



**AGENDA  
CITY OF FORT WORTH  
DEFERRED COMPENSATION OVERSIGHT COMMITTEE  
FRIDAY, FEBRUARY 26, 2021  
9:00 AM**

**VIDEOCONFERENCE**

[HTTPS://FORTWORTHTEXAS.WEBEX.COM/FORTWORTHTEXAS/J.PHP?MTID=MF90B0F55D7E1366311F58BBE300994](https://FORTWORTHTEXAS.WEBEX.COM/FORTWORTHTEXAS/J.PHP?MTID=MF90B0F55D7E1366311F58BBE300994)

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ACCESS CODE 182 296 0392

**TELECONFERENCE**

469-210-7159

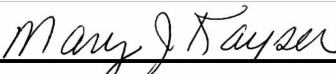
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- I. Call to Order – Daryl Trotter
  - II. Public Comment
  - III. Opening Comments – Daryl Trotter
  - IV. Approval of Minutes from August 28, 2020 and December 4, 2020 Meetings
  - V. TIAA Fourth Quarter 2020 Plan Report – Donna Ahrens
  - VI. Discussion of Fourth Quarter Investment Performance – Tony Kay
  - VII. Large Cap Value Search – Tony Kay
  - VIII. Fiduciary Training – Tony Kay
  - IX. Investment Policy Statement Review – Tony Kay
  - X. Committee Request for Future Agenda Items
  - XI. Adjourn

*Executive Session - The Deferred Compensation Program Committee may conduct a closed meeting as authorized by Section 551.071 of the Texas Government Code to seek the advice of its attorneys on legal issues regarding any matter listed on today's Deferred Compensation Program Committee Agenda.*

*Due to health and safety concerns related to the COVID-19 coronavirus, this meeting will be conducted by videoconference or telephone call in accordance with the Texas Open Meetings Act and the provisions provided by the Governor of Texas in conjunction with the Declaration of Disaster enacted on March 13, 2020.*

I, the undersigned authority do hereby certify that this Notice of Meeting was posted on the City of Fort Worth official website and official bulletin board, places convenient and readily accessible to the general public at all times and said Notice was posted on the following date and time **Monday, February 22, 2021 at 5:00 p.m.** and remained so posted continuously for at least 72 hours preceding the scheduled time of said meeting.

  
City Secretary for the City of Fort Worth, Texas

# DEFERRED COMPENSATION COMMITTEE MEETING MINUTES

Friday, August 28, 2020

VIDEOCONFERENCE

<https://fortworthtexas.webex.com/fortworthtexas/j.php?MTID=m50151bc0521beffa8a0abe7313bee18c>

Meeting/Access Code 47

**Teleconference**

650-479-3208

Meeting/Access code 126 987 0247

Agenda Item	Description	Follow-up Action
<b>Attendees</b>	<p><b>Committee Members:</b> Daryl Trotter (Chair) – Park and Recreation, John Samford – (Vice Chair) Finance, Brian Dickerson – Human Resources, Jared Salzman – Police, Veronica Bailey – TPW, Shannon Elder – Code Compliance, Darryl Woody – Police, Larry Bilbrey – Fire, Elizabeth Dierdorf – Retiree</p> <p><b>Professional Advisor:</b> Tony Kay – AndCo Consulting</p> <p><b>Vendors:</b> Lori Cathey, Donna Ahrens – TIAA</p> <p><b>City Staff Attendance:</b> Jay Chapa – City Manager’s Office, Nathan Gregory, Joanne Hinton, Valerie Gilmer – Human Resources, Laetitia Brown – Legal, Gerald Pruitt - Legal</p> <p><b>Public Presence:</b> None</p>	
<b>Call to Order</b>	With a quorum present, Daryl Trotter called the meeting to order at 9:02am	
<b>Public Comment</b>	None	
<b>Approval of minutes from May 29th, 2020</b>	Unanimous approval by the committee.	
<b>Opening Comments</b>	Daryl informed the group that the NAGDA conference will be virtual this year, several committee members will be attending the series of weekly meetings.	
<b>TIAA Update – Financial Challenge statistics</b>	Donna reviewed the results of the TIAA Financial challenge statistics. TIAA was satisfied with the results and the goal is to have an annual challenge going forward. The engagement rate among employees was 4% which is in line with industry norms. Donna also informed the group that the City of Fort Worth’s service team did not accept TIAA’s voluntary service	

## DEFERRED COMPENSATION COMMITTEE MEETING MINUTES

	program. The team is still intact.	
<b>Discussion of Second Quarter Investment Performance – Tony Kay</b>	<p>No significant changes from last quarter. The S&amp;P 500 is at a historic high with double digit rates of return.</p> <p>On Page 13 (Investment Option Performance Review), if you put this page up against last quarter it is unchanged. We don't have any of the managers on the watch list. At this time, no recommended changes. For some of the managers, like Invesco Diversified Dividend, they showed very strong results vs their benchmarks for the quarter.</p> <p>On Page 17 (Asset Allocation &amp; Performance Review), Tony focused on fund managers that could be highlighted for the quarter. Invesco Diversified Dividend for example. Tony noted we've had conversations about the fact that they're more conservative in their approach and they hold up better when markets are volatile. That was proved true in that they outperformed all of their peers in the last quarter. When you look across all of the years, almost all of the managers are ranking in the top half of their peer universe. We have a healthy plan lineup which is perhaps some of the reason we aren't seeing participants move money around. They have good options.</p> <p>On Page 18 and 19 (Asset Allocation &amp; Performance Review) regarding Target Date Funds, looking longer term, the funds of this group are in the top half of their peer universe. Certainly, if you introduce more equity exposure into the funds for participants further away from retirement, you'd expect returns to have declined by a greater magnitude which was indeed the case for the quarter. They expect those numbers to bounce back through this second quarter.</p> <p>Lastly, fiduciary training will be conducted virtually over the next several quarterly meetings due to the ongoing COVID-19 situation. The fiduciary training will be conducted in short stints (10-15 min. each) as opposed to one long session over the next several virtual meetings.</p>	
<b>Next agenda items:</b>	TIAA quarterly reports Quarterly fiduciary meeting.	
<b>Adjourn</b>	The committee meeting was adjourned at 9:32am	

# DEFERRED COMPENSATION COMMITTEE MEETING MINUTES

*Approval of Meeting Minutes* \_\_\_\_\_

# DEFERRED COMPENSATION COMMITTEE MEETING MINUTES

Friday, December 4, 2020

VIDEOCONFERENCE

[HTTPS://FORTWORTHTEXAS.WEBEX.COM/FORTWORTHTEXAS/J.PHP?MTID=M0B8D2067A66057E2ED8F7F9B398B87F2](https://FORTWORTHTEXAS.WEBEX.COM/FORTWORTHTEXAS/J.PHP?MTID=M0B8D2067A66057E2ED8F7F9B398B87F2)

MEETING/ACCESS CODE 126 388 9731

TELECONFERENCE

469-210-7159

ACCESS CODE 126 388 9731

Agenda Item	Description	Follow-up Action
<b>Attendees</b>	<p><b>Committee Members:</b> John Samford – (Vice Chair) Finance, Jared Salzman – Police, Veronica Bailey – TPW, Shannon Elder – Code Compliance, Darryl Woody – Police, Larry Bilbrey – Fire, Elizabeth Dierdorf – Retiree</p> <p><b>Committee Members Not In Attendance:</b> Daryl Trotter (Chair) – Park and Recreation</p> <p><b>Professional Advisor:</b> Tony Kay – AndCo Consulting</p> <p><b>Vendors:</b> Donna Ahrens – TIAA</p> <p><b>City Staff Attendance:</b> Jay Chapa – City Manager’s Office, Nathan Gregory, Joanne Hinton, Vivianee Haydon – Human Resources, Laetitia Coleman – Legal</p> <p><b>Public Presence:</b> None</p>	
<b>Call to Order</b>	In Daryl’s absence, John Samford called the meeting to order at 9:02am	
<b>Public Comment</b>	None	
<b>Opening Comments</b>	None	
<b>TIAA Third Quarter 2020 Plan Report</b>	Donna discussed the overall employee’s contributions coming in and the diversification of the contributions on page 5. Page 8 was discussed and noted that most enrollment are online. Page 9 lists contributions by age and gender. On page 15 Donna discussed life stages and segmentation to identify who we need to target more engagement or specific campaigns. This could be employees retiring and setting up a campaign to meet with Brandon. Number of secure web ID’s are way up, this is great. It means employees are going into their own account and creating a web ID to take a look at whether they need to do an advice session, what’s my overall accumulation, am I saving enough etc. Employees	<p>Michael Thomas to send out 2021 marketing campaign calendar once finalized</p> <p>Donna will ask Kevin to run a report of average amounts being withdrawn</p>

# DEFERRED COMPENSATION COMMITTEE MEETING MINUTES

	<p>are engaged by calling in and asking things like how to download forms, inquiring about withdrawals and changing beneficiaries. Brandon is doing his advice sessions all virtual now and regularly sets up his counseling session dates with the City of Fort Worth. Another thing that is great to see are the beneficiary updates, the numbers are up there as well. At the next meeting Michael can go through the 2021 campaigns that TIAA will be doing, it is not finalized yet. Page 17 Donna discussed a breakdown of the investments by assets. Multi-Asset fund are the highest numbers, these are our target dates funds based on age and retirement age.</p> <p>Donna discussed asset outflow document, these are the overall assets going out of the plan. The outflow was a bit higher this last quarter. Due to COVID there were certain regulations and policies that allowed employees affected by the virus to take distributions.</p> <p>Tony asked, are we concerned about the City of Fort Worth plan withdrawals? Donna responded no, this is not anything out of the ordinary compared to other clients. Tony also asked about average COVID related distribution amounts. Donna stated that there is a report that she can have Kevin run a report related to COVID. Tony reminded the committee that this law went into effect back in March and allowed participants to take up to \$100,000 if they could self-certify that they were financially impacted by COVID. Joanne also pointed out that the line on the outflow page that states Fort Worth Employees Retirement are employees buying service credits.</p> <p>Tony brought up the recent announcement that was made about TIAA's CEO and his intention to retire March 31, 2020 and asked Donna to comment on this. With any big company the CEO usually has a contract with term limits and his term is coming up in March. President elect Biden and his cabinet has reached out to the CEO, Roger Ferguson, to join his cabinet. Things have not been completely confirmed yet but this is the rumor. Donna reiterated that even with the early retirement incentives and voluntary separation plans offered that our service term is not being interrupted.</p> <p>John referred to page 29 and asked Donna to summarize the takeaways from this slide to the committee. This slide looks at overall health of the plan, are the employees contributing enough, retirement readiness etc. This slide should not have been included as it does</p>	due to COVID
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# DEFERRED COMPENSATION COMMITTEE MEETING MINUTES

