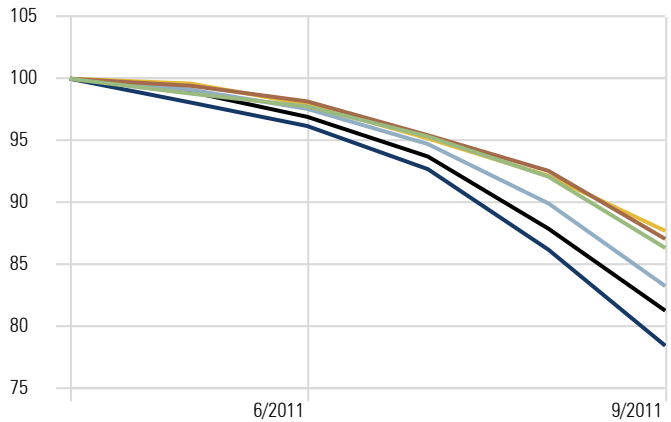
Time Period: 3/1/2009 to 4/30/2011



BlackRock Equity Dividend Instl	183.3	JPMorgan Equity Income R5	184.5	AllianzGI NFJ Dividend Value R	184.5
American Century Equity Income R	155.7	Columbia Large Cap Value R	197.1	Russell 1000 Value TR USD	197.1

## Double Dip

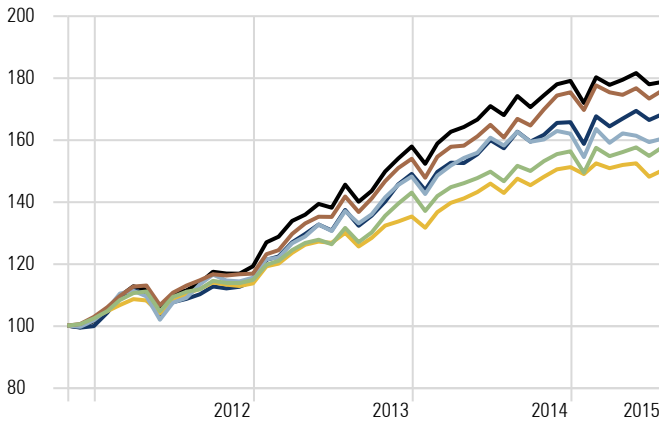
Time Period: 5/1/2011 to 9/30/2011



BlackRock Equity Dividend Instl	86.3	JPMorgan Equity Income R5	87.0	AllianzGI NFJ Dividend Value R	83.2
American Century Equity Income R	87.7	Columbia Large Cap Value R	78.4	Russell 1000 Value TR USD	81.2

## US Recovery Continues - Global Markets Lag

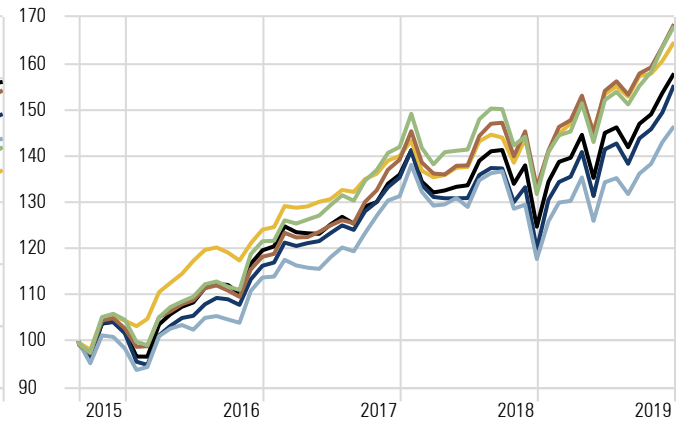
Time Period: 11/1/2011 to 7/31/2015



BlackRock Equity Dividend Instl	157.9	JPMorgan Equity Income R5	176.3	AllianzGI NFJ Dividend Value R	168.6
American Century Equity Income R	150.4	Columbia Large Cap Value R	179.0	Russell 1000 Value TR USD	179.0

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



BlackRock Equity Dividend Instl	168.0	JPMorgan Equity Income R5	168.5	AllianzGI NFJ Dividend Value R	146.4
American Century Equity Income R	164.6	Columbia Large Cap Value R	157.8	Russell 1000 Value TR USD	157.8

- BlackRock Equity Dividend Instl
- American Century Equity Income R

- JPMorgan Equity Income R5
- ◀ Columbia Large Cap Value R

- AllianzGI NFJ Dividend Value R
- ◻ Russell 1000 Value TR USD

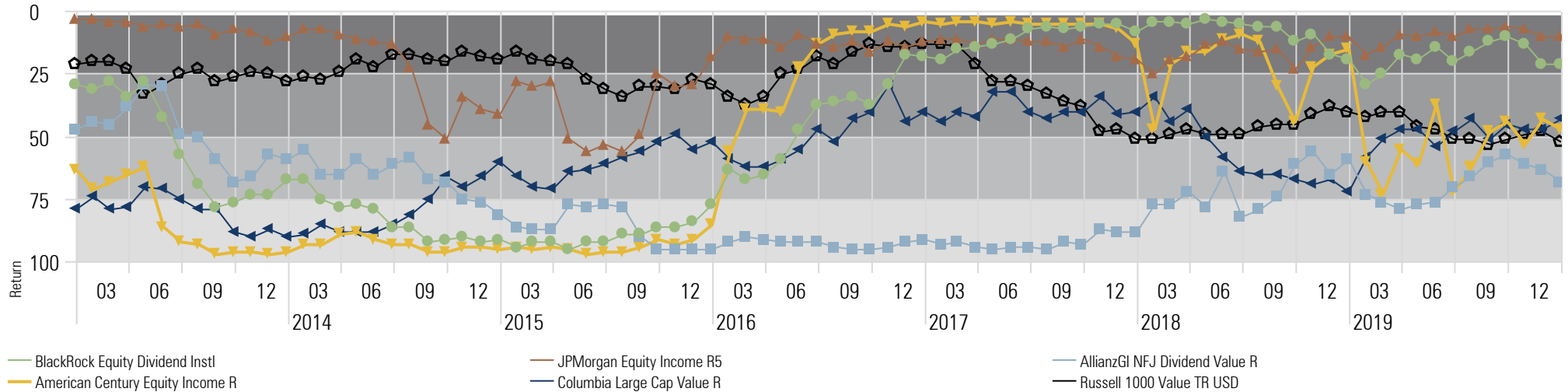
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

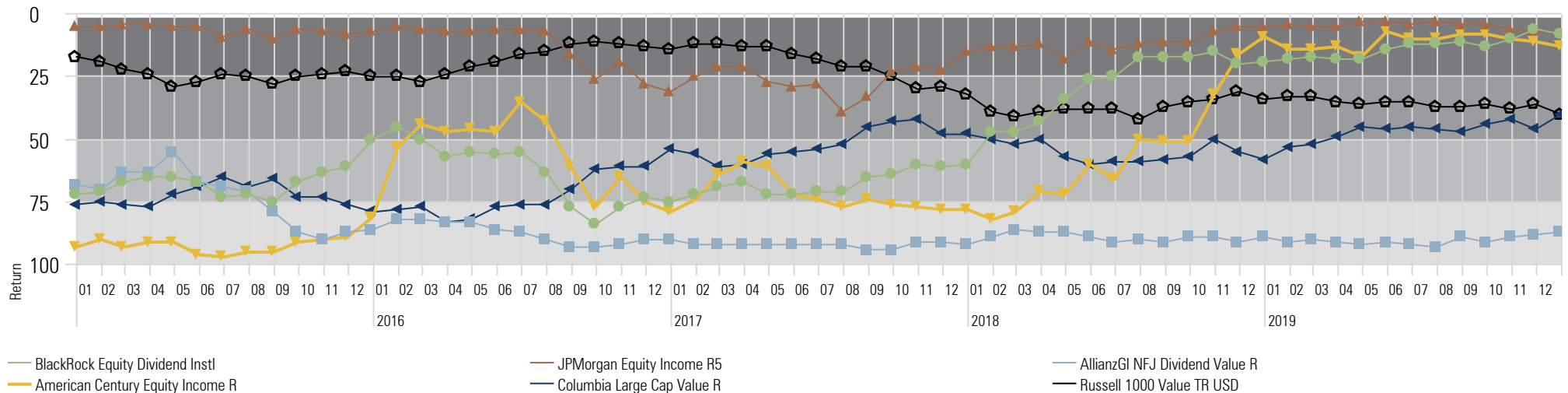


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Large Value</b>																		
BlackRock Equity Dividend Instl	8.3	<b>27</b>	0.92	27.5	<b>24</b>	0.98	27.5	<b>24</b>	0.98	11.4	<b>21</b>	1.71	9.9	<b>8</b>	1.63	11.4	<b>31</b>	-0.40
JPMorgan Equity Income R5	6.8	<b>60</b>	-0.65	26.5	<b>33</b>	-0.02	26.5	<b>33</b>	-0.02	12.5	<b>10</b>	2.85	9.9	<b>7</b>	1.65	13.4	<b>2</b>	1.60
AllianzGI NFJ Dividend Value R	7.5	<b>41</b>	0.11	24.4	<b>61</b>	-2.18	24.4	<b>61</b>	-2.18	8.8	<b>68</b>	-0.90	6.3	<b>87</b>	-2.01	9.6	<b>85</b>	-2.16
American Century Equity Income R	4.7	<b>93</b>	-2.76	23.6	<b>69</b>	-2.95	23.6	<b>69</b>	-2.95	9.9	<b>47</b>	0.19	9.5	<b>13</b>	1.26	10.5	<b>65</b>	-1.34
Columbia Large Cap Value R	8.0	<b>34</b>	0.60	29.5	<b>9</b>	2.99	29.5	<b>9</b>	2.99	10.1	<b>43</b>	0.45	8.3	<b>40</b>	0.00	10.5	<b>65</b>	-1.33
Russell 1000 Value TR USD	7.4			26.5			26.5			9.7			8.3			11.8		
Average	7.3			25.0			25.0			9.8			7.8			10.8		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Large Value</b>																					
BlackRock Equity Dividend Instl	27.5	<b>24</b>	0.98	-7.2	<b>29</b>	1.10	16.8	<b>41</b>	3.09	16.2	<b>29</b>	-1.13	-0.1	<b>11</b>	3.73	9.3	<b>77</b>	-4.11	24.7	<b>93</b>	-7.86
JPMorgan Equity Income R5	26.5	<b>33</b>	-0.02	-4.3	<b>10</b>	3.94	17.7	<b>30</b>	4.06	15.1	<b>40</b>	-2.28	-2.0	<b>28</b>	1.78	14.0	<b>10</b>	0.52	31.8	<b>49</b>	-0.68
AllianzGI NFJ Dividend Value R	24.4	<b>61</b>	-2.18	-10.3	<b>72</b>	-2.07	15.4	<b>59</b>	1.78	15.6	<b>35</b>	-1.76	-8.9	<b>95</b>	-5.06	9.3	<b>77</b>	-4.11	28.4	<b>81</b>	-4.16
American Century Equity Income R	23.6	<b>69</b>	-2.95	-4.9	<b>13</b>	3.39	12.8	<b>84</b>	-0.84	18.8	<b>14</b>	1.48	0.1	<b>10</b>	3.94	11.8	<b>37</b>	-1.64	19.1	<b>99</b>	-13.47
Columbia Large Cap Value R	29.5	<b>9</b>	2.99	-11.4	<b>82</b>	-3.14	16.4	<b>47</b>	2.73	14.4	<b>50</b>	-2.99	-2.5	<b>33</b>	1.31	11.2	<b>48</b>	-2.22	30.4	<b>66</b>	-2.14
Russell 1000 Value TR USD	26.5			-8.3			13.7			17.3			-3.8		13.5				32.5		
Average	25.0			-8.7			16.0			14.7			-3.6		10.9				31.7		

# JPMorgan Equity Income R5

OIERX

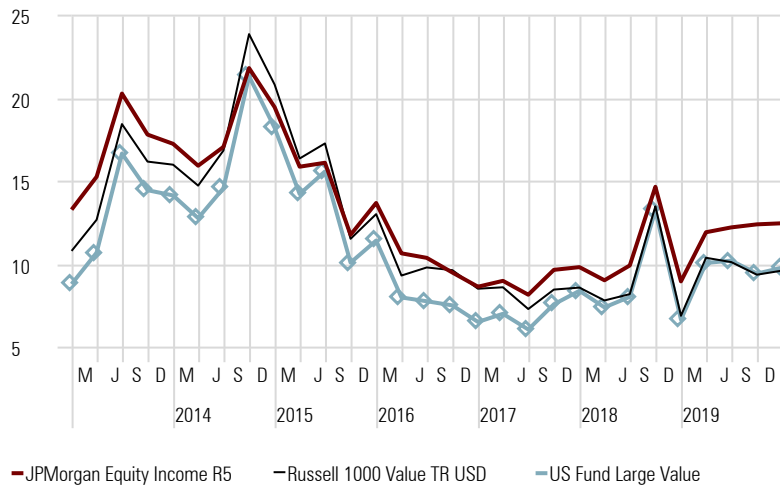
**Index:** Russell 1000 Value TR USD  
**Category:** US Fund Large Value  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 1000 Value TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
JPMorgan Equity Income R5	26.5	26.5	12.5	9.9	13.4	9.3
Russell 1000 Value TR USD	26.5	26.5	9.7	8.3	11.8	7.6
US Fund Large Value	25.0	25.0	9.9	7.8	10.5	6.8

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.59	0.99	
Gross Expense Ratio	0.60	1.25	
LT Earn Growth	8.2	8.1	9.1
Avg Mkt Cap (\$MMM)	88.0	107.3	47.9
P/E Ratio	18.2	16.4	16.3
P/B Ratio	2.5	2.2	2.0
P/S Ratio	2.4	1.6	1.4
P/CF Ratio	13.6	10.0	10.5
ROE %	21.9	18.8	20.5
ROA %	7.2	5.9	7.2
Dividend Yld	2.6	2.9	2.8

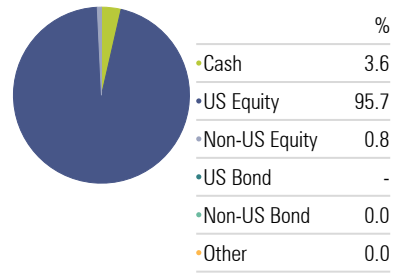
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 1000 Value TR USD

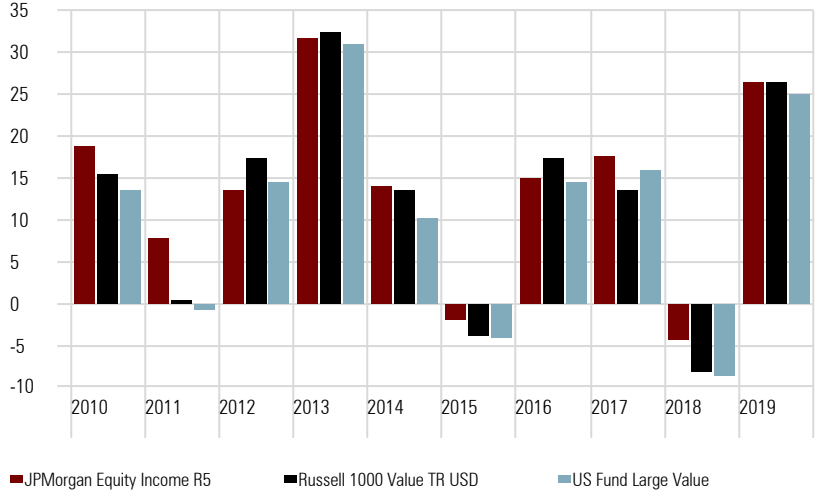
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
JPMorgan Equity Income R5	70.8	29.2	9.8	-8.4	12.9	-11.3	94.7	78.8
Russell 1000 Value TR USD	66.7	33.3	11.4	-9.6	13.1	-16.2	100.0	100.0
US Fund Large Value	69.2	30.8	11.2	-9.4	12.0	-16.2	95.2	100.4

## Asset Allocation

Portfolio Date: 1/31/2020

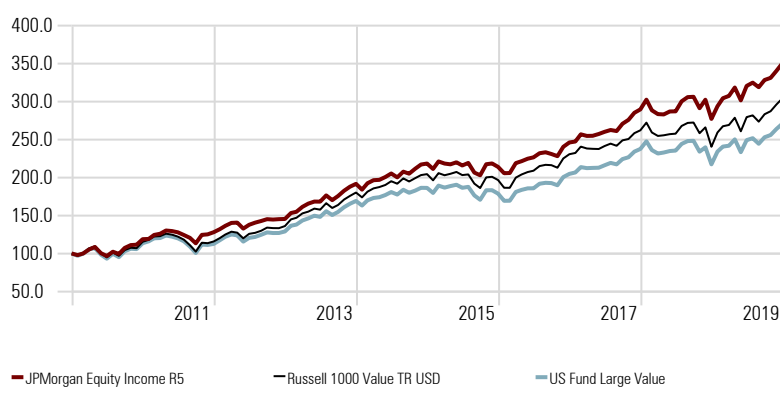


## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.0	-1.0	10.9	-1.0
Down Deviation	1.3	0.7	1.4	0.6
Beta	0.9	-0.1	0.9	-0.1
Alpha	3.3	3.1	2.2	2.6
Sharpe	1.0	0.3	0.8	0.2
Sortino	1.5	0.5	1.3	0.4
Info Ratio	1.3	1.1	0.7	1.2
Down Capture	82.0	-16.8	83.9	-15.9
Up Capture	102.4	2.3	97.7	0.0

## Top 10 Holdings

Company	Fund %
JPMorgan Prime Money Market IM	3.6
Bank of America Corp	3.1
Chevron Corp	2.7
CME Group Inc Class A	2.5
Bristol-Myers Squibb Company	2.3
Johnson & Johnson	2.2
PNC Financial Services Group Inc	2.2
BlackRock Inc	2.2
Microsoft Corp	2.0
ConocoPhillips	2.0

## Sector Allocation (%)

Sector	Inv	Avg
Energy	7	8
Materials	4	4
Industrials	11	10
Cons Discretionary	7	6
Consumer Staples	9	9
Healthcare	14	14
Financials	26	21
Info Technology	10	10
Telecom Services	4	8
Utilities	6	5
Real Estate %	3.6	3.3

# BlackRock Equity Dividend Instl

MADVX

Index: Russell 1000 Value TR USD

Category: US Fund Large Value

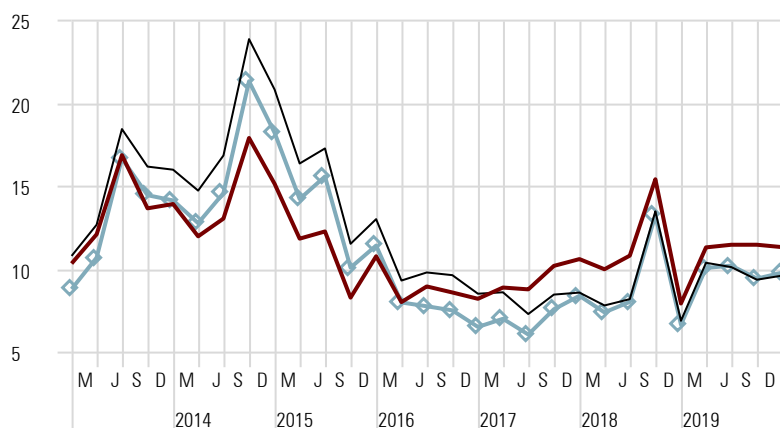
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 1000 Value TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
BlackRock Equity Dividend Instl	27.5	27.5	11.4	9.9	11.4	9.2
Russell 1000 Value TR USD	26.5	26.5	9.7	8.3	11.8	7.6
US Fund Large Value	25.0	25.0	9.9	7.8	10.5	6.8

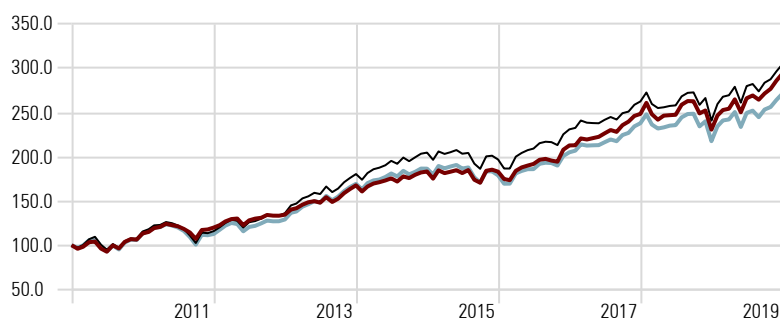
## Returns (Rolling 36 Months)



— BlackRock Equity Dividend Instl — Russell 1000 Value TR USD — US Fund Large Value

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



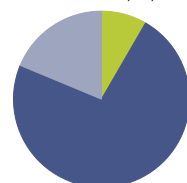
— BlackRock Equity Dividend Instl — Russell 1000 Value TR USD — US Fund Large Value

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.71	0.99	
Gross Expense Ratio	0.71	1.25	
LT Earn Growth	8.8	8.1	9.1
Avg Mkt Cap (\$MMM)	83.8	107.3	47.9
P/E Ratio	16.0	16.4	16.3
P/B Ratio	1.9	2.2	2.0
P/S Ratio	1.4	1.6	1.4
P/CF Ratio	9.6	10.0	10.5
ROE %	17.0	18.8	20.5
ROA %	4.7	5.9	7.2
Dividend Yld	2.9	2.9	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



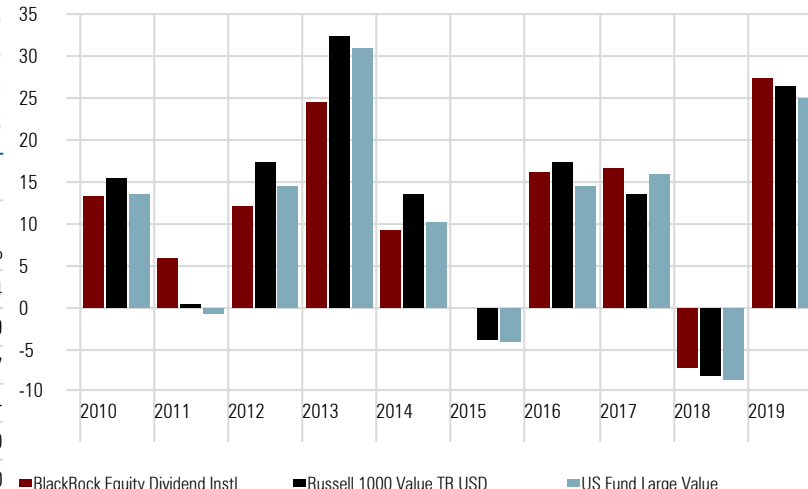
	%
• Cash	8.4
• US Equity	72.9
• Non-US Equity	18.7
• US Bond	-
• Non-US Bond	0.0
• Other	0.0

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 1000 Value TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
BlackRock Equity Dividend Instl	69.2	30.8	9.4	-8.6	12.0	-12.2	91.0	86.2
Russell 1000 Value TR USD	66.7	33.3	11.4	-9.6	13.1	-16.2	100.0	100.0
US Fund Large Value	69.2	30.8	11.2	-9.4	12.0	-16.2	95.2	100.4

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.3	-0.6	11.5	-0.4
Down Deviation	1.5	0.9	1.4	0.6
Beta	0.9	-0.1	0.9	0.0
Alpha	2.1	1.9	1.9	2.3
Sharpe	0.9	0.2	0.8	0.2
Sortino	1.3	0.3	1.2	0.3
Info Ratio	0.7	0.5	0.7	1.2
Down Capture	86.6	-12.2	89.7	-10.1
Up Capture	100.0	-0.1	101.2	3.5

## Top 10 Holdings

	Fund %	Inv	Avg
BlackRock Liquidity T-Fund Instl	8.2	9	8
JPMorgan Chase & Co	3.9	1	4
Verizon Communications Inc	3.9	9	10
Citigroup Inc	3.2	6	6
Wells Fargo & Co	3.1	8	9
Bank of America Corp	2.8	19	14
Medtronic PLC	2.5	28	21
Royal Philips NV	2.0	9	10
BP PLC	2.0	8	8
American International Group Inc	2.0	3	5

## Sector Allocation (%)

	Inv	Avg
Energy	9	8
Materials	1	4
Industrials	9	10
Cons Discretionary	6	6
Consumer Staples	8	9
Healthcare	19	14
Financials	28	21
Info Technology	9	10
Telecom Services	8	8
Utilities	3	5
Real Estate %	0.0	3.3

# Large Value Funds 2

As of 12/31/2019



# US Fund Large Value

## BlackRock Equity Dividend Instl

### Investment Strategy

The investment seeks long-term total return and current income. The fund seeks to achieve its objective by investing primarily in a diversified portfolio of equity securities. Under normal circumstances, it will invest at least 80% of its assets in equity securities and at least 80% of its assets in dividend paying securities. The fund may invest in securities of companies with any market capitalization, but will generally focus on large cap securities. It may also invest in convertible securities and non-convertible preferred stock. The fund may invest up to 25% of its total assets in securities of foreign issuers.

### Manager Biography

Tony DeSpirito since 8/4/2014

Franco Tapia since 8/31/2017

David Zhao since 8/31/2017

## JPMorgan Equity Income R5

### Investment Strategy

The investment seeks capital appreciation and current income. Under normal circumstances, at least 80% of the fund's assets will be invested in the equity securities of corporations that regularly pay dividends, including common stocks and debt securities and preferred stock convertible to common stock. "Assets" means net assets, plus the amount of borrowings for investment purposes. Although the fund invests primarily in securities of large cap companies, it may invest in equity investments of companies across all market capitalizations.

### Manager Biography

Clare Hart since 8/1/2004

Andrew Brandon since 11/1/2019

David Silberman since 11/1/2019

## Eaton Vance Large-Cap Value R

### Investment Strategy

The investment seeks total return. Under normal market conditions, the fund invests at least 80% of its net assets (plus any borrowings for investment purposes) in equity securities of large-cap companies (the "80% Policy"). The portfolio managers generally consider large-cap companies to be those companies having market capitalizations within the range of companies included in the Russell 1000® Value Index, although the portfolio will generally consist of stocks with a market capitalization equal to or greater than the median market capitalization of companies included in such index.

### Manager Biography

Edward J. Perkin since 6/30/2014

Aaron S. Dunn since 12/8/2017

## Lord Abbett Fundamental Equity R3

### Investment Strategy

The investment seeks long-term growth of capital and income without excessive fluctuations in market value. The fund invests principally in equity securities of U.S. and multinational companies across all market capitalization ranges that the fund believes are undervalued. Under normal conditions, it will invest at least 80% of its net assets, plus the amount of any borrowings for investment purposes, in equity securities. The fund normally will invest at least 50% of its net assets in equity securities of large, established companies having a market capitalization within the range of companies included in the Russell 1000® Index.

### Manager Biography

Eli Rabinowich since 9/5/2018

Jeff D. Diamond since 9/5/2018

## MFS Value R2

### Investment Strategy

The investment seeks capital appreciation. The fund normally invests the fund's assets primarily in equity securities. Equity securities include common stocks and other securities that represent an ownership interest (or right to acquire an ownership interest) in a company or other issuer. MFS focuses on investing the fund's assets in the stocks of companies the advisor believes are undervalued compared to their perceived worth (value companies).

### Manager Biography

Steven R. Gorham since 1/21/2002

Nevin P. Chitkara since 5/31/2006

Katherine Cannan since 12/31/2019

## BlackRock Equity Dividend Instl - C

Inception Date	11/29/1988
Fund Size (\$mm)	20,033
Annual Report Net Expense Ratio	0.69
Prospectus Net Expense Ratio	0.71
Prospectus Gross Expense Ratio	0.71
Ticker	MADVX
Manager Tenure (Longest)	5.42
Manager Tenure (Average)	3.42
Morningstar Inst Cat	Large Deep Value

### Other Notes:

None

## JPMorgan Equity Income R5 - Ope

Inception Date	2/28/2011
Fund Size (\$mm)	32,322
Annual Report Net Expense Ratio	0.58
Prospectus Net Expense Ratio	0.59
Prospectus Gross Expense Ratio	0.60
Ticker	OIERX
Manager Tenure (Longest)	15.42
Manager Tenure (Average)	5.25
Morningstar Inst Cat	Large Core Value

### Other Notes:

None

## Eaton Vance Large-Cap Value R - O

Inception Date	2/18/2004
Fund Size (\$mm)	1,734
Annual Report Net Expense Ratio	1.31
Prospectus Net Expense Ratio	1.31
Prospectus Gross Expense Ratio	1.31
Ticker	ERSTX
Manager Tenure (Longest)	5.58
Manager Tenure (Average)	3.83
Morningstar Inst Cat	Giant Value

### Other Notes:

None

## Lord Abbett Fundamental Equity R3

Inception Date	9/28/2007
Fund Size (\$mm)	2,506
Annual Report Net Expense Ratio	1.24
Prospectus Net Expense Ratio	1.21
Prospectus Gross Expense Ratio	1.21
Ticker	LAVRX
Manager Tenure (Longest)	1.33
Manager Tenure (Average)	1.33
Morningstar Inst Cat	Large Core Value

### Other Notes:

None

## MFS Value R2 - Operations

Inception Date	10/31/2003
Fund Size (\$mm)	52,481
Annual Report Net Expense Ratio	1.07
Prospectus Net Expense Ratio	1.07
Prospectus Gross Expense Ratio	1.07
Ticker	MVRRX
Manager Tenure (Longest)	18.00
Manager Tenure (Average)	10.58
Morningstar Inst Cat	Giant Value

### Other Notes:

None



# Portfolio Analysis

## BlackRock Equity Dividend Instl

## JPMorgan Equity Income R5

## Eaton Vance Large-Cap Value R

## Lord Abbett Fundamental Equity R3

## MFS Value R2

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	58	30	5	Market Cap Giant %	49
Mid	4	2	0	Market Cap Large %	45
Small	0	0	0	Market Cap Mid %	6
				Market Cap Small %	0
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	43	45	4	Market Cap Giant %	45
Mid	1	7	0	Market Cap Large %	47
Small	0	0	0	Market Cap Mid %	8
				Market Cap Small %	0
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	43	37	2	Market Cap Giant %	36
Mid	4	13	1	Market Cap Large %	44
Small	0	0	0	Market Cap Mid %	20
				Market Cap Small %	0
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	41	29	5	Market Cap Giant %	48
Mid	13	11	0	Market Cap Large %	27
Small	0	0	0	Market Cap Mid %	24
				Market Cap Small %	0
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	44	38	14	Market Cap Giant %	50
Mid	1	2	0	Market Cap Large %	46
Small	0	0	0	Market Cap Mid %	3
				Market Cap Small %	0
				Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell 1000 Value TR USD

	Inv Bmk1
Average Market Cap (bil)	88.7 62.4
Forward P/E	13.8 15.5
P/E Ratio (TTM)	17.1 18.2
LT Earn Growth	8.7 7.7
P/B Ratio (TTM)	2.0 2.1
Dividend Yield	2.8 2.5
ROE %	16.7 13.6
ROA %	4.7 4.8
Debt to Capital %	45 42

### Valuation Data

Display Benchmark 1: Russell 1000 Value TR USD

	Inv Bmk1
Average Market Cap (bil)	86.3 62.4
Forward P/E	17.6 15.5
P/E Ratio (TTM)	18.7 18.2
LT Earn Growth	7.8 7.7
P/B Ratio (TTM)	2.5 2.1
Dividend Yield	2.6 2.5
ROE %	21.9 13.6
ROA %	7.1 4.8
Debt to Capital %	43 42

### Valuation Data

Display Benchmark 1: Russell 1000 Value TR USD

	Inv Bmk1
Average Market Cap (bil)	64.1 62.4
Forward P/E	16.6 15.5
P/E Ratio (TTM)	18.6 18.2
LT Earn Growth	8.1 7.7
P/B Ratio (TTM)	2.4 2.1
Dividend Yield	2.5 2.5
ROE %	18.0 13.6
ROA %	5.5 4.8
Debt to Capital %	42 42

### Valuation Data

Display Benchmark 1: Russell 1000 Value TR USD

	Inv Bmk1
Average Market Cap (bil)	69.6 62.4
Forward P/E	15.5 15.5
P/E Ratio (TTM)	17.8 18.2
LT Earn Growth	8.1 7.7
P/B Ratio (TTM)	2.1 2.1
Dividend Yield	2.4 2.5
ROE %	18.8 13.6
ROA %	5.9 4.8
Debt to Capital %	42 42

### Valuation Data

Display Benchmark 1: Russell 1000 Value TR USD

	Inv Bmk1
Average Market Cap (bil)	88.5 62.4
Forward P/E	16.9 15.5
P/E Ratio (TTM)	19.6 18.2
LT Earn Growth	8.0 7.7
P/B Ratio (TTM)	2.6 2.1
Dividend Yield	2.3 2.5
ROE %	20.7 13.6
ROA %	6.4 4.8
Debt to Capital %	44 42

### Portfolio Data

	Inv Bmk1
Turnover Ratio	43
# of Stock Holdings	81 764
% in Top 10	28.2 21.8
Cash %	7.9 0.0
Developed %	91.6 99.8
US Equity %	73.2 98.3
Non-US Equity %	19 2
Emerging Mkt %	0.5 0.2

### Portfolio Data

	Inv Bmk1
Turnover Ratio	23
# of Stock Holdings	89 764
% in Top 10	22.9 21.8
Cash %	2.8 0.0
Developed %	97.2 99.8
US Equity %	96.5 98.3
Non-US Equity %	1 2
Emerging Mkt %	0.0 0.2

### Portfolio Data

	Inv Bmk1
Turnover Ratio	48
# of Stock Holdings	67 764
% in Top 10	29.2 21.8
Cash %	0.1 0.0
Developed %	99.4 99.8
US Equity %	96.7 98.3
Non-US Equity %	3 2
Emerging Mkt %	0.5 0.2

### Portfolio Data

	Inv Bmk1
Turnover Ratio	88
# of Stock Holdings	76 764
% in Top 10	23.8 21.8
Cash %	0.0 0.0
Developed %	99.1 99.8
US Equity %	92.4 98.3
Non-US Equity %	7 2
Emerging Mkt %	0.0 0.2

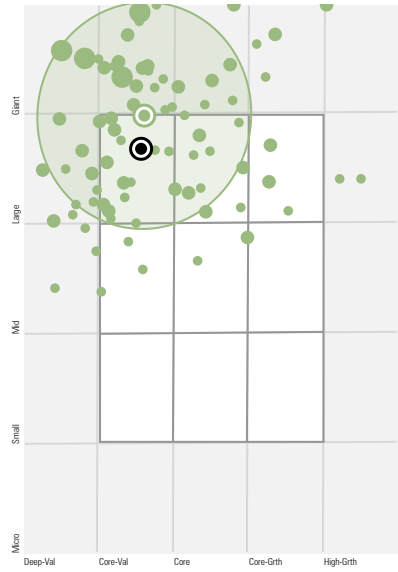
### Portfolio Data

	Inv Bmk1
Turnover Ratio	11
# of Stock Holdings	83 764
% in Top 10	28.1 21.8
Cash %	1.3 0.0
Developed %	98.3 99.8
US Equity %	90.4 98.3
Non-US Equity %	8 2
Emerging Mkt %	0.4 0.2

# Holdings-Based Style Analysis

**BlackRock Equity Dividend Instl**

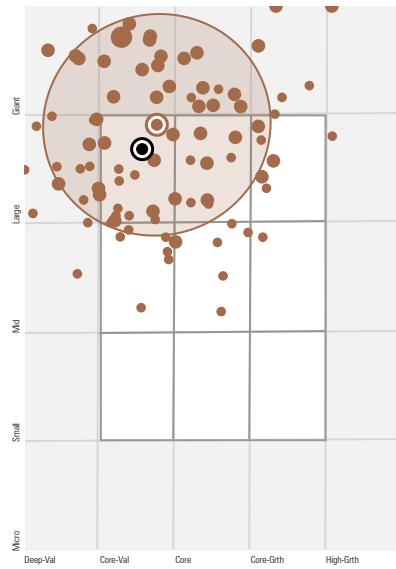
**Holdings-Based Style Map**



● BlackRock Equity Dividend Instl 12/31/2019 ● Russell 1000 Value TR USD 12/31/2019

**JPMorgan Equity Income R5**

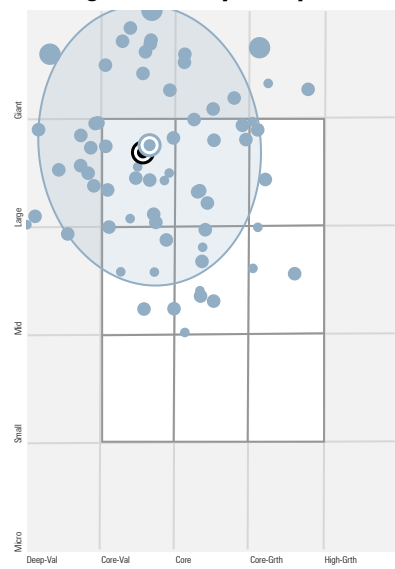
**Holdings-Based Style Map**



● JPMorgan Equity Income R5 11/30/2019 ● Russell 1000 Value TR USD 11/30/2019

**Eaton Vance Large-Cap Value R**

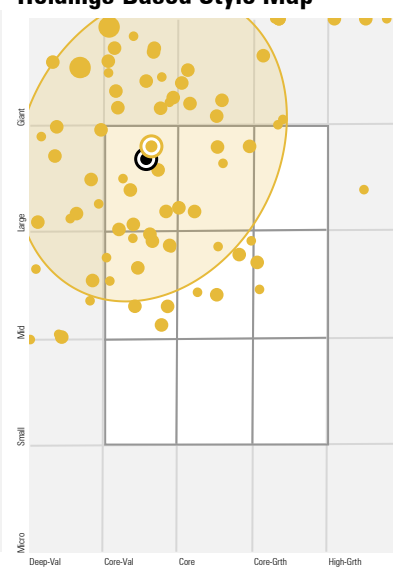
**Holdings-Based Style Map**



● Eaton Vance Large-Cap Value R 11/30/2019 ● Russell 1000 Value TR USD 11/30/2019

**Lord Abbett Fundamental Equity R3**

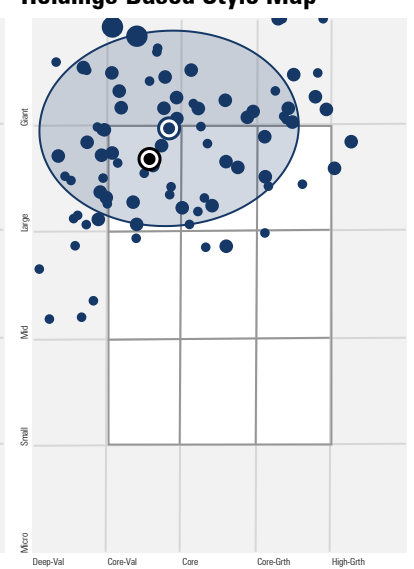
**Holdings-Based Style Map**



● Lord Abbett Fundamental Equity R3 11/30/2019 ● Russell 1000 Value TR USD 11/30/2019

**MFS Value R2**

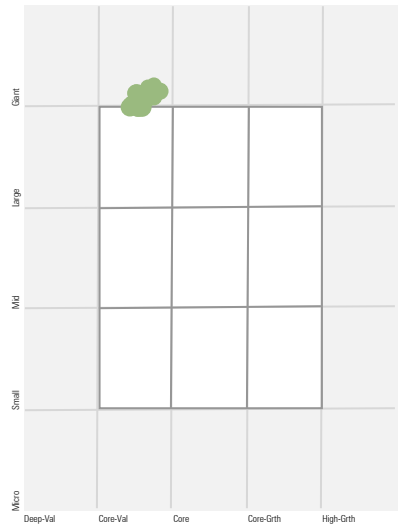
**Holdings-Based Style Map**



● MFS Value R2 11/30/2019 ● Russell 1000 Value TR USD 11/30/2019

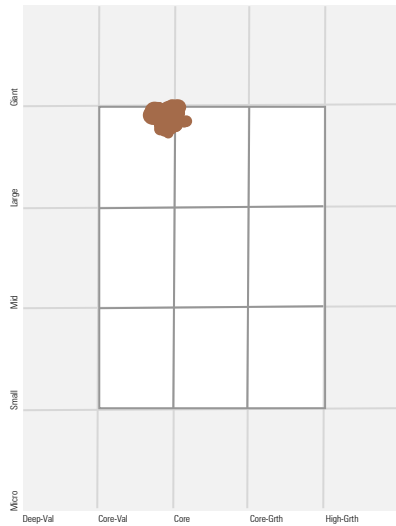
**Holdings-Based Style Trail**

Time Period: 1/31/2015 to 12/31/2019



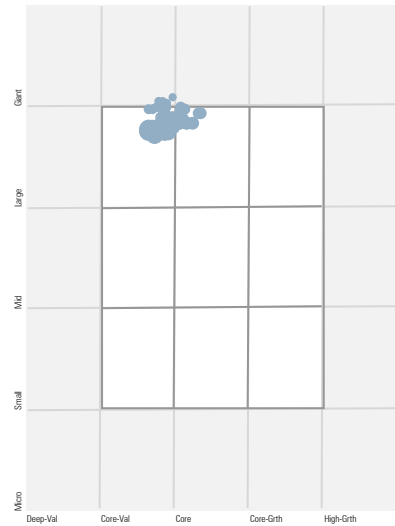
**Holdings-Based Style Trail**

Time Period: 1/31/2015 to 11/30/2019



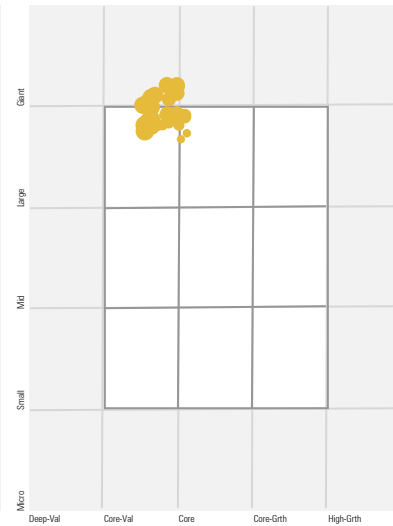
**Holdings-Based Style Trail**

Time Period: 1/31/2015 to 11/30/2019



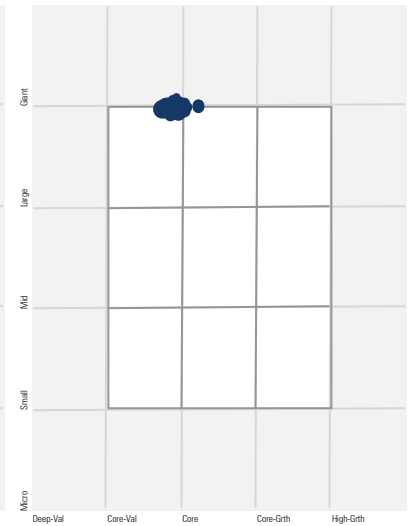
**Holdings-Based Style Trail**

Time Period: 3/31/2015 to 11/30/2019



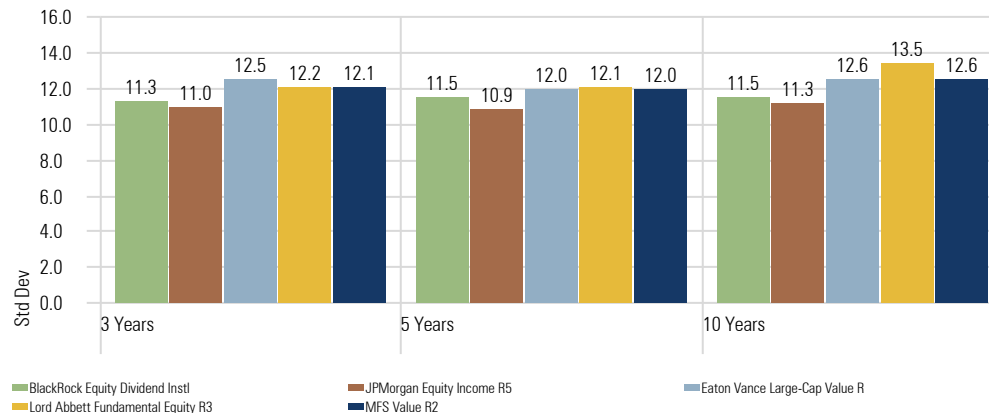
**Holdings-Based Style Trail**

Time Period: 1/31/2015 to 11/30/2019

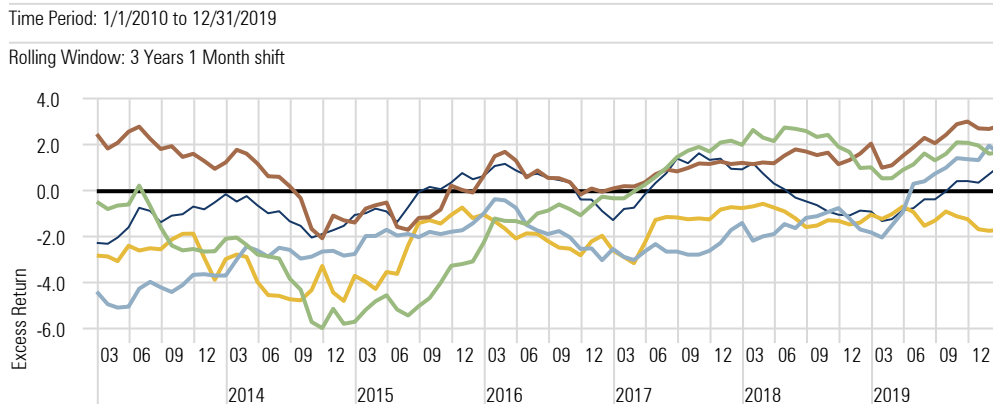


# Risk/Return Performance Analysis

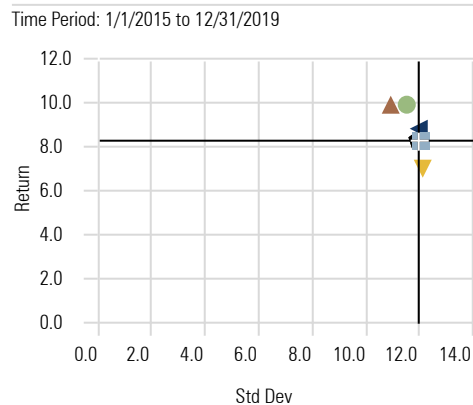
## Standard Deviation



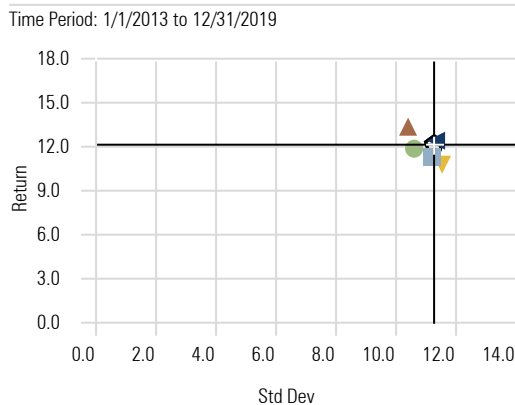
## 3 Year Relative Rolling Returns



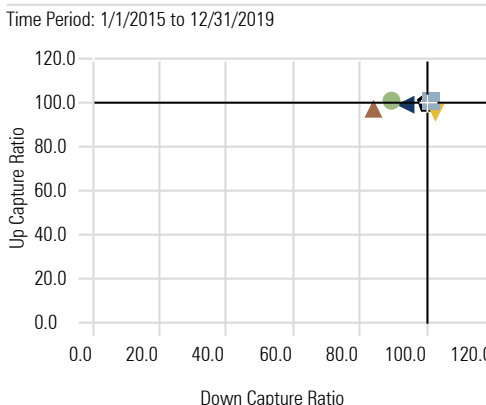
## 5 Year Risk-Reward



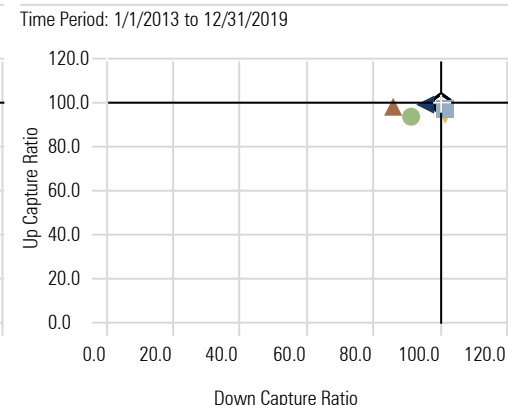
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



- BlackRock Equity Dividend Instl
- Lord Abbett Fundamental Equity R3

- JPMorgan Equity Income R5
- MFS Value R2

- Eaton Vance Large-Cap Value R
- Russell 1000 Value TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

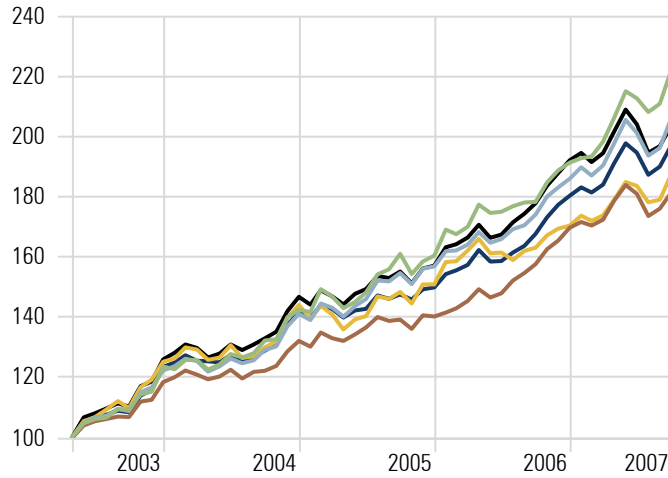
Time Period: Since Common Inception (2/1/1996) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
BlackRock Equity Dividend Instl	9.7	12.5	1.8	0.81	90	13.5	-19.2	0.59	4.9
JPMorgan Equity Income R5	8.8	12.6	0.8	0.84	94	16.8	-18.0	0.52	3.8
Eaton Vance Large-Cap Value R	8.8	14.0	0.4	0.92	93	17.9	-21.4	0.47	3.8
Lord Abbett Fundamental Equity R3	8.9	13.9	0.6	0.90	91	18.4	-19.6	0.48	4.4
MFS Value R2	9.9	13.4	1.6	0.88	94	16.4	-19.3	0.57	3.7
Russell 1000 Value TR USD	8.9	14.7	0.0	1.00	100	18.2	-22.2	0.45	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

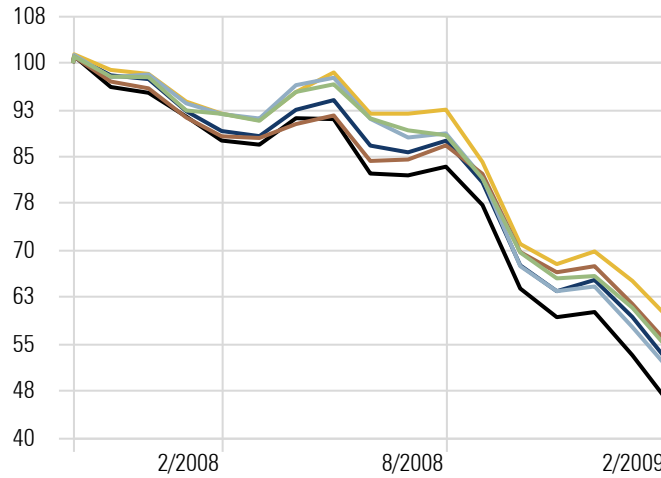
Time Period: 4/30/2003 to 9/30/2007



BlackRock Equity Dividend Instl	222	JPMorgan Equity Income R5	181	Eaton Vance Large-Cap Value R	206
Lord Abbett Fundamental Equity R3	187	MFS Value R2	197	Russell 1000 Value TR USD	204

## Credit Crunch - Financial Crisis

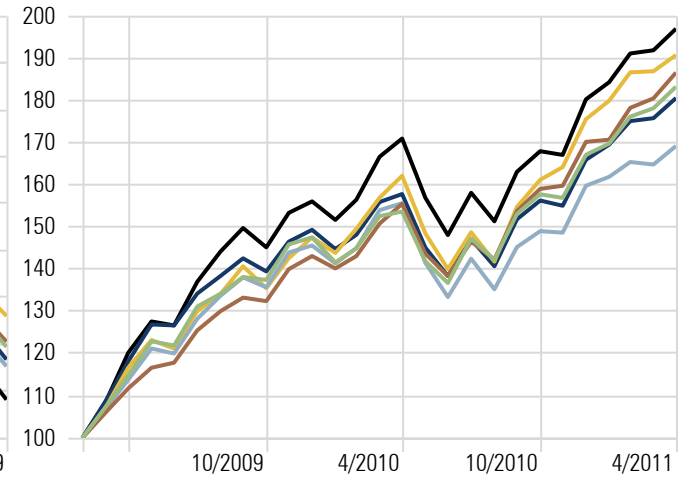
Time Period: 10/31/2007 to 2/28/2009



BlackRock Equity Dividend Instl	55	JPMorgan Equity Income R5	55	Eaton Vance Large-Cap Value R	51
Lord Abbett Fundamental Equity R3	60	MFS Value R2	53	Russell 1000 Value TR USD	46

## Financial Crisis Recovery - QE1&2

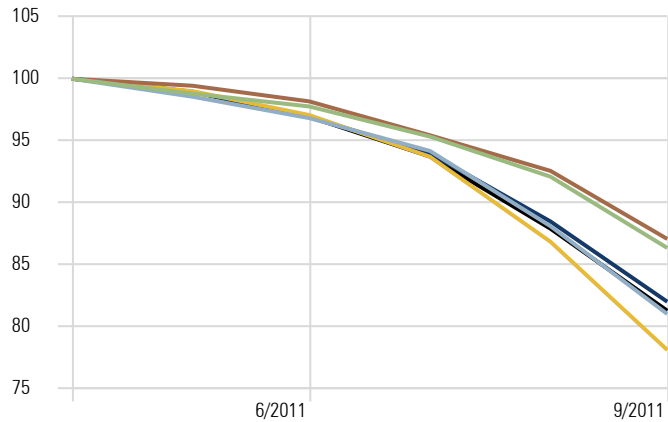
Time Period: 3/1/2009 to 4/30/2011



BlackRock Equity Dividend Instl	183.3	JPMorgan Equity Income R5	186.6	Eaton Vance Large-Cap Value R	169.2
Lord Abbett Fundamental Equity R3	190.8	MFS Value R2	180.6	Russell 1000 Value TR USD	197.1

## Double Dip

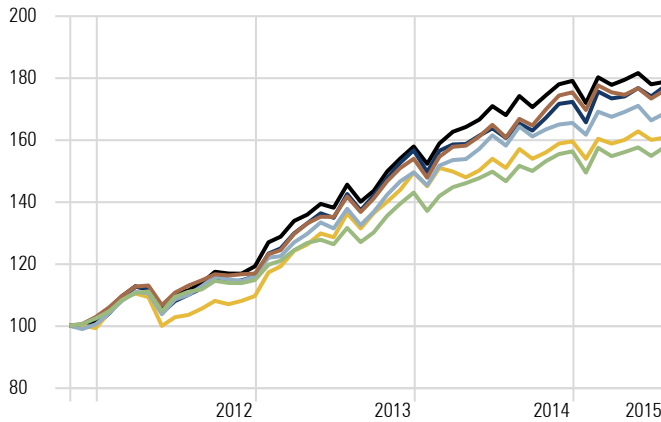
Time Period: 5/1/2011 to 9/30/2011



BlackRock Equity Dividend Instl	86.3	JPMorgan Equity Income R5	87.0	Eaton Vance Large-Cap Value R	80.9
Lord Abbett Fundamental Equity R3	78.0	MFS Value R2	81.9	Russell 1000 Value TR USD	81.2

## US Recovery Continues - Global Markets Lag

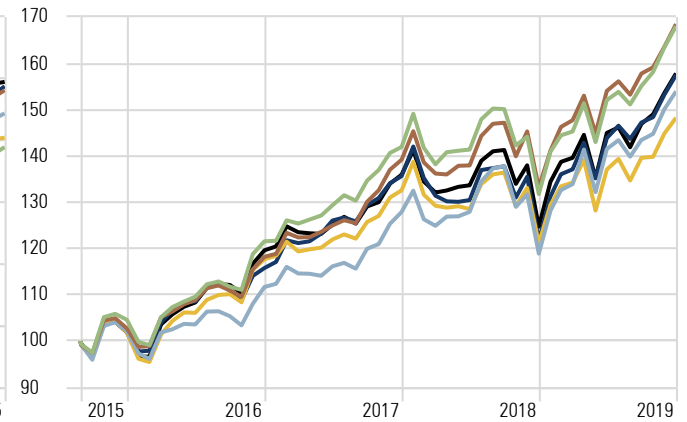
Time Period: 11/1/2011 to 7/31/2015



BlackRock Equity Dividend Instl	157.9	JPMorgan Equity Income R5	176.3	Eaton Vance Large-Cap Value R	168.8
Lord Abbett Fundamental Equity R3	160.9	MFS Value R2	177.5	Russell 1000 Value TR USD	179.0

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



BlackRock Equity Dividend Instl	168.0	JPMorgan Equity Income R5	168.5	Eaton Vance Large-Cap Value R	153.9
Lord Abbett Fundamental Equity R3	148.2	MFS Value R2	157.5	Russell 1000 Value TR USD	157.8

- BlackRock Equity Dividend Instl
- Lord Abbett Fundamental Equity R3

- JPMorgan Equity Income R5
- ◀ MFS Value R2

- Eaton Vance Large-Cap Value R
- ◻ Russell 1000 Value TR USD

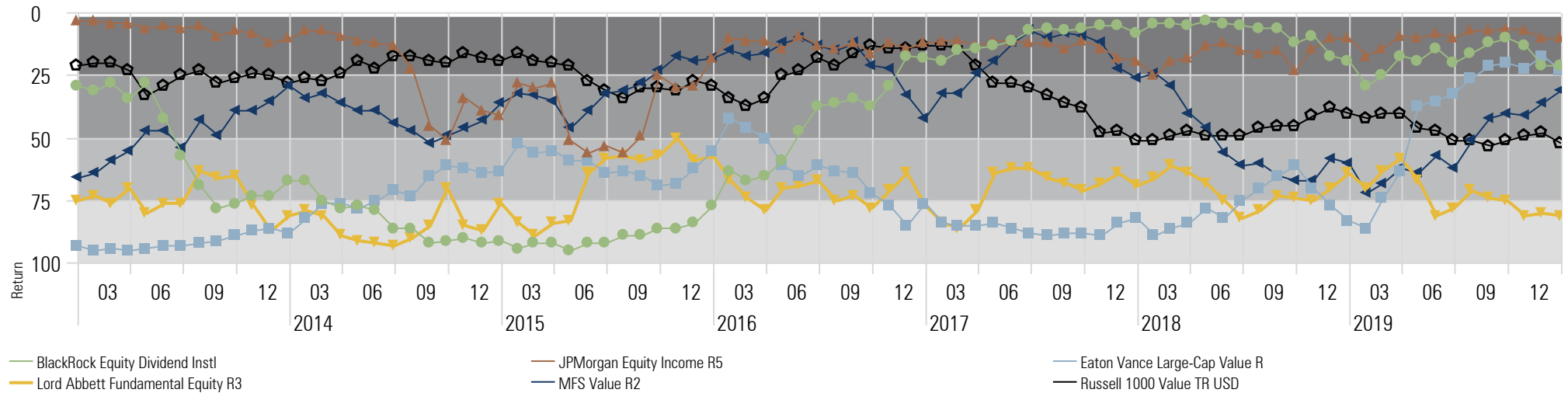
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

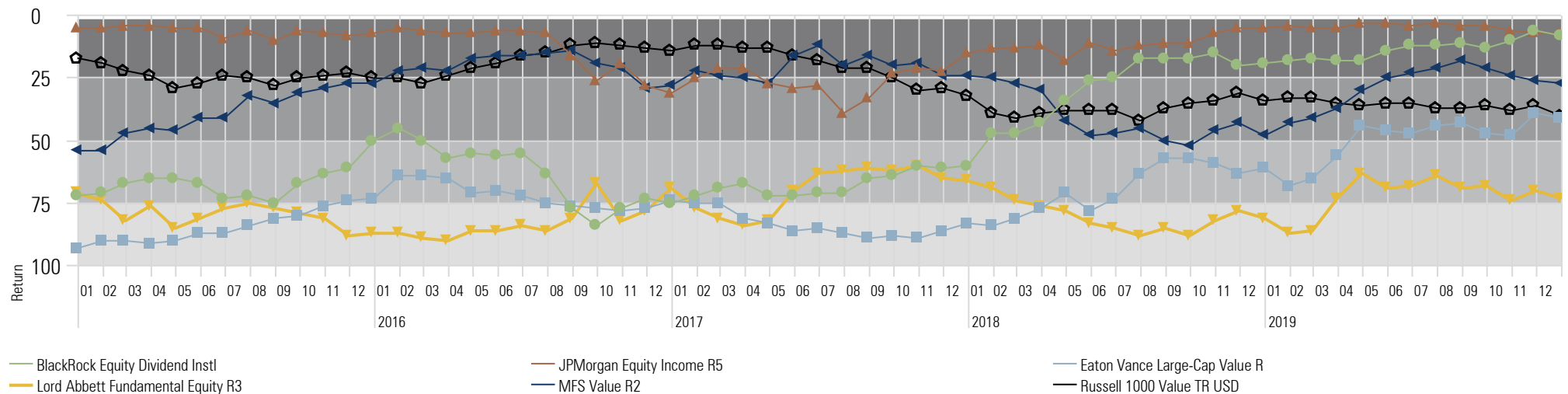


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Large Value</b>																		
BlackRock Equity Dividend Instl	8.3	<b>27</b>	0.92	27.5	<b>24</b>	0.98	27.5	<b>24</b>	0.98	11.4	<b>21</b>	1.71	9.9	<b>8</b>	1.63	11.4	<b>31</b>	-0.40
JPMorgan Equity Income R5	6.8	<b>60</b>	-0.65	26.5	<b>33</b>	-0.02	26.5	<b>33</b>	-0.02	12.5	<b>10</b>	2.85	9.9	<b>7</b>	1.65	13.4	<b>2</b>	1.60
Eaton Vance Large-Cap Value R	7.3	<b>47</b>	-0.10	29.5	<b>9</b>	2.94	29.5	<b>9</b>	2.94	11.3	<b>23</b>	1.60	8.2	<b>41</b>	-0.05	9.9	<b>81</b>	-1.93
Lord Abbett Fundamental Equity R3	6.2	<b>74</b>	-1.20	22.4	<b>80</b>	-4.17	22.4	<b>80</b>	-4.17	8.0	<b>81</b>	-1.69	7.0	<b>73</b>	-1.24	10.0	<b>79</b>	-1.84
MFS Value R2	7.0	<b>56</b>	-0.45	29.4	<b>10</b>	2.87	29.4	<b>10</b>	2.87	10.8	<b>31</b>	1.11	8.9	<b>27</b>	0.57	11.3	<b>35</b>	-0.52
Russell 1000 Value TR USD	7.4			26.5			26.5			9.7			8.3			11.8		
Average	7.3			25.0			25.0			9.8			7.8			10.8		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Large Value</b>																					
BlackRock Equity Dividend Instl	27.5	<b>24</b>	0.98	-7.2	<b>29</b>	1.10	16.8	<b>41</b>	3.09	16.2	<b>29</b>	-1.13	-0.1	<b>11</b>	3.73	9.3	<b>77</b>	-4.11	24.7	<b>93</b>	-7.86
JPMorgan Equity Income R5	26.5	<b>33</b>	-0.02	-4.3	<b>10</b>	3.94	17.7	<b>30</b>	4.06	15.1	<b>40</b>	-2.28	-2.0	<b>28</b>	1.78	14.0	<b>10</b>	0.52	31.8	<b>49</b>	-0.68
Eaton Vance Large-Cap Value R	29.5	<b>9</b>	2.94	-7.0	<b>28</b>	1.23	14.5	<b>69</b>	0.83	9.3	<b>94</b>	-8.08	-1.3	<b>21</b>	2.50	10.7	<b>57</b>	-2.75	29.0	<b>77</b>	-3.51
Lord Abbett Fundamental Equity R3	22.4	<b>80</b>	-4.17	-8.6	<b>47</b>	-0.36	12.6	<b>85</b>	-1.03	15.5	<b>35</b>	-1.82	-3.4	<b>48</b>	0.42	6.7	<b>94</b>	-6.71	36.5	<b>13</b>	3.97
MFS Value R2	29.4	<b>10</b>	2.87	-10.3	<b>72</b>	-2.03	17.2	<b>36</b>	3.49	13.6	<b>62</b>	-3.78	-1.0	<b>18</b>	2.80	10.0	<b>68</b>	-3.44	35.1	<b>21</b>	2.62
Russell 1000 Value TR USD	26.5			-8.3			13.7			17.3			-3.8		13.5				32.5		
Average	25.0			-8.7			16.0			14.7			-3.6		10.9				31.7		

# JPMorgan Equity Income R5

OIERX

Index: Russell 1000 Value TR USD

Category: US Fund Large Value

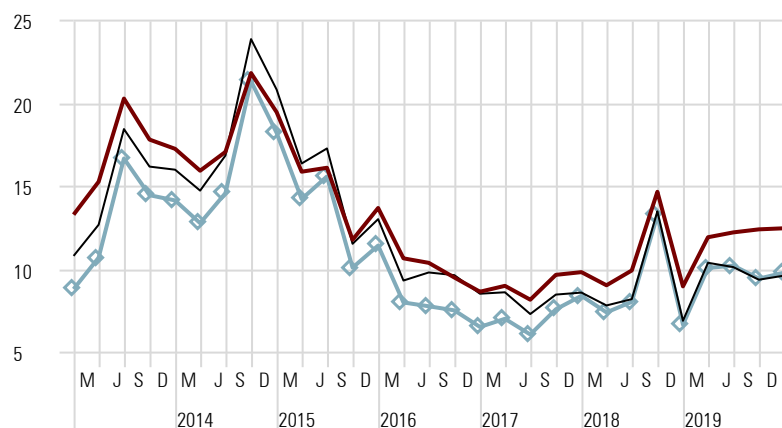
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 1000 Value TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
JPMorgan Equity Income R5	26.5	26.5	12.5	9.9	13.4	9.3
Russell 1000 Value TR USD	26.5	26.5	9.7	8.3	11.8	7.6
US Fund Large Value	25.0	25.0	9.9	7.8	10.5	6.8

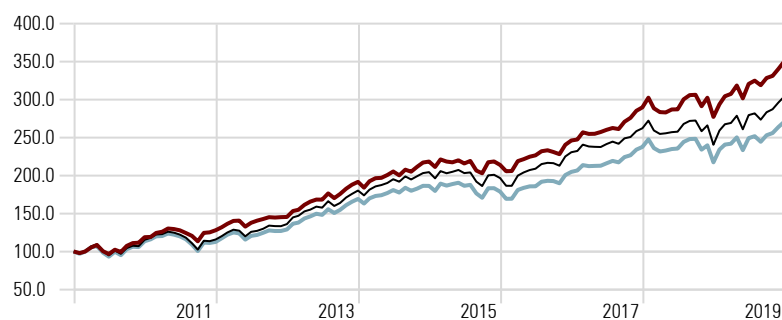
## Returns (Rolling 36 Months)



— JPMorgan Equity Income R5 — Russell 1000 Value TR USD — US Fund Large Value

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



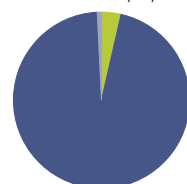
— JPMorgan Equity Income R5 — Russell 1000 Value TR USD — US Fund Large Value

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.59	0.99	
Gross Expense Ratio	0.60	1.25	
LT Earn Growth	8.2	8.1	9.1
Avg Mkt Cap (\$MMM)	88.0	107.3	47.9
P/E Ratio	18.2	16.4	16.3
P/B Ratio	2.5	2.2	2.0
P/S Ratio	2.4	1.6	1.4
P/CF Ratio	13.6	10.0	10.5
ROE %	21.9	18.8	20.5
ROA %	7.2	5.9	7.2
Dividend Yld	2.6	2.9	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



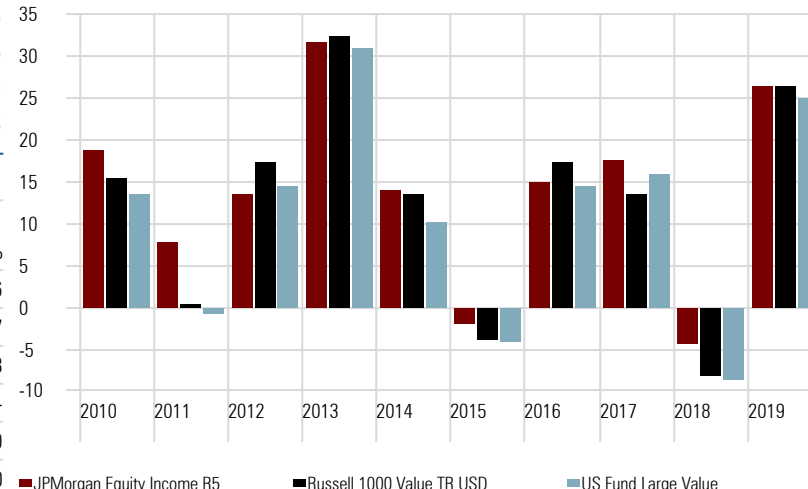
	%
Cash	3.6
US Equity	95.7
Non-US Equity	0.8
US Bond	-
Non-US Bond	0.0
Other	0.0

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 1000 Value TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
JPMorgan Equity Income R5	70.8	29.2	9.8	-8.4	12.9	-11.3	94.7	78.8
Russell 1000 Value TR USD	66.7	33.3	11.4	-9.6	13.1	-16.2	100.0	100.0
US Fund Large Value	69.2	30.8	11.2	-9.4	12.0	-16.2	95.2	100.4

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.0	-1.0	10.9	-1.0
Down Deviation	1.3	0.7	1.4	0.6
Beta	0.9	-0.1	0.9	-0.1
Alpha	3.3	3.1	2.2	2.6
Sharpe	1.0	0.3	0.8	0.2
Sortino	1.5	0.5	1.3	0.4
Info Ratio	1.3	1.1	0.7	1.2
Down Capture	82.0	-16.8	83.9	-15.9
Up Capture	102.4	2.3	97.7	0.0

## Top 10 Holdings

	Fund %	Sector Allocation (%)		
		Inv	Avg	
JPMorgan Prime Money Market IM	3.6	Energy	7	8
Bank of America Corp	3.1	Materials	4	4
Chevron Corp	2.7	Industrials	11	10
CME Group Inc Class A	2.5	Cons Discretionary	7	6
Bristol-Myers Squibb Company	2.3	Consumer Staples	9	9
Johnson & Johnson	2.2	Healthcare	14	14
PNC Financial Services Group Inc	2.2	Financials	26	21
BlackRock Inc	2.2	Info Technology	10	10
Microsoft Corp	2.0	Telecom Services	4	8
ConocoPhillips	2.0	Utilities	6	5
		Real Estate %	3.6	3.3

# BlackRock Equity Dividend Instl

MADVX

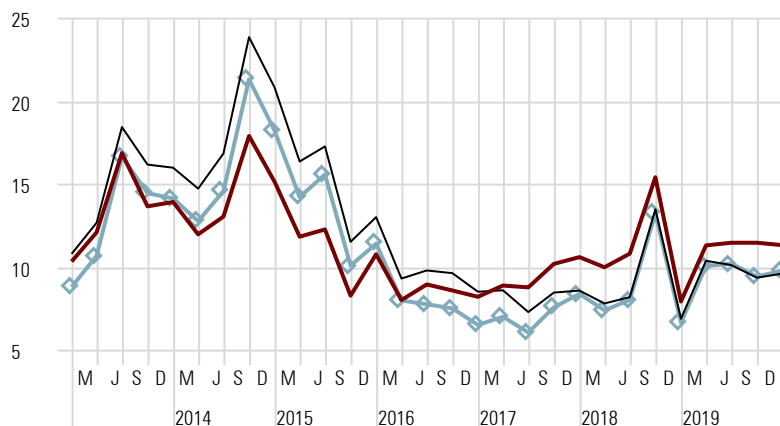
**Index:** Russell 1000 Value TR USD  
**Category:** US Fund Large Value  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 1000 Value TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
BlackRock Equity Dividend Instl	27.5	27.5	11.4	9.9	11.4	9.2
Russell 1000 Value TR USD	26.5	26.5	9.7	8.3	11.8	7.6
US Fund Large Value	25.0	25.0	9.9	7.8	10.5	6.8

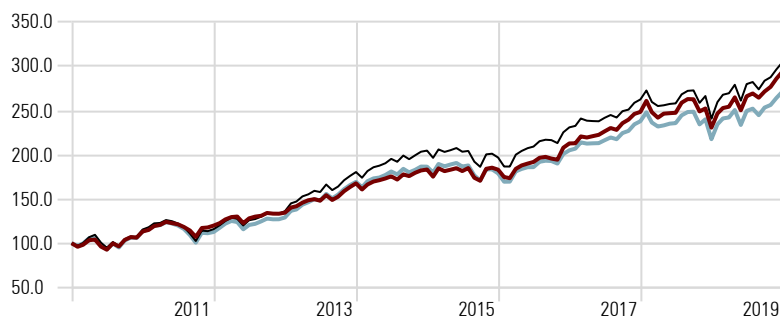
## Returns (Rolling 36 Months)



— BlackRock Equity Dividend Instl — Russell 1000 Value TR USD — US Fund Large Value

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



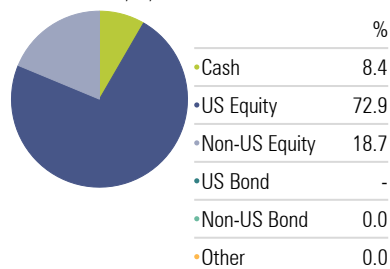
— BlackRock Equity Dividend Instl — Russell 1000 Value TR USD — US Fund Large Value

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.71	0.99	
Gross Expense Ratio	0.71	1.25	
LT Earn Growth	8.8	8.1	9.1
Avg Mkt Cap (\$MMM)	83.8	107.3	47.9
P/E Ratio	16.0	16.4	16.3
P/B Ratio	1.9	2.2	2.0
P/S Ratio	1.4	1.6	1.4
P/CF Ratio	9.6	10.0	10.5
ROE %	17.0	18.8	20.5
ROA %	4.7	5.9	7.2
Dividend Yld	2.9	2.9	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

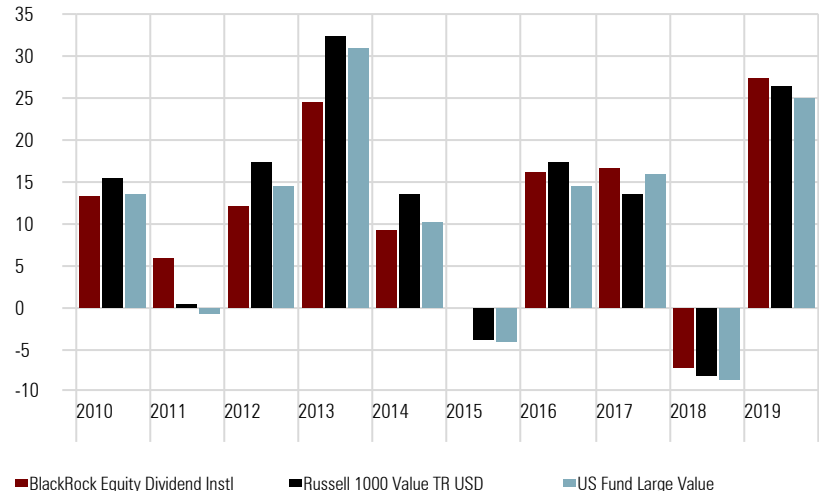


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 1000 Value TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
BlackRock Equity Dividend Instl	69.2	30.8	9.4	-8.6	12.0	-12.2	91.0	86.2
Russell 1000 Value TR USD	66.7	33.3	11.4	-9.6	13.1	-16.2	100.0	100.0
US Fund Large Value	69.2	30.8	11.2	-9.4	12.0	-16.2	95.2	100.4

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.3	-0.6	11.5	-0.4
Down Deviation	1.5	0.9	1.4	0.6
Beta	0.9	-0.1	0.9	0.0
Alpha	2.1	1.9	1.9	2.3
Sharpe	0.9	0.2	0.8	0.2
Sortino	1.3	0.3	1.2	0.3
Info Ratio	0.7	0.5	0.7	1.2
Down Capture	86.6	-12.2	89.7	-10.1
Up Capture	100.0	-0.1	101.2	3.5

## Top 10 Holdings

	Fund %	Inv	Avg
BlackRock Liquidity T-Fund Instl	8.2	9	8
JPMorgan Chase & Co	3.9	1	4
Verizon Communications Inc	3.9	9	10
Citigroup Inc	3.2	6	6
Wells Fargo & Co	3.1	8	9
Bank of America Corp	2.8	19	14
Medtronic PLC	2.5	28	21
Royal Philips NV	2.0	9	10
BP PLC	2.0	8	8
American International Group Inc	2.0	3	5

## Sector Allocation (%)

	Inv	Avg
Energy	9	8
Materials	1	4
Industrials	9	10
Cons Discretionary	6	6
Consumer Staples	8	9
Healthcare	19	14
Financials	28	21
Info Technology	9	10
Telecom Services	8	8
Utilities	3	5
Real Estate %	0.0	3.3



# Large Value Funds 3

As of 12/31/2019



# US Fund Large Value

## BlackRock Equity Dividend Instl

### Investment Strategy

The investment seeks long-term total return and current income. The fund seeks to achieve its objective by investing primarily in a diversified portfolio of equity securities. Under normal circumstances, it will invest at least 80% of its assets in equity securities and at least 80% of its assets in dividend paying securities. The fund may invest in securities of companies with any market capitalization, but will generally focus on large cap securities. It may also invest in convertible securities and non-convertible preferred stock. The fund may invest up to 25% of its total assets in securities of foreign issuers.

### Manager Biography

Tony DeSpirito since 8/4/2014

Franco Tapia since 8/31/2017

David Zhao since 8/31/2017

## JPMorgan Equity Income R5

### Investment Strategy

The investment seeks capital appreciation and current income. Under normal circumstances, at least 80% of the fund's assets will be invested in the equity securities of corporations that regularly pay dividends, including common stocks and debt securities and preferred stock convertible to common stock. "Assets" means net assets, plus the amount of borrowings for investment purposes. Although the fund invests primarily in securities of large cap companies, it may invest in equity investments of companies across all market capitalizations.

### Manager Biography

Clare Hart since 8/1/2004

Andrew Brandon since 11/1/2019

David Silberman since 11/1/2019

## Pioneer Equity Income R

### Investment Strategy

The investment seeks current income and long-term growth of capital from a portfolio consisting primarily of income producing equity securities of U.S. corporations. Normally, the fund invests at least 80% of its total assets in income producing equity securities of U.S. issuers. The income producing equity securities in which the fund may invest include common stocks, preferred stocks, funds that invest primarily in equity securities and equity interests in real estate investment trusts (REITs).

### Manager Biography

John A. Carey since 7/25/1990

Walter Hunnewell since 12/31/2001

Sammi Truong since 3/1/2018

### BlackRock Equity Dividend Instl - Operations

Inception Date	11/29/1988
Fund Size (\$mm)	20,033
Annual Report Net Expense Ratio	0.69
Prospectus Net Expense Ratio	0.71
Prospectus Gross Expense Ratio	0.71
Ticker	MADVX
Manager Tenure (Longest)	5.42
Manager Tenure (Average)	3.42
Morningstar Inst Cat	Large Deep Value

### Other Notes:

None

### JPMorgan Equity Income R5 - Operations

Inception Date	2/28/2011
Fund Size (\$mm)	32,322
Annual Report Net Expense Ratio	0.58
Prospectus Net Expense Ratio	0.59
Prospectus Gross Expense Ratio	0.60
Ticker	OIERX
Manager Tenure (Longest)	15.42
Manager Tenure (Average)	5.25
Morningstar Inst Cat	Large Core Value

### Other Notes:

None

### Pioneer Equity Income R - Operations

Inception Date	4/1/2003
Fund Size (\$mm)	2,666
Annual Report Net Expense Ratio	1.39
Prospectus Net Expense Ratio	1.44
Prospectus Gross Expense Ratio	1.44
Ticker	PQIRX
Manager Tenure (Longest)	29.50
Manager Tenure (Average)	16.47
Morningstar Inst Cat	Large Core Value

### Other Notes:

None

# Portfolio Analysis

## BlackRock Equity Dividend Instl

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	58	30	5	Market Cap Giant %	49
				Market Cap Large %	45
				Market Cap Mid %	6
Mid	4	2	0	Market Cap Small %	0
Small	0	0	0	Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell 1000 Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	88.7	62.4
Forward P/E	13.8	15.5
P/E Ratio (TTM)	17.1	18.2
LT Earn Growth	8.7	7.7
P/B Ratio (TTM)	2.0	2.1
Dividend Yield	2.8	2.5
ROE %	16.7	13.6
ROA %	4.7	4.8
Debt to Capital %	45	42

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	43	
# of Stock Holdings	81	764
% in Top 10	28.2	21.8
Cash %	7.9	0.0
Developed %	91.6	99.8
US Equity %	73.2	98.3
Non-US Equity %	19	2
Emerging Mkt %	0.5	0.2

Source: Morningstar Direct

## JPMorgan Equity Income R5

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	43	45	4	Market Cap Giant %	45
				Market Cap Large %	47
				Market Cap Mid %	8
Mid	1	7	0	Market Cap Small %	0
Small	0	0	0	Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell 1000 Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	86.3	62.4
Forward P/E	17.6	15.5
P/E Ratio (TTM)	18.7	18.2
LT Earn Growth	7.8	7.7
P/B Ratio (TTM)	2.5	2.1
Dividend Yield	2.6	2.5
ROE %	21.9	13.6
ROA %	7.1	4.8
Debt to Capital %	43	42

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	23	
# of Stock Holdings	89	764
% in Top 10	22.9	21.8
Cash %	2.8	0.0
Developed %	97.2	99.8
US Equity %	96.5	98.3
Non-US Equity %	1	2
Emerging Mkt %	0.0	0.2

## Pioneer Equity Income R

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	31	27	6	Market Cap Giant %	25
				Market Cap Large %	39
				Market Cap Mid %	28
Mid	18	9	2	Market Cap Small %	8
Small	2	3	2	Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell 1000 Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	31.6	62.4
Forward P/E	16.2	15.5
P/E Ratio (TTM)	17.9	18.2
LT Earn Growth	6.9	7.7
P/B Ratio (TTM)	2.5	2.1
Dividend Yield	2.7	2.5
ROE %	21.9	13.6
ROA %	7.1	4.8
Debt to Capital %	43	42

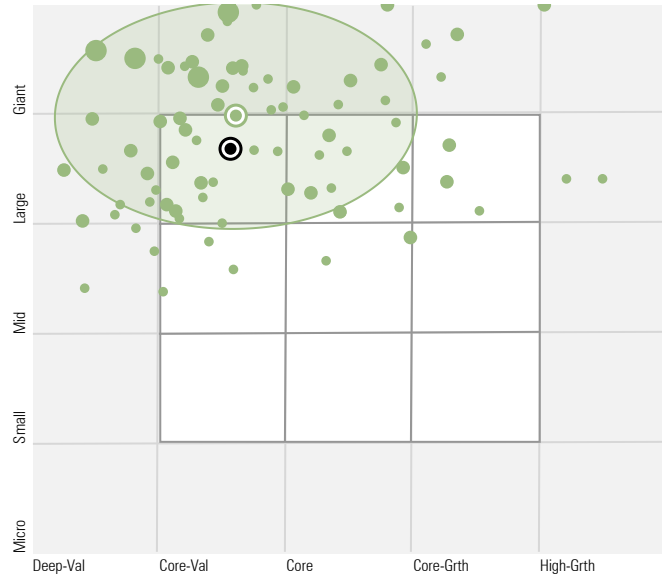
### Portfolio Data

	Inv	Bmk1
Turnover Ratio	23	
# of Stock Holdings	107	764
% in Top 10	18.5	21.8
Cash %	0.3	0.0
Developed %	99.7	99.8
US Equity %	90.2	98.3
Non-US Equity %	10	2
Emerging Mkt %	0.0	0.2

# Holdings-Based Style Analysis

BlackRock Equity Dividend Instl

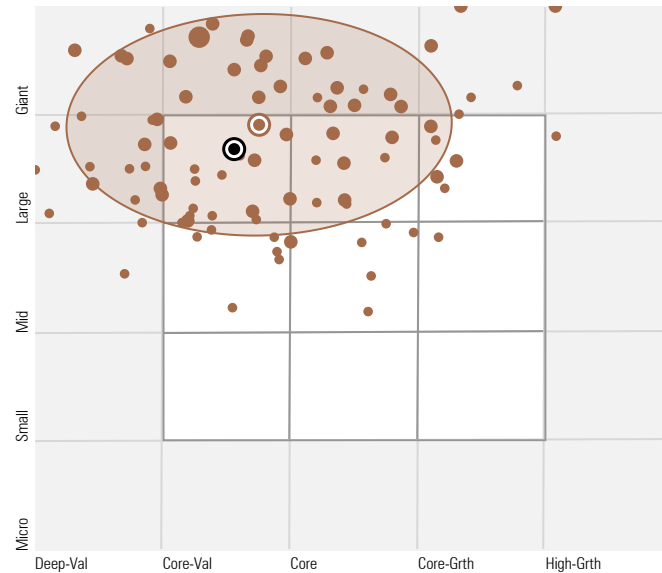
## Holdings-Based Style Map



● BlackRock Equity Dividend Instl 12/31/2019 ● Russell 1000 Value TR USD 12/31/2019

JPMorgan Equity Income R5

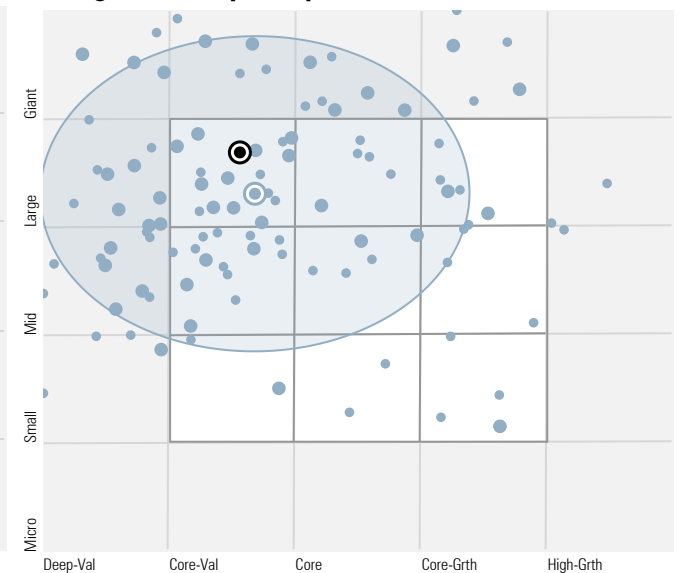
## Holdings-Based Style Map



● JPMorgan Equity Income R5 11/30/2019 ● Russell 1000 Value TR USD 12/31/2019

Pioneer Equity Income R

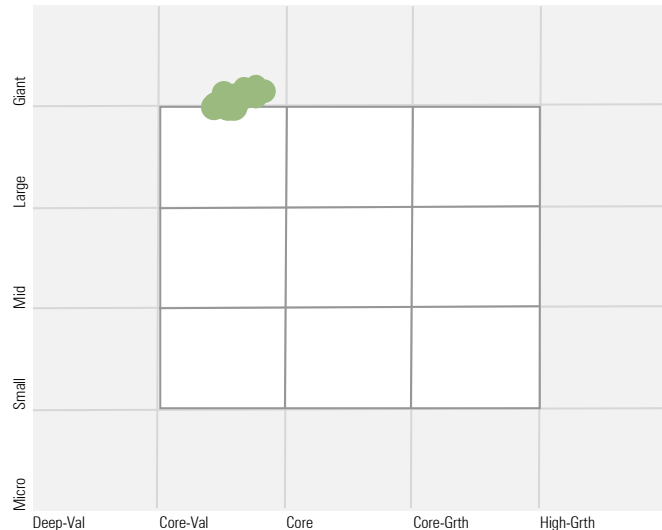
## Holdings-Based Style Map



● Pioneer Equity Income R 11/30/2019 ● Russell 1000 Value TR USD 12/31/2019

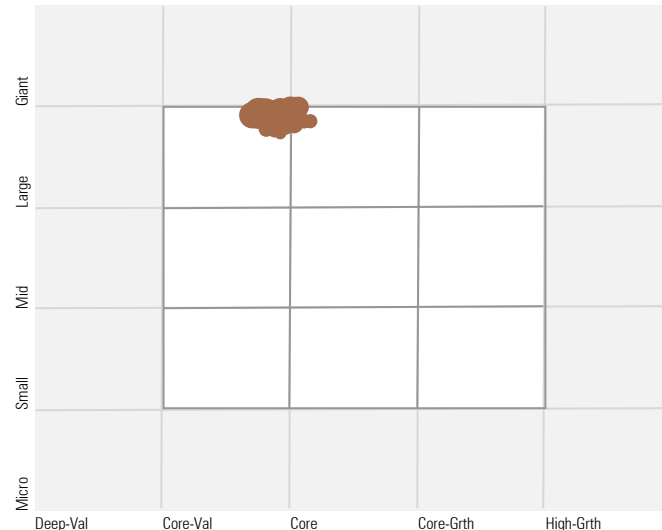
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



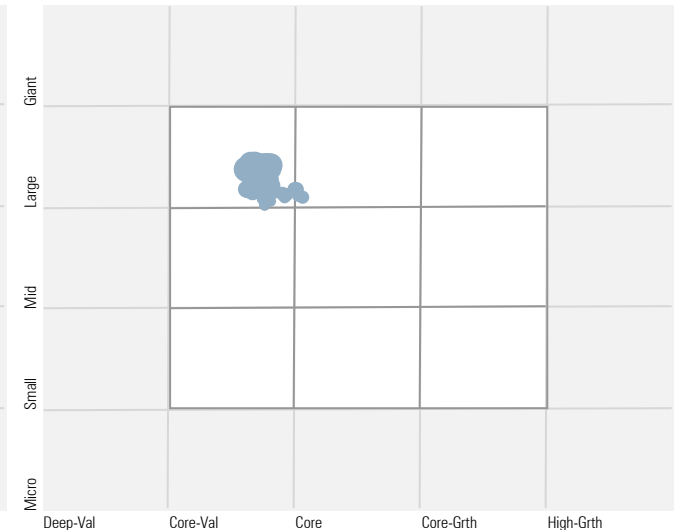
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



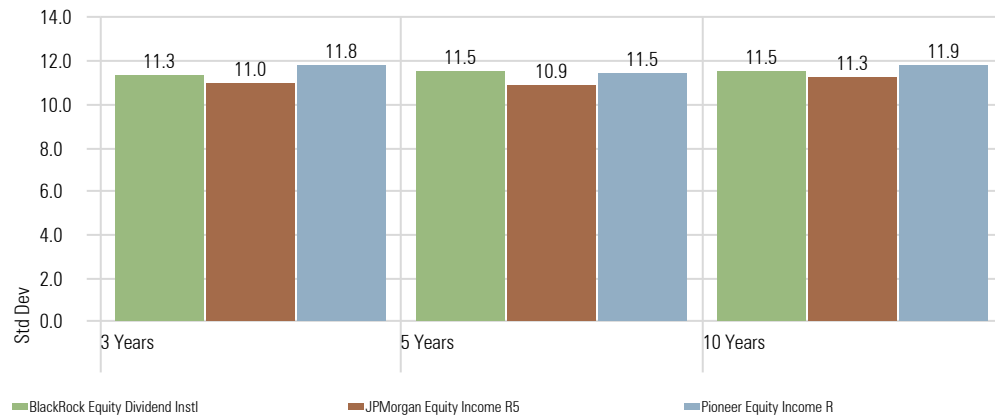
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019

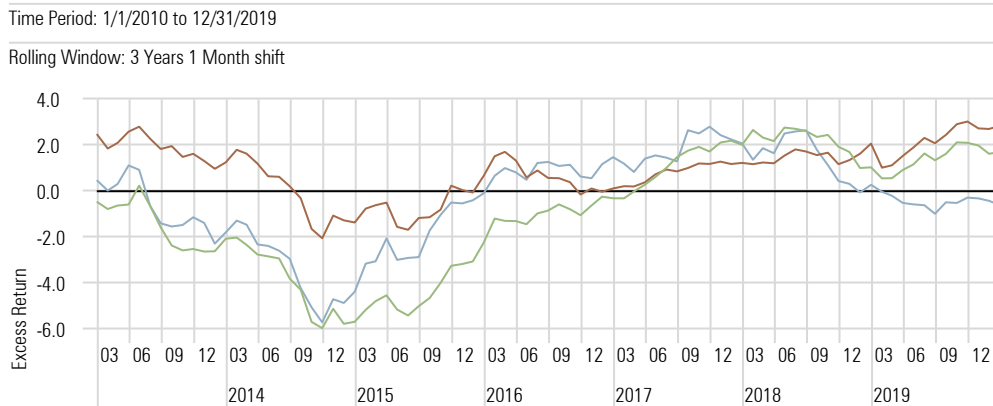


# Risk/Return Performance Analysis

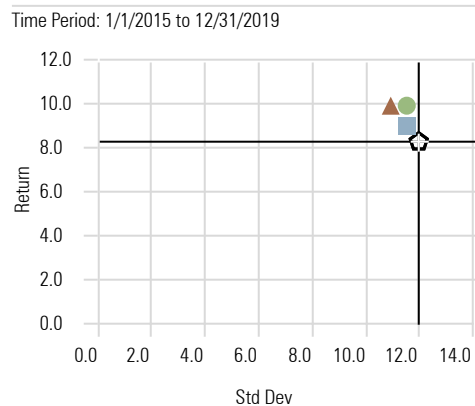
## Standard Deviation



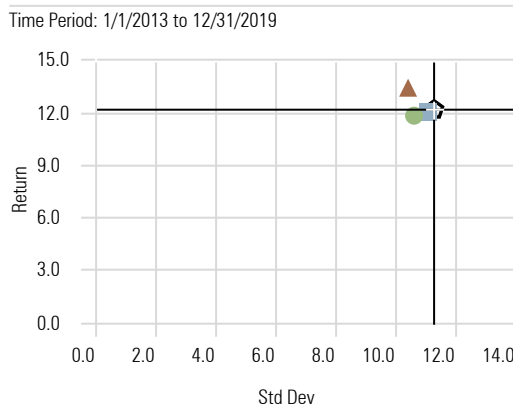
## 3 Year Relative Rolling Returns



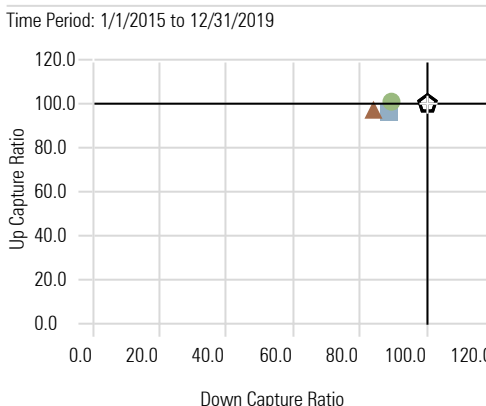
## 5 Year Risk-Reward



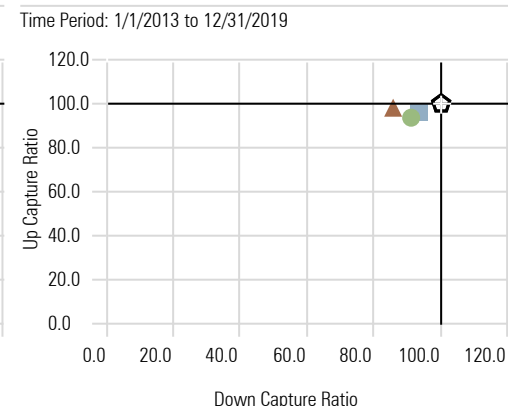
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● BlackRock Equity Dividend Instl

● JPMorgan Equity Income R5

● Pioneer Equity Income R

⬠ Russell 1000 Value TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

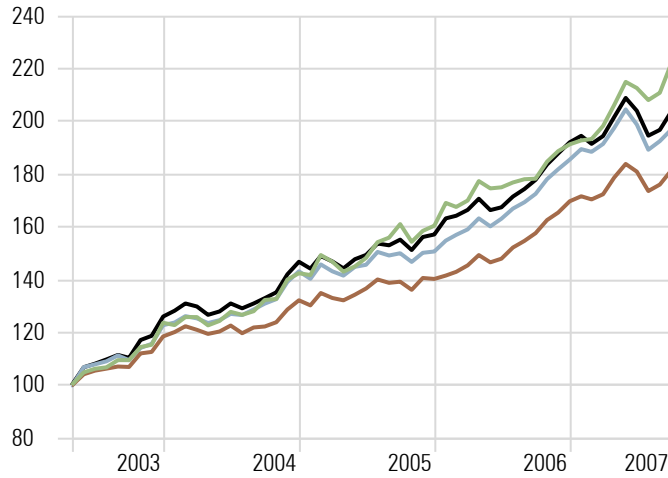
Time Period: Since Common Inception (8/1/1990) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
BlackRock Equity Dividend Instl	9.9	12.0	1.1	0.81	89	13.5	-19.2	0.60	4.8
JPMorgan Equity Income R5	9.6	12.0	0.7	0.83	93	16.8	-18.0	0.58	3.9
Pioneer Equity Income R	9.5	12.3	0.5	0.84	92	14.8	-21.2	0.55	4.0
Russell 1000 Value TR USD	10.1	14.0	0.0	1.00	100	18.2	-22.2	0.52	0.0

# Time Period Performance Analysis

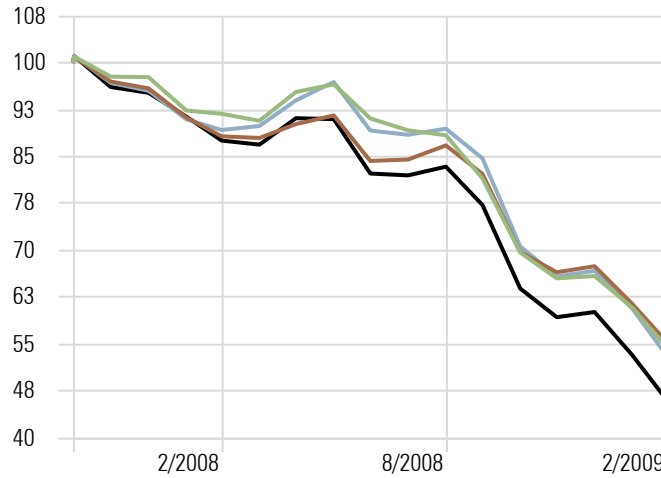
## Credit Buildup - Housing and Oil Boom

Time Period: 4/30/2003 to 9/30/2007



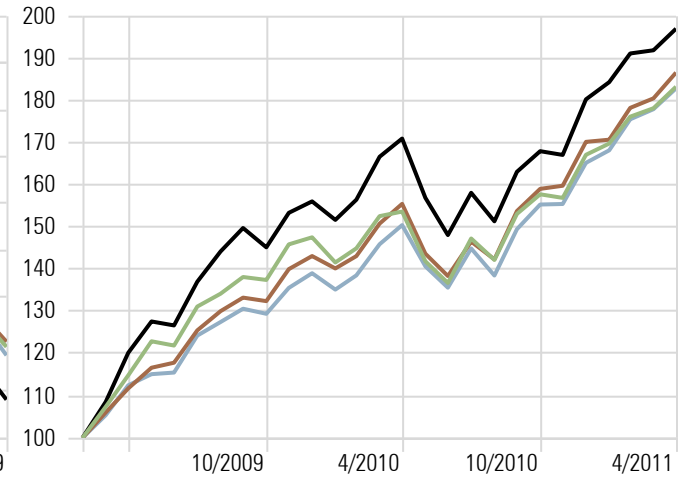
## Credit Crunch - Financial Crisis

Time Period: 10/31/2007 to 2/28/2009



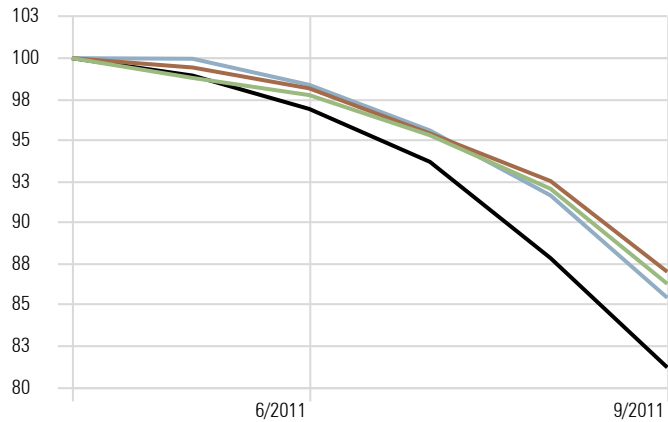
## Financial Crisis Recovery - QE1&2

Time Period: 3/1/2009 to 4/30/2011



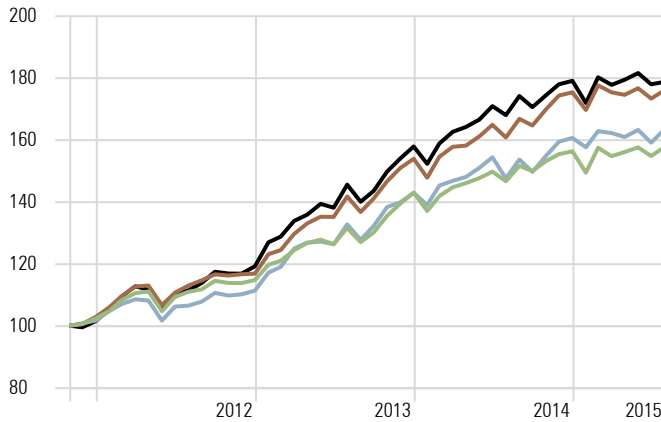
## Double Dip

Time Period: 5/1/2011 to 9/30/2011



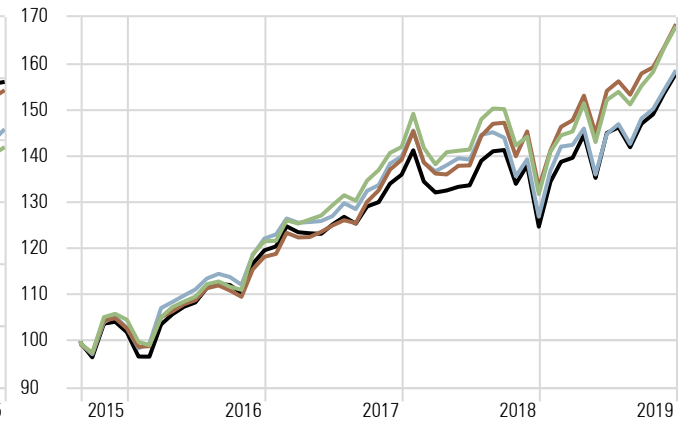
## US Recovery Continues - Global Markets Lag

Time Period: 11/1/2011 to 7/31/2015



## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



● BlackRock Equity Dividend Instl  
 ◻ Russell 1000 Value TR USD

● JPMorgan Equity Income R5

● Pioneer Equity Income R

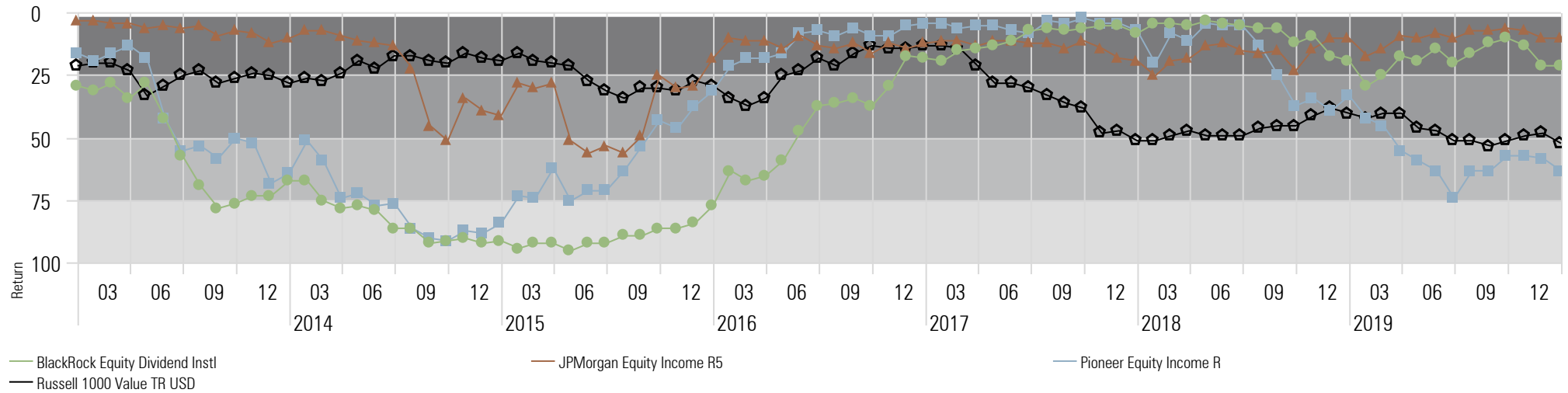
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

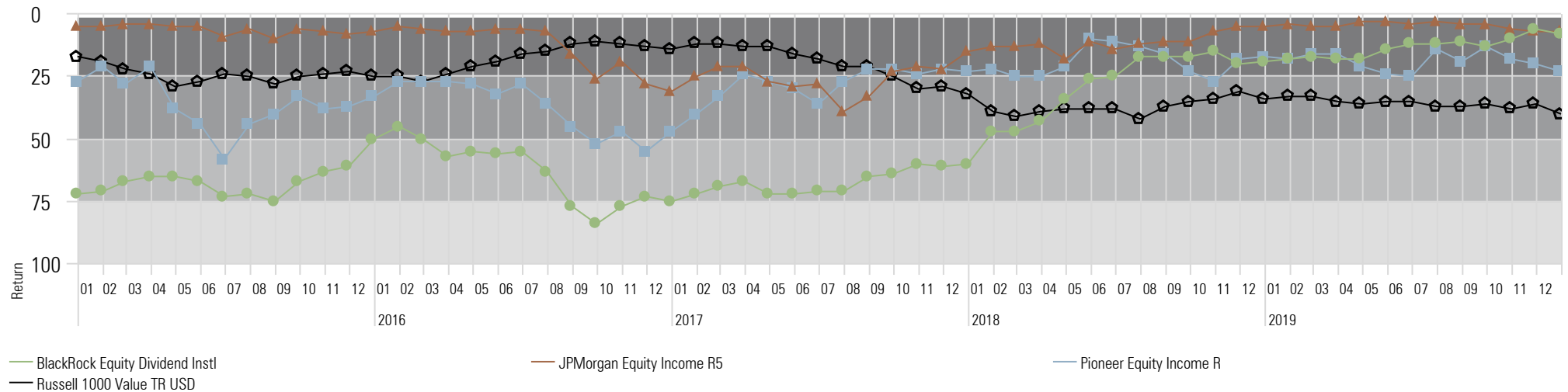


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years			
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	
<b>Large Value</b>																			
BlackRock Equity Dividend Instl	8.3	<b>27</b>	0.92	27.5	<b>24</b>	0.98	27.5	<b>24</b>	0.98	11.4	<b>21</b>	1.71	9.9	<b>8</b>	1.63	11.4	<b>31</b>	-0.40	
JPMorgan Equity Income R5	6.8	<b>60</b>	-0.65	26.5	<b>33</b>	-0.02	26.5	<b>33</b>	-0.02	12.5	<b>10</b>	2.85	9.9	<b>7</b>	1.65	13.4	<b>2</b>	1.60	
Pioneer Equity Income R	7.1	<b>53</b>	-0.34	24.9	<b>54</b>	-1.61	24.9	<b>54</b>	-1.61	9.1	<b>63</b>	-0.61	9.0	<b>23</b>	0.71	11.9	<b>19</b>	0.06	
Russell 1000 Value TR USD	7.4			26.5			26.5			9.7			8.3			11.8			
Average	7.3			25.0			25.0			9.8			7.8			10.8			

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Large Value</b>																					
BlackRock Equity Dividend Instl	27.5	<b>24</b>	0.98	-7.2	<b>29</b>	1.10	16.8	<b>41</b>	3.09	16.2	<b>29</b>	-1.13	-0.1	<b>11</b>	3.73	9.3	<b>77</b>	-4.11	24.7	<b>93</b>	-7.86
JPMorgan Equity Income R5	26.5	<b>33</b>	-0.02	-4.3	<b>10</b>	3.94	17.7	<b>30</b>	4.06	15.1	<b>40</b>	-2.28	-2.0	<b>28</b>	1.78	14.0	<b>10</b>	0.52	31.8	<b>49</b>	-0.68
Pioneer Equity Income R	24.9	<b>54</b>	-1.61	-9.3	<b>58</b>	-1.03	14.5	<b>69</b>	0.84	18.7	<b>15</b>	1.39	-0.1	<b>11</b>	3.71	12.4	<b>27</b>	-1.01	28.4	<b>80</b>	-4.09
Russell 1000 Value TR USD	26.5			-8.3			13.7			17.3			-3.8		13.5				32.5		
Average	25.0			-8.7			16.0			14.7			-3.6		10.9				31.7		



# JPMorgan Equity Income R5

OIERX

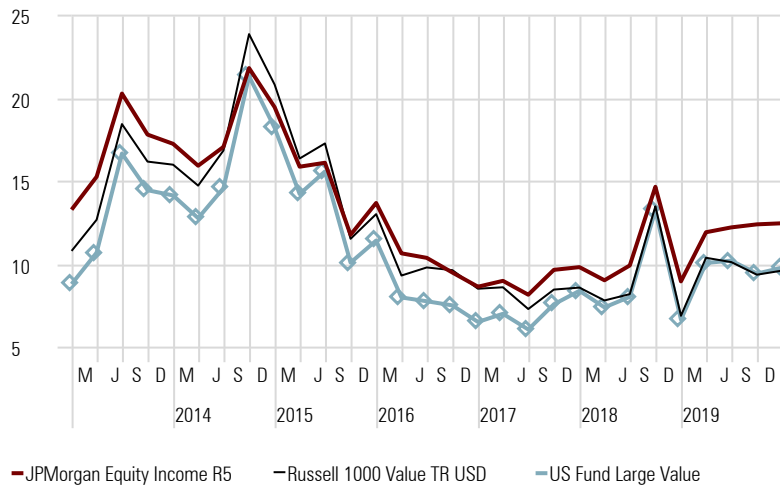
**Index:** Russell 1000 Value TR USD  
**Category:** US Fund Large Value  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 1000 Value TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
JPMorgan Equity Income R5	26.5	26.5	12.5	9.9	13.4	9.3
Russell 1000 Value TR USD	26.5	26.5	9.7	8.3	11.8	7.6
US Fund Large Value	25.0	25.0	9.9	7.8	10.5	6.8

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.59	0.99	
Gross Expense Ratio	0.60	1.25	
LT Earn Growth	8.2	8.1	9.1
Avg Mkt Cap (\$MMM)	88.0	107.3	47.9
P/E Ratio	18.2	16.4	16.3
P/B Ratio	2.5	2.2	2.0
P/S Ratio	2.4	1.6	1.4
P/CF Ratio	13.6	10.0	10.5
ROE %	21.9	18.8	20.5
ROA %	7.2	5.9	7.2
Dividend Yld	2.6	2.9	2.8

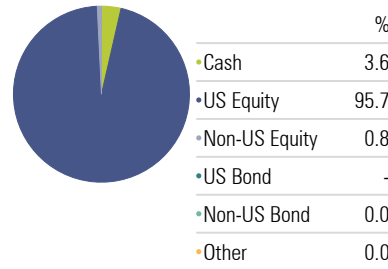
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 1000 Value TR USD

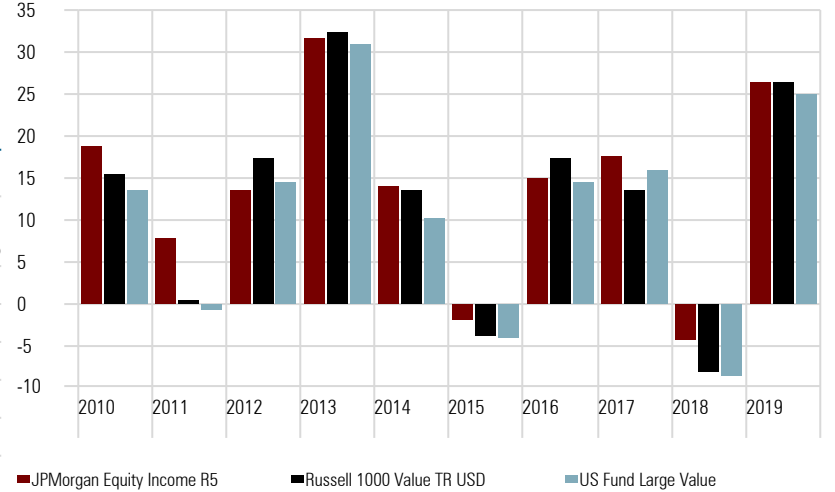
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
JPMorgan Equity Income R5	70.8	29.2	9.8	-8.4	12.9	-11.3	94.7	78.8
Russell 1000 Value TR USD	66.7	33.3	11.4	-9.6	13.1	-16.2	100.0	100.0
US Fund Large Value	69.2	30.8	11.2	-9.4	12.0	-16.2	95.2	100.4

## Asset Allocation

Portfolio Date: 1/31/2020

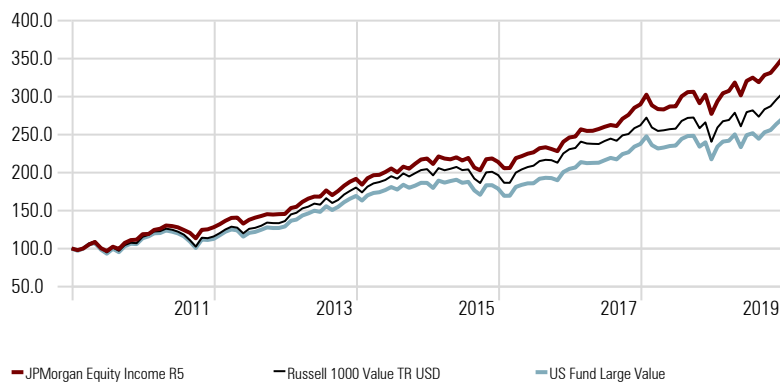


## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.0	-1.0	10.9	-1.0
Down Deviation	1.3	0.7	1.4	0.6
Beta	0.9	-0.1	0.9	-0.1
Alpha	3.3	3.1	2.2	2.6
Sharpe	1.0	0.3	0.8	0.2
Sortino	1.5	0.5	1.3	0.4
Info Ratio	1.3	1.1	0.7	1.2
Down Capture	82.0	-16.8	83.9	-15.9
Up Capture	102.4	2.3	97.7	0.0

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
JPMorgan Prime Money Market IM	3.6	Energy	7	8
Bank of America Corp	3.1	Materials	4	4
Chevron Corp	2.7	Industrials	11	10
CME Group Inc Class A	2.5	Cons Discretionary	7	6
Bristol-Myers Squibb Company	2.3	Consumer Staples	9	9
Johnson & Johnson	2.2	Healthcare	14	14
PNC Financial Services Group Inc	2.2	Financials	26	21
BlackRock Inc	2.2	Info Technology	10	10
Microsoft Corp	2.0	Telecom Services	4	8
ConocoPhillips	2.0	Utilities	6	5
		Real Estate %	3.6	3.3

# BlackRock Equity Dividend Instl

MADVX

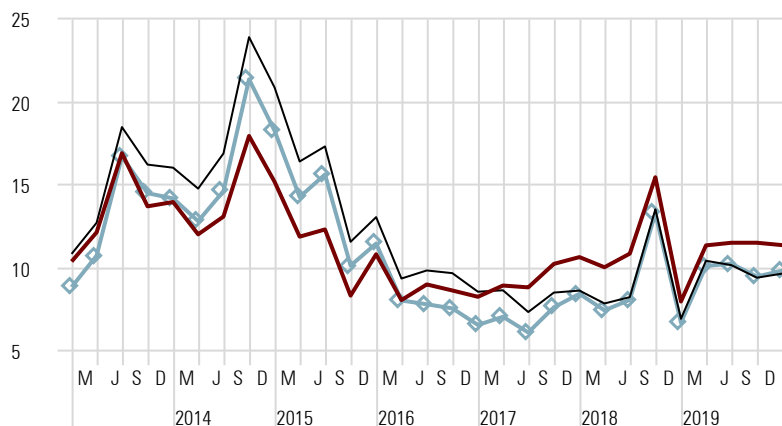
**Index:** Russell 1000 Value TR USD  
**Category:** US Fund Large Value  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 1000 Value TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
BlackRock Equity Dividend Instl	27.5	27.5	11.4	9.9	11.4	9.2
Russell 1000 Value TR USD	26.5	26.5	9.7	8.3	11.8	7.6
US Fund Large Value	25.0	25.0	9.9	7.8	10.5	6.8

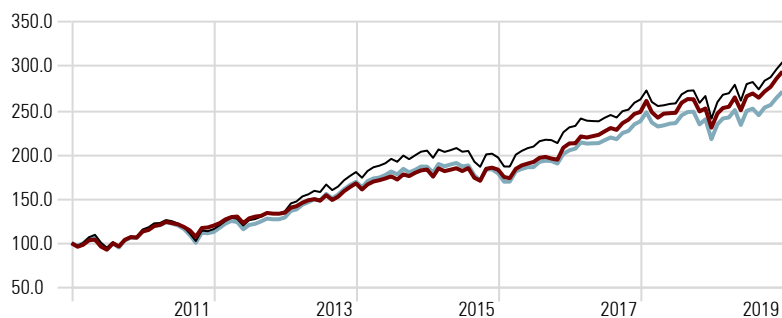
## Returns (Rolling 36 Months)



— BlackRock Equity Dividend Instl — Russell 1000 Value TR USD — US Fund Large Value

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



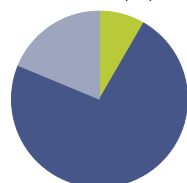
— BlackRock Equity Dividend Instl — Russell 1000 Value TR USD — US Fund Large Value

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.71	0.99	
Gross Expense Ratio	0.71	1.25	
LT Earn Growth	8.8	8.1	9.1
Avg Mkt Cap (\$MMM)	83.8	107.3	47.9
P/E Ratio	16.0	16.4	16.3
P/B Ratio	1.9	2.2	2.0
P/S Ratio	1.4	1.6	1.4
P/CF Ratio	9.6	10.0	10.5
ROE %	17.0	18.8	20.5
ROA %	4.7	5.9	7.2
Dividend Yld	2.9	2.9	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



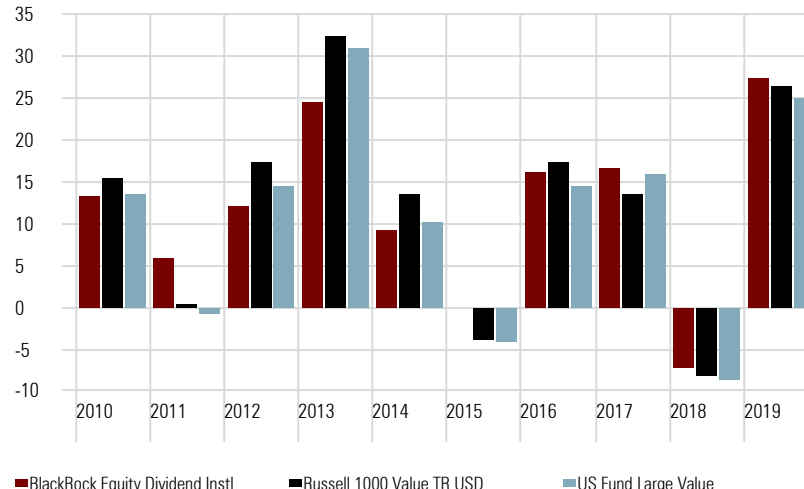
	%
Cash	8.4
US Equity	72.9
Non-US Equity	18.7
US Bond	-
Non-US Bond	0.0
Other	0.0

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 1000 Value TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
BlackRock Equity Dividend Instl	69.2	30.8	9.4	-8.6	12.0	-12.2	91.0	86.2
Russell 1000 Value TR USD	66.7	33.3	11.4	-9.6	13.1	-16.2	100.0	100.0
US Fund Large Value	69.2	30.8	11.2	-9.4	12.0	-16.2	95.2	100.4

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.3	-0.6	11.5	-0.4
Down Deviation	1.5	0.9	1.4	0.6
Beta	0.9	-0.1	0.9	0.0
Alpha	2.1	1.9	1.9	2.3
Sharpe	0.9	0.2	0.8	0.2
Sortino	1.3	0.3	1.2	0.3
Info Ratio	0.7	0.5	0.7	1.2
Down Capture	86.6	-12.2	89.7	-10.1
Up Capture	100.0	-0.1	101.2	3.5

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
BlackRock Liquidity T-Fund Instl	8.2	Energy	9	8
JPMorgan Chase & Co	3.9	Materials	1	4
Verizon Communications Inc	3.9	Industrials	9	10
Citigroup Inc	3.2	Cons Discretionary	6	6
Wells Fargo & Co	3.1	Consumer Staples	8	9
Bank of America Corp	2.8	Healthcare	19	14
Medtronic PLC	2.5	Financials	28	21
Royal Philips NV	2.0	Info Technology	9	10
BP PLC	2.0	Telecom Services	8	8
American International Group Inc	2.0	Utilities	3	5
		Real Estate %	0.0	3.3

# Mid Cap Growth Funds

As of 12/31/2019



# US Fund Mid-Cap Growth

## Champlain Mid Cap Institutional

### Investment Strategy

The investment seeks capital appreciation. Under normal circumstances, the fund invests at least 80% of its net assets, plus any borrowings for investment purposes, in securities of medium-sized companies. It seeks capital appreciation by investing mainly in common stocks of medium-sized companies that the Adviser believes have strong long-term fundamentals, superior capital appreciation potential and attractive valuations.

### Manager Biography

Scott T. Brayman since 6/30/2008  
 Finn R. McCoy since 6/30/2008  
 Corey N. Bronner since 12/31/2010  
 Joseph M. Caligiuri since 12/31/2010  
 Andrew J. Hanson since 12/31/2010  
 Joseph J. Farley since 12/31/2014  
 Robert D. Hallisey since 12/31/2016  
 Courtney A. Wilson since 11/30/2018  
 Jacqueline Williams since 11/28/2019

### Champlain Mid Cap Institutional - Operations

Inception Date	1/3/2011
Fund Size (\$mm)	3,919
Annual Report Net Expense Ratio	0.87
Prospectus Net Expense Ratio	0.87
Prospectus Gross Expense Ratio	0.87
Ticker	CIPIX
Manager Tenure (Longest)	11.58
Manager Tenure (Average)	6.66
Morningstar Inst Cat	Mid Core Growth

### Other Notes:

None

## Voya MidCap Opportunities Port S

### Investment Strategy

The investment seeks long-term capital appreciation. Under normal market conditions, the Portfolio invests at least 80% of its net assets (plus borrowings for investment purposes) in common stock of mid-sized U.S. companies. It normally invests in companies that the sub-adviser ("Sub-Adviser") believes have above average prospects for growth. For this Portfolio, the Sub-Adviser defines mid-sized companies as those companies with market capitalizations that fall within the range of companies in the Russell Midcap® Growth Index at the time of purchase. The Portfolio may invest in real estate-related securities including real estate investment trusts.

### Manager Biography

Jeffrey Bianchi since 7/31/2005  
 Michael Pytosh since 4/30/2012  
 Kristy Finnegan since 8/1/2019

### Voya MidCap Opportunities Port S - Operat

Inception Date	5/7/2001
Fund Size (\$mm)	2,028
Annual Report Net Expense Ratio	0.91
Prospectus Net Expense Ratio	0.91
Prospectus Gross Expense Ratio	1.03
Ticker	ISMOX
Manager Tenure (Longest)	14.50
Manager Tenure (Average)	7.56
Morningstar Inst Cat	Mid Core Growth

### Other Notes:

None

## Janus Henderson Enterprise S

### Investment Strategy

The investment seeks long-term growth of capital. The fund pursues its investment objective by investing primarily in common stocks selected for their growth potential, and normally invests at least 50% of its equity assets in medium-sized companies. Medium-sized companies are those whose market capitalization falls within the range of companies in the Russell Midcap® Growth Index. Market capitalization is a commonly used measure of the size and value of a company. It may also invest in foreign securities, which may include investments in emerging markets.

### Manager Biography

Brian Demain since 11/1/2007  
 Philip Cody Wheaton since 7/1/2016

### Janus Henderson Enterprise S - Operations

Inception Date	7/6/2009
Fund Size (\$mm)	23,014
Annual Report Net Expense Ratio	1.16
Prospectus Net Expense Ratio	1.16
Prospectus Gross Expense Ratio	1.16
Ticker	JGRTX
Manager Tenure (Longest)	12.17
Manager Tenure (Average)	7.83
Morningstar Inst Cat	Mid High Growth

### Other Notes:

None

## VY® Baron Growth A

### Investment Strategy

The investment seeks capital appreciation. The Portfolio invests for the long term primarily in equity securities in the form of common stock of small-sized growth companies. For this Portfolio, the Sub-Adviser ("Sub-Adviser") defines small-sized companies as those, at the time of purchase, with market capitalizations up to the largest market cap stock in the Russell 2000® Growth Index at reconstitution, or companies with market capitalizations up to \$2.5 billion, whichever is larger.

### Manager Biography

Ronald Baron since 5/1/2002  
 Neal Rosenberg since 1/31/2017

### VY® Baron Growth A - Operations

Inception Date	5/1/2002
Fund Size (\$mm)	538
Annual Report Net Expense Ratio	1.49
Prospectus Net Expense Ratio	1.49
Prospectus Gross Expense Ratio	1.49
Ticker	IBSAX
Manager Tenure (Longest)	17.67
Manager Tenure (Average)	10.33
Morningstar Inst Cat	Mid Core Growth

### Other Notes:

None

# Portfolio Analysis

## Champlain Mid Cap Institutional

## Voya MidCap Opportunities Port S

## Janus Henderson Enterprise S

## VY® Baron Growth A

### Style Allocation

Portfolio Date: 10/31/2019

	Value	Blend	Growth	Market Cap	%
Large	4	6	16	Market Cap Giant %	0
Mid	14	21	33	Market Cap Large %	26
Small	1	2	3	Market Cap Mid %	67
				Market Cap Small %	7
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	2	20	22	Market Cap Giant %	1
Mid	1	11	43	Market Cap Large %	43
Small	0	0	1	Market Cap Mid %	55
				Market Cap Small %	2
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 9/30/2019

	Value	Blend	Growth	Market Cap	%
Large	1	14	22	Market Cap Giant %	0
Mid	5	19	36	Market Cap Large %	37
Small	1	1	1	Market Cap Mid %	61
				Market Cap Small %	3
				Market Cap Micro %	0

### Style Allocation

Portfolio Date: 9/30/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	12	Market Cap Giant %	0
Mid	1	36	36	Market Cap Large %	12
Small	0	7	7	Market Cap Mid %	73
				Market Cap Small %	14
				Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell Mid Cap Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	11.9	16.6
Forward P/E	23.4	24.0
P/E Ratio (TTM)	28.0	28.1
LT Earn Growth	9.5	12.1
P/B Ratio (TTM)	3.9	5.8
Dividend Yield	0.9	0.8
ROE %	12.6	22.8
ROA %	4.7	7.6
Debt to Capital %	39.7	45.4

### Valuation Data

Display Benchmark 1: Russell Mid Cap Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	18.5	16.6
Forward P/E	24.0	24.0
P/E Ratio (TTM)	29.7	28.1
LT Earn Growth	12.0	12.1
P/B Ratio (TTM)	4.9	5.8
Dividend Yield	0.7	0.8
ROE %	23.4	22.8
ROA %	7.2	7.6
Debt to Capital %	48	45

### Valuation Data

Display Benchmark 1: Russell Mid Cap Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	14.5	16.6
Forward P/E	20.3	24.0
P/E Ratio (TTM)	25.4	28.1
LT Earn Growth	11.6	12.1
P/B Ratio (TTM)	4.3	5.8
Dividend Yield	1.0	0.8
ROE %	20.8	22.8
ROA %	6.4	7.6
Debt to Capital %	49	45

### Valuation Data

Display Benchmark 1: Russell Mid Cap Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	8.4	16.6
Forward P/E	27.6	24.0
P/E Ratio (TTM)	32.9	28.1
LT Earn Growth	11.5	12.1
P/B Ratio (TTM)	4.4	5.8
Dividend Yield	1.3	0.8
ROE %	22.5	22.8
ROA %	8.7	7.6
Debt to Capital %	46	45

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	19	
# of Stock Holdings	58	403
% in Top 10	26.2	12.4
Cash %	5.0	0.0
Developed %	95.0	99.3
US Equity %	95.0	99.2
Non-US Equity %	0	1
Emerging Mkt %	0.0	0.7

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	102	
# of Stock Holdings	71	403
% in Top 10	25.6	12.4
Cash %	0.8	0.0
Developed %	98.1	99.3
US Equity %	96.2	99.2
Non-US Equity %	3	1
Emerging Mkt %	1.1	0.7

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	13	
# of Stock Holdings	82	403
% in Top 10	20.3	12.4
Cash %	6.9	0.0
Developed %	92.9	99.3
US Equity %	82.7	99.2
Non-US Equity %	10	1
Emerging Mkt %	0.0	0.7

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	4	
# of Stock Holdings	51	403
% in Top 10	55.1	12.4
Cash %	0.3	0.0
Developed %	99.7	99.3
US Equity %	96.5	99.2
Non-US Equity %	3	1
Emerging Mkt %	0.0	0.7

# Holdings-Based Style Analysis

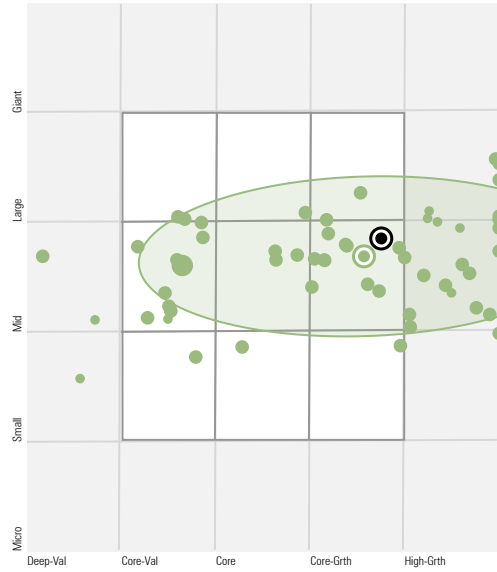
## Champlain Mid Cap Institutional

## Voya MidCap Opportunities Port S

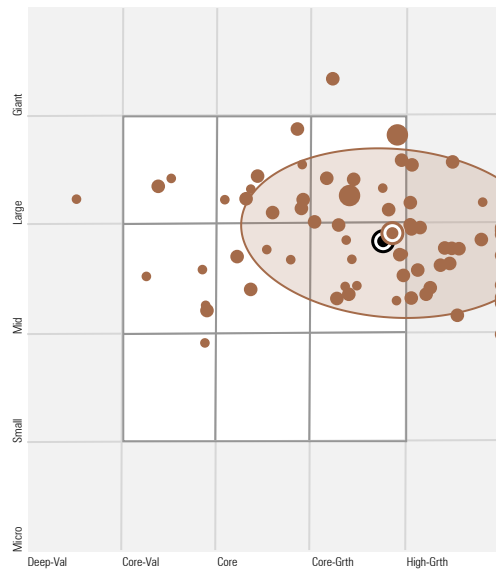
## Janus Henderson Enterprise S

## VY® Baron Growth A

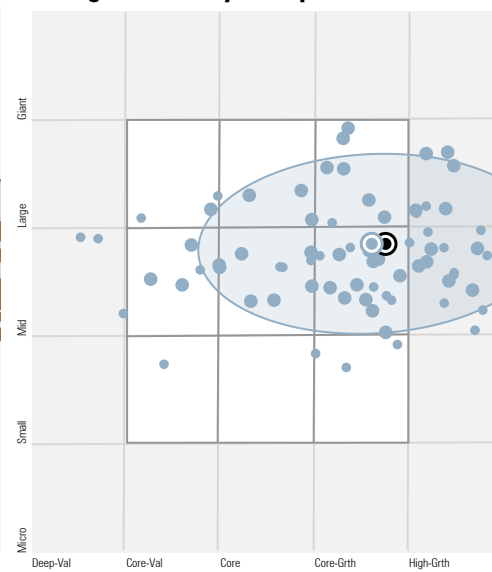
### Holdings-Based Style Map



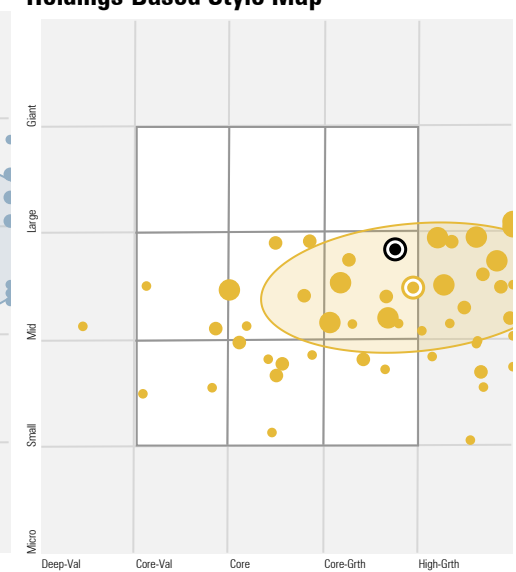
### Holdings-Based Style Map



### Holdings-Based Style Map



### Holdings-Based Style Map



● Champlain Mid Cap Institutional 10/31/2019 ● Russell Mid Cap Growth TR USD 12/31/2019

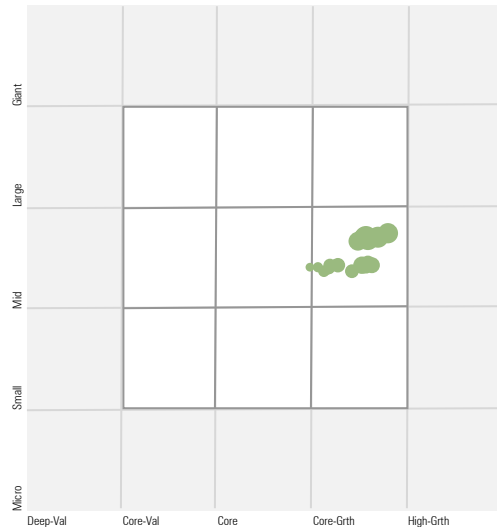
● Voya MidCap Opportunities Port S 12/31/2019 ● Russell Mid Cap Growth TR USD 12/31/2019

● Janus Henderson Enterprise S 9/30/2019 ● Russell Mid Cap Growth TR USD 12/31/2019

● VY® Baron Growth A 9/30/2019 ● Russell Mid Cap Growth TR USD 12/31/2019

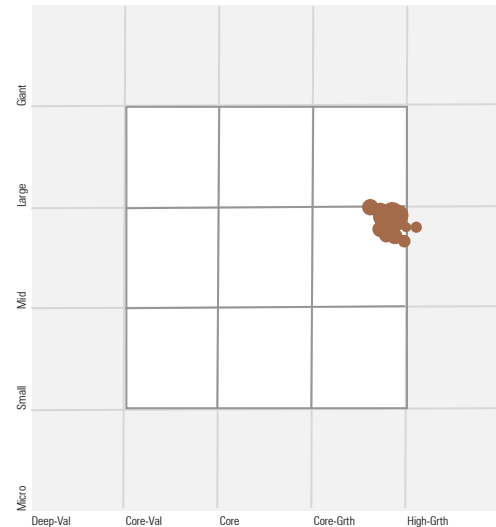
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 10/31/2019



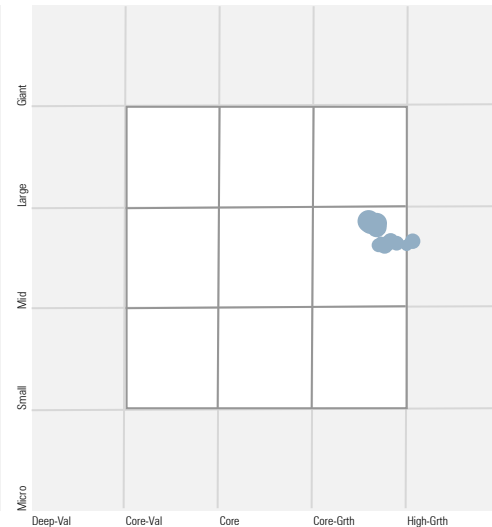
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



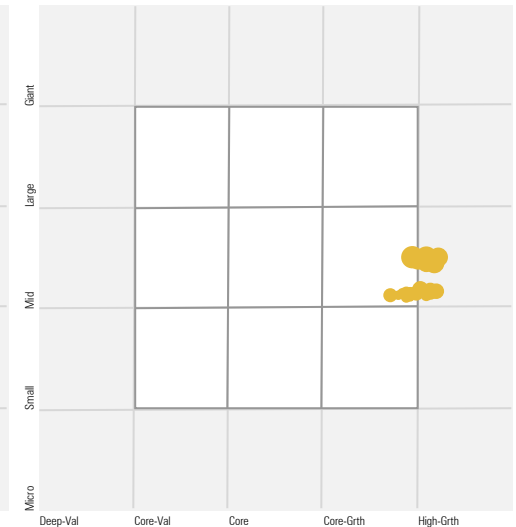
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 9/30/2019



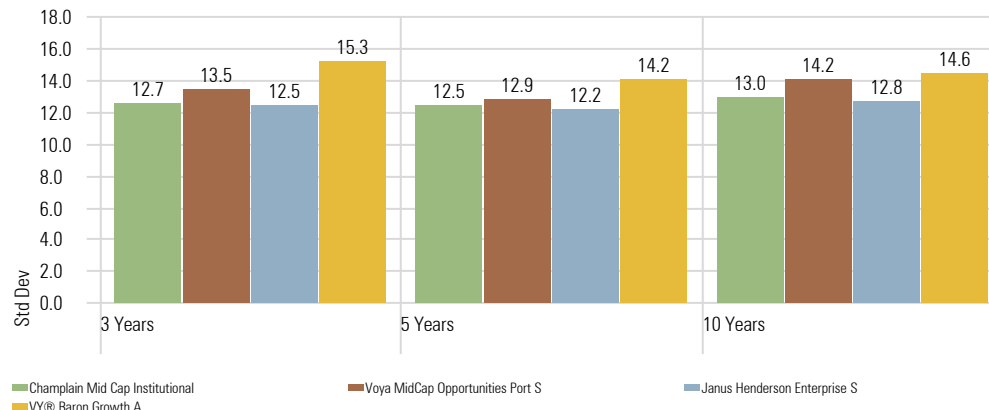
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 9/30/2019

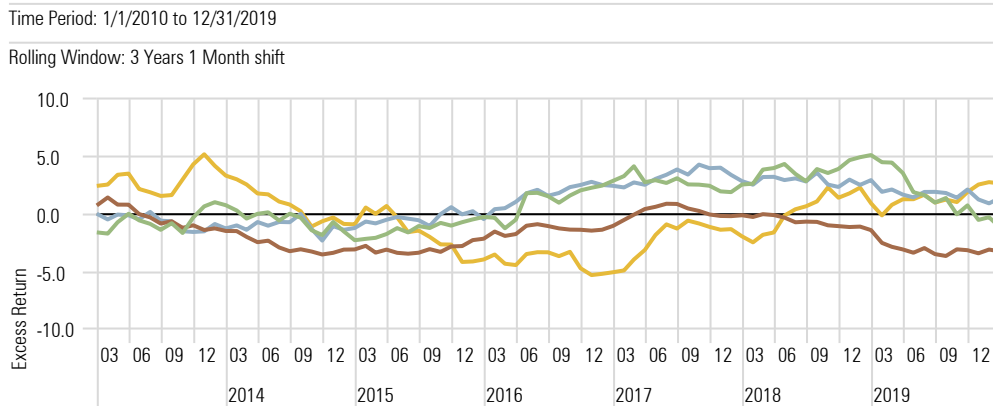


# Risk/Return Performance Analysis

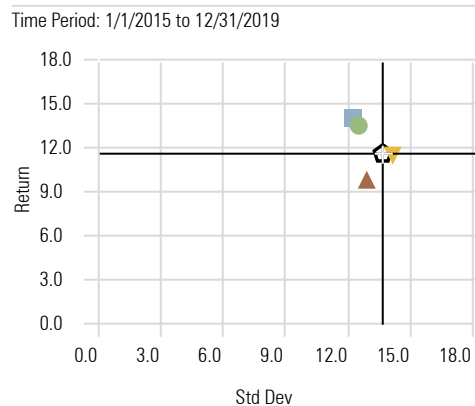
## Standard Deviation



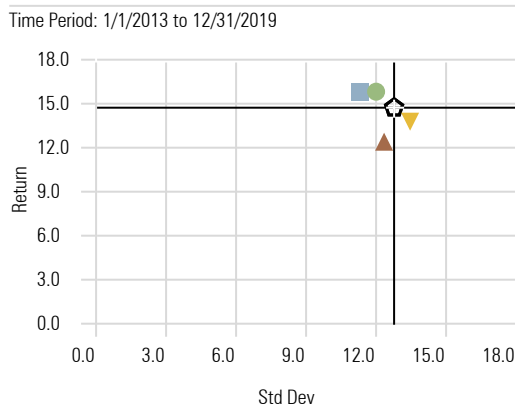
## 3 Year Relative Rolling Returns



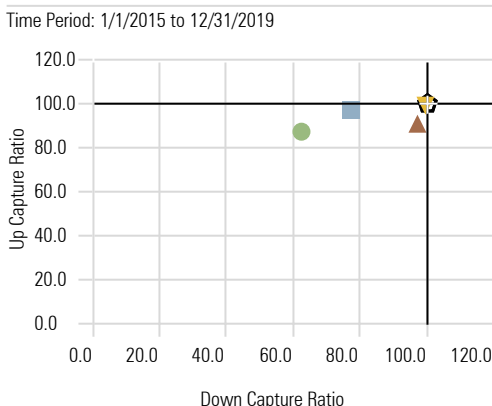
## 5 Year Risk-Reward



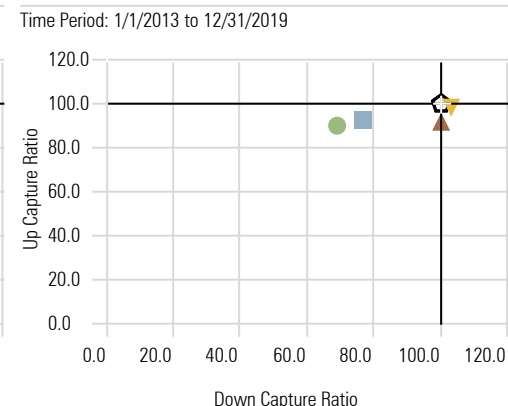
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● Champlain Mid Cap Institutional  
● VY® Baron Growth A

● Voya MidCap Opportunities Port S  
◻ Russell Mid Cap Growth TR USD

● Janus Henderson Enterprise S

## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (7/1/2008) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
Champlain Mid Cap Institutional	12.3	15.4	2.9	0.82	89	16.3	-23.9	0.76	6.1
Voya MidCap Opportunities Port S	10.4	16.3	0.3	0.91	97	17.6	-23.4	0.61	3.2
Janus Henderson Enterprise S	11.4	16.9	1.0	0.93	96	21.5	-28.8	0.64	3.7
VY® Baron Growth A	11.5	17.3	1.2	0.93	91	20.4	-27.0	0.63	5.4
Russell Mid Cap Growth TR USD	11.0	17.7	0.0	1.00	100	20.7	-27.4	0.59	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

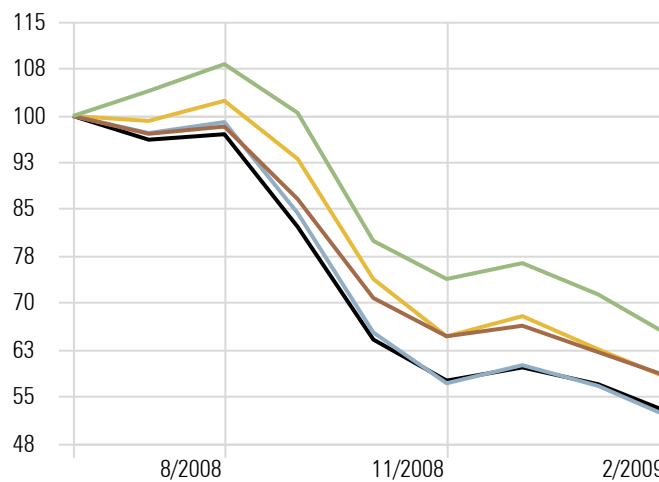
Time Period: 4/30/2003 to 9/30/2007



✖ Champlain Mid Cap Institutional  
✖ VY® Baron Growth A  
✖ Voya MidCap Opportunities Port S  
✖ Russell Mid Cap Growth TR USD

## Credit Crunch - Financial Crisis

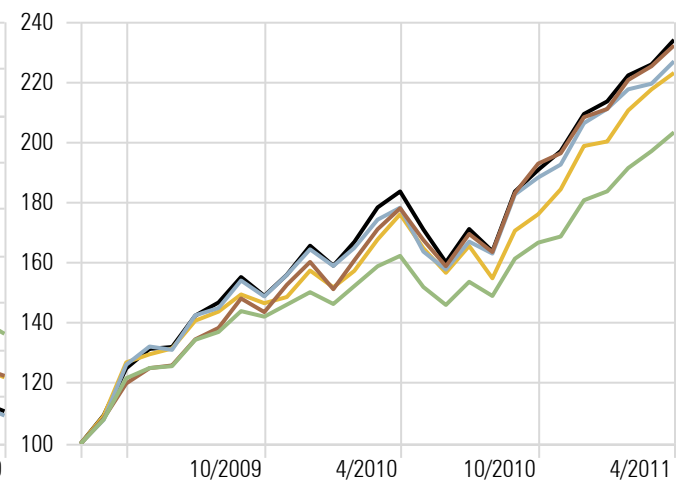
Time Period: 7/1/2008 to 2/28/2009



■ Champlain Mid Cap Institutional 65  
■ VY® Baron Growth A 58  
■ Voya MidCap Opportunities Port S 58  
■ Russell Mid Cap Growth TR USD 53  
■ Janus Henderson Enterprise S 52

## Financial Crisis Recovery - QE1&2

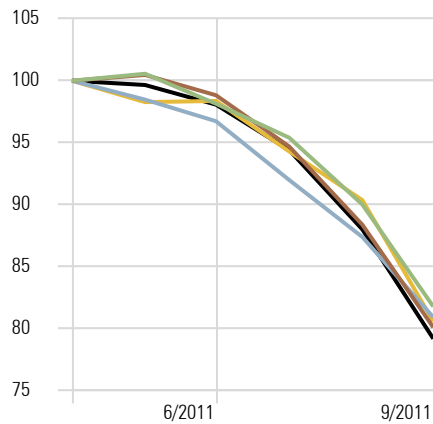
Time Period: 3/1/2009 to 4/30/2011



■ Champlain Mid Cap Institutional 203.5  
■ VY® Baron Growth A 223.2  
■ Voya MidCap Opportunities Port S 232.3  
■ Russell Mid Cap Growth TR USD 234.2  
■ Janus Henderson Enterprise S 227.0

## Double Dip

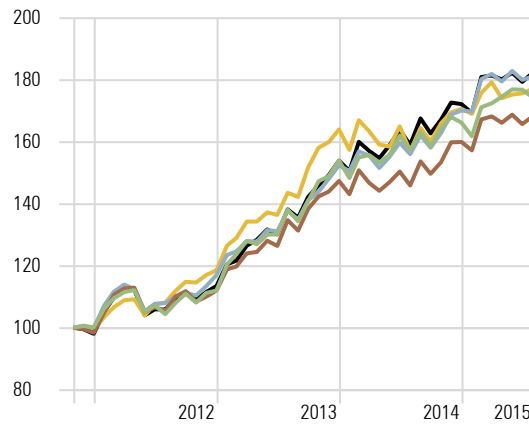
Time Period: 5/1/2011 to 9/30/2011



■ Champlain Mid Cap Institutional 81.7  
■ VY® Baron Growth A 80.5  
■ Voya MidCap Opportunities Port S 80.0  
■ Russell Mid Cap Growth TR USD 79.1  
■ Janus Henderson Enterprise S 80.8

## US Recovery Continues - Global Markets Lag

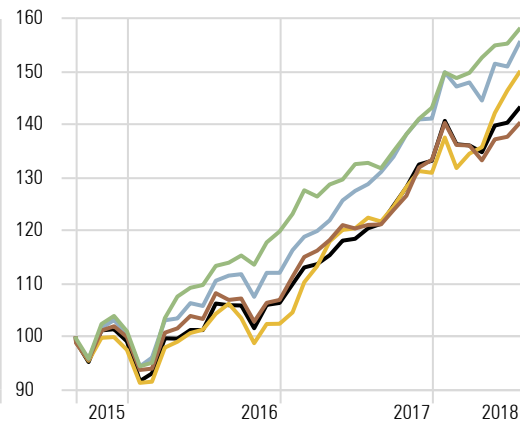
Time Period: 11/1/2011 to 7/31/2015



■ Champlain Mid Cap Institutional 174.7  
■ VY® Baron Growth A 177.4  
■ Voya MidCap Opportunities Port S 168.5  
■ Russell Mid Cap Growth TR USD 182.5  
■ Janus Henderson Enterprise S 181.4

## Global Economic Strength

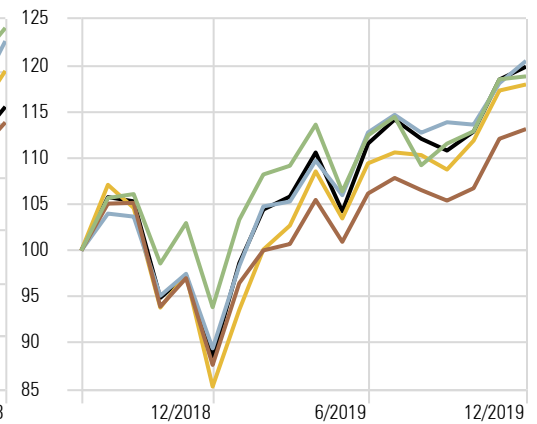
Time Period: 8/31/2015 to 7/31/2018



■ Champlain Mid Cap Institutional 158.3  
■ VY® Baron Growth A 150.2  
■ Voya MidCap Opportunities Port S 140.5  
■ Russell Mid Cap Growth TR USD 143.4  
■ Janus Henderson Enterprise S 155.8

## Global Trade Tension

Time Period: 8/1/2018 to 12/31/2019



■ Champlain Mid Cap Institutional 118.8  
■ VY® Baron Growth A 117.9  
■ Voya MidCap Opportunities Port S 113.1  
■ Russell Mid Cap Growth TR USD 119.8  
■ Janus Henderson Enterprise S 120.5

● Champlain Mid Cap Institutional  
● VY® Baron Growth A

● Voya MidCap Opportunities Port S  
● Russell Mid Cap Growth TR USD

● Janus Henderson Enterprise S



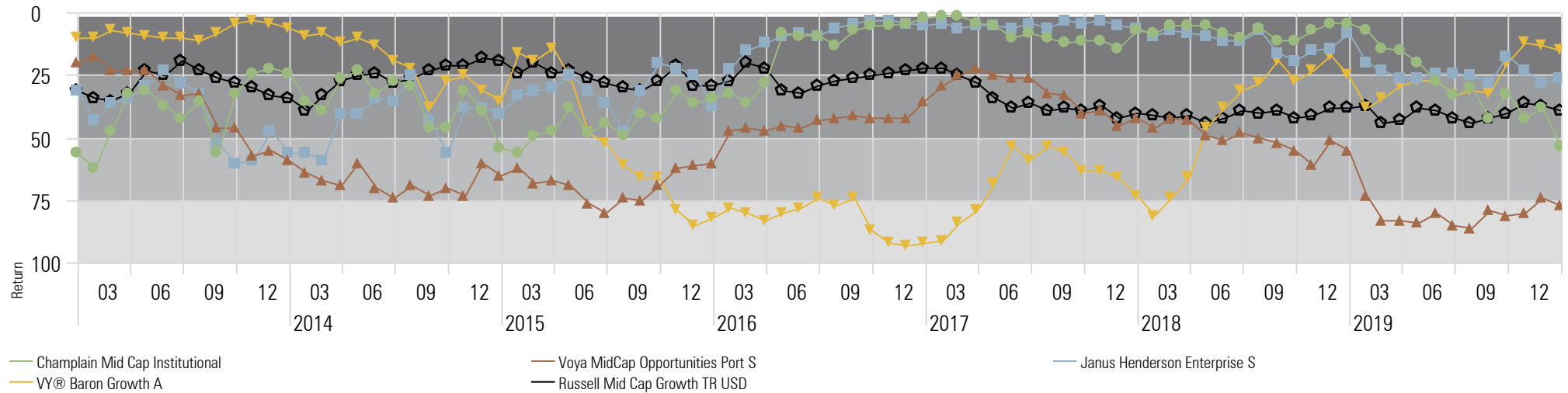
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

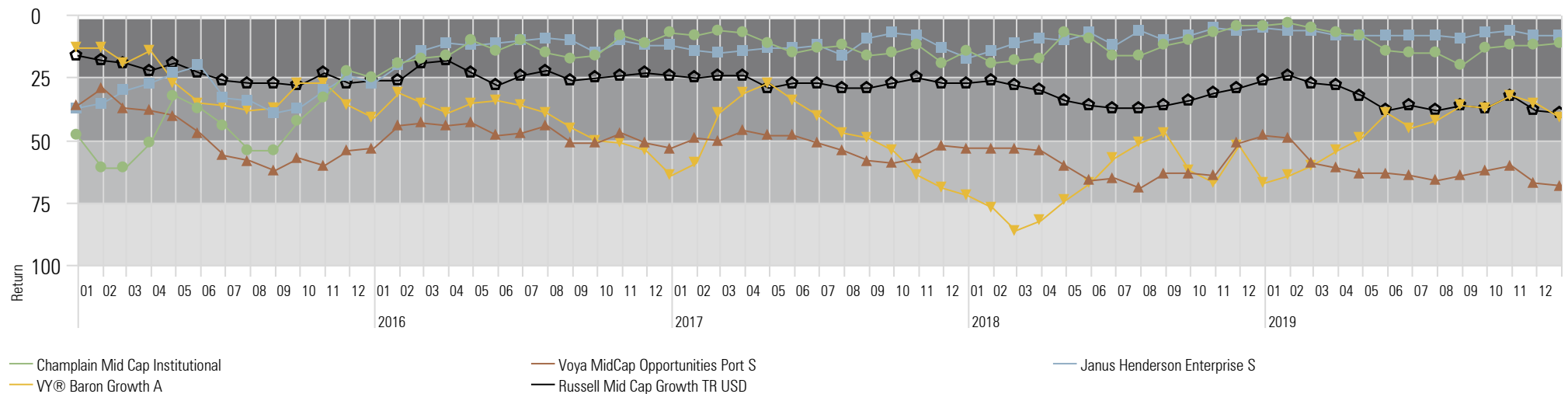


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Mid-Cap Growth</b>																		
Champlain Mid Cap Institutional	6.5	<b>73</b>	-1.66	26.6	<b>94</b>	-8.92	26.6	<b>94</b>	-8.92	16.2	<b>53</b>	-1.15	13.6	<b>11</b>	1.96	14.5	<b>20</b>	0.26
Voya MidCap Opportunities Port S	7.3	<b>56</b>	-0.84	29.1	<b>84</b>	-6.41	29.1	<b>84</b>	-6.41	14.1	<b>77</b>	-3.24	9.8	<b>68</b>	-1.82	12.8	<b>55</b>	-1.40
Janus Henderson Enterprise S	5.8	<b>86</b>	-2.35	34.7	<b>42</b>	-0.75	34.7	<b>42</b>	-0.75	18.8	<b>26</b>	1.42	14.0	<b>8</b>	2.42	15.0	<b>12</b>	0.75
VY® Baron Growth A	8.5	<b>33</b>	0.28	38.2	<b>18</b>	2.77	38.2	<b>18</b>	2.77	20.0	<b>15</b>	2.68	11.5	<b>41</b>	-0.13	14.3	<b>23</b>	0.07
Russell Mid Cap Growth TR USD	8.2			35.5			35.5			17.4			11.6			14.2		
Average	7.9			33.8			33.8			16.5			10.9			13.0		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Mid-Cap Growth</b>																					
Champlain Mid Cap Institutional	26.6	<b>94</b>	-8.92	3.8	<b>5</b>	8.51	19.5	<b>87</b>	-5.77	18.7	<b>2</b>	11.35	1.4	<b>35</b>	1.61	8.0	<b>46</b>	-3.92	37.6	<b>30</b>	1.82
Voya MidCap Opportunities Port S	29.1	<b>84</b>	-6.41	-7.7	<b>72</b>	-2.95	24.8	<b>51</b>	-0.50	7.0	<b>36</b>	-0.32	0.3	<b>48</b>	0.45	8.6	<b>40</b>	-3.35	31.7	<b>76</b>	-4.06
Janus Henderson Enterprise S	34.7	<b>42</b>	-0.75	-1.3	<b>17</b>	3.45	26.0	<b>39</b>	0.76	11.6	<b>13</b>	4.30	3.0	<b>19</b>	3.24	11.6	<b>15</b>	-0.25	30.3	<b>86</b>	-5.43
VY® Baron Growth A	38.2	<b>18</b>	2.77	-2.1	<b>23</b>	2.60	27.9	<b>27</b>	2.59	5.1	<b>52</b>	-2.26	-5.3	<b>90</b>	-5.07	4.1	<b>80</b>	-7.85	38.5	<b>23</b>	2.76
Russell Mid Cap Growth TR USD	35.5			-4.8			25.3			7.3			-0.2		11.9				35.7		
Average	33.8			-5.3			25.2			6.0			0.0		7.4				35.8		

# Champlain Mid Cap Institutional

CIPIX

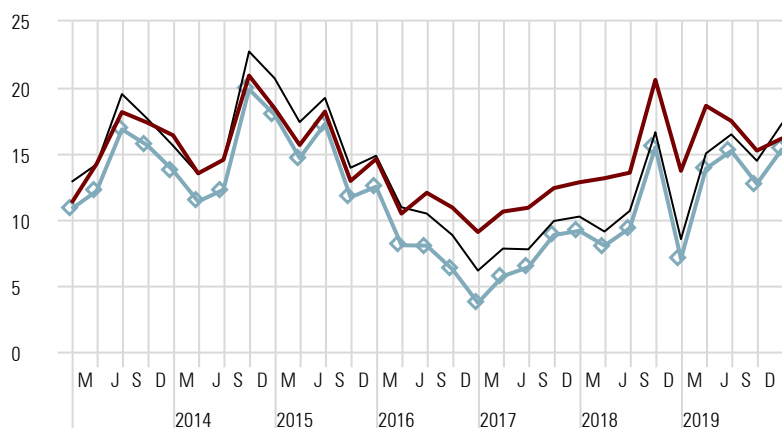
**Index:** Russell Mid Cap Growth TR USD  
**Category:** US Fund Mid-Cap Growth  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell Mid Cap Growth TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Champlain Mid Cap Institutional	26.6	26.6	16.2	13.6	14.5	12.3
Russell Mid Cap Growth TR USD	35.5	35.5	17.4	11.6	14.2	10.1
US Fund Mid-Cap Growth	32.3	32.3	15.4	10.0	12.2	8.5

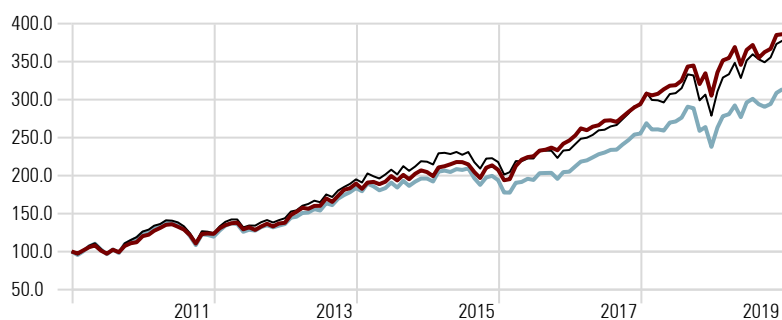
## Returns (Rolling 36 Months)



— Champlain Mid Cap Institutional — Russell Mid Cap Growth TR USD — US Fund Mid-Cap Growth

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



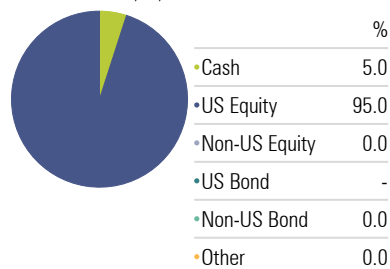
— Champlain Mid Cap Institutional — Russell Mid Cap Growth TR USD — US Fund Mid-Cap Growth

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.87	1.17	
Gross Expense Ratio	0.87	1.63	
LT Earn Growth	9.5	11.6	9.1
Avg Mkt Cap (\$MMM)	11.9	14.3	47.9
P/E Ratio	28.0	31.0	16.3
P/B Ratio	3.9	4.6	2.0
P/S Ratio	2.9	3.3	1.4
P/CF Ratio	20.6	19.4	10.5
ROE %	12.6	15.8	20.5
ROA %	4.7	5.0	7.2
Dividend Yld	0.9	0.6	2.8

## Asset Allocation

Portfolio Date: 10/31/2019

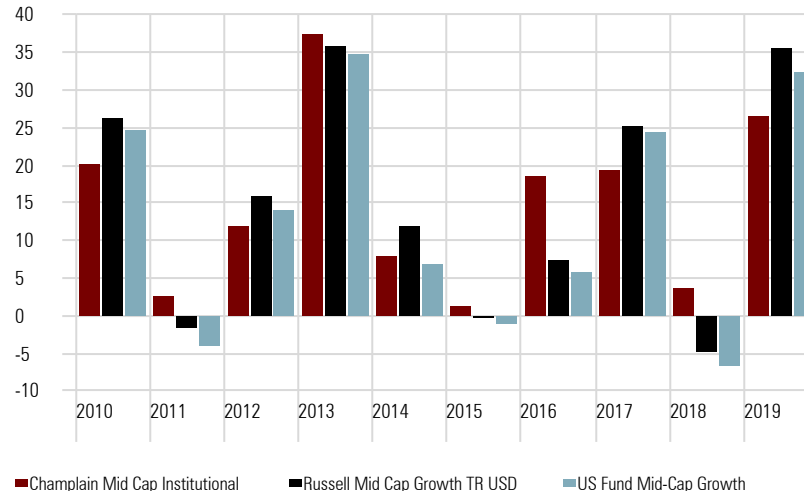


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell Mid Cap Growth TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Champlain Mid Cap Institutional	71.7	28.3	11.4	-9.2	16.3	-16.7	88.0	75.1
Russell Mid Cap Growth TR USD	63.3	36.7	13.5	-10.1	19.6	-19.3	100.0	100.0
US Fund Mid-Cap Growth	65.8	34.2	13.2	-10.3	18.2	-19.6	96.1	105.8

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.7	-1.3	12.5	-1.2
Down Deviation	3.3	2.1	3.1	1.6
Beta	0.8	-0.2	0.8	-0.1
Alpha	1.3	2.8	3.3	4.7
Sharpe	1.1	0.2	1.0	0.3
Sortino	1.7	0.3	1.6	0.6
Info Ratio	-0.2	1.2	0.4	1.3
Down Capture	70.2	-32.6	62.7	-41.0
Up Capture	83.8	-11.3	87.2	-8.4

## Top 10 Holdings

	Fund %	Inv	Avg
Fidelity® Inv MM Fds Treasury I	4.4	0	1
Everest Re Group Ltd	3.1	3	3
Nordson Corp	2.9	16	17
Fortive Corp	2.7	7	15
Rockwell Automation Inc	2.6	13	2
Edwards Lifesciences Corp	2.6	24	18
Waters Corp	2.6	14	9
AMETEK Inc	2.5	22	27
Splunk Inc	2.4	1	3
Arthur J. Gallagher & Co	2.4	0	1

## Sector Allocation (%)

	Inv	Avg
Energy	0	1
Materials	3	3
Industrials	16	17
Cons Discretionary	7	15
Consumer Staples	13	2
Healthcare	24	18
Financials	14	9
Info Technology	22	27
Telecom Services	1	3
Utilities	0	1
Real Estate %	0.0	3.4

# Mid Cap Blend Funds

As of 12/31/2019



# US Fund Mid-Cap Blend

## Vanguard Mid Cap Index Institutional

### Investment Strategy

The investment seeks to track the performance of a benchmark index that measures the investment return of mid-capitalization stocks. The fund employs an indexing investment approach designed to track the performance of the CRSP US Mid Cap Index, a broadly diversified index of stocks of mid-size U.S. companies. The advisor attempts to replicate the target index by investing all, or substantially all, of its assets in the stocks that make up the index, holding each stock in approximately the same proportion as its weighting in the index.

### Manager Biography

Donald M. Butler since 5/21/1998

Michael A. Johnson since 4/27/2016

## Invesco Mid Cap Core Equity R

### Investment Strategy

The investment seeks long-term growth of capital. The fund invests at least 80% of its net assets (plus any borrowings for investment purposes) in equity securities of mid-capitalization companies, and in derivatives and other instruments that have economic characteristics similar to such securities. The principal type of equity security in which the fund invests is common stock. The fund's manager considers an issuer to be a mid-capitalization issuer if it has a market capitalization, at the time of purchase, within the range of the largest and smallest capitalized issuers included in the Russell Midcap® Index.

### Manager Biography

Raymond Anello since 6/21/2019

Magnus Krantz since 6/21/2019

Joy Budzinski since 6/21/2019

Raman Vardharaj since 6/21/2019

Kristin Ketner Pak since 6/21/2019

Adam Weiner since 6/21/2019

Matthew P. Ziehl since 6/21/2019

## Lord Abbett Value Opportunities R3

### Investment Strategy

The investment seeks long-term capital appreciation. To pursue its objective, the fund normally invests at least 65% of its net assets in equity securities of small and mid-sized companies. The remainder of the fund's assets may be invested in companies of any size. The fund may change this policy at any time. The Advisor attempts to invest in companies it believes are undervalued by the market and whose securities are selling at reasonable prices in relation to an assessment of their potential or intrinsic value.

### Manager Biography

Eli Rabinowich since 10/5/2018

John C. Hardy since 10/5/2018

## Voya Russell Mid Cap Index Port A

### Investment Strategy

The investment seeks investment results (before fees and expenses) that correspond to the total return (which includes capital appreciation and income) of the Russell Midcap® Index ("index"). The fund normally invests at least 80% of its net assets (plus borrowings for investment purposes) in equity securities of companies, which are at the time of purchase, included in the index; convertible securities that are convertible into stocks included in the index; other derivatives whose economic returns are, by design, closely equivalent to the returns of the index or its components; and exchange-traded funds that track the index.

### Manager Biography

Steven Wetter since 4/30/2012

Kai Yee Wong since 6/30/2013

## Vanguard Mid Cap Index Institutional - Oper: Invesco Mid Cap Core Equity R - Operation: Lord Abbett Value Opportunities R3 - Operat Voya Russell Mid Cap Index Port A - Operat

Inception Date	5/21/1998	Inception Date	6/3/2002	Inception Date	9/28/2007	Inception Date	3/10/2008
Fund Size (\$mm)	111,567	Fund Size (\$mm)	937	Fund Size (\$mm)	1,843	Fund Size (\$mm)	1,447
Annual Report Net Expense Ratio	0.04	Annual Report Net Expense Ratio	1.45	Annual Report Net Expense Ratio	1.43	Annual Report Net Expense Ratio	0.91
Prospectus Net Expense Ratio	0.04	Prospectus Net Expense Ratio	1.49	Prospectus Net Expense Ratio	1.36	Prospectus Net Expense Ratio	0.91
Prospectus Gross Expense Ratio	0.04	Prospectus Gross Expense Ratio	1.51	Prospectus Gross Expense Ratio	1.36	Prospectus Gross Expense Ratio	0.96
Ticker	VMCIX	Ticker	GTARX	Ticker	LVORX	Ticker	IRMAX
Manager Tenure (Longest)	21.67	Manager Tenure (Longest)	0.58	Manager Tenure (Longest)	1.25	Manager Tenure (Longest)	7.75
Manager Tenure (Average)	12.71	Manager Tenure (Average)	0.58	Manager Tenure (Average)	1.25	Manager Tenure (Average)	7.17
Morningstar Inst Cat	Mid Core	Morningstar Inst Cat	Mid Core	Morningstar Inst Cat	SMID Core	Morningstar Inst Cat	Mid Core

### Other Notes:

None

### Other Notes:

None

### Other Notes:

None

### Other Notes:

None

# Portfolio Analysis

## Vanguard Mid Cap Index Institutional

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	6	12	13	Market Cap Giant %	0
Mid	24	25	20	Market Cap Large %	31
Small	0	0	0	Market Cap Mid %	69
				Market Cap Small %	0
				Market Cap Micro %	0

## Invesco Mid Cap Core Equity R

### Style Allocation

Portfolio Date: 9/30/2019

	Value	Blend	Growth	Market Cap	%
Large	10	17	18	Market Cap Giant %	0
Mid	13	21	15	Market Cap Large %	44
Small	2	3	3	Market Cap Mid %	49
				Market Cap Small %	7
				Market Cap Micro %	0

## Lord Abbett Value Opportunities R3

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	0	3	1	Market Cap Giant %	0
Mid	18	28	38	Market Cap Large %	4
Small	2	3	8	Market Cap Mid %	84
				Market Cap Small %	13
				Market Cap Micro %	0

## Voya Russell Mid Cap Index Port A

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	10	14	10	Market Cap Giant %	0
Mid	21	22	20	Market Cap Large %	33
Small	2	1	1	Market Cap Mid %	63
				Market Cap Small %	4
				Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell Mid Cap TR USD

	Inv	Bmk1
Average Market Cap (bil)	16.7	14.3
Forward P/E	19.2	18.5
P/E Ratio (TTM)	22.4	21.4
LT Earn Growth	10.0	9.7
P/B Ratio (TTM)	2.8	2.6
Dividend Yield	1.6	1.7
ROE %	15.2	15.3
ROA %	5.5	5.3
Debt to Capital %	43.7	44.2

### Valuation Data

Display Benchmark 1: Russell Mid Cap TR USD

	Inv	Bmk1
Average Market Cap (bil)	16.3	14.3
Forward P/E	17.8	18.5
P/E Ratio (TTM)	19.5	21.4
LT Earn Growth	10.3	9.7
P/B Ratio (TTM)	2.5	2.6
Dividend Yield	1.7	1.7
ROE %	17.6	15.3
ROA %	5.5	5.3
Debt to Capital %	45	44

### Valuation Data

Display Benchmark 1: Russell Mid Cap TR USD

	Inv	Bmk1
Average Market Cap (bil)	7.5	14.3
Forward P/E	20.7	18.5
P/E Ratio (TTM)	22.4	21.4
LT Earn Growth	10.1	9.7
P/B Ratio (TTM)	3.0	2.6
Dividend Yield	1.4	1.7
ROE %	18.4	15.3
ROA %	7.5	5.3
Debt to Capital %	35	44

### Valuation Data

Display Benchmark 1: Russell Mid Cap TR USD

	Inv	Bmk1
Average Market Cap (bil)	14.3	14.3
Forward P/E	18.5	18.5
P/E Ratio (TTM)	21.4	21.4
LT Earn Growth	9.7	9.7
P/B Ratio (TTM)	2.6	2.6
Dividend Yield	1.7	1.7
ROE %	15.3	15.3
ROA %	5.3	5.3
Debt to Capital %	44	44

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	16	
# of Stock Holdings	340	802
% in Top 10	6.6	5.5
Cash %	0.8	0.0
Developed %	98.8	99.4
US Equity %	97.4	98.9
Non-US Equity %	2	1
Emerging Mkt %	0.4	0.6

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	29	
# of Stock Holdings	78	802
% in Top 10	6.5	5.5
Cash %	2.4	0.0
Developed %	97.7	99.4
US Equity %	92.0	98.9
Non-US Equity %	6	1
Emerging Mkt %	0.0	0.6

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	51	
# of Stock Holdings	76	802
% in Top 10	19.9	5.5
Cash %	0.0	0.0
Developed %	100.0	99.4
US Equity %	100.0	98.9
Non-US Equity %	0	1
Emerging Mkt %	0.0	0.6

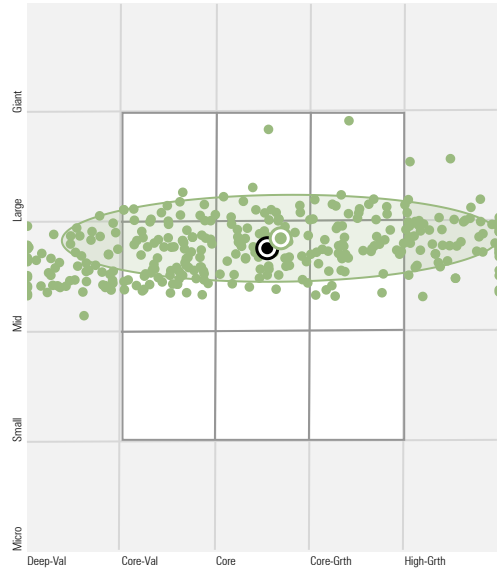
### Portfolio Data

	Inv	Bmk1
Turnover Ratio	11	
# of Stock Holdings	802	802
% in Top 10	5.6	5.5
Cash %	0.3	0.0
Developed %	99.7	99.4
US Equity %	99.2	98.9
Non-US Equity %	1	1
Emerging Mkt %	0.6	0.6

# Holdings-Based Style Analysis

## Vanguard Mid Cap Index Institutional

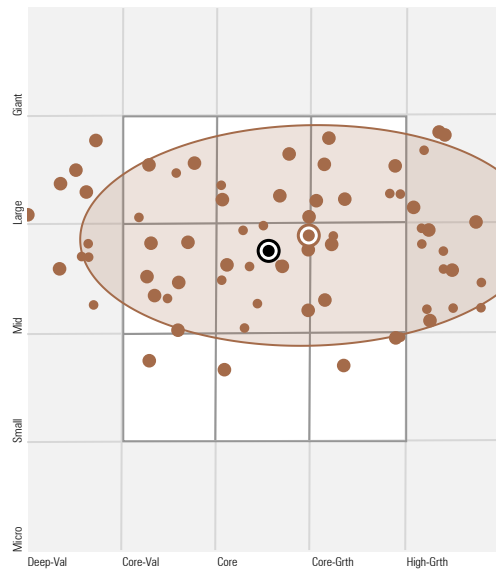
### Holdings-Based Style Map



● Vanguard Mid Cap Index Institutional 12/31/2019 ● Russell Mid Cap TR USD 12/31/2019

## Invesco Mid Cap Core Equity R

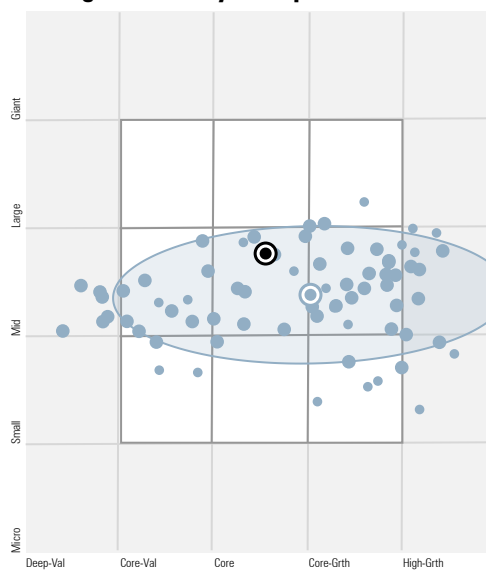
### Holdings-Based Style Map



● Invesco Mid Cap Core Equity R 9/30/2019 ● Russell Mid Cap TR USD 12/31/2019

## Lord Abbett Value Opportunities R3

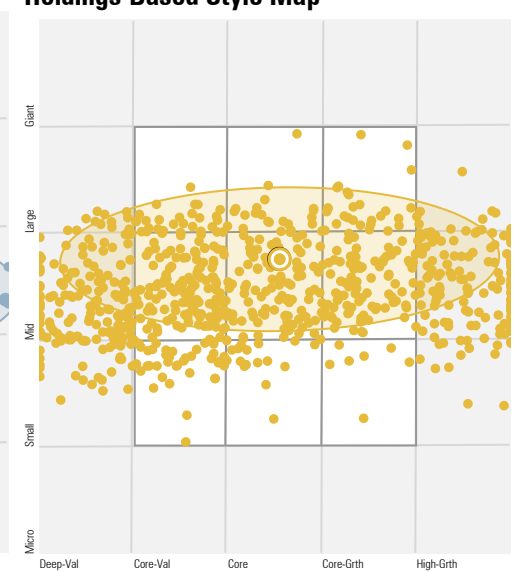
### Holdings-Based Style Map



● Lord Abbett Value Opportunities R3 11/30/2019 ● Russell Mid Cap TR USD 12/31/2019

## Voya Russell Mid Cap Index Port A

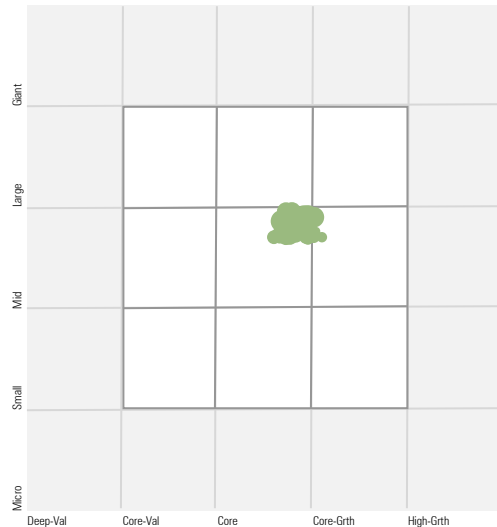
### Holdings-Based Style Map



● Voya Russell Mid Cap Index Port A 12/31/2019 ● Russell Mid Cap TR USD 12/31/2019

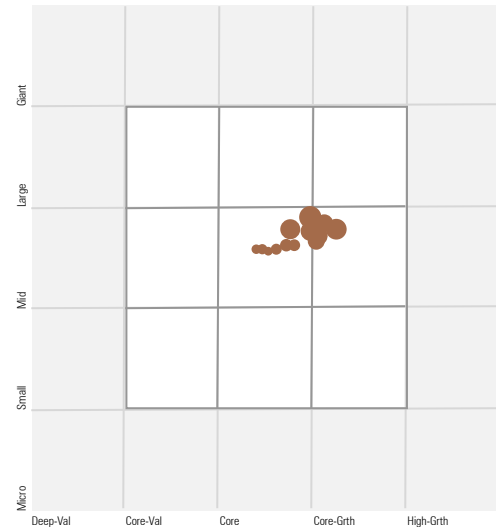
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



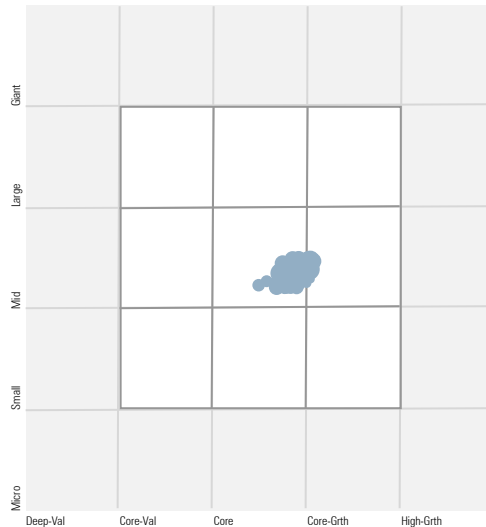
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 9/30/2019



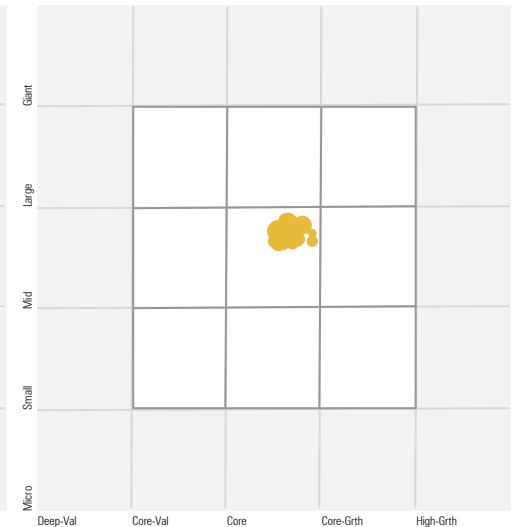
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 11/30/2019



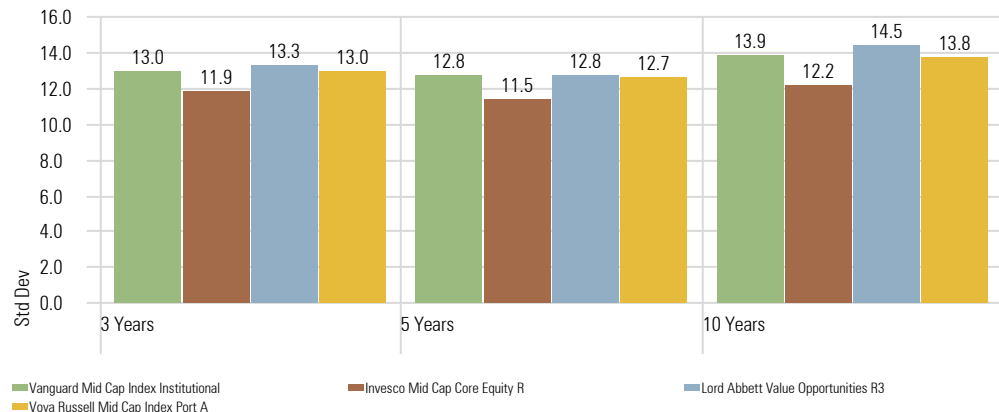
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019

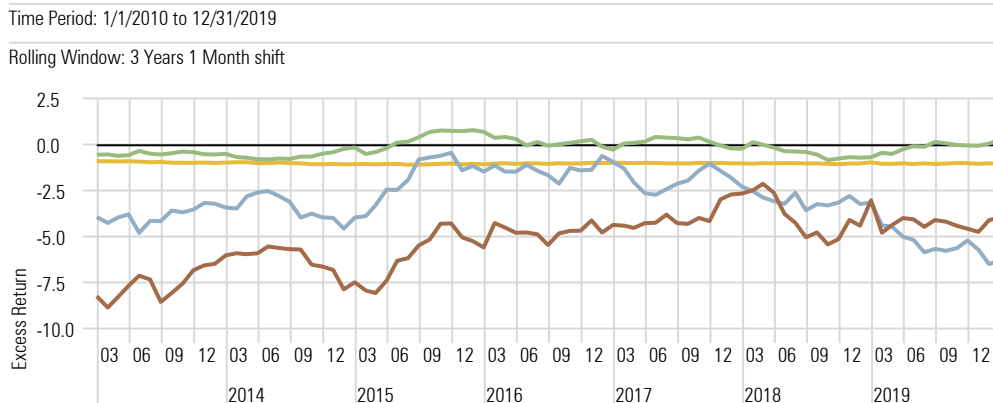


# Risk/Return Performance Analysis

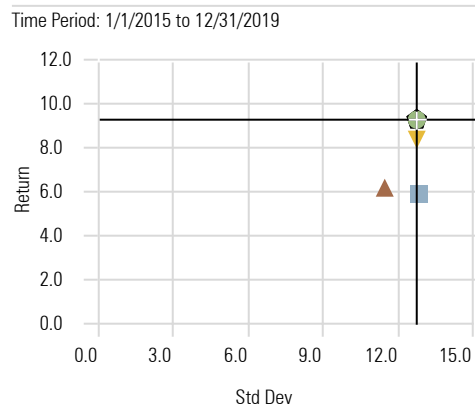
## Standard Deviation



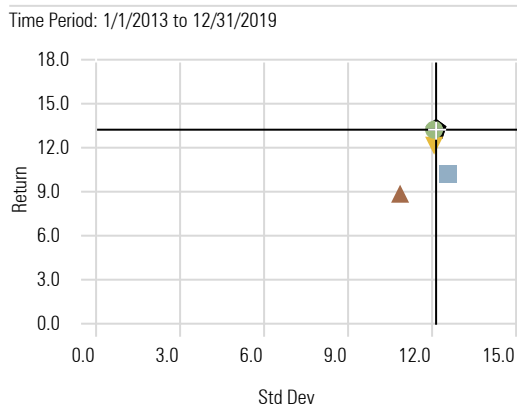
## 3 Year Relative Rolling Returns



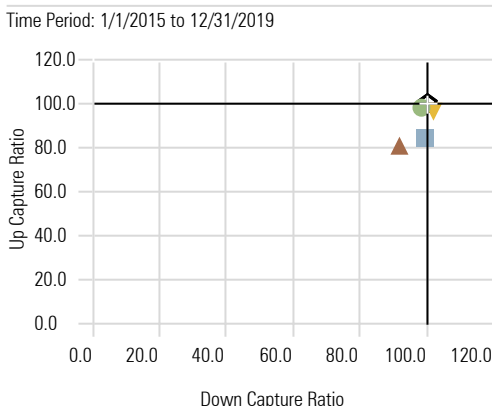
## 5 Year Risk-Reward



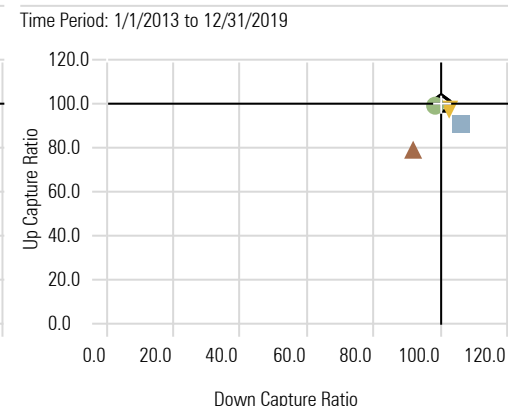
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