	<p>include social security income and the City of Fort Worth does not pay into Social Security. John asked to include a slide that more pertains to this plan in the future.</p>	
<p><b>Discussion of Third Quarter Investment Performance</b></p>	<p>Tony began with saying that the 3<sup>rd</sup> quarter was a good quarter. Despite one of the worst 1<sup>st</sup> quarters we had positive returns across all major asset classes. Total plan and participant assets increased. Page 122 in the PDF document, Tony wanted to mention the dispersion of returns with in stocks. The dispersion between both mid and small cap growth benchmarks was substantial relative to their value counterparts with each growth index outpacing its respective value benchmark by more than 30% for the year.</p> <p>Page 129 shows the increase in assets over the last year, \$255 million last year up to \$277 million as of this last quarter. We have not seen major shifts due to market volatility with asset allocation, we would not expect this. Equities have been up nicely over the last year. Target date funds are the highest and this is also expected. Page 130, VT Plus Fund continues to be the largest portion of the assets as of September 2019 and scrolling to the next page we will see that as of September 2020 the VT Plus Fund continues to do the same.</p> <p>Page 132 Tony discussed this is where we compare the different options versus the metrics we set out in the Investment Policy Statement. For the most part no changes on this page. The one change is that we have moved Invesco Diversified Dividend to the watch list. They have continued to perform under their benchmark. It will be a good idea to look at alternates next time we meet given the fact that performance track record has broken down. Tony will propose bringing us a search of other large cap value managers to look at next quarter to replace Invesco Diversified fund. Lazard had a good quarter and year, outperforming their benchmark and peers. Target date funds have been green across the board, performance has been good.</p> <p>Page 135 discusses quantitative highlights and show that 2020 had an all-time high for the market value for total assets, more than \$275 million. Excess Plan Revenue account is starting to show signs of stabilization. We made some changes to the share classes to reduce the amount of excess revenue. We have received invoices from TIAA for 3 quarters. With the new pricing in from TIAA and new share classes we would expect that to level off. We are going to monitor this closely and certainly do not want to see this excess revenue account grow.</p>	

## DEFERRED COMPENSATION COMMITTEE MEETING MINUTES

	<p>Page 136 looks at investment for the quarter, lots of very good returns. Page 138 Target Date funds had a very good quarter.</p> <p>Page 148 discusses our Fiduciary documentation, the one Tony pointed out under periodic items review was Investment Policy Statement Review. The IPS was last reviewed earlier this year. John asked if we tie in the review of the committee handbook in with the review of the IPS so that we can keep it current as well. Tony agreed and stated it would be helpful to take a look at it and for new committee members to review that document.</p>	
<b>Fiduciary Training</b>	<p>This quarters Fiduciary module covers Investment Policy Statements, what they do and how they serve. This is an important guiding document and how we make all investment decisions related to the portfolio. Lays out the watch list and how managers under performance should be handled. Tony stated that it is a multigenerational document and that our Investment Policy Statement would help guide a whole new committee if that were ever the case. The IPS provides protection from external sources such as participants, vendors, money managers. It also helps to alleviate some external pressure that comes to our plan. The IPS can be helpful should a liability issue arise. It would provide framework if the plan ever came up with any liability concerns. Page 151 discusses the framework of an Investment Policy Statement, information about the plan, who it serves etc. We last looked at the IPS at the beginning of this year and will look at it again in 2021.</p>	
<b>Review 2021 Meeting Calendar</b>	<p>Committee is good with the dates, no objections.</p>	<p>Vivianee to update the date in August to 8/27/2020 and send out meeting invites to the committee.</p>
<b>Committee Request for Future Agenda Items</b>	<ul style="list-style-type: none"> <li>- IPS Review and Committee Handbook</li> <li>- Approve August meeting minutes</li> <li>- Review Invesco Diversified Fund</li> <li>- Quarterly Fiduciary Training</li> </ul>	<p>John to send out NAGDA conference materials to the committee for review</p> <p>Joanne to send out IPS and Committee Handbook in advance for review</p>
<b>Adjourn</b>	<p>The committee meeting was adjourned at 10:09am</p>	



# DEFERRED COMPENSATION COMMITTEE MEETING MINUTES

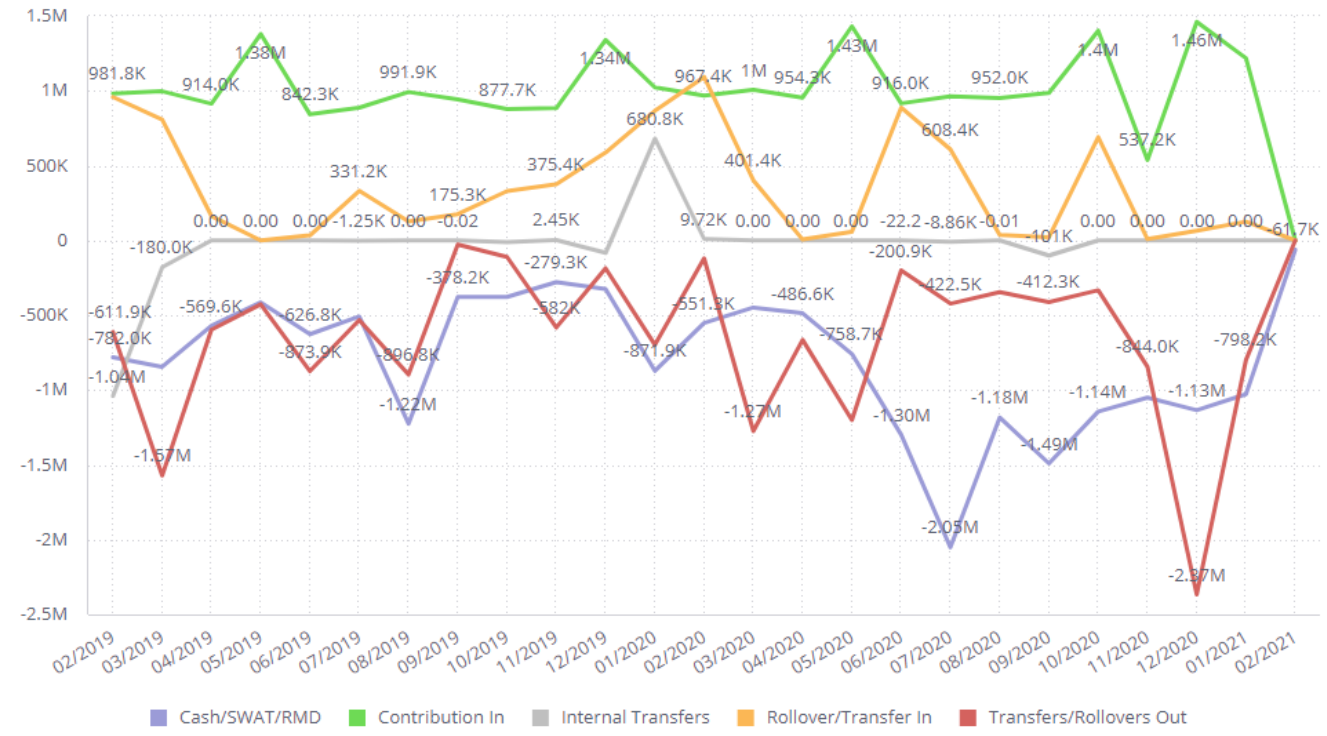
*Approval of Meeting Minutes* \_\_\_\_\_

Client Name	Client ID	STATE	Institutional Segment	Institutional Territory	Institutional Market	Risk Rating
CITY OF FORT WORTH	65299	TX	Strategic	National	Government	Sole Recordkeeping Outsourced (SRKOUT)

Territory and Client Flows

Months in Transaction Date	Customer Count	Contributions	Rollover Transfer In	Total Mappable Inflows	Total Mappable Outflows	Cash/SWAT/RMD	Rollover Transfer Out
09/2020	4,331	\$986.65K	\$21.58K			\$-1.49M	\$-412.32K
10/2020	4,348	\$1.40M	\$690.44K			\$-1.14M	\$-333.25K
11/2020	4,376	\$537.20K	\$8.91K			\$-1.05M	\$-843.96K
12/2020	4,414	\$1.46M	\$63.95K			\$-1.13M	\$-2.37M
Grand Total	4,414	\$4.39M	\$784.89K	\$0.00	\$0.00	\$-4.82M	\$-3.96M