- Vanguard Mid Cap Index Institutional
- Voya Russell Mid Cap Index Port A

- Invesco Mid Cap Core Equity R
- Russell Mid Cap TR USD

- Lord Abbett Value Opportunities R3

## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (4/1/2008) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
Vanguard Mid Cap Index Institutional	10.2	17.3	0.0	0.99	100	21.6	-25.6	0.55	1.2
Invesco Mid Cap Core Equity R	6.4	14.2	-1.8	0.79	93	16.7	-21.4	0.41	5.2
Lord Abbett Value Opportunities R3	8.9	16.2	-0.4	0.90	94	19.2	-21.0	0.51	4.5
Voya Russell Mid Cap Index Port A	9.3	17.4	-0.9	1.00	100	20.6	-27.3	0.50	0.2
Russell Mid Cap TR USD	10.3	17.4	0.0	1.00	100	20.8	-27.3	0.56	0.0



# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

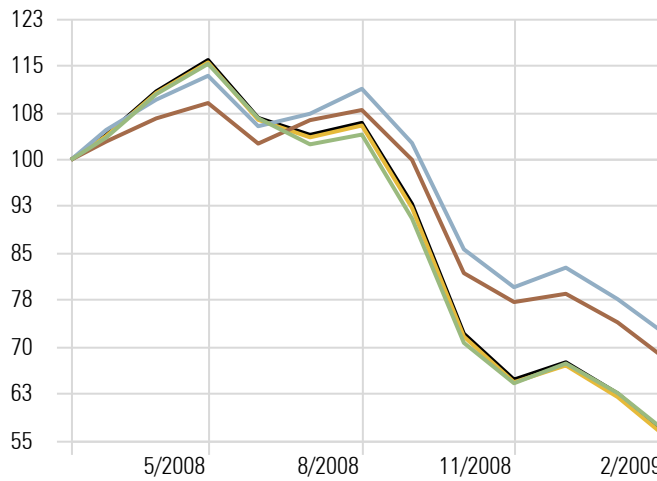
Time Period: 4/30/2003 to 9/30/2007



✖ Vanguard Mid Cap Index Institutional   
 ✖ Invesco Mid Cap Core Equity R   
 ✖ Lord Abbott Value Opportunities R3  
✖ Voya Russell Mid Cap Index Port A   
 ✖ Russell Mid Cap TR USD

## Credit Crunch - Financial Crisis

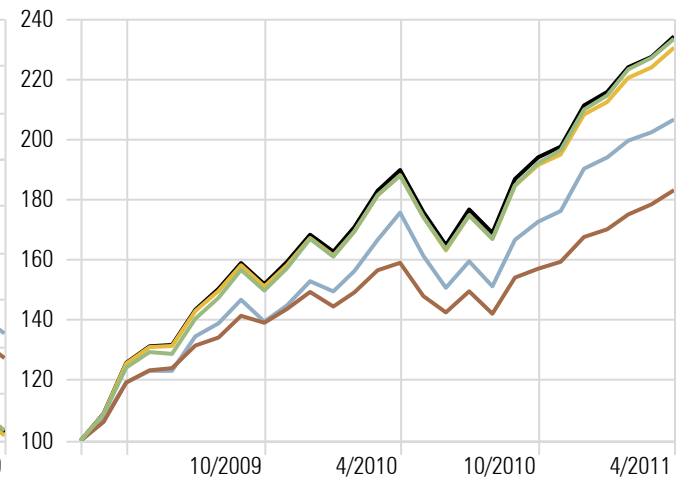
Time Period: 3/11/2008 to 2/28/2009



■ Vanguard Mid Cap Index Institutional    57   
 ■ Invesco Mid Cap Core Equity R    68   
 ■ Lord Abbott Value Opportunities R3    72  
■ Voya Russell Mid Cap Index Port A    56   
 ■ Russell Mid Cap TR USD    56

## Financial Crisis Recovery - QE1&2

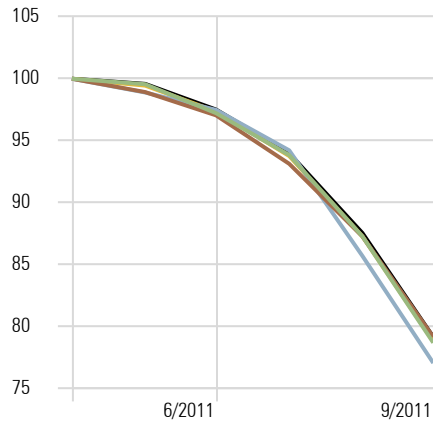
Time Period: 3/1/2009 to 4/30/2011



■ Vanguard Mid Cap Index Institutional    233.5   
 ■ Invesco Mid Cap Core Equity R    183.3   
 ■ Lord Abbott Value Opportunities R3    206.7  
■ Voya Russell Mid Cap Index Port A    230.6   
 ■ Russell Mid Cap TR USD    234.3

## Double Dip

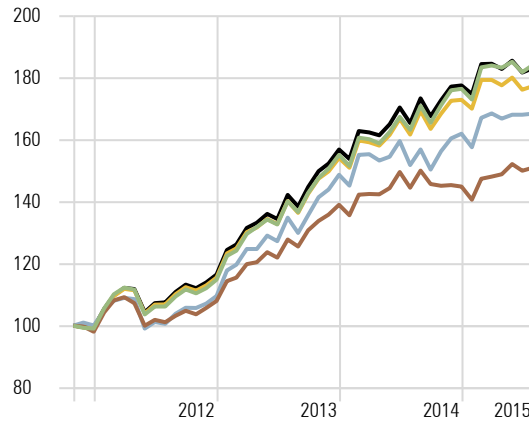
Time Period: 5/1/2011 to 9/30/2011



■ Vanguard Mid Cap Index Institutional    78.8   
 ■ Invesco Mid Cap Core Equity R    79.1   
 ■ Lord Abbott Value Opportunities R3    77.8  
■ Voya Russell Mid Cap Index Port A    78.7   
 ■ Russell Mid Cap TR USD    79.1

## US Recovery Continues - Global Markets Lag

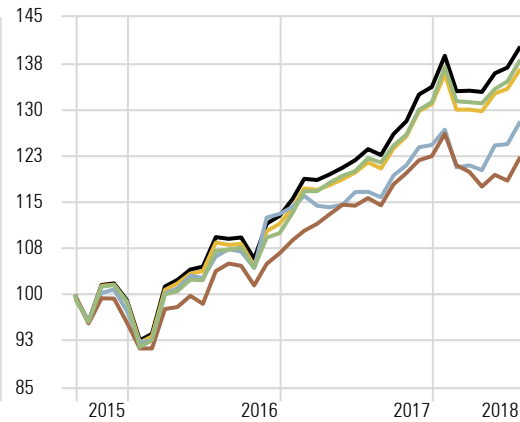
Time Period: 11/1/2011 to 7/31/2015



■ Vanguard Mid Cap Index Institutional    184.4   
 ■ Invesco Mid Cap Core Equity R    151.1   
 ■ Lord Abbott Value Opportunities R3    168.7  
■ Voya Russell Mid Cap Index Port A    177.6   
 ■ Russell Mid Cap TR USD    183.4

## Global Economic Strength

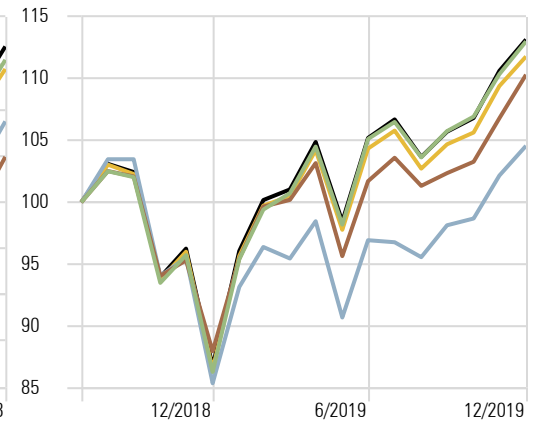
Time Period: 8/31/2015 to 7/31/2018



■ Vanguard Mid Cap Index Institutional    138.1   
 ■ Invesco Mid Cap Core Equity R    122.3   
 ■ Lord Abbott Value Opportunities R3    128.1  
■ Voya Russell Mid Cap Index Port A    136.6   
 ■ Russell Mid Cap TR USD    140.2

## Global Trade Tension

Time Period: 8/1/2018 to 12/31/2019



■ Vanguard Mid Cap Index Institutional    113.0   
 ■ Invesco Mid Cap Core Equity R    110.3   
 ■ Lord Abbott Value Opportunities R3    104.6  
■ Voya Russell Mid Cap Index Port A    111.8   
 ■ Russell Mid Cap TR USD    113.2

● Vanguard Mid Cap Index Institutional  
● Voya Russell Mid Cap Index Port A

● Invesco Mid Cap Core Equity R  
◻ Russell Mid Cap TR USD

● Lord Abbott Value Opportunities R3

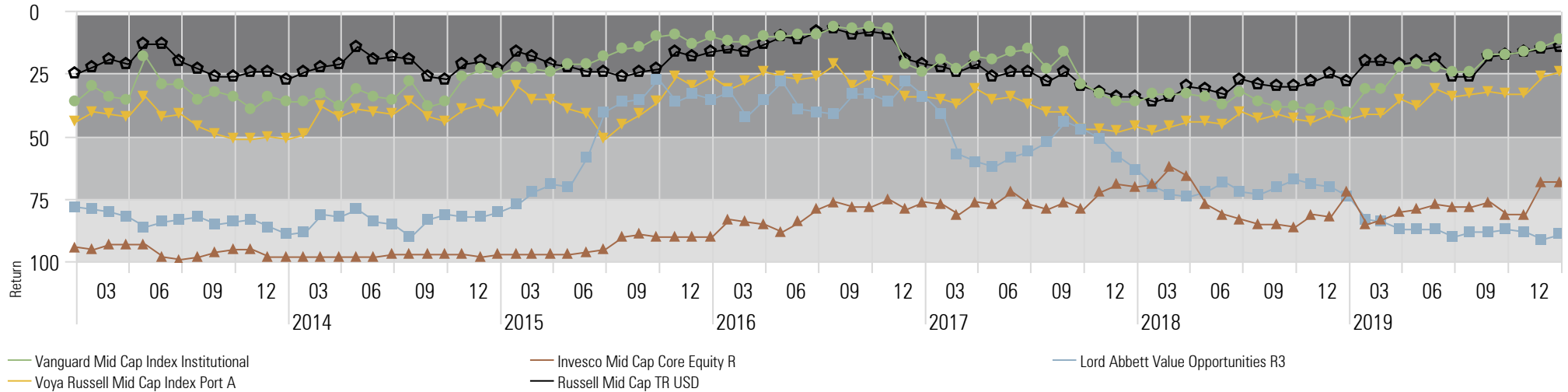
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

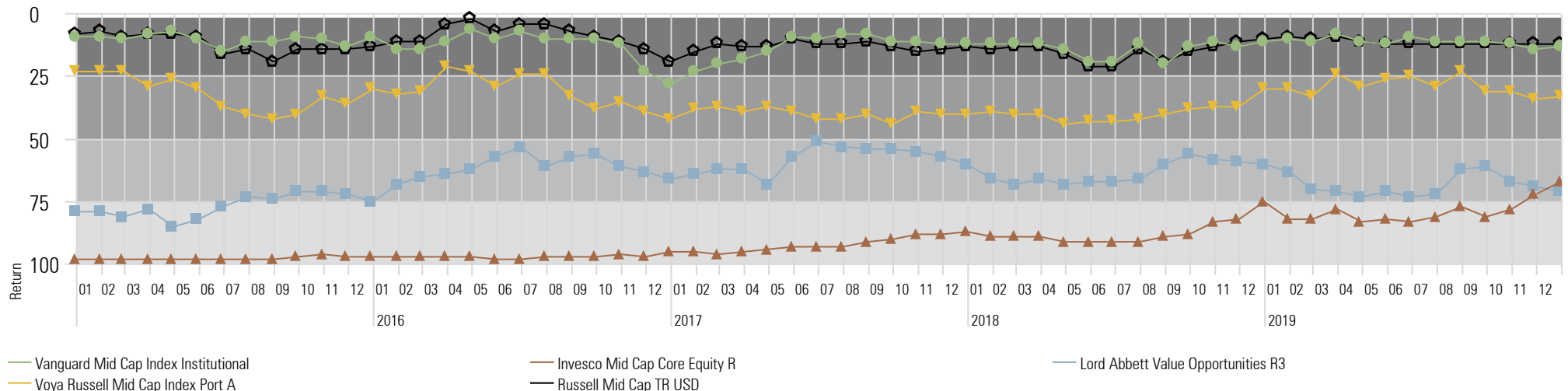


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Mid-Cap Blend</b>																		
Vanguard Mid Cap Index Institutional	6.9	<b>52</b>	-0.19	31.0	<b>18</b>	0.50	31.0	<b>18</b>	0.50	12.4	<b>11</b>	0.31	9.3	<b>13</b>	-0.07	13.1	<b>4</b>	-0.10
Invesco Mid Cap Core Equity R	7.8	<b>27</b>	0.72	25.5	<b>69</b>	-5.08	25.5	<b>69</b>	-5.08	8.1	<b>68</b>	-3.91	6.2	<b>67</b>	-3.17	7.7	<b>96</b>	-5.53
Lord Abbett Value Opportunities R3	6.6	<b>65</b>	-0.51	22.5	<b>84</b>	-8.01	22.5	<b>84</b>	-8.01	5.8	<b>89</b>	-6.26	5.9	<b>71</b>	-3.42	9.9	<b>75</b>	-3.29
Voya Russell Mid Cap Index Port A	6.8	<b>56</b>	-0.27	29.3	<b>32</b>	-1.23	29.3	<b>32</b>	-1.23	11.0	<b>24</b>	-1.01	8.4	<b>33</b>	-0.97	12.2	<b>20</b>	-0.97
Russell Mid Cap TR USD	7.1			30.5			30.5			12.1			9.3			13.2		
Average	7.3			27.0			27.0			9.0			6.9			10.9		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Mid-Cap Blend</b>																					
Vanguard Mid Cap Index Institutional	31.0	<b>18</b>	0.50	-9.2	<b>25</b>	-0.18	19.3	<b>19</b>	0.78	11.2	<b>70</b>	-2.57	-1.3	<b>18</b>	1.11	13.8	<b>10</b>	0.57	35.2	<b>45</b>	0.41
Invesco Mid Cap Core Equity R	25.5	<b>69</b>	-5.08	-12.2	<b>67</b>	-3.09	14.7	<b>67</b>	-3.77	11.8	<b>68</b>	-2.05	-4.6	<b>62</b>	-2.14	4.2	<b>85</b>	-8.98	28.8	<b>94</b>	-5.92
Lord Abbett Value Opportunities R3	22.5	<b>84</b>	-8.01	-12.0	<b>66</b>	-2.98	9.9	<b>92</b>	-8.64	16.2	<b>41</b>	2.37	-3.1	<b>45</b>	-0.70	8.9	<b>56</b>	-4.28	35.8	<b>38</b>	1.07
Voya Russell Mid Cap Index Port A	29.3	<b>32</b>	-1.23	-9.8	<b>31</b>	-0.74	17.4	<b>37</b>	-1.13	12.9	<b>61</b>	-0.94	-3.3	<b>50</b>	-0.89	12.2	<b>17</b>	-1.00	33.5	<b>56</b>	-1.26
Russell Mid Cap TR USD	30.5			-9.1			18.5			13.8			-2.4			13.2			34.8		
Average	27.0			-11.8			15.9			13.9			-4.6			8.5			35.3		

# Vanguard Mid Cap Index Institutional

VMCIX

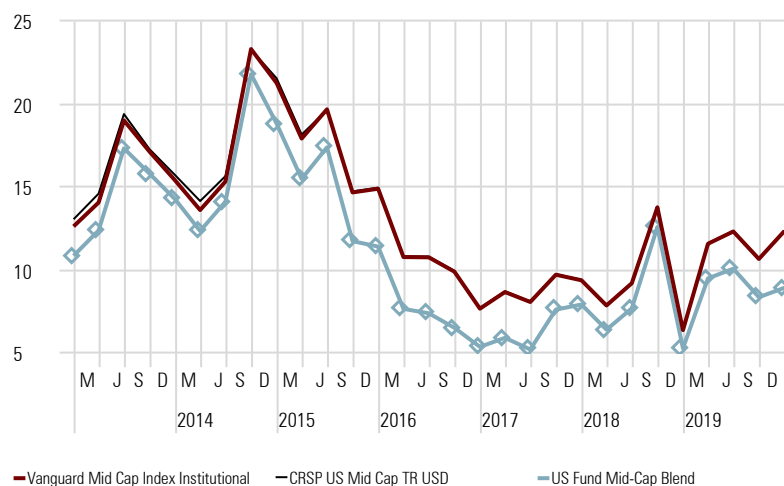
**Index:** CRSP US Mid Cap TR USD  
**Category:** US Fund Mid-Cap Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: CRSP US Mid Cap TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Mid Cap Index Institutional	31.0	31.0	12.4	9.3	13.1	9.4
CRSP US Mid Cap TR USD	31.1	31.1	12.4	9.3	13.3	9.4
US Fund Mid-Cap Blend	25.9	25.9	8.9	7.0	10.7	7.5

## Returns (Rolling 36 Months)

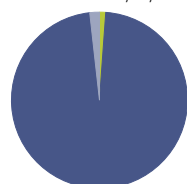


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.04	1.07	
Gross Expense Ratio	0.04	1.26	
LT Earn Growth	10.0	9.7	9.1
Avg Mkt Cap (\$MMM)	16.9	8.1	47.9
P/E Ratio	22.3	20.7	16.3
P/B Ratio	2.8	2.3	2.0
P/S Ratio	1.9	1.5	1.4
P/CF Ratio	13.3	12.0	10.5
ROE %	15.2	12.9	20.5
ROA %	5.4	5.1	7.2
Dividend Yld	1.6	1.7	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



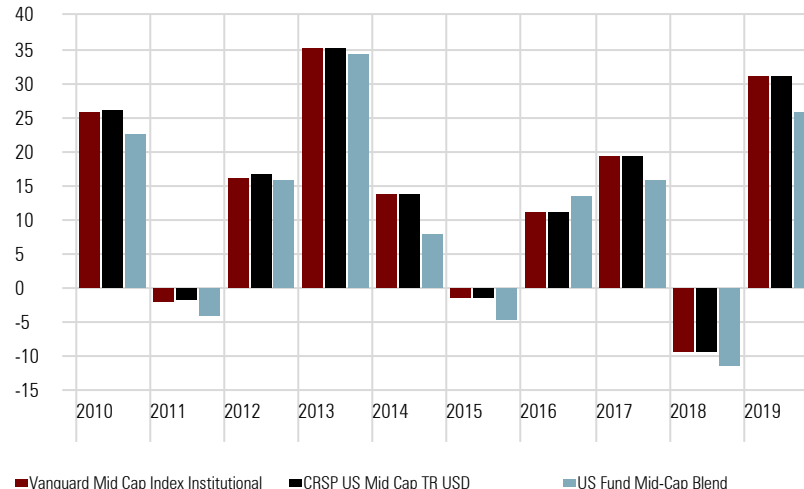
Asset Class	%
Cash	1.1
US Equity	97.1
Non-US Equity	1.8
US Bond	-
Non-US Bond	0.0
Other	0.0

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: CRSP US Mid Cap TR USD

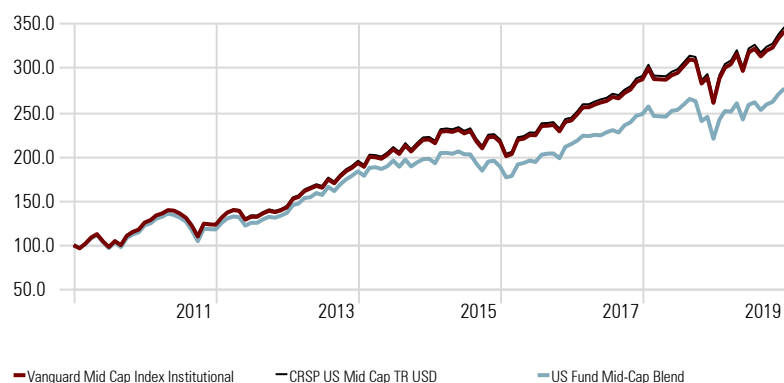
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Mid Cap Index Institutional	67.5	32.5	13.2	-9.9	16.8	-19.1	100.1	101.2
CRSP US Mid Cap TR USD	66.7	33.3	12.5	-9.9	16.8	-18.4	100.0	100.0
US Fund Mid-Cap Blend	64.2	35.8	13.5	-10.4	13.9	-20.4	95.5	108.7

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	13.0	-0.2	12.8	-0.1
Down Deviation	0.0	-1.8	0.0	-1.7
Beta	1.0	0.0	1.0	0.0
Alpha	0.0	3.1	0.0	2.0
Sharpe	0.8	0.3	0.6	0.2
Sortino	1.2	0.4	1.0	0.3
Info Ratio	-0.5	1.3	-0.6	0.4
Down Capture	100.1	-9.9	100.0	-7.0
Up Capture	100.0	8.7	99.9	5.9

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
Newmont Corp	0.8	Energy	4	2
Centene Corp	0.8	Materials	6	7
Cmt Market Liquidity Rate	0.8	Industrials	13	17
TransDigm Group Inc	0.7	Cons Discretionary	11	11
WEC Energy Group Inc	0.7	Consumer Staples	3	4
ONEOK Inc	0.7	Healthcare	11	10
Motorola Solutions Inc	0.7	Financials	13	16
IHS Markit Ltd	0.7	Info Technology	17	15
Eversource Energy	0.7	Telecom Services	5	4
Amphenol Corp Class A	0.7	Utilities	7	5
		Real Estate %	8.6	9.4

# Mid Cap Value Funds

As of 12/31/2019



# US Fund Mid-Cap Value

## American Century Mid Cap Value I

### Investment Strategy

The investment seeks long-term capital growth; income is a secondary consideration. Under normal market conditions, the portfolio managers will invest at least 80% of the fund's net assets in medium size companies. The portfolio managers consider medium size companies to include those whose market capitalizations at the time of purchase are within the capitalization range of the Russell 3000® Index, excluding the largest 100 such companies.

### Manager Biography

Phillip N. Davidson since 3/31/2004

Michael Liss since 3/31/2004

Kevin Toney since 8/29/2008

Brian Woglom since 2/15/2012

## BlackRock Mid Cap Dividend R

### Investment Strategy

The investment seeks capital appreciation and secondarily, income, by investing in securities, primarily equity securities that fund management believes are undervalued and therefore represent an investment value. The fund seeks to achieve its investment objective by investing primarily in a diversified portfolio of equity securities. Under normal circumstances, it invests at least 80% of its net assets plus the amount of any borrowings for investment purposes in equity securities of mid cap companies and at least 80% of its net assets plus the amount of any borrowings for investment purposes in dividend-paying securities.

### Manager Biography

Franco Tapia since 6/12/2017

David Zhao since 6/12/2017

Tony DeSpirito since 6/12/2017

## Pioneer Mid Cap Value R

### Investment Strategy

The investment seeks capital appreciation by investing in a diversified portfolio of securities consisting primarily of common stocks. Normally, the fund invests at least 80% of its total assets in equity securities of mid-size companies. The Russell Midcap Value Index measures the performance of U.S. mid-cap value stocks. The size of the companies in the index changes constantly with market conditions and the composition of the index.

### Manager Biography

Raymond Haddad since 3/1/2018

Timothy P. Stanish since 9/28/2018

## VY® American Century Sm-Mid Cp Val A

### Investment Strategy

The investment seeks long-term capital growth; income is a secondary objective. The fund invests at least 80% of its net assets (plus borrowings for investment purposes) in equity securities of small- and mid-capitalization companies. The sub-adviser defines small-capitalization companies to include those with a market capitalization no larger than that of the largest company in the S&P SmallCap 600® Index or the Russell 2000® Index and mid-capitalization companies to include those whose market capitalization at the time of purchase is within the capitalization range of the Russell 3000® Index, excluding the largest 100 such companies.

### Manager Biography

Phillip N. Davidson since 5/1/2006

Michael Liss since 5/1/2006

Kevin Toney since 8/31/2006

Brian Woglom since 2/29/2012

Jeff John since 5/15/2012

Miles Lewis since 12/31/2014

## American Century Mid Cap Value I - Operations

Inception Date	8/2/2004
Fund Size (\$mm)	8,705
Annual Report Net Expense Ratio	0.76
Prospectus Net Expense Ratio	0.78
Prospectus Gross Expense Ratio	0.78
Ticker	AVUAX
Manager Tenure (Longest)	15.83
Manager Tenure (Average)	12.75
Morningstar Inst Cat	Mid Core Value

### Other Notes:

None

## BlackRock Mid Cap Dividend R - Operations

Inception Date	2/4/2003
Fund Size (\$mm)	354
Annual Report Net Expense Ratio	1.36
Prospectus Net Expense Ratio	1.35
Prospectus Gross Expense Ratio	1.50
Ticker	MRRFX
Manager Tenure (Longest)	2.58
Manager Tenure (Average)	2.58
Morningstar Inst Cat	Mid Core Value

### Other Notes:

None

## Pioneer Mid Cap Value R - Operations

Inception Date	4/1/2003
Fund Size (\$mm)	768
Annual Report Net Expense Ratio	1.47
Prospectus Net Expense Ratio	1.48
Prospectus Gross Expense Ratio	1.48
Ticker	PCMRX
Manager Tenure (Longest)	1.83
Manager Tenure (Average)	1.58
Morningstar Inst Cat	Mid Deep Value

### Other Notes:

None

## VY® American Century Sm-Mid Cp Val A - Operations

Inception Date	5/1/2002
Fund Size (\$mm)	381
Annual Report Net Expense Ratio	1.36
Prospectus Net Expense Ratio	1.36
Prospectus Gross Expense Ratio	1.66
Ticker	IASAX
Manager Tenure (Longest)	13.67
Manager Tenure (Average)	10.24
Morningstar Inst Cat	Mid Deep Value

### Other Notes:

None

# Portfolio Analysis

## American Century Mid Cap Value I

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	25	24	2	Market Cap Giant %	3
Mid	26	14	1	Market Cap Large %	49
Small	3	4	0	Market Cap Mid %	41
				Market Cap Small %	8
				Market Cap Micro %	0

## BlackRock Mid Cap Dividend R

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	27	25	3	Market Cap Giant %	1
Mid	29	11	1	Market Cap Large %	54
Small	1	2	1	Market Cap Mid %	41
				Market Cap Small %	4
				Market Cap Micro %	0

## Pioneer Mid Cap Value R

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	14	13	1	Market Cap Giant %	0
Mid	28	23	15	Market Cap Large %	28
Small	2	2	2	Market Cap Mid %	67
				Market Cap Small %	5
				Market Cap Micro %	0

## VY® American Century Sm-Mid Cp Val A

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	17	17	2	Market Cap Giant %	2
Mid	22	13	2	Market Cap Large %	34
Small	12	12	3	Market Cap Mid %	37
				Market Cap Small %	24
				Market Cap Micro %	4

### Valuation Data

Display Benchmark 1: Russell Mid Cap Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	17.0	13.0
Forward P/E	16.3	16.1
P/E Ratio (TTM)	17.7	18.5
LT Earn Growth	7.4	8.7
P/B Ratio (TTM)	2.3	2.0
Dividend Yield	2.5	2.4
ROE %	13.6	10.5
ROA %	4.4	3.7
Debt to Capital %	39.7	43.4

### Valuation Data

Display Benchmark 1: Russell Mid Cap Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	17.9	13.0
Forward P/E	14.0	16.1
P/E Ratio (TTM)	16.4	18.5
LT Earn Growth	9.1	8.7
P/B Ratio (TTM)	1.5	2.0
Dividend Yield	2.4	2.4
ROE %	10.3	10.5
ROA %	3.3	3.7
Debt to Capital %	43	43

### Valuation Data

Display Benchmark 1: Russell Mid Cap Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	13.2	13.0
Forward P/E	16.6	16.1
P/E Ratio (TTM)	18.0	18.5
LT Earn Growth	8.6	8.7
P/B Ratio (TTM)	2.1	2.0
Dividend Yield	1.9	2.4
ROE %	15.3	10.5
ROA %	5.0	3.7
Debt to Capital %	43	43

### Valuation Data

Display Benchmark 1: Russell Mid Cap Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	9.1	13.0
Forward P/E	16.0	16.1
P/E Ratio (TTM)	17.2	18.5
LT Earn Growth	7.9	8.7
P/B Ratio (TTM)	2.0	2.0
Dividend Yield	2.5	2.4
ROE %	12.1	10.5
ROA %	3.9	3.7
Debt to Capital %	40	43

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	53	
# of Stock Holdings	92	631
% in Top 10	21.3	6.7
Cash %	2.6	0.0
Developed %	96.9	99.4
US Equity %	87.3	98.8
Non-US Equity %	10	1
Emerging Mkt %	0.0	0.6

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	58	
# of Stock Holdings	90	631
% in Top 10	22.4	6.7
Cash %	5.7	0.0
Developed %	93.5	99.4
US Equity %	85.4	98.8
Non-US Equity %	9	1
Emerging Mkt %	0.8	0.6

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	94	
# of Stock Holdings	77	631
% in Top 10	20.6	6.7
Cash %	0.1	0.0
Developed %	99.9	99.4
US Equity %	99.9	98.8
Non-US Equity %	0	1
Emerging Mkt %	0.0	0.6

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	76	
# of Stock Holdings	194	631
% in Top 10	15.5	6.7
Cash %	1.4	0.0
Developed %	98.2	99.4
US Equity %	90.2	98.8
Non-US Equity %	8	1
Emerging Mkt %	0.4	0.6

# Holdings-Based Style Analysis

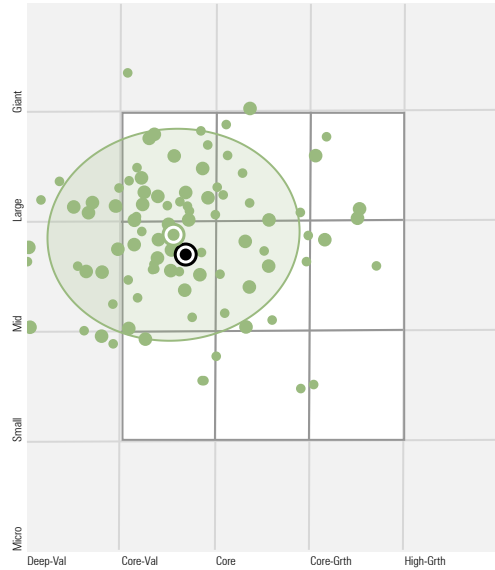
## American Century Mid Cap Value I

## BlackRock Mid Cap Dividend R

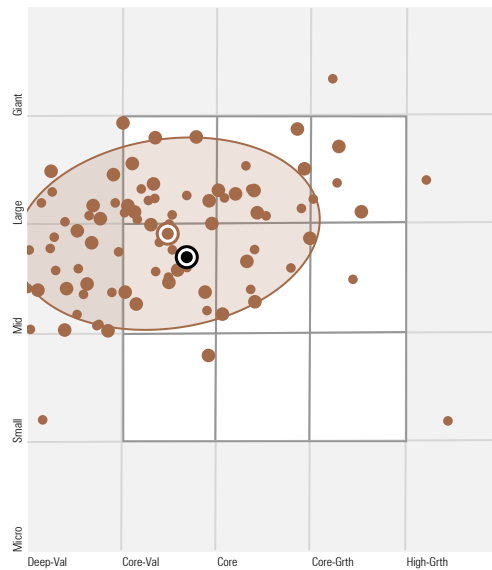
## Pioneer Mid Cap Value R

## VY® American Century Sm-Mid Cp Val A

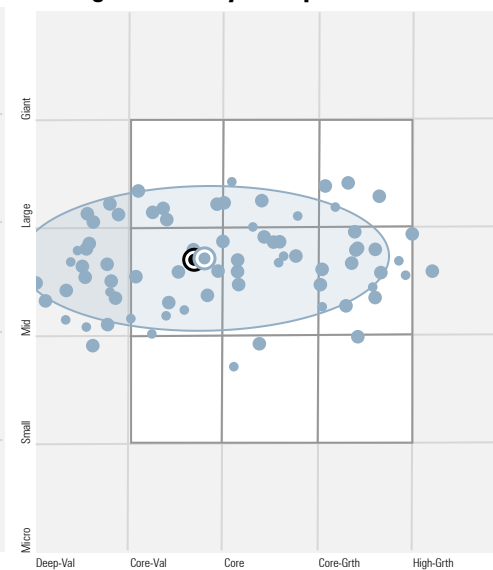
### Holdings-Based Style Map



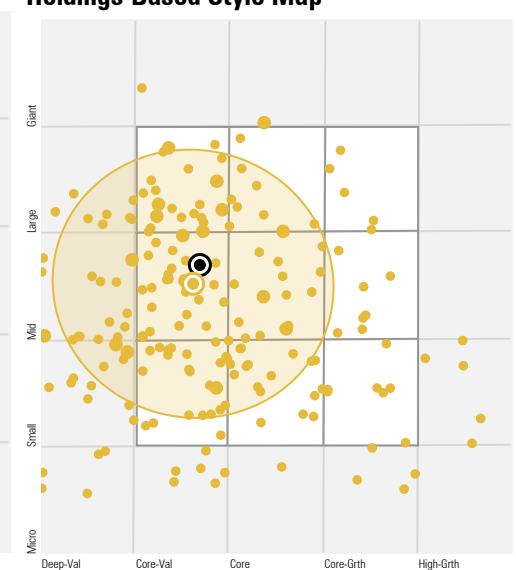
### Holdings-Based Style Map



### Holdings-Based Style Map



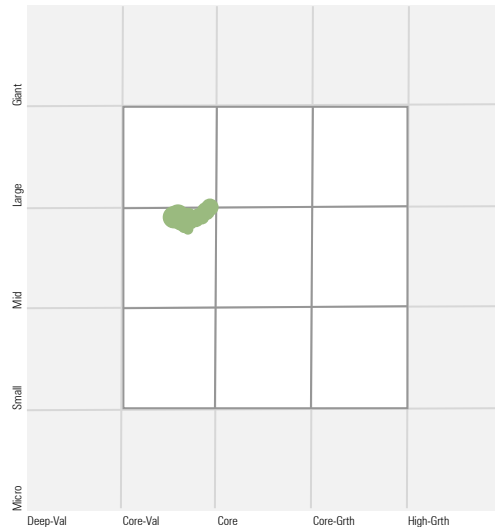
### Holdings-Based Style Map



● American Century Mid Cap Value I 12/31/2019 
 ● Russell Mid Cap Value TR USD 12/31/2019 
 ● BlackRock Mid Cap Dividend R 12/31/2019 
 ● Russell Mid Cap Value TR USD 12/31/2019 
 ● Pioneer Mid Cap Value R 11/30/2019 
 ● Russell Mid Cap Value TR USD 12/31/2019 
 ● VY® American Century Sm-Mid Cp Val A 12/31/2019 
 ● Russell Mid Cap Value TR USD 12/31/2019

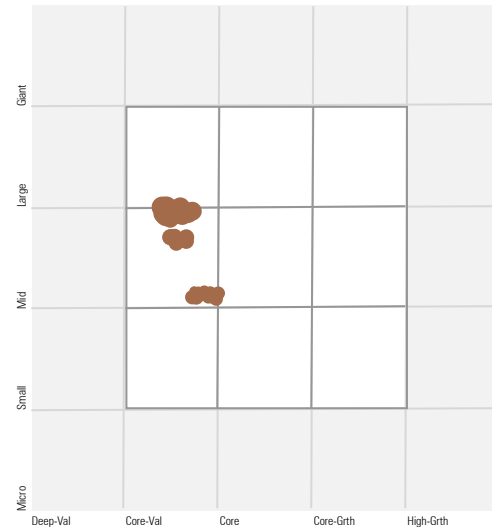
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



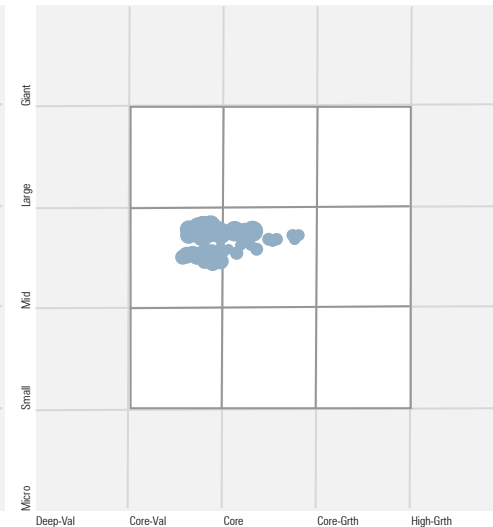
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



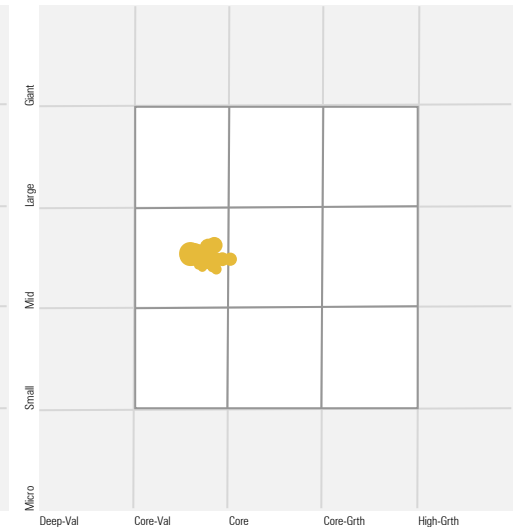
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



### Holdings-Based Style Trail

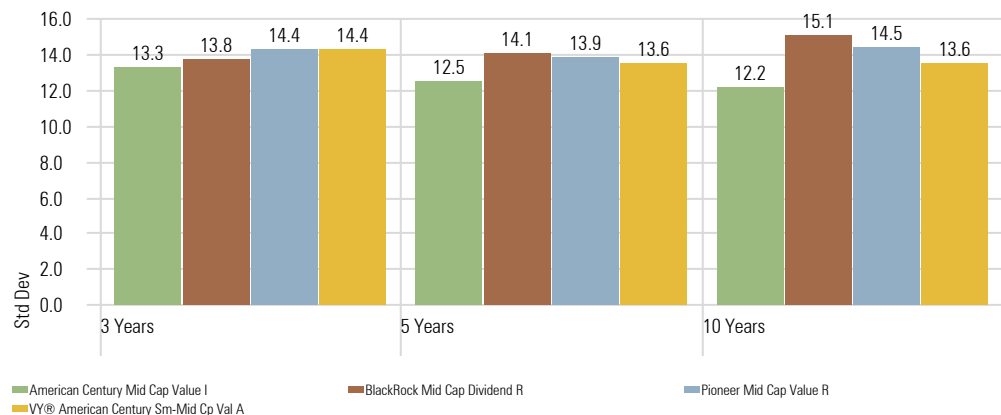
Time Period: 3/31/2015 to 12/31/2019



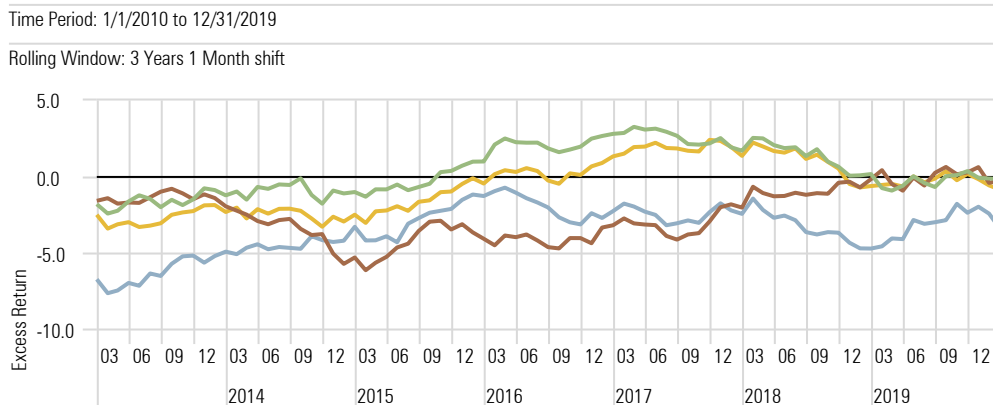


# Risk/Return Performance Analysis

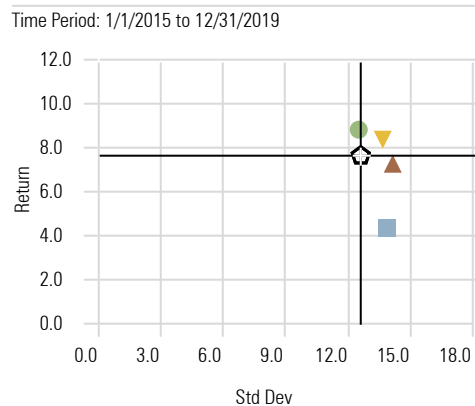
## Standard Deviation



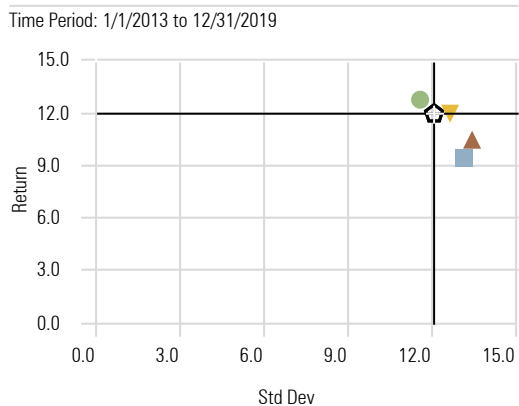
## 3 Year Relative Rolling Returns



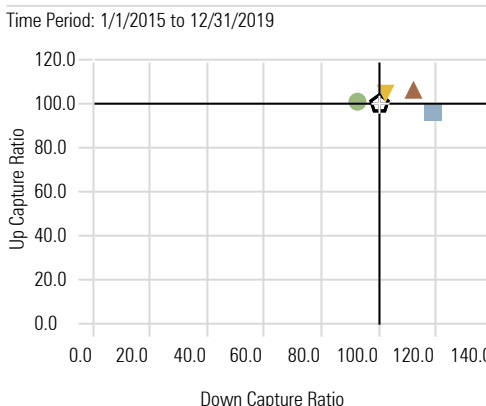
## 5 Year Risk-Reward



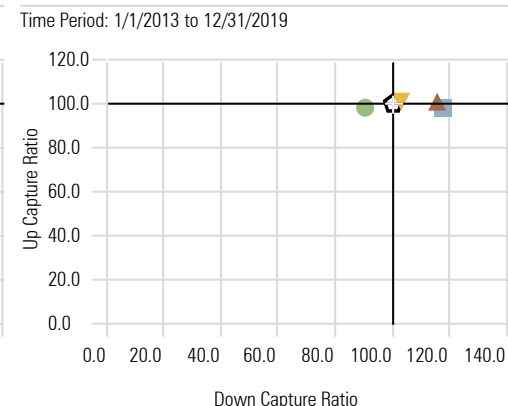
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



- American Century Mid Cap Value I
- VY® American Century Sm-Mid Cp Val A

- BlackRock Mid Cap Dividend R
- Russell Mid Cap Value TR USD

- Pioneer Mid Cap Value R

## Annualized Performance & Risk Statistics - Since Common Inception

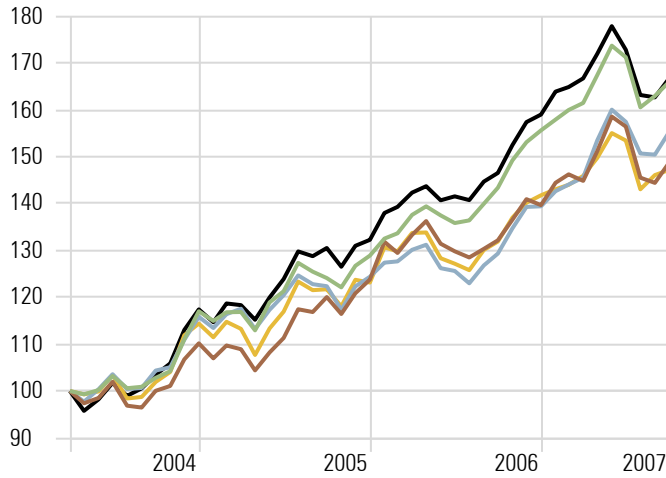
Time Period: Since Common Inception (4/1/2004) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
American Century Mid Cap Value I	10.6	13.6	2.2	0.82	93	17.5	-18.9	0.68	4.6
BlackRock Mid Cap Dividend R	8.2	16.6	-1.1	1.00	93	18.5	-24.9	0.41	4.3
Pioneer Mid Cap Value R	6.6	15.1	-2.0	0.91	93	16.6	-21.6	0.35	4.3
VY® American Century Sm-Mid Cp Val A	9.4	15.3	0.4	0.93	94	20.7	-20.4	0.52	3.9
Russell Mid Cap Value TR USD	9.5	16.0	0.0	1.00	100	23.6	-27.2	0.51	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

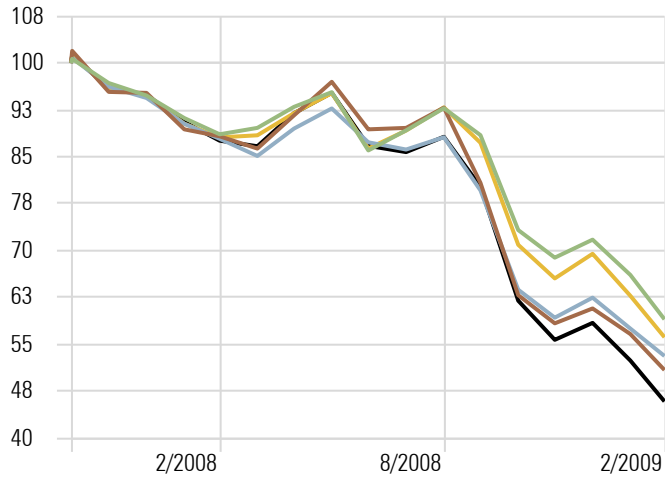
Time Period: 4/1/2004 to 9/30/2007



● American Century Mid Cap Value I 166  
● BlackRock Mid Cap Dividend R 149  
● Pioneer Mid Cap Value R 155  
● VY® American Century Sm-Mid Cp Val A 147  
● Russell Mid Cap Value TR USD 167

## Credit Crunch - Financial Crisis

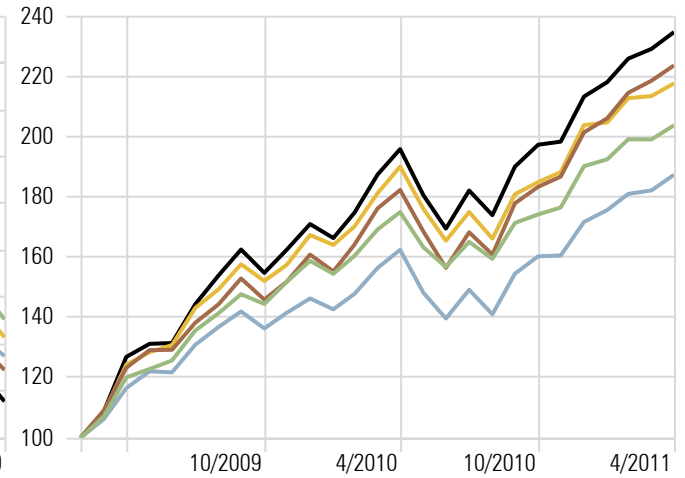
Time Period: 10/31/2007 to 2/28/2009



● American Century Mid Cap Value I 59  
● BlackRock Mid Cap Dividend R 51  
● Pioneer Mid Cap Value R 46  
● VY® American Century Sm-Mid Cp Val A 56  
● Russell Mid Cap Value TR USD 46

## Financial Crisis Recovery - QE1&2

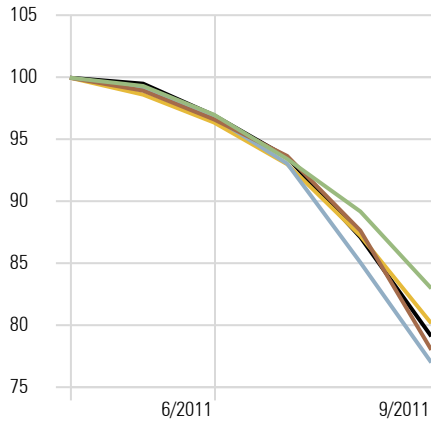
Time Period: 3/1/2009 to 4/30/2011



● American Century Mid Cap Value I 203.8  
● BlackRock Mid Cap Dividend R 223.7  
● Pioneer Mid Cap Value R 187.4  
● VY® American Century Sm-Mid Cp Val A 217.7  
● Russell Mid Cap Value TR USD 234.8

## Double Dip

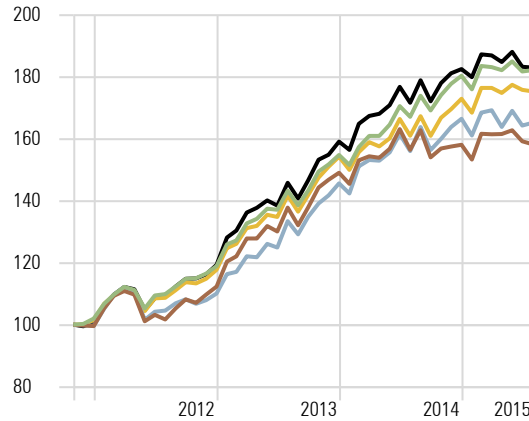
Time Period: 5/1/2011 to 9/30/2011



● American Century Mid Cap Value I 82.8  
● BlackRock Mid Cap Dividend R 80.0  
● Pioneer Mid Cap Value R 78.1  
● VY® American Century Sm-Mid Cp Val A 81.1  
● Russell Mid Cap Value TR USD 79.1

## US Recovery Continues - Global Markets Lag

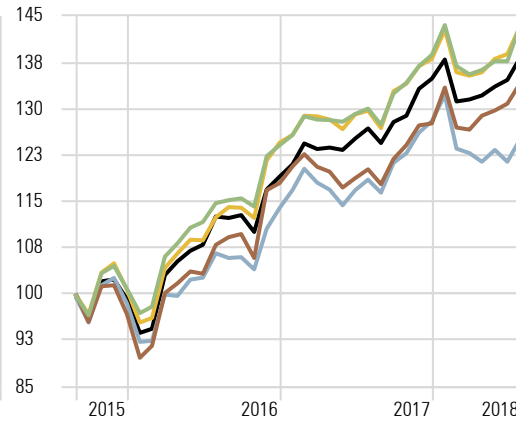
Time Period: 11/1/2011 to 7/31/2015



● American Century Mid Cap Value I 182.5  
● BlackRock Mid Cap Dividend R 158.5  
● Pioneer Mid Cap Value R 183.3  
● VY® American Century Sm-Mid Cp Val A 175.6  
● Russell Mid Cap Value TR USD 183.3

## Global Economic Strength

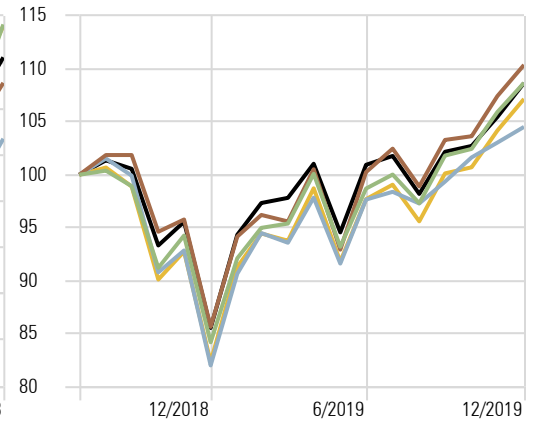
Time Period: 8/31/2015 to 7/31/2018



● American Century Mid Cap Value I 142.4  
● BlackRock Mid Cap Dividend R 134.2  
● Pioneer Mid Cap Value R 138.3  
● VY® American Century Sm-Mid Cp Val A 141.4  
● Russell Mid Cap Value TR USD 138.3

## Global Trade Tension

Time Period: 8/1/2018 to 12/31/2019



● American Century Mid Cap Value I 105.1  
● BlackRock Mid Cap Dividend R 107.2  
● Pioneer Mid Cap Value R 104.5  
● VY® American Century Sm-Mid Cp Val A 107.2  
● Russell Mid Cap Value TR USD 108.7

● American Century Mid Cap Value I  
● VY® American Century Sm-Mid Cp Val A  
● BlackRock Mid Cap Dividend R  
● Russell Mid Cap Value TR USD  
● Pioneer Mid Cap Value R

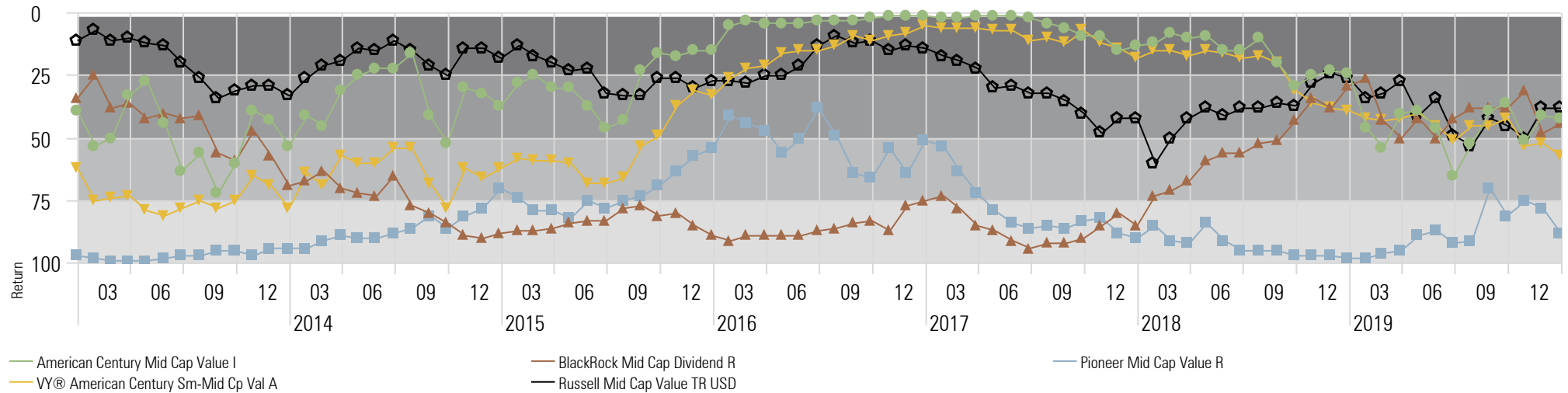
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

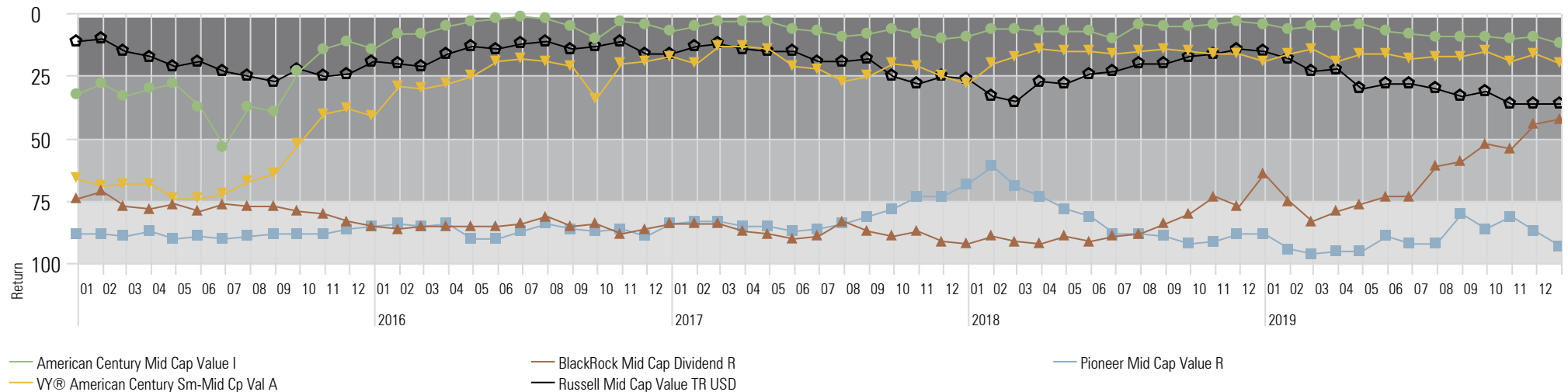


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Mid-Cap Value</b>																		
American Century Mid Cap Value I	6.7	53	0.39	29.1	28	2.05	29.1	28	2.05	8.0	42	-0.14	8.8	12	1.22	12.4	12	0.00
BlackRock Mid Cap Dividend R	6.9	49	0.50	28.9	32	1.84	28.9	32	1.84	7.9	44	-0.21	7.3	42	-0.32	10.9	50	-1.56
Pioneer Mid Cap Value R	5.2	93	-1.15	27.5	44	0.43	27.5	44	0.43	4.7	88	-3.39	4.4	93	-3.26	8.6	98	-3.84
VY® American Century Sm-Mid Cp Val A	7.0	46	0.67	30.2	18	3.11	30.2	18	3.11	7.3	57	-0.83	8.4	20	0.79	11.6	27	-0.79
Russell Mid Cap Value TR USD	6.4			27.1			27.1			8.1			7.6			12.4		
Average	7.0			26.0			26.0			7.3			6.9			10.9		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Mid-Cap Value</b>																					
American Century Mid Cap Value I	29.1	28	2.05	-12.8	39	-0.55	11.8	73	-1.55	23.1	13	3.07	-1.4	15	3.42	16.5	2	1.80	30.3	87	-3.20
BlackRock Mid Cap Dividend R	28.9	32	1.84	-10.0	14	2.32	8.2	93	-5.15	22.0	20	1.97	-7.2	77	-2.39	6.1	86	-8.68	32.8	67	-0.63
Pioneer Mid Cap Value R	27.5	44	0.43	-19.8	95	-7.55	12.3	66	-1.00	15.7	70	-4.30	-6.8	74	-2.06	14.3	11	-0.40	32.4	70	-1.04
VY® American Century Sm-Mid Cp Val A	30.2	18	3.11	-14.5	61	-2.20	10.9	83	-2.45	23.7	12	3.69	-2.0	21	2.81	12.2	28	-2.60	31.1	80	-2.34
Russell Mid Cap Value TR USD	27.1			-12.3			13.3			20.0			-4.8		14.7				33.5		
Average	26.0			-13.7			13.6			18.4			-4.6		9.7				34.9		

# American Century Mid Cap Value I

AVUAX

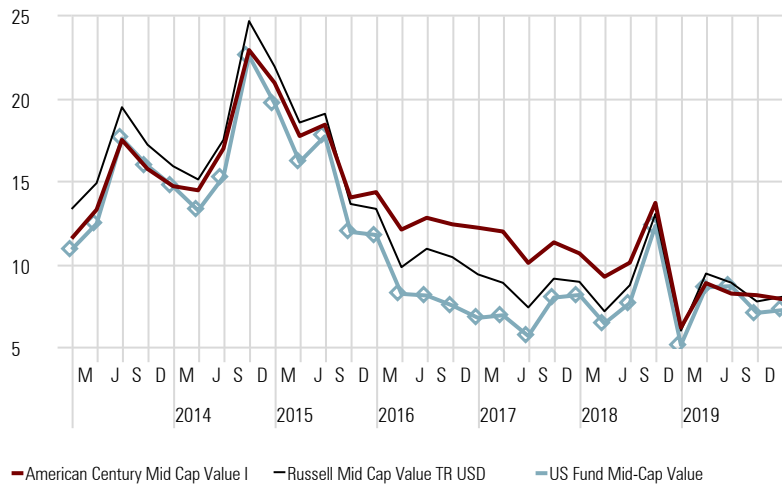
**Index:** Russell Mid Cap Value TR USD  
**Category:** US Fund Mid-Cap Value  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell Mid Cap Value TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
American Century Mid Cap Value I	29.1	29.1	8.0	8.8	12.4	10.0
Russell Mid Cap Value TR USD	27.1	27.1	8.1	7.6	12.4	8.8
US Fund Mid-Cap Value	24.8	24.8	7.3	6.6	10.7	7.6

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.78	1.09	
Gross Expense Ratio	0.78	1.44	
LT Earn Growth	7.4	8.6	9.1
Avg Mkt Cap (\$MMM)	17.0	10.7	47.9
P/E Ratio	17.7	15.6	16.3
P/B Ratio	2.3	1.7	2.0
P/S Ratio	1.2	0.9	1.4
P/CF Ratio	11.6	8.1	10.5
ROE %	13.6	12.8	20.5
ROA %	4.4	3.8	7.2
Dividend Yld	2.5	2.2	2.8

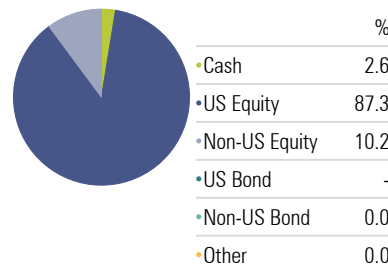
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell Mid Cap Value TR USD

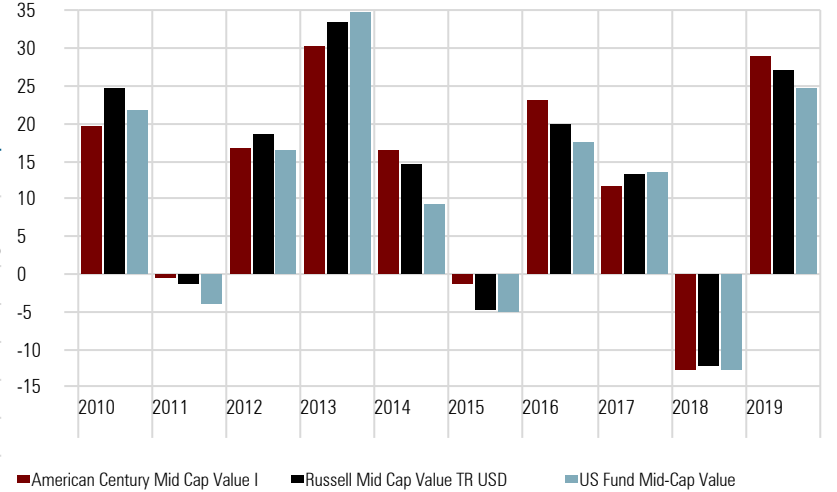
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
American Century Mid Cap Value I	68.3	31.7	9.8	-10.7	13.3	-14.9	92.5	86.1
Russell Mid Cap Value TR USD	69.2	30.8	12.6	-10.5	14.4	-18.5	100.0	100.0
US Fund Mid-Cap Value	65.8	34.2	12.8	-10.6	12.9	-19.6	97.1	106.0

## Asset Allocation

Portfolio Date: 12/31/2019

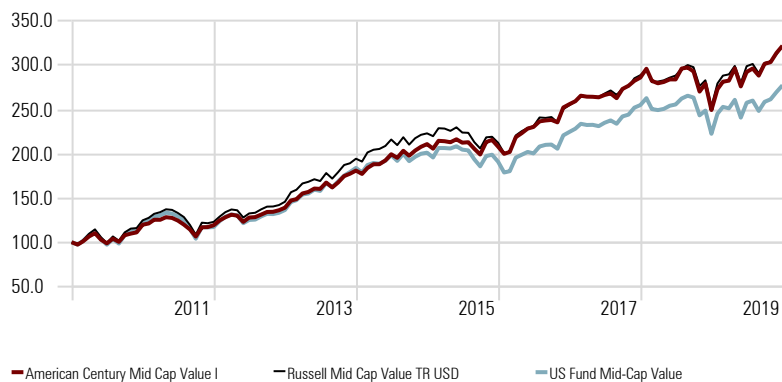


## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	13.3	-0.3	12.5	-0.8
Down Deviation	1.7	0.4	1.6	0.0
Beta	1.0	0.0	1.0	-0.1
Alpha	-0.1	0.9	1.3	2.5
Sharpe	0.5	0.1	0.6	0.2
Sortino	0.7	0.1	1.0	0.3
Info Ratio	-0.1	0.4	0.5	0.9
Down Capture	101.7	-5.5	92.5	-14.0
Up Capture	100.4	-0.5	100.9	1.4

## Top 10 Holdings

	Fund %	Inv	Avg
iShares Russell Mid-Cap Value ETF	3.1	5	5
Zimmer Biomet Holdings Inc	2.9	4	7
Truist Financial Corp	2.5	17	14
Northern Trust Corp	2.5	9	12
Xcel Energy Inc	1.9	7	5
Emerson Electric Co	1.9	12	8
Weyerhaeuser Co	1.8	22	21
Hubbell Inc	1.6	6	9
Quest Diagnostics Inc	1.6	1	3
Comerica Inc	1.5	10	7

## Sector Allocation (%)

	Inv	Avg
Energy	5	5
Materials	4	7
Industrials	17	14
Cons Discretionary	9	12
Consumer Staples	7	5
Healthcare	12	8
Financials	22	21
Info Technology	6	9
Telecom Services	1	3
Utilities	10	7
Real Estate %	6.4	8.3

# Small Cap Growth Search

As of 2/29/2020



# US Fund Small Growth

## Voya SmallCap Opportunities Port I

### Investment Strategy

The investment seeks long-term capital appreciation. The fund normally invests at least 80% of its net assets (plus borrowings for investment purposes) in common stock of smaller, lesser-known U.S. companies. The Sub-Adviser defines smaller companies as those with market capitalizations that fall within the range of companies in the Russell 2000® Growth Index at the time of purchase. It normally invests in companies that the sub-adviser believes have above average prospects for growth.

### Manager Biography

James Hasso since 10/1/2008

Joseph Basset since 4/30/2012

## Loomis Sayles Small Cap Growth Instl

### Investment Strategy

The investment seeks long-term capital growth. The fund normally will invest at least 80% of its net assets (plus any borrowings made for investment purposes) in the equity securities of "small-cap companies," including preferred stocks, warrants, securities convertible into common or preferred stocks and other equity-like interests in an entity. Currently, the manager defines a small-cap company to be one whose market capitalization either falls within the capitalization range of the Russell 2000® Index, an index that tracks stocks of 2,000 of the smallest U.S. companies, or is \$3 billion or less at the time of investment.

### Manager Biography

Mark F. Burns since 1/6/2005

John J. Slavik since 4/1/2005

## Invesco Small Cap Growth R

### Investment Strategy

The investment seeks long-term growth of capital. The fund invests, under normal circumstances, at least 80% of its net assets (plus any borrowings for investment purposes) in securities of small-capitalization issuers. It invests primarily in equity securities. The principal type of equity security in which the fund invests is common stock. The fund's manager considers an issuer to be a small-capitalization issuer if it has a market capitalization, at the time of purchase, no larger than the largest capitalized issuer included in the Russell 2000® Index.

### Manager Biography

Juan R. Hartsfield since 9/8/2004

Clay Manley since 5/1/2008

## Lord Abbett Developing Growth R3

### Investment Strategy

The investment seeks long-term growth of capital through a diversified and actively managed portfolio consisting of developing growth companies, many of which are traded over the counter. The fund invests in equity securities of companies that the portfolio management team believes demonstrate above-average, long-term growth potential. Under normal conditions, the fund invests at least 65% of its net assets in equity securities of small companies. It may invest up to 10% of its net assets in securities of foreign companies, including emerging market companies, American Depositary Receipts ("ADRs"), and other similar depository receipts.

### Manager Biography

F. Thomas O'Halloran since 12/31/2001

Matthew R. DeCicco since 12/1/2017

Vernon T Bice since 12/1/2018

## Voya SmallCap Opportunities Port I - Operati

Inception Date	5/6/1994
Fund Size (\$mm)	285
Annual Report Net Expense Ratio	0.87
Prospectus Net Expense Ratio	0.88
Prospectus Gross Expense Ratio	0.88
Ticker	IVSOX
Manager Tenure (Longest)	11.42
Manager Tenure (Average)	9.67
Morningstar Inst Cat	Small Core Growth

### Other Notes:

None

## Loomis Sayles Small Cap Growth Instl - Op

Inception Date	12/31/1996
Fund Size (\$mm)	1,793
Annual Report Net Expense Ratio	0.95
Prospectus Net Expense Ratio	0.95
Prospectus Gross Expense Ratio	0.95
Ticker	LSSIX
Manager Tenure (Longest)	15.17
Manager Tenure (Average)	15.04
Morningstar Inst Cat	Small High Growth

### Other Notes:

None

## Invesco Small Cap Growth R - Operations

Inception Date	6/3/2002
Fund Size (\$mm)	2,358
Annual Report Net Expense Ratio	1.43
Prospectus Net Expense Ratio	1.43
Prospectus Gross Expense Ratio	1.43
Ticker	GTSRX
Manager Tenure (Longest)	15.50
Manager Tenure (Average)	13.67
Morningstar Inst Cat	Small Core Growth

### Other Notes:

None

## Lord Abbett Developing Growth R3 - Operat

Inception Date	9/28/2007
Fund Size (\$mm)	1,785
Annual Report Net Expense Ratio	1.19
Prospectus Net Expense Ratio	1.19
Prospectus Gross Expense Ratio	1.19
Ticker	LADRX
Manager Tenure (Longest)	18.25
Manager Tenure (Average)	7.25
Morningstar Inst Cat	Small High Growth

### Other Notes:

None

# Portfolio Analysis

## Voya SmallCap Opportunities Port I

## Loomis Sayles Small Cap Growth Instl

## Invesco Small Cap Growth R

## Lord Abbett Developing Growth R3

### Style Allocation

Portfolio Date: 1/31/2020

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
				Market Cap Large %	0
Mid	3	17	23	Market Cap Mid %	43
				Market Cap Small %	56
Small	5	18	35	Market Cap Micro %	1

### Style Allocation

Portfolio Date: 1/31/2020

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
				Market Cap Large %	0
Mid	0	10	27	Market Cap Mid %	35
				Market Cap Small %	65
Small	2	11	50	Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	2	Market Cap Giant %	0
				Market Cap Large %	2
Mid	6	14	43	Market Cap Mid %	63
				Market Cap Small %	35
Small	5	5	24	Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
				Market Cap Large %	1
Mid	1	4	47	Market Cap Mid %	49
				Market Cap Small %	50
Small	3	13	32	Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: Russell 2000 Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	3.4	2.1
Forward P/E	19.6	19.3
P/E Ratio (TTM)	24.0	22.8
LT Earn Growth	15.1	13.0
P/B Ratio (TTM)	3.8	3.7
Dividend Yield	0.6	0.9
ROE %	9.3	4.2
ROA %	1.8	-1.9
Debt to Capital %	43.1	36.6

### Valuation Data

Display Benchmark 1: Russell 2000 Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	3.0	2.1
Forward P/E	26.7	19.3
P/E Ratio (TTM)	32.2	22.8
LT Earn Growth	13.8	13.0
P/B Ratio (TTM)	4.3	3.7
Dividend Yield	0.3	0.9
ROE %	5.9	4.2
ROA %	1.3	-1.9
Debt to Capital %	33	37

### Valuation Data

Display Benchmark 1: Russell 2000 Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	5.2	2.1
Forward P/E	24.8	19.3
P/E Ratio (TTM)	30.6	22.8
LT Earn Growth	12.2	13.0
P/B Ratio (TTM)	4.4	3.7
Dividend Yield	0.6	0.9
ROE %	9.5	4.2
ROA %	2.1	-1.9
Debt to Capital %	38	37

### Valuation Data

Display Benchmark 1: Russell 2000 Growth TR USD

	Inv	Bmk1
Average Market Cap (bil)	3.7	2.1
Forward P/E	23.9	19.3
P/E Ratio (TTM)	28.9	22.8
LT Earn Growth	14.3	13.0
P/B Ratio (TTM)	5.8	3.7
Dividend Yield	0.2	0.9
ROE %	-4.1	4.2
ROA %	-4.2	-1.9
Debt to Capital %	32	37

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	108	
# of Stock Holdings	145	1,160
% in Top 10	13.0	5.9
Cash %	1.1	0.0
Developed %	98.5	99.6
US Equity %	97.3	98.8
Non-US Equity %	2	1
Emerging Mkt %	0.5	0.4

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	67	
# of Stock Holdings	98	1,160
% in Top 10	15.8	5.9
Cash %	4.3	0.0
Developed %	95.2	99.6
US Equity %	92.7	98.8
Non-US Equity %	3	1
Emerging Mkt %	0.5	0.4

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	21	
# of Stock Holdings	117	1,160
% in Top 10	13.7	5.9
Cash %	1.5	0.0
Developed %	98.2	99.6
US Equity %	97.2	98.8
Non-US Equity %	2	1
Emerging Mkt %	0.5	0.4

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	88	
# of Stock Holdings	98	1,160
% in Top 10	20.4	5.9
Cash %	0.0	0.0
Developed %	99.5	99.6
US Equity %	96.0	98.8
Non-US Equity %	4	1
Emerging Mkt %	0.5	0.4



# Holdings-Based Style Analysis

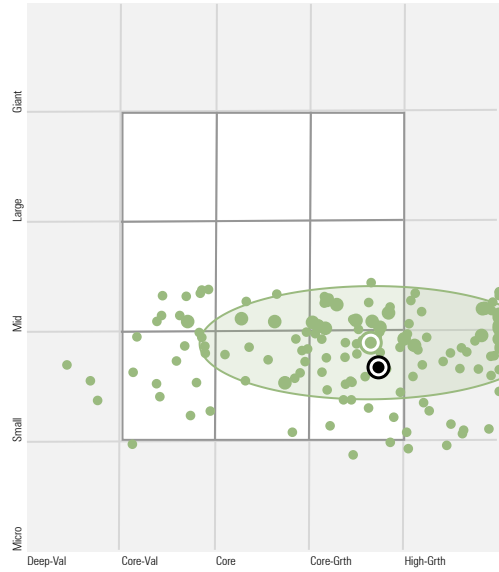
## Voya SmallCap Opportunities Port I

## Loomis Sayles Small Cap Growth Instl

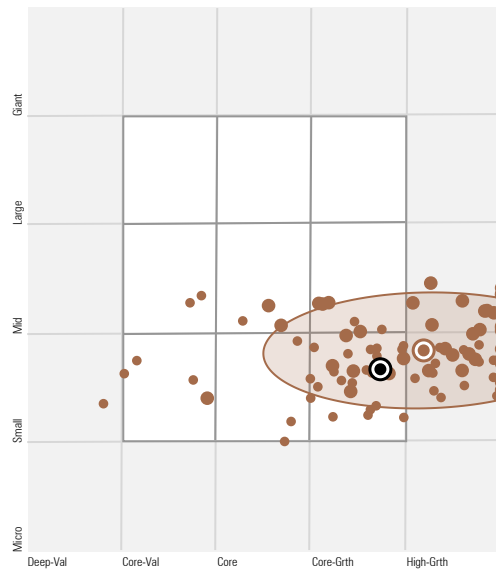
## Invesco Small Cap Growth R

## Lord Abbett Developing Growth R3

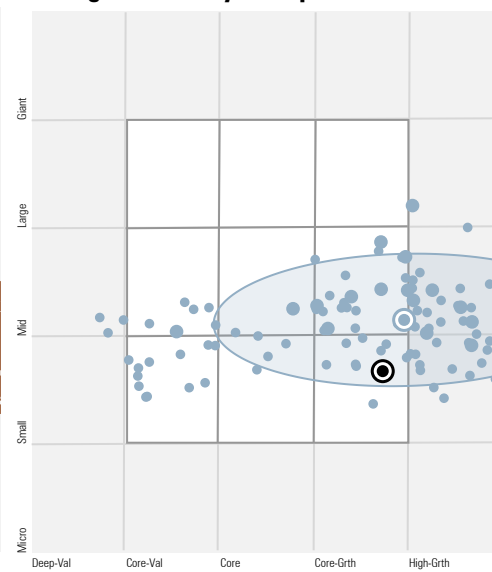
### Holdings-Based Style Map



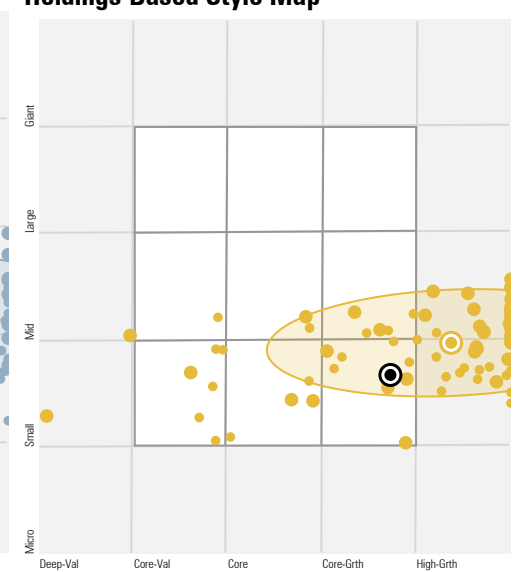
### Holdings-Based Style Map



### Holdings-Based Style Map



### Holdings-Based Style Map



● Voya SmallCap Opportunities Port I 1/31/2020 ● Russell 2000 Growth TR USD 1/31/2020

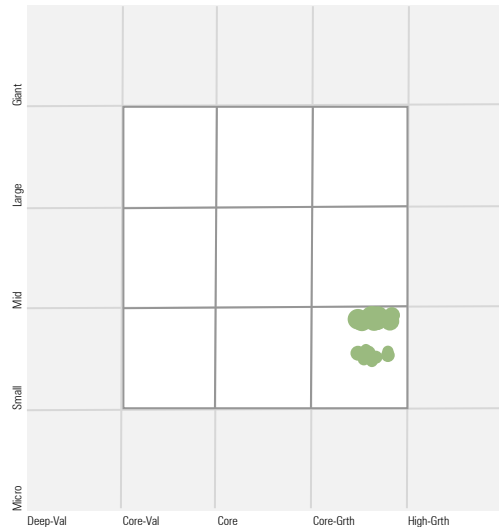
● Loomis Sayles Small Cap Growth Instl 1/31/2020 ● Russell 2000 Growth TR USD 1/31/2020

● Invesco Small Cap Growth R 12/31/2019 ● Russell 2000 Growth TR USD 1/31/2020

● Lord Abbett Developing Growth R3 12/31/2019 ● Russell 2000 Growth TR USD 1/31/2020

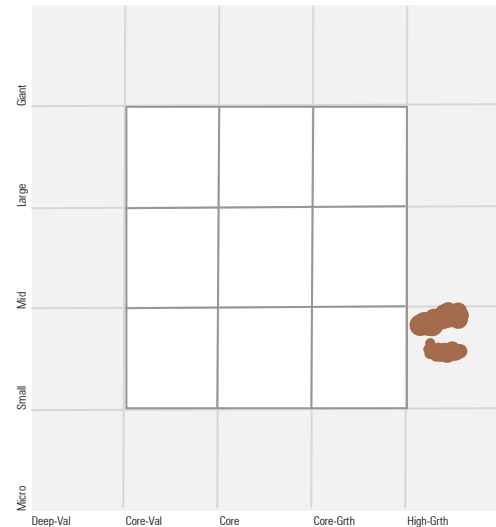
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 1/31/2020



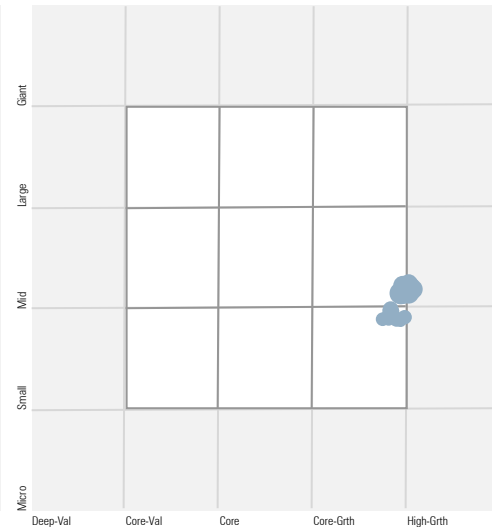
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 1/31/2020



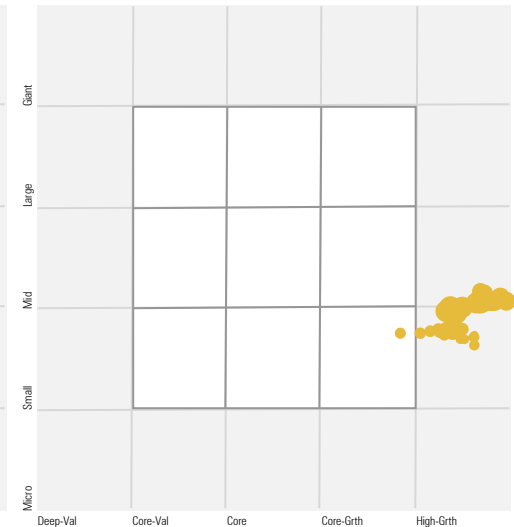
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



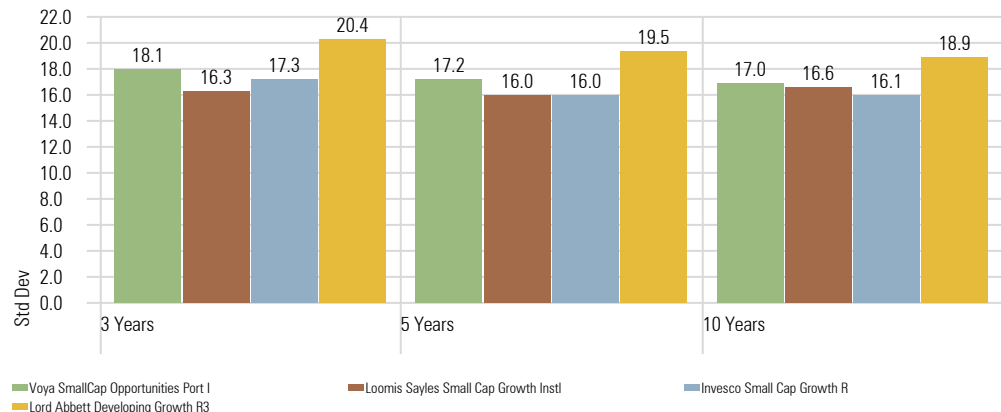
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019

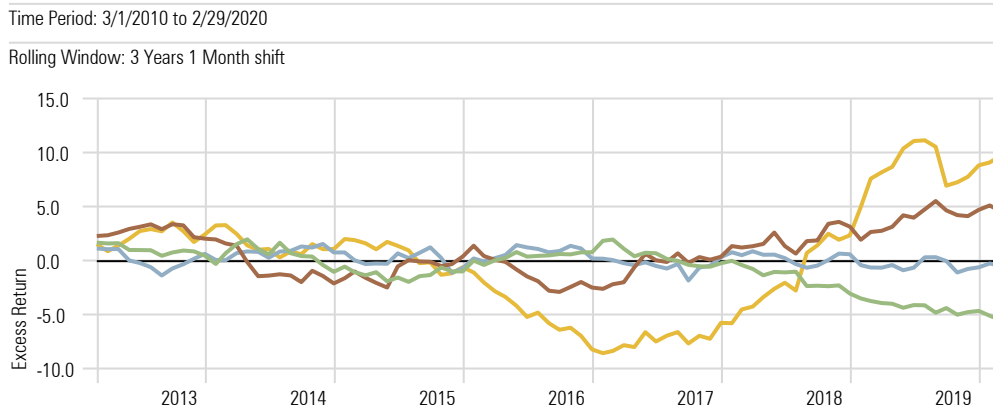


# Risk/Return Performance Analysis

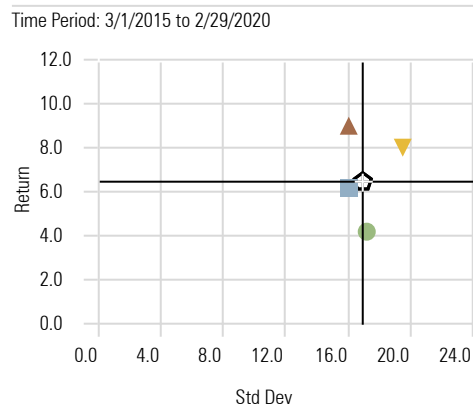
## Standard Deviation



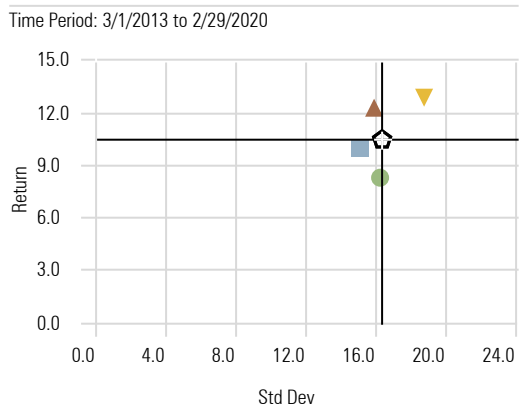
## 3 Year Relative Rolling Returns



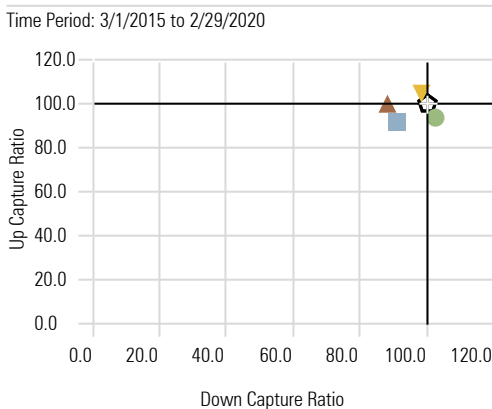
## 5 Year Risk-Reward



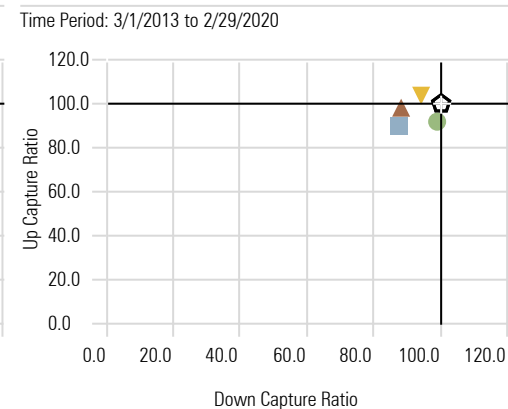
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



- Voya SmallCap Opportunities Port I
- Lord Abbett Developing Growth R3

- Loomis Sayles Small Cap Growth Instl
- Russell 2000 Growth TR USD

- Invesco Small Cap Growth R

## Annualized Performance & Risk Statistics - Since Common Inception

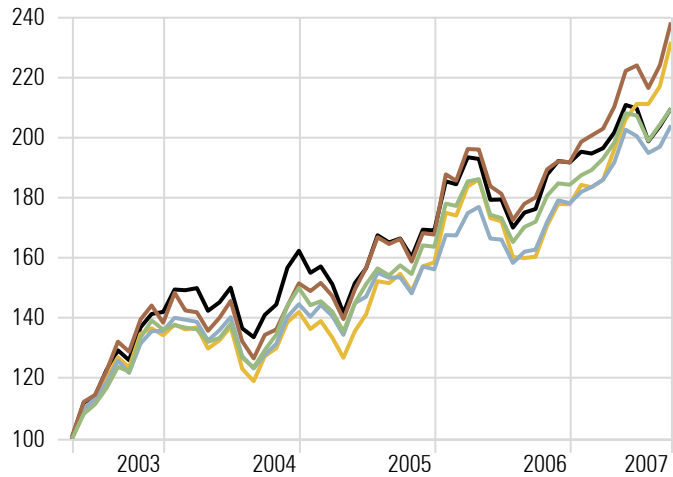
Time Period: 3/1/2010 to 2/29/2020

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
Voya SmallCap Opportunities Port I	11.0	17.0	-0.4	0.94	97	17.5	-23.0	0.61	3.1
Loomis Sayles Small Cap Growth Instl	14.0	16.6	2.7	0.90	94	18.1	-20.6	0.81	4.5
Invesco Small Cap Growth R	12.0	16.1	1.1	0.89	96	15.8	-21.5	0.71	3.9
Lord Abbett Developing Growth R3	14.2	18.9	2.3	0.98	85	26.9	-24.0	0.72	7.2
Russell 2000 Growth TR USD	12.1	17.8	0.0	1.00	100	17.1	-22.2	0.64	0.0

# Time Period Performance Analysis

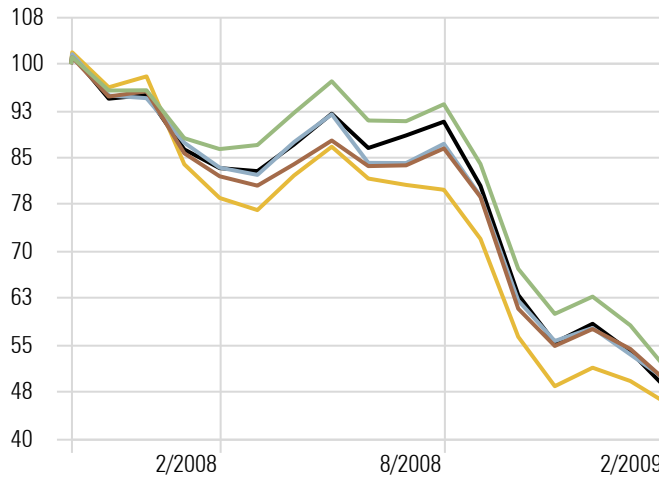
## Credit Buildup - Housing and Oil Boom

Time Period: 4/30/2003 to 9/30/2007



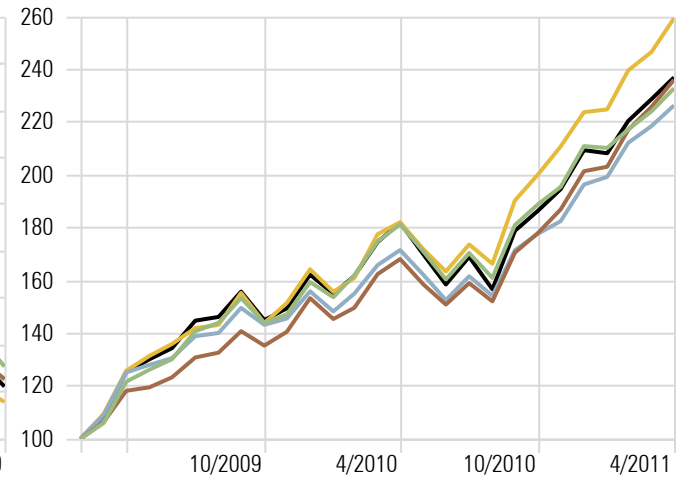
## Credit Crunch - Financial Crisis

Time Period: 10/31/2007 to 2/28/2009



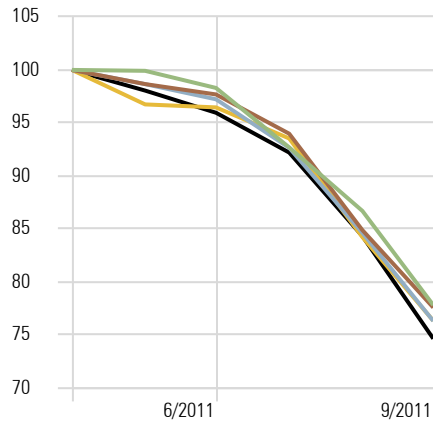
## Financial Crisis Recovery - QE1&2

Time Period: 3/1/2009 to 4/30/2011



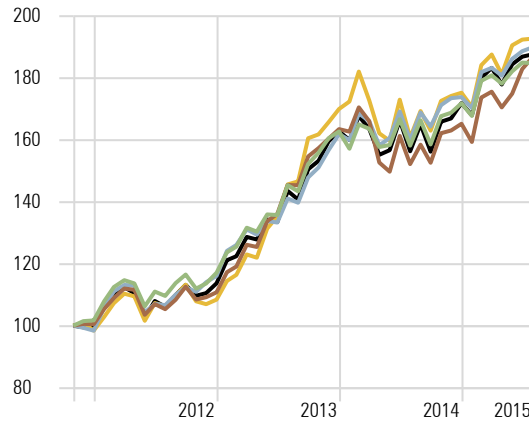
## Double Dip

Time Period: 5/1/2011 to 9/30/2011



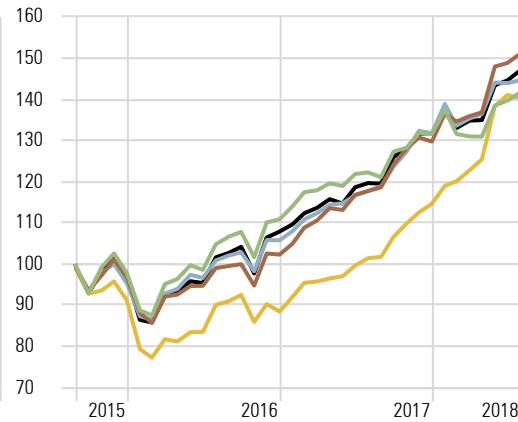
## US Recovery Continues - Global Markets Lag

Time Period: 11/1/2011 to 7/31/2015



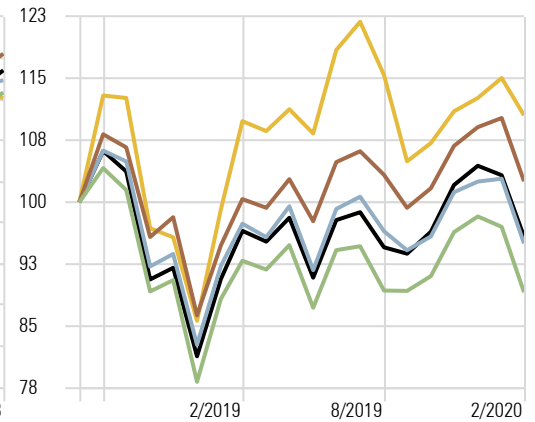
## Global Economic Strength

Time Period: 8/31/2015 to 7/31/2018



## Global Trade Tension

Time Period: 8/1/2018 to 2/29/2020



● Voya SmallCap Opportunities Port I  
● Lord Abbett Developing Growth R3

● Loomis Sayles Small Cap Growth Instl  
● Russell 2000 Growth TR USD

● Invesco Small Cap Growth R

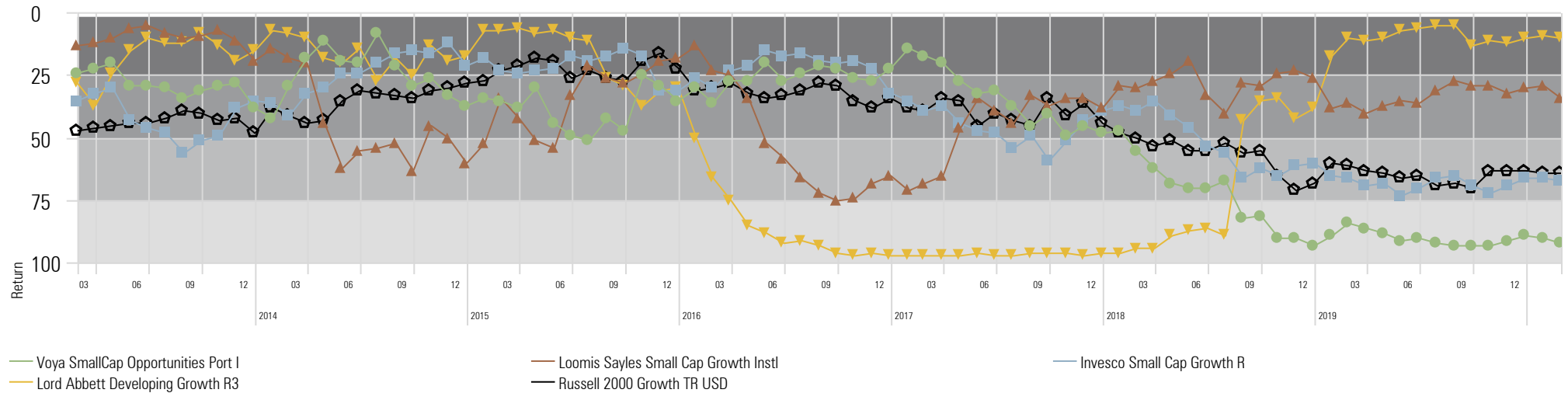
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 3/1/2010 to 2/29/2020

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

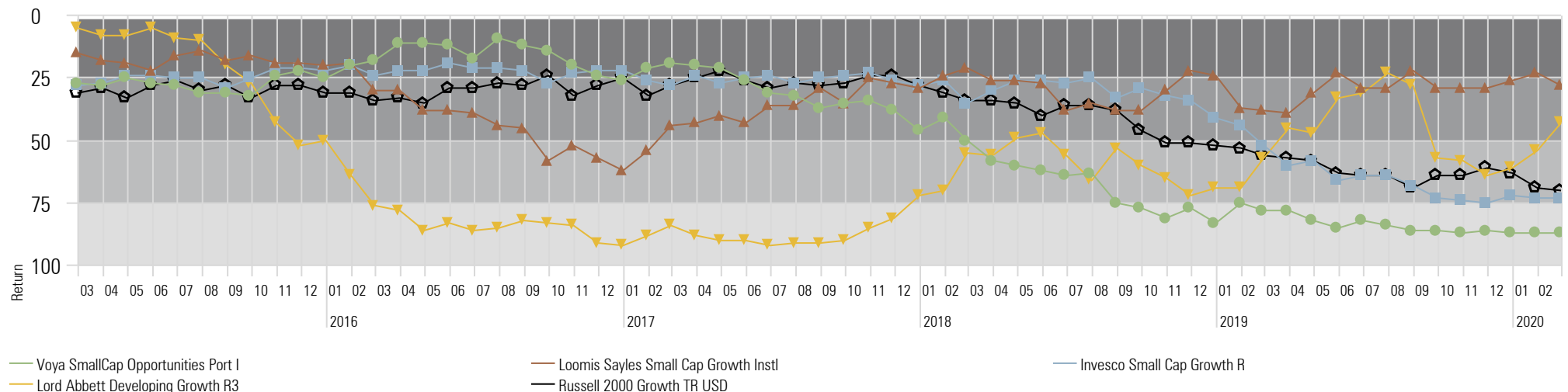


## Rolling Returns (Descending Rank)

Time Period: 3/1/2010 to 2/29/2020

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Small Growth</b>																		
Voya SmallCap Opportunities Port I	10.1	<b>38</b>	-1.26	25.7	<b>62</b>	-2.78	25.7	<b>62</b>	-2.78	7.9	<b>89</b>	-4.61	7.1	<b>87</b>	-2.21	12.3	<b>65</b>	-0.72
Loomis Sayles Small Cap Growth Instl	9.9	<b>41</b>	-1.53	26.5	<b>58</b>	-1.97	26.5	<b>58</b>	-1.97	17.3	<b>30</b>	4.76	11.5	<b>26</b>	2.16	14.4	<b>22</b>	1.42
Invesco Small Cap Growth R	8.9	<b>60</b>	-2.53	24.0	<b>78</b>	-4.51	24.0	<b>78</b>	-4.51	11.9	<b>66</b>	-0.57	8.8	<b>72</b>	-0.55	12.8	<b>53</b>	-0.17
Lord Abbett Developing Growth R3	7.3	<b>80</b>	-4.05	31.6	<b>35</b>	3.15	31.6	<b>35</b>	3.15	21.4	<b>10</b>	8.89	9.5	<b>61</b>	0.20	14.2	<b>26</b>	1.16
Russell 2000 Growth TR USD	11.4			28.5			28.5			12.5			9.3			13.0		
Average	9.5			28.7			28.7			14.4			10.1			12.9		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Small Growth</b>																					
Voya SmallCap Opportunities Port I	25.7	<b>62</b>	-2.78	-15.9	<b>96</b>	-6.56	18.7	<b>72</b>	-3.44	13.4	<b>28</b>	2.08	-0.9	<b>31</b>	0.48	5.6	<b>27</b>	0.02	39.1	<b>69</b>	-4.23
Loomis Sayles Small Cap Growth Instl	26.5	<b>58</b>	-1.97	0.4	<b>17</b>	9.76	26.9	<b>25</b>	4.69	5.7	<b>85</b>	-5.60	1.1	<b>17</b>	2.49	1.1	<b>73</b>	-4.55	47.7	<b>16</b>	4.41
Invesco Small Cap Growth R	24.0	<b>78</b>	-4.51	-9.2	<b>75</b>	0.08	24.6	<b>41</b>	2.43	11.0	<b>45</b>	-0.30	-2.1	<b>47</b>	-0.70	7.4	<b>13</b>	1.80	39.6	<b>68</b>	-3.75
Lord Abbett Developing Growth R3	31.6	<b>35</b>	3.15	4.8	<b>7</b>	14.10	29.6	<b>13</b>	7.47	-3.0	<b>98</b>	-14.31	-9.1	<b>94</b>	-7.72	3.1	<b>50</b>	-2.52	57.0	<b>5</b>	13.65
Russell 2000 Growth TR USD	28.5			-9.3			22.2			11.3			-1.4			5.6			43.3		
Average	28.7			-5.2			23.0			11.1			-2.4			2.9			42.2		

# Loomis Sayles Small Cap Growth Instl

LSSIX

Index: Russell 2000 Growth TR USD

Category: US Fund Small Growth

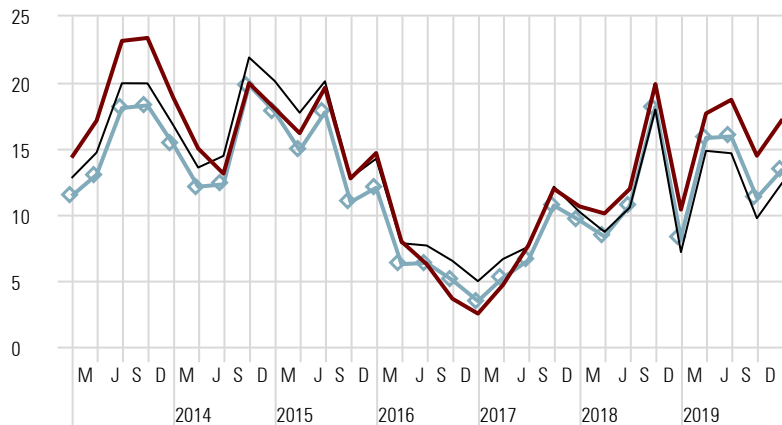
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 2000 Growth TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Loomis Sayles Small Cap Growth Instl	26.5	26.5	17.3	11.5	14.4	11.0
Russell 2000 Growth TR USD	28.5	28.5	12.5	9.3	13.0	8.8
US Fund Small Growth	27.7	27.7	13.5	9.6	12.2	7.9

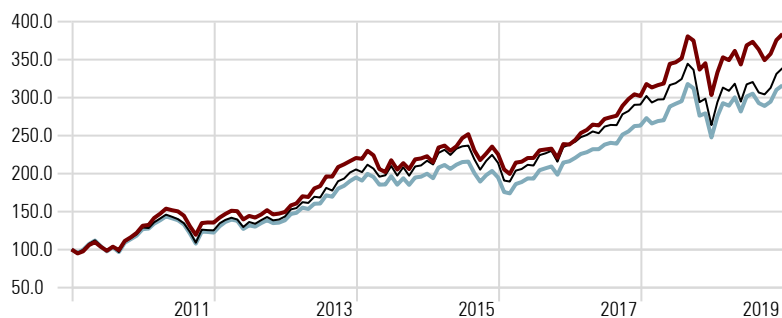
## Returns (Rolling 36 Months)



— Loomis Sayles Small Cap Growth Instl — Russell 2000 Growth TR USD — US Fund Small Growth

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



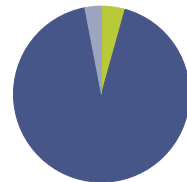
— Loomis Sayles Small Cap Growth Instl — Russell 2000 Growth TR USD — US Fund Small Growth

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.95	1.25	
Gross Expense Ratio	0.95	1.45	
LT Earn Growth	13.8	12.2	9.1
Avg Mkt Cap (\$MMM)	3.0	4.1	47.9
P/E Ratio	32.2	30.1	16.3
P/B Ratio	4.3	4.0	2.0
P/S Ratio	2.6	2.6	1.4
P/CF Ratio	22.3	19.5	10.5
ROE %	u.9	10.3	20.5
ROA %	1.3	3.7	7.2
Dividend Yld	0.3	0.6	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



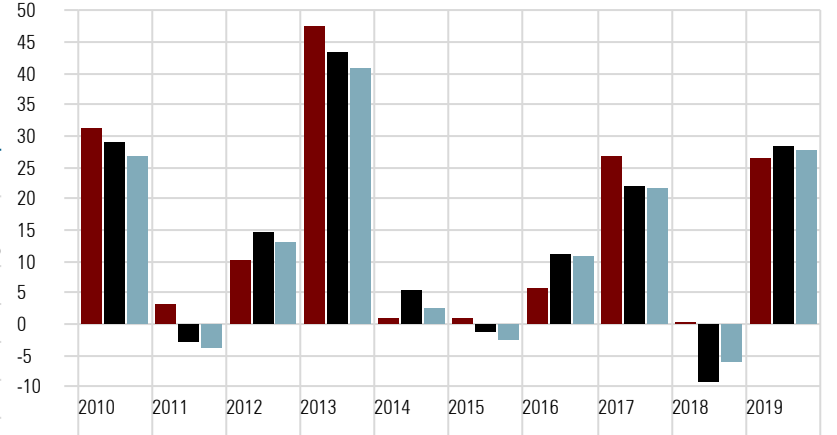
	%
• Cash	4.3
• US Equity	92.7
• Non-US Equity	3.0
• US Bond	-
• Non-US Bond	0.0
• Other	0.0

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 2000 Growth TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Loomis Sayles Small Cap Growth Instl	65.8	34.2	13.0	-12.1	18.1	-20.6	95.8	86.8
Russell 2000 Growth TR USD	64.2	35.8	15.9	-12.7	17.1	-22.2	100.0	100.0
US Fund Small Growth	66.7	33.3	14.7	-11.6	17.0	-22.3	93.0	92.6

## Calendar Year Returns



■ Loomis Sayles Small Cap Growth Instl ■ Russell 2000 Growth TR USD ■ US Fund Small Growth

## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	15.7	-0.2	16.2	0.4
Down Deviation	2.3	1.2	2.7	1.3
Beta	0.9	0.0	0.9	0.0
Alpha	5.0	3.7	2.6	1.8
Sharpe	1.0	0.2	0.6	0.1
Sortino	1.5	0.4	1.0	0.2
Info Ratio	1.2	0.7	0.5	0.4
Down Capture	84.4	-6.7	91.3	0.3
Up Capture	106.2	8.2	101.4	6.7

## Top 10 Holdings

	Fund %	Sector Allocation (%)		
		Inv	Avg	
SiteOne Landscape Supply Inc	1.8	Energy	2	1
Kinsale Capital Group Inc	1.8	Materials	0	3
WNS (Holdings) Ltd ADR	1.7	Industrials	24	18
InterXion Holding NV	1.6	Cons Discretionary	11	13
Trex Co Inc	1.6	Consumer Staples	3	3
Goosehead Insurance Inc Class A	1.5	Healthcare	25	23
Freshpet Inc	1.4	Financials	10	9
Five9 Inc	1.4	Info Technology	23	24
Q2 Holdings Inc	1.4	Telecom Services	2	2
Mercury Systems Inc	1.4	Utilities	0	1
		Real Estate %	0.0	3.5

# Small Cap Blend Search



# US Fund Small Blend

## Vanguard Small Cap Index I

### Investment Strategy

The investment seeks to track the performance of a benchmark index that measures the investment return of small-capitalization stocks. The fund employs an indexing investment approach designed to track the performance of the CRSP US Small Cap Index, a broadly diversified index of stocks of small U.S. companies. The advisor attempts to replicate the target index by investing all, or substantially all, of its assets in the stocks that make up the index, holding each stock in approximately the same proportion as its weighting in the index.

### Manager Biography

William A. Coleman since 4/27/2016

Gerard C. O'Reilly since 4/27/2016

### Vanguard Small Cap Index I - Operations

Inception Date	7/7/1997
Fund Size (\$mm)	96,752
Annual Report Net Expense Ratio	0.04
Prospectus Net Expense Ratio	0.04
Prospectus Gross Expense Ratio	0.04
Ticker	VSCIX
Manager Tenure (Longest)	3.75
Manager Tenure (Average)	3.75
Morningstar Inst Cat	Small Core

### Other Notes:

None

## Royce Pennsylvania Mutual R

### Investment Strategy

The investment seeks long-term growth of capital. Normally, the fund invests at least 65% of its net assets in equity securities of such small- and micro-cap companies. Although it normally focuses on securities of U.S. companies, it may invest up to 25% of its net assets (measured at the time of investment) in securities of companies headquartered in foreign countries. The fund may invest in other investment companies that invest in equity securities.

### Manager Biography

Charles M. Royce since 10/31/1972

Jay S. Kaplan since 4/29/2003

Lauren A. Romeo since 5/1/2006

Chris E. Flynn since 5/1/2017

James P. Stoeffel since 5/1/2017

Andrew S. Palen since 5/1/2018

Steven G. McBoyle since 5/1/2019

### Royce Pennsylvania Mutual R - Operations

Inception Date	5/21/2007
Fund Size (\$mm)	1,948
Annual Report Net Expense Ratio	1.57
Prospectus Net Expense Ratio	1.57
Prospectus Gross Expense Ratio	1.57
Ticker	RPMRX
Manager Tenure (Longest)	47.25
Manager Tenure (Average)	12.19
Morningstar Inst Cat	Small Core

### Other Notes:

None

## Voya Russell Small Cap Index Port A

### Investment Strategy

The investment seeks investment results (before fees and expenses) that correspond to the total return (which includes capital appreciation and income) of the Russell 2000® Index ("index"). The fund normally invests at least 80% of its net assets (plus borrowings for investment purposes) in equity securities of companies, which are at the time of purchase, included in the index; convertible securities that are convertible into stocks included in the index; other derivatives whose economic returns are, by design, closely equivalent to the returns of the index or its components; and exchange-traded funds that track the index.

### Manager Biography

Steven Wetter since 4/30/2012

Kai Yee Wong since 6/30/2013

### Voya Russell Small Cap Index Port A - Operations

Inception Date	3/10/2008
Fund Size (\$mm)	1,059
Annual Report Net Expense Ratio	0.96
Prospectus Net Expense Ratio	0.96
Prospectus Gross Expense Ratio	0.97
Ticker	IRSIX
Manager Tenure (Longest)	7.75
Manager Tenure (Average)	7.17
Morningstar Inst Cat	Small Core

### Other Notes:

None

## Voya Small Company A

### Investment Strategy

The investment seeks growth of capital. Under normal market conditions, the fund invests at least 80% of its net assets in common stocks of small-capitalization companies. The sub-adviser defines small-capitalization companies as companies that are included in the S&P SmallCap 600® Index or the Russell 2000® Index at the time of purchase, or if not included in either index, have market capitalizations that fall within the range of the market capitalizations of companies included in the S&P SmallCap 600® Index or the Russell 2000® Index.

### Manager Biography

Joseph Basset since 5/11/2006

James Hasso since 4/30/2012

### Voya Small Company A - Operations

Inception Date	4/15/1994
Fund Size (\$mm)	508
Annual Report Net Expense Ratio	1.35
Prospectus Net Expense Ratio	1.36
Prospectus Gross Expense Ratio	1.41
Ticker	VYSYX
Manager Tenure (Longest)	13.67
Manager Tenure (Average)	10.71
Morningstar Inst Cat	Small Core

### Other Notes:

None



# Portfolio Analysis

## Vanguard Small Cap Index I

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
	16	19	23	Market Cap Large %	0
Mid				Market Cap Mid %	59
Small	14	14	13	Market Cap Small %	40
				Market Cap Micro %	1

## Royce Pennsylvania Mutual R

### Style Allocation

Portfolio Date: 9/30/2019

	Value	Blend	Growth	Market Cap	%
Large	1	0	0	Market Cap Giant %	0
	5	10	18	Market Cap Large %	1
Mid				Market Cap Mid %	32
Small	15	22	30	Market Cap Small %	55
				Market Cap Micro %	12

## Voya Russell Small Cap Index Port A

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
	4	6	8	Market Cap Large %	0
Mid				Market Cap Mid %	17
Small	23	29	30	Market Cap Small %	70
				Market Cap Micro %	13

## Voya Small Company A

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
	7	18	13	Market Cap Large %	0
Mid				Market Cap Mid %	37
Small	16	25	21	Market Cap Small %	61
				Market Cap Micro %	2

### Valuation Data

Display Benchmark 1: Russell 2000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	4.4	2.0
Forward P/E	17.4	16.6
P/E Ratio (TTM)	19.5	18.4
LT Earn Growth	10.7	11.3
P/B Ratio (TTM)	2.3	2.1
Dividend Yield	1.7	1.5
ROE %	10.0	5.6
ROA %	2.8	-0.3
Debt to Capital %	41.8	37.9

### Valuation Data

Display Benchmark 1: Russell 2000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	2.2	2.0
Forward P/E	17.1	16.6
P/E Ratio (TTM)	18.2	18.4
LT Earn Growth	12.2	11.3
P/B Ratio (TTM)	2.1	2.1
Dividend Yield	1.3	1.5
ROE %	14.1	5.6
ROA %	6.5	-0.3
Debt to Capital %	30	38

### Valuation Data

Display Benchmark 1: Russell 2000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	2.0	2.0
Forward P/E	16.6	16.6
P/E Ratio (TTM)	18.4	18.4
LT Earn Growth	11.4	11.3
P/B Ratio (TTM)	2.1	2.1
Dividend Yield	1.5	1.5
ROE %	5.5	5.6
ROA %	-0.3	-0.3
Debt to Capital %	38	38

### Valuation Data

Display Benchmark 1: Russell 2000 TR USD

	Inv	Bmk1
Average Market Cap (bil)	3.0	2.0
Forward P/E	17.3	16.6
P/E Ratio (TTM)	18.0	18.4
LT Earn Growth	11.5	11.3
P/B Ratio (TTM)	2.2	2.1
Dividend Yield	1.2	1.5
ROE %	10.5	5.6
ROA %	2.9	-0.3
Debt to Capital %	39	38

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	15	
# of Stock Holdings	1,361	1,995
% in Top 10	3.2	2.8
Cash %	2.6	0.0
Developed %	97.1	99.9
US Equity %	96.5	98.9
Non-US Equity %	1	1
Emerging Mkt %	0.3	0.1

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	35	
# of Stock Holdings	291	1,995
% in Top 10	12.8	2.8
Cash %	1.1	0.0
Developed %	98.3	99.9
US Equity %	89.4	98.9
Non-US Equity %	10	1
Emerging Mkt %	0.7	0.1

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	17	
# of Stock Holdings	1,907	1,995
% in Top 10	4.4	2.8
Cash %	1.6	0.0
Developed %	98.2	99.9
US Equity %	99.1	98.9
Non-US Equity %	1	1
Emerging Mkt %	0.1	0.1

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	111	
# of Stock Holdings	148	1,995
% in Top 10	11.1	2.8
Cash %	0.4	0.0
Developed %	99.6	99.9
US Equity %	96.9	98.9
Non-US Equity %	3	1
Emerging Mkt %	0.0	0.1

# Holdings-Based Style Analysis

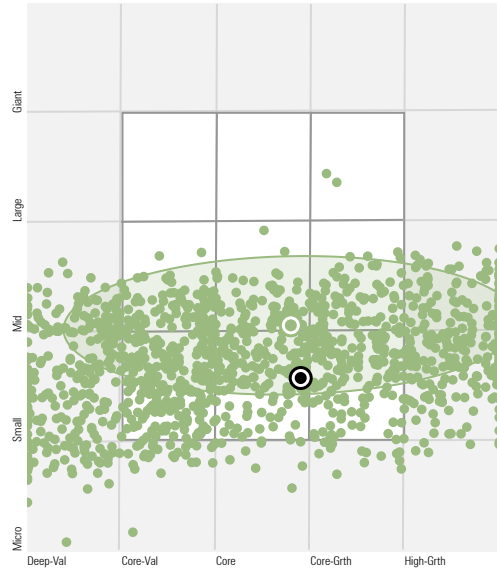
## Vanguard Small Cap Index I

## Royce Pennsylvania Mutual R

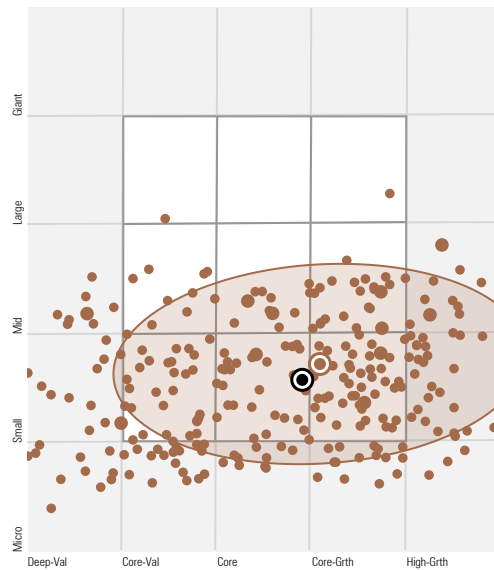
## Voya Russell Small Cap Index Port A

## Voya Small Company A

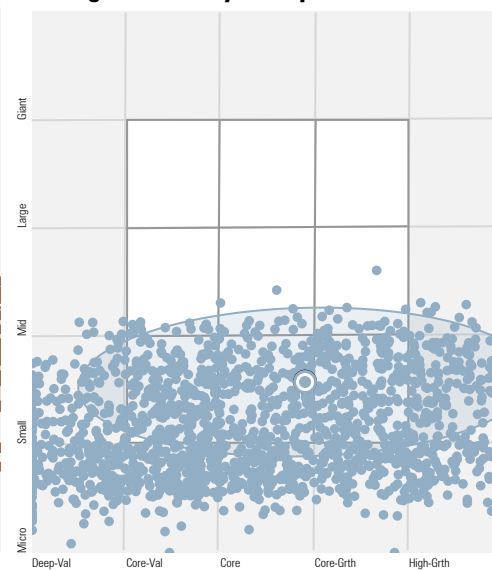
### Holdings-Based Style Map



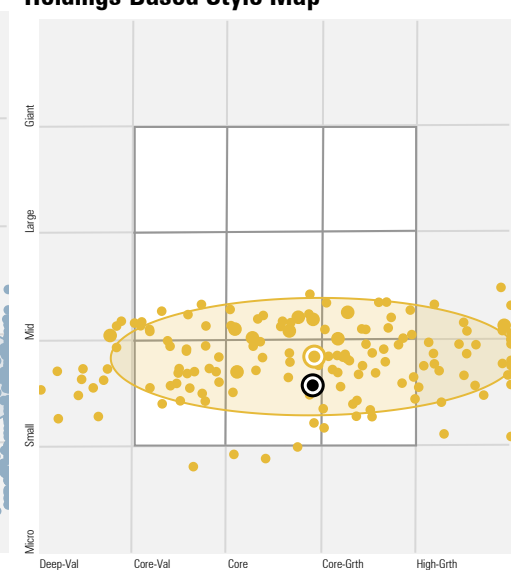
### Holdings-Based Style Map



### Holdings-Based Style Map



### Holdings-Based Style Map



● Vanguard Small Cap Index I 12/31/2019 ● Russell 2000 TR USD

12/31/2019 ● Royce Pennsylvania Mutual R

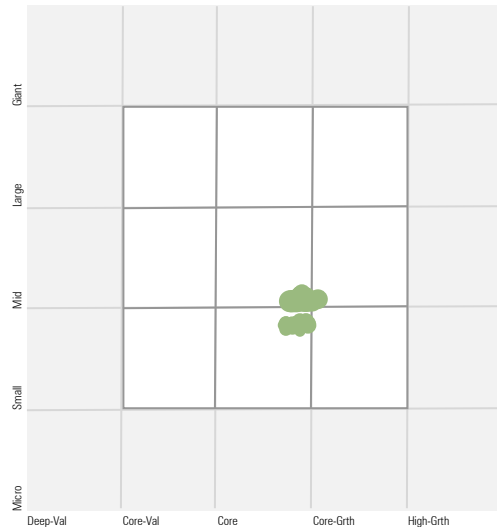
9/30/2019 ● Russell 2000 TR USD

12/31/2019 ● Voya Russell Small Cap Index Port A 12/31/2019 ● Russell 2000 TR USD

12/31/2019 ● Voya Small Company A 11/30/2019 ● Russell 2000 TR USD 12/31/2019

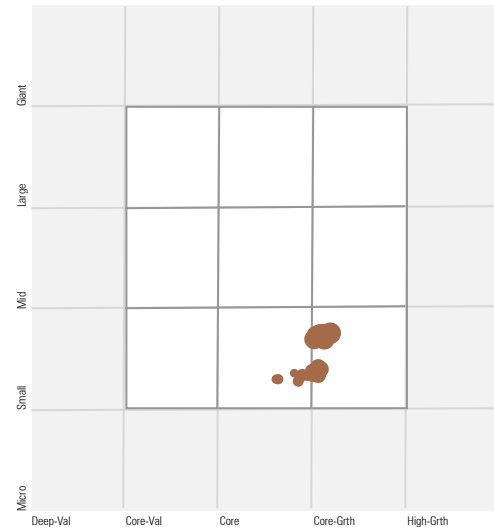
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



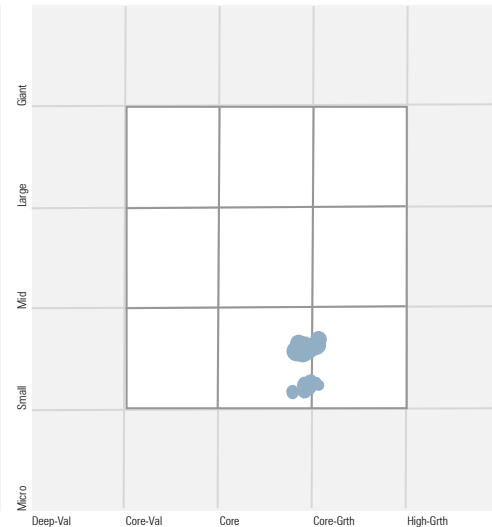
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 9/30/2019



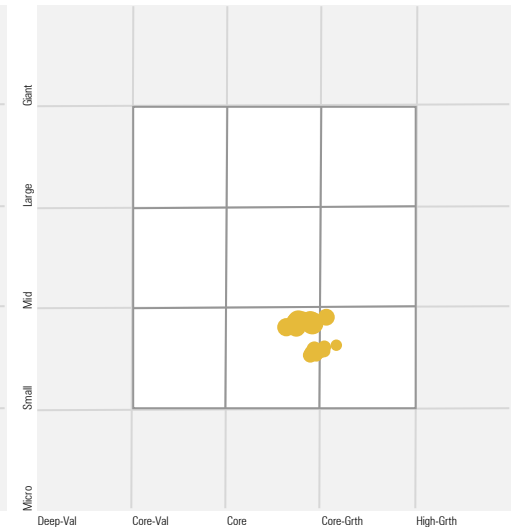
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



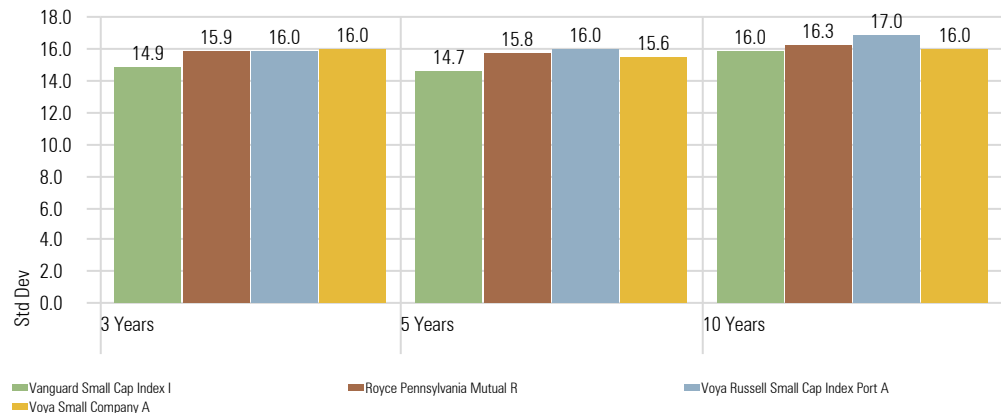
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 11/30/2019

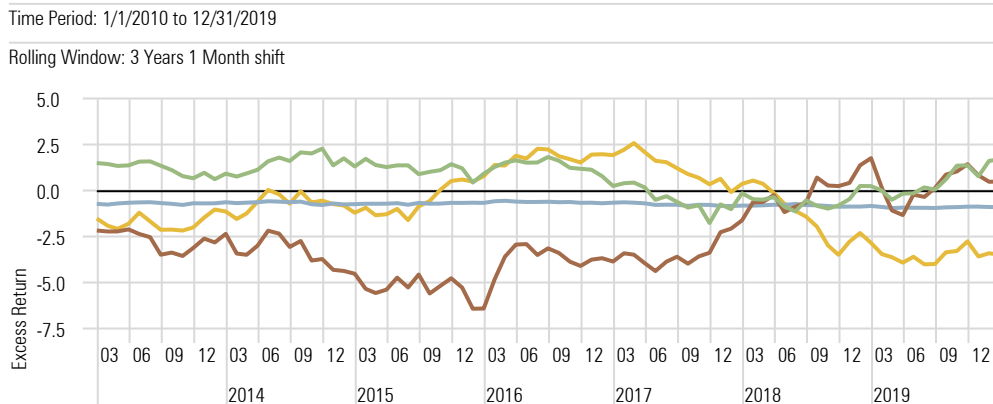


# Risk/Return Performance Analysis

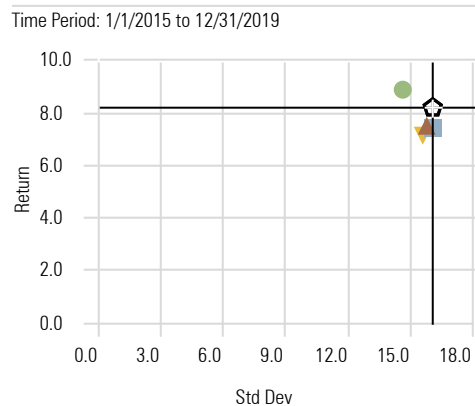
## Standard Deviation



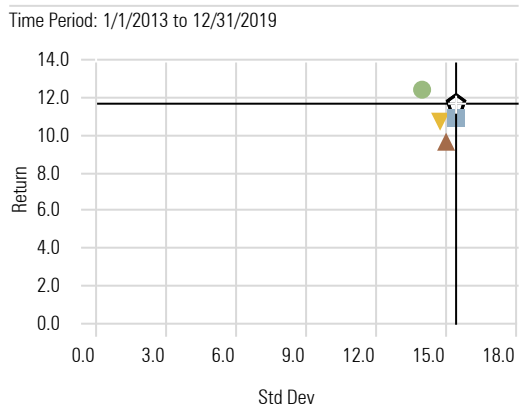
## 3 Year Relative Rolling Returns



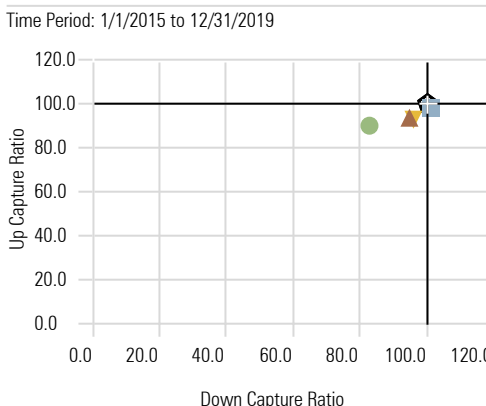
## 5 Year Risk-Reward



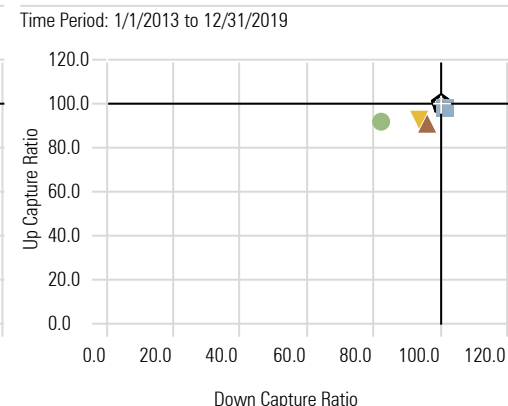
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● Vanguard Small Cap Index I  
● Royce Pennsylvania Mutual R  
● Voya Small Company A

● Royce Pennsylvania Mutual R  
● Vanguard Small Cap Index I  
● Voya Small Company A  
◻ Russell 2000 TR USD

● Vanguard Small Cap Index I  
● Royce Pennsylvania Mutual R  
● Voya Small Company A  
● Voya Russell Small Cap Index Port A

## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (4/1/2008) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
Vanguard Small Cap Index I	10.4	19.3	1.2	0.97	98	24.2	-26.6	0.51	2.7
Royce Pennsylvania Mutual R	7.6	19.1	-1.2	0.95	96	22.5	-26.3	0.37	4.0
Voya Russell Small Cap Index Port A	8.6	19.6	-0.7	1.00	100	20.3	-26.2	0.41	0.3
Voya Small Company A	8.6	18.4	-0.2	0.92	98	19.5	-23.9	0.44	2.9
Russell 2000 TR USD	9.3	19.7	0.0	1.00	100	20.7	-26.1	0.44	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

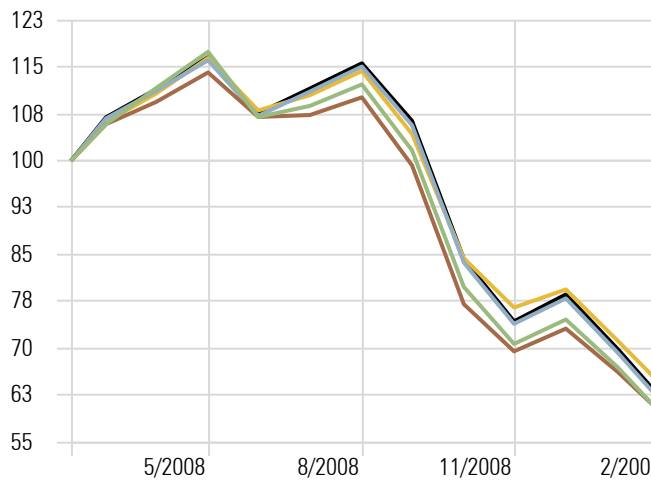
Time Period: 4/30/2003 to 9/30/2007



✖ Vanguard Small Cap Index I  
✖ Royce Pennsylvania Mutual R  
✖ Voya Russell Small Cap Index Port A  
✖ Voya Small Company A  
✖ Russell 2000 TR USD

## Credit Crunch - Financial Crisis

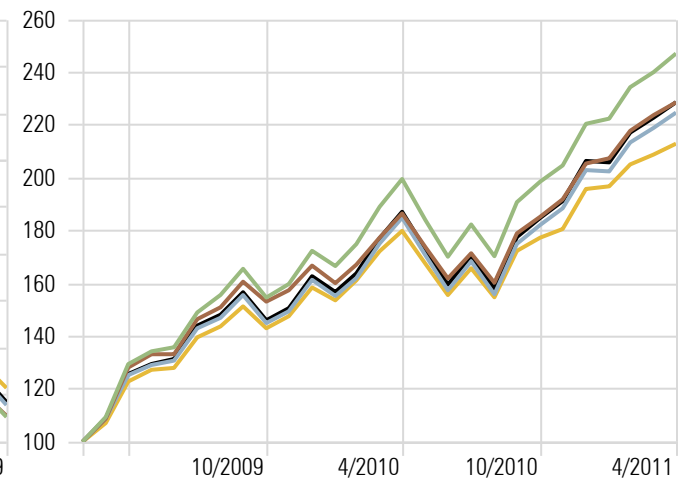
Time Period: 3/11/2008 to 2/28/2009



■ Vanguard Small Cap Index I 59  
■ Royce Pennsylvania Mutual R 59  
■ Voya Russell Small Cap Index Port A 59  
■ Voya Small Company A 64  
■ Russell 2000 TR USD 61

## Financial Crisis Recovery - QE1&2

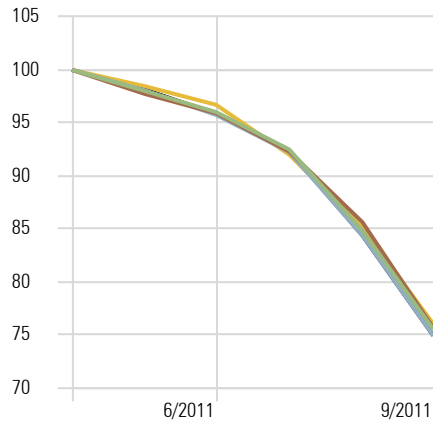
Time Period: 3/1/2009 to 4/30/2011



■ Vanguard Small Cap Index I 247.4  
■ Royce Pennsylvania Mutual R 228.9  
■ Voya Russell Small Cap Index Port A 225.0  
■ Voya Small Company A 213.2  
■ Russell 2000 TR USD 228.9

## Double Dip

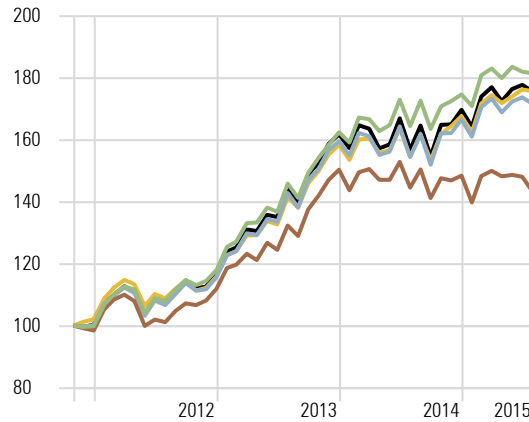
Time Period: 5/1/2011 to 9/30/2011



■ Vanguard Small Cap Index I 75.5  
■ Royce Pennsylvania Mutual R 75.6  
■ Voya Russell Small Cap Index Port A 74.9  
■ Voya Small Company A 76.0  
■ Russell 2000 TR USD 74.9

## US Recovery Continues - Global Markets Lag

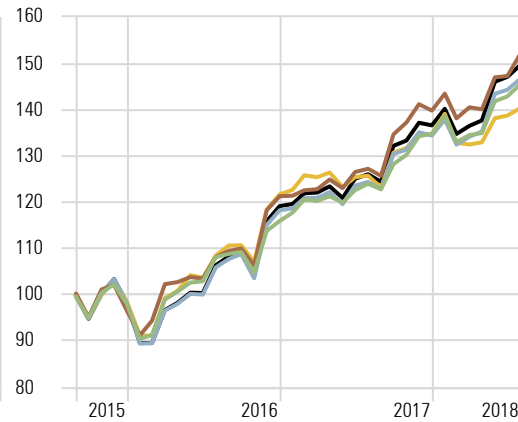
Time Period: 11/1/2011 to 7/31/2015



■ Vanguard Small Cap Index I 181.8  
■ Royce Pennsylvania Mutual R 143.4  
■ Voya Russell Small Cap Index Port A 171.8  
■ Voya Small Company A 176.0  
■ Russell 2000 TR USD 175.9

## Global Economic Strength

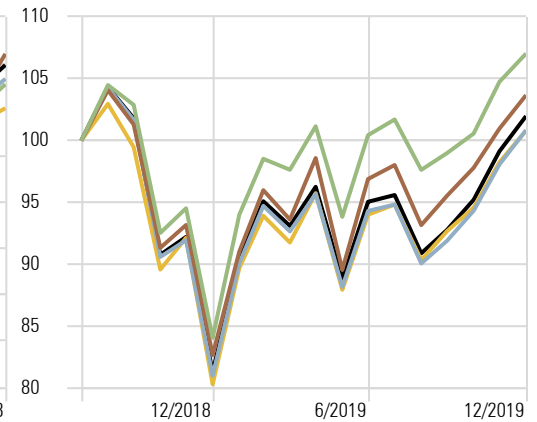
Time Period: 8/31/2015 to 7/31/2018



■ Vanguard Small Cap Index I 145.5  
■ Royce Pennsylvania Mutual R 152.0  
■ Voya Russell Small Cap Index Port A 146.6  
■ Voya Small Company A 140.3  
■ Russell 2000 TR USD 149.6

## Global Trade Tension

Time Period: 8/1/2018 to 12/31/2019



■ Vanguard Small Cap Index I 107.0  
■ Royce Pennsylvania Mutual R 103.7  
■ Voya Russell Small Cap Index Port A 108.8  
■ Voya Small Company A 100.8  
■ Russell 2000 TR USD 102.0

● Vanguard Small Cap Index I  
● Voya Small Company A

● Royce Pennsylvania Mutual R  
◻ Russell 2000 TR USD

● Voya Russell Small Cap Index Port A

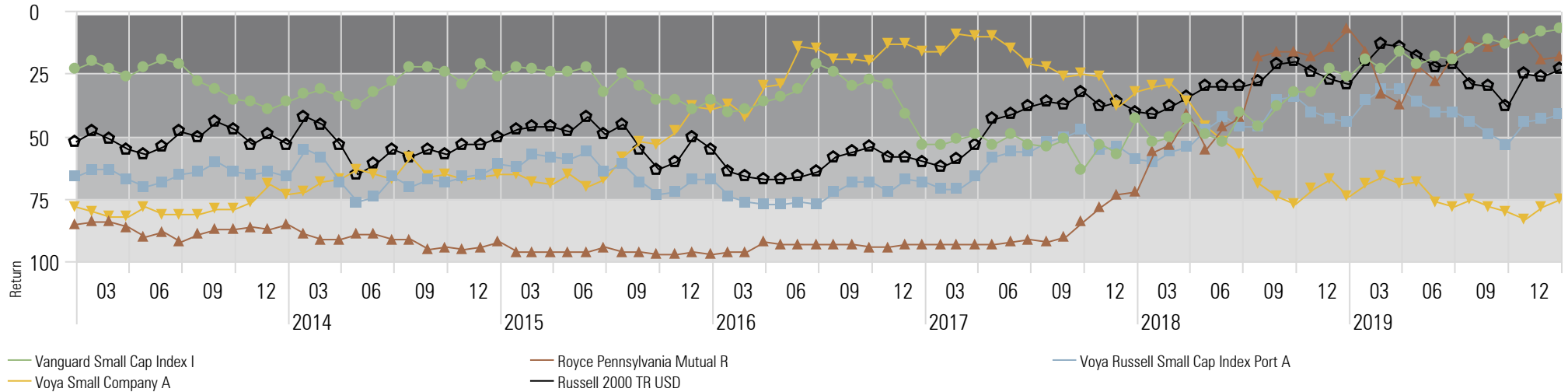
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

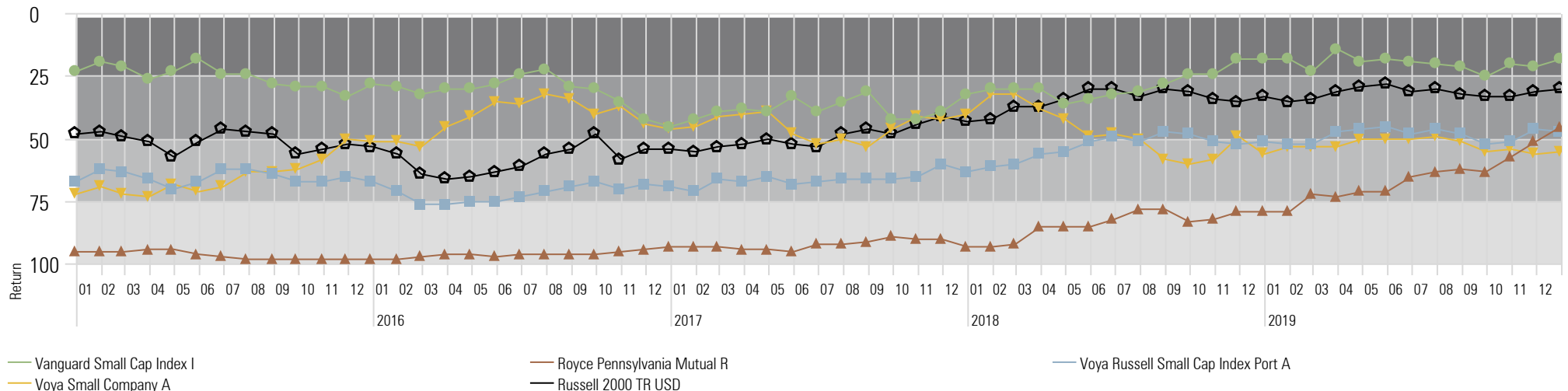


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Small Blend</b>																		
Vanguard Small Cap Index I	8.1	49	-1.80	27.4	19	1.88	27.4	19	1.88	10.3	7	1.74	8.9	18	0.67	12.8	10	1.00
Royce Pennsylvania Mutual R	8.5	41	-1.41	25.5	36	-0.05	25.5	36	-0.05	9.1	18	0.53	7.5	45	-0.74	9.8	86	-2.05
Voya Russell Small Cap Index Port A	9.8	22	-0.19	24.6	47	-0.95	24.6	47	-0.95	7.7	41	-0.86	7.4	47	-0.79	11.1	57	-0.73
Voya Small Company A	8.8	37	-1.15	25.6	34	0.08	25.6	34	0.08	5.1	75	-3.45	7.1	55	-1.10	10.7	66	-1.08
Russell 2000 TR USD	9.9			25.5			25.5			8.6			8.2			11.8		
Average	8.1			24.0			24.0			6.9			7.2			11.2		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Small Blend</b>																					
Vanguard Small Cap Index I	27.4	19	1.88	-9.3	19	1.70	16.2	14	1.60	18.3	76	-2.99	-3.6	45	0.78	7.5	20	2.64	37.8	54	-1.02
Royce Pennsylvania Mutual R	25.5	36	-0.05	-10.1	25	0.86	15.3	21	0.61	25.6	19	4.31	-12.1	96	-7.68	-1.3	95	-6.17	34.4	85	-4.40
Voya Russell Small Cap Index Port A	24.6	47	-0.95	-11.7	42	-0.67	13.6	42	-1.00	20.6	57	-0.75	-5.0	66	-0.61	4.4	62	-0.52	38.0	52	-0.79
Voya Small Company A	25.6	34	0.08	-16.4	86	-5.41	10.7	72	-3.92	23.5	31	2.19	-1.7	21	2.69	5.9	40	0.96	36.8	63	-2.06
Russell 2000 TR USD	25.5			-11.0			14.6			21.3			-4.4		4.9				38.8		
Average	24.0			-12.5			12.8			21.3			-4.3		4.7				38.5		

# Vanguard Small Cap Index I

VSCIX

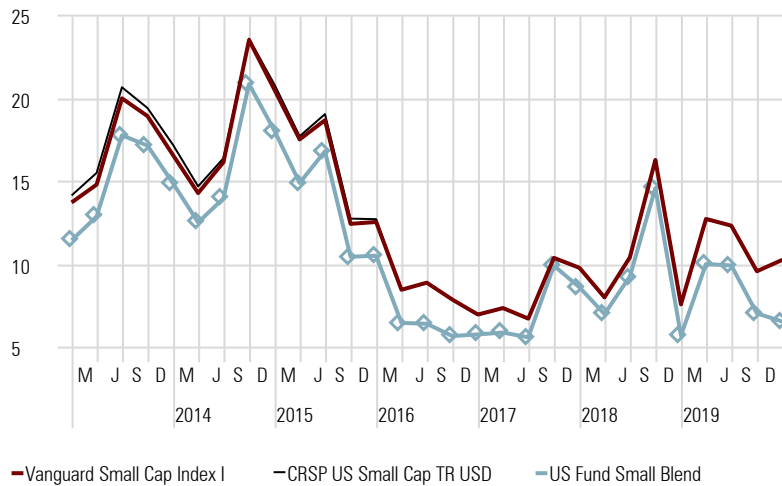
**Index:** CRSP US Small Cap TR USD  
**Category:** US Fund Small Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: CRSP US Small Cap TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Small Cap Index I	27.4	27.4	10.3	8.9	12.8	9.1
CRSP US Small Cap TR USD	27.3	27.3	10.3	8.9	13.0	9.4
US Fund Small Blend	23.5	23.5	6.6	6.7	10.6	7.0

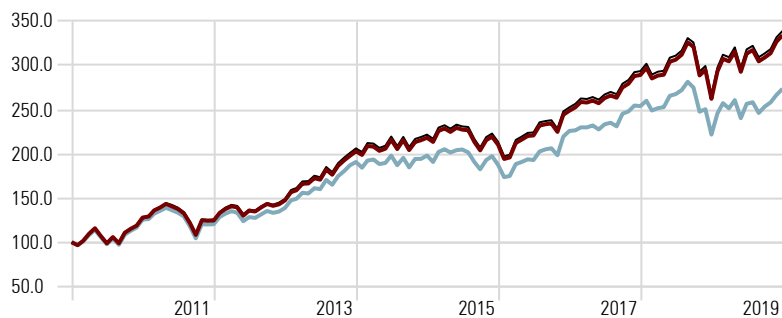
## Returns (Rolling 36 Months)



— Vanguard Small Cap Index I — CRSP US Small Cap TR USD — US Fund Small Blend

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



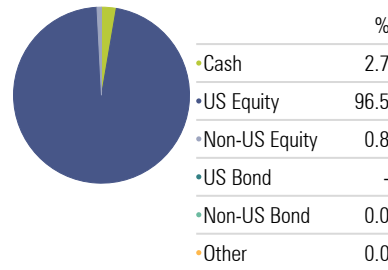
— Vanguard Small Cap Index I — CRSP US Small Cap TR USD — US Fund Small Blend

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.04	1.14	
Gross Expense Ratio	0.04	2.20	
LT Earn Growth	10.4	13.2	9.1
Avg Mkt Cap (\$MMM)	4.4	3.2	47.9
P/E Ratio	19.0	18.4	16.3
P/B Ratio	2.2	2.1	2.0
P/S Ratio	1.4	1.1	1.4
P/CF Ratio	11.1	10.8	10.5
ROE %	9.9	12.6	20.5
ROA %	2.8	5.2	7.2
Dividend Yld	1.7	1.5	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

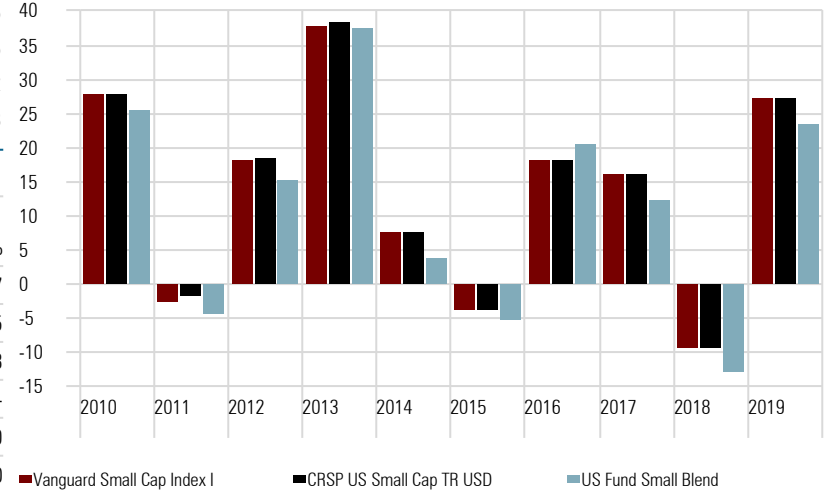


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: CRSP US Small Cap TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Small Cap Index I	66.7	33.3	15.3	-11.1	16.2	-21.4	100.4	101.6
CRSP US Small Cap TR USD	66.7	33.3	14.7	-11.1	16.2	-21.1	100.0	100.0
US Fund Small Blend	65.8	34.2	15.3	-11.5	15.8	-21.8	96.4	107.2

## Calendar Year Returns



■ Vanguard Small Cap Index I ■ CRSP US Small Cap TR USD ■ US Fund Small Blend

## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	14.9	-0.2	14.7	-0.4
Down Deviation	0.0	-2.1	0.0	-1.9
Beta	1.0	0.0	1.0	0.0
Alpha	0.0	3.5	0.0	2.1
Sharpe	0.6	0.3	0.5	0.2
Sortino	0.9	0.4	0.9	0.2
Info Ratio	0.7	2.3	1.1	1.9
Down Capture	100.0	-12.5	100.0	-9.0
Up Capture	100.1	6.7	100.1	2.9

## Top 10 Holdings

	Fund %	Sector Allocation (%)	
		Inv	Avg
Vanguard Market Liquidity Inv	0.9	Energy	2 3
E-Mini Russ 2000 Mar20	0.4	Materials	5 5
E-mini S&P MidCap 400 Future Mar 20	0.4	Industrials	16 19
Leidos Holdings Inc	0.4	Cons Discretionary	11 14
Atmos Energy Corp	0.4	Consumer Staples	3 3
Teledyne Technologies Inc	0.3	Healthcare	13 13
Zebra Technologies Corp	0.3	Financials	15 19
Steris PLC	0.3	Info Technology	19 12
Tyler Technologies Inc	0.3	Telecom Services	3 2
Equity Lifestyle Properties Inc	0.3	Utilities	3 3
		Real Estate %	10.7 7.5

# Small Cap Value

As of 12/31/2019





# US Fund Small Value

## American Beacon Small Cp Val Inst

## AllianzGI NFJ Small-Cap Value R

## Columbia Small/Mid Cap Value R

## Royce Small-Cap Value R

## VY® Columbia Small Cap Value II A

### Investment Strategy

The investment seeks long-term capital appreciation and current income. Under normal circumstances, at least 80% of the fund's net assets (plus the amount of any borrowings for investment purposes) are invested in equity securities of small market capitalization U.S. companies. These companies have market capitalizations of \$5 billion or less at the time of investment. The fund's investments may include common stocks, real estate investment trusts ("REITs"), American Depositary Receipts ("ADRs") and U.S. dollar-denominated foreign stocks traded on U.S. exchanges (collectively, "stocks").

### Investment Strategy

The investment seeks long-term growth of capital and income. The fund normally invests at least 80% of its net assets (plus borrowings made for investment purposes) in common stocks and other equity securities of companies with smaller market capitalizations. The manager currently considers smaller market capitalization companies to be companies with market capitalizations of between \$100 million and the greater of \$4 billion or the capitalization of the largest company in the Russell 2000 Index. The fund normally invests significantly in securities of companies that the portfolio managers expect will generate income (for example, by paying dividends).

### Investment Strategy

The investment seeks to provide shareholders with long-term growth of capital. Under normal circumstances, the fund invests at least 80% of its net assets (including the amount of any borrowings for investment purposes) in equity securities of small- and medium-sized companies. These equity securities generally include common stocks and may also include real estate investment trusts. Small- and medium-sized companies are those whose market capitalizations at the time of purchase fall within the market capitalization range of the Russell 2500® Value Index.

### Investment Strategy

The investment seeks long-term growth of capital. The fund's investment adviser invests the fund's assets primarily in equity securities of small-cap companies with stock market capitalizations up to \$3 billion that Royce believes are trading below its estimate of their current worth. Normally, the fund invests at least 80% of its net assets in equity securities of companies with stock market capitalizations up to \$3 billion. Although the fund normally focuses on securities of U.S. companies, it may invest up to 25% of its net assets (measured at the time of investment) in securities of companies headquartered in foreign countries.

### Investment Strategy

The investment seeks long-term growth of capital. Under normal market conditions, the Portfolio invests at least 80% of its net assets (plus borrowings for investment purposes) in equity securities of companies that have market capitalizations in the range of the companies within the Russell 2000® Value Index (which measures the performance of the small-cap value segment of the U.S. equity universe), at the time of purchase, that the sub-adviser ("Sub-Adviser") believes are undervalued and have the potential for long-term growth.

### Manager Biography

James B. Miller since 12/31/1988  
Hans F. Olin since 12/31/1988  
Steven M. Siskind since 12/31/1988  
David E. Green since 12/31/1988  
James S. McClure since 12/31/2000  
John P. Walker since 12/31/2000  
Edward R. Walker since 9/26/2004  
Joseph M. Conradi since 9/26/2004  
Mark J. Smith since 1/29/2010  
Mark Sabers since 12/31/2010  
Gene J. Neidich since 1/29/2012  
Brian R. Beane since 9/26/2014  
Brendan Scragg since 9/26/2014  
Douglas E. Stok since 9/26/2014  
Caroline M. Theacher since 2/26/2016  
Paul B. Casanova since 12/31/2016  
John Peters since 9/13/2017  
Ryan Thomas since 9/13/2017  
Colin J. Homan since 9/18/2018

### Manager Biography

Paul A. Magnuson since 12/31/1995

John R. Mowrey since 4/1/2013

Jeff N. Reed since 5/2/2018

### Manager Biography

Christian K. Stadlinger since 9/12/2013

Jarl Ginsberg since 9/12/2013

### Manager Biography

Jay S. Kaplan since 12/31/2003

### Manager Biography

Christian K. Stadlinger since 5/31/2006

Jarl Ginsberg since 5/31/2006

## American Beacon Small Cp Val Inst

## AllianzGI NFJ Small-Cap Value R -

## Columbia Small/Mid Cap Value R -

## Royce Small-Cap Value R - Operati

## VY® Columbia Small Cap Value II A

Inception Date	12/31/1998	Inception Date	12/31/2002	Inception Date	12/11/2006	Inception Date	9/14/2007	Inception Date	12/29/2006
Fund Size (\$mm)	6,255	Fund Size (\$mm)	799	Fund Size (\$mm)	670	Fund Size (\$mm)	166	Fund Size (\$mm)	159
Annual Report Net Expense Ratio	0.83	Annual Report Net Expense Ratio	1.43	Annual Report Net Expense Ratio	1.49	Annual Report Net Expense Ratio	1.92	Annual Report Net Expense Ratio	1.37
Prospectus Net Expense Ratio	0.81	Prospectus Net Expense Ratio	1.42	Prospectus Net Expense Ratio	1.49	Prospectus Net Expense Ratio	1.92	Prospectus Net Expense Ratio	1.37
Prospectus Gross Expense Ratio	0.81	Prospectus Gross Expense Ratio	1.52	Prospectus Gross Expense Ratio	1.49	Prospectus Gross Expense Ratio	1.92	Prospectus Gross Expense Ratio	1.40
Ticker	AVFIX	Ticker	PNVRX	Ticker	RMVTX	Ticker	RVVRX	Ticker	ICSAX
Manager Tenure (Longest)	21.08	Manager Tenure (Longest)	24.08	Manager Tenure (Longest)	6.33	Manager Tenure (Longest)	16.08	Manager Tenure (Longest)	13.67
Manager Tenure (Average)	10.69	Manager Tenure (Average)	10.83	Manager Tenure (Average)	6.33	Manager Tenure (Average)	16.08	Manager Tenure (Average)	13.67
Morningstar Inst Cat	Small Deep Value	Morningstar Inst Cat	Small Core Value	Morningstar Inst Cat	Small Core Value	Morningstar Inst Cat	Small Core Value	Morningstar Inst Cat	Small Core Value

### Other Notes:

None

### Other Notes:

None

### Other Notes:

None

### Other Notes:

None

### Other Notes:

None

# Portfolio Analysis

## American Beacon Small Cap Val Inst

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	1	0	0	Market Cap Giant %	0
Mid	13	7	2	Market Cap Large %	1
Small	34	28	14	Market Cap Mid %	22
				Market Cap Small %	73
				Market Cap Micro %	4

## AllianzGI NFJ Small-Cap Value R

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
Mid	17	21	8	Market Cap Large %	0
Small	16	29	10	Market Cap Mid %	46
				Market Cap Small %	51
				Market Cap Micro %	3

## Columbia Small/Mid Cap Value R

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	1	Market Cap Giant %	0
Mid	22	33	15	Market Cap Large %	1
Small	11	14	2	Market Cap Mid %	69
				Market Cap Small %	29
				Market Cap Micro %	1

## Royce Small-Cap Value R

### Style Allocation

Portfolio Date: 9/30/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
Mid	5	2	3	Market Cap Large %	0
Small	39	40	11	Market Cap Mid %	9
				Market Cap Small %	57
				Market Cap Micro %	33

## VY® Columbia Small Cap Value II A

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	0	0	0	Market Cap Giant %	0
Mid	9	13	5	Market Cap Large %	0
Small	24	36	13	Market Cap Mid %	27
				Market Cap Small %	70
				Market Cap Micro %	3

### Valuation Data

Display Benchmark 1: Russell 2000 Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	2.4	1.7
Forward P/E	13.5	14.0
P/E Ratio (TTM)	14.2	14.9
LT Earn Growth	10.8	10.0
P/B Ratio (TTM)	1.5	1.4
Dividend Yield	1.9	2.3
ROE %	10.3	6.1
ROA %	3.4	1.5
Debt to Capital %	38	38

### Valuation Data

Display Benchmark 1: Russell 2000 Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	3.5	1.7
Forward P/E	15.6	14.0
P/E Ratio (TTM)	16.7	14.9
LT Earn Growth	9.2	10.0
P/B Ratio (TTM)	1.9	1.4
Dividend Yield	2.4	2.3
ROE %	14.2	6.1
ROA %	5.5	1.5
Debt to Capital %	37	38

### Valuation Data

Display Benchmark 1: Russell 2000 Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	5.4	1.7
Forward P/E	14.7	14.0
P/E Ratio (TTM)	14.8	14.9
LT Earn Growth	10.3	10.0
P/B Ratio (TTM)	2.0	1.4
Dividend Yield	1.8	2.3
ROE %	12.8	6.1
ROA %	4.3	1.5
Debt to Capital %	42	38

### Valuation Data

Display Benchmark 1: Russell 2000 Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	1.1	1.7
Forward P/E	10.5	14.0
P/E Ratio (TTM)	10.2	14.9
LT Earn Growth	10.3	10.0
P/B Ratio (TTM)	1.6	1.4
Dividend Yield	2.2	2.3
ROE %	18.0	6.1
ROA %	6.9	1.5
Debt to Capital %	27	38

### Valuation Data

Display Benchmark 1: Russell 2000 Value TR USD

	Inv	Bmk1
Average Market Cap (bil)	2.6	1.7
Forward P/E	14.2	14.0
P/E Ratio (TTM)	15.4	14.9
LT Earn Growth	11.9	10.0
P/B Ratio (TTM)	1.7	1.4
Dividend Yield	1.7	2.3
ROE %	8.8	6.1
ROA %	2.6	1.5
Debt to Capital %	39	38

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	48	
# of Stock Holdings	529	1,402
% in Top 10	12.6	4.9
Cash %	3.8	0.0
Developed %	95.8	99.8
US Equity %	94.4	98.9
Non-US Equity %	2	1
Emerging Mkt %	0.6	0.2

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	47	
# of Stock Holdings	127	1,402
% in Top 10	11.8	4.9
Cash %	1.5	0.0
Developed %	98.5	99.8
US Equity %	97.1	98.9
Non-US Equity %	1	1
Emerging Mkt %	0.0	0.2

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	28	
# of Stock Holdings	85	1,402
% in Top 10	17.0	4.9
Cash %	4.4	0.0
Developed %	92.6	99.8
US Equity %	89.8	98.9
Non-US Equity %	6	1
Emerging Mkt %	3.0	0.2

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	64	
# of Stock Holdings	82	1,402
% in Top 10	21.0	4.9
Cash %	9.4	0.0
Developed %	89.4	99.8
US Equity %	87.1	98.9
Non-US Equity %	4	1
Emerging Mkt %	1.5	0.2

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	41	
# of Stock Holdings	111	1,402
% in Top 10	15.1	4.9
Cash %	1.9	0.0
Developed %	96.3	99.8
US Equity %	95.4	98.9
Non-US Equity %	3	1
Emerging Mkt %	1.8	0.2

# Holdings-Based Style Analysis

American Beacon Small Cp Val Inst

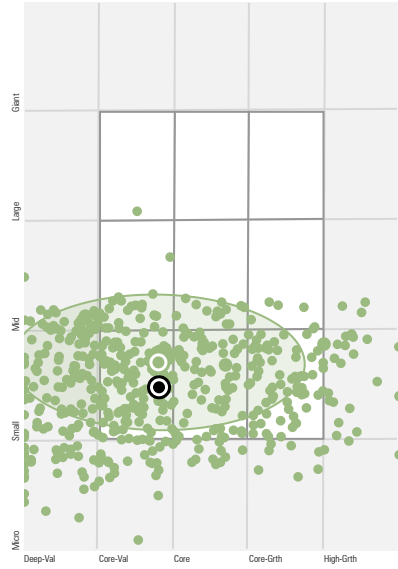
AllianzGI NFJ Small-Cap Value R

Columbia Small/Mid Cap Value R

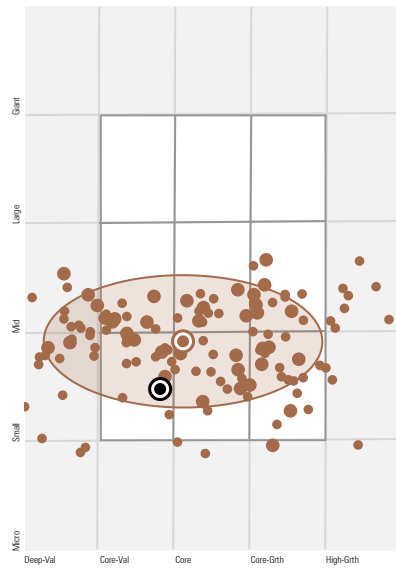
Royce Small-Cap Value R

VY® Columbia Small Cap Value II A

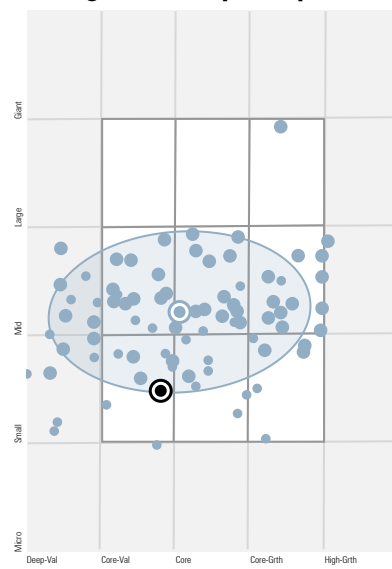
## Holdings-Based Style Map



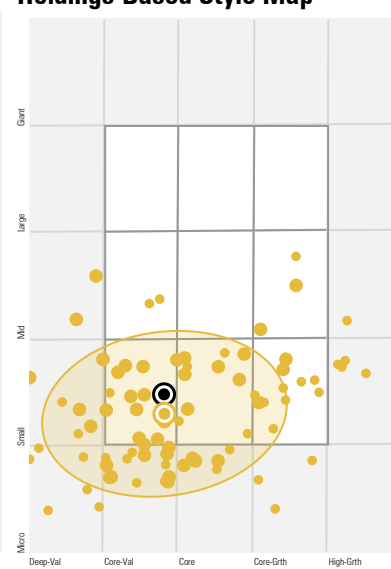
## Holdings-Based Style Map



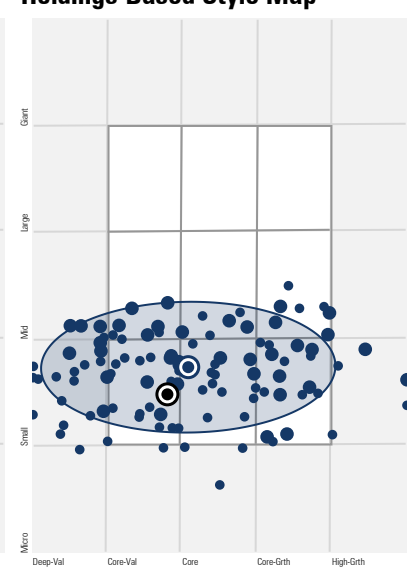
## Holdings-Based Style Map



## Holdings-Based Style Map



## Holdings-Based Style Map



American Beacon Small Cp Val Inst 11/30/2019

Russell 2000 Value TR USD 12/31/2019

AllianzGI NFJ Small-Cap Value R 11/30/2019

Russell 2000 Value TR USD 12/31/2019

Columbia Small/Mid Cap Value R 12/31/2019

Russell 2000 Value TR USD 12/31/2019

Royce Small-Cap Value R 9/30/2019

Russell 2000 Value TR USD 12/31/2019

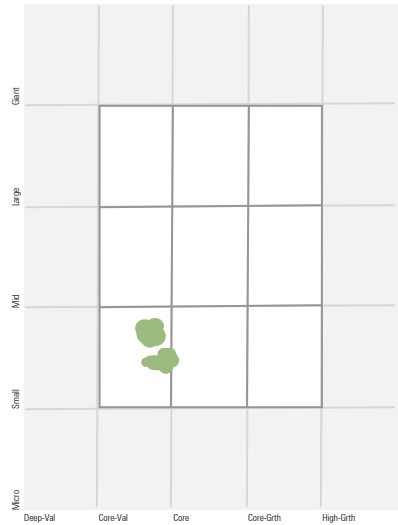
VY® Columbia Small Cap Value II A 12/31/2019

Russell 2000 Value TR USD 12/31/2019

12/31/2019

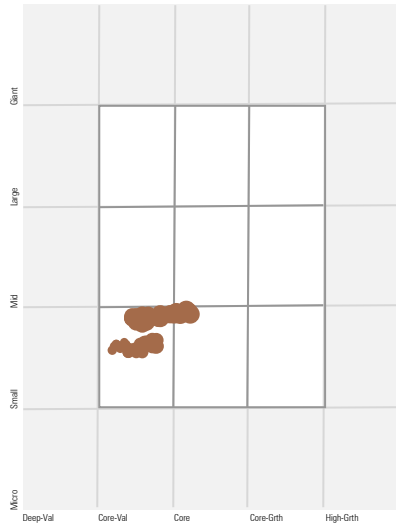
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



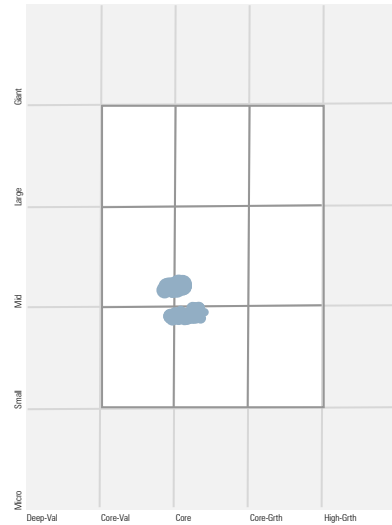
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



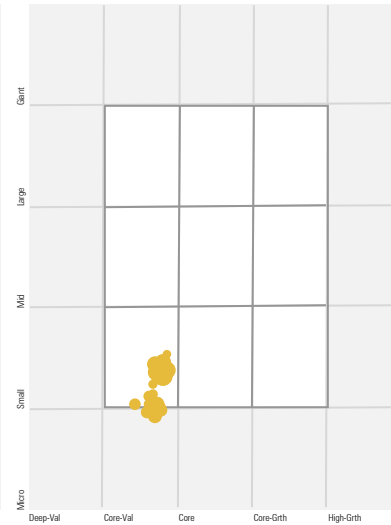
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



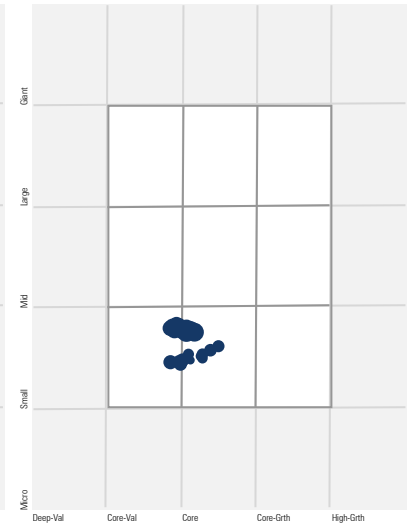
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 9/30/2019



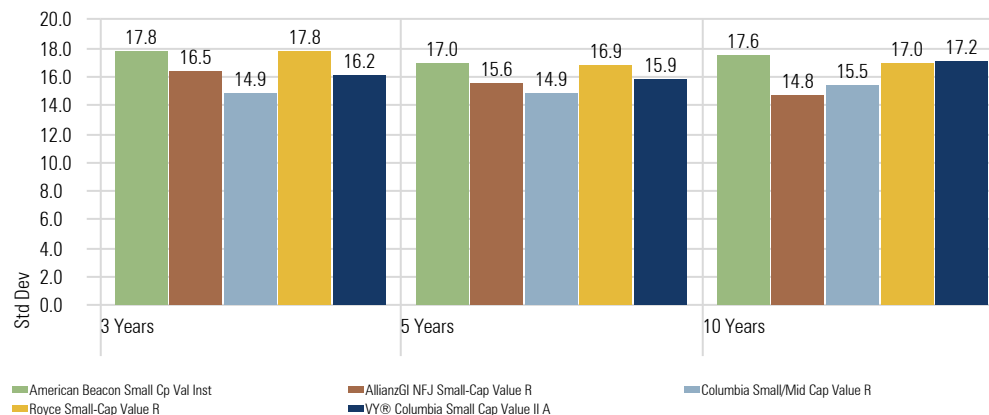
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019

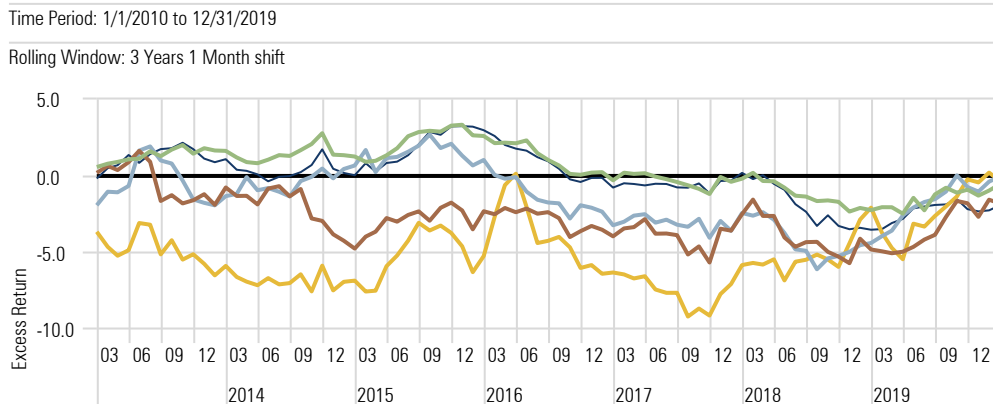


# Risk/Return Performance Analysis

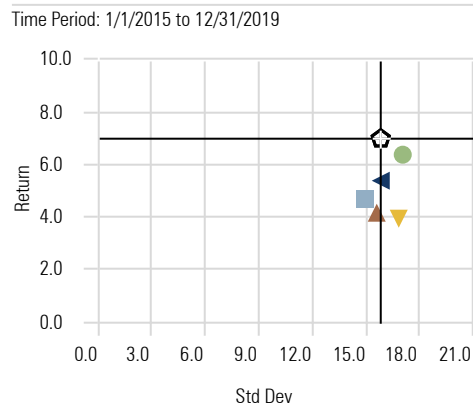
## Standard Deviation



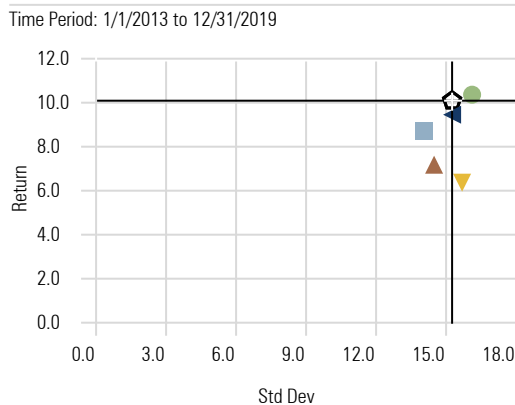
## 3 Year Relative Rolling Returns



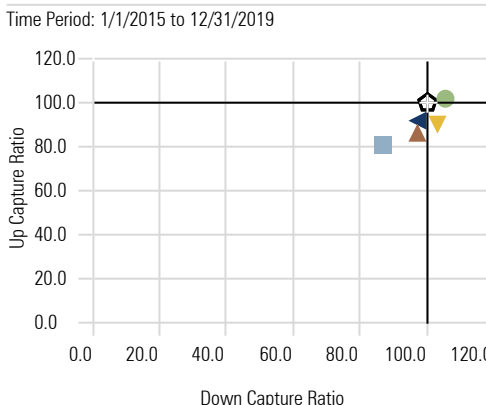
## 5 Year Risk-Reward



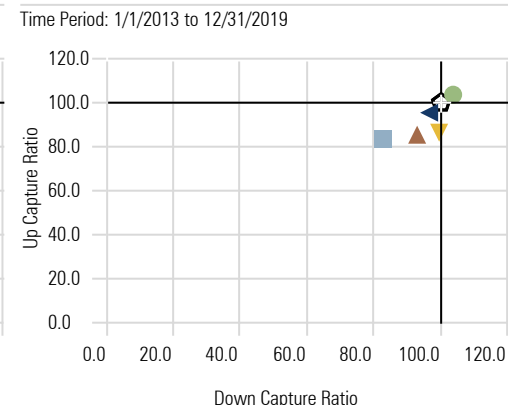
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● American Beacon Small Cp Val Inst  
● Royce Small-Cap Value R

● AllianzGI NFJ Small-Cap Value R  
◀ VY® Columbia Small Cap Value II A

● Columbia Small/Mid Cap Value R  
◻ Russell 2000 Value TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

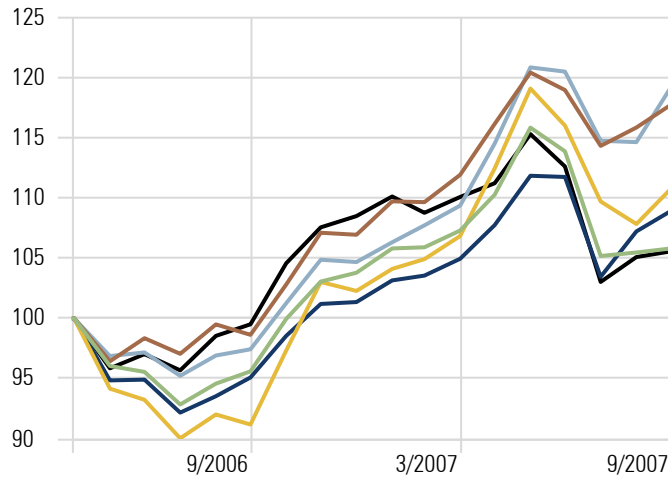
Time Period: Since Common Inception (5/1/2006) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
American Beacon Small Cp Val Inst	7.0	19.6	0.7	1.02	97	24.3	-25.6	0.30	3.4
AllianzGI NFJ Small-Cap Value R	6.4	16.0	1.0	0.80	90	17.1	-21.1	0.33	6.4
Columbia Small/Mid Cap Value R	5.6	17.8	0.0	0.88	88	21.8	-27.9	0.25	6.6
Royce Small-Cap Value R	4.9	19.3	-0.5	0.90	79	22.8	-27.2	0.20	9.1
VY® Columbia Small Cap Value II A	6.0	18.9	-0.1	0.98	96	21.3	-24.2	0.26	3.7
Russell 2000 Value TR USD	6.3	18.9	0.0	1.00	100	22.7	-24.9	0.27	0.0

# Time Period Performance Analysis

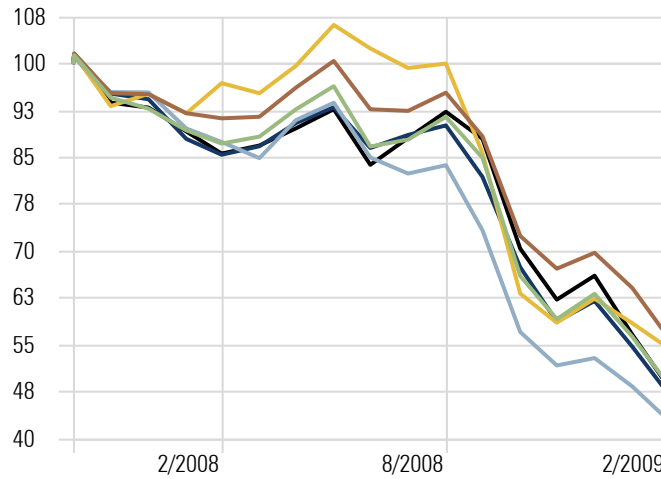
## Credit Buildup - Housing and Oil Boom

Time Period: 4/29/2006 to 9/30/2007



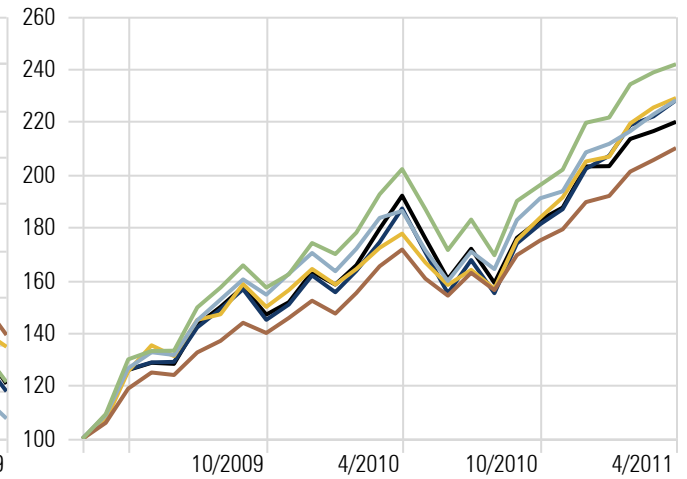
## Credit Crunch - Financial Crisis

Time Period: 10/31/2007 to 2/28/2009



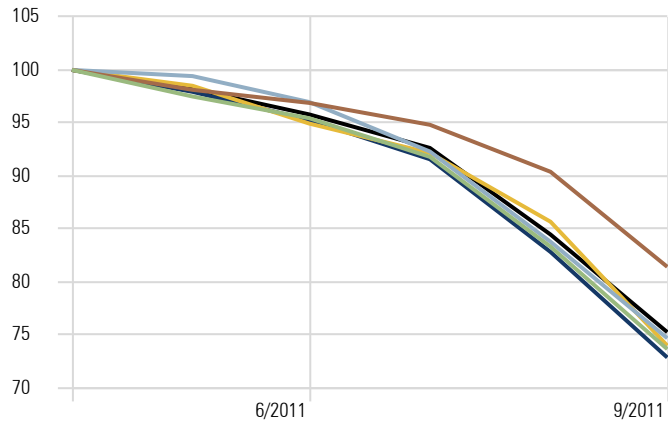
## Financial Crisis Recovery - QE1&2

Time Period: 3/1/2009 to 4/30/2011



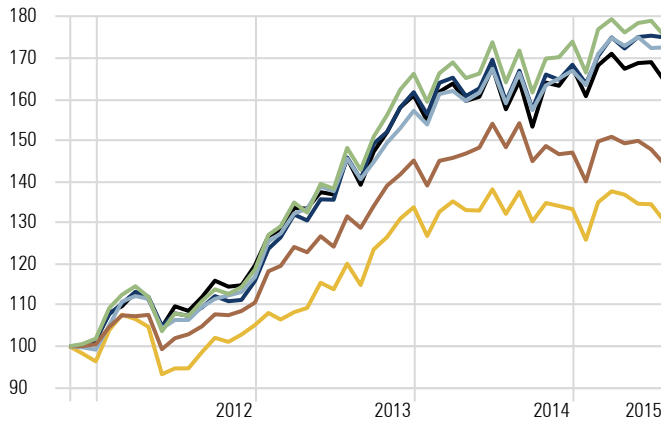
## Double Dip

Time Period: 5/1/2011 to 9/30/2011



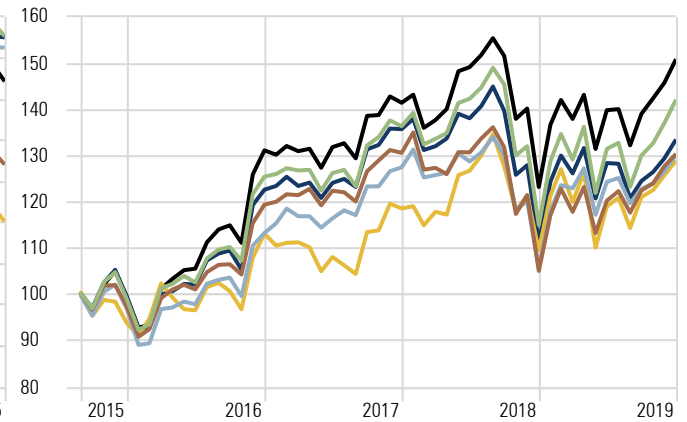
## US Recovery Continues - Global Markets Lag

Time Period: 11/1/2011 to 7/31/2015



## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



● American Beacon Small Cp Val Inst  
● Royce Small-Cap Value R

● AllianzGI NFJ Small-Cap Value R  
◀ VY® Columbia Small Cap Value II A

● Columbia Small/Mid Cap Value R  
◻ Russell 2000 Value TR USD

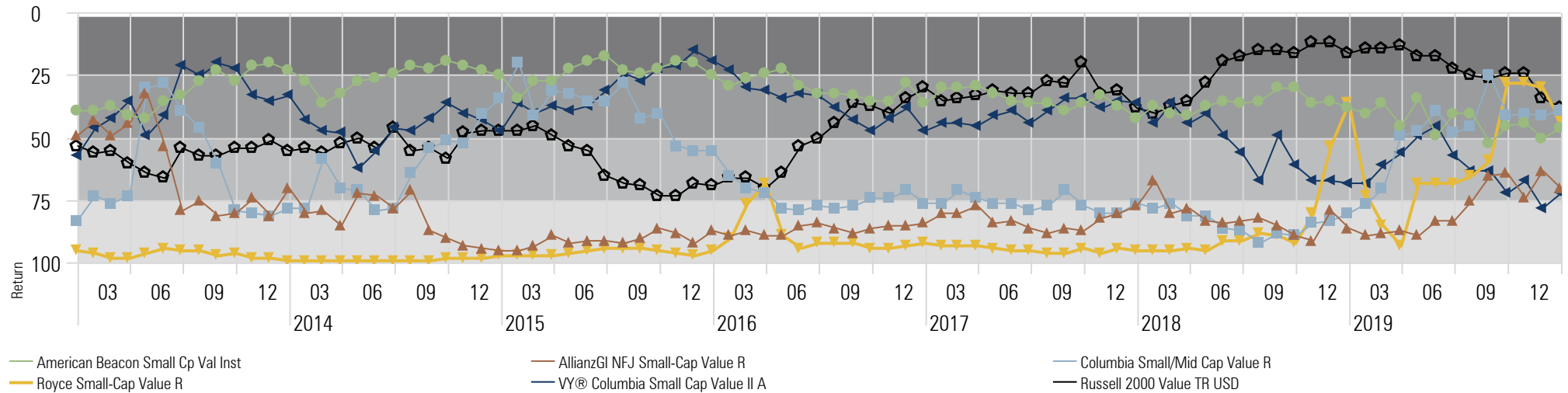
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

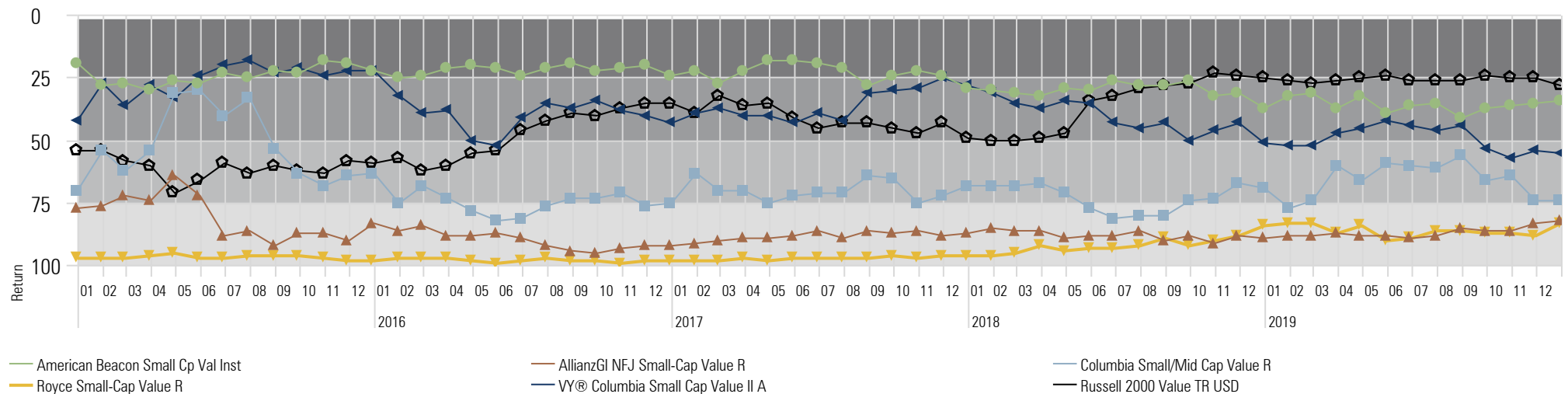


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Small Value</b>																		
American Beacon Small Cp Val Inst	9.3	<b>19</b>	0.80	23.5	<b>29</b>	1.12	23.5	<b>29</b>	1.12	4.2	<b>46</b>	-0.54	6.4	<b>34</b>	-0.60	10.9	<b>27</b>	0.36
AllianzGI NFJ Small-Cap Value R	6.4	<b>83</b>	-2.05	24.0	<b>26</b>	1.65	24.0	<b>26</b>	1.65	3.0	<b>70</b>	-1.80	4.1	<b>82</b>	-2.85	8.6	<b>87</b>	-2.00
Columbia Small/Mid Cap Value R	6.0	<b>87</b>	-2.49	23.0	<b>35</b>	0.63	23.0	<b>35</b>	0.63	4.7	<b>39</b>	-0.03	4.7	<b>74</b>	-2.34	9.0	<b>79</b>	-1.57
Royce Small-Cap Value R	6.5	<b>82</b>	-2.00	17.7	<b>89</b>	-4.72	17.7	<b>89</b>	-4.72	4.4	<b>43</b>	-0.33	3.9	<b>83</b>	-3.05	6.8	<b>97</b>	-3.75
VY® Columbia Small Cap Value II A	7.2	<b>69</b>	-1.30	19.9	<b>76</b>	-2.51	19.9	<b>76</b>	-2.51	2.9	<b>72</b>	-1.91	5.4	<b>55</b>	-1.60	10.1	<b>50</b>	-0.49
Russell 2000 Value TR USD	8.5			22.4			22.4			4.8			7.0			10.6		
Average	7.9			22.2			22.2			4.0			5.8			10.0		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Small Value</b>																					
American Beacon Small Cp Val Inst	23.5	<b>29</b>	1.12	-15.6	<b>49</b>	-2.76	8.7	<b>55</b>	0.83	26.8	<b>37</b>	-4.97	-5.0	<b>41</b>	2.43	4.7	<b>45</b>	0.49	40.1	<b>17</b>	5.54
AllianzGI NFJ Small-Cap Value R	24.0	<b>26</b>	1.65	-19.5	<b>87</b>	-6.65	9.4	<b>48</b>	1.52	22.6	<b>72</b>	-9.14	-8.5	<b>77</b>	-1.04	1.3	<b>81</b>	-2.89	31.2	<b>88</b>	-3.29
Columbia Small/Mid Cap Value R	23.0	<b>35</b>	0.63	-17.0	<b>63</b>	-4.12	12.5	<b>17</b>	4.68	17.0	<b>93</b>	-14.78	-6.6	<b>56</b>	0.88	6.2	<b>20</b>	1.99	34.5	<b>66</b>	0.02
Royce Small-Cap Value R	17.7	<b>89</b>	-4.72	-7.6	<b>2</b>	5.24	4.8	<b>90</b>	-3.03	20.6	<b>80</b>	-11.14	-11.7	<b>88</b>	-4.24	-0.3	<b>90</b>	-4.55	27.2	<b>98</b>	-7.31
VY® Columbia Small Cap Value II A	19.9	<b>76</b>	-2.51	-18.0	<b>74</b>	-5.10	10.6	<b>35</b>	2.81	23.4	<b>68</b>	-8.33	-3.2	<b>23</b>	4.26	4.1	<b>55</b>	-0.10	39.6	<b>21</b>	5.05
Russell 2000 Value TR USD	22.4			-12.9			7.8			31.7			-7.5		4.2				34.5		
Average	22.2			-15.6			9.3			25.4			-6.2		3.7				36.1		

# American Beacon Small Cp Val Inst

AVFIX

Index: Russell 2000 Value TR USD

Category: US Fund Small Value

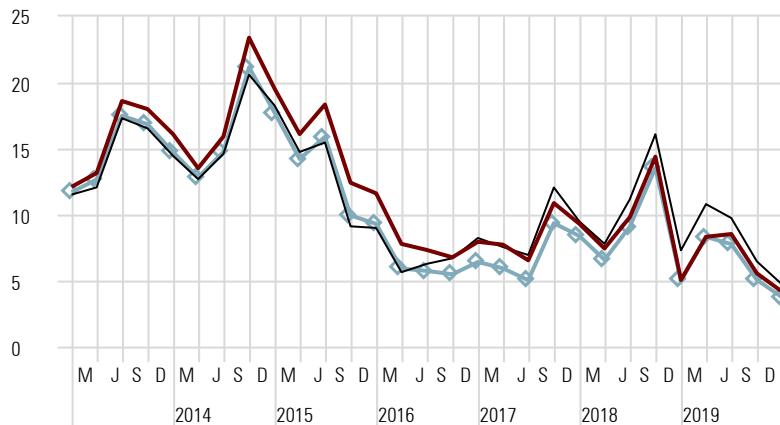
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Russell 2000 Value TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
American Beacon Small Cp Val Inst	23.5	23.5	4.2	6.4	10.9	7.5
Russell 2000 Value TR USD	22.4	22.4	4.8	7.0	10.6	6.9
US Fund Small Value	21.2	21.2	3.8	5.5	9.9	6.6

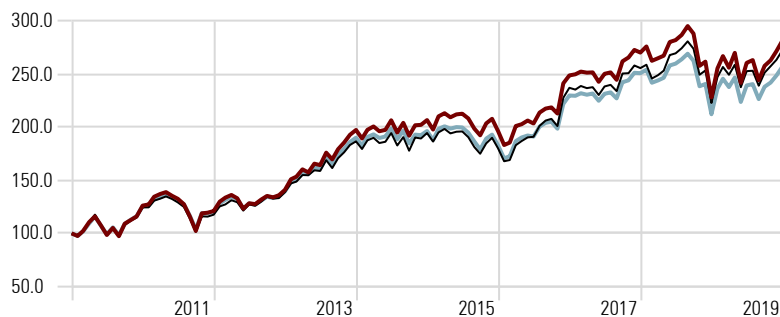
## Returns (Rolling 36 Months)



— American Beacon Small Cp Val Inst — Russell 2000 Value TR USD — US Fund Small Value

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



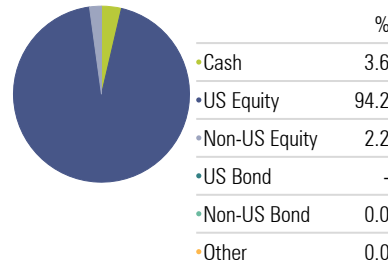
— American Beacon Small Cp Val Inst — Russell 2000 Value TR USD — US Fund Small Value

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.83	1.24	
Gross Expense Ratio	0.83	1.88	
LT Earn Growth	10.7	11.2	9.1
Avg Mkt Cap (\$MMM)	2.4	2.9	47.9
P/E Ratio	14.6	15.7	16.3
P/B Ratio	1.5	1.5	2.0
P/S Ratio	0.8	1.0	1.4
P/CF Ratio	8.2	8.3	10.5
ROE %	10.2	10.4	20.5
ROA %	3.7	3.5	7.2
Dividend Yld	1.8	2.2	2.8

## Asset Allocation

Portfolio Date: 12/31/2019

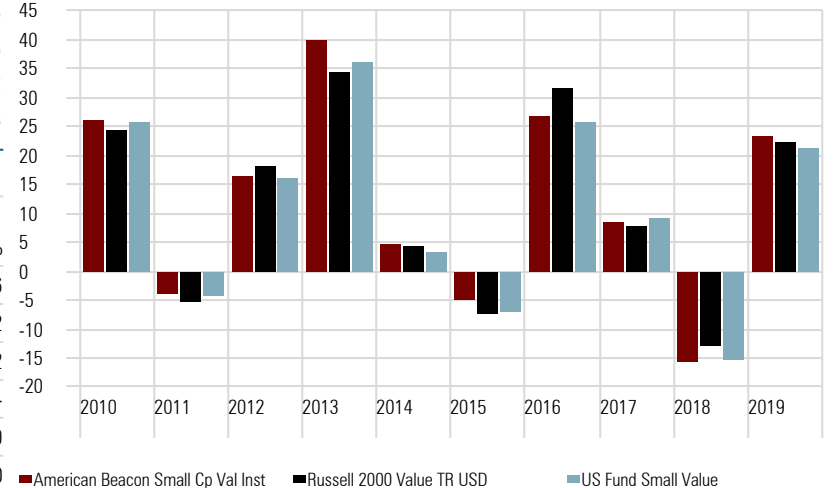


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Russell 2000 Value TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
American Beacon Small Cp Val Inst	66.7	33.3	16.2	-12.9	18.4	-22.9	103.1	102.8
Russell 2000 Value TR USD	65.0	35.0	14.4	-12.1	16.0	-21.5	100.0	100.0
US Fund Small Value	64.2	35.8	14.8	-11.9	15.9	-21.0	94.7	95.4

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	17.8	1.8	17.0	1.4
Down Deviation	2.2	0.9	2.1	0.6
Beta	1.1	0.1	1.1	0.1
Alpha	-0.7	0.3	-0.8	0.5
Sharpe	0.1	0.0	0.3	0.0
Sortino	0.3	0.0	0.6	0.0
Info Ratio	-0.2	0.4	-0.2	0.6
Down Capture	112.5	12.7	105.8	7.5
Up Capture	108.1	12.3	102.0	9.0

## Top 10 Holdings

	Fund %	Inv	Avg
E-Mini Russ 2000 Mar20 Xcme 20200320	3.6	5	5
State Street Instl US Govt MMkt Svc	3.5	4	8
Diodes Inc	1.7	22	16
Portland General Electric Co	1.0	13	10
Vishay Intertechnology Inc	1.0	2	5
Brooks Automation Inc	0.9	3	4
Enstar Group Ltd	0.9	27	28
Seritage Growth Properties Class A	0.8	14	10
MGIC Investment Corp	0.8	2	2
Hancock Whitney Corp	0.8	3	4

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy	3.6	5	5
Materials	3.5	4	8
Industrials	1.7	22	16
Cons Discretionary	1.0	13	10
Consumer Staples	1.0	2	5
Healthcare	0.9	3	4
Financials	0.9	27	28
Info Technology	0.9	14	10
Telecom Services	0.8	2	2
Utilities	0.8	3	4
Real Estate %	0.8	4.8	8.8



# Global Equity Search

As of 12/31/2019



# US Fund World Large Stock

## VY® Invesco Oppenheimer Global I

## American Funds Capital World Gr&Inc R2

## American Funds New Perspective R2

## Franklin Mutual Global Discovery R

## Voya Global Equity A

### Investment Strategy

The investment seeks capital appreciation. Under normal market conditions, the Portfolio invests mainly in common stocks of companies in the United States and foreign countries. It can invest without limit in foreign securities and can invest in any country, including countries with developing or emerging markets. However, the Portfolio currently emphasizes investments in developed markets such as the United States, Western European countries and Japan. It does not limit its investments to companies in a particular capitalization range, but currently focuses its investments in mid- and large-capitalization companies.