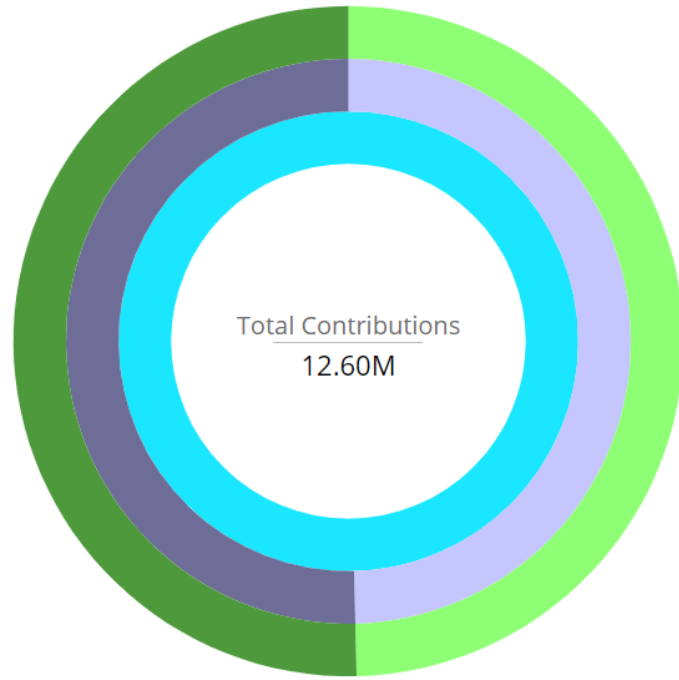
Monthly Flows



YTD Outflows by Flow Type, Fund & Competitor

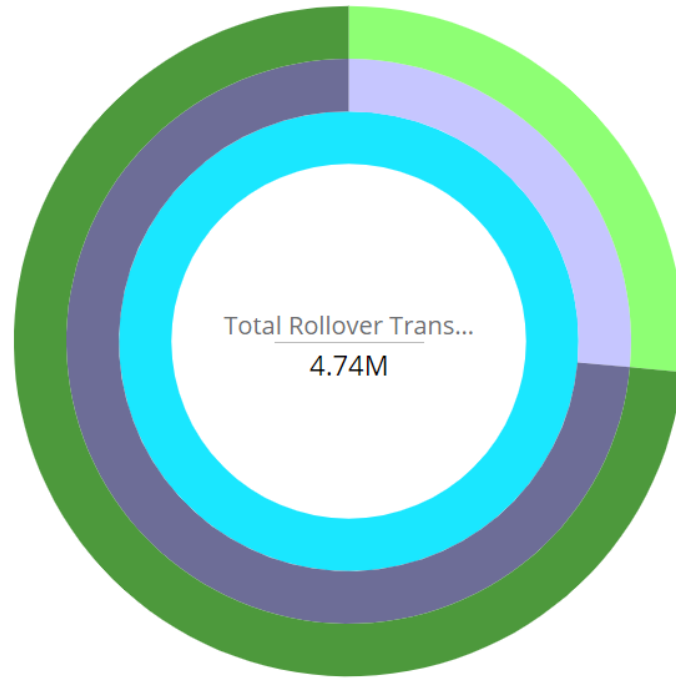


YTD Contributions by Fund Group & Fund Lvl 2



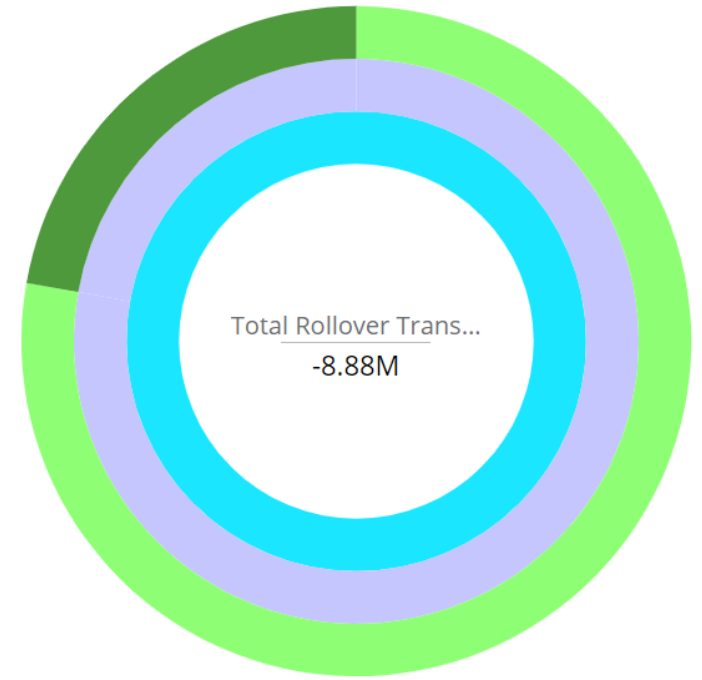
■ Client Name ■ Fund Group ■ Fund Level 2

YTD Rollover/Transfer In by Fund Group & Fund Lvl 2



■ Client Name ■ Fund Group ■ Fund Level 2

YTD Rollover/Transfer Out by Fund Group & Fund Lvl 2



■ Client Name ■ Fund Group ■ Fund Level 2

# Plan Review City of Fort Worth

Optimizing plan effectiveness to help  
drive better outcomes

Delivered by: Relationship Manager

As of December 31, 2020



# Welcome to your Plan Review

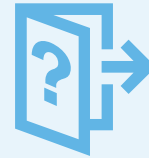
## What's the purpose of this report?



To help you answer three important questions to drive better outcomes:

- How well is your plan working to prepare employees for retirement?
- Are your participants on track to retire with sufficient income?
- What actions can be taken to make your plan more effective?

## What's inside?



- Executive summary with key plan metrics, including your plan's income replacement ratio.
- Plan and participant details, including information about participants receiving lifetime income from your plan.
- In-depth information about retirement readiness drivers—employee engagement, investment solutions and plan management.

## Why is income replacement important?



- Within the executive summary, you'll find your plan's income replacement ratio. We believe it's the best way to evaluate retirement readiness and plan success.
- The income replacement ratio measures how much income employees will be able to replace in retirement based on their current situations—like savings rate, investments and salary.<sup>1</sup>

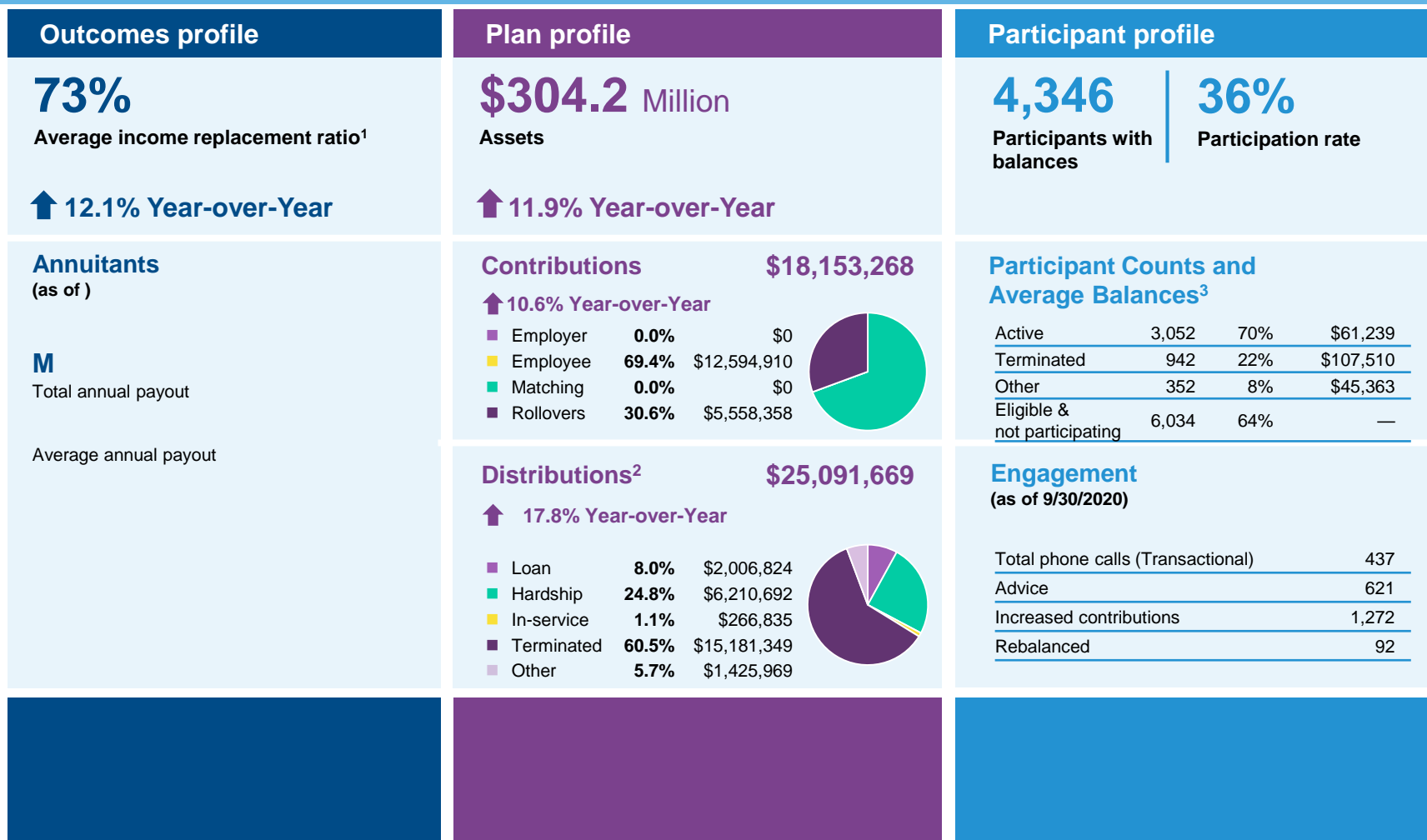
## How do I get started?



1. Review your Plan Review report.
2. Identify opportunities for improvement.
3. Contact your TIAA relationship manager or call the Administrator Telephone Center at **888-842-7782** to develop an action plan.

1. When your employees' salary data is provided, an actual income replacement ratio is calculated; otherwise, estimated salary is used.