### Investment Strategy

The investment seeks long-term growth of capital while providing current income. The fund invests primarily in common stocks of well-established companies located around the world, many of which have the potential to pay dividends. It invests, on a global basis, in common stocks that are denominated in U.S. dollars or other currencies. Under normal market circumstances, the fund will invest a significant portion of its assets in securities of issuers domiciled outside the United States, including those based in developing countries.

### Investment Strategy

The investment seeks long-term growth of capital; future income is a secondary objective. The fund seeks to take advantage of investment opportunities generated by changes in international trade patterns and economic and political relationships by investing in common stocks of companies located around the world. In pursuing its investment objective, it invests primarily in common stocks that the investment adviser believes have the potential for growth.

### Investment Strategy

The investment seeks capital appreciation. The fund invests primarily in equity securities (including securities convertible into, or that the investment manager expects to be exchanged for, common or preferred stock) of U.S. and foreign companies that the investment manager believes are available at market prices less than their value based on certain recognized or objective criteria (intrinsic value). The equity securities in which the fund invests are primarily common stock. The fund may invest substantially and potentially up to 100% of its assets in foreign securities.

### Investment Strategy

The investment seeks long-term capital growth and current income. The fund invests at least 80% of its net assets (plus borrowings for investment purposes) in a portfolio of equity securities. It invests primarily in the equity securities included in the MSCI World IndexSM ("index"). The fund invests in securities of issuers in a number of different countries, including the United States. The sub-adviser ("Sub-Adviser") seeks to maximize total return to the extent consistent with maintaining lower volatility than the index.

### Manager Biography

John C. Delano since 3/31/2017

### Manager Biography

Sung Lee since 2/1/2006

David M. Riley since 2/1/2007

L. Alfonso Barroso since 2/1/2007

Joyce E. Gordon since 2/1/2008

Alex Sheynkman since 2/1/2014

Michael Cohen since 11/15/2014

Jin Lee since 2/1/2019

Leo Hee since 10/1/2019

### Manager Biography

Robert W. Lovelace since 12/1/2000

Jonathan Knowles since 12/1/2004

Brady L. Enright since 12/1/2005

Jody F. Jonsson since 12/1/2005

Steven T. Watson since 12/1/2005

Noriko H. Chen since 4/30/2012

Andraz Razen since 7/2/2015

### Manager Biography

Peter A. Langerman since 12/7/2009

Timothy Rankin since 12/31/2010

Christian Correa since 1/1/2018

### Manager Biography

Vincent J. Costa since 12/1/2014

Steven Wetter since 5/1/2018

Kai Yee Wong since 5/1/2018

Peg DiOrio since 2/28/2019

## VY® Invesco Oppenheimer Global

## American Funds Capital World Gr&Inc R2

## American Funds New Perspective

## Franklin Mutual Global Discovery R

## Voya Global Equity A - Operations

Inception Date	5/1/2002	Inception Date	6/7/2002	Inception Date	5/21/2002	Inception Date	1/2/2002	Inception Date	4/19/1993
Fund Size (\$mm)	1,566	Fund Size (\$mm)	103,964	Fund Size (\$mm)	100,505	Fund Size (\$mm)	15,293	Fund Size (\$mm)	263
Annual Report Net Expense Ratio	0.75	Annual Report Net Expense Ratio	1.54	Annual Report Net Expense Ratio	1.54	Annual Report Net Expense Ratio	1.47	Annual Report Net Expense Ratio	0.85
Prospectus Net Expense Ratio	0.75	Prospectus Net Expense Ratio	1.55	Prospectus Net Expense Ratio	1.52	Prospectus Net Expense Ratio	1.48	Prospectus Net Expense Ratio	0.85
Prospectus Gross Expense Ratio	0.75	Prospectus Gross Expense Ratio	1.55	Prospectus Gross Expense Ratio	1.52	Prospectus Gross Expense Ratio	1.48	Prospectus Gross Expense Ratio	1.10
Ticker	IGMIX	Ticker	RWIBX	Ticker	RNPBX	Ticker	TEDRX	Ticker	NAWGX
Manager Tenure (Longest)	2.83	Manager Tenure (Longest)	13.92	Manager Tenure (Longest)	19.08	Manager Tenure (Longest)	10.08	Manager Tenure (Longest)	5.08
Manager Tenure (Average)	2.83	Manager Tenure (Average)	7.99	Manager Tenure (Average)	12.67	Manager Tenure (Average)	7.06	Manager Tenure (Average)	2.33
Morningstar Inst Cat	World Large Core	Morningstar Inst Cat	World Large Value	Morningstar Inst Cat	World Large Core	Morningstar Inst Cat	World Large Value	Morningstar Inst Cat	World Large Value

### Other Notes:

None

### Other Notes:

None

### Other Notes:

None

### Other Notes:

None

### Other Notes:

None

# Portfolio Analysis

VY® Invesco Oppenheimer Global I

American Funds Capital World Gr&Inc R2

American Funds New Perspective R2

Franklin Mutual Global Discovery R

Voya Global Equity A

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	16	20	53	Market Cap Giant %	57
Mid	0	4	4	Market Cap Large %	32
Small	0	0	2	Market Cap Mid %	7
				Market Cap Small %	3
				Market Cap Micro %	1

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	25	34	33	Market Cap Giant %	60
Mid	2	3	3	Market Cap Large %	32
Small	0	0	0	Market Cap Mid %	9
				Market Cap Small %	0
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	11	26	52	Market Cap Giant %	52
Mid	1	3	5	Market Cap Large %	37
Small	0	0	1	Market Cap Mid %	10
				Market Cap Small %	1
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	44	28	4	Market Cap Giant %	41
Mid	15	6	2	Market Cap Large %	35
Small	1	0	0	Market Cap Mid %	24
				Market Cap Small %	1
				Market Cap Micro %	0

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	34	26	9	Market Cap Giant %	36
Mid	13	10	5	Market Cap Large %	33
Small	2	1	0	Market Cap Mid %	28
				Market Cap Small %	3
				Market Cap Micro %	0

## Valuation Data

Display Benchmark 1: MSCI ACWI NR USD

	Inv	Bmk1
Average Market Cap (bil)	70.6	68.2
Forward P/E	20.9	16.5
P/E Ratio (TTM)	25.8	19.3
LT Earn Growth	12.2	8.8
P/B Ratio (TTM)	3.3	2.3
Dividend Yield	1.5	2.5
ROE %	20.2	21.1
ROA %	7.6	7.4
Debt to Capital %	34	40

## Valuation Data

Display Benchmark 1: MSCI ACWI NR USD

	Inv	Bmk1
Average Market Cap (bil)	83.3	68.2
Forward P/E	16.1	16.5
P/E Ratio (TTM)	20.1	19.3
LT Earn Growth	9.4	8.8
P/B Ratio (TTM)	2.7	2.3
Dividend Yield	2.6	2.5
ROE %	21.6	21.1
ROA %	7.5	7.4
Debt to Capital %	41	40

## Valuation Data

Display Benchmark 1: MSCI ACWI NR USD

	Inv	Bmk1
Average Market Cap (bil)	81.6	68.2
Forward P/E	21.3	16.5
P/E Ratio (TTM)	25.9	19.3
LT Earn Growth	11.1	8.8
P/B Ratio (TTM)	3.6	2.3
Dividend Yield	1.5	2.5
ROE %	21.2	21.1
ROA %	8.0	7.4
Debt to Capital %	36	40

## Valuation Data

Display Benchmark 1: MSCI ACWI NR USD

	Inv	Bmk1
Average Market Cap (bil)	50.7	68.2
Forward P/E	12.9	16.5
P/E Ratio (TTM)	15.9	19.3
LT Earn Growth	9.4	8.8
P/B Ratio (TTM)	1.3	2.3
Dividend Yield	3.3	2.5
ROE %	12.5	21.1
ROA %	3.5	7.4
Debt to Capital %	43	40

## Valuation Data

Display Benchmark 1: MSCI ACWI NR USD

	Inv	Bmk1
Average Market Cap (bil)	38.4	68.2
Forward P/E	15.0	16.5
P/E Ratio (TTM)	17.1	19.3
LT Earn Growth	7.4	8.8
P/B Ratio (TTM)	2.2	2.3
Dividend Yield	3.7	2.5
ROE %	23.3	21.1
ROA %	7.7	7.4
Debt to Capital %	44	40

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	17	
# of Stock Holdings	66	3,049
% in Top 10	37.8	11.9
Cash %	2.2	0.0
Developed %	90.8	90.7
US Equity %	49.6	55.3
Non-US Equity %	48	45
Emerging Mkt %	7.0	9.3

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	49	
# of Stock Holdings	309	3,049
% in Top 10	16.8	11.9
Cash %	6.6	0.0
Developed %	81.8	90.7
US Equity %	43.3	55.3
Non-US Equity %	49	45
Emerging Mkt %	10.5	9.3

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	20	
# of Stock Holdings	293	3,049
% in Top 10	20.8	11.9
Cash %	4.2	0.0
Developed %	90.8	90.7
US Equity %	52.5	55.3
Non-US Equity %	43	45
Emerging Mkt %	5.0	9.3

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	15	
# of Stock Holdings	79	3,049
% in Top 10	25.0	11.9
Cash %	3.0	0.0
Developed %	94.0	90.7
US Equity %	54.2	55.3
Non-US Equity %	41	45
Emerging Mkt %	1.6	9.3

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	77	
# of Stock Holdings	259	3,049
% in Top 10	12.3	11.9
Cash %	5.2	0.0
Developed %	94.4	90.7
US Equity %	58.4	55.3
Non-US Equity %	36	45
Emerging Mkt %	0.4	9.3

# Holdings-Based Style Analysis

VY® Invesco Oppenheimer Global I

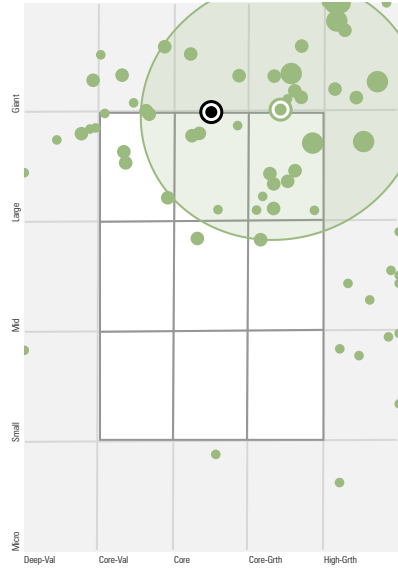
American Funds Capital World Gr&Inc R2

American Funds New Perspective R2

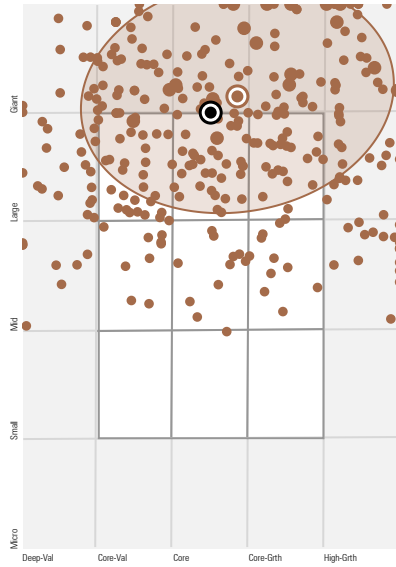
Franklin Mutual Global Discovery R

Voya Global Equity A

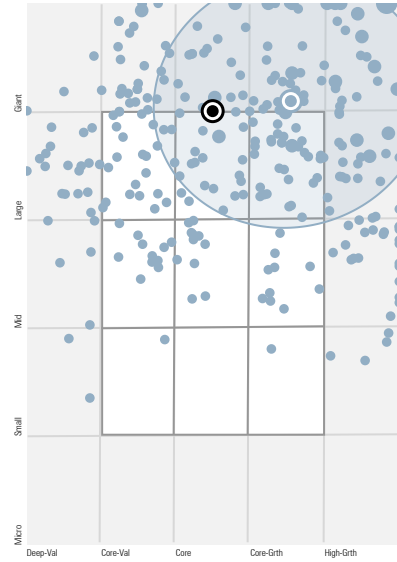
## Holdings-Based Style Map



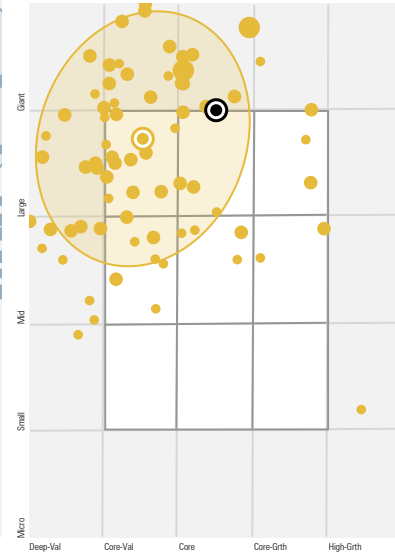
## Holdings-Based Style Map



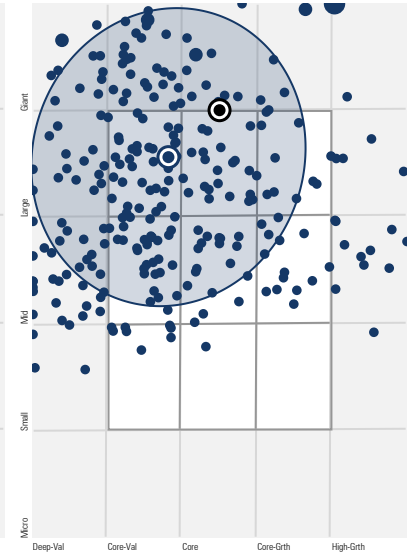
## Holdings-Based Style Map



## Holdings-Based Style Map



## Holdings-Based Style Map



12/31/2019

12/31/2019

12/31/2019

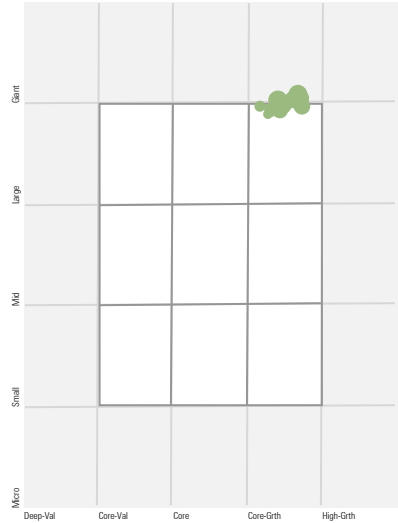
12/31/2019

12/31/2019

12/31/2019

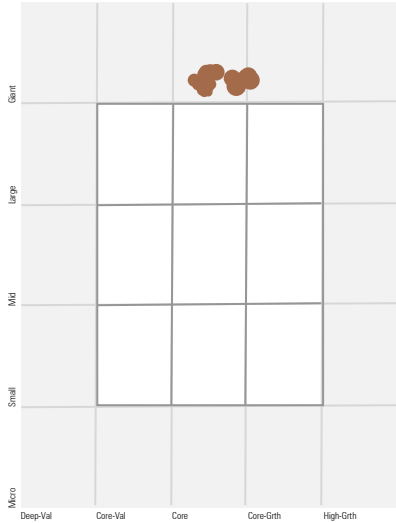
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



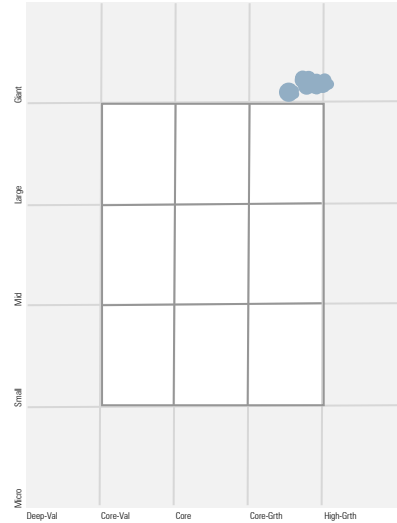
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



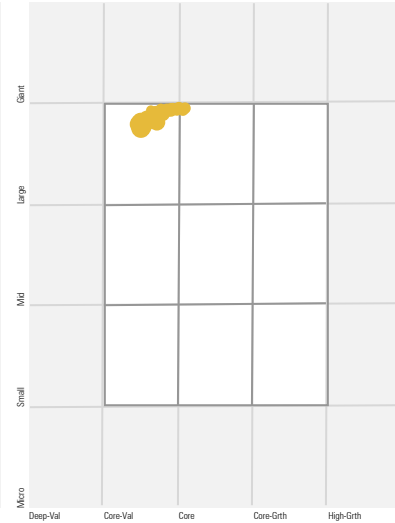
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



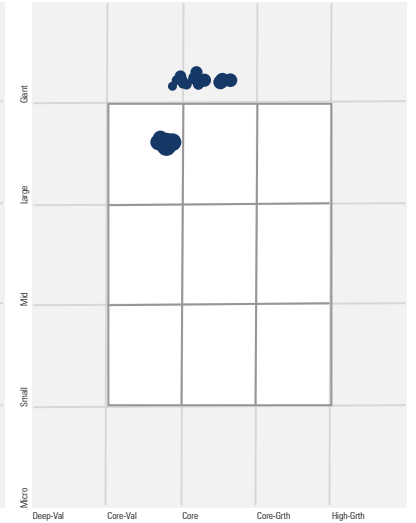
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



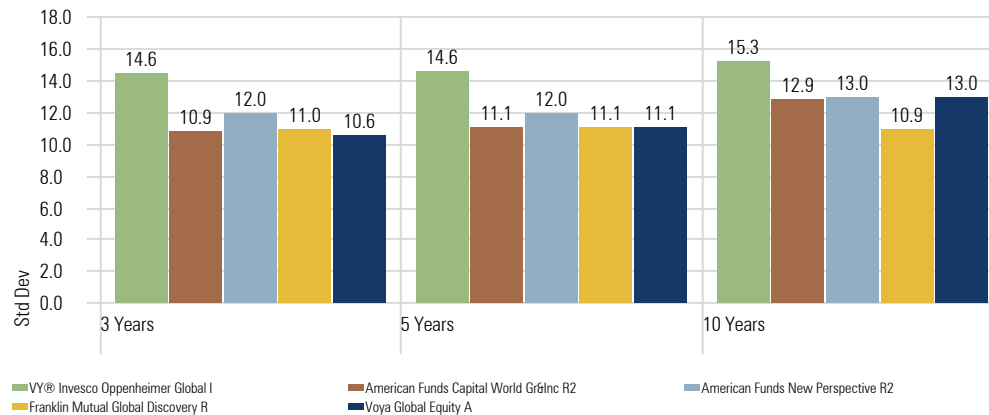
## Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019

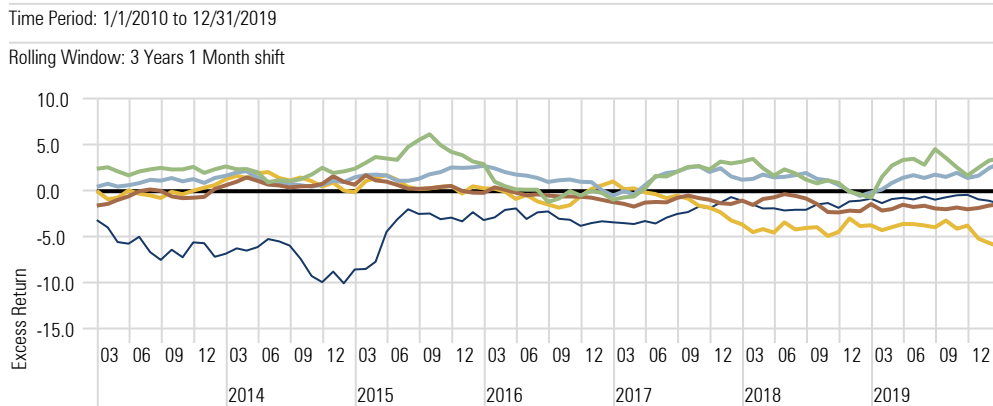


# Risk/Return Performance Analysis

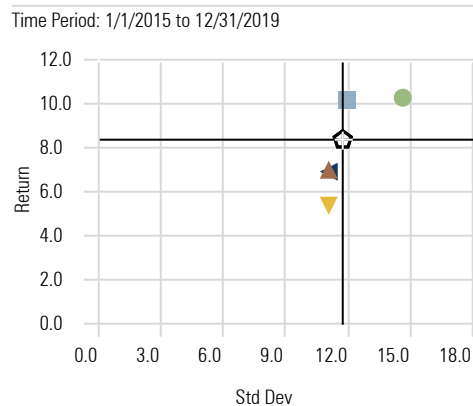
## Standard Deviation



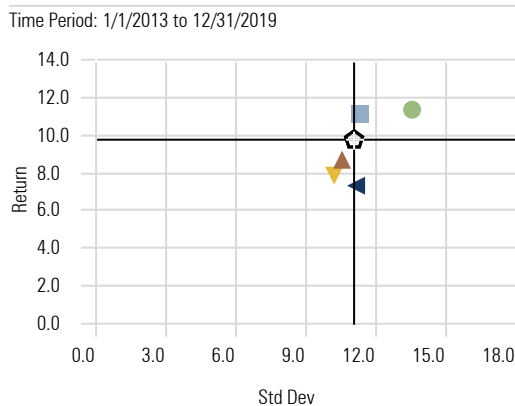
## 3 Year Relative Rolling Returns



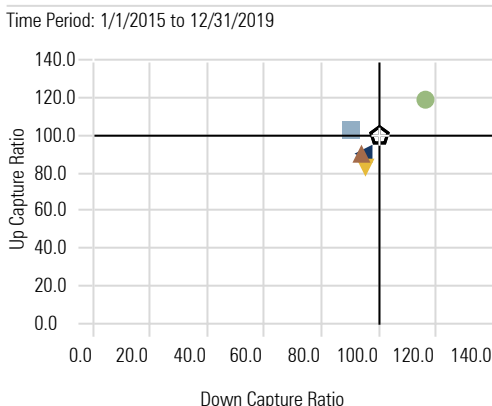
## 5 Year Risk-Reward



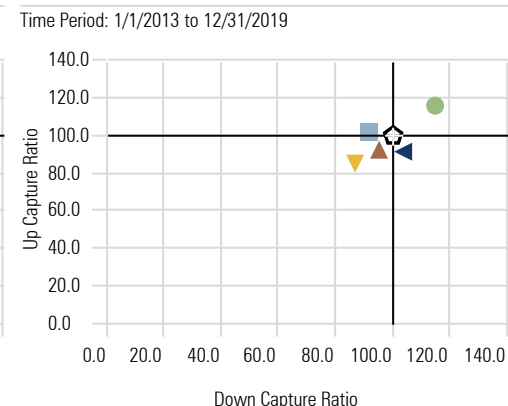
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● VY® Invesco Oppenheimer Global I  
● Franklin Mutual Global Discovery R

● American Funds Capital World Gr&Inc R2  
◀ Voya Global Equity A

● American Funds New Perspective R2  
◻ MSCI ACWI NR USD

## Annualized Performance & Risk Statistics - Since Common Inception

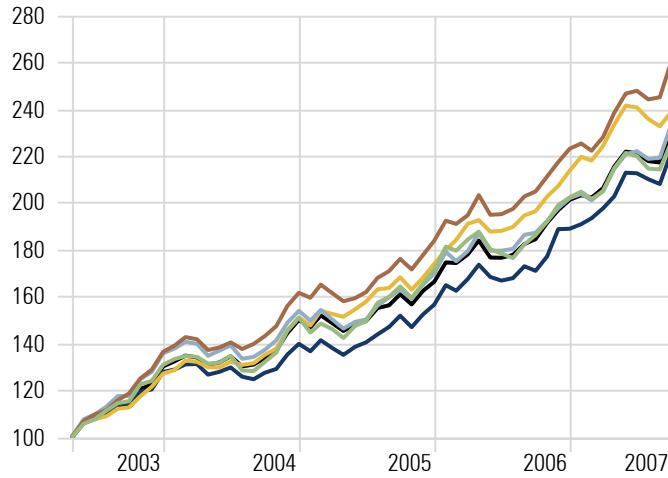
Time Period: Since Common Inception (6/1/2002) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
VY® Invesco Oppenheimer Global I	8.6	16.3	1.1	1.04	94	23.2	-21.4	0.45	4.0
American Funds Capital World Gr&Inc R2	7.9	14.6	0.9	0.95	97	19.3	-19.5	0.45	2.7
American Funds New Perspective R2	8.5	14.8	1.3	0.96	96	19.8	-20.0	0.48	3.0
Franklin Mutual Global Discovery R	7.8	10.9	2.3	0.65	83	15.5	-15.6	0.59	6.9
Voya Global Equity A	7.1	15.4	0.3	0.94	84	26.1	-19.4	0.37	6.2
MSCI ACWI NR USD	7.3	15.1	0.0	1.00	100	22.3	-22.4	0.39	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

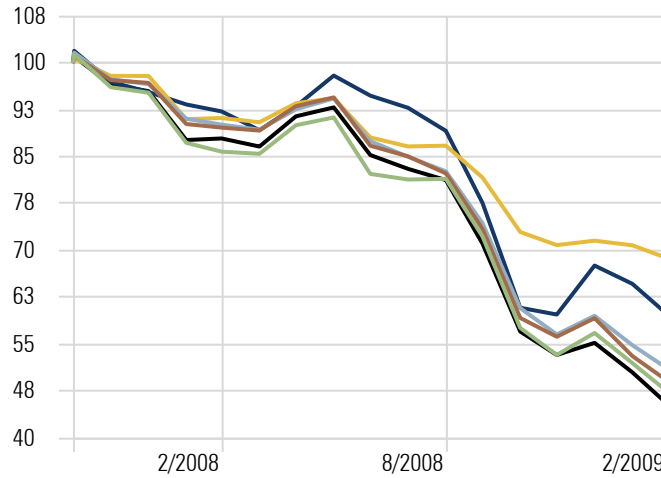
Time Period: 4/30/2003 to 9/30/2007



● VY® Invesco Oppenheimer Global I 226  
 ● Franklin Mutual Global Discovery R 239  
 ● American Funds Capital World Gr&nc R2 260  
 ● Voya Global Equity A 222  
 ● American Funds New Perspective R2 222  
 ● MSCI ACWI NR USD 222

## Credit Crunch - Financial Crisis

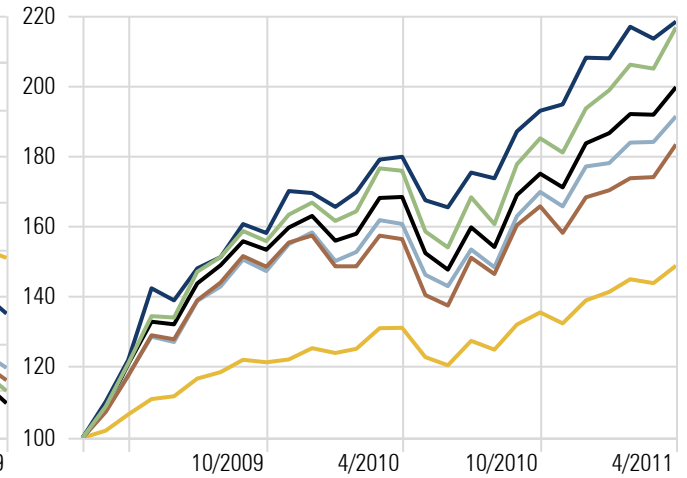
Time Period: 10/31/2007 to 2/28/2009



● VY® Invesco Oppenheimer Global I 233  
 ● Franklin Mutual Global Discovery R 229  
 ● American Funds Capital World Gr&nc R2 48  
 ● Voya Global Equity A 69  
 ● American Funds New Perspective R2 49  
 ● MSCI ACWI NR USD 60

## Financial Crisis Recovery - QE1&2

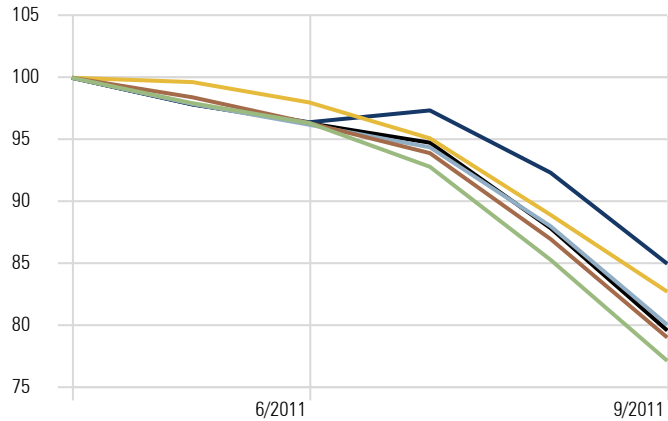
Time Period: 3/1/2009 to 4/30/2011



● VY® Invesco Oppenheimer Global I 51  
 ● Franklin Mutual Global Discovery R 46  
 ● American Funds Capital World Gr&nc R2 216.8  
 ● Voya Global Equity A 149.0  
 ● American Funds New Perspective R2 183.5  
 ● MSCI ACWI NR USD 218.5

## Double Dip

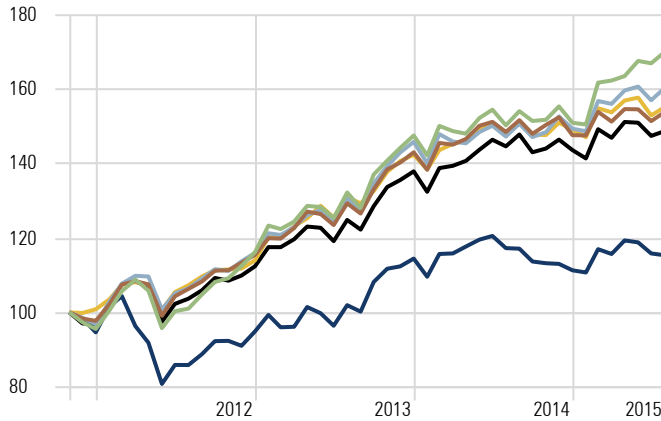
Time Period: 5/1/2011 to 9/30/2011



● VY® Invesco Oppenheimer Global I 77.1  
 ● Franklin Mutual Global Discovery R 82.7  
 ● American Funds Capital World Gr&nc R2 79.0  
 ● Voya Global Equity A 84.9  
 ● American Funds New Perspective R2 80.0  
 ● MSCI ACWI NR USD 79.5

## US Recovery Continues - Global Markets Lag

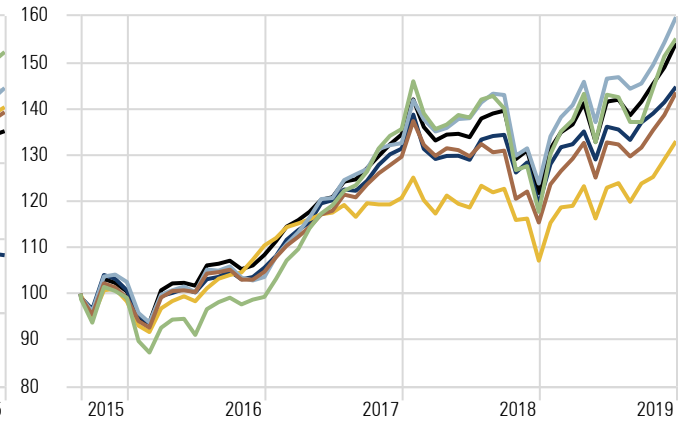
Time Period: 11/1/2011 to 7/31/2015



● VY® Invesco Oppenheimer Global I 170.3  
 ● Franklin Mutual Global Discovery R 155.4  
 ● American Funds Capital World Gr&nc R2 154.0  
 ● Voya Global Equity A 115.4  
 ● American Funds New Perspective R2 160.6  
 ● MSCI ACWI NR USD 148.9

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



● VY® Invesco Oppenheimer Global I 155.1  
 ● Franklin Mutual Global Discovery R 133.0  
 ● American Funds Capital World Gr&nc R2 143.5  
 ● Voya Global Equity A 144.7  
 ● American Funds New Perspective R2 159.8  
 ● MSCI ACWI NR USD 154.1

● VY® Invesco Oppenheimer Global I  
 ● Franklin Mutual Global Discovery R

● American Funds Capital World Gr&nc R2  
 ● Voya Global Equity A

● American Funds New Perspective R2  
 ● MSCI ACWI NR USD

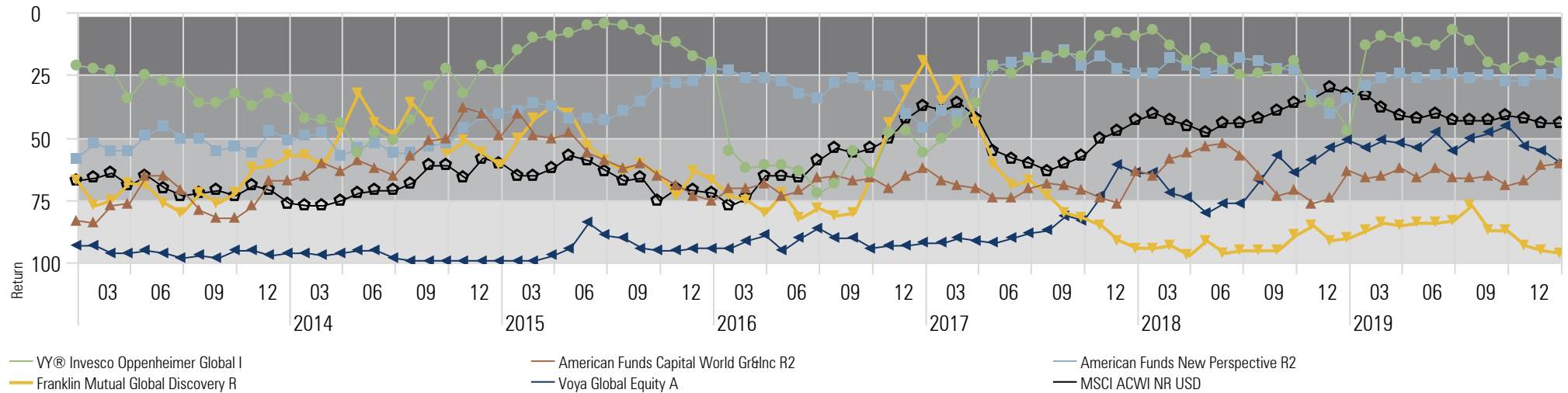
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

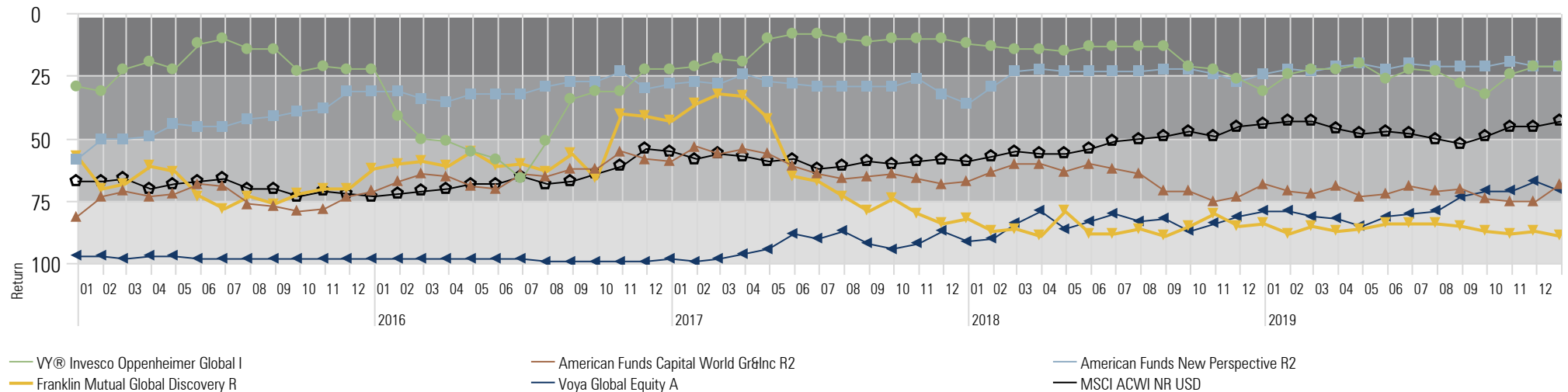


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>World Large Stock</b>																		
VY® Invesco Oppenheimer Global I	13.1	<b>3</b>	4.19	31.8	<b>13</b>	5.21	31.8	<b>13</b>	5.21	16.0	<b>20</b>	3.57	10.3	<b>21</b>	1.85	10.6	<b>17</b>	1.86
American Funds Capital World Gr&Inc R2	9.0	<b>40</b>	0.10	24.3	<b>68</b>	-2.26	24.3	<b>68</b>	-2.26	11.1	<b>60</b>	-1.39	7.0	<b>68</b>	-1.36	7.6	<b>76</b>	-1.16
American Funds New Perspective R2	9.9	<b>25</b>	0.90	29.0	<b>33</b>	2.44	29.0	<b>33</b>	2.44	15.5	<b>24</b>	3.07	10.2	<b>21</b>	1.84	9.9	<b>32</b>	1.15
Franklin Mutual Global Discovery R	7.4	<b>72</b>	-1.57	24.1	<b>70</b>	-2.51	24.1	<b>70</b>	-2.51	6.4	<b>96</b>	-6.06	5.4	<b>89</b>	-3.02	7.5	<b>77</b>	-1.26
Voya Global Equity A	5.6	<b>87</b>	-3.32	21.3	<b>81</b>	-5.29	21.3	<b>81</b>	-5.29	11.1	<b>60</b>	-1.39	6.9	<b>71</b>	-1.48	6.2	<b>93</b>	-2.62
MSCI ACWI NR USD	9.0			26.6			26.6			12.4			8.4			8.8		
Average	8.5			26.4			26.4			12.5			8.3			8.9		

## Performance Summary - Calendar Year Periods

	2019			2018			2017			2016			2015			2014			2013		
	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>World Large Stock</b>																					
VY® Invesco Oppenheimer Global I	31.8	<b>13</b>	5.21	-13.2	<b>81</b>	-3.78	36.5	<b>5</b>	12.52	0.2	<b>86</b>	-7.64	4.1	<b>14</b>	6.49	2.3	<b>66</b>	-1.84	27.1	<b>37</b>	4.32
American Funds Capital World Gr&Inc R2	24.3	<b>68</b>	-2.26	-11.0	<b>67</b>	-1.55	23.7	<b>55</b>	-0.27	5.7	<b>44</b>	-2.16	-2.9	<b>78</b>	-0.54	3.2	<b>54</b>	-0.93	24.0	<b>62</b>	1.18
American Funds New Perspective R2	29.0	<b>33</b>	2.44	-6.6	<b>26</b>	2.83	27.9	<b>26</b>	3.92	1.0	<b>83</b>	-6.82	4.5	<b>12</b>	6.90	2.4	<b>64</b>	-1.74	25.9	<b>49</b>	3.07
Franklin Mutual Global Discovery R	24.1	<b>70</b>	-2.51	-11.2	<b>70</b>	-1.82	9.3	<b>99</b>	-14.67	12.3	<b>6</b>	4.42	-3.8	<b>82</b>	-1.46	4.8	<b>30</b>	0.61	25.0	<b>56</b>	2.21
Voya Global Equity A	21.3	<b>81</b>	-5.29	-9.2	<b>44</b>	0.24	24.3	<b>49</b>	0.34	4.9	<b>53</b>	-3.01	-2.7	<b>75</b>	-0.30	-2.8	<b>95</b>	-6.92	20.7	<b>79</b>	-2.06
MSCI ACWI NR USD	26.6			-9.4			24.0			7.9			-2.4			4.2			22.8		
Average	26.4			-9.5			24.8			5.0			-0.3			3.5			25.7		



# VY® Invesco Oppenheimer Global I

IGMIX

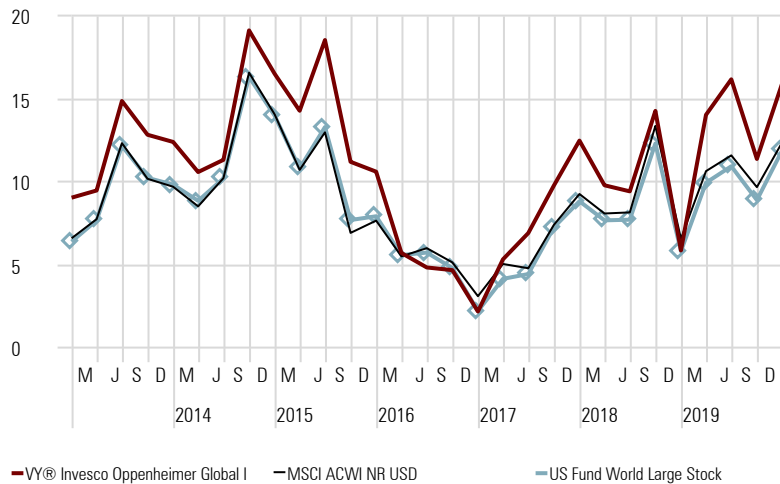
**Index:** MSCI ACWI NR USD  
**Category:** US Fund World Large Stock  
**Return Date:** 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: MSCI ACWI NR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
VY® Invesco Oppenheimer Global I	31.8	31.8	16.0	10.3	10.6	8.2
MSCI ACWI NR USD	26.6	26.6	12.4	8.4	8.8	6.9
US Fund World Large Stock	25.4	25.4	12.0	7.9	8.5	6.6

## Returns (Rolling 36 Months)

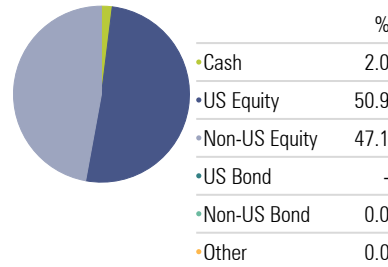


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.75	1.14	
Gross Expense Ratio	0.75	2.32	
LT Earn Growth	12.4	10.2	9.1
Avg Mkt Cap (\$MMM)	72.5	75.2	47.9
P/E Ratio	26.2	19.8	16.3
P/B Ratio	3.3	2.6	2.0
P/S Ratio	2.6	1.8	1.4
P/CF Ratio	20.0	12.9	10.5
ROE %	20.6	21.9	20.5
ROA %	8.1	7.4	7.2
Dividend Yld	1.4	2.2	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

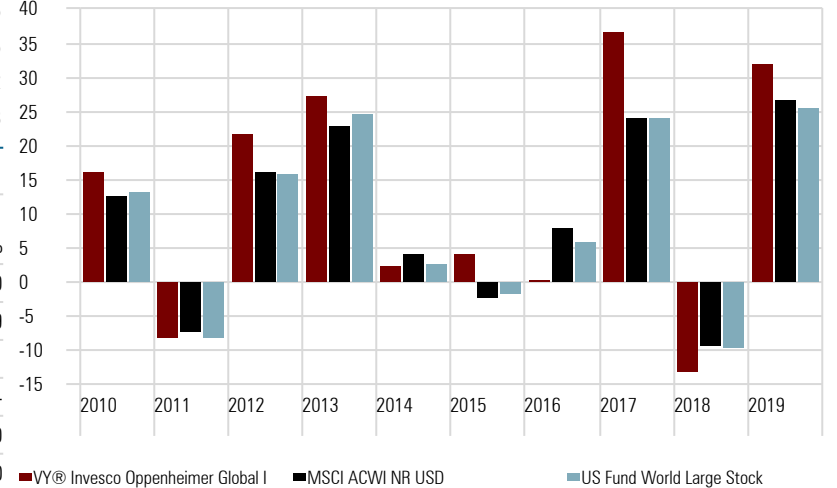


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: MSCI ACWI NR USD

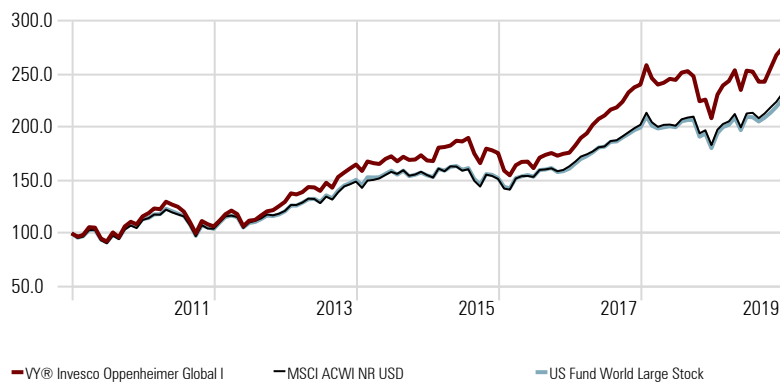
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
VY® Invesco Oppenheimer Global I	62.5	37.5	11.6	-9.8	16.9	-20.0	115.7	112.4
MSCI ACWI NR USD	64.2	35.8	10.7	-9.5	14.3	-17.4	100.0	100.0
US Fund World Large Stock	65.0	35.0	10.2	-9.9	14.1	-17.7	95.6	95.2

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	14.6	3.4	14.6	3.4
Down Deviation	2.7	1.9	3.4	2.3
Beta	1.2	0.3	1.2	0.2
Alpha	1.0	1.2	0.7	0.9
Sharpe	1.0	0.1	0.6	0.0
Sortino	1.5	0.2	1.0	0.1
Info Ratio	0.8	1.2	0.4	0.8
Down Capture	121.0	25.2	116.4	21.8
Up Capture	124.7	28.7	118.7	24.5

## Top 10 Holdings

Company	Fund %
Alphabet Inc A	8.0
Airbus SE	4.2
LVMH Moet Hennessy Louis Vuitton SE	4.1
S&P Global Inc	4.0
Adobe Inc	3.9
Intuit Inc	3.5
Facebook Inc A	3.5
DLF Ltd	3.0
SAP SE	2.9
Kering SA	2.5

## Sector Allocation (%)

Sector	Inv	Avg
Energy	0	3
Materials	0	4
Industrials	13	13
Cons Discretionary	13	12
Consumer Staples	3	8
Healthcare	13	13
Financials	14	14
Info Technology	25	18
Telecom Services	16	8
Utilities	0	3
Real Estate %	3.0	2.4

# Global Equity Search 2

As of 12/31/2019



# US Fund World Large Stock

VY® Invesco Oppenheimer Global I

## Investment Strategy

The investment seeks capital appreciation. Under normal market conditions, the Portfolio invests mainly in common stocks of companies in the United States and foreign countries. It can invest without limit in foreign securities and can invest in any country, including countries with developing or emerging markets. However, the Portfolio currently emphasizes investments in developed markets such as the United States, Western European countries and Japan. It does not limit its investments to companies in a particular capitalization range, but currently focuses its investments in mid- and large-capitalization companies.

## Manager Biography

John C. Delano since 3/31/2017

## VY® Invesco Oppenheimer Global I - Operations

Inception Date	5/1/2002
Fund Size (\$mm)	1,566
Annual Report Net Expense Ratio	0.75
Prospectus Net Expense Ratio	0.75
Prospectus Gross Expense Ratio	0.75
Ticker	IGMIX
Manager Tenure (Longest)	2.83
Manager Tenure (Average)	2.83
Morningstar Inst Cat	World Large Core

## Other Notes:

None

Voya Global Equity Port S2

## Investment Strategy

The investment seeks long-term capital growth and current income. Under normal market conditions, the Portfolio invests at least 80% of its net assets (plus borrowings for investment purposes) in a portfolio of equity securities. It invests primarily in equity securities included in the MSCI World IndexSM ("index"). The Portfolio invests in securities of issuers in a number of different countries, including the United States.

## Manager Biography

Vincent J. Costa since 4/30/2012

Steven Wetter since 5/1/2018

Kai Yee Wong since 5/1/2018

Peg DiOrio since 2/28/2019

## Voya Global Equity Port S2 - Operations

Inception Date	3/5/2015
Fund Size (\$mm)	715
Annual Report Net Expense Ratio	1.01
Prospectus Net Expense Ratio	1.01
Prospectus Gross Expense Ratio	1.03
Ticker	IWTTX
Manager Tenure (Longest)	7.75
Manager Tenure (Average)	3.00
Morningstar Inst Cat	World Large Value

## Other Notes:

None

# Portfolio Analysis

VY® Invesco Oppenheimer Global I

Voya Global Equity Port S2

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth
Large	16	20	53
Mid	0	4	4
Small	0	0	2

Market Cap	%
Market Cap Giant %	57
Market Cap Large %	32
Market Cap Mid %	7
Market Cap Small %	3
Market Cap Micro %	1

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth
Large	34	26	9
Mid	13	10	5
Small	2	1	0

Market Cap	%
Market Cap Giant %	35
Market Cap Large %	33
Market Cap Mid %	28
Market Cap Small %	3
Market Cap Micro %	0

## Valuation Data

Display Benchmark 1: MSCI ACWI NR USD

	Inv	Bmk1
Average Market Cap (bil)	70.6	68.2
Forward P/E	20.9	16.5
P/E Ratio (TTM)	25.8	19.3
LT Earn Growth	12.2	8.8
P/B Ratio (TTM)	3.3	2.3
Dividend Yield	1.5	2.5
ROE %	20.2	21.1
ROA %	7.6	7.4
Debt to Capital %	34	40

## Valuation Data

Display Benchmark 1: MSCI ACWI NR USD

	Inv	Bmk1
Average Market Cap (bil)	37.9	68.2
Forward P/E	14.9	16.5
P/E Ratio (TTM)	17.0	19.3
LT Earn Growth	7.4	8.8
P/B Ratio (TTM)	2.2	2.3
Dividend Yield	3.7	2.5
ROE %	23.3	21.1
ROA %	7.7	7.4
Debt to Capital %	44	40

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	17	
# of Stock Holdings	66	3,049
% in Top 10	37.8	11.9
Cash %	2.2	0.0
Developed %	90.8	90.7
US Equity %	49.6	55.3
Non-US Equity %	48	45
Emerging Mkt %	7.0	9.3

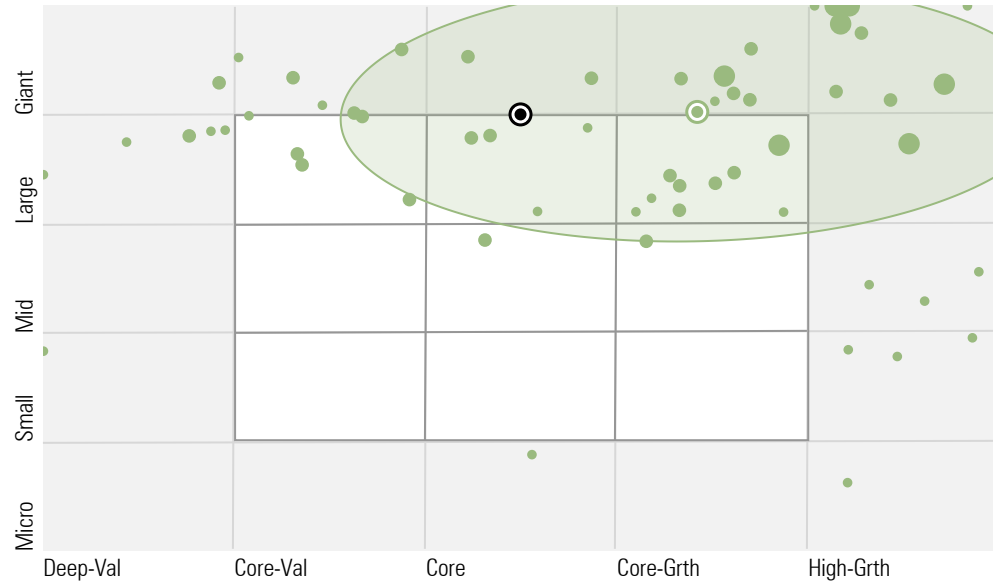
## Portfolio Data

	Inv	Bmk1
Turnover Ratio	147	
# of Stock Holdings	259	3,049
% in Top 10	13.1	11.9
Cash %	0.1	0.0
Developed %	99.4	90.7
US Equity %	61.4	55.3
Non-US Equity %	38	45
Emerging Mkt %	0.4	9.3

# Holdings-Based Style Analysis

## VY® Invesco Oppenheimer Global I

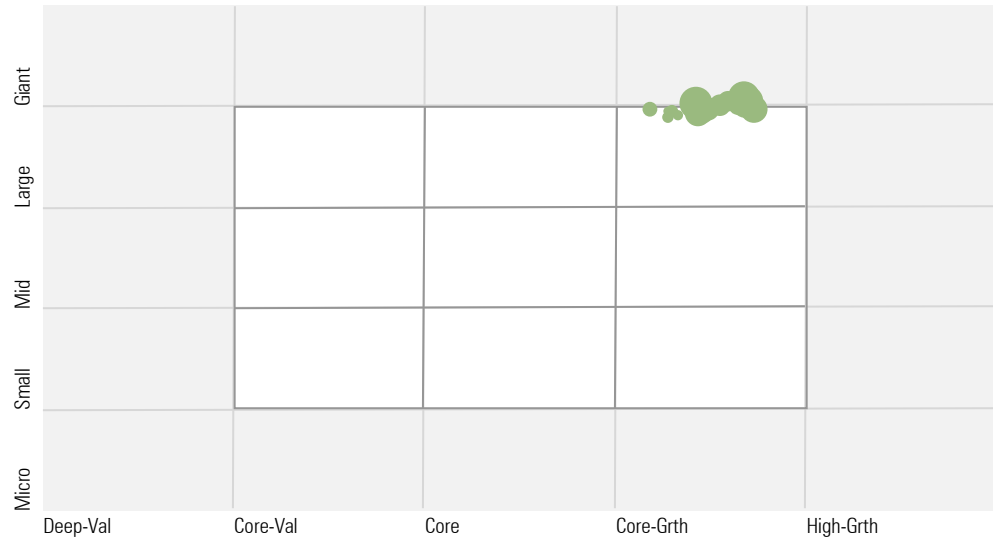
### Holdings-Based Style Map



● VY® Invesco Oppenheimer Global I 12/31/2019 ● MSCI ACWI NR USD 12/31/2019

### Holdings-Based Style Trail

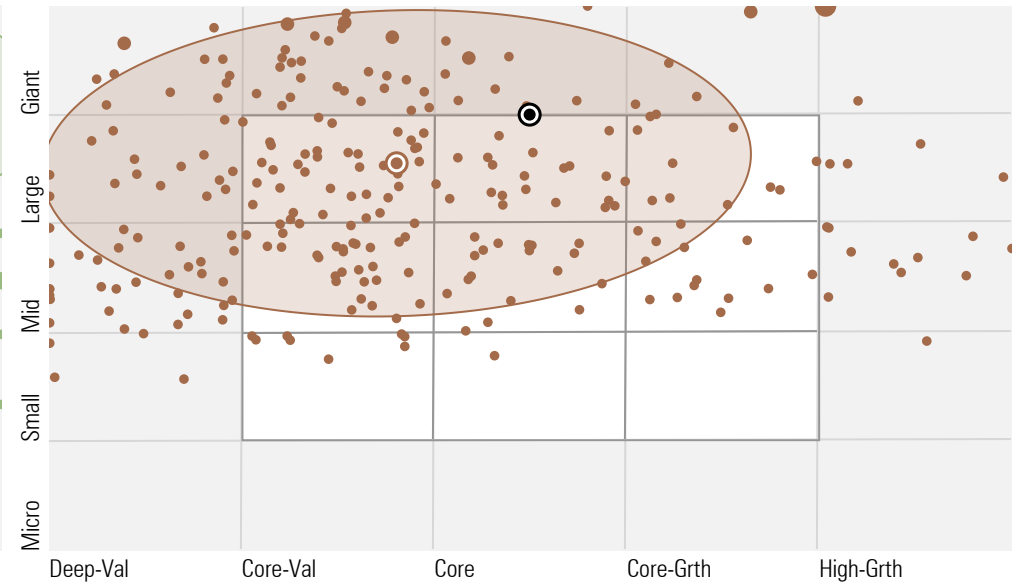
Time Period: 3/31/2015 to 12/31/2019



Source: Morningstar Direct

## Voya Global Equity Port S2

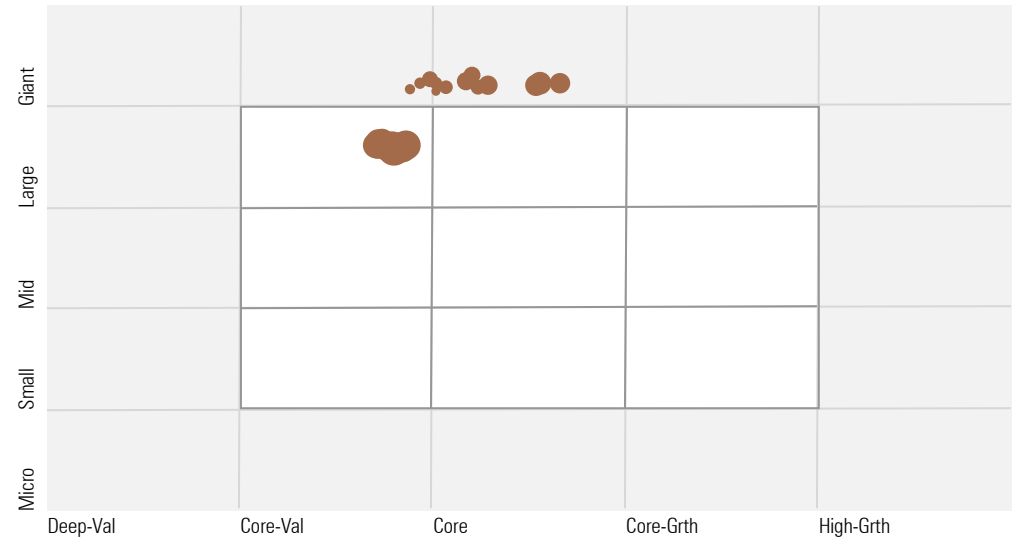
### Holdings-Based Style Map



● Voya Global Equity Port S2 12/31/2019 ● MSCI ACWI NR USD 12/31/2019

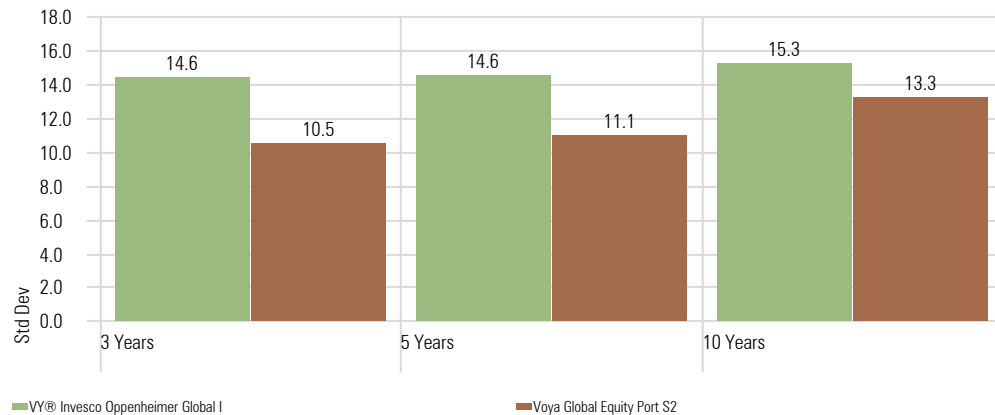
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019

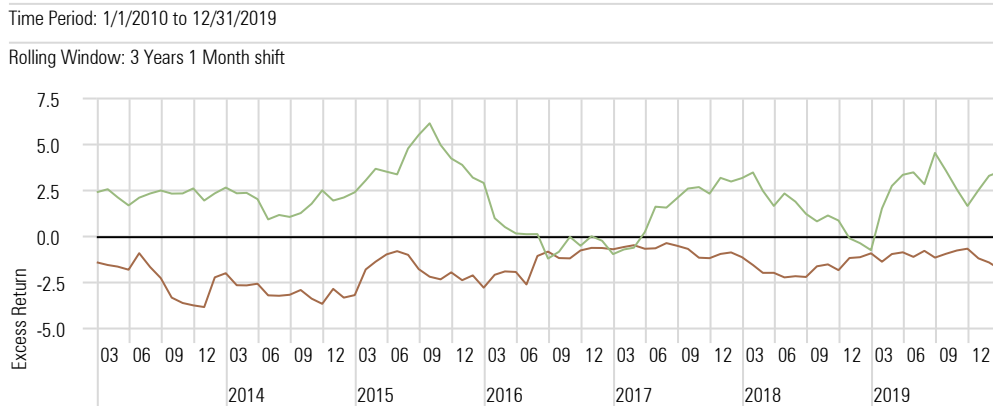


# Risk/Return Performance Analysis

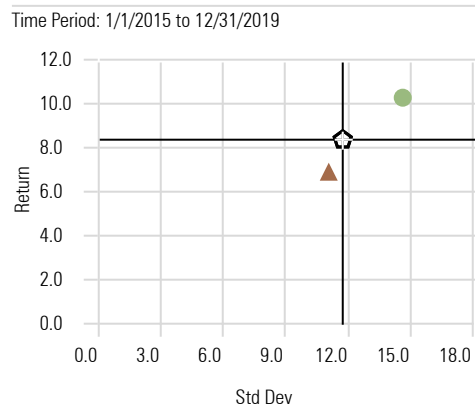
## Standard Deviation



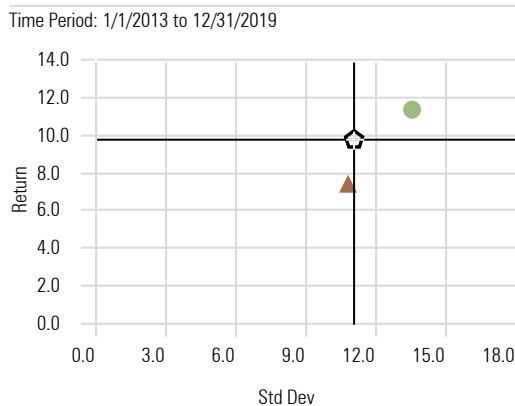
## 3 Year Relative Rolling Returns



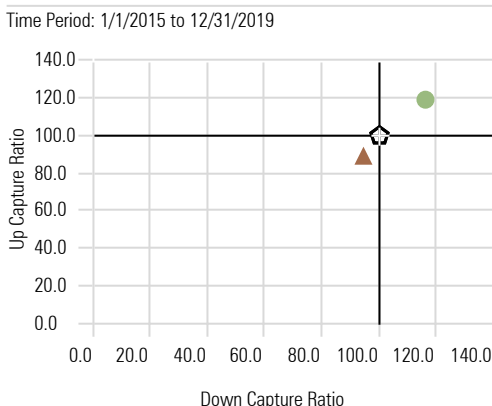
## 5 Year Risk-Reward



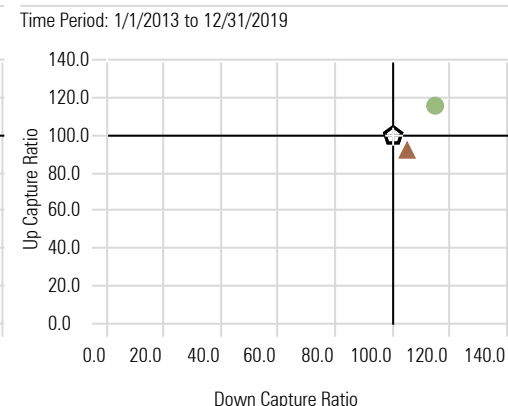
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● VY@ Invesco Oppenheimer Global I

● Voya Global Equity Port S2

⬠ MSCI ACWI NR USD

## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (4/1/2015) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
VY@ Invesco Oppenheimer Global I	9.1	14.7	-0.3	1.18	90	16.9	-16.0	0.54	5.1
Voya Global Equity Port S2	6.3	11.1	-1.4	0.92	96	10.9	-11.3	0.47	2.4
MSCI ACWI NR USD	8.3	11.8	0.0	1.00	100	12.2	-12.8	0.61	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

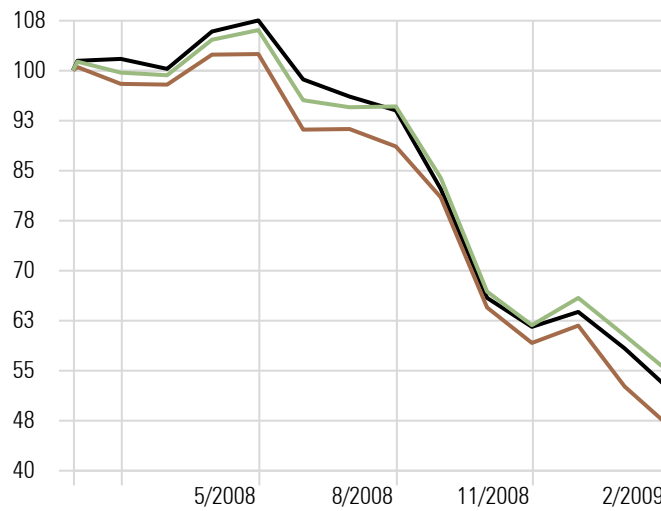
Time Period: 4/30/2003 to 9/30/2007



VY® Invesco Oppenheimer Global I 100.0  
 Voya Global Equity Port S2 100.0  
 MSCI ACWI NR USD 100.0

## Credit Crunch - Financial Crisis

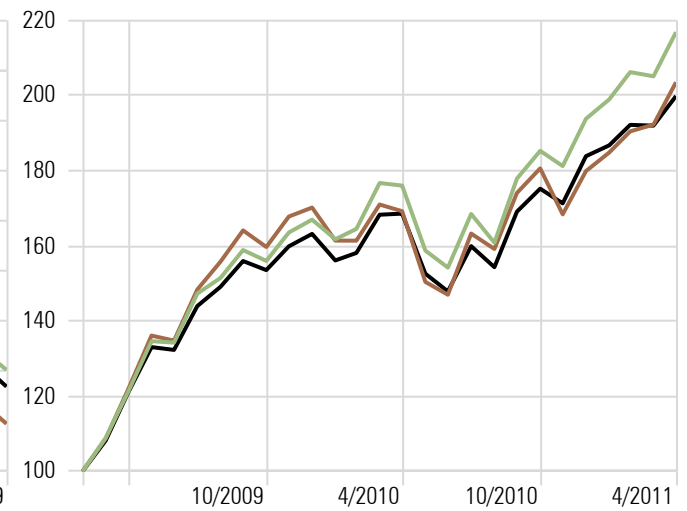
Time Period: 1/29/2008 to 2/28/2009



VY® Invesco Oppenheimer Global I 55.0  
 Voya Global Equity Port S2 47.0  
 MSCI ACWI NR USD 47.0

## Financial Crisis Recovery - QE1&2

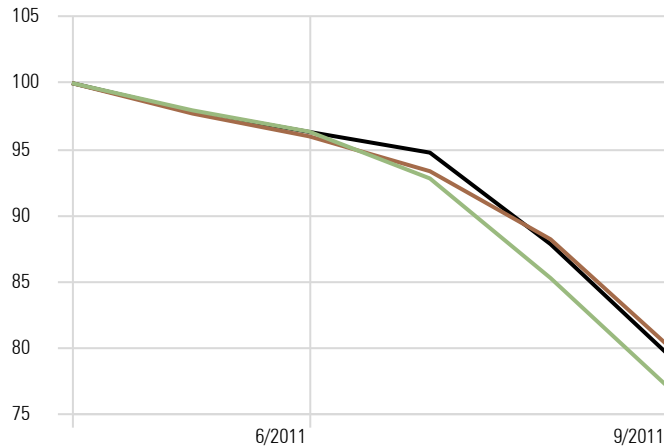
Time Period: 3/1/2009 to 4/30/2011



VY® Invesco Oppenheimer Global I 216.8  
 Voya Global Equity Port S2 203.5  
 MSCI ACWI NR USD 199.8

## Double Dip

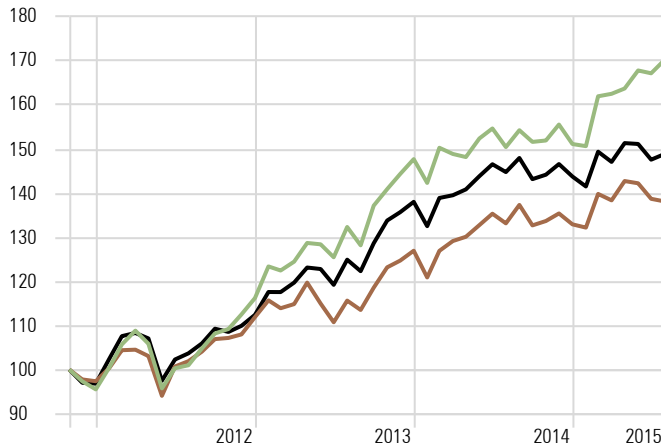
Time Period: 5/1/2011 to 9/30/2011



VY® Invesco Oppenheimer Global I 77.1  
 Voya Global Equity Port S2 80.2  
 MSCI ACWI NR USD 80.2

## US Recovery Continues - Global Markets Lag

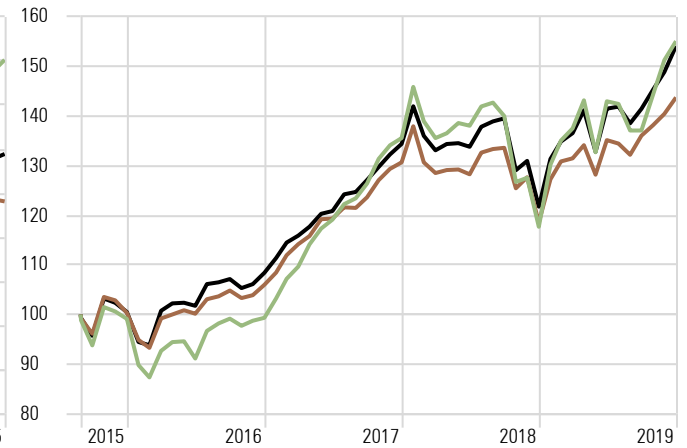
Time Period: 11/1/2011 to 7/31/2015



VY® Invesco Oppenheimer Global I 170.3  
 Voya Global Equity Port S2 138.2  
 MSCI ACWI NR USD 138.2

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



VY® Invesco Oppenheimer Global I 155.1  
 Voya Global Equity Port S2 143.8  
 MSCI ACWI NR USD 154.1

VY® Invesco Oppenheimer Global I

Voya Global Equity Port S2

MSCI ACWI NR USD

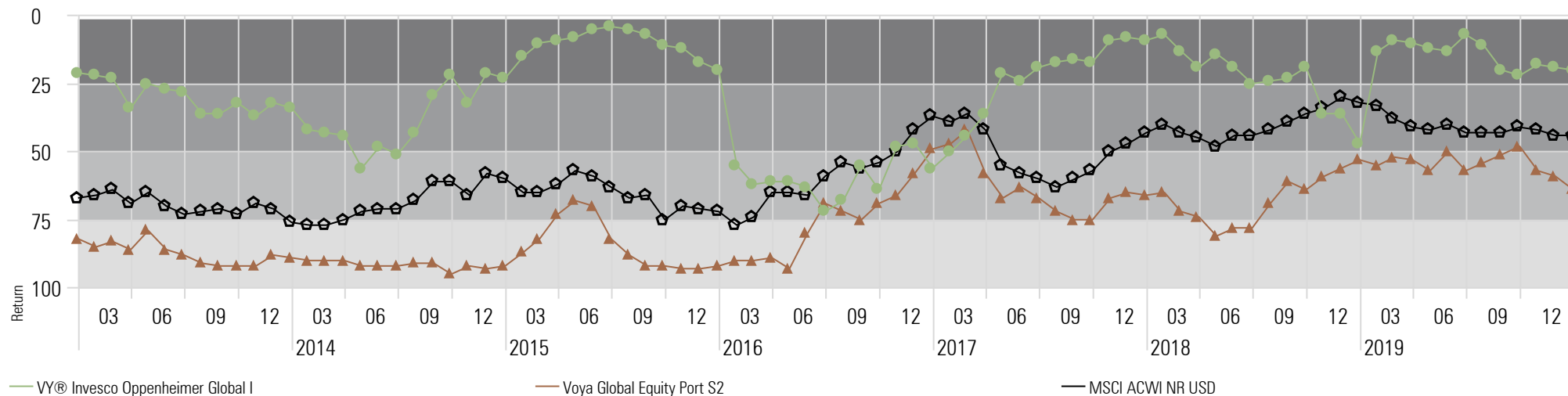
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

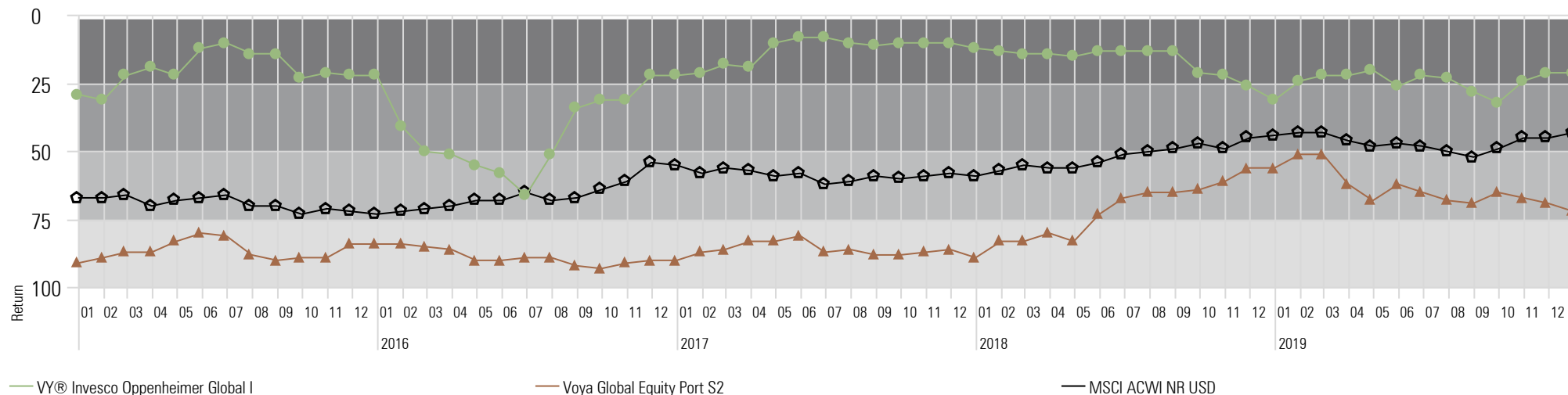


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile





## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>World Large Stock</b>																		
VY® Invesco Oppenheimer Global I	13.1	<b>3</b>	4.19	31.8	<b>13</b>	5.21	31.8	<b>13</b>	5.21	16.0	<b>20</b>	3.57	10.3	<b>21</b>	1.85	10.6	<b>17</b>	1.86
Voya Global Equity Port S2	5.7	<b>87</b>	-3.28	21.3	<b>82</b>	-5.34	21.3	<b>82</b>	-5.34	10.7	<b>64</b>	-1.75	6.9	<b>72</b>	-1.54	6.8	<b>85</b>	-1.98
MSCI ACWI NR USD	9.0			26.6			26.6			12.4			8.4			8.8		
Average	8.5			26.4			26.4			12.5			8.3			8.9		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>World Large Stock</b>																					
VY® Invesco Oppenheimer Global I	31.8	<b>13</b>	5.21	-13.2	<b>81</b>	-3.78	36.5	<b>5</b>	12.52	0.2	<b>86</b>	-7.64	4.1	<b>14</b>	6.49	2.3	<b>66</b>	-1.84	27.1	<b>37</b>	4.32
Voya Global Equity Port S2	21.3	<b>82</b>	-5.34	-9.3	<b>46</b>	0.15	23.3	<b>58</b>	-0.69	5.6	<b>46</b>	-2.23	-2.7	<b>76</b>	-0.36	4.7	<b>30</b>	0.56	13.5	<b>97</b>	-9.35
MSCI ACWI NR USD	26.6			-9.4			24.0			7.9			-2.4			4.2			22.8		
Average	26.4			-9.5			24.8			5.0			-0.3			3.5			25.7		

# VY® Invesco Oppenheimer Global I

IGMIX

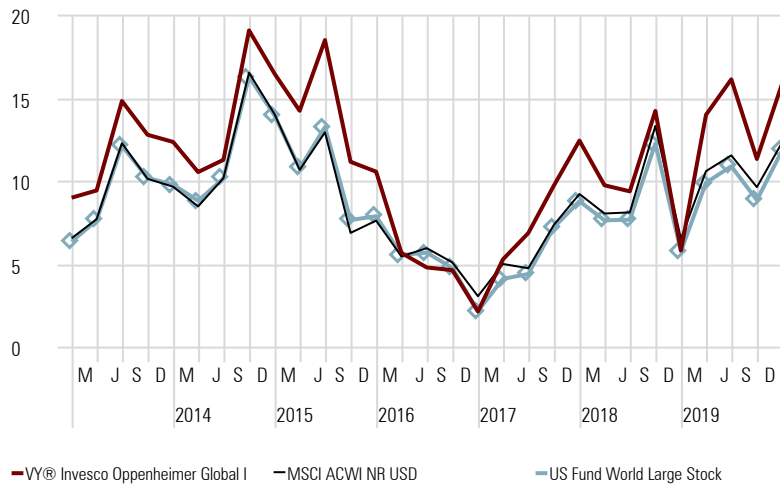
**Index:** MSCI ACWI NR USD  
**Category:** US Fund World Large Stock  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: MSCI ACWI NR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
VY® Invesco Oppenheimer Global I	31.8	31.8	16.0	10.3	10.6	8.2
MSCI ACWI NR USD	26.6	26.6	12.4	8.4	8.8	6.9
US Fund World Large Stock	25.4	25.4	12.0	7.9	8.5	6.6

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.75	1.14	
Gross Expense Ratio	0.75	2.32	
LT Earn Growth	12.4	10.2	9.1
Avg Mkt Cap (\$MMM)	72.5	75.2	47.9
P/E Ratio	26.2	19.8	16.3
P/B Ratio	3.3	2.6	2.0
P/S Ratio	2.6	1.8	1.4
P/CF Ratio	20.0	12.9	10.5
ROE %	20.6	21.9	20.5
ROA %	8.1	7.4	7.2
Dividend Yld	1.4	2.2	2.8

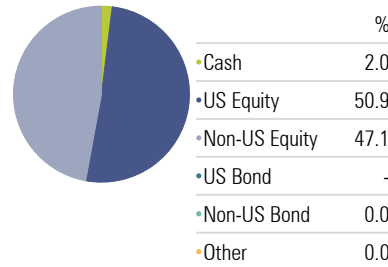
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: MSCI ACWI NR USD

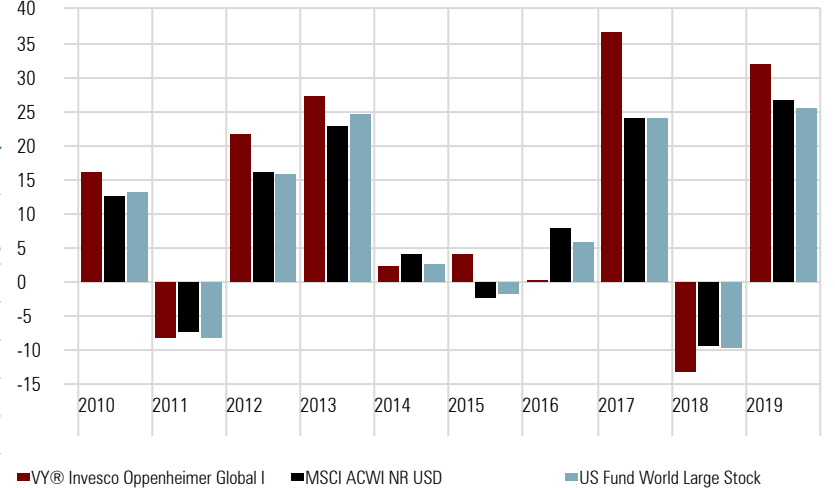
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
VY® Invesco Oppenheimer Global I	62.5	37.5	11.6	-9.8	16.9	-20.0	115.7	112.4
MSCI ACWI NR USD	64.2	35.8	10.7	-9.5	14.3	-17.4	100.0	100.0
US Fund World Large Stock	65.0	35.0	10.2	-9.9	14.1	-17.7	95.6	95.2

## Asset Allocation

Portfolio Date: 1/31/2020



## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	14.6	3.4	14.6	3.4
Down Deviation	2.7	1.9	3.4	2.3
Beta	1.2	0.3	1.2	0.2
Alpha	1.0	1.2	0.7	0.9
Sharpe	1.0	0.1	0.6	0.0
Sortino	1.5	0.2	1.0	0.1
Info Ratio	0.8	1.2	0.4	0.8
Down Capture	121.0	25.2	116.4	21.8
Up Capture	124.7	28.7	118.7	24.5

## Top 10 Holdings

Company	Fund %
Alphabet Inc A	8.0
Airbus SE	4.2
LVMH Moet Hennessy Louis Vuitton SE	4.1
S&P Global Inc	4.0
Adobe Inc	3.9
Intuit Inc	3.5
Facebook Inc A	3.5
DLF Ltd	3.0
SAP SE	2.9
Kering SA	2.5

## Sector Allocation (%)

Sector	Inv	Avg
Energy	0	3
Materials	0	4
Industrials	13	13
Cons Discretionary	13	12
Consumer Staples	3	8
Healthcare	13	13
Financials	14	14
Info Technology	25	18
Telecom Services	16	8
Utilities	0	3
Real Estate %	3.0	2.4

# Foreign Large Growth

As of 12/31/2019



# US Fund Foreign Large Growth

## American Funds Europacific Growth R6

### Investment Strategy

The investment seeks long-term growth of capital. The fund invests primarily in common stocks of issuers in Europe and the Pacific Basin that the investment adviser believes have the potential for growth. Growth stocks are stocks that the investment adviser believes have the potential for above-average capital appreciation. It normally will invest at least 80% of its net assets in securities of issuers in Europe and the Pacific Basin. The fund may invest a portion of its assets in common stocks and other securities of companies in emerging markets.

### Manager Biography

Carl M. Kawaja since 6/1/2001  
Sung Lee since 6/1/2002  
Nicholas J. Grace since 6/1/2002  
Jesper Lyckeus since 6/1/2004  
Jonathan Knowles since 6/1/2006  
Andrew B. Suzman since 6/1/2007  
Christopher M. Thomsen since 6/1/2008  
Lawrence Kymis since 6/1/2014  
Lara Pellini since 10/1/2014  
Noriko H. Chen since 1/6/2020  
Gerald Du Manoir since 1/6/2020

## American Funds Europacific Growth R2

### Investment Strategy

The investment seeks long-term growth of capital. The fund invests primarily in common stocks of issuers in Europe and the Pacific Basin that the investment adviser believes have the potential for growth. Growth stocks are stocks that the investment adviser believes have the potential for above-average capital appreciation. It normally will invest at least 80% of its net assets in securities of issuers in Europe and the Pacific Basin. The fund may invest a portion of its assets in common stocks and other securities of companies in emerging markets.

### Manager Biography

Carl M. Kawaja since 6/1/2001  
Sung Lee since 6/1/2002  
Nicholas J. Grace since 6/1/2002  
Jesper Lyckeus since 6/1/2004  
Jonathan Knowles since 6/1/2006  
Andrew B. Suzman since 6/1/2007  
Christopher M. Thomsen since 6/1/2008  
Lawrence Kymis since 6/1/2014  
Lara Pellini since 10/1/2014  
Noriko H. Chen since 1/6/2020  
Gerald Du Manoir since 1/6/2020

## MFS International Intrinsic Value R2

### Investment Strategy

The investment seeks capital appreciation. The fund normally invests its assets primarily in foreign equity securities, including emerging market equity securities. Equity securities include common stocks and other securities that represent an ownership interest (or right to acquire an ownership interest) in a company or other issuer. The advisor focuses on investing the fund's assets in the stocks of companies that it believes are undervalued compared to their intrinsic value.

### Manager Biography

Benjamin Stone since 11/20/2008  
  
Pablo de la Mata since 9/30/2014

## VY® T. Rowe Price International Stock A

### Investment Strategy

The investment seeks long-term growth of capital. The fund normally invests at least 80% of its net assets (plus borrowings for investment purposes) in stocks. The sub-advisor expects to primarily invest in stocks outside the United States and to diversify broadly among developed and emerging countries throughout the world. The fund normally invests in at least five countries and may invest in companies of any market capitalization, but focuses on large-sized companies and, to a lesser extent, medium-sized companies. It may also invest in other investment companies, including exchange-traded funds.

### Manager Biography

Richard N. Clattenburg since 4/30/2015

## American Funds Europacific Growth R6 - Op

Inception Date	5/1/2009
Fund Size (\$mm)	171,769
Annual Report Net Expense Ratio	0.49
Prospectus Net Expense Ratio	0.49
Prospectus Gross Expense Ratio	0.49
Ticker	RERGX
Manager Tenure (Longest)	18.58
Manager Tenure (Average)	10.72
Morningstar Inst Cat	Foreign Large Growth

### Other Notes:

None

## American Funds Europacific Growth R2 - O

Inception Date	5/31/2002
Fund Size (\$mm)	171,769
Annual Report Net Expense Ratio	1.60
Prospectus Net Expense Ratio	1.59
Prospectus Gross Expense Ratio	1.59
Ticker	RERBX
Manager Tenure (Longest)	18.58
Manager Tenure (Average)	10.72
Morningstar Inst Cat	Foreign Large Growth

### Other Notes:

None

## MFS International Intrinsic Value R2 - Oper

Inception Date	10/1/2008
Fund Size (\$mm)	30,330
Annual Report Net Expense Ratio	1.23
Prospectus Net Expense Ratio	1.23
Prospectus Gross Expense Ratio	1.23
Ticker	MINFX
Manager Tenure (Longest)	11.17
Manager Tenure (Average)	8.25
Morningstar Inst Cat	Foreign Large Growth

### Other Notes:

None

## VY® T. Rowe Price International Stock A -

Inception Date	1/20/2006
Fund Size (\$mm)	218
Annual Report Net Expense Ratio	1.40
Prospectus Net Expense Ratio	1.36
Prospectus Gross Expense Ratio	1.45
Ticker	IMIOX
Manager Tenure (Longest)	4.75
Manager Tenure (Average)	4.75
Morningstar Inst Cat	Foreign Large Growth

### Other Notes:

None

# Portfolio Analysis

## American Funds Europacific Growth R6

## American Funds Europacific Growth R2

## MFS International Intrinsic Value R2

## VY® T. Rowe Price International Stock A

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	14	25	49	Market Cap Giant %	56
				Market Cap Large %	31
Mid	2	3	8	Market Cap Mid %	13
				Market Cap Small %	0
Small	0	0	0	Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	14	25	49	Market Cap Giant %	56
				Market Cap Large %	31
Mid	2	3	8	Market Cap Mid %	13
				Market Cap Small %	0
Small	0	0	0	Market Cap Micro %	0

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	7	25	42	Market Cap Giant %	28
				Market Cap Large %	45
Mid	3	4	18	Market Cap Mid %	25
				Market Cap Small %	1
Small	1	0	0	Market Cap Micro %	0

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	20	22	40	Market Cap Giant %	50
				Market Cap Large %	32
Mid	4	6	5	Market Cap Mid %	15
				Market Cap Small %	3
Small	0	1	2	Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: MSCI ACWI Ex USA Growth NR USD

	Inv	Bmk1
Average Market Cap (bil)	48.0	41.6
Forward P/E	17.8	20.3
P/E Ratio (TTM)	20.8	23.1
LT Earn Growth	9.6	10.2
P/B Ratio (TTM)	2.6	3.2
Dividend Yield	1.8	2.0
ROE %	17.2	20.3
ROA %	6.1	8.4
Debt to Capital %	31.9	30.3

### Valuation Data

Display Benchmark 1: MSCI ACWI Ex USA Growth NR USD

	Inv	Bmk1
Average Market Cap (bil)	48.0	41.6
Forward P/E	17.8	20.3
P/E Ratio (TTM)	20.8	23.1
LT Earn Growth	9.6	10.2
P/B Ratio (TTM)	2.6	3.2
Dividend Yield	1.8	2.0
ROE %	17.2	20.3
ROA %	6.1	8.4
Debt to Capital %	32	30

### Valuation Data

Display Benchmark 1: MSCI ACWI Ex USA Growth NR USD

	Inv	Bmk1
Average Market Cap (bil)	26.4	41.6
Forward P/E	23.8	20.3
P/E Ratio (TTM)	25.6	23.1
LT Earn Growth	8.2	10.2
P/B Ratio (TTM)	3.2	3.2
Dividend Yield	1.9	2.0
ROE %	17.8	20.3
ROA %	8.4	8.4
Debt to Capital %	31	30

### Valuation Data

Display Benchmark 1: MSCI ACWI Ex USA Growth NR USD

	Inv	Bmk1
Average Market Cap (bil)	38.5	41.6
Forward P/E	18.1	20.3
P/E Ratio (TTM)	20.6	23.1
LT Earn Growth	9.1	10.2
P/B Ratio (TTM)	2.6	3.2
Dividend Yield	2.2	2.0
ROE %	16.8	20.3
ROA %	6.4	8.4
Debt to Capital %	32	30

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	35	
# of Stock Holdings	310	1,235
% in Top 10	19.7	18.7
Cash %	8.2	0.0
Developed %	66.0	79.1
US Equity %	0.9	1.3
Non-US Equity %	91	99
Emerging Mkt %	25.9	20.9

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	35	
# of Stock Holdings	310	1,235
% in Top 10	19.7	18.7
Cash %	8.2	0.0
Developed %	66.0	79.1
US Equity %	0.9	1.3
Non-US Equity %	91	99
Emerging Mkt %	25.9	20.9

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	6	
# of Stock Holdings	100	1,235
% in Top 10	28.6	18.7
Cash %	8.1	0.0
Developed %	95.5	79.1
US Equity %	15.0	1.3
Non-US Equity %	81	99
Emerging Mkt %	0.0	20.9

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	35	
# of Stock Holdings	114	1,235
% in Top 10	20.8	18.7
Cash %	2.2	0.0
Developed %	75.7	79.1
US Equity %	4.7	1.3
Non-US Equity %	93	99
Emerging Mkt %	21.7	20.9

# Holdings-Based Style Analysis

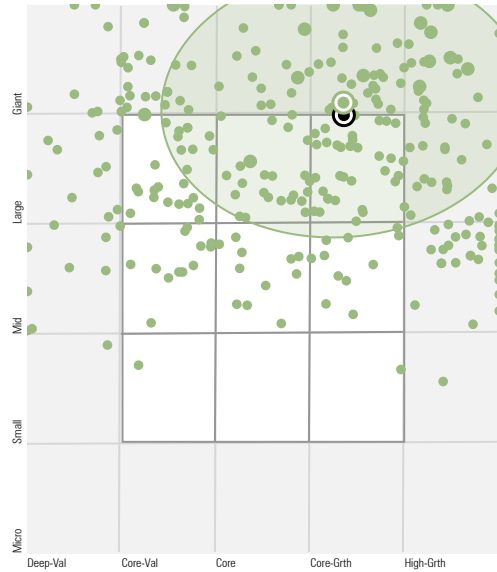
## American Funds Europacific Growth R6

## American Funds Europacific Growth R2

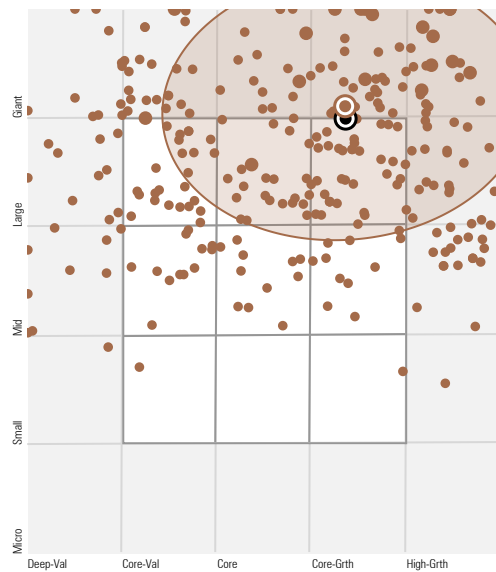
## MFS International Intrinsic Value R2

## VY® T. Rowe Price International Stock A

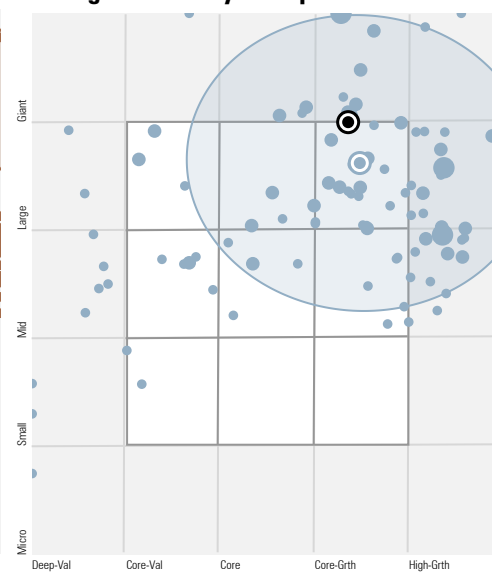
### Holdings-Based Style Map



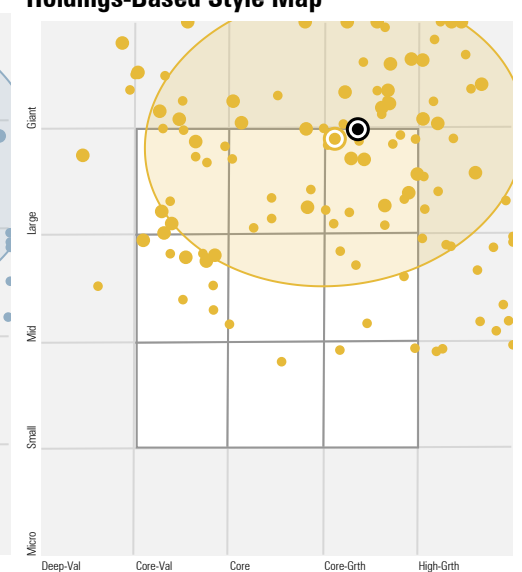
### Holdings-Based Style Map



### Holdings-Based Style Map



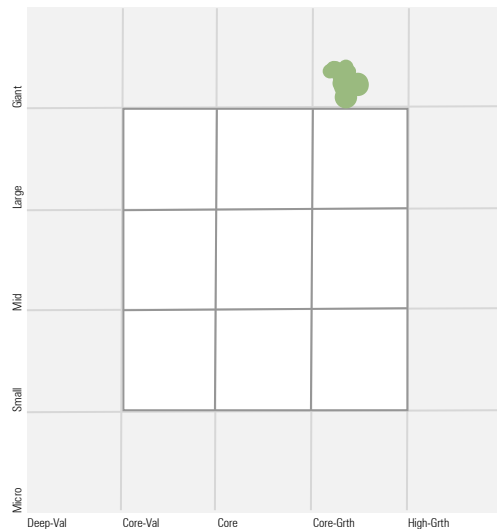
### Holdings-Based Style Map



● American Funds Europacific Growth R6 12/31/2019 
 ● MSCI ACWI Ex USA Growth NR USD 12/31/2019 
 ● American Funds Europacific Growth R2 12/31/2019 
 ● MSCI ACWI Ex USA Growth NR USD 12/31/2019 
 ● MFS International Intrinsic Value R2 11/30/2019 
 ● MSCI ACWI Ex USA Growth NR USD 12/31/2019 
 ● VY® T. Rowe Price International Stock A 12/31/2019 
 ● MSCI ACWI Ex USA Growth NR USD 12/31/2019

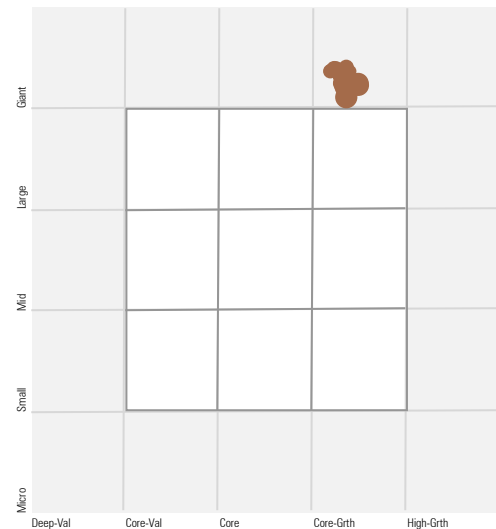
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



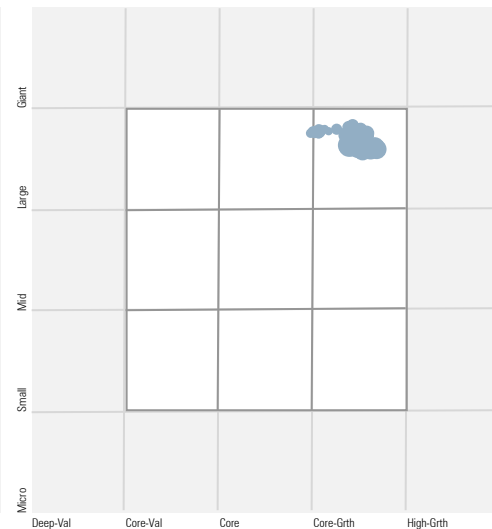
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019



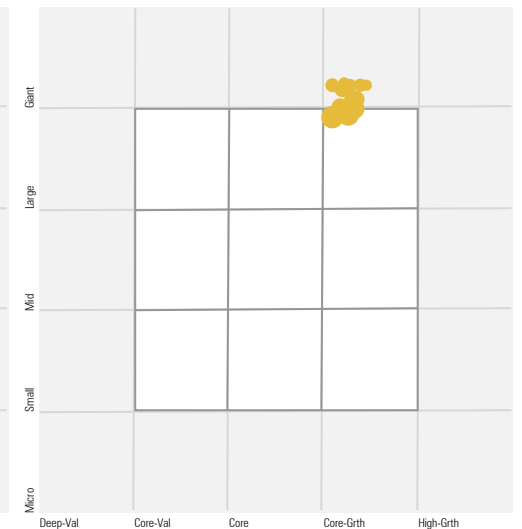
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



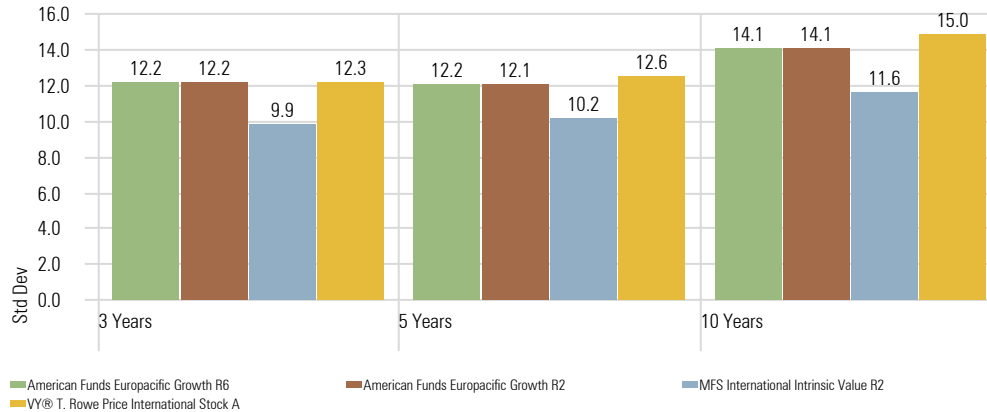
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019

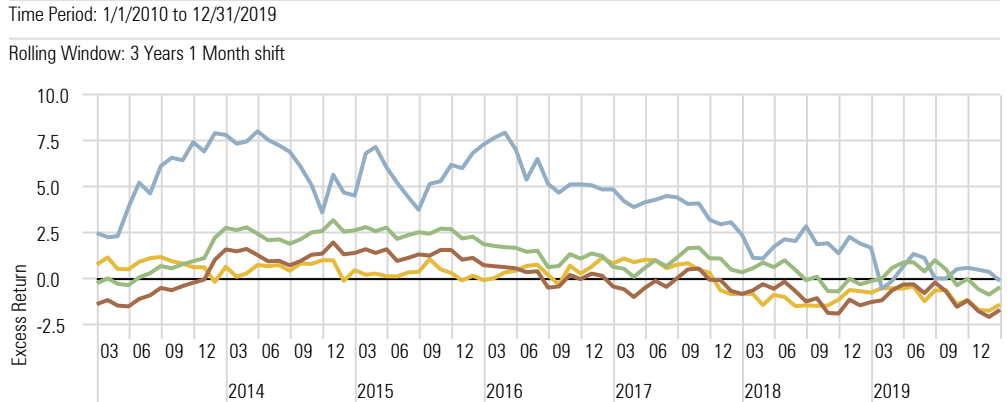


# Risk/Return Performance Analysis

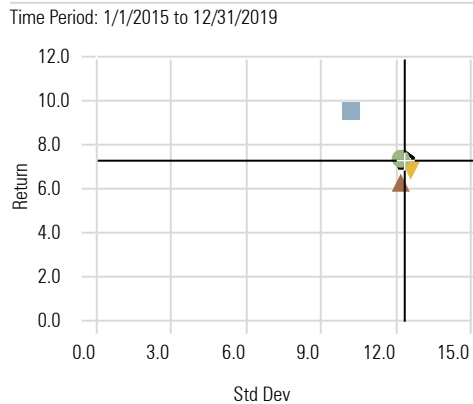
## Standard Deviation



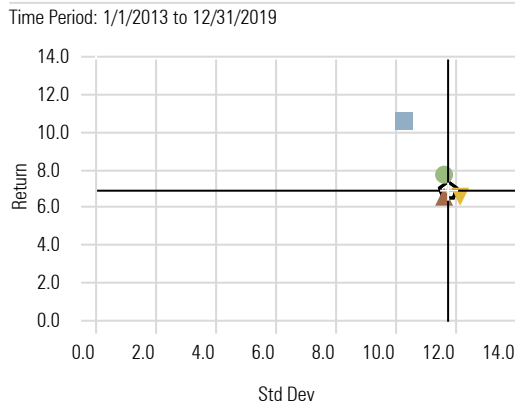
## 3 Year Relative Rolling Returns



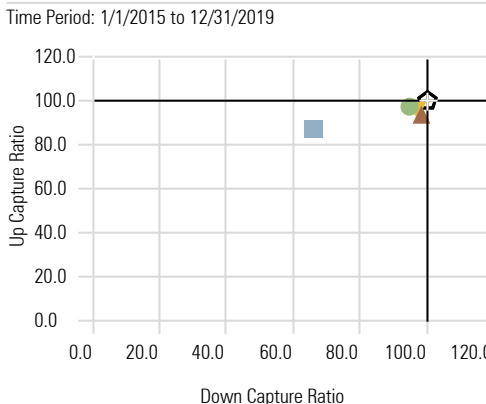
## 5 Year Risk-Reward



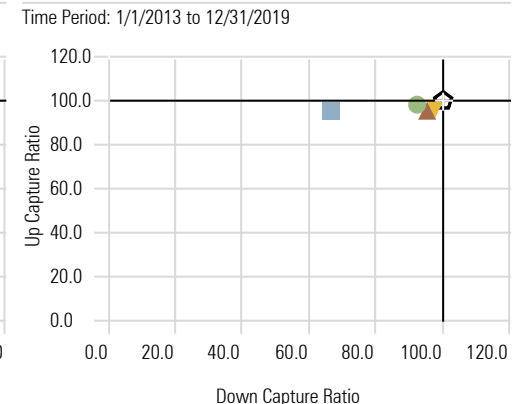
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



## Annualized Performance & Risk Statistics - Since Common Inception

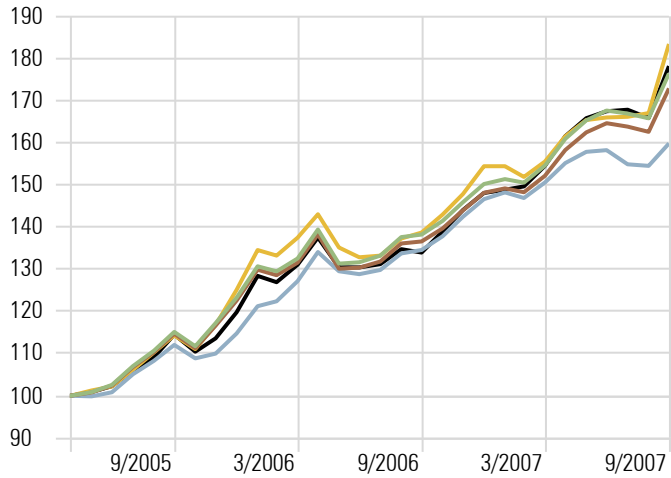
Time Period: Since Common Inception (5/1/2005) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
American Funds Europacific Growth R6	7.4	16.0	1.2	0.93	96	22.3	-20.8	0.38	3.4
American Funds Europacific Growth R2	6.3	16.0	0.2	0.93	96	22.0	-21.1	0.31	3.4
MFS International Intrinsic Value R2	8.5	13.9	2.9	0.78	87	22.6	-16.4	0.51	6.2
VY® T. Rowe Price International Stock A	6.0	18.0	-0.5	1.05	95	25.8	-26.8	0.26	4.1
MSCI ACWI Ex USA Growth NR USD	6.4	16.8	0.0	1.00	100	23.9	-23.9	0.30	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

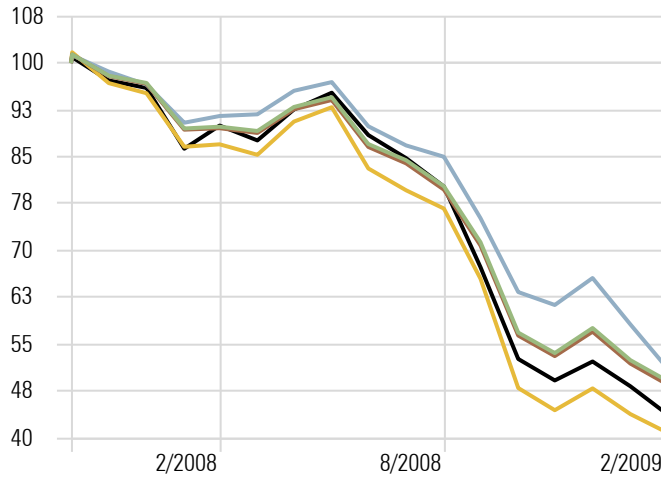
Time Period: 4/30/2005 to 9/30/2007



● American Funds Europacific Growth R6 176  
● VY® T. Rowe Price International Stock A 183  
● American Funds Europacific Growth R2 178  
● MFS International Intrinsic Value R2 178  
● MSCI ACWI Ex USA Growth NR USD 178

## Credit Crunch - Financial Crisis

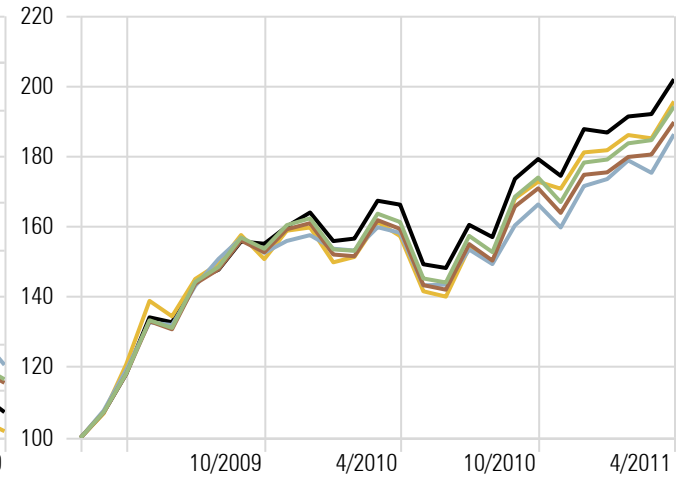
Time Period: 10/31/2007 to 2/28/2009



● American Funds Europacific Growth R6 49  
● VY® T. Rowe Price International Stock A 41  
● American Funds Europacific Growth R2 44  
● MFS International Intrinsic Value R2 44  
● MSCI ACWI Ex USA Growth NR USD 44

## Financial Crisis Recovery - QE1&2

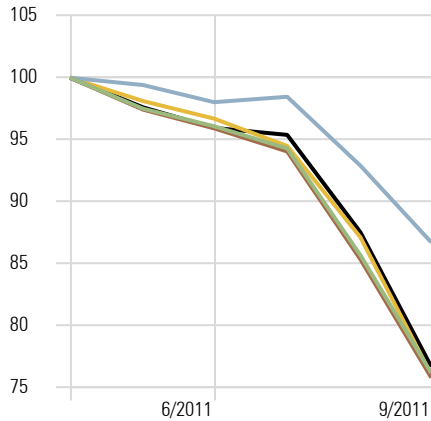
Time Period: 3/1/2009 to 4/30/2011



● American Funds Europacific Growth R6 194.3  
● VY® T. Rowe Price International Stock A 195.8  
● American Funds Europacific Growth R2 189.9  
● MFS International Intrinsic Value R2 202.1  
● MSCI ACWI Ex USA Growth NR USD 202.1

## Double Dip

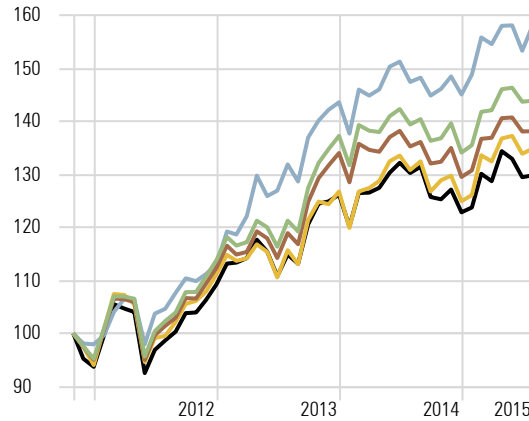
Time Period: 5/1/2011 to 9/30/2011



● American Funds Europacific Growth R6 75.1  
● VY® T. Rowe Price International Stock A 75.9  
● American Funds Europacific Growth R2 76.7  
● MFS International Intrinsic Value R2 86.7  
● MSCI ACWI Ex USA Growth NR USD 85.6

## US Recovery Continues - Global Markets Lag

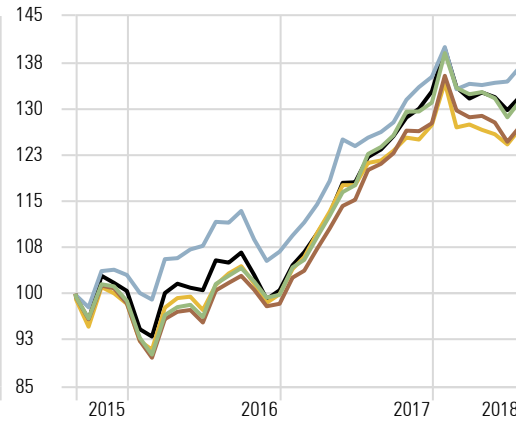
Time Period: 11/1/2011 to 7/31/2015



● American Funds Europacific Growth R6 144.0  
● VY® T. Rowe Price International Stock A 134.9  
● American Funds Europacific Growth R2 138.2  
● MFS International Intrinsic Value R2 158.2  
● MSCI ACWI Ex USA Growth NR USD 129.9

## Global Economic Strength

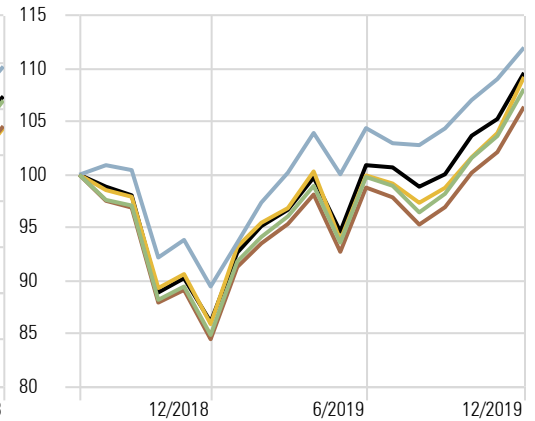
Time Period: 8/31/2015 to 7/31/2018



● American Funds Europacific Growth R6 131.3  
● VY® T. Rowe Price International Stock A 126.8  
● American Funds Europacific Growth R2 127.2  
● MFS International Intrinsic Value R2 138.8  
● MSCI ACWI Ex USA Growth NR USD 132.0

## Global Trade Tension

Time Period: 8/1/2018 to 12/31/2019



● American Funds Europacific Growth R6 105.1  
● VY® T. Rowe Price International Stock A 100.2  
● American Funds Europacific Growth R2 105.4  
● MFS International Intrinsic Value R2 112.0  
● MSCI ACWI Ex USA Growth NR USD 100.6

● American Funds Europacific Growth R6  
● VY® T. Rowe Price International Stock A  
● American Funds Europacific Growth R2  
● MFS International Intrinsic Value R2  
● MSCI ACWI Ex USA Growth NR USD



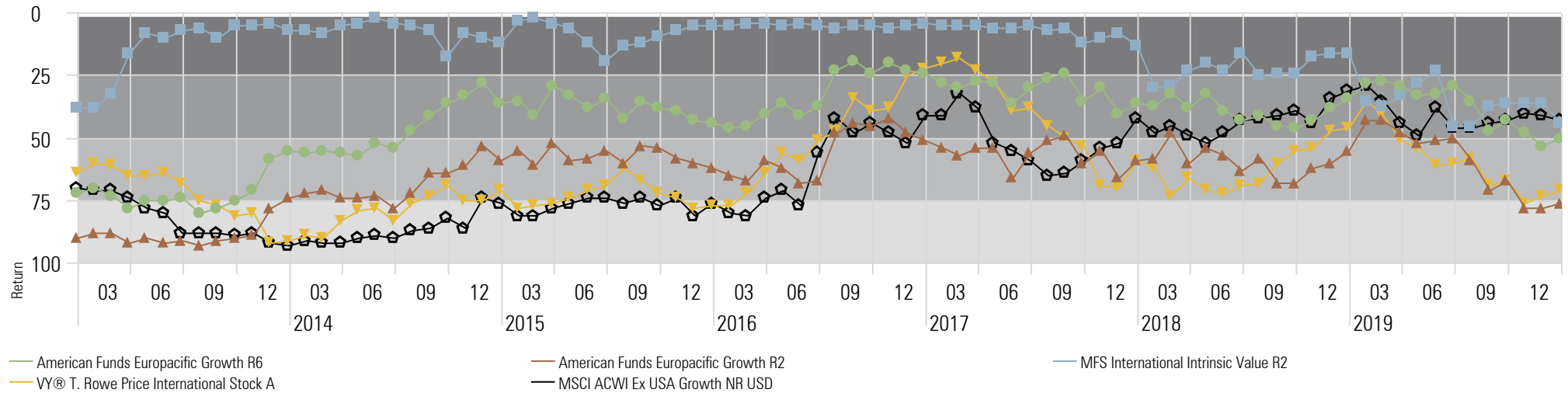
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

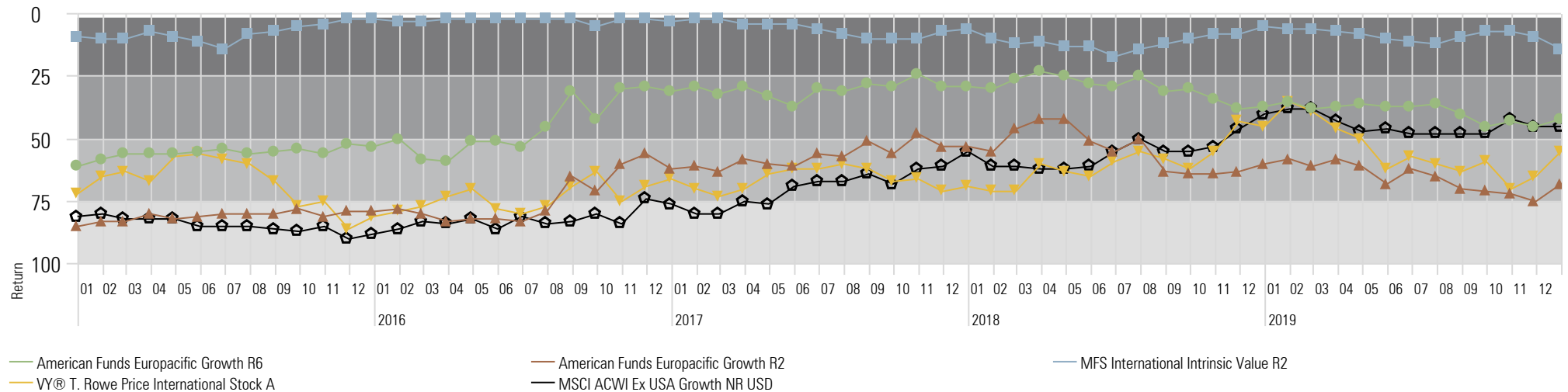


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Foreign Large Growth</b>																		
American Funds Europacific Growth R6	10.1	<b>38</b>	2.25	27.4	<b>60</b>	-1.01	27.4	<b>60</b>	-1.01	12.5	<b>50</b>	-1.07	7.4	<b>42</b>	-0.43	6.7	<b>52</b>	-0.18
American Funds Europacific Growth R2	9.8	<b>48</b>	1.95	26.0	<b>75</b>	-2.39	26.0	<b>75</b>	-2.39	11.2	<b>76</b>	-2.30	6.2	<b>68</b>	-1.60	5.6	<b>82</b>	-1.35
MFS International Intrinsic Value R2	7.3	<b>87</b>	-0.52	25.2	<b>80</b>	-3.16	25.2	<b>80</b>	-3.16	12.8	<b>44</b>	-0.73	9.6	<b>14</b>	1.74	9.6	<b>7</b>	2.66
VY® T. Rowe Price International Stock A	10.6	<b>26</b>	2.77	27.2	<b>63</b>	-1.21	27.2	<b>63</b>	-1.21	11.5	<b>71</b>	-2.01	6.8	<b>55</b>	-1.04	6.2	<b>68</b>	-0.69
MSCI EAFE Large Growth NR USD	7.8			28.4			28.4			13.5			7.8			6.9		
Average	9.6			28.1			28.1			13.0			7.4			6.9		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Foreign Large Growth</b>																					
American Funds Europacific Growth R6	27.4	<b>60</b>	-1.01	-14.9	<b>53</b>	-3.93	31.2	<b>45</b>	3.21	1.0	<b>23</b>	4.48	-0.5	<b>66</b>	-3.76	-2.3	<b>31</b>	2.41	20.6	<b>48</b>	-1.70
American Funds Europacific Growth R2	26.0	<b>75</b>	-2.39	-15.9	<b>66</b>	-4.88	29.7	<b>59</b>	1.75	-0.1	<b>35</b>	3.40	-1.5	<b>80</b>	-4.81	-3.4	<b>45</b>	1.33	19.3	<b>56</b>	-3.01
MFS International Intrinsic Value R2	25.2	<b>80</b>	-3.16	-9.5	<b>12</b>	1.53	26.5	<b>85</b>	-1.46	3.7	<b>9</b>	7.14	6.2	<b>10</b>	2.95	1.0	<b>14</b>	5.72	27.0	<b>13</b>	4.75
VY® T. Rowe Price International Stock A	27.2	<b>63</b>	-1.21	-14.5	<b>49</b>	-3.49	27.4	<b>77</b>	-0.55	1.6	<b>18</b>	5.06	-1.4	<b>79</b>	-4.64	-1.4	<b>23</b>	3.27	14.0	<b>85</b>	-8.29
MSCI EAFE Large Growth NR USD	28.4			-11.0			28.0			-3.5			3.3			-4.7			22.3		
Average	28.1			-14.2			31.6			-1.8			1.1			-3.6			20.5		

# American Funds Europacific Growth R6

RERGX

Index: MSCI ACWI Ex USA Growth NR USD

Category: US Fund Foreign Large Growth

Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: MSCI ACWI Ex USA Growth NR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
American Funds Europacific Growth R6	27.4	27.4	12.5	7.4	6.7	7.1
MSCI ACWI Ex USA Growth NR USD	27.3	27.3	12.9	7.3	6.2	6.0
US Fund Foreign Large Growth	27.9	27.9	13.0	7.3	6.6	5.8

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.49	1.13	
Gross Expense Ratio	0.49	1.64	
LT Earn Growth	9.6	10.5	9.1
Avg Mkt Cap (\$MMM)	48.0	40.9	47.9
P/E Ratio	20.8	23.8	16.3
P/B Ratio	2.6	3.2	2.0
P/S Ratio	2.1	2.4	1.4
P/CF Ratio	12.8	16.1	10.5
ROE %	17.2	20.1	20.5
ROA %	6.1	7.9	7.2
Dividend Yld	1.8	1.9	2.8

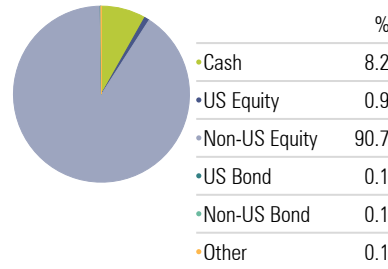
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: MSCI ACWI Ex USA Growth NR USD

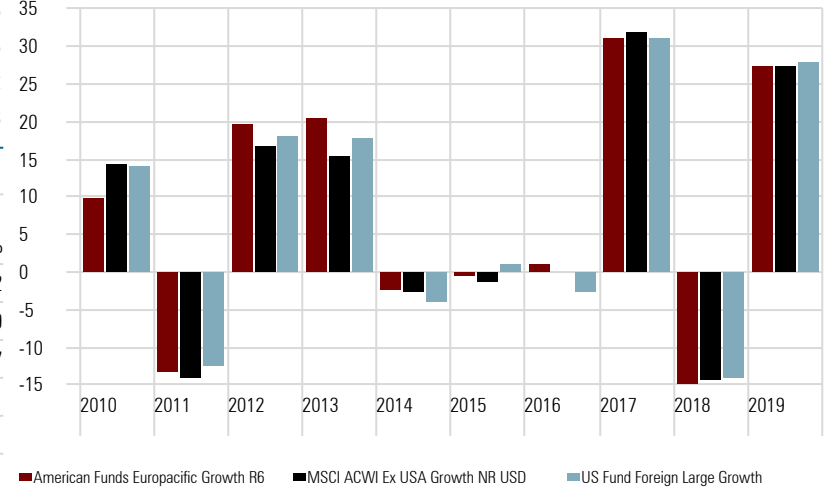
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
American Funds Europacific Growth R6	60.0	40.0	10.3	-11.1	16.9	-20.8	98.6	95.3
MSCI ACWI Ex USA Growth NR USD	58.3	41.7	11.1	-12.4	17.1	-20.2	100.0	100.0
US Fund Foreign Large Growth	62.5	37.5	11.1	-12.3	16.8	-20.3	97.7	94.8

## Asset Allocation

Portfolio Date: 12/31/2019



## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.2	0.6	12.2	0.2
Down Deviation	1.6	0.4	2.1	0.5
Beta	1.0	0.0	1.0	0.0
Alpha	-0.7	-0.9	0.4	0.1
Sharpe	0.9	-0.1	0.5	0.0
Sortino	1.4	-0.1	0.9	0.0
Info Ratio	-0.2	-0.2	0.0	0.1
Down Capture	109.2	14.3	94.9	2.2
Up Capture	102.7	4.9	97.1	2.1

## Top 10 Holdings

	Fund %	Sector	Inv	Avg
Reliance Industries Ltd	2.7	Energy	6	2
Airbus SE	2.7	Materials	8	5
HDFC Bank Ltd	2.2	Industrials	12	16
AIA Group Ltd	2.2	Cons Discretionary	17	13
Nintendo Co Ltd	2.2	Consumer Staples	5	12
ASML Holding NV	2.2	Healthcare	12	13
Daiichi Sankyo Co Ltd	1.5	Financials	17	15
Recruit Holdings Co Ltd	1.4	Info Technology	14	17
Taiwan Semiconductor Manufacturing Co Ltd	1.4	Telecom Services	5	5
Keyence Corp	1.4	Utilities	3	1
		Real Estate %	1.3	1.0

# Foreign Large Blend

As of 12/31/2019



# US Fund Foreign Large Blend

## Vanguard Total Intl Stock Index Admiral

### Investment Strategy

The investment seeks to track the performance of a benchmark index that measures the investment return of stocks issued by companies located in developed and emerging markets, excluding the United States. The fund employs an indexing investment approach designed to track the performance of the FTSE Global All Cap ex US Index, a float-adjusted market-capitalization-weighted index designed to measure equity market performance of companies located in developed and emerging markets, excluding the United States. It invests all, or substantially all, of its assets in the common stocks included in its target index.

### Manager Biography

Michael Perre since 8/5/2008

Christine D. Franquin since 11/30/2017

## Thornburg International Value R3

### Investment Strategy

The investment seeks long-term capital appreciation; current income is the secondary objective. The fund invests primarily in foreign equity securities or depository receipts of foreign equity securities. The fund may invest in developing countries, but under normal conditions those investments are expected to comprise a significantly smaller proportion of the fund than investments in developed countries.

### Manager Biography

Lei Wang since 2/1/2006

Di Zhou since 12/8/2015

## Voya International Index Port A

### Investment Strategy

The investment seeks investment results (before fees and expenses) that correspond to the total return (which includes capital appreciation and income) of a widely accepted international index (currently the MSCI EAFE® Index). The fund normally invests at least 80% of its net assets (plus borrowings for investment purposes) in equity securities of companies, which are at the time of purchase, included in the index; convertible securities that are convertible into stocks included in the index; other derivatives whose economic returns are, by design, closely equivalent to the returns of the index or its components; and exchange-traded funds that track the index.

### Manager Biography

Steven Wetter since 4/30/2012

Kai Yee Wong since 6/30/2013

### Vanguard Total Intl Stock Index Admiral - Operations

Inception Date	11/29/2010
Fund Size (\$mm)	420,632
Annual Report Net Expense Ratio	0.11
Prospectus Net Expense Ratio	0.11
Prospectus Gross Expense Ratio	0.11
Ticker	VTIAX
Manager Tenure (Longest)	11.42
Manager Tenure (Average)	6.79
Morningstar Inst Cat	Foreign Large Core

### Other Notes:

None

### Thornburg International Value R3 - Operations

Inception Date	7/1/2003
Fund Size (\$mm)	3,216
Annual Report Net Expense Ratio	1.45
Prospectus Net Expense Ratio	1.45
Prospectus Gross Expense Ratio	1.64
Ticker	TGVRX
Manager Tenure (Longest)	13.92
Manager Tenure (Average)	9.00
Morningstar Inst Cat	Foreign Large Core

### Other Notes:

None

### Voya International Index Port A - Operations

Inception Date	3/10/2008
Fund Size (\$mm)	2,337
Annual Report Net Expense Ratio	0.94
Prospectus Net Expense Ratio	0.94
Prospectus Gross Expense Ratio	1.04
Ticker	IIIAX
Manager Tenure (Longest)	7.75
Manager Tenure (Average)	7.17
Morningstar Inst Cat	Foreign Large Core

### Other Notes:

None

# Portfolio Analysis

## Vanguard Total Intl Stock Index Admiral

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	28	26	20	Market Cap Giant %	40
				Market Cap Large %	33
				Market Cap Mid %	21
Mid	8	7	6	Market Cap Small %	6
Small	2	2	2	Market Cap Micro %	1

### Valuation Data

Display Benchmark 1: MSCI ACWI Ex USA NR USD

	Inv	Bmk1
Average Market Cap (bil)	24.9	37.0
Forward P/E	14.1	14.2
P/E Ratio (TTM)	15.9	16.2
LT Earn Growth	8.2	8.2
P/B Ratio (TTM)	1.6	1.7
Dividend Yield	3.3	3.3
ROE %	15.3	15.9
ROA %	5.8	6.0
Debt to Capital %	33	34

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	4	
# of Stock Holdings	7,339	2,411
% in Top 10	8.9	10.4
Cash %	1.9	0.0
Developed %	78.5	79.3
US Equity %	0.7	0.8
Non-US Equity %	97	99
Emerging Mkt %	19.5	20.6

Source: Morningstar Direct

## Thornburg International Value R3

### Style Allocation

Portfolio Date: 11/30/2019

	Value	Blend	Growth	Market Cap	%
Large	15	35	50	Market Cap Giant %	56
				Market Cap Large %	44
				Market Cap Mid %	0
Mid	0	0	0	Market Cap Small %	0
Small	0	0	0	Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: MSCI ACWI Ex USA NR USD

	Inv	Bmk1
Average Market Cap (bil)	53.2	37.0
Forward P/E	19.1	14.2
P/E Ratio (TTM)	21.5	16.2
LT Earn Growth	10.2	8.2
P/B Ratio (TTM)	2.2	1.7
Dividend Yield	2.7	3.3
ROE %	15.9	15.9
ROA %	4.6	6.0
Debt to Capital %	40	34

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	71	
# of Stock Holdings	52	2,411
% in Top 10	30.9	10.4
Cash %	4.3	0.0
Developed %	79.2	79.3
US Equity %	0.0	0.8
Non-US Equity %	96	99
Emerging Mkt %	16.4	20.6

## Voya International Index Port A

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	32	31	21	Market Cap Giant %	45
				Market Cap Large %	39
				Market Cap Mid %	16
Mid	6	6	5	Market Cap Small %	0
Small	0	0	0	Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: MSCI ACWI Ex USA NR USD

	Inv	Bmk1
Average Market Cap (bil)	38.3	37.0
Forward P/E	14.8	14.2
P/E Ratio (TTM)	17.4	16.2
LT Earn Growth	8.0	8.2
P/B Ratio (TTM)	1.6	1.7
Dividend Yield	3.4	3.3
ROE %	15.8	15.9
ROA %	5.8	6.0
Debt to Capital %	37	34

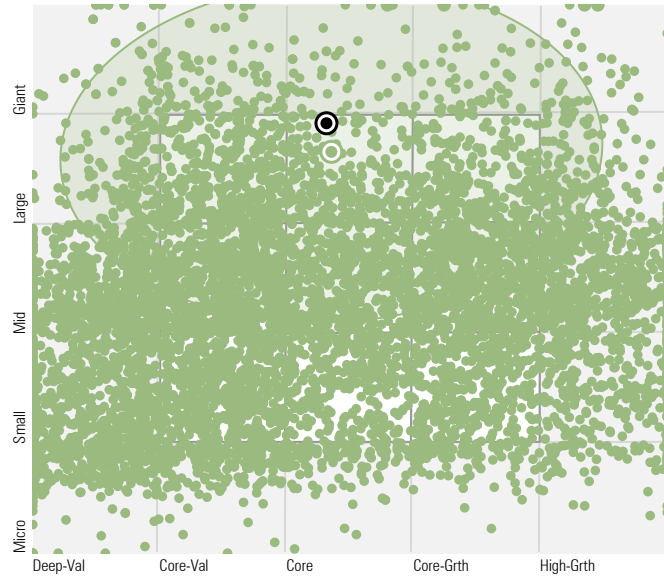
### Portfolio Data

	Inv	Bmk1
Turnover Ratio	3	
# of Stock Holdings	918	2,411
% in Top 10	12.2	10.4
Cash %	1.4	0.0
Developed %	99.5	79.3
US Equity %	1.1	0.8
Non-US Equity %	99	99
Emerging Mkt %	0.5	20.6

# Holdings-Based Style Analysis

## Vanguard Total Intl Stock Index Admiral

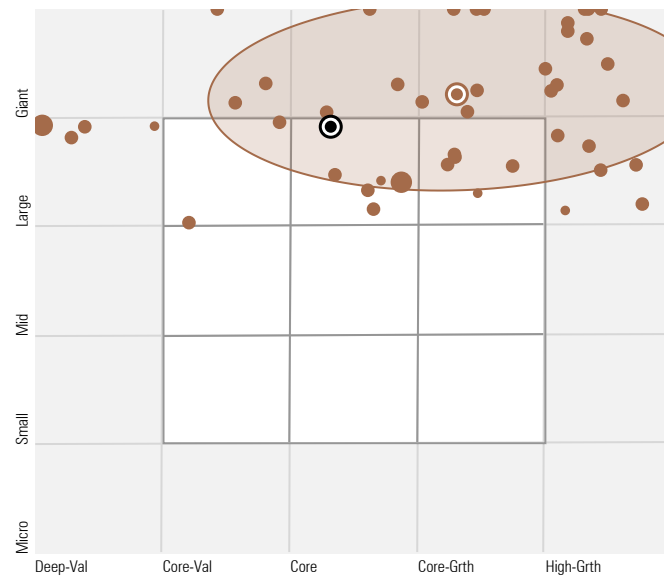
### Holdings-Based Style Map



● Vanguard Total Intl Stock Index Admiral 12/31/2019 ● MSCI ACWI Ex USA NR USD 12/31/2019

## Thornburg International Value R3

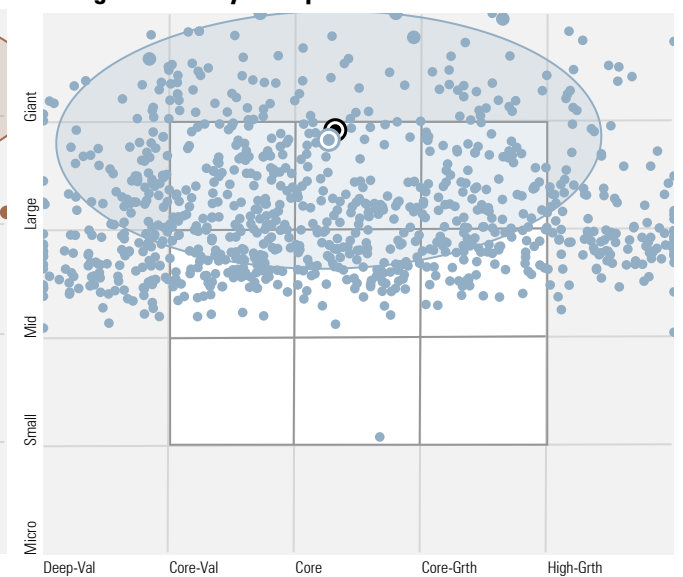
### Holdings-Based Style Map



● Thornburg International Value R3 11/30/2019 ● MSCI ACWI Ex USA NR USD 12/31/2019

## Voya International Index Port A

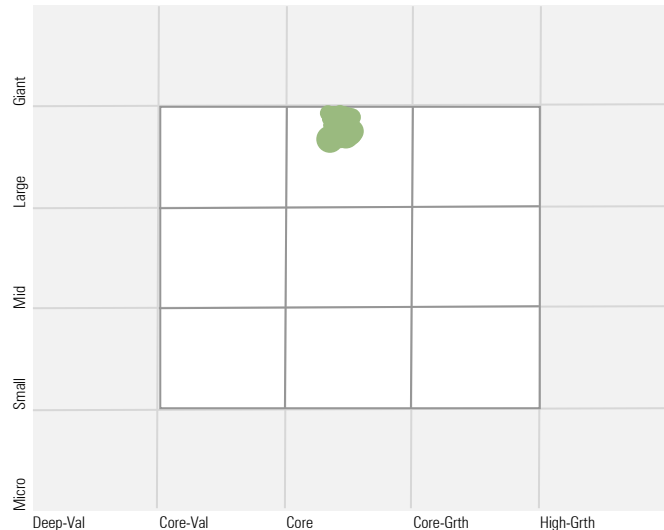
### Holdings-Based Style Map



● Voya International Index Port A 12/31/2019 ● MSCI ACWI Ex USA NR USD 12/31/2019

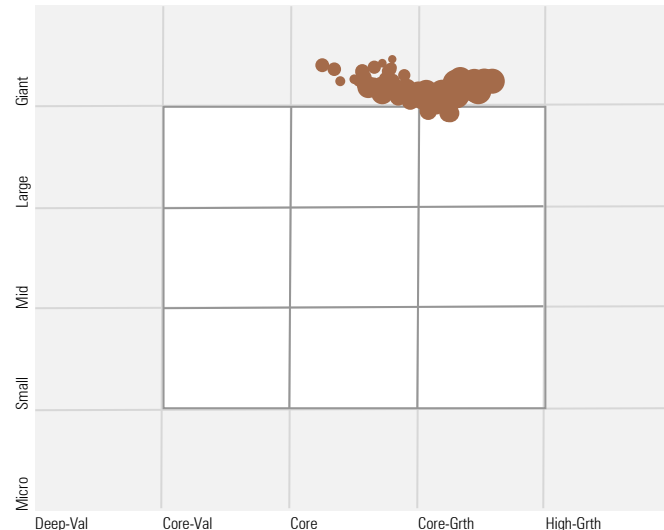
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 12/31/2019



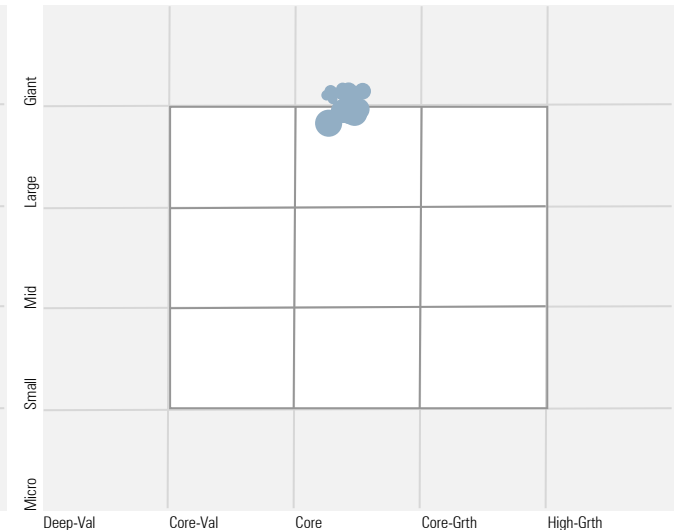
### Holdings-Based Style Trail

Time Period: 1/31/2015 to 11/30/2019



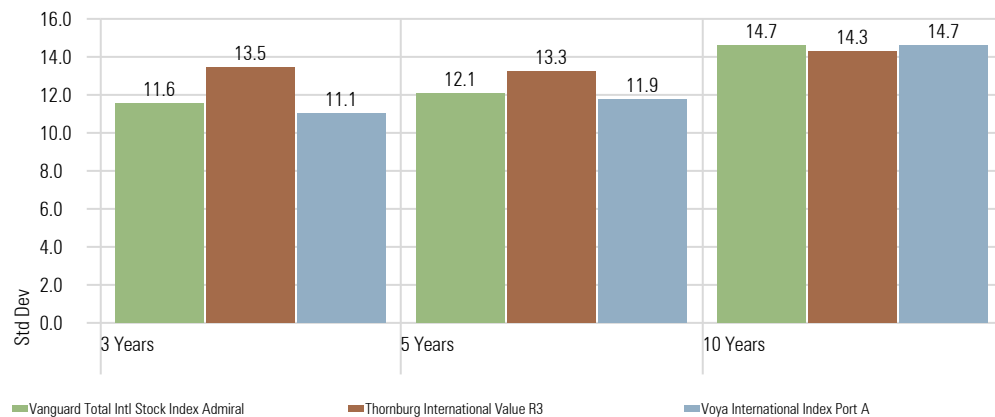
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019

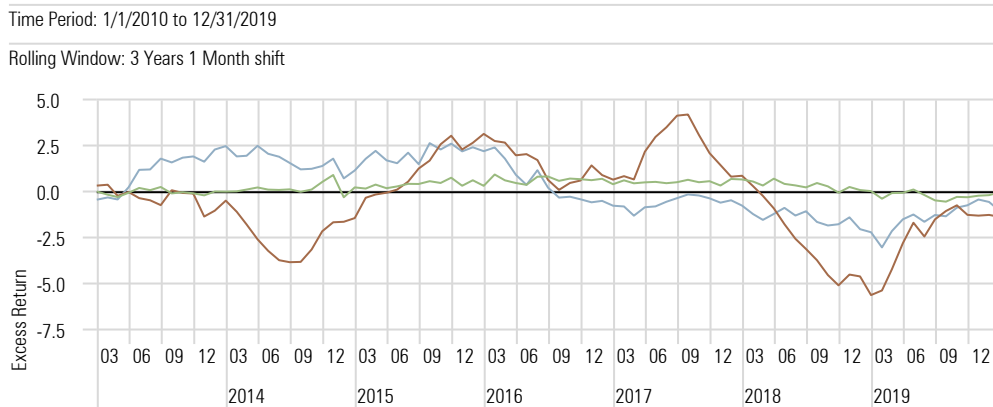


# Risk/Return Performance Analysis

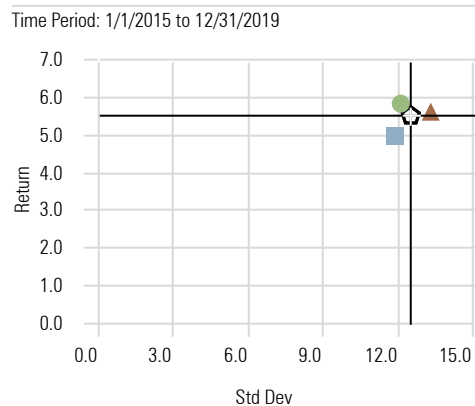
## Standard Deviation



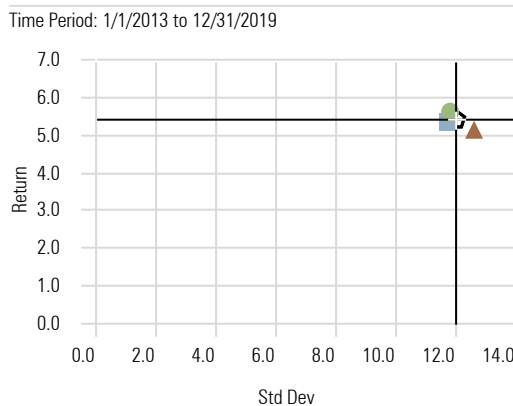
## 3 Year Relative Rolling Returns



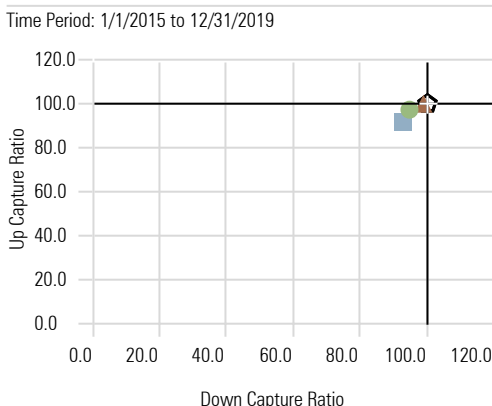
## 5 Year Risk-Reward



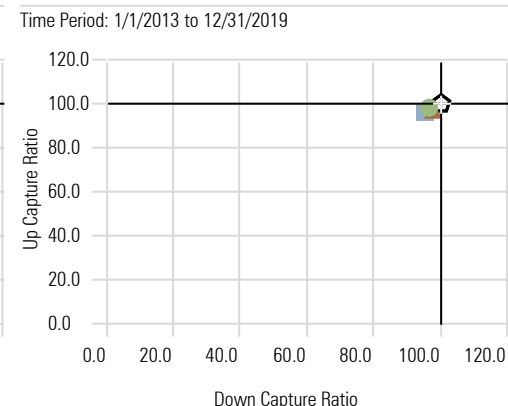
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● Vanguard Total Intl Stock Index Admiral

● Thornburg International Value R3

● Voya International Index Port A

⬠ MSCI ACWI Ex USA NR USD

## Annualized Performance & Risk Statistics - Since Common Inception

Time Period: Since Common Inception (4/1/2008) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
Vanguard Total Intl Stock Index Admiral	2.8	18.3	0.0	1.01	99	27.3	-21.0	0.12	2.2
Thornburg International Value R3	2.8	16.6	0.2	0.89	93	22.7	-21.0	0.13	4.8
Voya International Index Port A	2.2	17.9	-0.5	0.97	97	24.7	-20.1	0.09	3.3
MSCI ACWI Ex USA NR USD	2.8	18.0	0.0	1.00	100	27.6	-22.3	0.12	0.0



# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

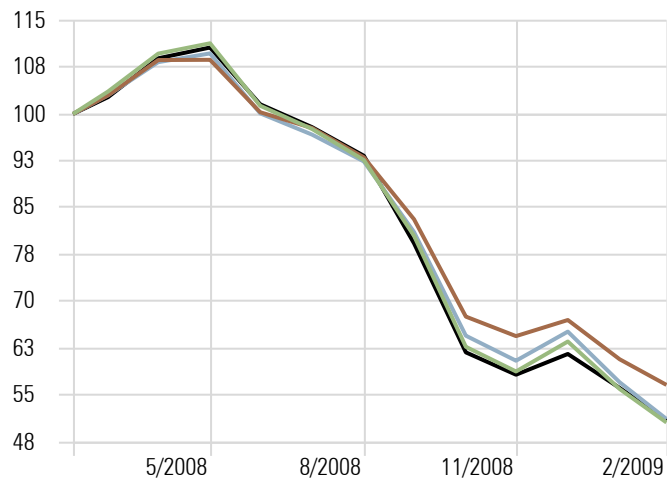
Time Period: 4/30/2003 to 9/30/2007



\* Vanguard Total Intl Stock Index Admiral  
\* Thornburg International Value R3  
\* Voya International Index Port A  
\* MSCI ACWI Ex USA NR USD

## Credit Crunch - Financial Crisis

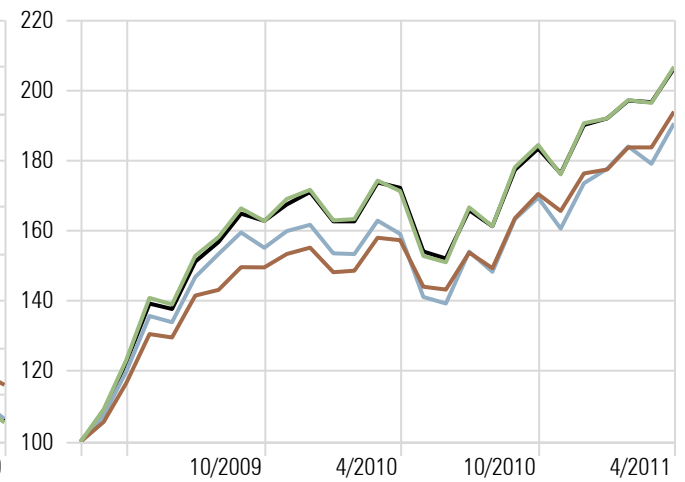
Time Period: 3/11/2008 to 2/28/2009



\* Vanguard Total Intl Stock Index Admiral 51  
\* Thornburg International Value R3 57  
\* Voya International Index Port A 51  
\* MSCI ACWI Ex USA NR USD 51

## Financial Crisis Recovery - QE1&2

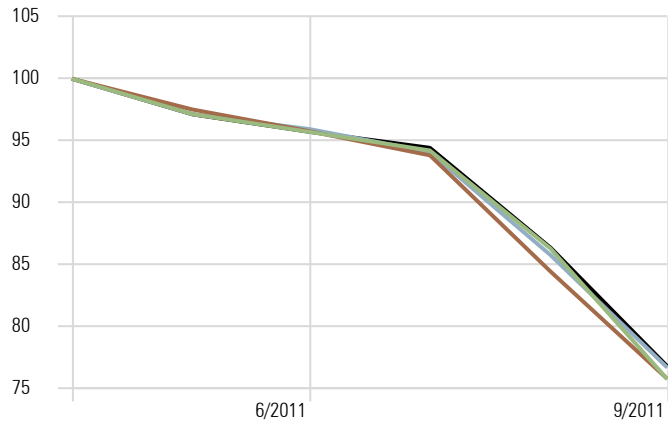
Time Period: 3/1/2009 to 4/30/2011



\* Vanguard Total Intl Stock Index Admiral 206.8  
\* Thornburg International Value R3 194.0  
\* Voya International Index Port A 190.6  
\* MSCI ACWI Ex USA NR USD 206.3

## Double Dip

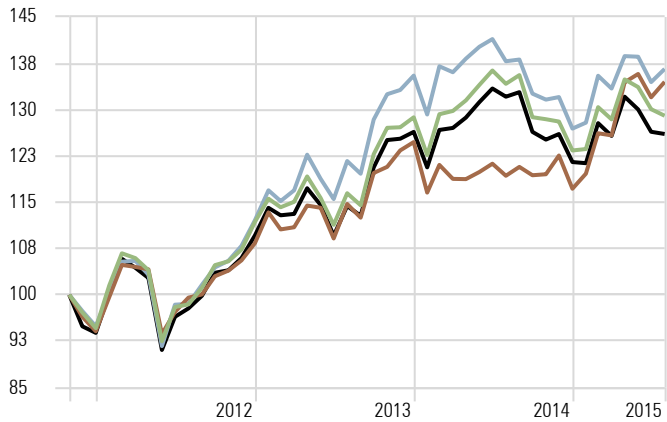
Time Period: 5/1/2011 to 9/30/2011



\* Vanguard Total Intl Stock Index Admiral 75.7  
\* Thornburg International Value R3 75.7  
\* Voya International Index Port A 75.7  
\* MSCI ACWI Ex USA NR USD 76.7

## US Recovery Continues - Global Markets Lag

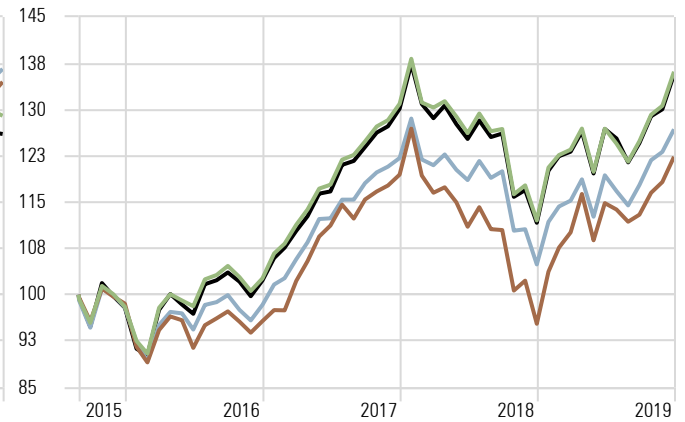
Time Period: 11/1/2011 to 7/31/2015



\* Vanguard Total Intl Stock Index Admiral 129.0  
\* Thornburg International Value R3 134.5  
\* Voya International Index Port A 134.5  
\* MSCI ACWI Ex USA NR USD 126.1

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



\* Vanguard Total Intl Stock Index Admiral 136.6  
\* Thornburg International Value R3 136.1  
\* Voya International Index Port A 122.4  
\* MSCI ACWI Ex USA NR USD 135.7

● Vanguard Total Intl Stock Index Admiral  
● MSCI ACWI Ex USA NR USD

● Thornburg International Value R3

● Voya International Index Port A

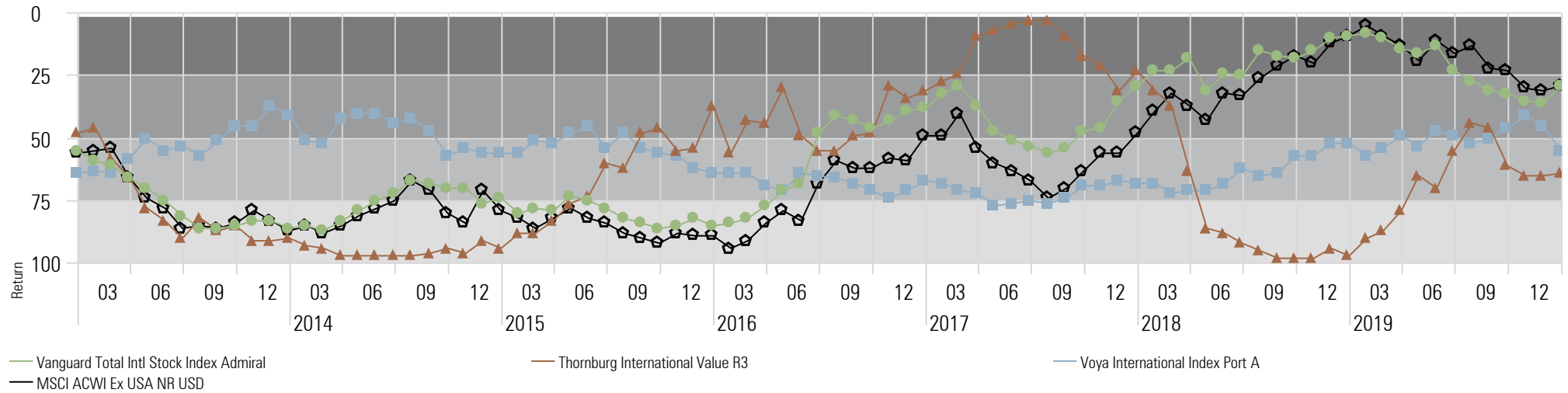
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile

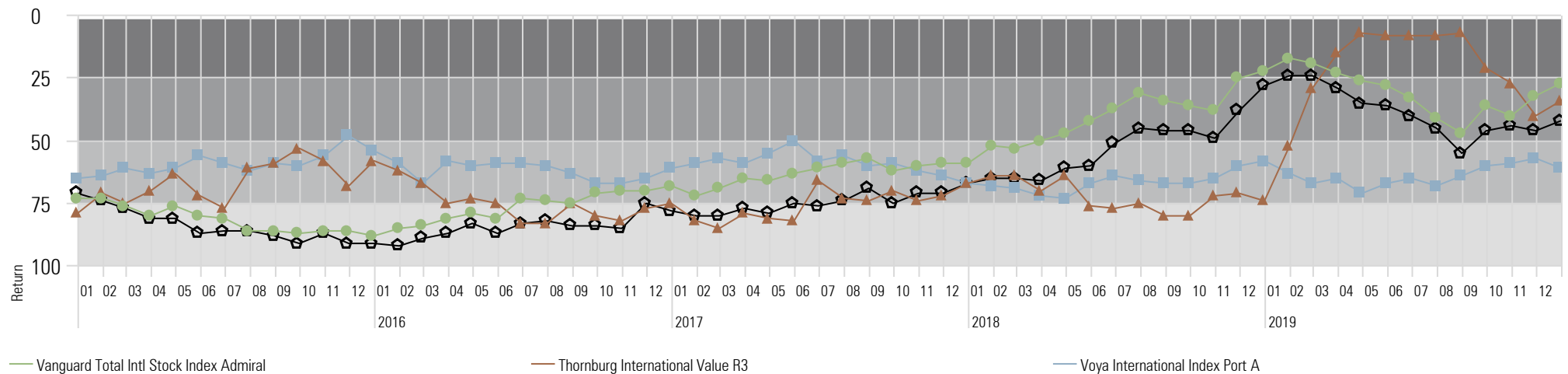


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Foreign Large Blend</b>																		
Vanguard Total Intl Stock Index Admiral	9.0	<b>41</b>	0.85	21.5	<b>58</b>	-0.51	21.5	<b>58</b>	-0.51	9.9	<b>29</b>	0.30	5.9	<b>27</b>	0.18	5.1	<b>57</b>	-0.40
Thornburg International Value R3	8.3	<b>65</b>	0.14	28.4	<b>4</b>	6.37	28.4	<b>4</b>	6.37	8.5	<b>64</b>	-1.04	5.7	<b>34</b>	-0.02	4.9	<b>66</b>	-0.61
Voya International Index Port A	7.7	<b>81</b>	-0.50	20.9	<b>69</b>	-1.15	20.9	<b>69</b>	-1.15	8.8	<b>55</b>	-0.73	5.0	<b>61</b>	-0.68	4.8	<b>69</b>	-0.69
MSCI EAFE NR USD	8.2			22.0			22.0			9.6			5.7			5.5		
Average	8.8			22.3			22.3			9.0			5.2			5.2		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Foreign Large Blend</b>																					
Vanguard Total Intl Stock Index Admiral	21.5	<b>58</b>	-0.51	-14.4	<b>38</b>	-0.64	27.6	<b>26</b>	2.52	4.7	<b>13</b>	3.67	-4.3	<b>82</b>	-3.44	-4.2	<b>32</b>	0.73	15.1	<b>85</b>	-7.64
Thornburg International Value R3	28.4	<b>4</b>	6.37	-20.2	<b>93</b>	-6.43	24.8	<b>63</b>	-0.25	-2.9	<b>89</b>	-3.88	6.1	<b>4</b>	6.88	-6.1	<b>65</b>	-1.16	15.1	<b>86</b>	-7.68
Voya International Index Port A	20.9	<b>69</b>	-1.15	-14.1	<b>32</b>	-0.32	24.2	<b>74</b>	-0.84	0.4	<b>59</b>	-0.64	-1.4	<b>59</b>	-0.62	-6.3	<b>70</b>	-1.43	20.9	<b>47</b>	-1.89
MSCI EAFE NR USD	22.0			-13.8			25.0			1.0			-0.8			-4.9			22.8		
Average	22.3			-15.5			25.5			1.0			-1.2			-4.9			20.2		

# Vanguard Total Intl Stock Index Admiral

VTIAX

Index: FTSE Global All Cap ex US (USA) NR USD

Category: US Fund Foreign Large Blend

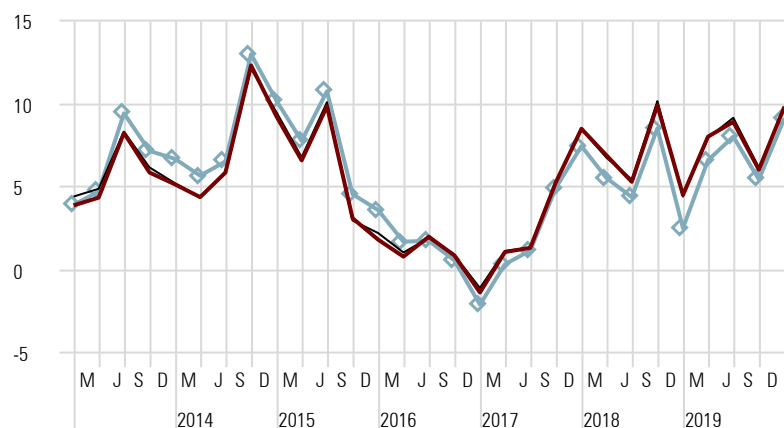
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: FTSE Global All Cap ex US (USA) NR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Total Intl Stock Index Admiral	21.5	21.5	9.9	5.9	5.1	5.2
FTSE Global All Cap ex US (USA) NR USD	21.8	21.8	9.8	5.8	5.4	5.8
US Fund Foreign Large Blend	21.5	21.5	9.2	5.2	5.1	4.5

## Returns (Rolling 36 Months)



— Vanguard Total Intl Stock Index Admiral — FTSE Global All Cap ex US (USA) NR USD — US Fund Foreign Large Blend

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



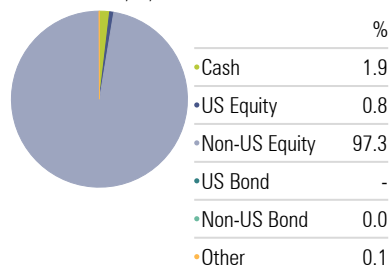
— Vanguard Total Intl Stock Index Admiral — FTSE Global All Cap ex US (USA) NR USD — US Fund Foreign Large Blend

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.11	1.01	
Gross Expense Ratio	0.11	5.54	
LT Earn Growth	8.2	7.7	9.1
Avg Mkt Cap (\$MMM)	24.4	39.8	47.9
P/E Ratio	15.7	16.5	16.3
P/B Ratio	1.6	1.7	2.0
P/S Ratio	1.2	1.2	1.4
P/CF Ratio	9.4	9.9	10.5
ROE %	15.5	17.8	20.5
ROA %	5.8	6.4	7.2
Dividend Yld	3.3	3.3	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

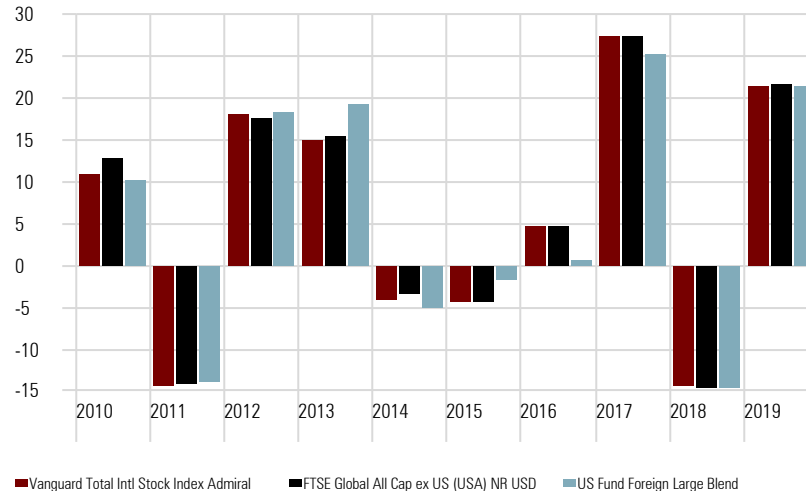


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: FTSE Global All Cap ex US (USA) NR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Total Intl Stock Index Admiral	57.5	42.5	10.4	-12.3	17.9	-20.9	99.5	100.9
FTSE Global All Cap ex US (USA) NR USD	57.5	42.5	10.5	-11.5	17.1	-20.2	100.0	100.0
US Fund Foreign Large Blend	60.0	40.0	10.2	-11.8	17.1	-20.9	95.5	96.1

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.6	0.5	12.1	0.5
Down Deviation	0.8	-0.3	1.1	-0.6
Beta	1.0	0.0	1.0	0.0
Alpha	0.0	0.3	0.1	0.4
Sharpe	0.7	0.0	0.4	0.0
Sortino	1.1	0.1	0.7	0.1
Info Ratio	0.0	0.5	0.0	0.3
Down Capture	100.5	4.7	97.3	4.8
Up Capture	100.4	5.7	98.1	6.7

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
Vanguard Cash Mgmt Fds	1.8	Energy	6	5
Alibaba Group Holding Ltd ADR	1.4	Materials	8	7
Nestle SA	1.3	Industrials	13	14
Tencent Holdings Ltd	1.1	Cons Discretionary	12	12
Taiwan Semiconductor Manufacturing Co Ltd	1.0	Consumer Staples	9	10
Roche Holding AG Dividend Right Cert.	0.9	Healthcare	9	11
Samsung Electronics Co Ltd	0.9	Financials	20	19
Novartis AG	0.8	Info Technology	10	8
Toyota Motor Corp	0.7	Telecom Services	6	7
HSBC Holdings PLC	0.6	Utilities	4	3
		Real Estate %	4.0	2.8

# Foreign Small Cap Search

As of 2/29/2020



# US Fund Foreign Small/Mid Blend

## Fidelity Advisor® Intl Small Cap Z

### Investment Strategy

The investment seeks capital appreciation. The fund invests primarily in non-U.S. securities, including securities of issuers located in emerging markets. It invests at least 80% of assets in securities of companies with small market capitalizations (which, for purposes of this fund, are those companies with market capitalizations of \$5 billion or less). The fund invests primarily in common stocks. It allocates investments across different countries and regions. The fund uses fundamental analysis of factors such as each issuer's financial condition and industry position, as well as market and economic conditions, to select investments.

### Manager Biography

Sam Chamovitz since 3/1/2014

### Fidelity Advisor® Intl Small Cap Z - Operations

Inception Date	10/2/2018
Fund Size (\$mm)	2,387
Annual Report Net Expense Ratio	1.04
Prospectus Net Expense Ratio	1.05
Prospectus Gross Expense Ratio	1.05
Ticker	FIQIX
Manager Tenure (Longest)	6.00
Manager Tenure (Average)	6.00
Morningstar Inst Cat	Foreign Small/Mid Core

### Other Notes:

None

## Fidelity Advisor® Intl Small Cap I

### Investment Strategy

The investment seeks capital appreciation. The fund invests primarily in non-U.S. securities, including securities of issuers located in emerging markets. It invests at least 80% of assets in securities of companies with small market capitalizations (which, for purposes of this fund, are those companies with market capitalizations of \$5 billion or less). The fund invests primarily in common stocks. It allocates investments across different countries and regions. The fund uses fundamental analysis of factors such as each issuer's financial condition and industry position, as well as market and economic conditions, to select investments.

### Manager Biography

Sam Chamovitz since 3/1/2014

### Fidelity Advisor® Intl Small Cap I - Operations

Inception Date	5/27/2003
Fund Size (\$mm)	2,387
Annual Report Net Expense Ratio	1.18
Prospectus Net Expense Ratio	1.19
Prospectus Gross Expense Ratio	1.19
Ticker	FIXIX
Manager Tenure (Longest)	6.00
Manager Tenure (Average)	6.00
Morningstar Inst Cat	Foreign Small/Mid Core

### Other Notes:

None

## Voya Multi-Manager International Sm Cp A

### Investment Strategy

The investment seeks maximum long-term capital appreciation. The fund invests at least 80% of its net assets (plus borrowings for investment purposes) in securities of small market capitalization companies. It invests primarily in common stocks or securities convertible into common stocks of international issuers, but may invest from time to time in such instruments as forward foreign currency exchange contracts, futures contracts, rights, and depository receipts. At least 65% of the fund's assets will normally be invested in companies located outside the United States, including companies located in countries with emerging securities markets.