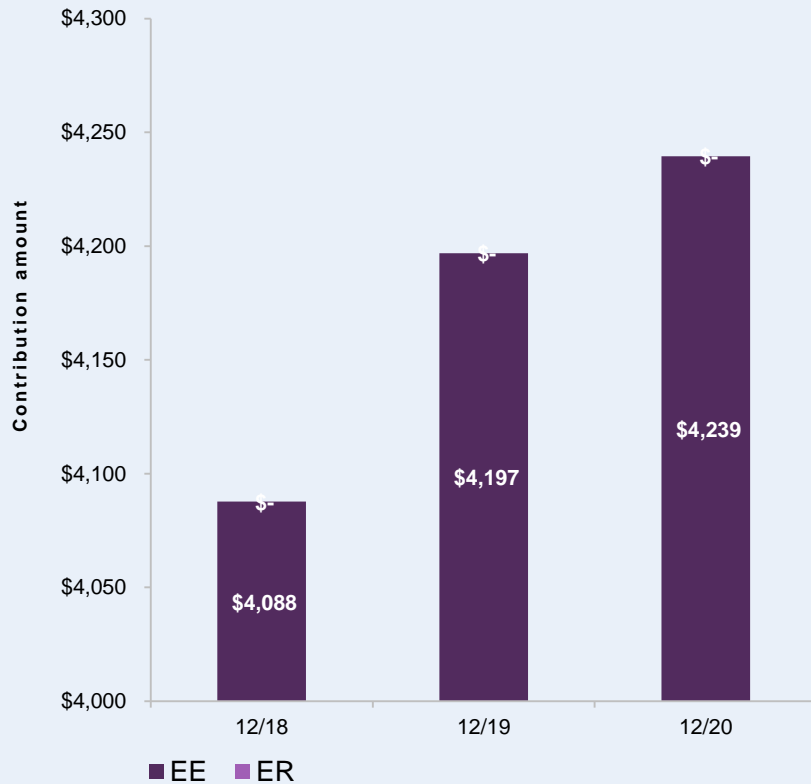
# Executive summary: Snapshot



This report is as of the period ending 12/31/2020 and reflects the trailing 12 months of activity unless otherwise noted. The report includes all TIAA plans except 457(f), 457(b) Private, Nonqualified Deferred Compensation, and Retirement Healthcare plans. This report excludes details on non-participant accounts (forfeiture and revenue credit account) but includes the balances. 1. Refer to the "Income replacement ratio methodology and assumptions" page. 2. Certain Distributions (e.g., QDRO, Disability or Age 70.5 Minimum Distribution) may be categorized under In-Service, Terminated or Other. Please see the Glossary for additional information. 3. "Active" participants have a status of Active or Leave, a balance greater than zero and have made a contribution in the last 12 months. "Terminated" participants have a status of Terminated on all plans and a balance. "Other" represents all other participants in the plans (other status codes and non-contributing) with a balance.

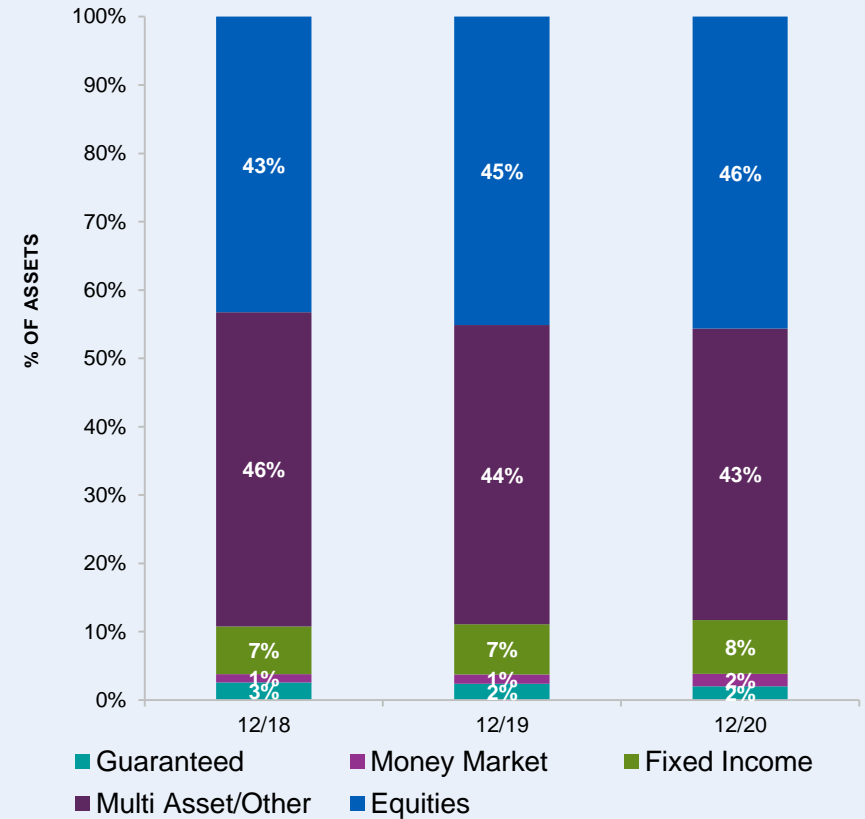
# Executive summary: Participant trends

## Contributions Impacting Plan Outcome



Contribution data reflects the trailing 12 months of activity.

## Diversification



Multi-Asset/Other includes Lifecycle, Real Estate, and Brokerage.

This report is as of the period ending 12/31/2020 and reflects the trailing 12 months of activity unless otherwise noted. The report includes all TIAA plans except 457(f), 457(b) Private, Nonqualified Deferred Compensation, and Retirement Healthcare plans.

# Employee Summary

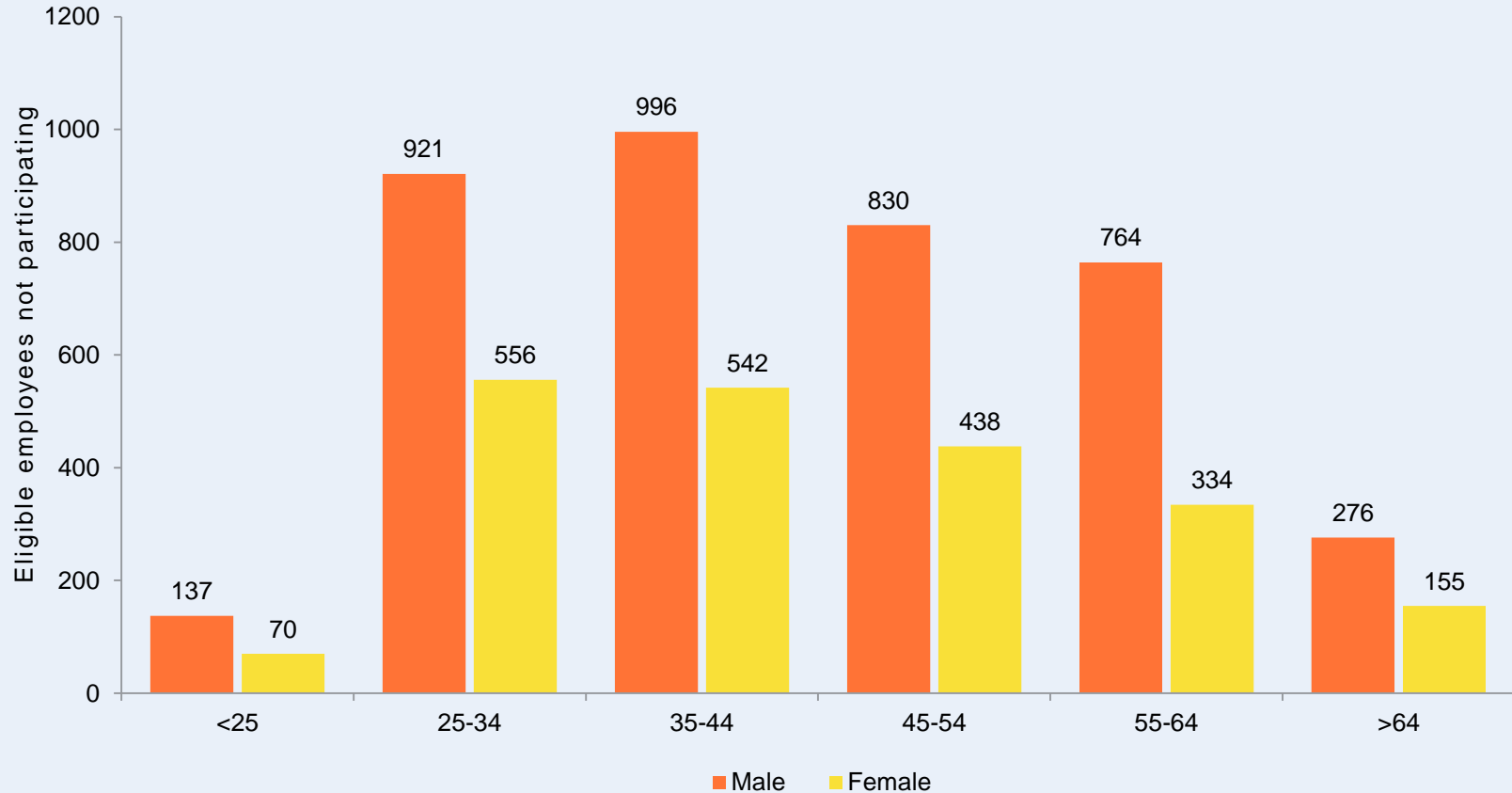
Important plan and participant details





# Employee summary: Eligible and not participating<sup>1</sup>

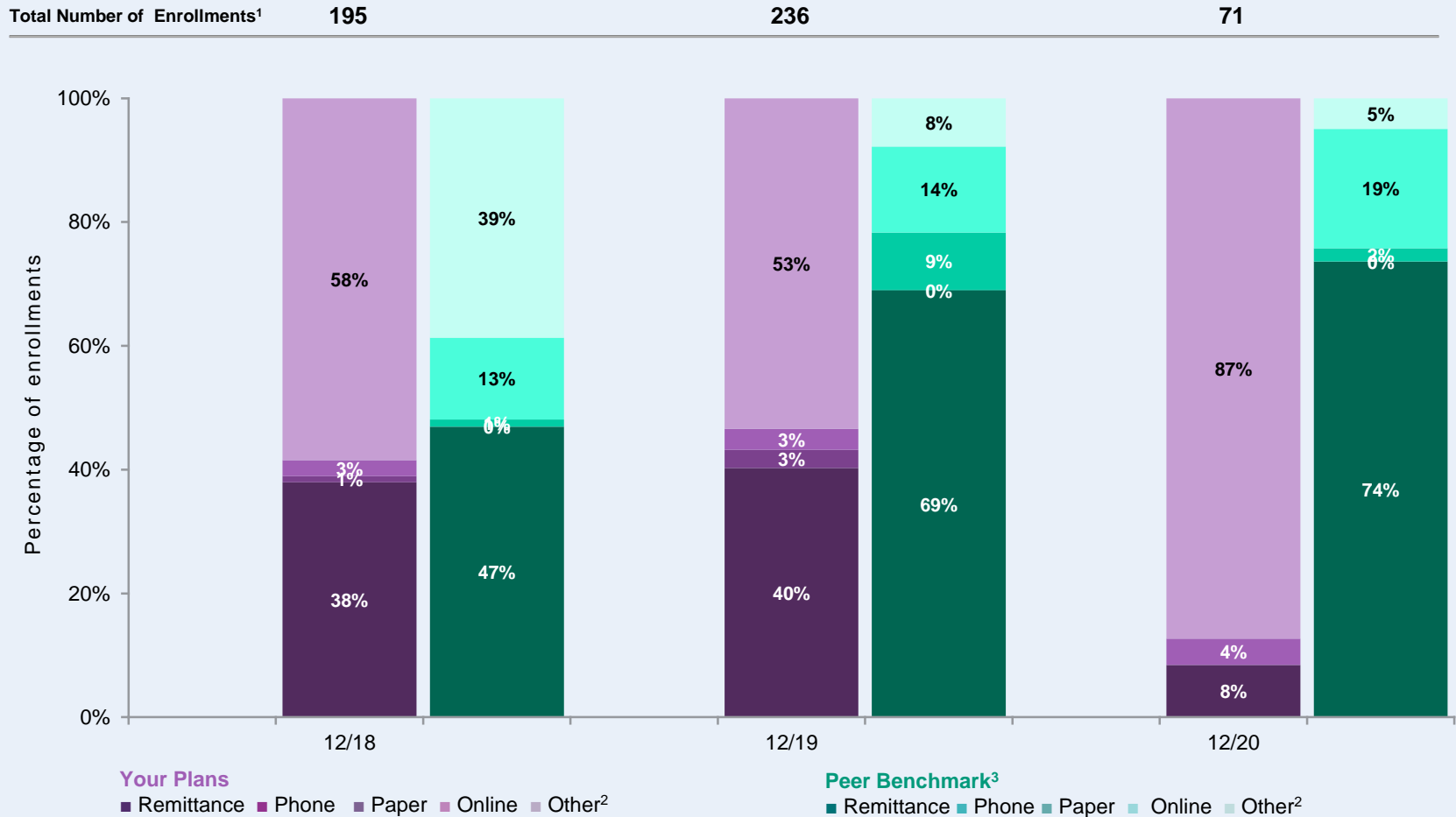
Total number of eligible employees not participating by age and gender