### Manager Biography

Daniel B. LeVan since 3/2/2015

John W. Evers since 3/2/2015

Brendan O. Bradley since 3/26/2015

Halvard Kvaale since 4/3/2017

Paul Zemsky since 5/11/2018

Ryan D. Taliaferro since 1/31/2019

### Voya Multi-Manager International Sm Cp A - Operations

Inception Date	8/31/1994
Fund Size (\$mm)	139
Annual Report Net Expense Ratio	1.54
Prospectus Net Expense Ratio	1.53
Prospectus Gross Expense Ratio	1.70
Ticker	NTKLX
Manager Tenure (Longest)	5.00
Manager Tenure (Average)	3.49
Morningstar Inst Cat	Foreign Small/Mid Core

### Other Notes:

None

# Portfolio Analysis

## Fidelity Advisor® Intl Small Cap Z

### Style Allocation

Portfolio Date: 10/31/2019

	Value	Blend	Growth	Market Cap	%
Large	2	2	4	Market Cap Giant %	0
				Market Cap Large %	8
Mid	13	15	8	Market Cap Mid %	36
				Market Cap Small %	42
Small	25	17	14	Market Cap Micro %	14

### Valuation Data

Display Benchmark 1: MSCI ACWI Ex USA Small NR USD

	Inv	Bmk1
Average Market Cap (bil)	1.5	1.7
Forward P/E	13.1	13.0
P/E Ratio (TTM)	14.4	14.1
LT Earn Growth	9.3	10.4
P/B Ratio (TTM)	1.4	1.3
Dividend Yield	3.7	3.2
ROE %	11.4	11.4
ROA %	5.5	5.1
Debt to Capital %	28	31

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	28	
# of Stock Holdings	185	4,176
% in Top 10	10.4	2.1
Cash %	4.2	0.0
Developed %	84.7	86.0
US Equity %	1.3	1.2
Non-US Equity %	95	98
Emerging Mkt %	11.3	13.6

## Fidelity Advisor® Intl Small Cap I

### Style Allocation

Portfolio Date: 10/31/2019

	Value	Blend	Growth	Market Cap	%
Large	2	2	4	Market Cap Giant %	0
				Market Cap Large %	8
Mid	13	15	8	Market Cap Mid %	36
				Market Cap Small %	42
Small	25	17	14	Market Cap Micro %	14

### Valuation Data

Display Benchmark 1: MSCI ACWI Ex USA Small NR USD

	Inv	Bmk1
Average Market Cap (bil)	1.5	1.7
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P/E Ratio (TTM)	14.4	14.1
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Dividend Yield	3.7	3.2
ROE %	11.4	11.4
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Debt to Capital %	28	31

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	28	
# of Stock Holdings	185	4,176
% in Top 10	10.4	2.1
Cash %	4.2	0.0
Developed %	84.7	86.0
US Equity %	1.3	1.2
Non-US Equity %	95	98
Emerging Mkt %	11.3	13.6

## Voya Multi-Manager International Sm Cap A

### Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth	Market Cap	%
Large	2	1	1	Market Cap Giant %	0
				Market Cap Large %	3
Mid	12	16	23	Market Cap Mid %	50
				Market Cap Small %	33
Small	17	14	15	Market Cap Micro %	14

### Valuation Data

Display Benchmark 1: S&P Developed Ex US Small TR USD

	Inv	Bmk1
Average Market Cap (bil)	2.0	1.9
Forward P/E	12.4	13.4
P/E Ratio (TTM)	13.5	14.4
LT Earn Growth	9.7	9.4
P/B Ratio (TTM)	1.4	1.3
Dividend Yield	2.7	3.1
ROE %	15.1	10.9
ROA %	7.0	4.6
Debt to Capital %	27	32

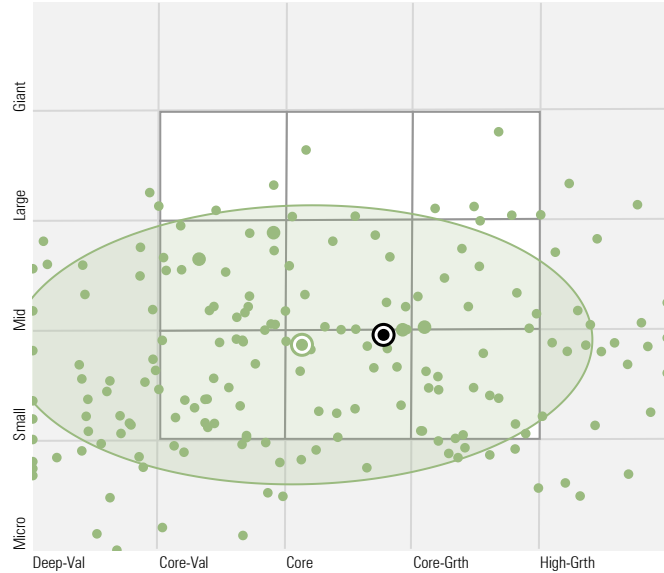
### Portfolio Data

	Inv	Bmk1
Turnover Ratio	57	
# of Stock Holdings	1,053	3,604
% in Top 10	8.4	4.1
Cash %	1.3	0.0
Developed %	93.1	98.4
US Equity %	1.5	2.0
Non-US Equity %	97	97
Emerging Mkt %	5.5	1.0

# Holdings-Based Style Analysis

## Fidelity Advisor® Intl Small Cap Z

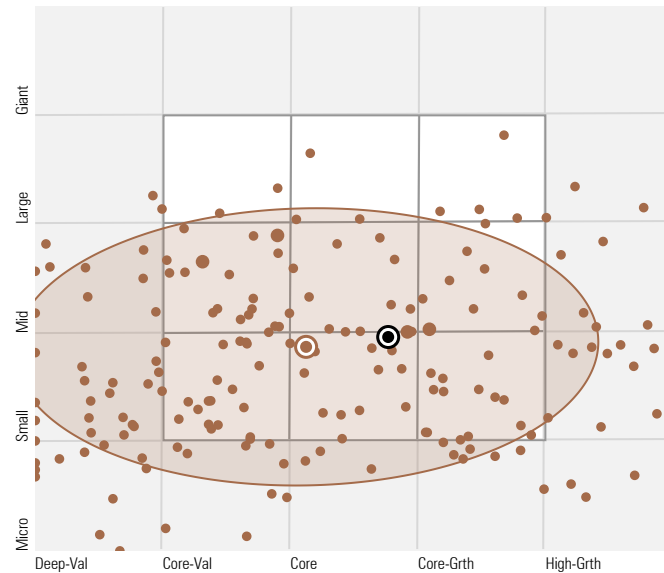
### Holdings-Based Style Map



● Fidelity Advisor® Intl Small Cap Z 10/31/2019 ● MSCI ACWI Ex USA Small NR USD 1/31/2020

## Fidelity Advisor® Intl Small Cap I

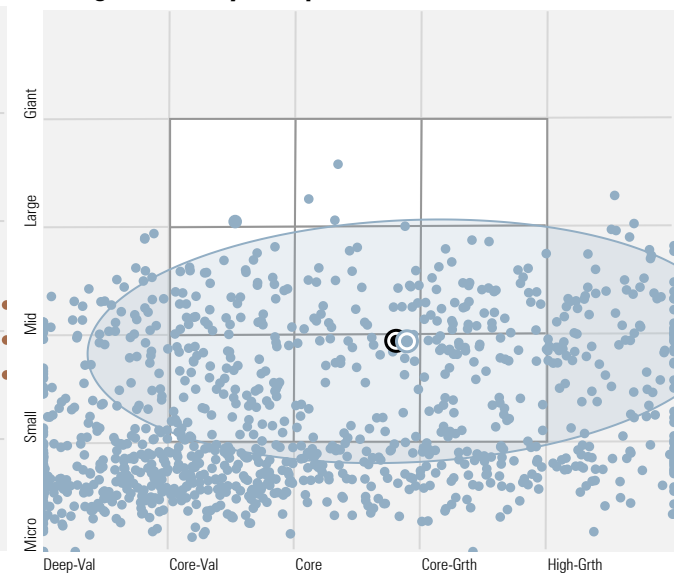
### Holdings-Based Style Map



● Fidelity Advisor® Intl Small Cap I 10/31/2019 ● MSCI ACWI Ex USA Small NR USD 1/31/2020

## Voya Multi-Manager International Sm Cp A

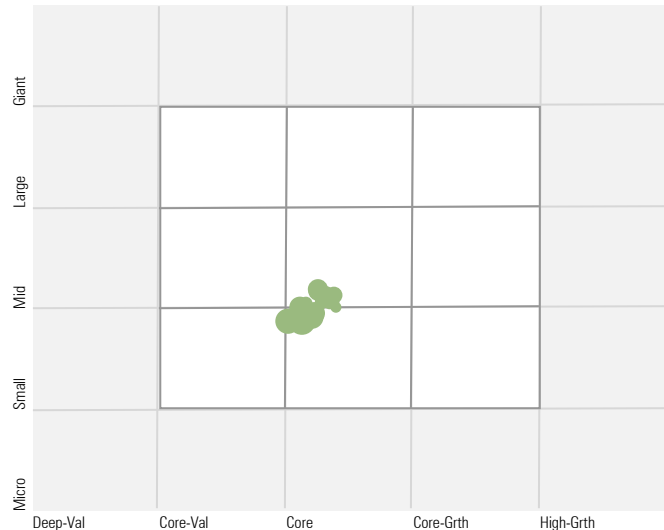
### Holdings-Based Style Map



● Voya Multi-Manager International Sm Cp A 12/31/2019 ● S&P Developed Ex US Small TR USD 1/31/2020

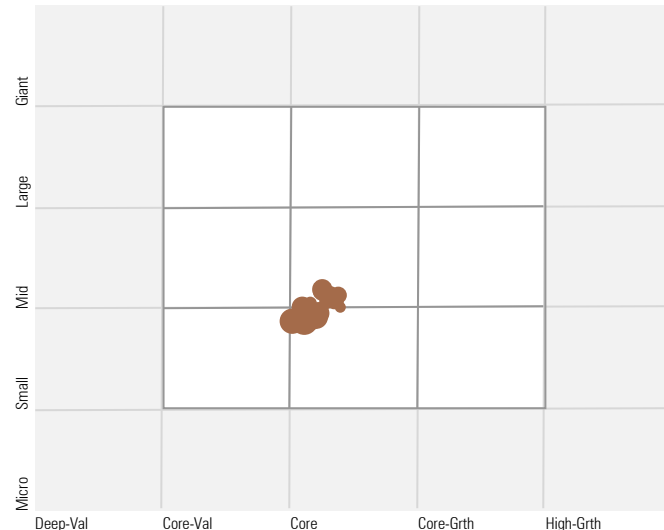
### Holdings-Based Style Trail

Time Period: 4/30/2015 to 10/31/2019



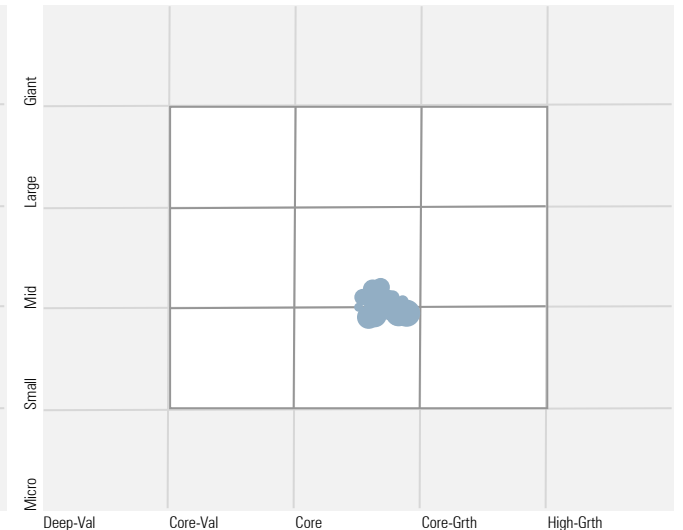
### Holdings-Based Style Trail

Time Period: 4/30/2015 to 10/31/2019



### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019

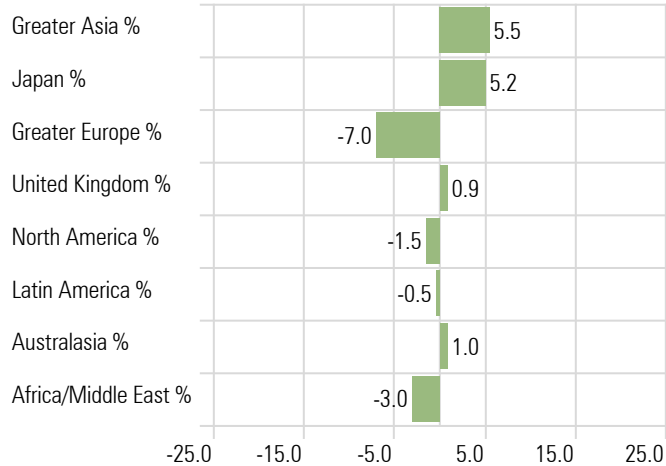




# International Exposure

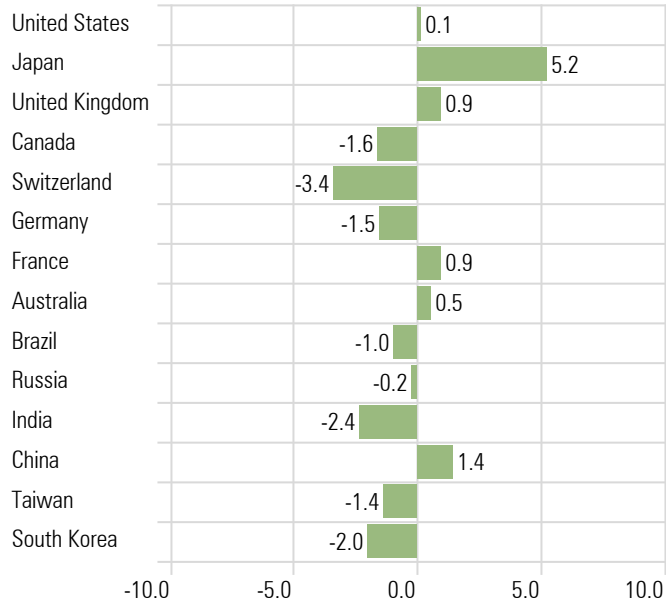
## Fidelity Advisor® Intl Small Cap Z

### Regional Allocation +/- Index



■ Fidelity Advisor® Intl Small Cap Z ■ MSCI ACWI Ex USA Small NR USD

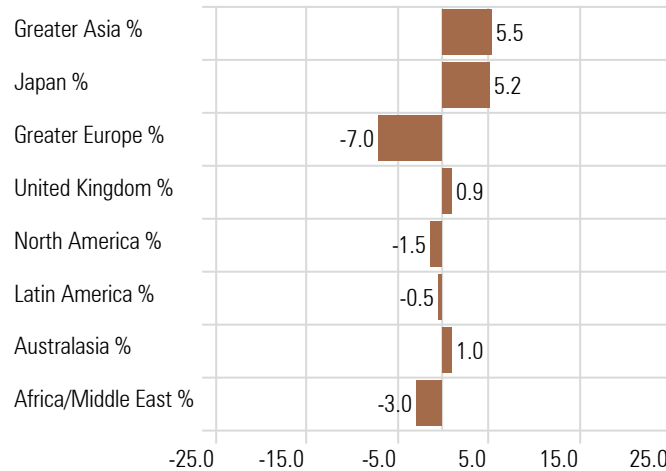
### Country Allocation +/- Index



■ Fidelity Advisor® Intl Small Cap Z ■ MSCI ACWI Ex USA Small NR USD

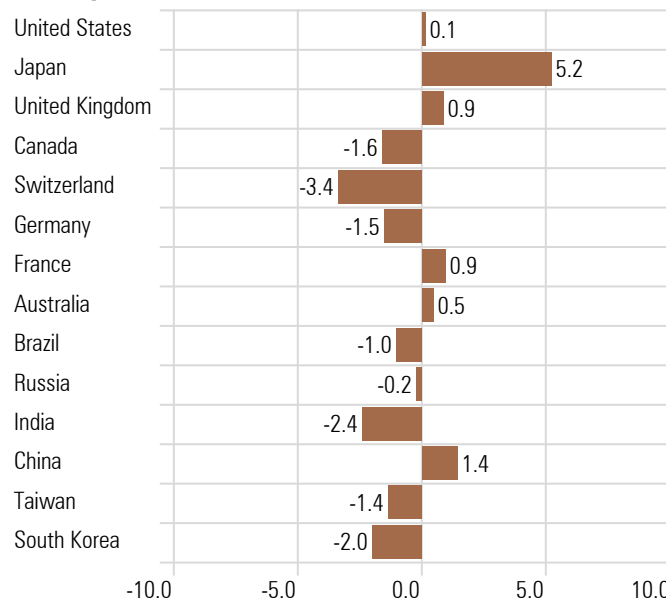
## Fidelity Advisor® Intl Small Cap I

### Regional Allocation +/- Index



■ Fidelity Advisor® Intl Small Cap I ■ MSCI ACWI Ex USA Small NR USD

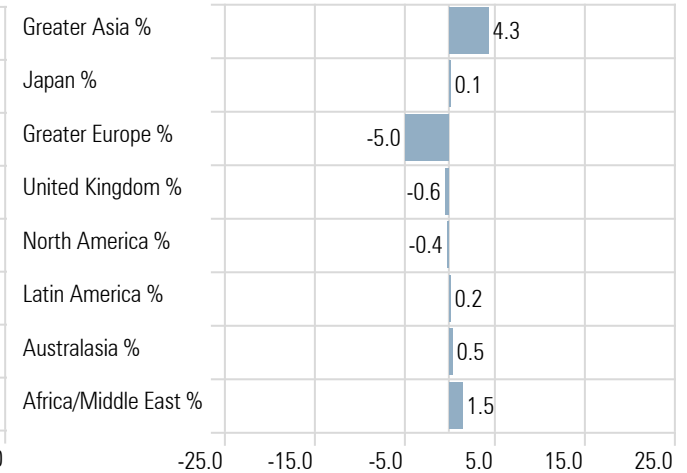
### Country Allocation +/- Index



■ Fidelity Advisor® Intl Small Cap I ■ MSCI ACWI Ex USA Small NR USD

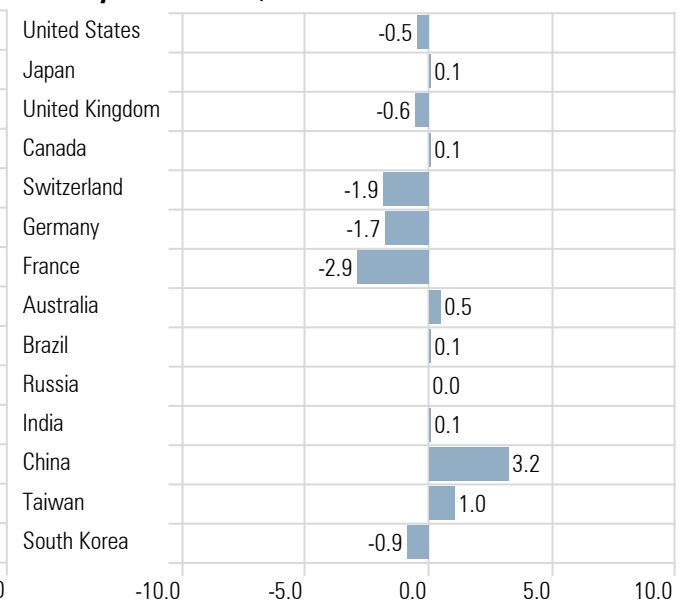
## Voya Multi-Manager International Sm Cp A

### Regional Allocation +/- Index



■ Voya Multi-Manager International Sm Cp A ■ S&P Developed Ex US Small TR USD

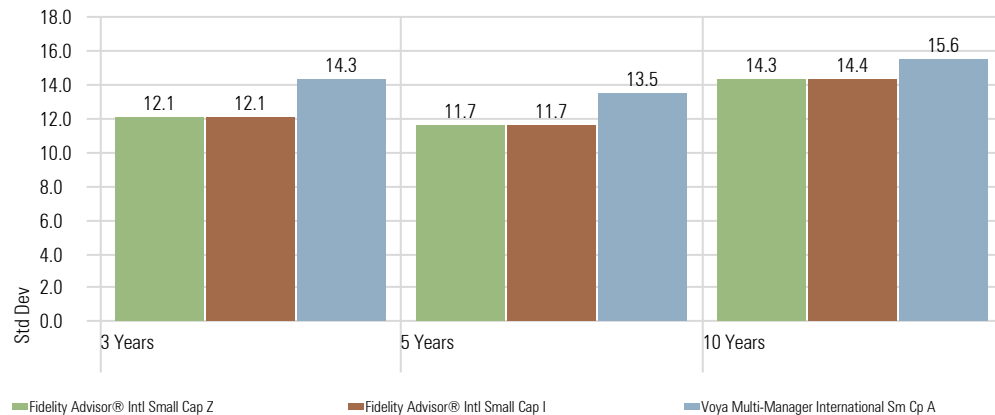
### Country Allocation +/- Index



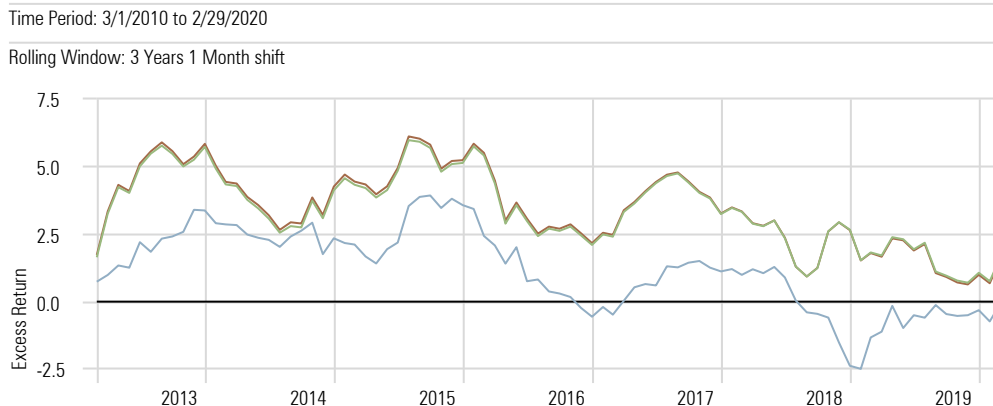
■ Voya Multi-Manager International Sm Cp A ■ S&P Developed Ex US Small TR USD

# Risk/Return Performance Analysis

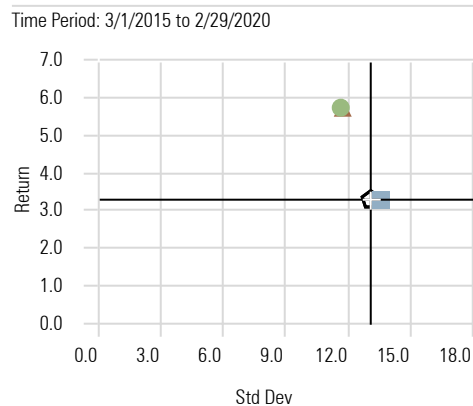
## Standard Deviation



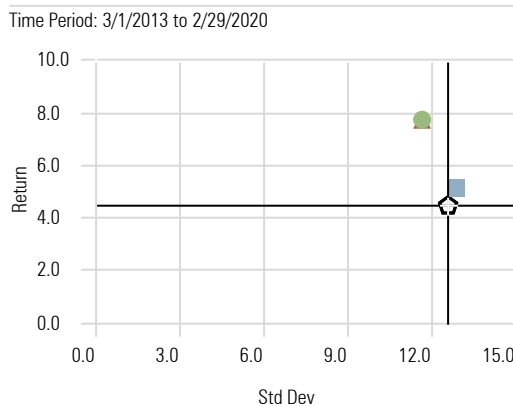
## 3 Year Relative Rolling Returns



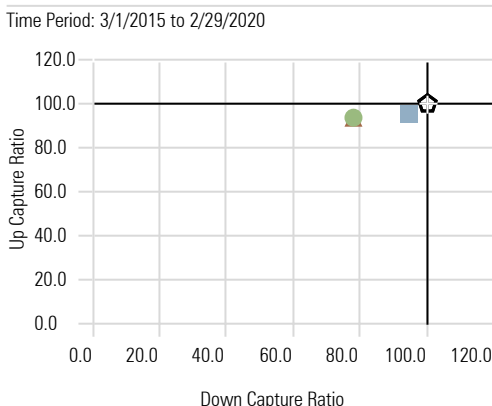
## 5 Year Risk-Reward



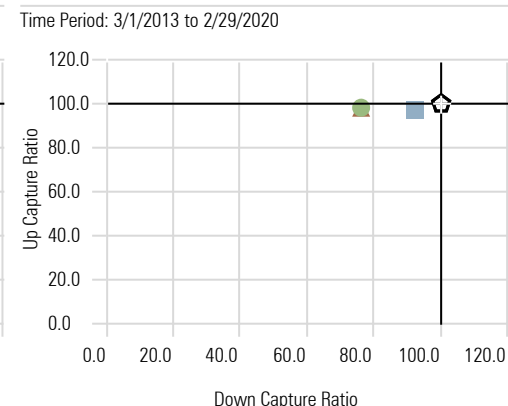
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● Fidelity Advisor® Intl Small Cap Z

● Fidelity Advisor® Intl Small Cap I

● Voya Multi-Manager International Sm Cp A

⬠ MSCI ACWI Ex USA Small NR USD

## Annualized Performance & Risk Statistics - Since Common Inception

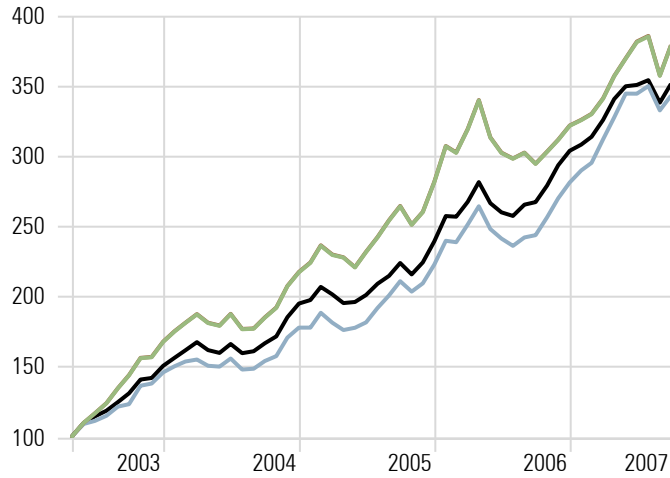
Time Period: Since Common Inception (10/1/2002) to 2/29/2020

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
Fidelity Advisor® Intl Small Cap Z	12.3	17.5	2.6	0.95	93	35.2	-25.8	0.62	4.7
Fidelity Advisor® Intl Small Cap I	12.3	17.5	2.7	0.95	93	35.2	-25.8	0.62	4.7
Voya Multi-Manager International Sm Cp A	8.4	18.5	-1.4	1.02	96	34.6	-28.3	0.38	3.7
MSCI ACWI Ex USA Small NR USD	9.8	17.8	0.0	1.00	100	37.6	-25.3	0.48	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

Time Period: 4/30/2003 to 9/30/2007



● Fidelity Advisor® Intl Small Cap Z 379  
● Fidelity Advisor® Intl Small Cap I 379  
● Voya Multi-Manager International Sm Cp A 344  
● MSCI ACWI Ex USA Small NR USD 352

## Credit Crunch - Financial Crisis

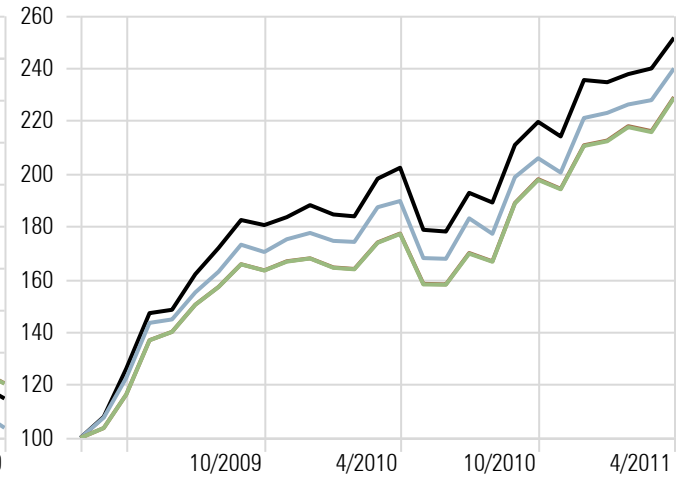
Time Period: 10/31/2007 to 2/28/2009



● Fidelity Advisor® Intl Small Cap Z 42  
● Fidelity Advisor® Intl Small Cap I 42  
● Voya Multi-Manager International Sm Cp A 34  
● MSCI ACWI Ex USA Small NR USD 40

## Financial Crisis Recovery - QE1&2

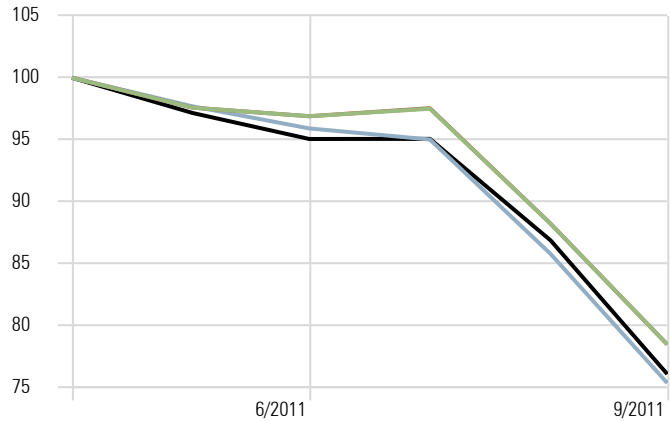
Time Period: 3/1/2009 to 4/30/2011



● Fidelity Advisor® Intl Small Cap Z 223.0  
● Fidelity Advisor® Intl Small Cap I 223.3  
● Voya Multi-Manager International Sm Cp A 240.2  
● MSCI ACWI Ex USA Small NR USD 251.9

## Double Dip

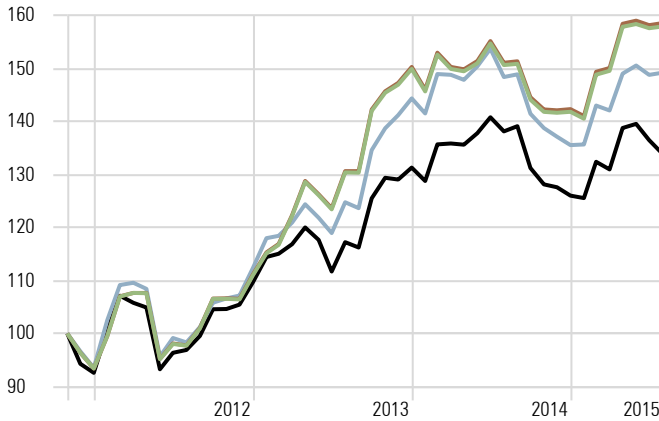
Time Period: 5/1/2011 to 9/30/2011



● Fidelity Advisor® Intl Small Cap Z 78.4  
● Fidelity Advisor® Intl Small Cap I 78.4  
● Voya Multi-Manager International Sm Cp A 75.3  
● MSCI ACWI Ex USA Small NR USD 75.0

## US Recovery Continues - Global Markets Lag

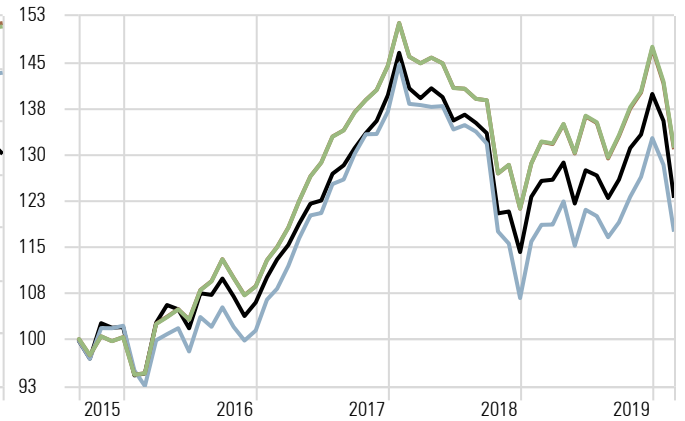
Time Period: 11/1/2011 to 7/31/2015



● Fidelity Advisor® Intl Small Cap Z 158.0  
● Fidelity Advisor® Intl Small Cap I 158.7  
● Voya Multi-Manager International Sm Cp A 149.3  
● MSCI ACWI Ex USA Small NR USD 133.9

## Global Economic Strength

Time Period: 8/31/2015 to 2/29/2020



● Fidelity Advisor® Intl Small Cap Z 131.2  
● Fidelity Advisor® Intl Small Cap I 130.9  
● Voya Multi-Manager International Sm Cp A 117.6  
● MSCI ACWI Ex USA Small NR USD 123.0

● Fidelity Advisor® Intl Small Cap Z  
● MSCI ACWI Ex USA Small NR USD

● Fidelity Advisor® Intl Small Cap I

● Voya Multi-Manager International Sm Cp A

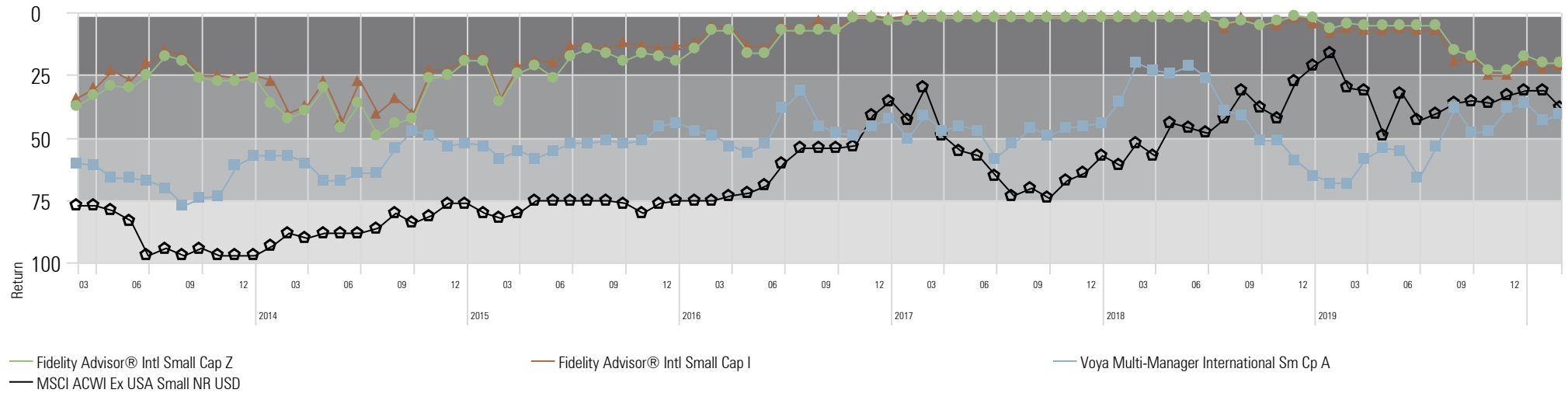
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 3/1/2010 to 2/29/2020

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

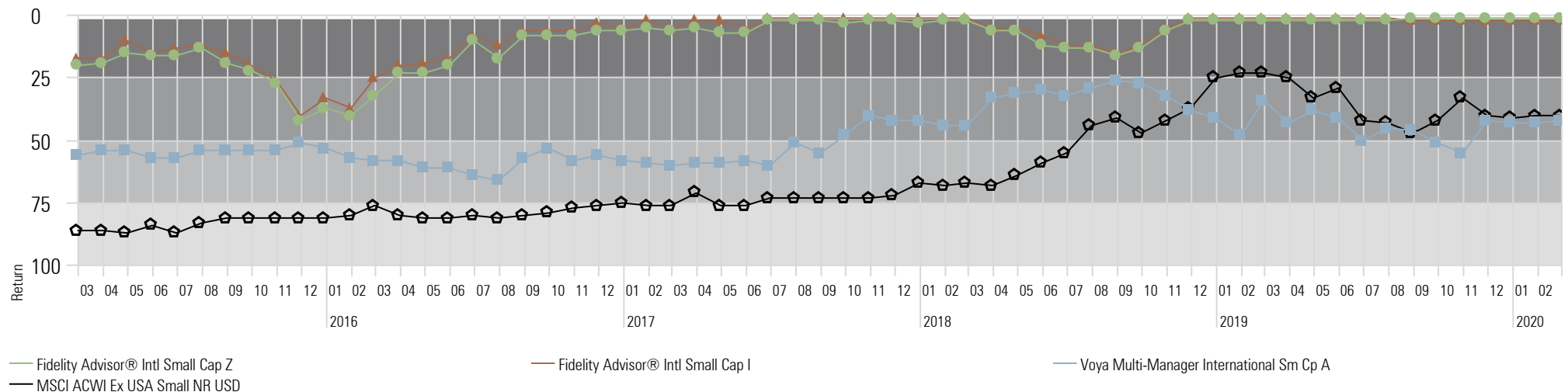


## Rolling Returns (Descending Rank)

Time Period: 3/1/2010 to 2/29/2020

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Foreign Small/Mid Blend</b>																		
Fidelity Advisor® Intl Small Cap Z	10.8	51	0.28	21.6	56	-2.78	21.6	56	-2.78	10.7	17	0.18	9.3	1	1.47	9.7	8	1.85
Fidelity Advisor® Intl Small Cap I	10.7	53	0.23	21.4	63	-2.94	21.4	63	-2.94	10.6	19	0.10	9.3	2	1.45	9.7	6	1.89
Voya Multi-Manager International Sm Cp A	11.5	38	0.98	24.3	29	-0.11	24.3	29	-0.11	9.3	36	-1.21	7.0	43	-0.88	7.6	36	-0.19
MSCI EAFE SMID NR USD	10.5			24.4			24.4			10.5			7.9			7.8		
Average	10.9			22.9			22.9			9.1			6.7			7.5		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Foreign Small/Mid Blend</b>																					
Fidelity Advisor® Intl Small Cap Z	21.6	56	-2.78	-16.0	2	0.94	32.9	55	2.12	8.2	8	6.85	6.4	44	-0.24	-5.4	27	-2.09	35.1	9	8.63
Fidelity Advisor® Intl Small Cap I	21.4	63	-2.94	-16.0	4	0.91	32.9	57	2.07	8.2	7	6.88	6.4	41	-0.18	-5.3	25	-1.99	35.3	6	8.78
Voya Multi-Manager International Sm Cp A	24.3	29	-0.11	-22.1	73	-5.10	34.9	29	4.15	-0.8	62	-2.08	8.0	30	1.37	-6.1	51	-2.80	28.5	52	2.02
MSCI EAFE SMID NR USD	24.4			-17.0			30.8			1.3		6.6			-3.3				26.5		
Average	22.9			-20.5			33.1			1.7		4.7			-6.5				27.6		

# Fidelity Advisor® Intl Small Cap Z

FIQIX

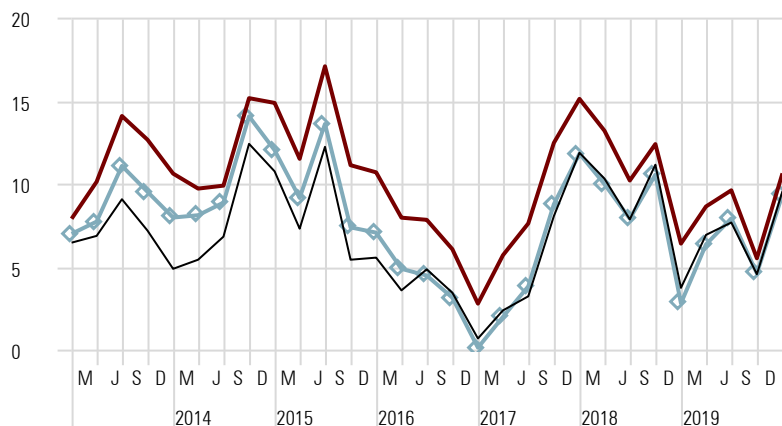
**Index:** MSCI ACWI Ex USA Small NR USD  
**Category:** US Fund Foreign Small/Mid Blend  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: MSCI ACWI Ex USA Small NR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Fidelity Advisor® Intl Small Cap Z	21.6	21.6	10.7	9.3	9.7	8.2
MSCI ACWI Ex USA Small NR USD	22.4	22.4	9.6	7.0	6.9	6.9
US Fund Foreign Small/Mid Blend	22.6	22.6	9.4	6.7	7.3	6.7

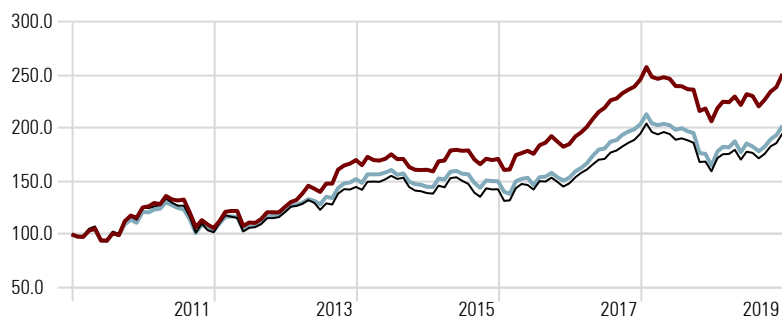
## Returns (Rolling 36 Months)



— Fidelity Advisor® Intl Small Cap Z — MSCI ACWI Ex USA Small NR USD — US Fund Foreign Small/Mid Blend

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



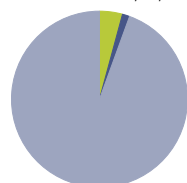
— Fidelity Advisor® Intl Small Cap Z — MSCI ACWI Ex USA Small NR USD — US Fund Foreign Small/Mid Blend

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	1.05	1.27	
Gross Expense Ratio	1.05	1.85	
LT Earn Growth	9.3	12.1	9.1
Avg Mkt Cap (\$MMM)	1.5	2.5	47.9
P/E Ratio	14.4	15.6	16.3
P/B Ratio	1.4	1.6	2.0
P/S Ratio	0.7	1.0	1.4
P/CF Ratio	9.4	8.8	10.5
ROE %	11.4	13.9	20.5
ROA %	5.5	6.3	7.2
Dividend Yld	3.7	3.1	2.8

## Asset Allocation

Portfolio Date: 10/31/2019



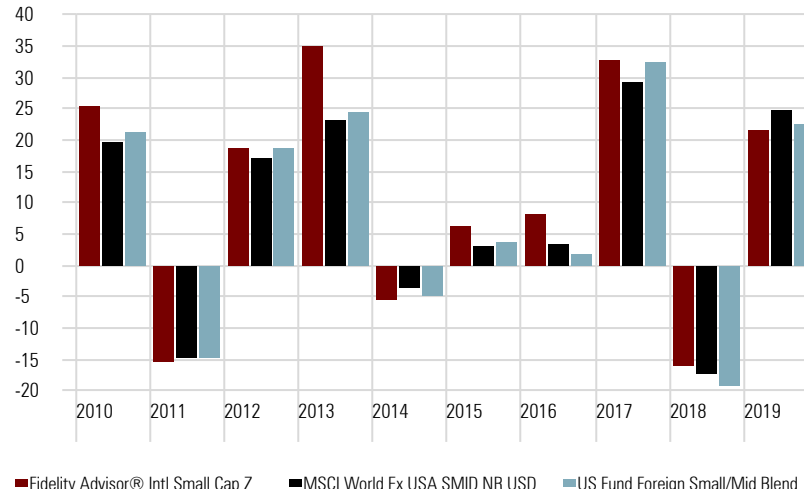
	%
Cash	4.2
US Equity	1.3
Non-US Equity	94.4
US Bond	-
Non-US Bond	0.0
Other	0.0

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: MSCI ACWI Ex USA Small NR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Fidelity Advisor® Intl Small Cap Z	59.2	40.8	13.3	-11.6	19.5	-19.1	97.0	80.2
MSCI ACWI Ex USA Small NR USD	57.5	42.5	11.5	-12.5	18.4	-20.0	100.0	100.0
US Fund Foreign Small/Mid Blend	56.7	43.3	10.4	-11.1	16.8	-18.9	93.5	89.0

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.0	-1.2	11.2	-1.1
Down Deviation	1.6	0.3	2.0	0.3
Beta	0.9	-0.1	0.9	-0.1
Alpha	1.6	1.9	2.8	2.9
Sharpe	0.8	0.2	0.7	0.3
Sortino	1.2	0.3	1.2	0.4
Info Ratio	0.4	0.5	0.7	0.8
Down Capture	90.5	-12.4	76.4	-16.8
Up Capture	99.1	-1.7	94.3	0.3

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
Fidelity Revere Str Tr	4.1	Energy	3	3
iShares MSCI EAFE Small-Cap ETF	1.5	Materials	10	8
JSR Corp	1.3	Industrials	23	22
Wood Group (John) PLC	1.1	Cons Discretionary	13	15
SITC International Holdings Co Ltd	1.0	Consumer Staples	10	5
Arata Corp	0.9	Healthcare	7	8
GUD Holdings Ltd	0.9	Financials	13	11
Isuzu Motors Ltd	0.9	Info Technology	8	11
Cineworld Group PLC	0.9	Telecom Services	3	5
AEON DELIGHT Co Ltd	0.9	Utilities	1	2
		Real Estate %	9.1	11.0

# Emerging Market Search

As of 12/31/2019



# US Fund Diversified Emerging Mkts

## Invesco Oppenheimer Developing Mkts R6

### Investment Strategy

The investment seeks capital appreciation. The fund mainly invests in common stocks of issuers in developing and emerging markets throughout the world and at times it may invest up to 100% of its total assets in foreign securities. Under normal market conditions, it will invest at least 80% of its net assets, plus borrowings for investment purposes, in equity securities of issuers whose principal activities are in a developing market, i.e. are in a developing market or are economically tied to a developing market country, and in derivatives and other instruments that have economic characteristics similar to such securities.

### Manager Biography

Justin M. Leverenz since 5/1/2007

### Invesco Oppenheimer Developing Mkts R6 - Operations

Inception Date	12/29/2011
Fund Size (\$mm)	44,493
Annual Report Net Expense Ratio	0.83
Prospectus Net Expense Ratio	0.83
Prospectus Gross Expense Ratio	0.83
Ticker	ODVIX
Manager Tenure (Longest)	12.67
Manager Tenure (Average)	12.67
Morningstar Inst Cat	Diversified Emerging Markets

### Other Notes:

None

## Invesco Oppenheimer Developing Markets R

### Investment Strategy

The investment seeks capital appreciation. The fund mainly invests in common stocks of issuers in developing and emerging markets throughout the world and at times it may invest up to 100% of its total assets in foreign securities. Under normal market conditions, it will invest at least 80% of its net assets, plus borrowings for investment purposes, in equity securities of issuers whose principal activities are in a developing market, i.e. are in a developing market or are economically tied to a developing market country, and in derivatives and other instruments that have economic characteristics similar to such securities.

### Manager Biography

Justin M. Leverenz since 5/1/2007

### Invesco Oppenheimer Developing Markets R - Operations

Inception Date	3/1/2001
Fund Size (\$mm)	44,493
Annual Report Net Expense Ratio	1.50
Prospectus Net Expense Ratio	1.50
Prospectus Gross Expense Ratio	1.50
Ticker	ODVNX
Manager Tenure (Longest)	12.67
Manager Tenure (Average)	12.67
Morningstar Inst Cat	Diversified Emerging Markets

### Other Notes:

None



# Portfolio Analysis

## Invesco Oppenheimer Developing Mkts R6

### Style Allocation

Portfolio Date: 9/30/2019

	Value	Blend	Growth
Large	11	28	52
Mid	1	1	7
Small	0	0	1

Market Cap	%
Market Cap Giant %	64
Market Cap Large %	28
Market Cap Mid %	7
Market Cap Small %	0
Market Cap Micro %	0

### Valuation Data

Display Benchmark 1: MSCI EM NR USD

	Inv	Bmk1
Average Market Cap (bil)	42.4	35.4
Forward P/E	17.2	12.8
P/E Ratio (TTM)	19.0	14.4
LT Earn Growth	12.6	8.8
P/B Ratio (TTM)	3.0	1.7
Dividend Yield	2.6	3.1
ROE %	19.8	16.5
ROA %	7.4	7.1
Debt to Capital %	30	27

### Portfolio Data

	Inv	Bmk1
Turnover Ratio	7	
# of Stock Holdings	86	1,404
% in Top 10	41.8	24.5
Cash %	4.7	0.0
Developed %	24.8	26.3
US Equity %	0.7	0.3
Non-US Equity %	88	100
Emerging Mkt %	64.3	73.7

Source: Morningstar Direct

## Invesco Oppenheimer Developing Markets R

### Style Allocation

Portfolio Date: 9/30/2019

	Value	Blend	Growth
Large	11	28	52
Mid	1	1	7
Small	0	0	1

Market Cap	%
Market Cap Giant %	64
Market Cap Large %	28
Market Cap Mid %	7
Market Cap Small %	0
Market Cap Micro %	0

### Valuation Data

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Debt to Capital %	30	27

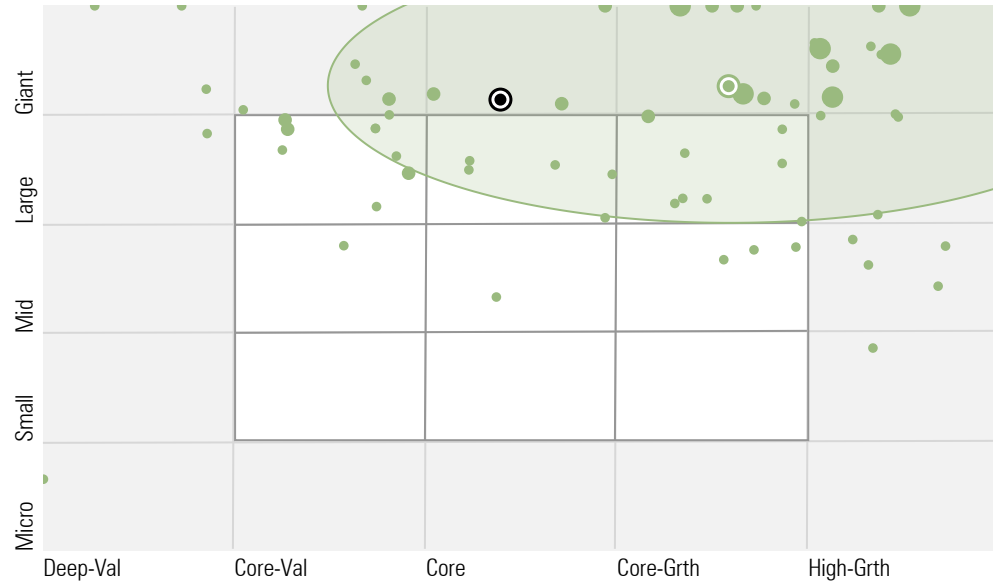
### Portfolio Data

	Inv	Bmk1
Turnover Ratio	7	
# of Stock Holdings	86	1,404
% in Top 10	41.8	24.5
Cash %	4.7	0.0
Developed %	24.8	26.3
US Equity %	0.7	0.3
Non-US Equity %	88	100
Emerging Mkt %	64.3	73.7

# Holdings-Based Style Analysis

Invesco Oppenheimer Developing Mkts R6

## Holdings-Based Style Map

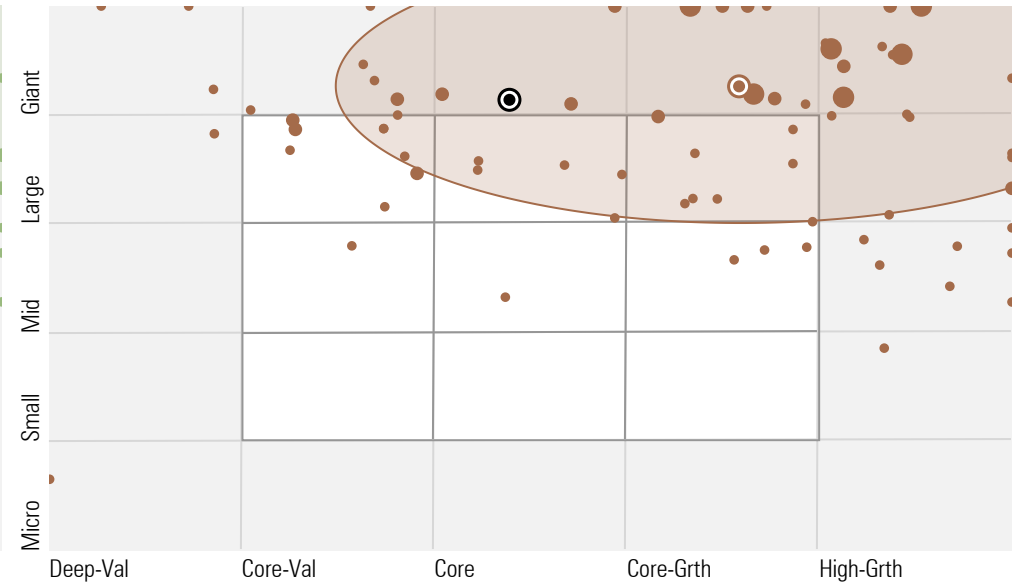


● Invesco Oppenheimer Developing Mkts R6 9/30/2019 ● MSCI EM NR USD

12/31/2019

Invesco Oppenheimer Developing Markets R

## Holdings-Based Style Map

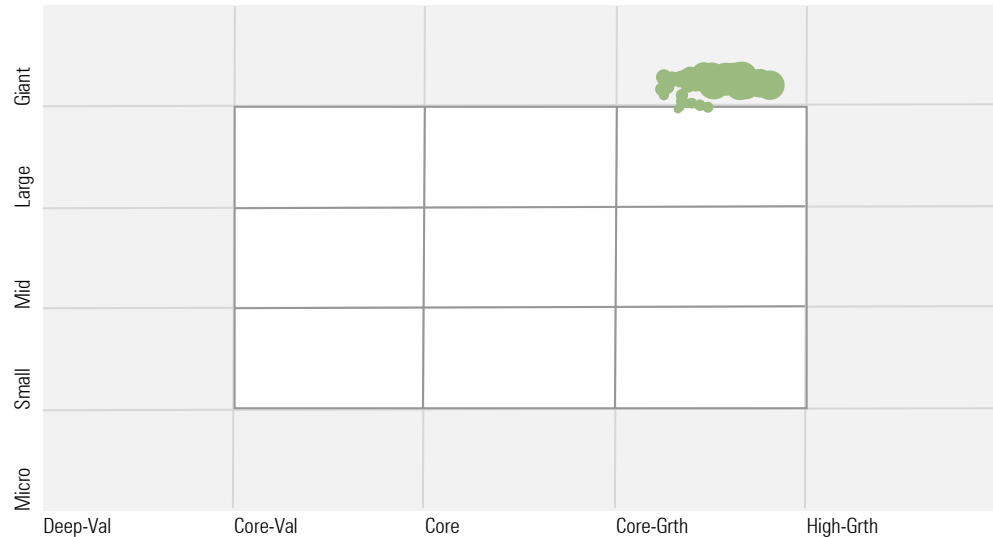


● Invesco Oppenheimer Developing Markets R 9/30/2019 ● MSCI EM NR USD

12/31/2019

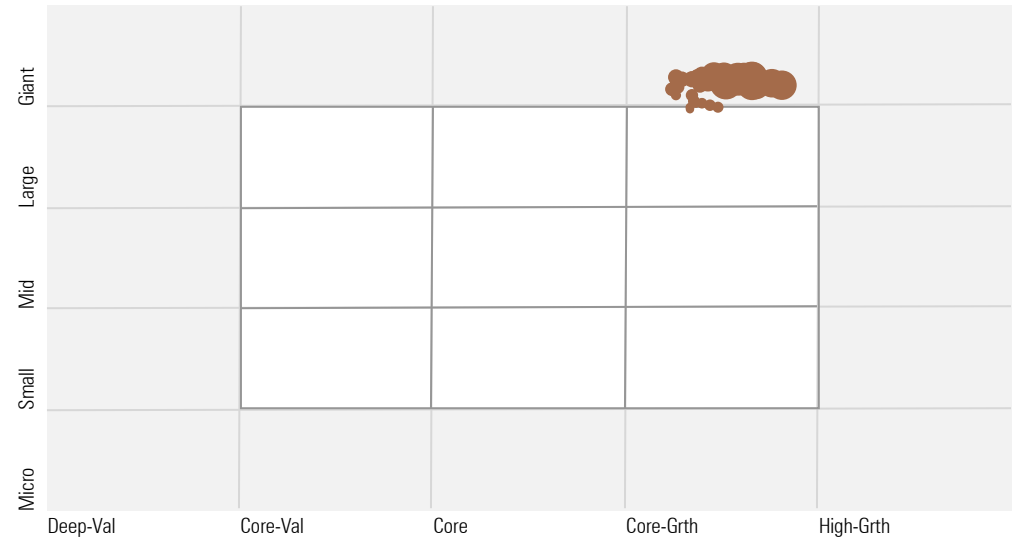
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 9/30/2019



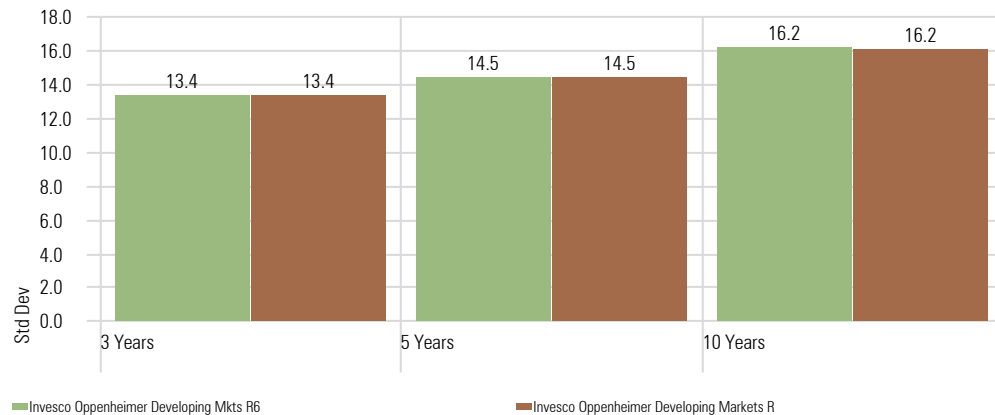
## Holdings-Based Style Trail

Time Period: 1/31/2015 to 9/30/2019

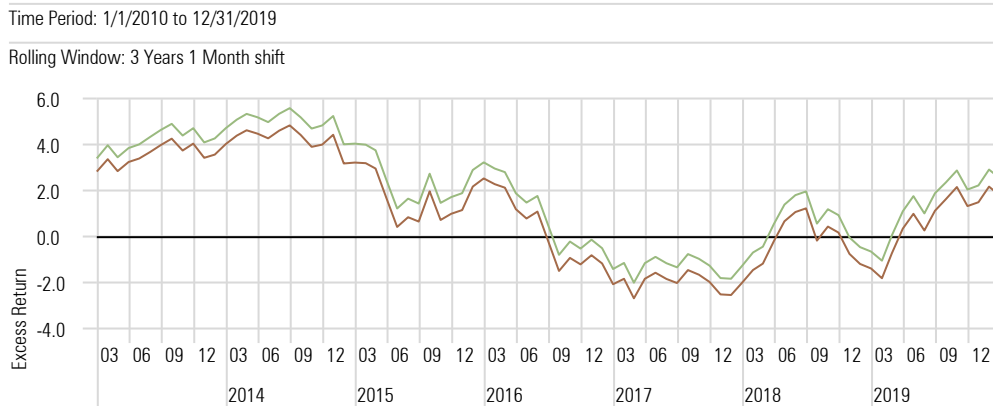


# Risk/Return Performance Analysis

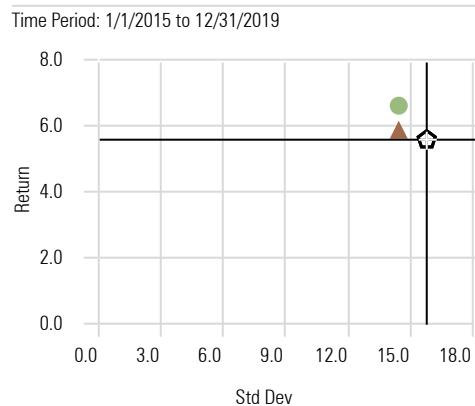
## Standard Deviation



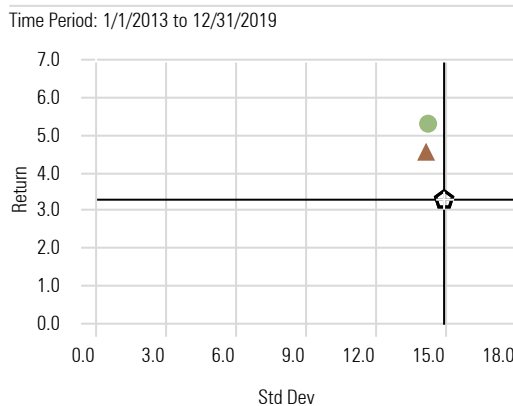
## 3 Year Relative Rolling Returns



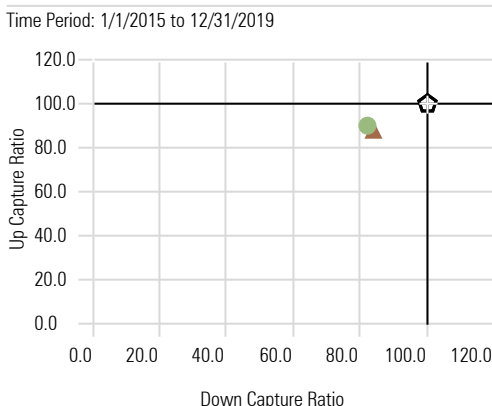
## 5 Year Risk-Reward



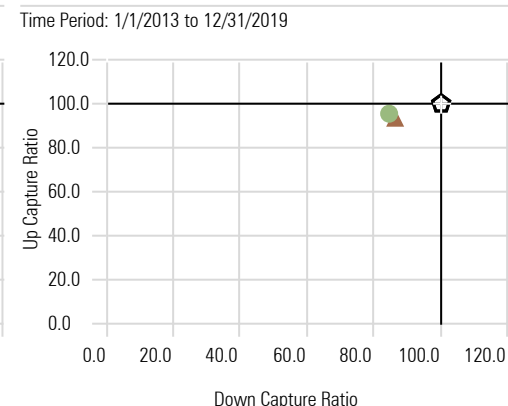
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● Invesco Oppenheimer Developing Mkts R6

● Invesco Oppenheimer Developing Markets R

◇ MSCI EM NR USD

## Annualized Performance & Risk Statistics - Since Common Inception

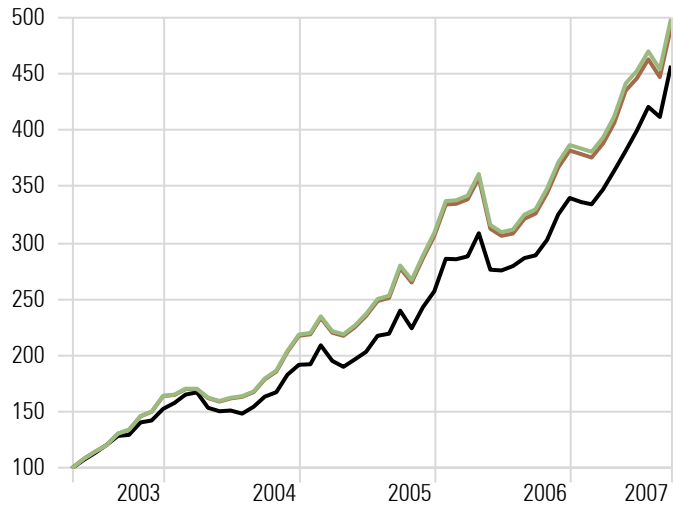
Time Period: Since Common Inception (1/1/2012) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
Invesco Oppenheimer Developing Mkts R6	7.2	14.5	2.5	0.89	90	14.9	-17.2	0.45	4.9
Invesco Oppenheimer Developing Markets R	6.4	14.5	1.8	0.89	90	14.7	-17.4	0.39	4.9
MSCI EM NR USD	5.0	15.5	0.0	1.00	100	14.1	-17.9	0.28	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

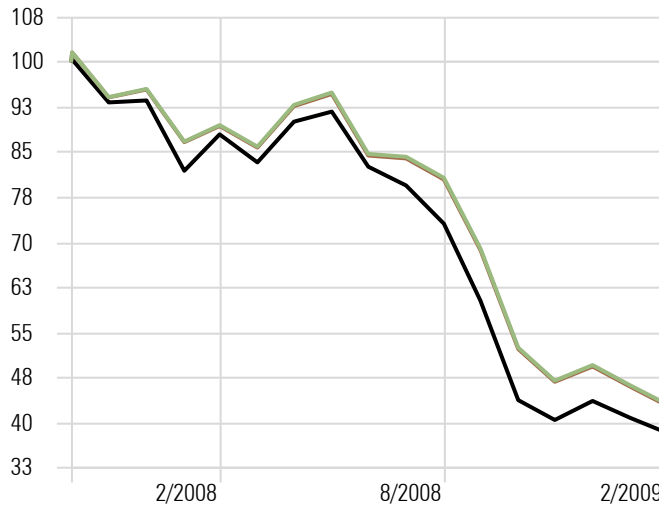
Time Period: 4/30/2003 to 9/30/2007



499 Invesco Oppenheimer Developing Mkts R6 491 Invesco Oppenheimer Developing Markets R 491 MSCI EM NR USD

## Credit Crunch - Financial Crisis

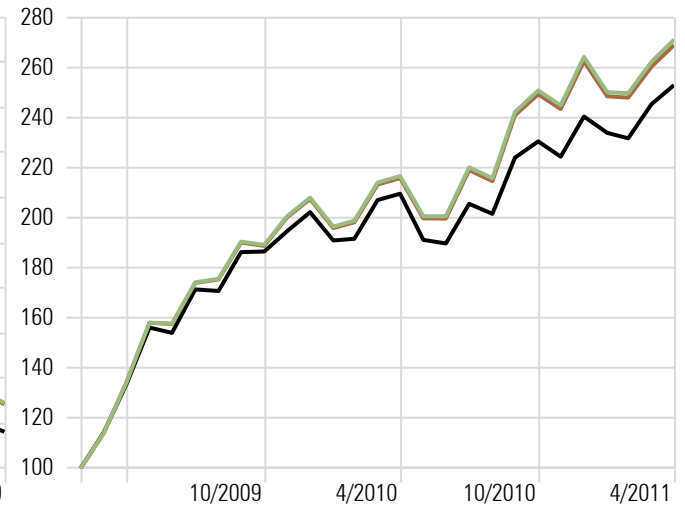
Time Period: 10/31/2007 to 2/28/2009



457 Invesco Oppenheimer Developing Mkts R6 43 Invesco Oppenheimer Developing Markets R 43 MSCI EM NR USD

## Financial Crisis Recovery - QE1&2

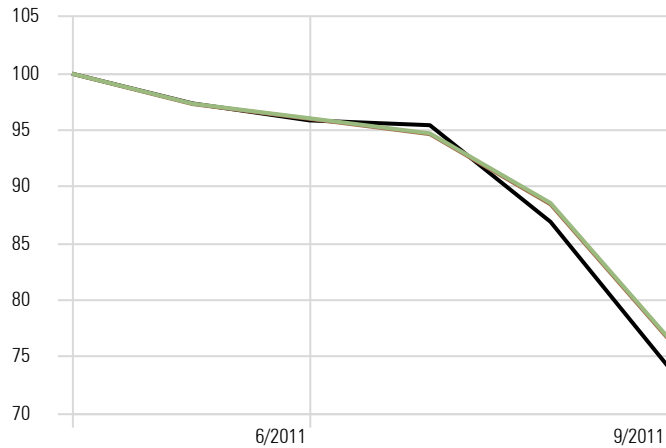
Time Period: 3/1/2009 to 4/30/2011



39 Invesco Oppenheimer Developing Mkts R6 271.1 Invesco Oppenheimer Developing Markets R 268.9 MSCI EM NR USD 252.9

## Double Dip

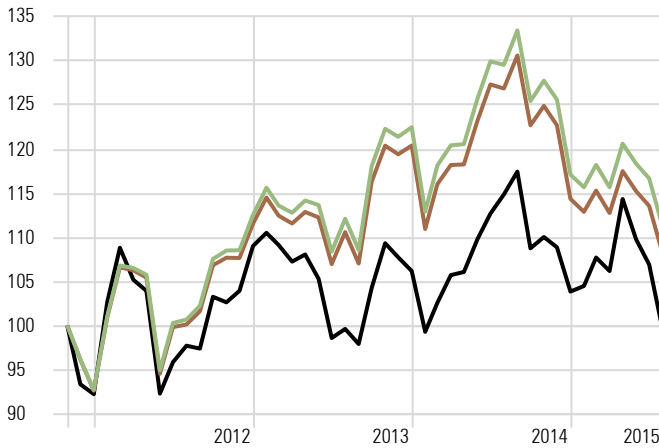
Time Period: 5/1/2011 to 9/30/2011



76.8 Invesco Oppenheimer Developing Mkts R6 76.7 Invesco Oppenheimer Developing Markets R 76.7 MSCI EM NR USD

## US Recovery Continues - Global Markets Lag

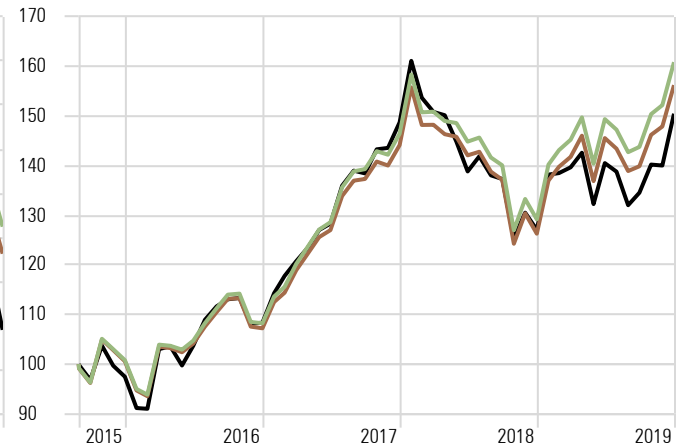
Time Period: 11/1/2011 to 7/31/2015



74.3 Invesco Oppenheimer Developing Mkts R6 111.2 Invesco Oppenheimer Developing Markets R 108.1 MSCI EM NR USD

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



99.5 Invesco Oppenheimer Developing Mkts R6 160.9 Invesco Oppenheimer Developing Markets R 156.3 MSCI EM NR USD 150.5

● Invesco Oppenheimer Developing Mkts R6

● Invesco Oppenheimer Developing Markets R

⬠ MSCI EM NR USD

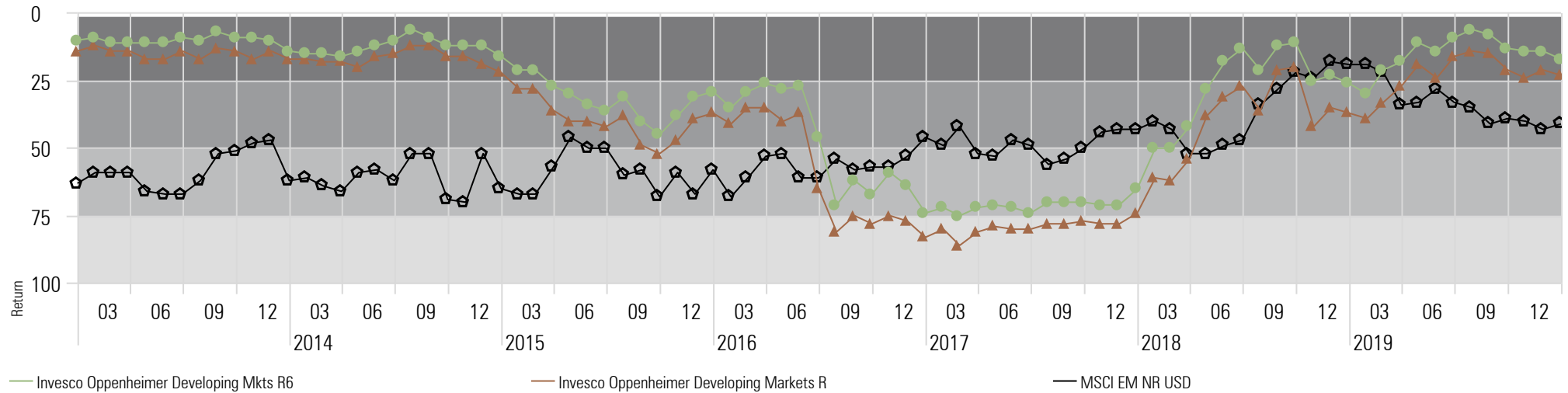
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

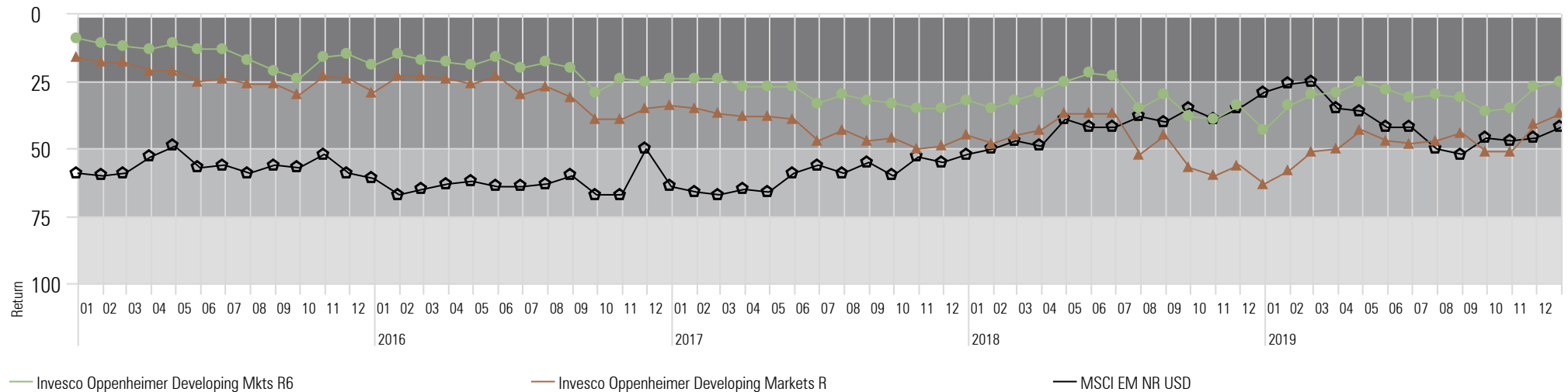


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Diversified Emerging Mkts</b>																		
Invesco Oppenheimer Developing Mkts R6	11.9	<b>28</b>	0.04	24.5	<b>26</b>	6.11	24.5	<b>26</b>	6.11	14.1	<b>17</b>	2.56	6.6	<b>25</b>	1.01	6.1	<b>8</b>	2.44
Invesco Oppenheimer Developing Markets R	11.7	<b>34</b>	-0.14	23.7	<b>31</b>	5.30	23.7	<b>31</b>	5.30	13.4	<b>23</b>	1.81	5.9	<b>37</b>	0.29	5.4	<b>17</b>	1.76
MSCI EM NR USD	11.8			18.4			18.4			11.6			5.6			3.7		
Average	10.6			20.7			20.7			10.9			5.0			4.0		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Diversified Emerging Mkts</b>																					
Invesco Oppenheimer Developing Mkts R6	24.5	<b>26</b>	6.11	-11.8	<b>8</b>	2.77	35.3	<b>55</b>	-1.95	7.4	<b>54</b>	-3.81	-13.7	<b>54</b>	1.25	-4.4	<b>72</b>	-2.20	8.9	<b>16</b>	11.45
Invesco Oppenheimer Developing Markets R	23.7	<b>31</b>	5.30	-12.4	<b>12</b>	2.18	34.5	<b>59</b>	-2.82	6.6	<b>59</b>	-4.58	-14.3	<b>60</b>	0.66	-5.0	<b>79</b>	-2.83	8.0	<b>18</b>	10.55
MSCI EM NR USD	18.4			-14.6			37.3			11.2			-14.9			-2.2			-2.6		
Average	20.7			-16.5			35.8			8.1			-12.9			-2.4			1.1		

# Invesco Oppenheimer Developing Mkts R6

ODVIX

Index: MSCI EM NR USD

Category: US Fund Diversified Emerging Mkts

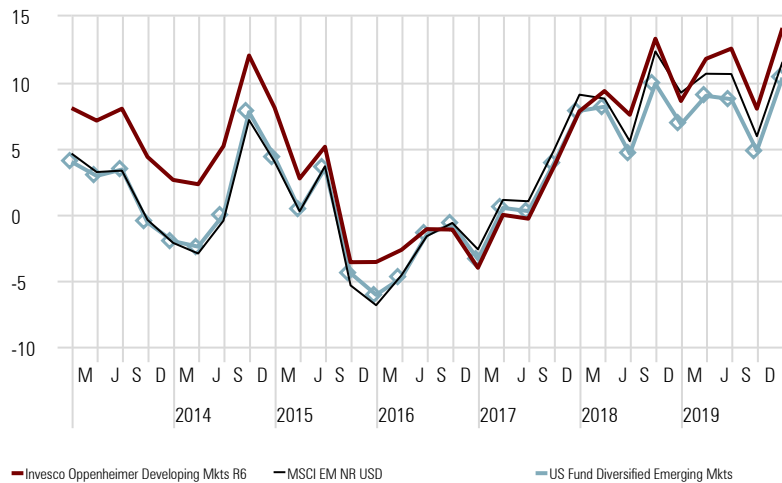
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: MSCI EM NR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Invesco Oppenheimer Developing Mkts R6	24.5	24.5	14.1	6.6	6.1	9.8
MSCI EM NR USD	18.4	18.4	11.6	5.6	3.7	7.5
US Fund Diversified Emerging Mkts	19.1	19.1	10.4	4.6	3.1	6.4

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.83	1.33	
Gross Expense Ratio	0.83	2.21	
LT Earn Growth	12.4	9.5	9.1
Avg Mkt Cap (\$MMM)	51.7	36.0	47.9
P/E Ratio	18.1	14.7	16.3
P/B Ratio	3.4	2.1	2.0
P/S Ratio	2.6	1.6	1.4
P/CF Ratio	14.4	9.9	10.5
ROE %	21.0	18.9	20.5
ROA %	8.9	8.4	7.2
Dividend Yld	1.9	3.0	2.8

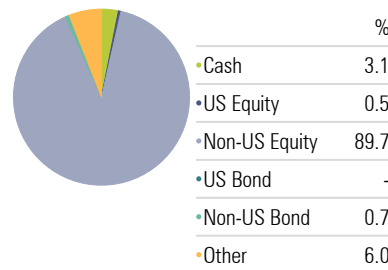
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: MSCI EM NR USD

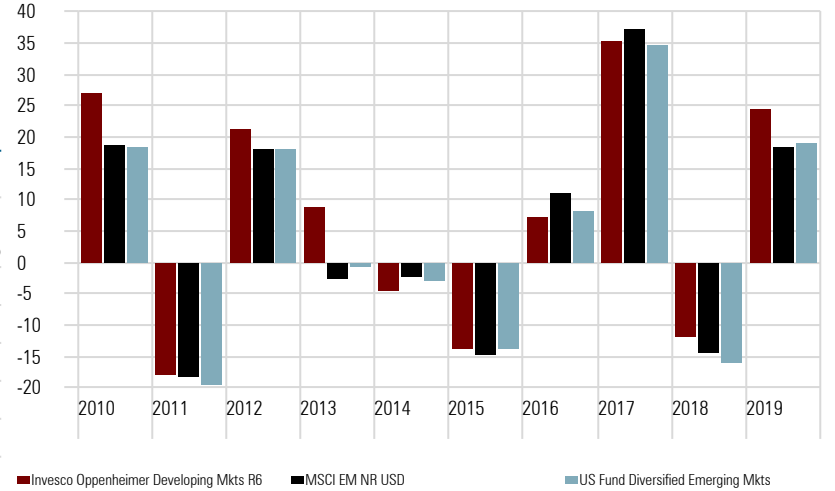
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Invesco Oppenheimer Developing Mkts R6	55.0	45.0	12.2	-13.3	20.7	-20.1	96.2	84.8
MSCI EM NR USD	53.3	46.7	13.2	-14.6	18.0	-22.6	100.0	100.0
US Fund Diversified Emerging Mkts	54.2	45.8	11.9	-15.5	18.6	-22.8	91.1	92.5

## Asset Allocation

Portfolio Date: 12/31/2019



## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	13.4	0.4	14.5	0.6
Down Deviation	2.1	0.3	3.1	1.0
Beta	0.9	0.0	0.9	0.0
Alpha	3.2	3.4	1.5	2.0
Sharpe	0.9	0.3	0.4	0.1
Sortino	1.5	0.4	0.7	0.2
Info Ratio	0.7	1.2	0.2	0.6
Down Capture	80.0	-13.3	82.3	-8.0
Up Capture	97.1	5.4	89.9	1.6

## Top 10 Holdings

	Fund %	Sector Allocation (%)	
		Inv	Avg
Alibaba Group Holding Ltd ADR	7.0	6	6
Master China Series 1	6.0	5	5
Taiwan Semiconductor Manufacturing Co Ltd	5.1	4	5
Kering SA	5.1	27	16
Tencent Holdings Ltd	4.9	9	9
Housing Development Finance Corp Ltd	4.6	4	3
NOVATEK PJSC GDR	4.5	27	25
AIA Group Ltd	3.5	9	17
Kotak Mahindra Bank Ltd	2.8	7	10
Huazhu Group Ltd ADR	2.7	0	2
		Real Estate %	1.3
			2.3

# Real Estate Investment Trust (REIT)

As of 12/31/2019





# US Fund Real Estate

## Vanguard Real Estate Index Institutional

### Investment Strategy

The investment seeks to provide a high level of income and moderate long-term capital appreciation by tracking the performance of the MSCI US Investable Market Real Estate 25/50 Index that measures the performance of publicly traded equity REITs and other real estate-related investments. The advisor attempts to track the index by investing all, or substantially all, of its assets-either directly or indirectly through a wholly owned subsidiary, which is itself a registered investment company-in the stocks that make up the index, holding each stock in approximately the same proportion as its weighting in the index. The fund is non-diversified.

### Manager Biography

Gerard C. O'Reilly since 5/13/1996

Walter Nejman since 5/25/2016

## VY® Clarion Real Estate A

### Investment Strategy

The investment seeks total return including capital appreciation and current income. Under normal market conditions, the Portfolio invests at least 80% of its net assets (plus borrowings for investment purposes) in common and preferred stocks of U.S. real estate investment trusts and real estate companies.

### Manager Biography

Joseph P. Smith since 5/1/2009

T. Ritson Ferguson since 5/1/2009

### Vanguard Real Estate Index Institutional - Operations

Inception Date	12/2/2003
Fund Size (\$mm)	70,117
Annual Report Net Expense Ratio	0.09
Prospectus Net Expense Ratio	0.10
Prospectus Gross Expense Ratio	0.10
Ticker	VGSNX
Manager Tenure (Longest)	23.67
Manager Tenure (Average)	13.67
Morningstar Inst Cat	Domestic Real Estate

### Other Notes:

None

### VY® Clarion Real Estate A - Operations

Inception Date	4/17/2006
Fund Size (\$mm)	338
Annual Report Net Expense Ratio	1.31
Prospectus Net Expense Ratio	1.28
Prospectus Gross Expense Ratio	1.47
Ticker	ICRPX
Manager Tenure (Longest)	10.67
Manager Tenure (Average)	10.67
Morningstar Inst Cat	Domestic Real Estate

### Other Notes:

None

# Portfolio Analysis

Vanguard Real Estate Index Institutional

VY® Clarion Real Estate A

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth
Large	4	20	19
Mid	9	31	4
Small	5	5	2

Market Cap	%
Market Cap Giant %	0
Market Cap Large %	42
Market Cap Mid %	45
Market Cap Small %	12
Market Cap Micro %	1

## Style Allocation

Portfolio Date: 12/31/2019

	Value	Blend	Growth
Large	4	14	7
Mid	13	46	5
Small	2	6	3

Market Cap	%
Market Cap Giant %	0
Market Cap Large %	25
Market Cap Mid %	63
Market Cap Small %	11
Market Cap Micro %	1

## Valuation Data

Display Benchmark 1: S&P United States REIT TR USD

	Inv	Bmk1
Average Market Cap (bil)	16.0	12.8
Forward P/E	39.0	39.4
P/E Ratio (TTM)	31.7	29.8
LT Earn Growth	5.9	4.7
P/B Ratio (TTM)	2.7	2.4
Dividend Yield	3.6	4.0
ROE %	13.1	12.0
ROA %	3.7	3.8
Debt to Capital %	53	50

## Valuation Data

Display Benchmark 1: S&P United States REIT TR USD

	Inv	Bmk1
Average Market Cap (bil)	12.2	12.8
Forward P/E	45.8	39.4
P/E Ratio (TTM)	28.4	29.8
LT Earn Growth	4.8	4.7
P/B Ratio (TTM)	2.3	2.4
Dividend Yield	3.7	4.0
ROE %	10.6	12.0
ROA %	3.3	3.8
Debt to Capital %	50	50

## Portfolio Data

	Inv	Bmk1
Turnover Ratio	24	
# of Stock Holdings	185	153
% in Top 10	41.5	35.0
Cash %	0.7	0.0
Developed %	99.3	100.0
US Equity %	99.2	99.9
Non-US Equity %	0	0
Emerging Mkt %	0.0	0.0

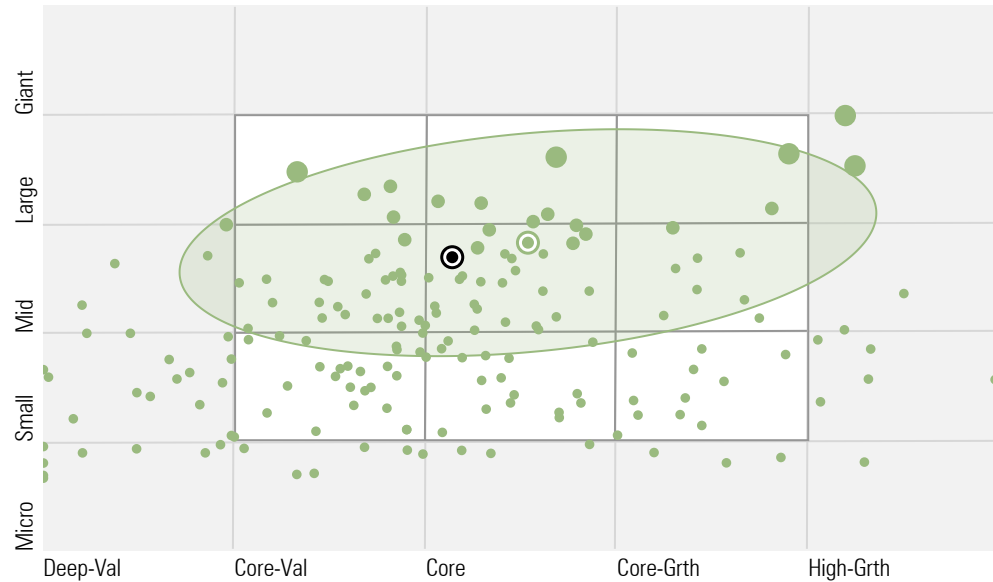
## Portfolio Data

	Inv	Bmk1
Turnover Ratio	103	
# of Stock Holdings	44	153
% in Top 10	43.1	35.0
Cash %	0.5	0.0
Developed %	99.5	100.0
US Equity %	99.5	99.9
Non-US Equity %	0	0
Emerging Mkt %	0.0	0.0

# Holdings-Based Style Analysis

## Vanguard Real Estate Index Institutional

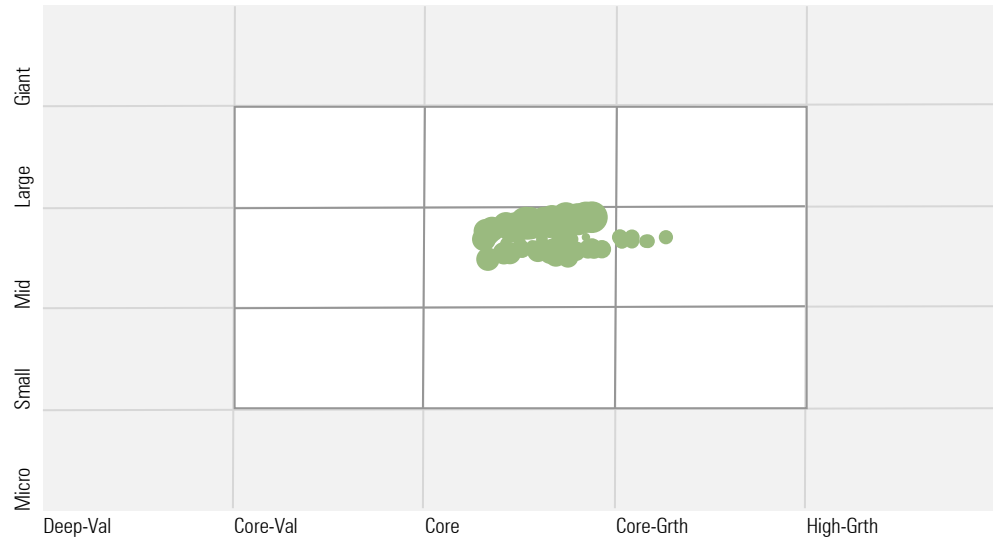
### Holdings-Based Style Map



● Vanguard Real Estate Index Institutional 12/31/2019 ● S&P United States REIT TR USD 12/31/2019

### Holdings-Based Style Trail

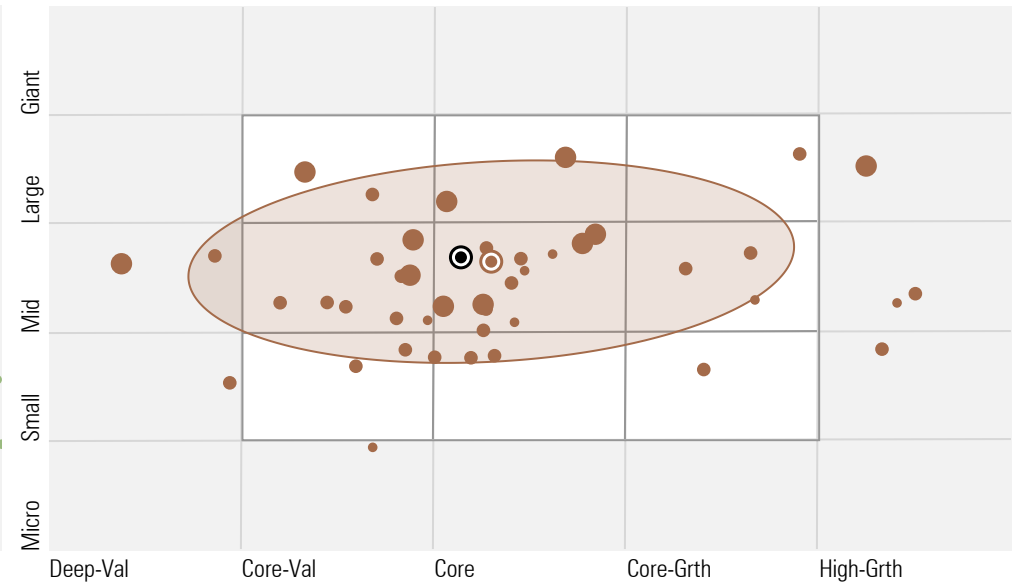
Time Period: 1/31/2015 to 12/31/2019



Source: Morningstar Direct

## VY® Clarion Real Estate A

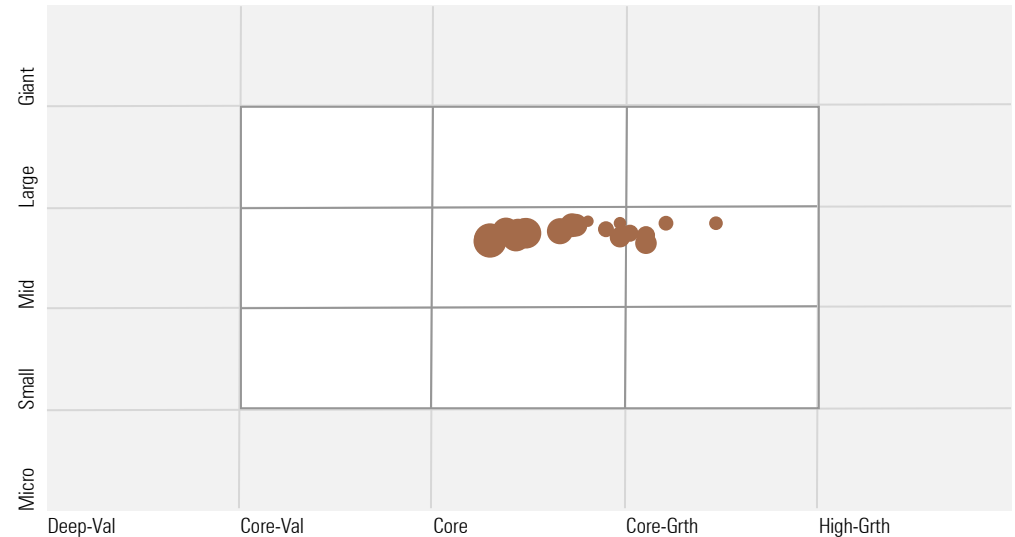
### Holdings-Based Style Map



● VY® Clarion Real Estate A 12/31/2019 ● S&P United States REIT TR USD 12/31/2019

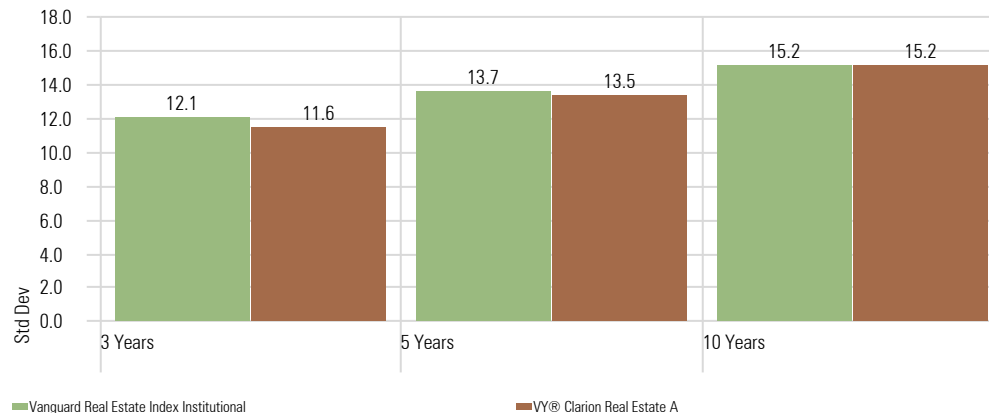
### Holdings-Based Style Trail

Time Period: 3/31/2015 to 12/31/2019

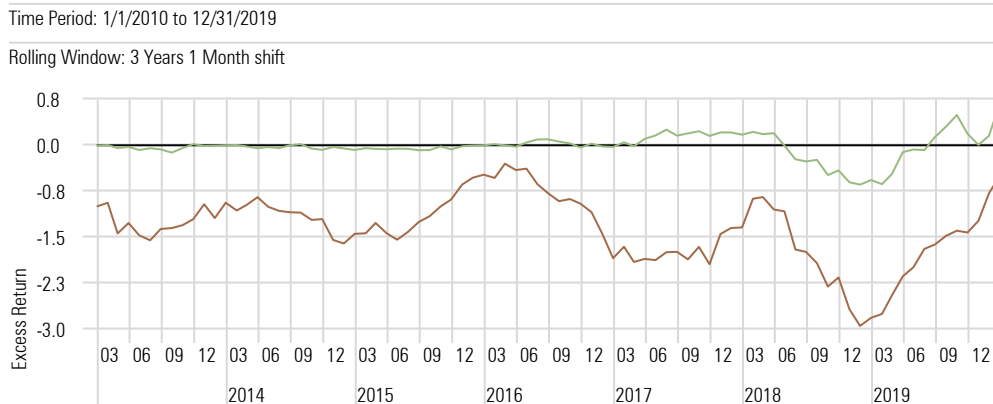


# Risk/Return Performance Analysis

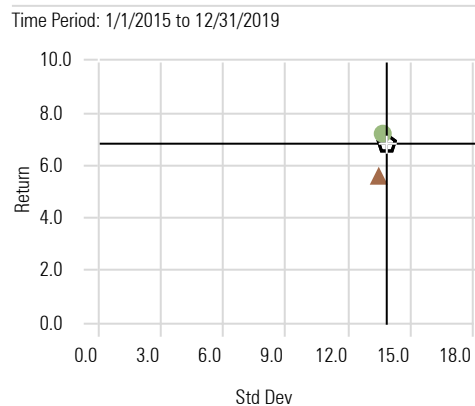
## Standard Deviation



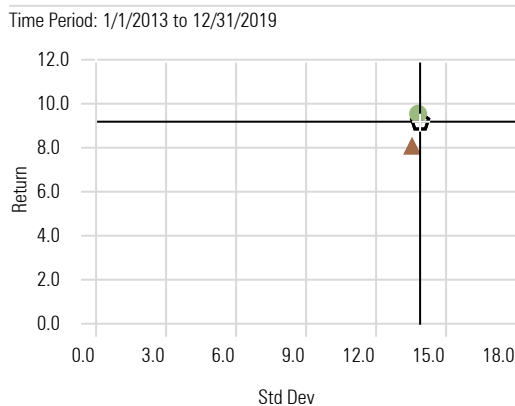
## 3 Year Relative Rolling Returns



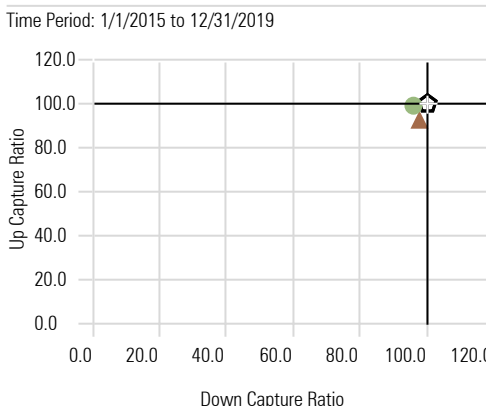
## 5 Year Risk-Reward



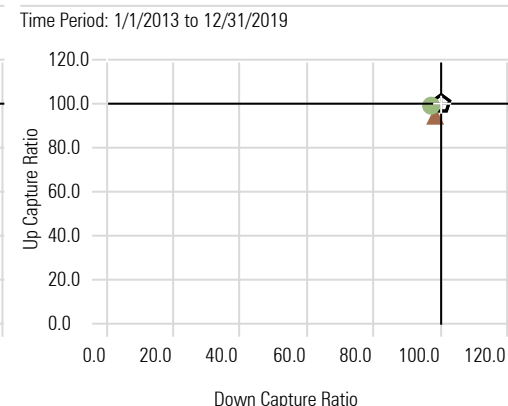
## 7 Year Risk-Reward



## 5 Year Market Capture



## 7 Year Market Capture



● Vanguard Real Estate Index Institutional

● VY® Clarion Real Estate A

⬠ S&P United States REIT TR USD

## Annualized Performance & Risk Statistics - Since Common Inception

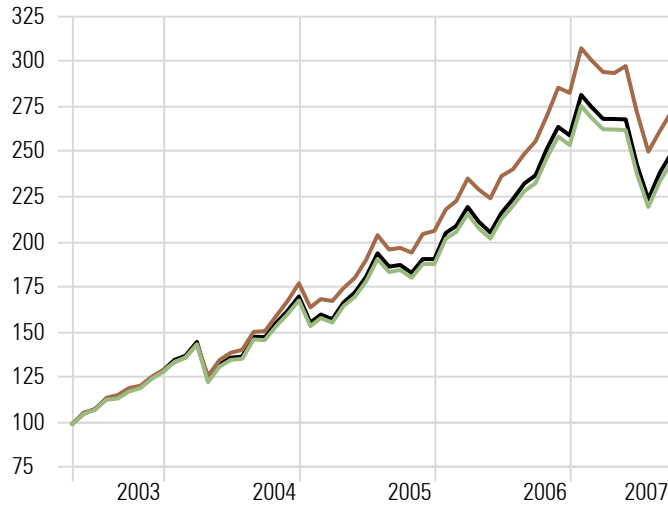
Time Period: Since Common Inception (5/1/2006) to 12/31/2019

	Return	Std Dev	Alpha	Beta	R2	Best Quarter	Worst Quarter	Sharpe Ratio	Tracking Error
Vanguard Real Estate Index Institutional	7.2	22.9	0.4	0.99	100	34.6	-38.1	0.27	0.8
VY® Clarion Real Estate A	6.4	22.9	-0.4	0.98	99	36.1	-37.9	0.23	2.4
S&P United States REIT TR USD	6.8	23.1	0.0	1.00	100	34.5	-39.1	0.25	0.0

# Time Period Performance Analysis

## Credit Buildup - Housing and Oil Boom

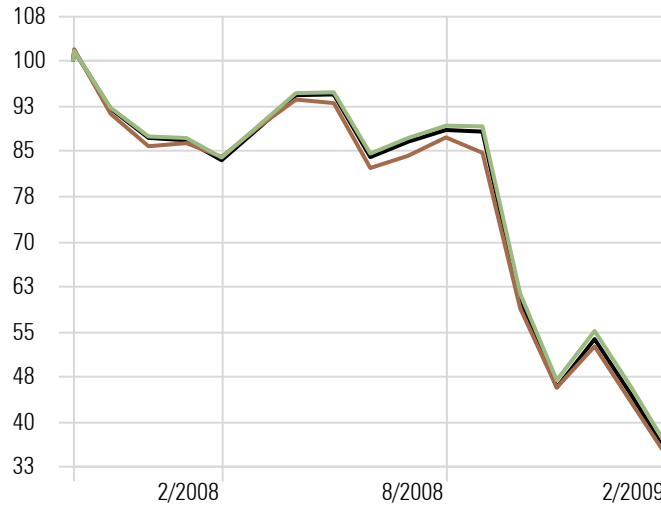
Time Period: 4/30/2003 to 9/30/2007



244 Vanguard Real Estate Index Institutional 272 VY® Clarion Real Estate A 249 S&P United States REIT TR USD

## Credit Crunch - Financial Crisis

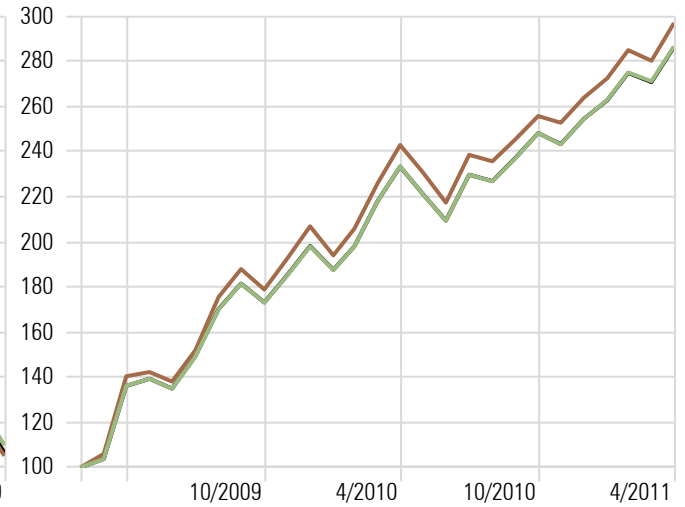
Time Period: 10/31/2007 to 2/28/2009



36 Vanguard Real Estate Index Institutional 34 VY® Clarion Real Estate A 35 S&P United States REIT TR USD

## Financial Crisis Recovery - QE1&2

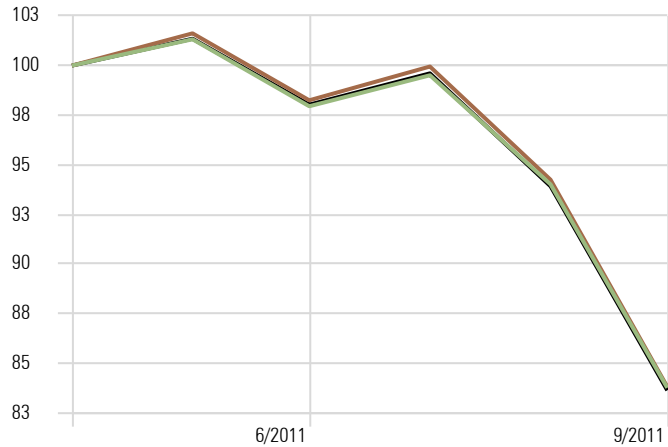
Time Period: 3/1/2009 to 4/30/2011



286.6 Vanguard Real Estate Index Institutional 297.0 VY® Clarion Real Estate A 286.4 S&P United States REIT TR USD

## Double Dip

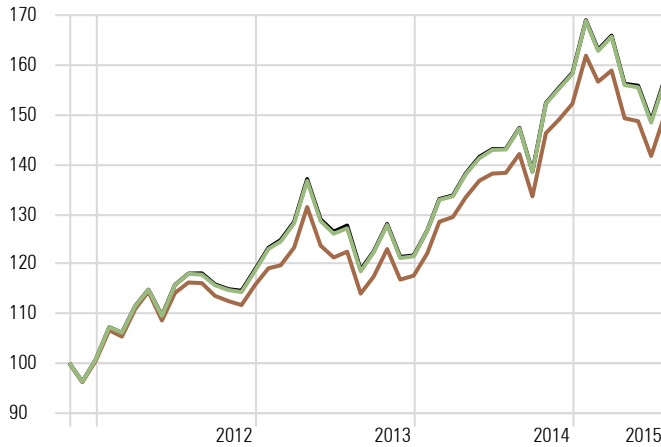
Time Period: 5/1/2011 to 9/30/2011



83.8 Vanguard Real Estate Index Institutional 83.6 VY® Clarion Real Estate A 83.8 S&P United States REIT TR USD

## US Recovery Continues - Global Markets Lag

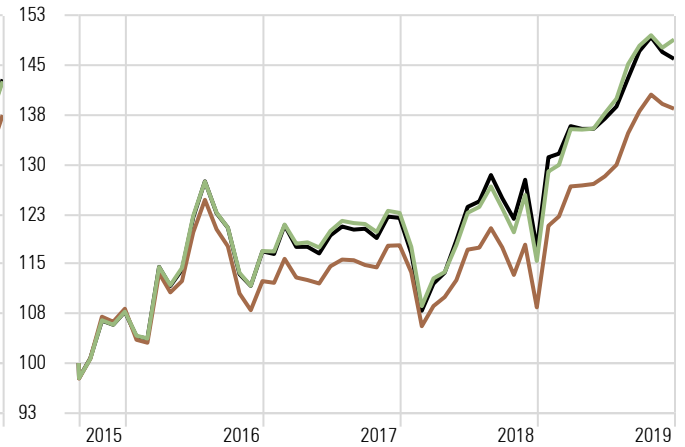
Time Period: 11/1/2011 to 7/31/2015



156.8 Vanguard Real Estate Index Institutional 150.0 VY® Clarion Real Estate A 157.2 S&P United States REIT TR USD

## Global Economic Strength

Time Period: 8/31/2015 to 12/31/2019



148.9 Vanguard Real Estate Index Institutional 146.0 VY® Clarion Real Estate A 138.5 S&P United States REIT TR USD

● Vanguard Real Estate Index Institutional

● VY® Clarion Real Estate A

⬠ S&P United States REIT TR USD

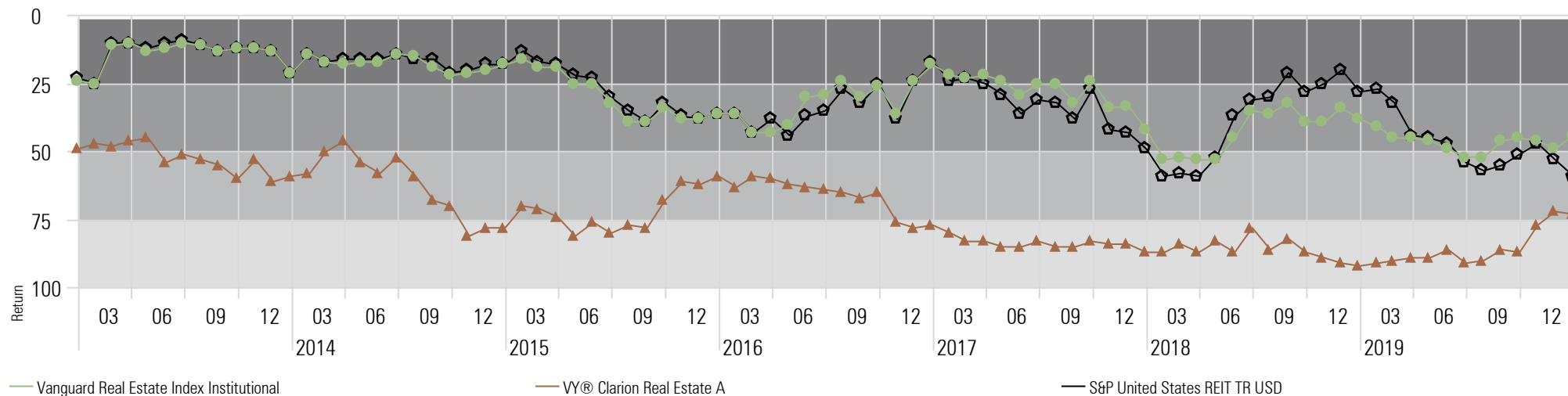
# Rolling Peer Group Rankings

## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile

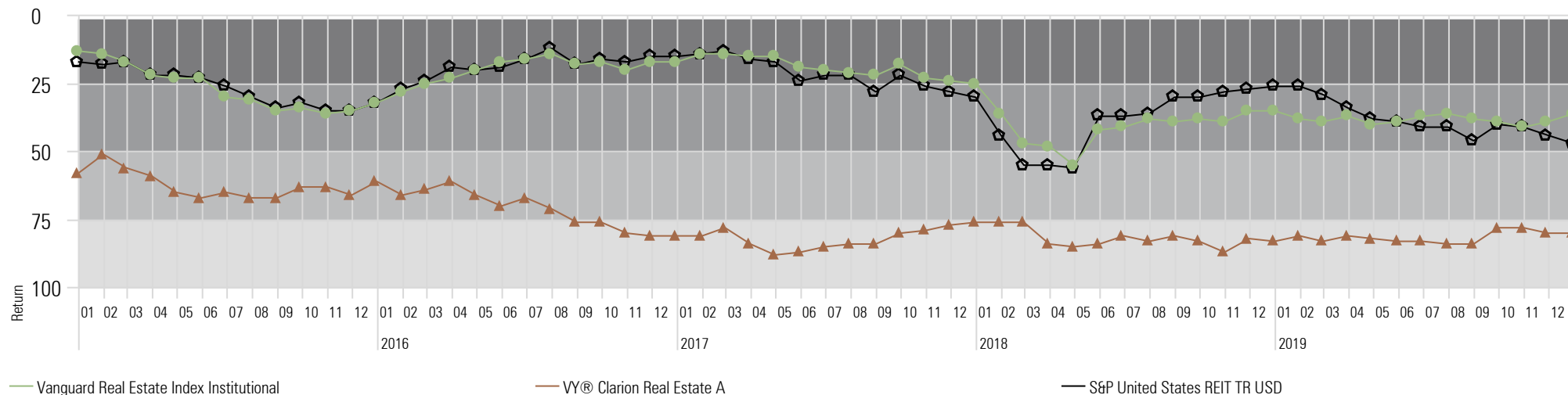


## Rolling Returns (Descending Rank)

Time Period: 1/1/2010 to 12/31/2019

Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile    26th to Median    51st to 75th Percentile    76th to 100th Percentile



## Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Real Estate</b>																		
Vanguard Real Estate Index Institutional	0.6	<b>25</b>	1.43	29.0	<b>37</b>	4.57	29.0	<b>37</b>	4.57	8.4	<b>44</b>	0.70	7.2	<b>36</b>	0.40	12.0	<b>27</b>	0.22
VY® Clarion Real Estate A	0.3	<b>45</b>	1.07	27.7	<b>52</b>	3.27	27.7	<b>52</b>	3.27	7.2	<b>73</b>	-0.49	5.6	<b>80</b>	-1.21	10.7	<b>74</b>	-1.07
S&P United States REIT TR USD	-0.8			24.4			24.4			7.7			6.8			11.8		
Average	0.5			27.8			27.8			8.4			6.8			11.3		

## Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Real Estate</b>																					
Vanguard Real Estate Index Institutional	29.0	<b>37</b>	4.57	-5.9	<b>50</b>	-2.14	4.9	<b>62</b>	0.60	8.5	<b>15</b>	0.01	2.4	<b>65</b>	-0.09	30.3	<b>38</b>	0.01	2.5	<b>30</b>	0.09
VY® Clarion Real Estate A	27.7	<b>52</b>	3.27	-8.0	<b>82</b>	-4.18	4.8	<b>64</b>	0.49	3.9	<b>95</b>	-4.63	2.6	<b>62</b>	0.04	29.5	<b>60</b>	-0.78	1.6	<b>53</b>	-0.75
S&P United States REIT TR USD	24.4			-3.8			4.3			8.5			2.5			30.3			2.4		
Average	27.8			-6.4			6.6			6.3			2.6			28.6			2.3		

# Vanguard Real Estate Index Institutional

VGSNX

Index: S&P United States REIT TR USD

Category: US Fund Real Estate

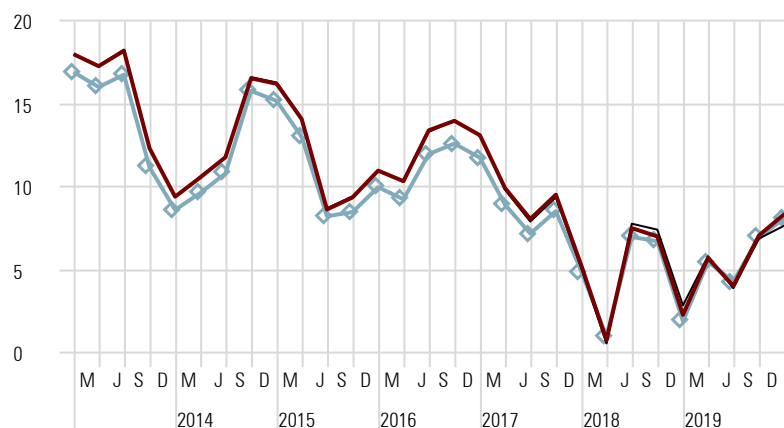
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: S&P United States REIT TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Real Estate Index Institutional	29.0	29.0	8.4	7.2	12.0	8.1
S&P United States REIT TR USD	24.4	24.4	7.7	6.8	11.8	7.8
US Fund Real Estate	27.4	27.4	8.1	6.7	11.1	7.1

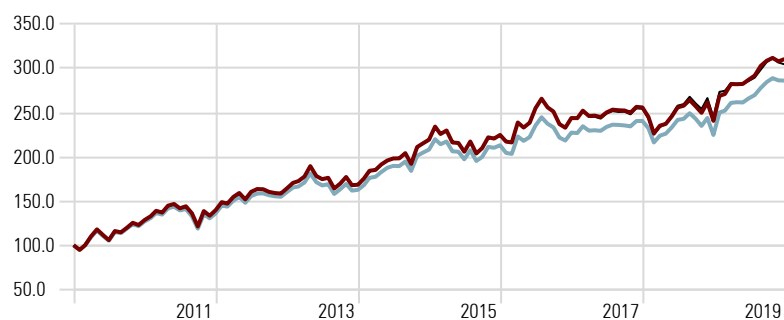
## Returns (Rolling 36 Months)



— Vanguard Real Estate Index Institutional — S&P United States REIT TR USD — US Fund Real Estate

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



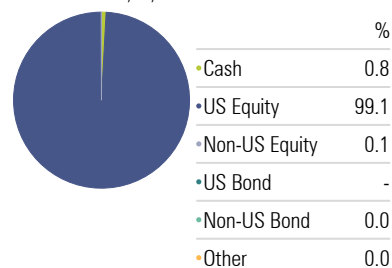
— Vanguard Real Estate Index Institutional — S&P United States REIT TR USD — US Fund Real Estate

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.10	1.21	
Gross Expense Ratio	0.10	2.16	
LT Earn Growth	5.8	4.6	9.1
Avg Mkt Cap (\$MMM)	16.4	19.3	47.9
P/E Ratio	31.6	31.7	16.3
P/B Ratio	2.8	2.7	2.0
P/S Ratio	5.6	7.6	1.4
P/CF Ratio	17.9	19.2	10.5
ROE %	12.8	11.6	20.5
ROA %	3.6	3.9	7.2
Dividend Yld	3.6	3.4	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

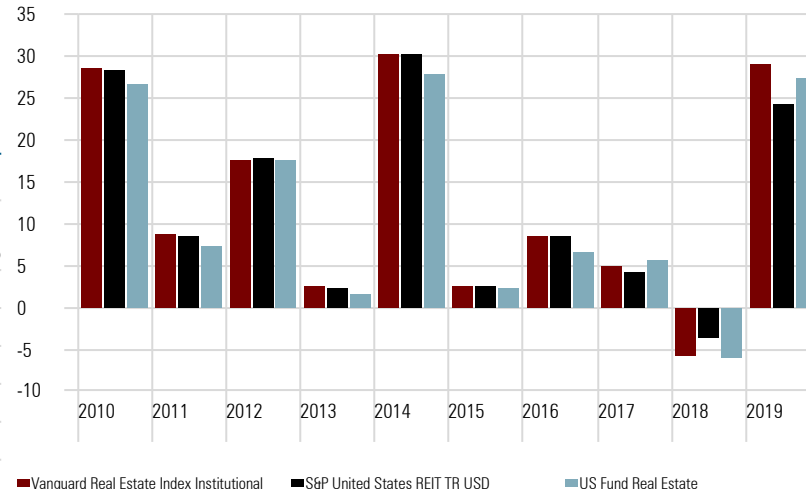


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: S&P United States REIT TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Real Estate Index Institutional	60.0	40.0	14.3	-10.9	17.3	-14.5	99.6	98.2
S&P United States REIT TR USD	60.8	39.2	14.5	-11.0	15.8	-14.7	100.0	100.0
US Fund Real Estate	60.0	40.0	14.0	-10.6	16.1	-14.9	92.2	90.8

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	12.1	0.8	13.7	1.1
Down Deviation	1.0	-0.2	0.8	-0.6
Beta	1.0	0.1	1.0	0.1
Alpha	0.8	-0.1	0.4	0.1
Sharpe	0.6	0.0	0.4	0.0
Sortino	0.9	0.0	0.8	0.0
Info Ratio	0.4	0.2	0.3	0.4
Down Capture	91.5	7.8	96.3	8.9
Up Capture	98.2	6.1	99.1	8.7

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
Vanguard Real Estate II Index	11.0	Energy	0	0
American Tower Corp	7.0	Materials	0	0
Crown Castle International Corp	4.3	Industrials	0	0
Prologis Inc	4.0	Cons Discretionary	0	1
Equinix Inc	3.4	Consumer Staples	0	0
Simon Property Group Inc	2.8	Healthcare	0	0
Public Storage	2.4	Financials	0	1
Welltower Inc	2.4	Info Technology	0	1
Equity Residential	2.1	Telecom Services	0	0
AvalonBay Communities Inc	2.1	Utilities	0	0
		Real Estate %	100.0	97.9



# Vanguard Target Retirement Funds

As of 12/31/2019



# Performance Summary - Cumulative Periods

	Quarter			YTD			1 Year			3 Years			5 Years			10 Years		
	Return	Rank	+/- Idx	Rtn	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx	Return	Rank	+/- Idx
<b>Target-Date 2025</b>																		
Vanguard Target Retirement 2025 Inv	5.2	<b>30</b>	1.64	19.6	<b>17</b>	3.25	19.6	<b>17</b>	3.25	9.6	<b>13</b>	1.66	7.0	<b>12</b>	0.69	8.6	<b>11</b>	-0.18
Voya Index Solution 2025 Port ADV	5.1	<b>37</b>	1.48	18.2	<b>52</b>	1.77	18.2	<b>52</b>	1.77	8.5	<b>55</b>	0.61	6.0	<b>66</b>	-0.30	7.4	<b>74</b>	-1.42
DJ US Target 2025 TR USD	3.6			16.4			16.4			7.9			6.3			8.8		
Average	4.7			18.0			18.0			8.5			6.1			7.8		
<b>Target-Date 2035</b>																		
Vanguard Target Retirement 2035 Inv	6.7	<b>39</b>	1.14	22.4	<b>44</b>	0.42	22.4	<b>44</b>	0.42	10.9	<b>28</b>	0.63	7.8	<b>26</b>	-0.22	9.5	<b>16</b>	-1.31
Voya Index Solution 2035 Port ADV	6.7	<b>34</b>	1.20	21.9	<b>60</b>	-0.11	21.9	<b>60</b>	-0.11	10.1	<b>60</b>	-0.16	7.1	<b>62</b>	-0.95	8.5	<b>64</b>	-2.36
DJ US Target 2035 TR USD	5.5			22.0			22.0			10.2			8.0			10.9		
Average	6.5			22.0			22.0			10.3			7.3			8.8		
<b>Target-Date 2045</b>																		
Vanguard Target Retirement 2045 Inv	8.0	<b>29</b>	0.85	24.9	<b>37</b>	-1.55	24.9	<b>37</b>	-1.55	11.8	<b>25</b>	-0.06	8.4	<b>23</b>	-0.82	10.0	<b>15</b>	-2.07
Voya Index Solution 2045 Port ADV	7.7	<b>41</b>	0.55	24.3	<b>59</b>	-2.20	24.3	<b>59</b>	-2.20	10.8	<b>59</b>	-1.03	7.5	<b>70</b>	-1.73	9.0	<b>67</b>	-3.08
DJ US Target 2045 TR USD	7.1			26.5			26.5			11.9			9.2			12.0		
Average	7.6			24.2			24.2			11.1			7.8			9.3		
<b>Target-Date Retirement</b>																		
Vanguard Target Retirement Income Inv	2.6	<b>44</b>	0.97	13.2	<b>47</b>	2.21	13.2	<b>47</b>	2.21	6.4	<b>30</b>	1.18	4.8	<b>22</b>	0.91	5.8	<b>15</b>	0.56
Voya Index Solution Income Port ADV	2.5	<b>50</b>	0.89	12.6	<b>58</b>	1.67	12.6	<b>58</b>	1.67	5.7	<b>53</b>	0.53	4.1	<b>60</b>	0.17	5.1	<b>56</b>	-0.12
DJ US Target Today TR USD	1.6			10.9			10.9			5.2			3.9			5.3		
Average	2.5			12.8			12.8			5.8			4.1			5.0		

# Performance Summary - Calendar Year Periods

	Return			Return			Return			Return			Return			Return					
	2019	Rank	+/- Idx	2018	Rank	+/- Idx	2017	Rank	+/- Idx	2016	Rank	+/- Idx	2015	Rank	+/- Idx	2014	Rank	+/- Idx	2013	Rank	+/- Idx
<b>Target-Date 2025</b>																					
Vanguard Target Retirement 2025 Inv	19.6	17	3.25	-5.2	45	-2.85	15.9	21	5.41	7.5	24	-0.29	-0.8	36	-1.04	7.2	5	-1.52	18.1	33	0.38
Voya Index Solution 2025 Port ADV	18.2	52	1.77	-5.4	51	-3.07	14.3	65	3.79	6.6	62	-1.16	-1.8	77	-1.99	5.4	53	-3.28	16.8	50	-0.99
DJ US Target 2025 TR USD	16.4			-2.3			10.5			7.8			0.2		8.7				17.8		
Average	18.0			-5.3			14.5			6.7			-1.2		5.4				16.5		
<b>Target-Date 2035</b>																					
Vanguard Target Retirement 2035 Inv	22.4	44	0.42	-6.6	30	-2.27	19.1	40	4.41	8.3	33	-2.10	-1.3	47	-0.81	7.2	11	-2.68	22.8	30	-3.04
Voya Index Solution 2035 Port ADV	21.9	60	-0.11	-7.3	49	-2.94	18.0	72	3.24	7.6	57	-2.73	-1.9	73	-1.46	5.7	49	-4.27	21.7	49	-4.19
DJ US Target 2035 TR USD	22.0			-4.3			14.7			10.4			-0.5		9.9				25.9		
Average	22.0			-7.2			18.5			7.6			-1.4		5.5				20.9		
<b>Target-Date 2045</b>																					
Vanguard Target Retirement 2045 Inv	24.9	37	-1.55	-7.9	38	-1.92	21.4	26	3.75	8.9	26	-3.19	-1.6	55	-0.71	7.2	12	-3.45	24.4	30	-5.94
Voya Index Solution 2045 Port ADV	24.3	59	-2.20	-8.7	62	-2.73	20.0	68	2.29	7.7	65	-4.39	-2.1	75	-1.19	5.8	47	-4.81	23.7	39	-6.57
DJ US Target 2045 TR USD	26.5			-6.0			17.7			12.1			-0.9		10.6				30.3		
Average	24.2			-8.2			20.4			7.9			-1.5		5.6				22.8		
<b>Target-Date Retirement</b>																					
Vanguard Target Retirement Income Inv	13.2	47	2.21	-2.0	14	-1.43	8.5	52	3.02	5.3	36	1.63	-0.2	9	-0.54	5.5	14	-1.05	5.9	51	1.20
Voya Index Solution Income Port ADV	12.6	58	1.67	-3.5	54	-2.95	8.7	47	3.24	4.7	68	1.09	-1.4	58	-1.74	5.7	11	-0.91	7.5	32	2.83
DJ US Target Today TR USD	10.9			-0.6			5.5			3.6			0.4		6.6				4.7		
Average	12.8			-3.4			8.5			5.1			-1.3		4.1				6.2		

# Vanguard Target Retirement Income Inv

VTINX

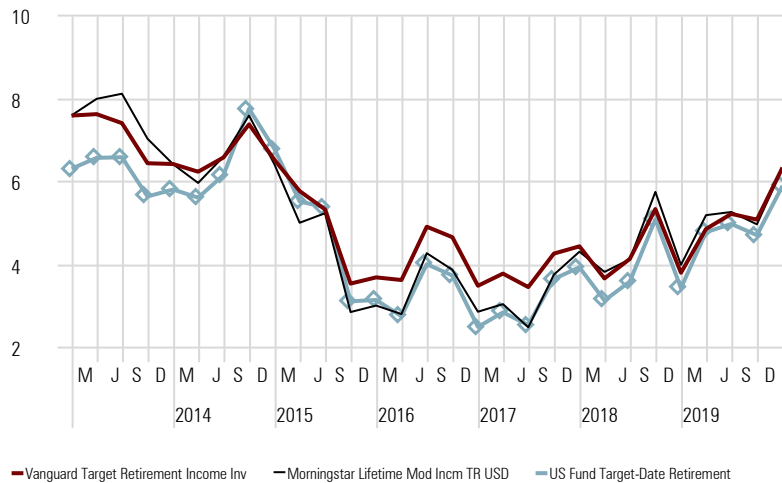
**Index:** Morningstar Lifetime Mod Incm TR USD  
**Category:** US Fund Target-Date Retirement  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod Incm TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Target Retirement Income Inv	13.2	13.2	6.4	4.8	5.8	5.2
Morningstar Lifetime Mod Incm TR USD	13.3	13.3	6.3	4.7	5.7	5.4
US Fund Target-Date Retirement	12.9	12.9	5.9	4.2	5.1	4.3

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.12	0.76	
Gross Expense Ratio	0.12	3.64	
LT Earn Growth	9.3	9.2	9.1
Avg Mkt Cap (\$MMM)	47.0	47.5	47.9
P/E Ratio	18.5	19.1	16.3
P/B Ratio	2.2	2.3	2.0
P/S Ratio	1.6	1.7	1.4
P/CF Ratio	11.4	11.9	10.5
ROE %	20.0	20.1	20.5
ROA %	6.9	7.0	7.2
Dividend Yld	2.4	2.5	2.8

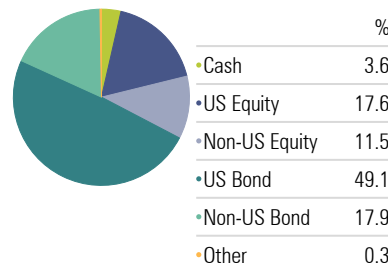
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod Incm TR USD

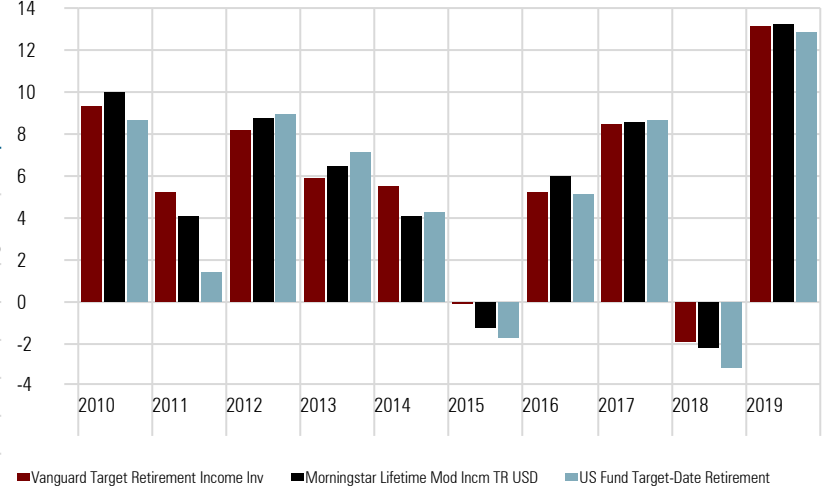
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Target Retirement Income Inv	70.8	29.2	3.8	-2.7	5.5	-3.2	89.8	73.4
Morningstar Lifetime Mod Incm TR USD	68.3	31.7	4.2	-3.6	6.1	-4.3	100.0	100.0
US Fund Target-Date Retirement	68.3	31.7	4.4	-3.6	5.8	-5.5	92.5	95.0

## Asset Allocation

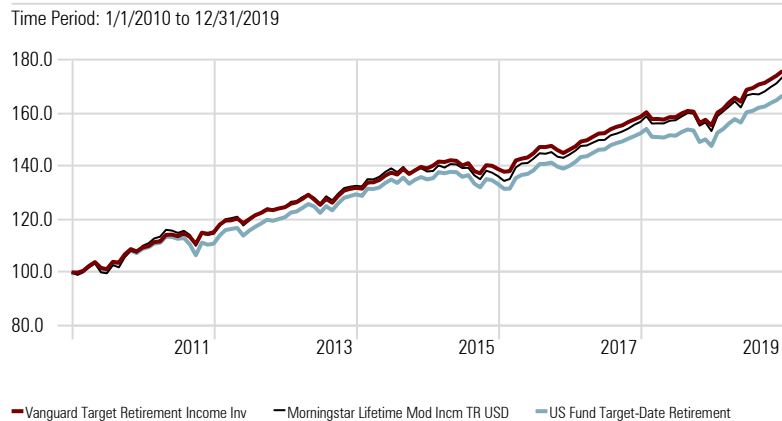
Portfolio Date: 1/31/2020



## Calendar Year Returns



## Investment Growth



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	3.5	-0.2	3.7	-0.3
Down Deviation	0.6	0.0	0.7	0.1
Beta	0.8	-0.1	0.9	-0.1
Alpha	0.7	0.7	0.6	0.9
Sharpe	1.3	0.2	1.0	0.2
Sortino	2.0	0.4	1.6	0.4
Info Ratio	0.0	0.5	0.1	0.7
Down Capture	71.8	-10.7	78.5	-14.3
Up Capture	91.3	1.3	91.8	0.9

## Top 10 Holdings

	Fund %
Vanguard Total Bond Market II Idx Inv	37.7
Vanguard Total Stock Mkt Idx Inv	17.8
Vanguard Shrt-Term Infl-Prot Sec Idx Inv	16.8
Vanguard Total Intl Bd Idx Investor	16.0
Vanguard Total Intl Stock Index Inv	11.7
Cmt Market Liquidity Rate	0.0

## Sector Allocation (%)

	Inv	Avg
Energy	5	5
Materials	5	4
Industrials	11	10
Cons Discretionary	11	10
Consumer Staples	7	7
Healthcare	12	12
Financials	16	15
Info Technology	17	17
Telecom Services	8	8
Utilities	3	3
Real Estate %	4.0	8.0

# Vanguard Target Retirement 2020 Inv

VTWNX

Index: Morningstar Lifetime Mod 2020 TR USD

Category: US Fund Target-Date 2020

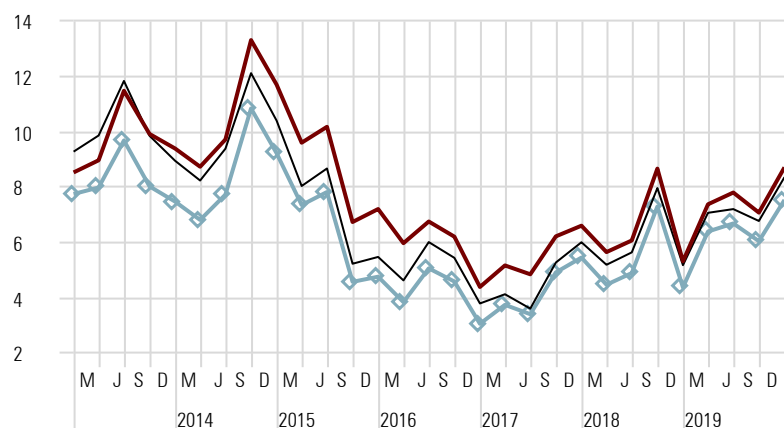
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2020 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Target Retirement 2020 Inv	17.6	17.6	8.7	6.4	8.0	6.4
Morningstar Lifetime Mod 2020 TR USD	17.7	17.7	8.4	6.1	7.7	6.7
US Fund Target-Date 2020	16.2	16.2	7.5	5.4	6.6	5.1

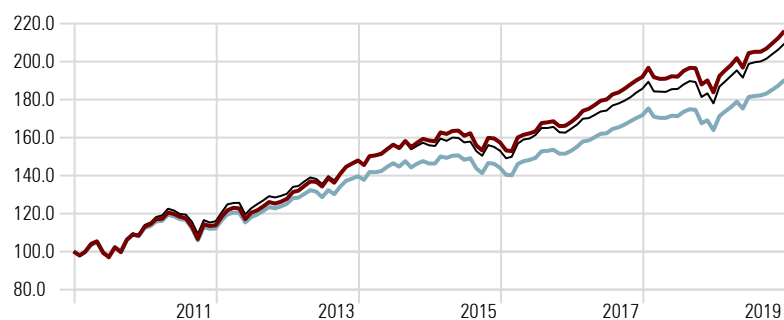
## Returns (Rolling 36 Months)



— Vanguard Target Retirement 2020 Inv — Morningstar Lifetime Mod 2020 TR USD — US Fund Target-Date 2020

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



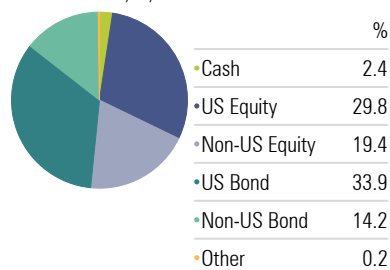
— Vanguard Target Retirement 2020 Inv — Morningstar Lifetime Mod 2020 TR USD — US Fund Target-Date 2020

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.13	0.75	
Gross Expense Ratio	0.13	2.43	
LT Earn Growth	9.3	9.4	9.1
Avg Mkt Cap (\$MMM)	47.0	55.4	47.9
P/E Ratio	18.5	19.5	16.3
P/B Ratio	2.2	2.4	2.0
P/S Ratio	1.6	1.8	1.4
P/CF Ratio	11.4	12.2	10.5
ROE %	20.0	20.6	20.5
ROA %	6.9	7.1	7.2
Dividend Yld	2.4	2.3	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

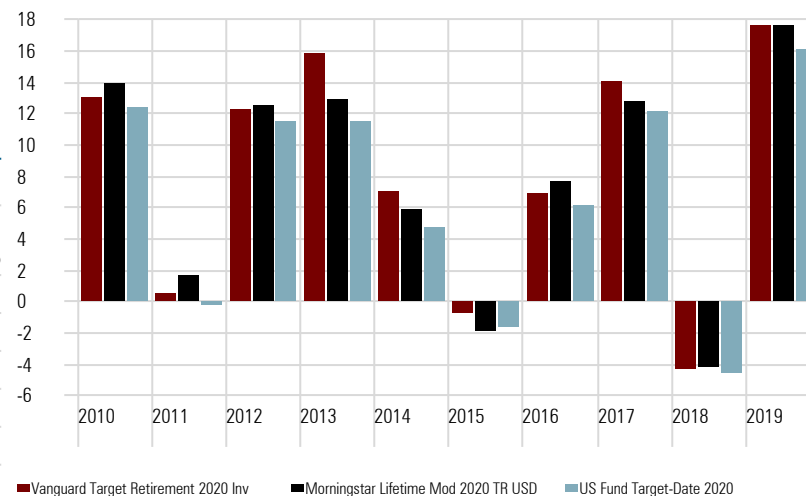


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2020 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Target Retirement 2020 Inv	68.3	31.7	7.3	-5.7	9.4	-9.9	102.8	101.2
Morningstar Lifetime Mod 2020 TR USD	68.3	31.7	6.8	-6.0	10.1	-8.8	100.0	100.0
US Fund Target-Date 2020	66.7	33.3	6.7	-5.8	9.1	-9.6	91.6	97.3

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	6.0	0.5	6.4	0.6
Down Deviation	0.6	0.0	0.8	0.1
Beta	1.0	0.1	1.1	0.1
Alpha	0.0	0.6	0.1	0.6
Sharpe	1.2	0.1	0.8	0.1
Sortino	1.7	0.2	1.3	0.2
Info Ratio	0.4	2.0	0.3	1.3
Down Capture	108.9	8.1	103.7	6.0
Up Capture	105.8	11.8	104.5	11.7

## Top 10 Holdings

	Fund %
Vanguard Total Stock Mkt Idx Inv	30.1
Vanguard Total Bond Market II Idx Inv	29.9
Vanguard Total Intl Stock Index Inv	19.7
Vanguard Total Intl Bd Idx Investor	12.7
Vanguard Shrt-Term Infl-Prot Sec Idx Inv	7.6
Cmt Market Liquidity Rate	0.0

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy		5	4
Materials		5	4
Industrials		11	11
Cons Discretionary		11	11
Consumer Staples		7	7
Healthcare		12	12
Financials		16	16
Info Technology		17	18
Telecom Services		8	8
Utilities		3	3
Real Estate %		4.0	5.6

# Vanguard Target Retirement 2025 Inv

VTTVX

Index: Morningstar Lifetime Mod 2025 TR USD

Category: US Fund Target-Date 2025

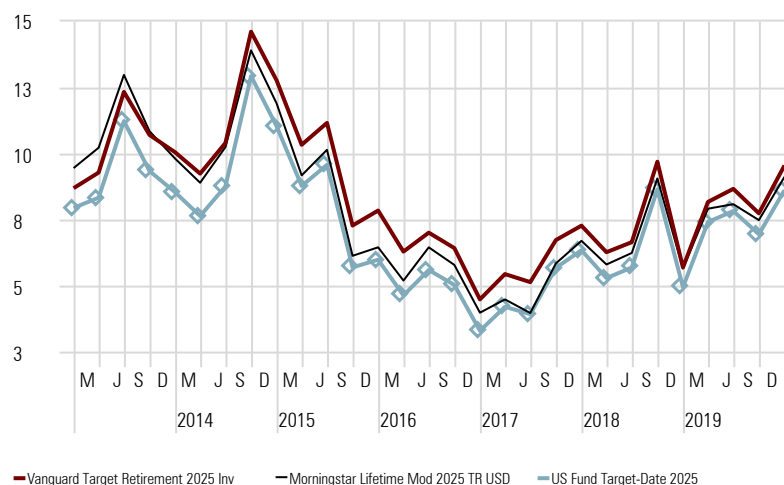
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2025 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Target Retirement 2025 Inv	19.6	19.6	9.6	7.0	8.6	6.5
Morningstar Lifetime Mod 2025 TR USD	19.4	19.4	9.1	6.7	8.4	7.0
US Fund Target-Date 2025	18.3	18.3	8.6	6.1	7.5	5.6

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.13	0.73	
Gross Expense Ratio	0.13	2.27	
LT Earn Growth	9.3	9.4	9.1
Avg Mkt Cap (\$MMM)	47.1	52.7	47.9
P/E Ratio	18.5	19.3	16.3
P/B Ratio	2.2	2.3	2.0
P/S Ratio	1.6	1.7	1.4
P/CF Ratio	11.4	12.1	10.5
ROE %	20.0	20.4	20.5
ROA %	6.9	7.1	7.2
Dividend Yld	2.4	2.3	2.8

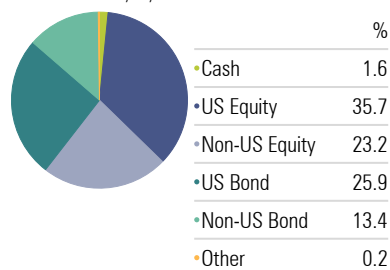
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2025 TR USD

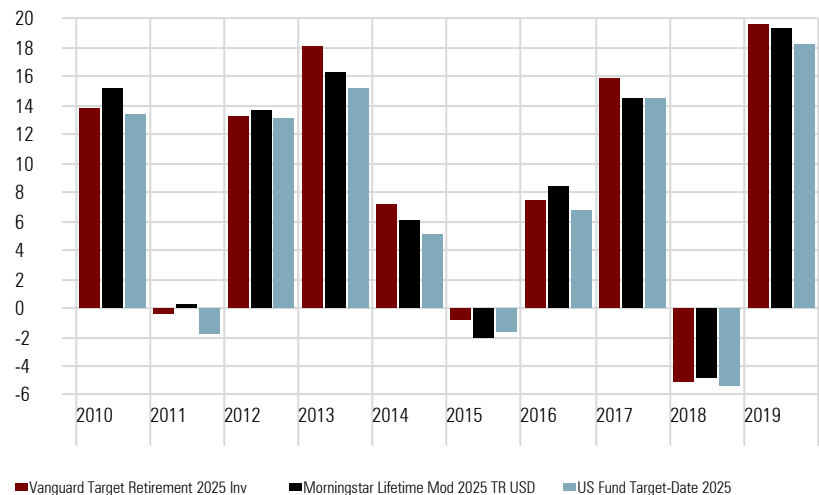
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Target Retirement 2025 Inv	68.3	31.7	8.1	-6.4	10.1	-11.5	101.2	99.7
Morningstar Lifetime Mod 2025 TR USD	68.3	31.7	8.0	-7.0	11.2	-11.1	100.0	100.0
US Fund Target-Date 2025	66.7	33.3	8.0	-6.8	10.6	-12.2	95.7	101.9

## Asset Allocation

Portfolio Date: 1/31/2020

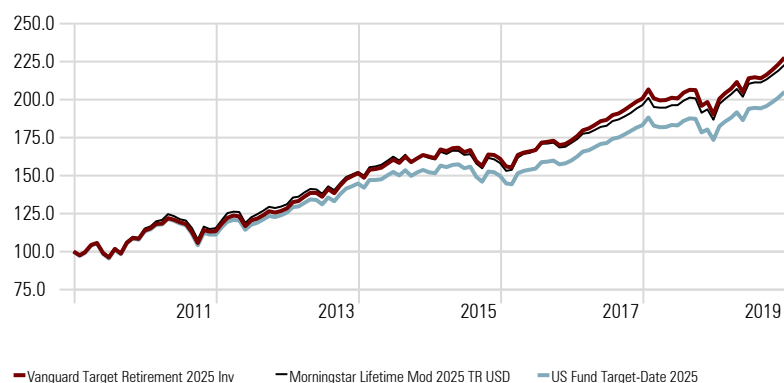


## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	7.1	0.4	7.4	0.4
Down Deviation	0.7	0.2	0.8	0.1
Beta	1.1	0.1	1.1	0.1
Alpha	-0.1	0.4	0.0	0.5
Sharpe	1.1	0.1	0.8	0.1
Sortino	1.6	0.1	1.3	0.1
Info Ratio	0.5	1.3	0.3	0.9
Down Capture	113.7	7.8	105.4	4.0
Up Capture	107.9	9.2	105.2	8.4

## Top 10 Holdings

	Fund %	Sector Allocation (%)	Inv	Avg
Vanguard Total Stock Mkt Idx Inv	36.1	Energy	5	4
Vanguard Total Bond Market II Idx Inv	28.4	Materials	5	4
Vanguard Total Intl Stock Index Inv	23.5	Industrials	11	11
Vanguard Total Intl Bd Idx Investor	11.9	Cons Discretionary	11	11
Cmt Market Liquidity Rate	0.0	Consumer Staples	7	7
		Healthcare	12	12
		Financials	16	16
		Info Technology	17	18
		Telecom Services	8	8
		Utilities	3	3
		Real Estate %	4.0	5.3

# Vanguard Target Retirement 2030 Inv

VTHRX

Index: Morningstar Lifetime Mod 2030 TR USD

Category: US Fund Target-Date 2030

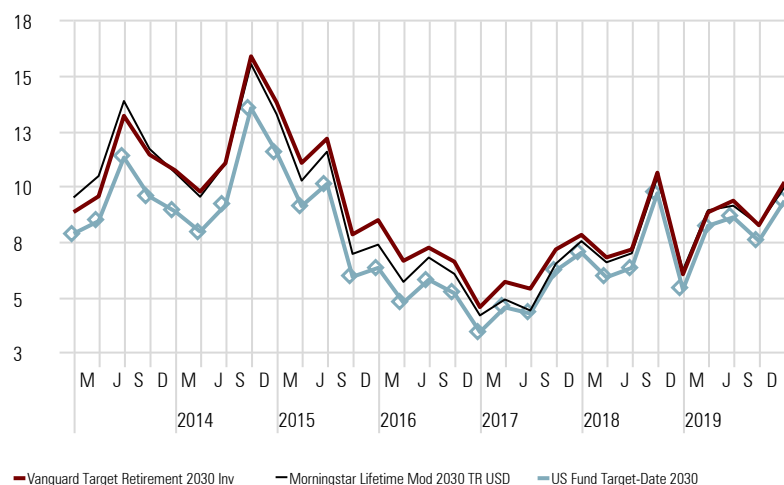
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2030 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Target Retirement 2030 Inv	21.1	21.1	10.2	7.4	9.1	6.8
Morningstar Lifetime Mod 2030 TR USD	21.2	21.2	10.0	7.3	9.0	7.4
US Fund Target-Date 2030	20.1	20.1	9.4	6.6	7.8	5.7

## Returns (Rolling 36 Months)

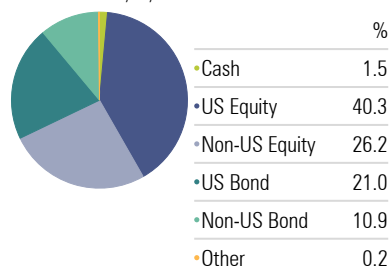


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.14	0.77	
Gross Expense Ratio	0.14	2.07	
LT Earn Growth	9.3	9.4	9.1
Avg Mkt Cap (\$MMM)	47.1	51.2	47.9
P/E Ratio	18.5	19.3	16.3
P/B Ratio	2.2	2.4	2.0
P/S Ratio	1.6	1.7	1.4
P/CF Ratio	11.4	12.1	10.5
ROE %	20.0	20.2	20.5
ROA %	6.9	7.0	7.2
Dividend Yld	2.4	2.3	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

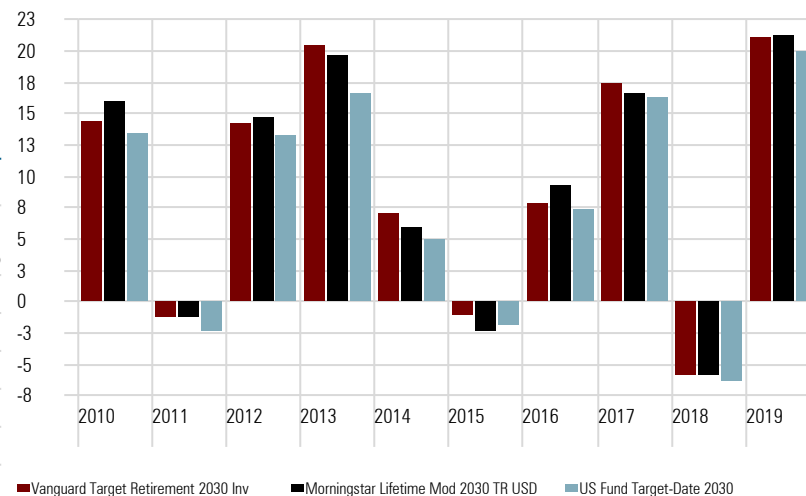


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2030 TR USD

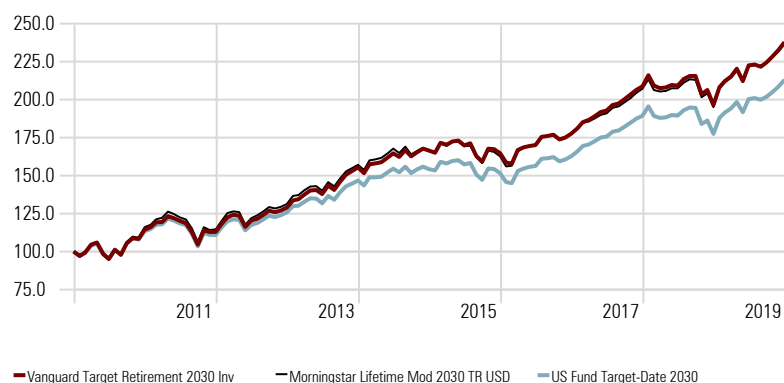
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Target Retirement 2030 Inv	69.2	30.8	9.0	-7.2	11.0	-13.0	98.7	96.9
Morningstar Lifetime Mod 2030 TR USD	69.2	30.8	9.1	-7.7	12.1	-13.2	100.0	100.0
US Fund Target-Date 2030	65.8	34.2	8.5	-7.4	10.7	-12.8	91.3	95.2

## Calendar Year Returns



## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	7.9	0.3	8.2	0.3
Down Deviation	0.5	0.0	0.7	0.0
Beta	1.0	0.0	1.0	0.0
Alpha	0.0	0.5	0.1	0.5
Sharpe	1.1	0.1	0.8	0.1
Sortino	1.6	0.1	1.2	0.1
Info Ratio	0.3	1.4	0.1	0.9
Down Capture	107.3	3.1	100.8	1.6
Up Capture	104.2	6.2	101.3	5.8

## Top 10 Holdings

	Fund %
Vanguard Total Stock Mkt Idx Inv	40.7
Vanguard Total Intl Stock Index Inv	26.5
Vanguard Total Bond Market II Idx Inv	23.1
Vanguard Total Intl Bd Idx Investor	9.7
Cmt Market Liquidity Rate	0.0

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy		5	5
Materials		5	4
Industrials		11	11
Cons Discretionary		11	11
Consumer Staples		7	7
Healthcare		12	12
Financials		16	16
Info Technology		17	18
Telecom Services		8	8
Utilities		3	3
Real Estate %		4.0	4.8

# Vanguard Target Retirement 2035 Inv

VTTHX

**Index:** Morningstar Lifetime Mod 2035 TR USD

**Category:** US Fund Target-Date 2035

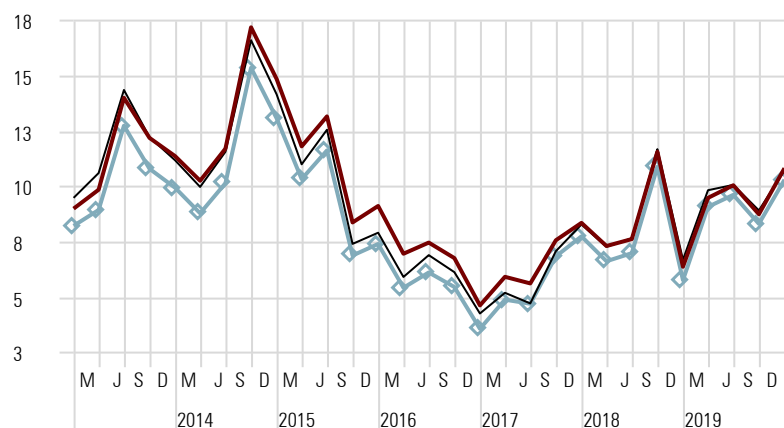
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2035 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Target Retirement 2035 Inv	22.4	22.4	10.9	7.8	9.5	7.0
Morningstar Lifetime Mod 2035 TR USD	23.0	23.0	10.8	7.8	9.5	7.6
US Fund Target-Date 2035	22.0	22.0	10.3	7.3	8.6	6.2

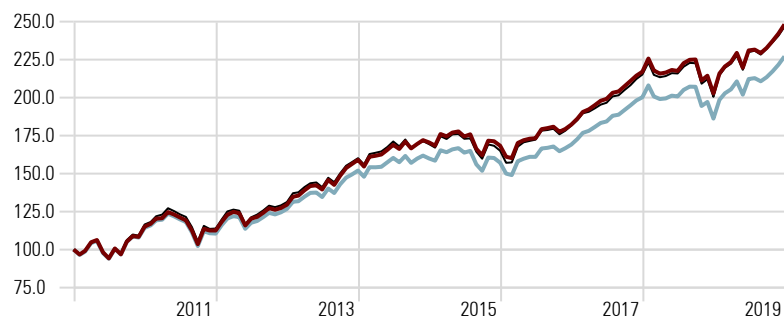
## Returns (Rolling 36 Months)



— Vanguard Target Retirement 2035 Inv — Morningstar Lifetime Mod 2035 TR USD — US Fund Target-Date 2035

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



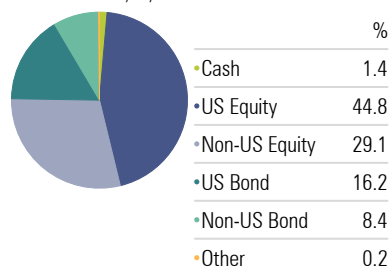
— Vanguard Target Retirement 2035 Inv — Morningstar Lifetime Mod 2035 TR USD — US Fund Target-Date 2035

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.14	0.75	
Gross Expense Ratio	0.14	2.71	
LT Earn Growth	9.3	9.4	9.1
Avg Mkt Cap (\$MMM)	47.1	50.3	47.9
P/E Ratio	18.5	19.2	16.3
P/B Ratio	2.2	2.3	2.0
P/S Ratio	1.6	1.7	1.4
P/CF Ratio	11.4	12.0	10.5
ROE %	20.0	20.2	20.5
ROA %	6.9	7.1	7.2
Dividend Yld	2.4	2.3	2.8

## Asset Allocation

Portfolio Date: 1/31/2020

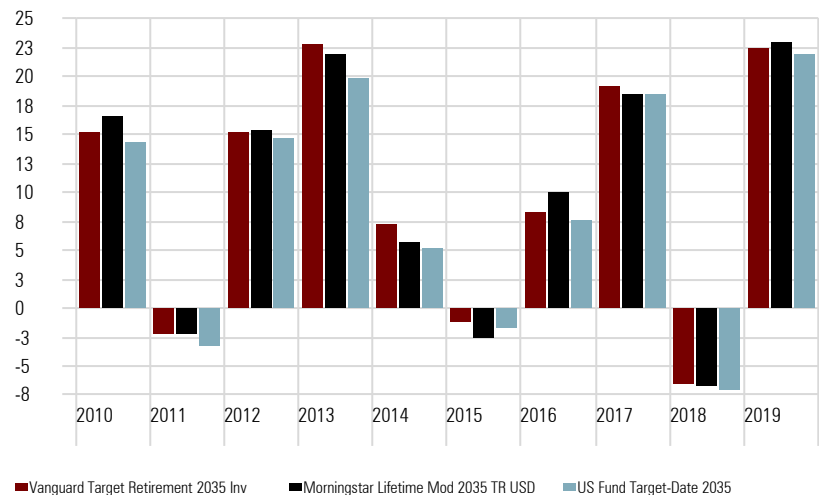


## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2035 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Target Retirement 2035 Inv	68.3	31.7	9.8	-8.0	11.7	-14.6	98.5	96.7
Morningstar Lifetime Mod 2035 TR USD	69.2	30.8	9.9	-8.3	12.6	-14.6	100.0	100.0
US Fund Target-Date 2035	65.8	34.2	9.6	-8.1	11.9	-14.7	94.4	97.7

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	8.8	0.0	9.1	0.0
Down Deviation	0.5	0.0	0.7	-0.1
Beta	1.0	0.0	1.0	0.0
Alpha	0.2	0.5	0.1	0.5
Sharpe	1.0	0.1	0.7	0.1
Sortino	1.5	0.1	1.2	0.1
Info Ratio	0.1	0.8	0.0	0.6
Down Capture	100.6	0.0	97.2	-0.3
Up Capture	100.8	2.7	98.4	3.0

## Top 10 Holdings

Holder	Fund %
Vanguard Total Stock Mkt Idx Inv	45.3
Vanguard Total Intl Stock Index Inv	29.5
Vanguard Total Bond Market II Idx Inv	17.8
Vanguard Total Intl Bd Idx Investor	7.4
Cmt Market Liquidity Rate	0.0

## Sector Allocation (%)

Sector	Fund %	Inv	Avg
Energy		5	4
Materials		5	4
Industrials		11	11
Cons Discretionary		11	11
Consumer Staples		7	7
Healthcare		12	12
Financials		16	16
Info Technology		17	18
Telecom Services		8	8
Utilities		3	3
Real Estate %		4.0	5.4



# Vanguard Target Retirement 2040 Inv

VFORX

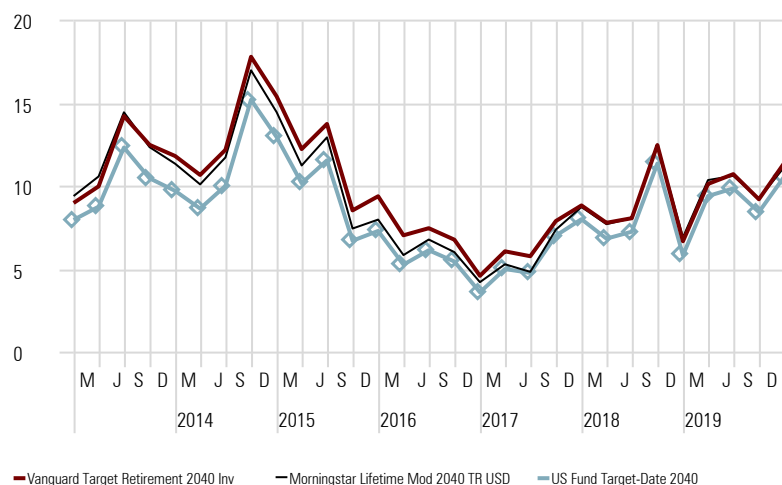
**Index:** Morningstar Lifetime Mod 2040 TR USD  
**Category:** US Fund Target-Date 2040  
 Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2040 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Target Retirement 2040 Inv	23.9	23.9	11.5	8.2	9.9	7.3
Morningstar Lifetime Mod 2040 TR USD	24.3	24.3	11.2	8.1	9.7	7.8
US Fund Target-Date 2040	23.2	23.2	10.7	7.5	8.6	6.2

## Returns (Rolling 36 Months)



## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.14	0.79	
Gross Expense Ratio	0.14	2.58	
LT Earn Growth	9.3	9.4	9.1
Avg Mkt Cap (\$MMM)	47.0	47.9	47.9
P/E Ratio	18.5	19.1	16.3
P/B Ratio	2.2	2.3	2.0
P/S Ratio	1.6	1.7	1.4
P/CF Ratio	11.4	11.9	10.5
ROE %	20.0	20.0	20.5
ROA %	6.9	7.0	7.2
Dividend Yld	2.4	2.3	2.8

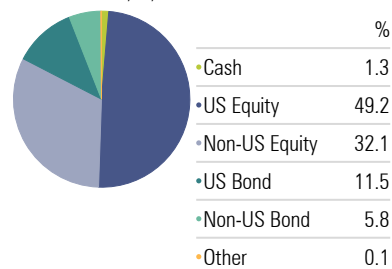
## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2040 TR USD

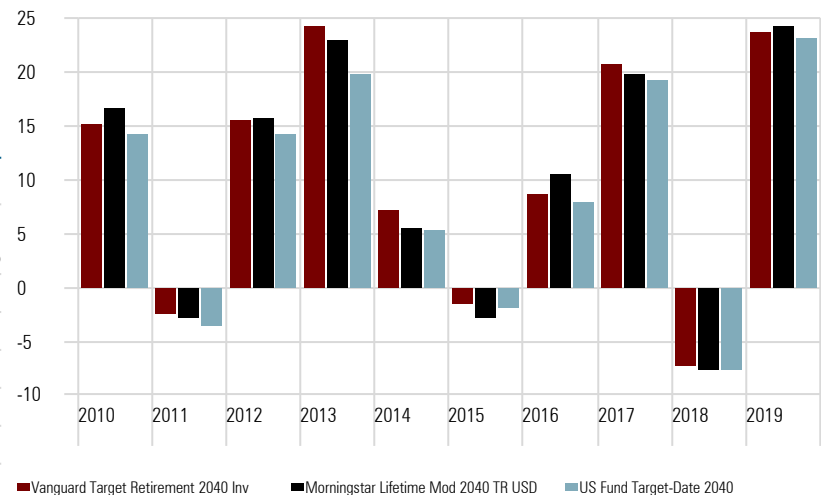
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Target Retirement 2040 Inv	68.3	31.7	10.0	-8.1	11.8	-14.9	98.8	96.4
Morningstar Lifetime Mod 2040 TR USD	69.2	30.8	10.2	-8.6	12.9	-15.2	100.0	100.0
US Fund Target-Date 2040	66.7	33.3	9.6	-8.4	11.8	-14.7	92.1	94.6

## Asset Allocation

Portfolio Date: 1/31/2020



## Calendar Year Returns



## Investment Growth



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	9.7	0.2	10.0	0.4
Down Deviation	0.5	-0.1	0.7	-0.2
Beta	1.0	0.0	1.0	0.0
Alpha	0.3	0.6	0.2	0.4
Sharpe	1.0	0.1	0.7	0.0
Sortino	1.5	0.1	1.1	0.1
Info Ratio	0.3	1.1	0.1	0.7
Down Capture	99.1	1.5	97.5	2.9
Up Capture	100.8	4.6	98.9	5.5

## Top 10 Holdings

	Fund %
Vanguard Total Stock Mkt Idx Inv	49.7
Vanguard Total Intl Stock Index Inv	32.5
Vanguard Total Bond Market II Idx Inv	12.6
Vanguard Total Intl Bd Idx Investor	5.2
Cmt Market Liquidity Rate	0.0

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy		5	4
Materials		5	4
Industrials		11	11
Cons Discretionary		11	11
Consumer Staples		7	7
Healthcare		12	12
Financials		16	16
Info Technology		17	18
Telecom Services		8	8
Utilities		3	3
Real Estate %		4.0	5.7

# Vanguard Target Retirement 2045 Inv

VTIVX

Index: Morningstar Lifetime Mod 2045 TR USD

Category: US Fund Target-Date 2045

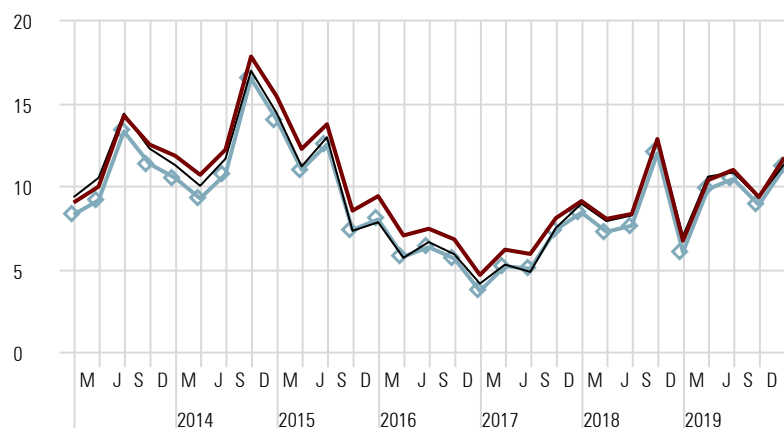
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2045 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Target Retirement 2045 Inv	24.9	24.9	11.8	8.4	10.0	7.3
Morningstar Lifetime Mod 2045 TR USD	25.0	25.0	11.4	8.3	9.7	7.8
US Fund Target-Date 2045	24.3	24.3	11.2	7.8	9.1	6.6

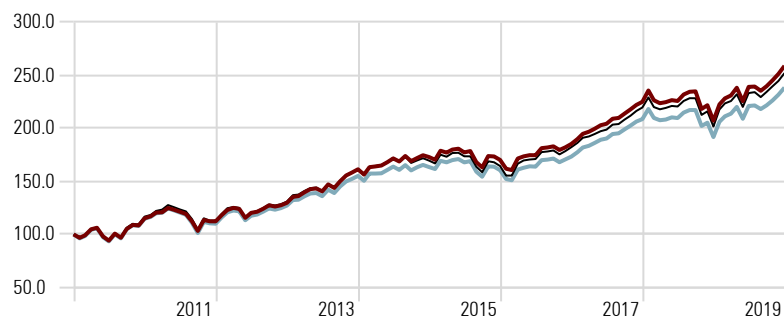
## Returns (Rolling 36 Months)



— Vanguard Target Retirement 2045 Inv — Morningstar Lifetime Mod 2045 TR USD — US Fund Target-Date 2045

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



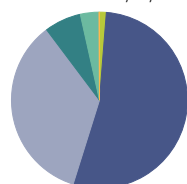
— Vanguard Target Retirement 2045 Inv — Morningstar Lifetime Mod 2045 TR USD — US Fund Target-Date 2045

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.15	0.76	
Gross Expense Ratio	0.15	2.74	
LT Earn Growth	9.3	9.4	9.1
Avg Mkt Cap (\$MMM)	47.0	51.7	47.9
P/E Ratio	18.5	19.3	16.3
P/B Ratio	2.2	2.3	2.0
P/S Ratio	1.6	1.8	1.4
P/CF Ratio	11.4	12.1	10.5
ROE %	20.0	19.8	20.5
ROA %	6.9	7.0	7.2
Dividend Yld	2.4	2.3	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



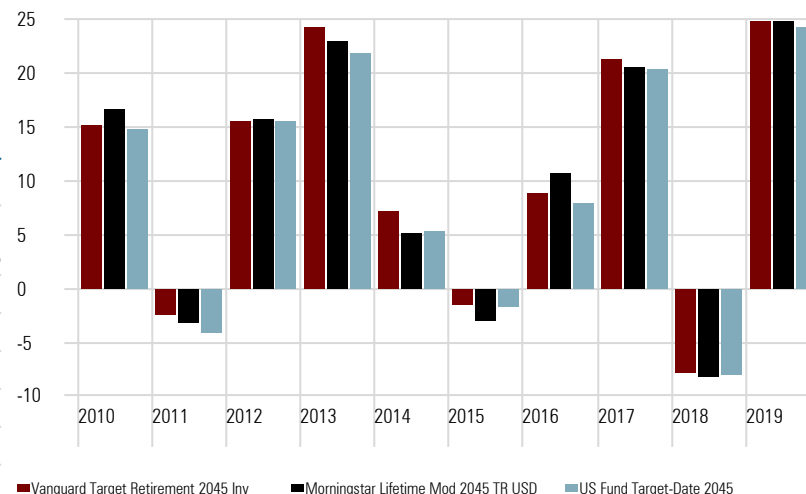
	%
Cash	1.2
US Equity	53.6
Non-US Equity	34.9
US Bond	6.8
Non-US Bond	3.4
Other	0.1

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2045 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Target Retirement 2045 Inv	67.5	32.5	10.0	-8.1	11.8	-14.9	98.4	94.9
Morningstar Lifetime Mod 2045 TR USD	68.3	31.7	10.3	-8.8	13.1	-15.5	100.0	100.0
US Fund Target-Date 2045	66.7	33.3	10.4	-8.7	12.4	-16.0	95.8	97.4

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	10.3	0.2	10.4	0.2
Down Deviation	0.5	-0.1	0.7	-0.2
Beta	1.0	0.0	1.0	0.0
Alpha	0.3	0.4	0.2	0.4
Sharpe	1.0	0.0	0.7	0.0
Sortino	1.4	0.1	1.1	0.1
Info Ratio	0.5	0.8	0.2	0.5
Down Capture	100.5	2.2	95.8	1.1
Up Capture	101.9	3.7	98.4	3.6

## Top 10 Holdings

	Fund %
Vanguard Total Stock Mkt Idx Inv	54.2
Vanguard Total Intl Stock Index Inv	35.4
Vanguard Total Bond Market II Idx Inv	7.4
Vanguard Total Intl Bd Idx Investor	3.0
Cmt Market Liquidity Rate	0.0

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy		5	4
Materials		5	4
Industrials		11	11
Cons Discretionary		11	11
Consumer Staples		7	7
Healthcare		12	12
Financials		16	16
Info Technology		17	18
Telecom Services		8	8
Utilities		3	3
Real Estate %		4.0	5.7

# Vanguard Target Retirement 2050 Inv

VFIFX

Index: Morningstar Lifetime Mod 2050 TR USD

Category: US Fund Target-Date 2050

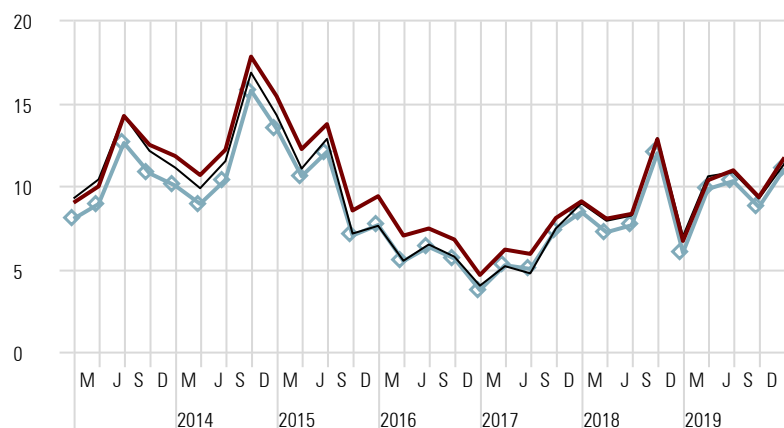
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2050 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Target Retirement 2050 Inv	25.0	25.0	11.8	8.4	10.0	7.4
Morningstar Lifetime Mod 2050 TR USD	25.1	25.1	11.4	8.2	9.6	7.8
US Fund Target-Date 2050	24.5	24.5	11.1	7.8	8.9	6.5

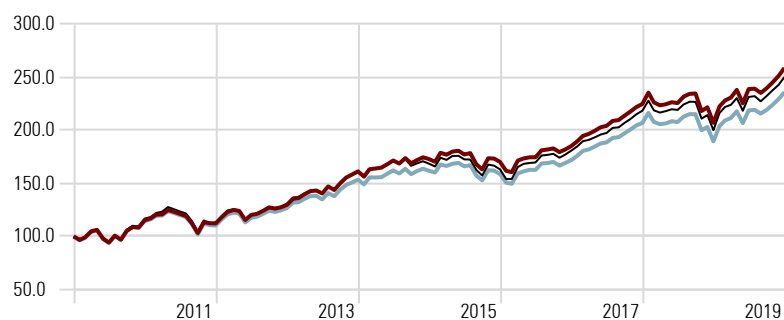
## Returns (Rolling 36 Months)



— Vanguard Target Retirement 2050 Inv — Morningstar Lifetime Mod 2050 TR USD — US Fund Target-Date 2050

## Investment Growth

Time Period: 1/1/2010 to 12/31/2019



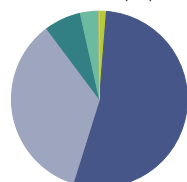
— Vanguard Target Retirement 2050 Inv — Morningstar Lifetime Mod 2050 TR USD — US Fund Target-Date 2050

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.15	0.79	
Gross Expense Ratio	0.15	2.34	
LT Earn Growth	9.3	9.4	9.1
Avg Mkt Cap (\$MMM)	47.0	46.2	47.9
P/E Ratio	18.5	19.2	16.3
P/B Ratio	2.2	2.3	2.0
P/S Ratio	1.6	1.7	1.4
P/CF Ratio	11.4	12.0	10.5
ROE %	20.0	19.3	20.5
ROA %	6.9	6.8	7.2
Dividend Yld	2.4	2.3	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



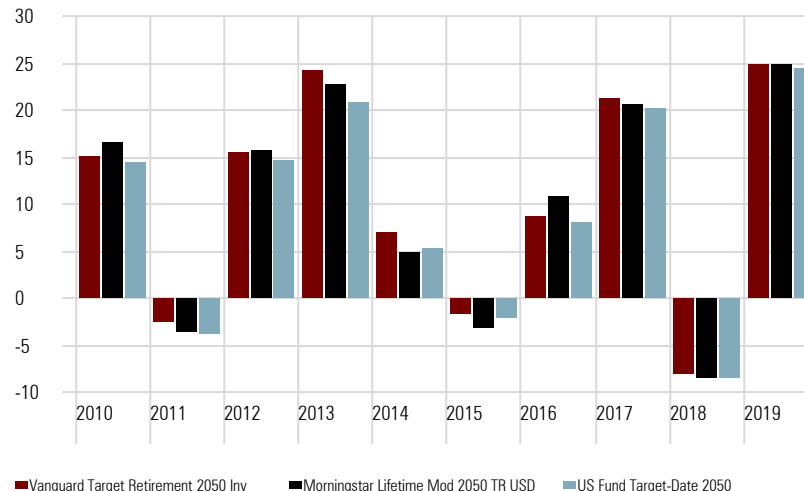
	%
Cash	1.3
US Equity	53.6
Non-US Equity	34.9
US Bond	6.7
Non-US Bond	3.4
Other	0.1

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2050 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Target Retirement 2050 Inv	68.3	31.7	10.0	-8.1	11.8	-14.9	98.0	93.7
Morningstar Lifetime Mod 2050 TR USD	68.3	31.7	10.3	-8.9	13.2	-15.6	100.0	100.0
US Fund Target-Date 2050	65.8	34.2	9.9	-8.7	12.0	-15.1	93.8	94.7

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	10.3	0.1	10.4	0.2
Down Deviation	0.5	-0.1	0.7	-0.2
Beta	1.0	0.0	1.0	0.0
Alpha	0.4	0.5	0.3	0.5
Sharpe	1.0	0.1	0.7	0.0
Sortino	1.4	0.1	1.1	0.1
Info Ratio	0.4	0.8	0.2	0.5
Down Capture	99.0	0.5	94.6	0.5
Up Capture	101.2	3.3	97.7	3.4

## Top 10 Holdings

	Fund %
Vanguard Total Stock Mkt Idx Inv	54.1
Vanguard Total Intl Stock Index Inv	35.4
Vanguard Total Bond Market II Idx Inv	7.4
Vanguard Total Intl Bd Idx Investor	3.0
Cmt Market Liquidity Rate	0.0

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy		5	4
Materials		5	5
Industrials		11	11
Cons Discretionary		11	11
Consumer Staples		7	7
Healthcare		12	12
Financials		16	16
Info Technology		17	18
Telecom Services		8	8
Utilities		3	3
Real Estate %		4.0	6.1

# Vanguard Target Retirement 2055 Inv

VFFVX

Index: Morningstar Lifetime Mod 2055 TR USD

Category: US Fund Target-Date 2055

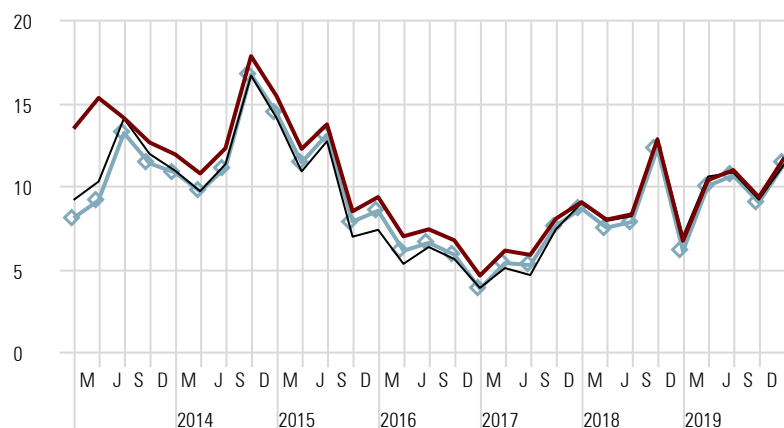
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2055 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Target Retirement 2055 Inv	25.0	25.0	11.8	8.4	11.1	11.1
Morningstar Lifetime Mod 2055 TR USD	25.1	25.1	11.4	8.2	9.5	7.8
US Fund Target-Date 2055	24.9	24.9	11.4	8.0	9.2	6.7

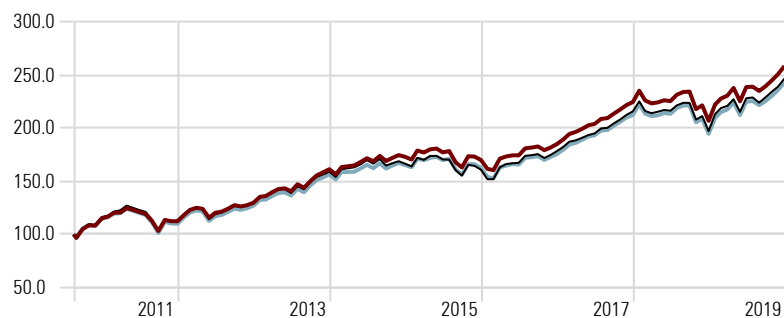
## Returns (Rolling 36 Months)



— Vanguard Target Retirement 2055 Inv — Morningstar Lifetime Mod 2055 TR USD — US Fund Target-Date 2055

## Investment Growth

Time Period: 8/19/2010 to 12/31/2019



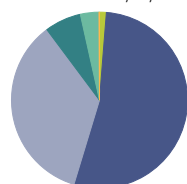
— Vanguard Target Retirement 2055 Inv — Morningstar Lifetime Mod 2055 TR USD — US Fund Target-Date 2055

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.15	0.77	
Gross Expense Ratio	0.15	3.35	
LT Earn Growth	9.3	9.4	9.1
Avg Mkt Cap (\$MMM)	46.9	52.4	47.9
P/E Ratio	18.5	19.4	16.3
P/B Ratio	2.2	2.3	2.0
P/S Ratio	1.6	1.8	1.4
P/CF Ratio	11.4	12.1	10.5
ROE %	20.0	19.7	20.5
ROA %	6.9	6.9	7.2
Dividend Yld	2.4	2.3	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



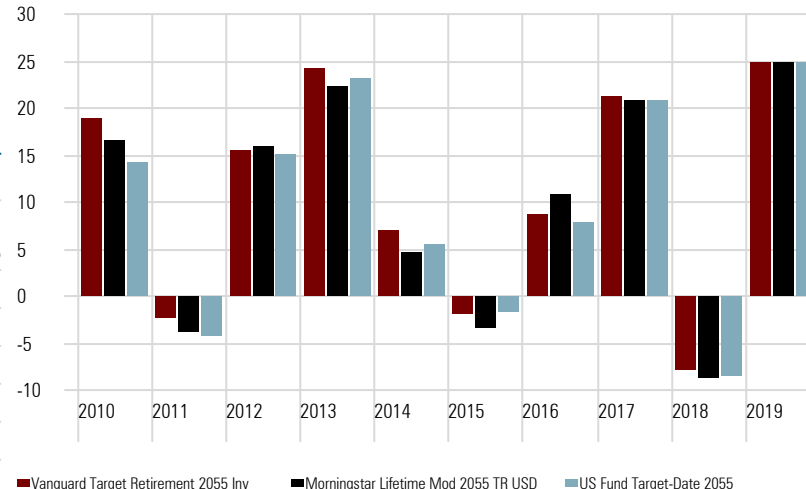
	%
Cash	1.2
US Equity	53.4
Non-US Equity	35.1
US Bond	6.7
Non-US Bond	3.4
Other	0.1

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2055 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Target Retirement 2055 Inv	69.6	30.4	10.0	-8.1	11.5	-14.8	98.1	91.3
Morningstar Lifetime Mod 2055 TR USD	68.3	31.7	10.3	-8.9	13.3	-15.7	100.0	100.0
US Fund Target-Date 2055	66.7	33.3	10.2	-8.8	12.2	-15.6	96.5	96.1

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	10.3	-0.1	10.4	-0.1
Down Deviation	0.5	0.0	0.8	-0.1
Beta	1.0	0.0	1.0	0.0
Alpha	0.5	0.4	0.4	0.4
Sharpe	1.0	0.0	0.7	0.0
Sortino	1.4	0.1	1.1	0.1
Info Ratio	0.5	0.4	0.2	0.3
Down Capture	98.1	-1.7	93.9	-1.2
Up Capture	100.9	0.8	97.4	1.2

## Top 10 Holdings

	Fund %
Vanguard Total Stock Mkt Idx Inv	54.0
Vanguard Total Intl Stock Index Inv	35.6
Vanguard Total Bond Market II Idx Inv	7.4
Vanguard Total Intl Bd Idx Investor	3.0
Cmt Market Liquidity Rate	0.0

## Sector Allocation (%)

	Inv	Avg
Energy	5	5
Materials	5	4
Industrials	11	11
Cons Discretionary	11	11
Consumer Staples	7	7
Healthcare	12	13
Financials	16	15
Info Technology	17	18
Telecom Services	8	8
Utilities	3	3
Real Estate %	4.0	5.3

# Vanguard Target Retirement 2060 Inv

VTTSX

Index: Morningstar Lifetime Mod 2060 TR USD

Category: US Fund Target-Date 2060+

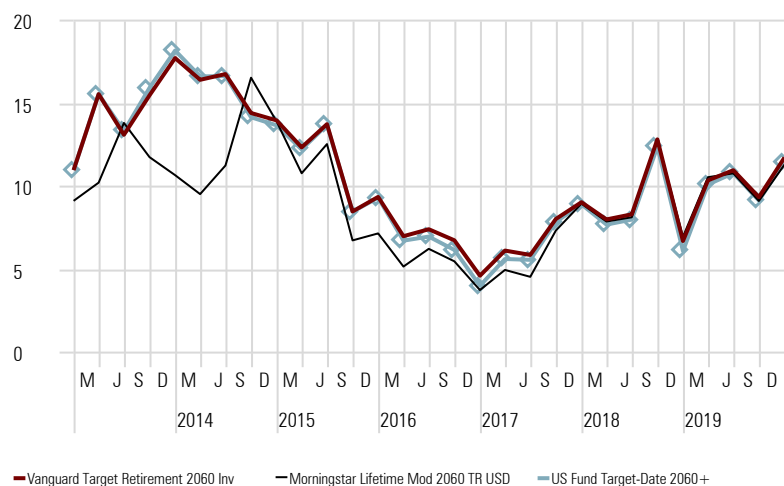
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2060 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Target Retirement 2060 Inv	25.0	25.0	11.8	8.4	10.4	10.4
Morningstar Lifetime Mod 2060 TR USD	25.0	25.0	11.4	8.1	9.4	7.8
US Fund Target-Date 2060+	25.2	25.2	11.5	8.2	10.2	10.2

## Returns (Rolling 36 Months)

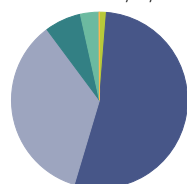


## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.15	0.76	
Gross Expense Ratio	0.15	8.52	
LT Earn Growth	9.3	9.4	9.1
Avg Mkt Cap (\$MMM)	46.9	47.9	47.9
P/E Ratio	18.5	19.1	16.3
P/B Ratio	2.2	2.3	2.0
P/S Ratio	1.6	1.7	1.4
P/CF Ratio	11.4	11.8	10.5
ROE %	20.0	19.7	20.5
ROA %	6.9	6.8	7.2
Dividend Yld	2.5	2.4	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



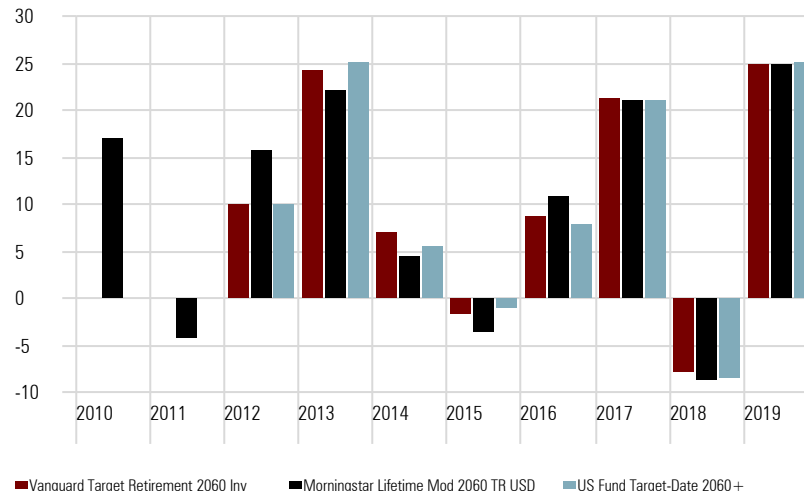
	%
Cash	1.3
US Equity	53.4
Non-US Equity	35.2
US Bond	6.7
Non-US Bond	3.4
Other	0.1

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2060 TR USD

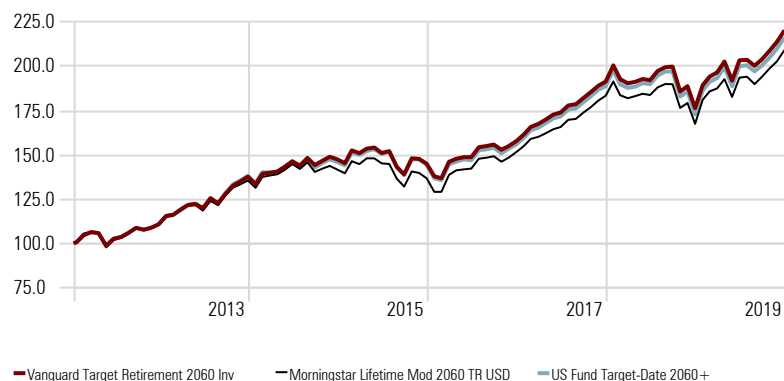
	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Target Retirement 2060 Inv	72.6	27.4	7.4	-7.1	11.5	-11.8	99.4	91.6
Morningstar Lifetime Mod 2060 TR USD	67.5	32.5	10.3	-9.0	13.2	-15.7	100.0	100.0
US Fund Target-Date 2060+	69.5	30.5	7.8	-7.2	11.9	-12.3	99.0	92.9

## Calendar Year Returns



## Investment Growth

Time Period: 1/20/2012 to 12/31/2019



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	10.3	-0.2	10.4	-0.1
Down Deviation	0.6	0.0	0.8	-0.2
Beta	1.0	0.0	1.0	0.0
Alpha	0.5	0.4	0.4	0.3
Sharpe	1.0	0.0	0.7	0.0
Sortino	1.4	0.1	1.1	0.1
Info Ratio	0.5	0.3	0.2	0.2
Down Capture	98.1	-2.5	92.9	-0.6
Up Capture	101.0	-0.1	97.1	0.6

## Top 10 Holdings

	Fund %
Vanguard Total Stock Mkt Idx Inv	53.9
Vanguard Total Intl Stock Index Inv	35.7
Vanguard Total Bond Market II Idx Inv	7.3
Vanguard Total Intl Bd Idx Investor	3.0
Cmt Market Liquidity Rate	0.0

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy		5	5
Materials		5	5
Industrials		11	11
Cons Discretionary		11	11
Consumer Staples		7	7
Healthcare		12	12
Financials		16	16
Info Technology		17	18
Telecom Services		8	8
Utilities		3	3
Real Estate %		4.0	4.6

# Vanguard Target Retirement 2065 Inv

VLXVX

**Index:** Morningstar Lifetime Mod 2060 TR USD

**Category:** US Fund Target-Date 2060+

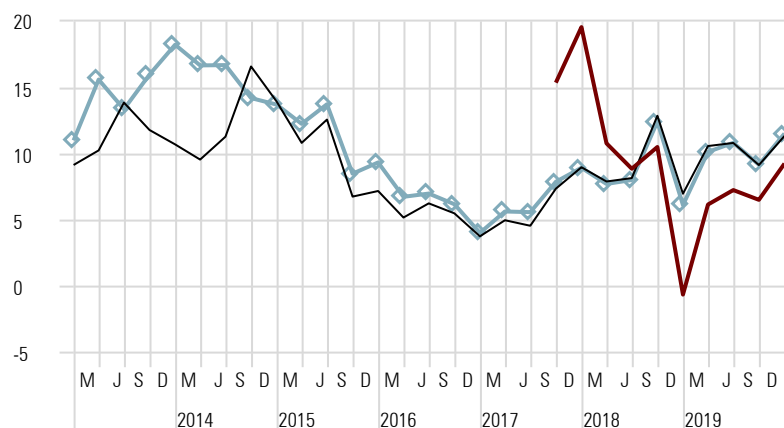
Return Date: 12/31/2019

## Trailing Returns

Data Point: Return Calculation Benchmark: Morningstar Lifetime Mod 2060 TR USD

	YTD	1 Year	3 Years	5 Years	10 Years	15 Years
Vanguard Target Retirement 2065 Inv	25.0	25.0	9.3	9.3	9.3	9.3
Morningstar Lifetime Mod 2060 TR USD	25.0	25.0	11.4	8.1	9.4	7.8
US Fund Target-Date 2060+	25.2	25.2	11.5	8.2	10.2	10.2

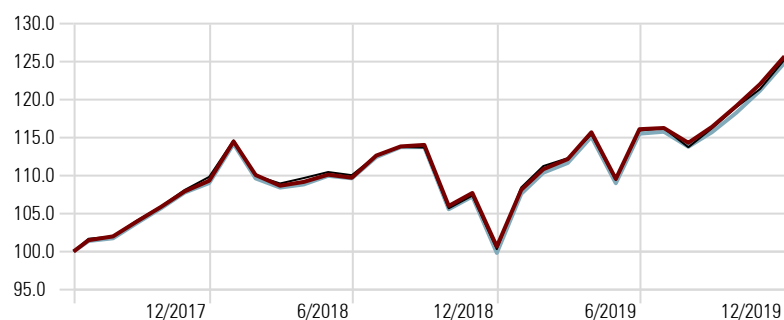
## Returns (Rolling 36 Months)



— Vanguard Target Retirement 2065 Inv — Morningstar Lifetime Mod 2060 TR USD — US Fund Target-Date 2060+

## Investment Growth

Time Period: 7/13/2017 to 12/31/2019



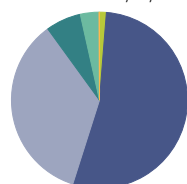
— Vanguard Target Retirement 2065 Inv — Morningstar Lifetime Mod 2060 TR USD — US Fund Target-Date 2060+

## Portfolio Characteristics

	Fund	Avg	Idx
Net Expense Ratio	0.15	0.76	
Gross Expense Ratio	0.15	8.52	
LT Earn Growth	9.3	9.4	9.1
Avg Mkt Cap (\$MMM)	47.0	47.9	47.9
P/E Ratio	18.5	19.1	16.3
P/B Ratio	2.2	2.3	2.0
P/S Ratio	1.6	1.7	1.4
P/CF Ratio	11.4	11.8	10.5
ROE %	20.0	19.7	20.5
ROA %	6.9	6.8	7.2
Dividend Yld	2.4	2.4	2.8

## Asset Allocation

Portfolio Date: 1/31/2020



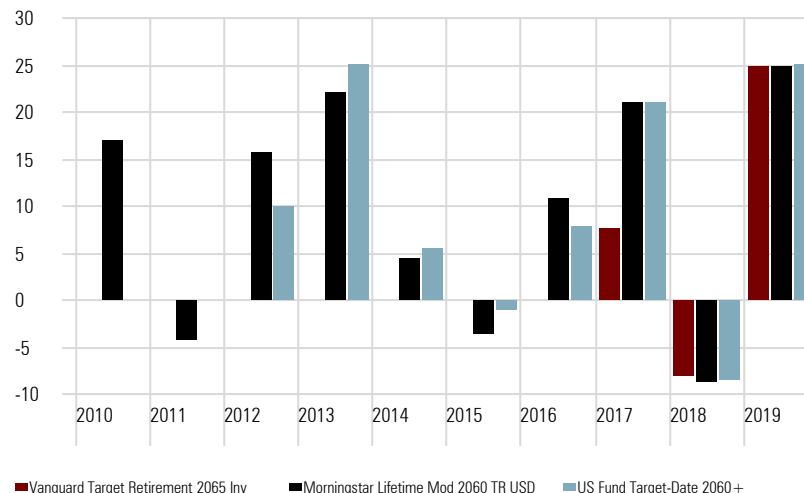
	%
Cash	1.3
US Equity	53.7
Non-US Equity	35.1
US Bond	6.5
Non-US Bond	3.4
Other	0.1

## Market Performance

Time Period: 1/1/2010 to 12/31/2019 Calculation Benchmark: Morningstar Lifetime Mod 2060 TR USD

	Up Period Percent	Down Period Percent	Best Month	Worst Month	Best Quarter	Worst Quarter	Up Capture Ratio	Down Capture Ratio
Vanguard Target Retirement 2065 Inv	75.9	24.1	7.4	-7.1	11.5	-11.8	100.1	98.2
Morningstar Lifetime Mod 2060 TR USD	67.5	32.5	10.3	-9.0	13.2	-15.7	100.0	100.0
US Fund Target-Date 2060+	69.5	30.5	7.8	-7.2	11.9	-12.3	99.0	92.9

## Calendar Year Returns



## Risk Statistics

	3 Year		5 Year	
	Fund	+/- Avg	Fund	+/- Avg
Std Deviation	11.4	0.8	11.4	0.8
Down Deviation	0.6	0.1	0.6	-0.3
Beta	1.0	0.0	1.0	0.0
Alpha	0.3	0.2	0.3	0.1
Sharpe	0.6	-0.3	0.6	0.0
Sortino	1.0	-0.4	1.0	-0.1
Info Ratio	0.3	0.0	0.3	0.2
Down Capture	98.2	-2.4	98.2	4.7
Up Capture	100.1	-1.0	100.1	3.6

## Top 10 Holdings

	Fund %
Vanguard Total Stock Mkt Idx Inv	54.2
Vanguard Total Intl Stock Index Inv	35.6
Vanguard Total Bond Market II Idx Inv	7.1
Vanguard Total Intl Bd Idx Investor	3.1
Cmt Market Liquidity Rate	0.0

## Sector Allocation (%)

	Fund %	Inv	Avg
Energy		5	5
Materials		5	5
Industrials		11	11
Cons Discretionary		11	11
Consumer Staples		7	7
Healthcare		12	12
Financials		16	16
Info Technology		17	18
Telecom Services		8	8
Utilities		3	3
Real Estate %		4.0	4.6

Listed below are descriptions of a selection of commonly used broad market indices. Each broad market index has a variety of sub-indices which represent segments within a given broad market universe (e.g., Russell 1000 Value, Russell 1000 Growth).

## Domestic Equities

**S&P 500 Index (Standard & Poor's 500):** Includes 500 U.S. companies chosen on the basis of market capitalization, liquidity, industry, among other factors.

**Russell 3000 Index:** Contains 3000 U.S. companies representing nearly the entire investable U.S. equity market. The index consists of large, mid and small cap companies with the vast majority of exposure weighted to large cap companies.

**Russell 1000 Index:** Contains the largest 1000 companies in the Russell 3000 by market capitalization, generally representing more than 90% of the investable U.S. equity market.

**Russell 2000 Index:** Contains the smallest 2000 companies in the Russell 3000 by market capitalization representing substantially less than 10% of the investable U.S. equity market.

## International Equities

**MSCI ACWI ex U.S. Index (All Country World ex U.S. Index):** Consists of 46 country indexes, including 22 developed (excluding the U.S.) and 23 emerging markets around the world. Developed countries are defined by MSCI as nations that meet economic development sustainability, size and liquidity, and market accessibility criteria. Developing or emerging markets are markets that meet slightly lower size and liquidity, and market accessibility criteria.

**MSCI EAFE Index (Europe, Australasia and Far East):** Represents the performance of large and mid-cap companies in 21 developed markets around the world, excluding U.S. and Canada.

**MSCI EM Index (Emerging Market):** Consists of 23 emerging market economies around the world, representing 10% of the world market capitalization.

## Fixed Income

**Bloomberg Barclays US Aggregate:** Represents investment grade bonds (rating of Baa3 or higher from Moody's, rating of BBB- or higher from S&P) traded in the U.S. The index includes government, agency, and corporate credits.

**ICE BofAML US HY Master II:** Represents the performance of below investment grade bonds (rating of Ba1 or lower from Moody's, rating of BB+ or lower from S&P) publicly issued in the US domestic market.

**% Assets in Top 10 Holdings:** The aggregate assets, expressed as a percentage, of the fund's top 10 portfolio holdings.

**Alpha:** A measure of performance on a risk-adjusted basis. Alpha takes the volatility (price risk) of a mutual fund and compares its risk-adjusted performance to a benchmark index. The excess return of the fund relative to the return of the benchmark index is a fund's alpha.

**Beta:** A measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole.

**Down Market Capture:** Downside Capture Ratio measures manager's performance in down markets. A down-market is defined as those periods (months or quarters) in which market return is less than 0. In essence, it tells you what percentage of the down-market was captured by the manager. For example, if the ratio is 110%, the manager has captured 110% of the down-market and therefore underperformed the market on the downside.

**Expense Ratio:** A measure of what it costs an investment company to operate a mutual fund. An expense ratio is determined through an annual calculation, where a fund's operating expenses are divided by the average dollar value of its assets under management. Operating expenses are taken out of a fund's assets and lower the return to a fund's investors.

**Information Ratio:** A ratio of portfolio returns above the returns of a benchmark to the volatility of those returns. The information ratio (IR) measures a portfolio manager's ability to generate excess returns relative to a benchmark, but also attempts to identify the consistency of the investor. The higher the IR the more consistent a manager is.

**PM Tenure:** This represents the number of years that the current portfolio manager has been managing the fund. For funds with more than one manager, the average tenure is shown.

**Price/Book Ratio:** The price/book (P/B) ratio compares a stock's market price with its book value. (Book value is the equity balance on a firm's balance sheet divided by the number of shares outstanding.) Conservative investors often prefer the P/B ratio, because it offers a more tangible measure of a company's value than earnings do. Legendary investor Benjamin Graham, one of Warren Buffett's mentors, was a big advocate of book value and P/B in valuing stocks.

**Price/Cash Flow Ratio:** The price/cash flow (P/CF) ratio is not as commonly used or as well known as the other measures we've discussed. It's calculated similarly to P/E, except that it uses operating cash flow instead of net income as the denominator. Cash flow can be less subject to accounting shenanigans than earnings because it measures actual cash, not paper or accounting profits. P/CF can be helpful for firms such as utilities and cable companies, which can have more cash flow than reported earnings. P/CF can also be used in place of P/E when there are so many one-time expenses that reported earnings are negative.

**Price/Earnings Ratio:** The price/earnings (P/E) ratio is the most popular valuation ratio used by investors. It is equal to a stock's market price divided by the earnings per share for the most recent four quarters. The nice thing about P/E is that accounting earnings are a much better proxy for cash flow than sales. Moreover, earnings per share results and estimates about the future are easily available from just about any financial data source.

**Sharpe Ratio:** A ratio developed by Nobel Laureate William F. Sharpe to measure risk-adjusted performance. The Sharpe ratio is calculated by subtracting the risk-free rate (such as that of the 10-year U.S. Treasury bond) from the rate of return for a portfolio and dividing the result by the standard deviation of the portfolio returns.

**Standard Deviation:** A risk statistic that measures an investment's volatility around the mean return. A highly volatility investment will have a higher standard deviation. A fund's returns fell within 1 standard deviation of the average 68% of the time and within 2 standard deviations 95% of the time for the time period measured.

**Upside Capture Ratio:** This ratio measures a manager's performance in up markets relative to the market (benchmark) itself. It is calculated by taking the security's upside capture return and dividing it by the benchmark's upside capture return.

**Weighted Average Market Cap:** The average market capitalization of a fund's equity portfolio gives you a measure of the size of the companies in which the fund invests. Market capitalization is calculated by multiplying the number of a company's shares outstanding by its price per share.