This report is as of the period ending 12/31/2020 and reflects the trailing 12 months of activity unless otherwise noted. The report includes all TIAA plans except 457(f), 457(b) Private, Nonqualified Deferred Compensation, and Retirement Healthcare plans. 1. Does not include 15 participants with no age or gender on file.

# Employee summary: Enrollment trends

## Enrollment by method

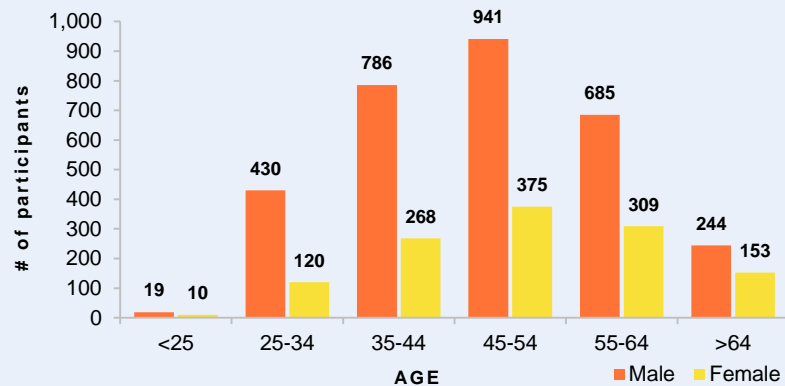


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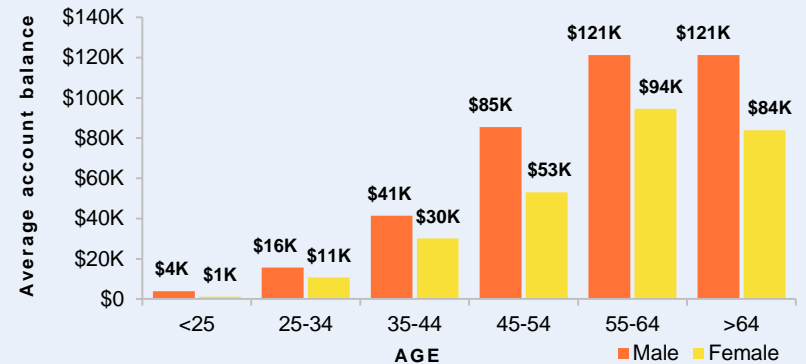
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# Employee summary: Gender and age<sup>1</sup>

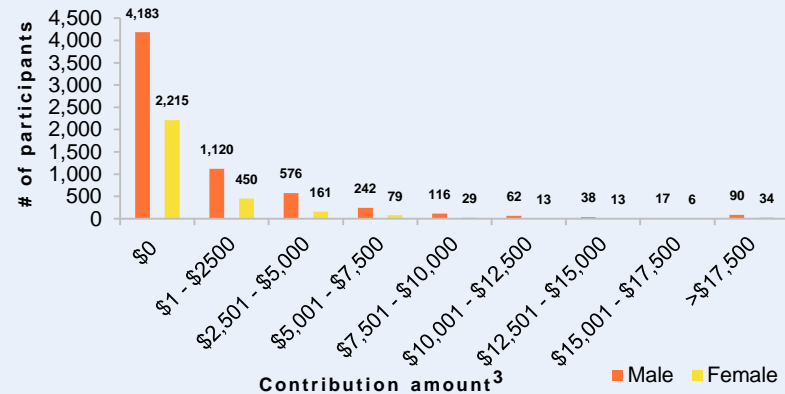
## Demographics by Age and Gender



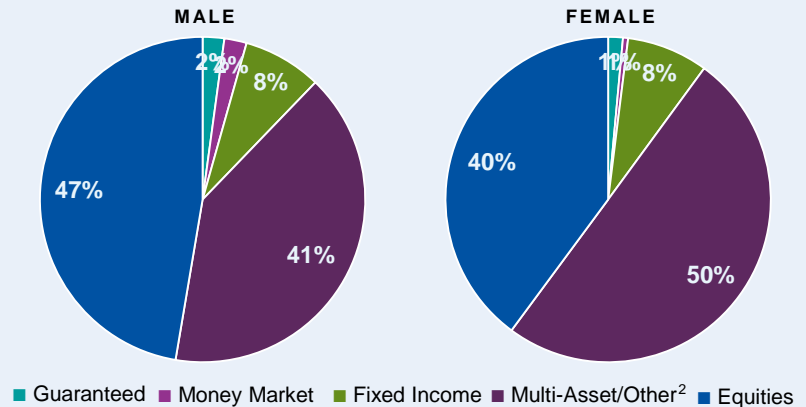
## Average Account Balance by Age and Gender



## Employee Contribution Amounts by Gender



## Diversification by Gender



This report is as of the period ending 12/31/2020 and reflects the trailing 12 months of activity unless otherwise noted. The report includes all TIAA plans except 457(f), 457(b) Private, Nonqualified Deferred Compensation, and Retirement Healthcare plans. 1. Data reflected is for all participant statuses except Employee Contribution Amounts by Gender which includes only active or leave status. Does not include 6 participants with no age or gender on file. 2. Multi-Asset/Other includes Lifecycle, Real Estate, and Brokerage. 3. Contribution data reflects the trailing 12 months of data.

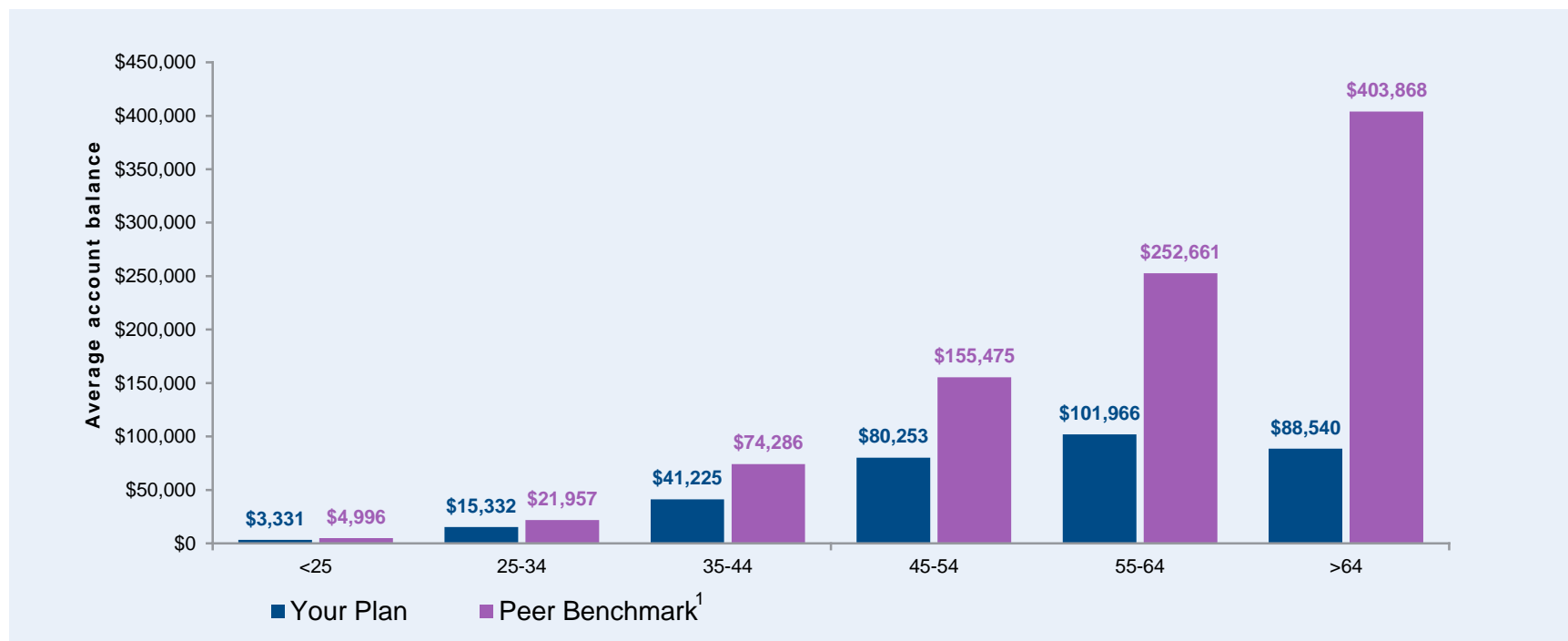
# Employee summary: Participant diversification

## Diversification by Age and Gender<sup>1</sup>

Age	% Guaranteed		% Money Market		% Fixed Income		% Multi Asset/Other <sup>2</sup>		% Equities	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
<25	0%	0%	0%	0%	0%	0%	100%	92%	0%	8%
25-34	2%	3%	0%	0%	7%	2%	70%	75%	22%	20%
35-44	2%	4%	0%	0%	2%	2%	59%	56%	37%	38%
45-54	3%	3%	0%	3%	10%	7%	43%	29%	44%	58%
55-64	1%	1%	1%	3%	9%	12%	51%	36%	38%	48%
>64	0%	0%	0%	1%	7%	5%	52%	60%	41%	35%

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# Active participants: Average account balance by age



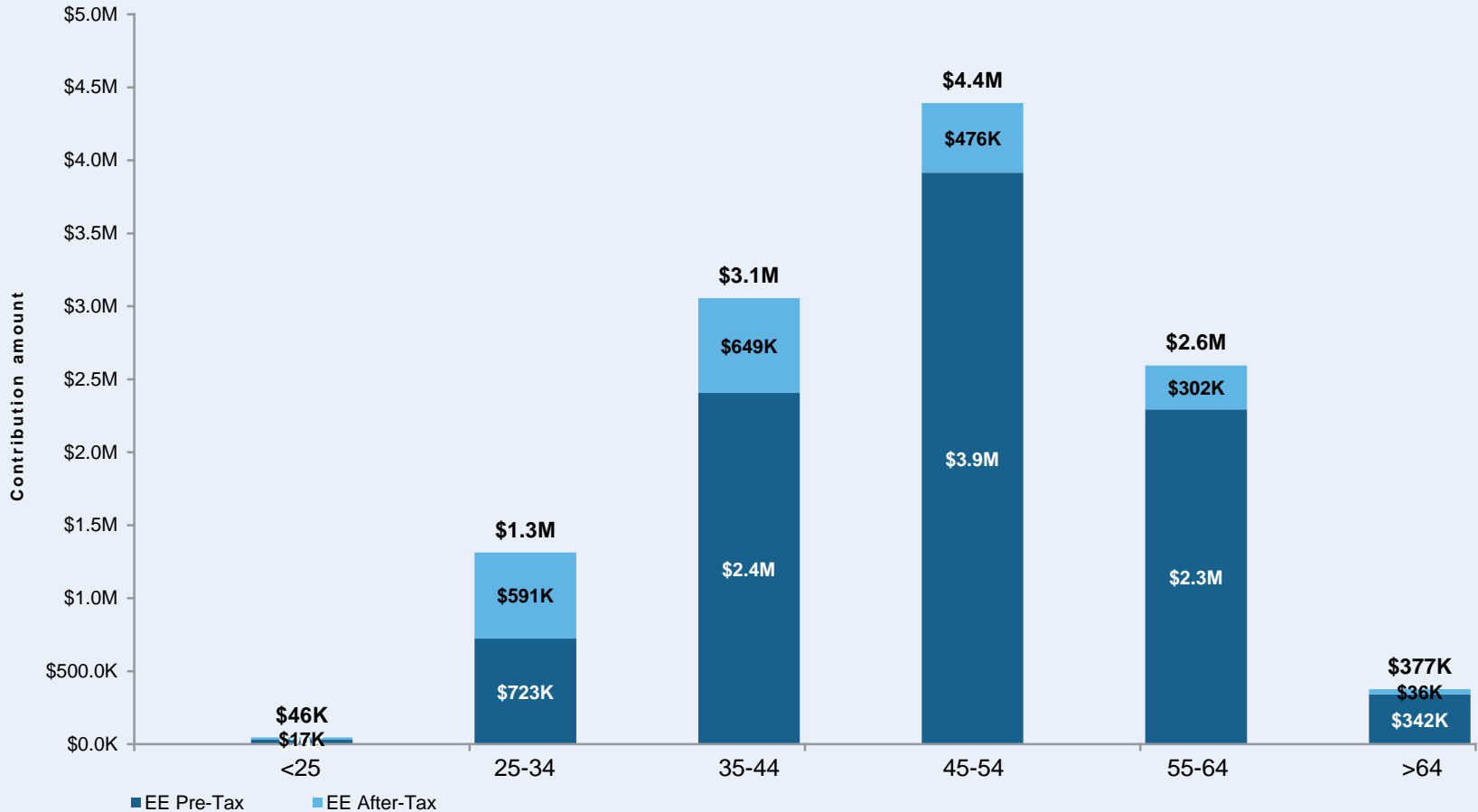
	<25	25-34	35-44	45-54	55-64	>64	Total
# of Active Participants	25	500	911	1,033	527	56	3,052
% of Total Active Participants	1%	16%	30%	34%	17%	2%	100%
Total Active Assets	\$83,270	\$7,665,897	\$37,555,611	\$82,901,016	\$53,736,198	\$4,958,229	\$186,900,221
% of Total Active Assets	0%	4%	20%	44%	29%	3%	100%

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# Active participants: Contribution amounts by age

## Employer (ER) & employee (EE) contributions



This report is as of the period ending 12/31/2020 and reflects the trailing 12 months of activity unless otherwise noted. The report includes all TIAA plans except 457(f), 457(b) Private, Nonqualified Deferred Compensation, and Retirement Healthcare plans.

# Employee Engagement

Focus on outcomes-based  
education and advice







# Segmentation year in review as of 9/30/2020

Life stage		 Dollar Stretcher	 Life Builder	 Accumulator	 Transitioner	 Established
	<b>Count<sup>1</sup></b>	<b>866</b>	<b>922</b>	<b>966</b>	<b>293</b>	<b>63</b>
<b>Communications</b>	Financial Foundations campaigns	822	891	932	285	59
	Onboarding Early Engagement program	125	67	39	5	4
	Offboarding Stay Smart® for Life program	98	7	13	98	46
	Supplemental campaigns	719	864	895	253	52
<b>Engagement</b>	# secure web ID	717	833	883	267	47
	Secure web logins	568	677	741	225	40
	Inbound phone calls: transactional	119	109	135	59	15
<b>Actions</b>	In-person advice	6	21	24	27	3
	Online advice	121	178	193	42	6
	Increased contributions	329	415	414	91	23
	Started employee contributions	118	80	44	5	4
	Reallocated/rebalanced	29	19	25	15	4
	Consolidations <sup>2</sup>	10	15	30	16	3
	Updated beneficiary	91	101	94	28	7
	New enrollments	110	61	34	4	3
<b>Outcomes</b>	Average assets	\$11,330	\$31,720	\$89,360	\$160,516	\$100,352
	Average assets (compared to peers) <sup>3</sup>	\$11,037	\$29,361	\$127,876	\$284,676	\$408,897

1. All counts represent participants that have a balance > \$0 and have made contributions in the last 12 months. 2. Consolidations equals the number of participants who transfer balances from other service providers into TIAA retirement accounts. 3. The peer benchmark represents a group of institutions with TIAA recordkept assets in the not-for-profit market with total plan assets between 100M and 500M..

# Investment Solutions

**Provide participants with relevant choices and lifetime income options**



# Assets & contributions by asset class year-over-year

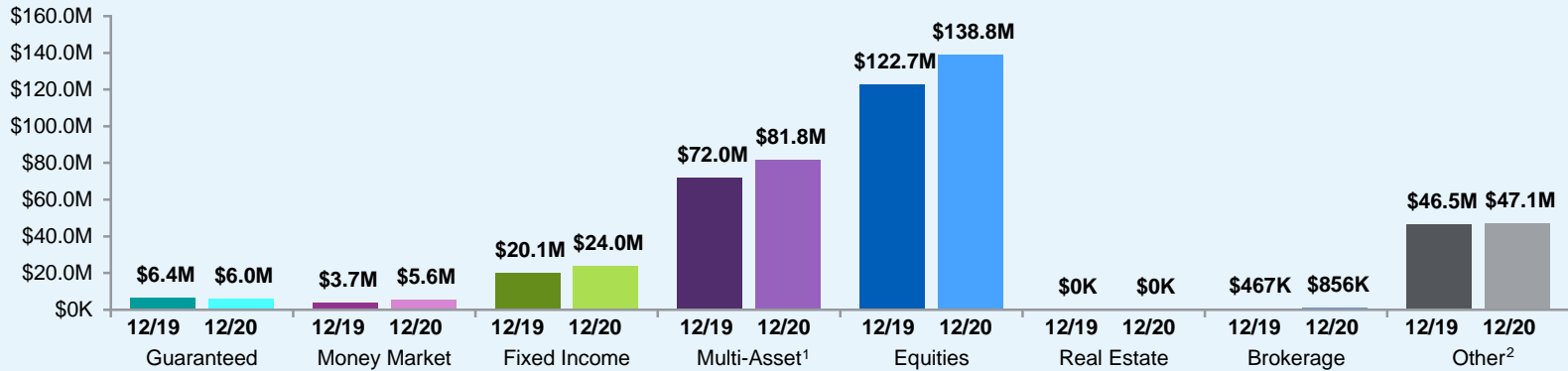
**\$304,210,921**

Total assets

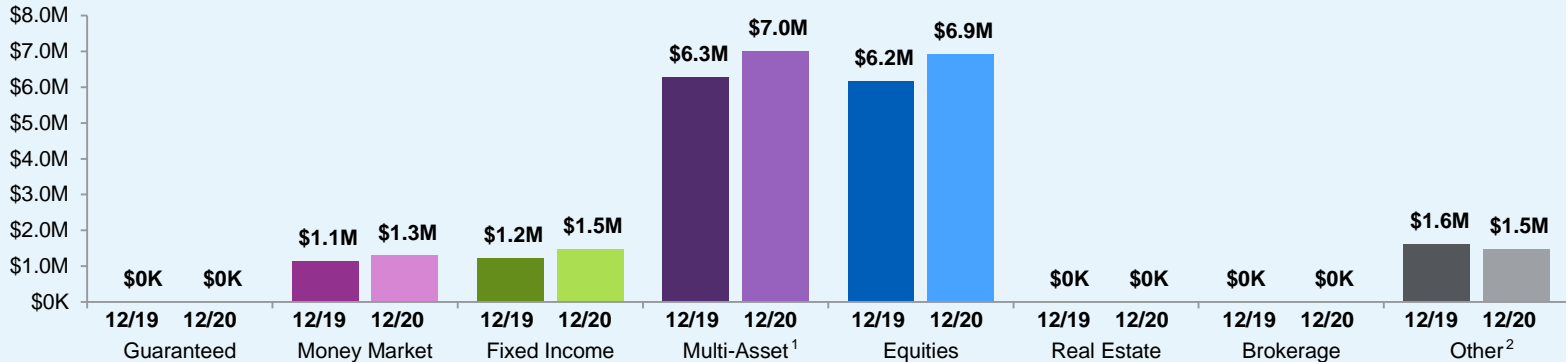
**\$18,153,268**

Total contributions

## Assets



## Contributions



This report is as of the period ending 12/31/2020 and reflects the trailing 12 months of activity unless otherwise noted. The report includes all TIAA plans except 457(f), 457(b) Private, Nonqualified Deferred Compensation, and Retirement Healthcare plans. 1. Multi-Asset includes Lifecycle funds. 2. Other includes uncategorized assets.

# Investment/account utilization by assets

## Top 5 investments by Assets

	Participant Count	Total Assets	Balance % of Total	
■ ICMA RC VantageTrust PLUS R10+	1,011	\$47,105,931	15.48%	15.48%
■ American Funds New Economy R5E	1,060	\$43,813,932	14.40%	14.40%
■ Vanguard Inst Idx Inst	1,002	\$28,221,710	9.28%	9.28%
■ TIAA-CREF Lifecycle 2035-Prem	532	\$17,910,369	5.89%	5.89%
■ TIAA-CREF Lifecycle 2030-Prem	376	\$13,910,739	4.57%	4.57%
Total as a % of total assets		\$150,962,682	49.62%	

## Bottom 5 investments by Assets






	Participant Count	Total Assets	Balance % of Total	
■ TIAA-CREF Lifecycle 2010-Prem	61	\$2,056,643	0.68%	0.68%
■ TIAA-CREF Lifecycle 2055-Prem	198	\$1,428,601	0.47%	0.47%
■ TIAA-CREF Lfcyle Rtmt Inc-Prem	460	\$1,007,525	0.33%	0.33%
■ TIAA-CREF Self Directed Acct	36	\$856,475	0.28%	0.28%
■ TIAA-CREF Lifecycle 2060-Prem	84	\$569,396	0.19%	0.19%
Total as a % of total assets		\$5,918,639	1.95%	

■ Guaranteed
 ■ Money Market
 ■ Fixed Income
 ■ Multi-Asset
 ■ Equities
 ■ Real Estate
 ■ Other<sup>1</sup>




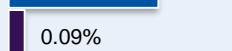
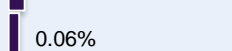
This report is as of the period ending 12/31/2020 and reflects the trailing 12 months of activity unless otherwise noted. The report includes all TIAA plans except 457(f), 457(b) Private, Nonqualified Deferred Compensation, and Retirement Healthcare plans. 1. Other includes uncategorized and brokerage assets.

# Investment/account utilization by contributions

## Top 5 Investments by Contributions

	Participant Count	Total Assets	Balance % of Total	
■ Vanguard Inst Idx Inst	683	\$1,547,446	8.52%	
■ American Funds New Economy R5E	649	\$1,511,828	8.33%	
■ ICMA RC VantageTrust PLUS R10+	434	\$1,468,248	8.09%	
■ TIAA-CREF Lifecycle 2035-Prem	446	\$1,444,319	7.96%	
■ Vanguard Treasury MoneyMkt Inv	87	\$1,283,940	7.07%	
Total as a % of total assets		\$7,255,781	39.97%	

## Bottom 5 Investments by Contributions

	Participant Count	Total Assets	Balance % of Total	
■ TIAA-CREF Lifecycle 2015-Prem	25	\$162,139	0.89%	
■ TIAA-CREF Lifecycle 2060-Prem	82	\$156,316	0.86%	
■ Lazard Intl Equity Port Instl	220	\$153,503	0.85%	
■ TIAA-CREF Lifecycle 2010-Prem	18	\$16,772	0.09%	
■ TIAA-CREF Lfcyle Rtmt Inc-Prem	18	\$10,277	0.06%	
Total as a % of total assets		\$499,008	2.75%	

■ Guaranteed   ■ Money Market   ■ Fixed Income   ■ Multi-Asset   ■ Equities   ■ Real Estate   ■ Other<sup>1</sup>

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# Assets & contributions by investment/account option category

	Total number of participants invested	Contribution amount	Contribution percentage of total	Asset amount	Asset percentage of total
<b>MONEY MARKET</b>					
Vanguard Treasury MoneyMkt Inv	49	\$1,283,940	7.07%	\$5,591,205	1.84%
<b>Money Market Total</b>		<b>\$1,283,940</b>	<b>7.07%</b>	<b>\$5,591,205</b>	<b>1.84%</b>
<b>FIXED INCOME</b>					
BlackRock High Yield Bd Instl	436	\$245,256	1.35%	\$4,507,709	1.48%
Metropolitan West TotRet Bnd I	517	\$920,258	5.07%	\$12,268,118	4.03%
Vanguard Ttl Bd Mkt Idx Adm	382	\$314,192	1.73%	\$7,207,387	2.37%
<b>Fixed Income Total</b>		<b>\$1,479,706</b>	<b>8.15%</b>	<b>\$23,983,214</b>	<b>7.88%</b>
<b>MULTI-ASSET</b>					
TIAA-CREF Lfcyle Rtmt Inc-Prem	460	\$10,277	0.06%	\$1,007,525	0.33%
TIAA-CREF Lifecyle 2010-Prem	61	\$16,772	0.09%	\$2,056,643	0.68%
TIAA-CREF Lifecyle 2015-Prem	80	\$162,139	0.89%	\$3,404,327	1.12%
TIAA-CREF Lifecyle 2020-Prem	204	\$985,985	5.43%	\$7,636,443	2.51%
TIAA-CREF Lifecyle 2025-Prem	280	\$539,069	2.97%	\$10,218,499	3.36%

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# Assets & contributions by investment/account option category

	Total number of participants invested	Contribution amount	Contribution percentage of total	Asset amount	Asset percentage of total
<b>MULTI-ASSET (Continued)</b>					
TIAA-CREF Lifecycle 2030-Prem	376	\$924,274	5.09%	\$13,910,739	4.57%
TIAA-CREF Lifecycle 2035-Prem	532	\$1,444,319	7.96%	\$17,910,369	5.89%
TIAA-CREF Lifecycle 2040-Prem	415	\$1,041,019	5.73%	\$12,000,486	3.94%
TIAA-CREF Lifecycle 2045-Prem	346	\$750,614	4.13%	\$8,064,785	2.65%
TIAA-CREF Lifecycle 2050-Prem	255	\$537,101	2.96%	\$3,631,761	1.19%
TIAA-CREF Lifecycle 2055-Prem	198	\$429,598	2.37%	\$1,428,601	0.47%
TIAA-CREF Lifecycle 2060-Prem	84	\$156,316	0.86%	\$569,396	0.19%
<b>Multi-Asset Total</b>		<b>\$6,997,485</b>	<b>38.55%</b>	<b>\$81,839,574</b>	<b>26.90%</b>
<b>EQUITIES</b>					
AME Small Cap World Fund R5E	535	\$272,232	1.50%	\$9,015,541	2.96%

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# Assets & contributions by investment/account option category

	Total number of participants invested	Contribution amount	Contribution percentage of total	Asset amount	Asset percentage of total
<b>EQUITIES (Continued)</b>					
American Funds New Economy R5E	1,060	\$1,511,828	8.33%	\$43,813,932	14.40%
DFA Emerging Mkt Small Cp Inst	370	\$166,290	0.92%	\$2,528,989	0.83%
DFA Real Estate Sec Port Inst	522	\$311,414	1.72%	\$3,049,692	1.00%
Goldman Sachs Sml Cp Val Inst	673	\$346,419	1.91%	\$8,146,695	2.68%
Invesco Diversified Dividnd R5	700	\$506,581	2.79%	\$7,972,057	2.62%
Lazard Intl Equity Port Instl	414	\$153,503	0.85%	\$2,381,622	0.78%
Scout Mid Cap Fund	673	\$439,918	2.42%	\$10,486,363	3.45%
TIAA-CREF Intl Eq Idx-Prem	588	\$679,466	3.74%	\$8,307,253	2.73%
Vanguard Inst Idx Inst	1,002	\$1,547,446	8.52%	\$28,221,710	9.28%

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# Assets & contributions by investment/account option category

	Total number of participants invested	Contribution amount	Contribution percentage of total	Asset amount	Asset percentage of total
<b>EQUITIES (Continued)</b>					
Vanguard Mid-Cap Idx Adm	539	\$403,126	2.22%	\$7,218,976	2.37%
Vanguard Small-Cap Idx Adm	535	\$585,666	3.23%	\$7,657,345	2.52%
<b>Equities Total</b>		<b>\$6,923,889</b>	<b>38.14%</b>	<b>\$138,800,176</b>	<b>45.63%</b>
<b>BROKERAGE</b>					
TIAA-CREF Self Directed Acct	36	\$0	0.00%	\$856,475	0.28%
<b>Brokerage Total</b>		<b>\$0</b>	<b>0.00%</b>	<b>\$856,475</b>	<b>0.28%</b>
<b>OTHER<sup>2</sup></b>					
Deemed Loan	124	\$0	0.00%	\$1,320,884	0.43%
ICMA RC VantageTrust PLUS R10+	1,011	\$1,468,248	8.09%	\$47,105,931	15.48%
Loan Fund	569	\$0	0.00%	\$4,713,462	1.55%
<b>Other Total</b>		<b>\$1,468,248</b>	<b>8.09%</b>	<b>\$53,140,277</b>	<b>17.47%</b>

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# Appendix



# Glossary

Term	Definition
<b>Active Participants</b>	Participants with a status of “Active” or “Leave” that have a balance greater than zero and have made a contribution in the last 12 months.
<b>Advice</b>	Specific investment recommendations, either in person, online or over the phone, that are tailored to individual circumstances, including variables such as age, current savings rates, plan investments and tolerance for risk.
<b>Annuitants</b>	Persons receiving benefits under a TIAA annuity contract.
<b>Average Annual Payout</b>	The average annual amount that all annuitants are receiving for income generated from an institution’s plan(s).
<b>Average Projected Monthly Payout</b>	The average monthly amount that participants may receive in their retirement years for income generated from the institution’s plan(s).
<b>Average Guaranteed Income</b>	Sources of income that are expected to continue for the participant’s lifetime (e.g., Social Security, TIAA Traditional, Defined Benefits).
<b>Average Projected Monthly Income</b>	The average after-tax retirement income your participants are projected to receive from your TIAA plan(s).
<b>Consolidations</b>	The number of participants who transfer balances from other service providers into TIAA retirement accounts.
<b>Contributing Participants</b>	Participants that have made a contribution in the last 12 months.
<b>Contribution Rate</b>	Annual contributions as a percentage of annual salary.
<b>Defaulted Loans</b>	Loans for which the participant missed the expected repayment and failed to pay the total overdue amount prior to the end of the calendar quarter following the calendar quarter in which the payment was due.

# Glossary

Term	Definition
<b>Defaulted Participants</b>	Participants who have not made an investment allocation election and whose contributions have been directed to the plan's default investment.
<b>Distributions</b>	Includes, but is not limited to, the following categories: Loan, Hardship, In-Service, Terminated & Other. "Other" includes: Annuity Settlement Options, Death Benefits, Plan Loan Defaults, Withdrawals due to Opt-Out Option & Test Failure. In-Service and Terminated may include one or more of these categories: Voluntary Termination, Withdrawal, Death, Beneficiary, Installment Payment, Age 70.5 Minimum Distribution, QDRO, Hardship, Disability, Unforeseen Emergency, Full Withdrawal, Unknown, IRA Recharacterization, Excess Aggregate Contribution, Excess Contribution, Excess Deferral, Excess Annual Addition.
<b>Early Engagement</b>	A communication program that supports participants through their online account setup, plan review and goal setting and gives them an overview of the resources available to them at TIAA.
<b>In Range</b>	<p>Participants who are on target to cover their essential retirement expenses such as housing, food and healthcare but aren't yet on target to replace the income needed to maintain their current standard of living in retirement. The target income replacement rates for participants in this group vary by their current salary (pretax) and are listed below:</p> <ul style="list-style-type: none"> <li>• Current salary &lt;\$50K: Targeted to replace 80% - 100% of after-tax income in retirement</li> <li>• Current salary \$50K - \$100K: Targeted to replace 60% - 85% of after-tax income in retirement</li> <li>• Current salary &gt;\$125K: Targeted to replace 50% - 70% of after-tax income in retirement</li> </ul>
<b>Income Replacement Ratio</b>	The percentage of current salary that is estimated to be replaced during retirement, calculated using multiple variables (e.g., contribution rate, investments, salary). This is a way to visualize how ready your employees are for retirement.
<b>Lifetime Income</b>	An arrangement that provides fixed or variable income payments for the life of the annuitant.
<b>Needs Action</b>	<p>Participants who aren't yet on target to cover essential expense needs in retirement such as housing, food and healthcare. The target income replacement rates for participants in this group vary by their current salary (pretax) and are listed below:</p> <ul style="list-style-type: none"> <li>• Current salary &lt;\$50K: Targeted to replace &lt;80% of after-tax income in retirement</li> <li>• Current salary \$50K - \$100K: Targeted to replace &lt;60% of after-tax income in retirement</li> <li>• Current salary &gt;\$125K: Targeted to replace &lt;50% of after-tax income in retirement</li> </ul>

# Glossary

Term	Definition
<b>On Track</b>	<p>Participants who are on target to meet or exceed the income replacement rate needed to maintain their current standard of living in retirement. The target income replacement rates for participants in this group vary by their current salary (pretax) and are listed below:</p> <ul style="list-style-type: none"> <li>• Current salary &lt;\$50K: Targeted to replace &gt;100% of after-tax income in retirement</li> <li>• Current salary \$50K - \$100K: Targeted to replace &gt;85% of after-tax income in retirement</li> <li>• Current salary &gt;\$125K: Targeted to replace &gt;70% of after-tax income in retirement</li> </ul>
<b>Other Enrollments</b>	All other enrollments not classified as remittance, phone, paper or online.
<b>Participant-Directed Contributions</b>	Contributions that have been invested per the participant's investment allocation election.
<b>Participation Rate</b>	Participation Rate is calculated by dividing the (number of eligible and participating) by (number of eligible and participating + number of eligible and not participating).
<b>Peer Benchmark</b>	A group of institutions at TIAA who provide a measure of comparison to your plan based on comparable plan asset size and market segment (K-12, Higher Education, Healthcare & Government).
<b>Readiness Influencers</b>	Plan features and participant behaviors that may contribute to a participant's retirement readiness and income replacement ratio.
<b>Rebalanced</b>	Total number of participants who reallocated their account balances during the last 12 months.
<b>Remittance</b>	Participant enrollment information, including investment election specifications, provided to TIAA by the plan sponsor.
<b>Retirement Readiness</b>	Measures the degree to which a participant is on track to retire with sufficient lifetime income while maintaining a desired standard of living.
<b>Terminated Participants</b>	Participants with an employee status of "Terminated."

# Glossary

Term	Definition
<b>Total Annual Payout</b>	The total annual amount that all annuitants are receiving for income generated from an institution's plan(s).
<b>Total Participants</b>	Includes participants with an ending balance and at least one contribution during the evaluation period. In addition, other filters are applied to remove participants whose Ibbotson results could disproportionately skew the outcomes of the larger population.

# Income replacement ratio methodology and assumptions

## Participant-related salary, contribution, retirement age and advice assumptions:

- TIAA estimates participant salary based on a regression-tested analysis of more than 60,000 active, premium-paying participants across 48 institutions. Participant salaries are estimated based on a function of the participant's life stage, organization type, age, TIAA recordkept assets, gender, and region and contribution rate. The participant's gross annual income is used for various calculations, including retirement income replacement ratio, estimated Social Security benefits, and estimated federal and state taxes.
- Participant contributions are aggregated for a 12-month period for participants with a balance at the beginning of the period. For participants without a beginning balance, the contribution amount from the last month of the 12-month period is annualized. IRS contribution limits are applied and adjusted for participants eligible for catch-up provisions. Morningstar Investment Management LLC shifts any contribution amount above the annual limit to after-tax contributions for modeling purposes.
- All retirement plan contributions are considered to be dedicated solely for retirement. Assets will not be liquidated for use prior to retirement, and all contributions will end at the Target Retirement Age (TRA).
- The TRA value is defaulted to 67 for most plan participants. Participants aged 66 or higher have a TRA that is set two years from the current age. Life expectancy values are estimated by Morningstar and are based on participant age and gender.
- The participant's balance is aggregated for all selected plans. Amounts are designed as pretax and Roth contributions, as appropriate.
- The participant's asset allocation, for the purposes of this analysis, is categorized into simplified asset classes (i.e., stable value, equities, real estate, fixed income, multi asset and money market).
- The advice provided Morningstar consists of model portfolios composed of target allocations for the asset classes. Based on the target retirement goals, Morningstar will recommend a specific tolerance level designed to adjust over time based on Morningstar's proprietary methodology which customizes a risk level trajectory for the participant.
- The hypothetical advice target for the model is a 100% replacement ratio.
- The Morningstar tool's advice is based on statistical projections of the likelihood that an individual will achieve their retirement goals. The projections rely on financial and economic assumptions of historical rates of return of various asset classes that may not reoccur in the future, volatility measures and other facts, as well as information the individual provides. Morningstar's advice engine includes tax-rate assumptions, mortality tables, and Social Security estimates.

## Retirement income replacement ratio calculation assumptions:

- TIAA measures retirement income replacement ratios by calculating the projected stream of distributions from participants' assets and estimated Social Security benefits in current dollars as a percentage of employees' current salaries.
- Using the participant's estimated salary, current contribution rates and asset allocation, TIAA leverages the advice engine from Morningstar an independent expert retained by TIAA, to perform a sophisticated, Monte Carlo analysis (500 total simulations) to project the retirement income replacement ratio.
- The results indicate the participant's 70% probability of achieving the retirement goal. A lower probability of success is associated with better (and less likely) estimated income. Your participants can also model different outcomes for themselves by going online to [TIAA.org/retirementadvisor](https://www.tiaa.org/retirementadvisor) (online Retirement Advisor tool).
- Data provided represents inputs into the Morningstar advice engine for plan management purposes. If a participant uses Retirement Advisor online or has an advice session with a consultant, estimated retirement income is not replaced with any of the information used in the Plan Outcome Assessment report calculations.
- The plan-level retirement income replacement ratio is determined by calculating the average retirement income replacement ratio of all participants in the plan analysis. All actively contributing participants are included in the analysis, unless the participant has annual compensation of less than \$25,000, has contributed less than \$300 in the previous 12-month period, has a current balance less than \$500, or is less than 23 or greater than 65 years of age.
- **IMPORTANT:** Projections, and other information generated through the TIAA Plan Outcome Assessment and the Morningstar tool regarding the likelihood of various investment outcomes, are hypothetical, do not reflect actual investment results, and are not a guarantee of future results. The projections are dependent in part on subjective and proprietary assumptions, including the rate of inflation and the rate of return for different asset classes, and these rates are difficult to accurately predict. The projections also rely on financial and economic historical assumptions that may not reoccur in the future, volatility measures and other facts. Results may vary with each use and over time.

## Important information

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.org](https://www.tiaa.org)

***You should consider the investment objectives, risks, charges and expenses carefully before investing. Please call 877-518-9161 or log on to TIAA.org for underlying product and fund prospectuses that contain this and other information. Please read the prospectuses carefully before investing.***

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02/20



Investment Performance Review  
Period Ending March 31, 2020

**City of Fort Worth  
457 Deferred Compensation Plan  
Manager Review**

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**Fund Information**

Fund Name :	AIM Equity Funds (Invesco Equity Funds): Invesco Diversified Dividend Fund; Class R5 Shares	Portfolio Assets :	\$19,710 Million
Fund Family :	Invesco Funds	Portfolio Manager :	Meggan Walsh
Ticker :	DDFIX	PM Tenure :	2005
Inception Date :	10/25/2005	Fund Style :	IM Equity Income (MF)
Fund Assets :	\$4,002 Million	Style Benchmark :	Russell 1000 Value Index
Portfolio Turnover :	10%		

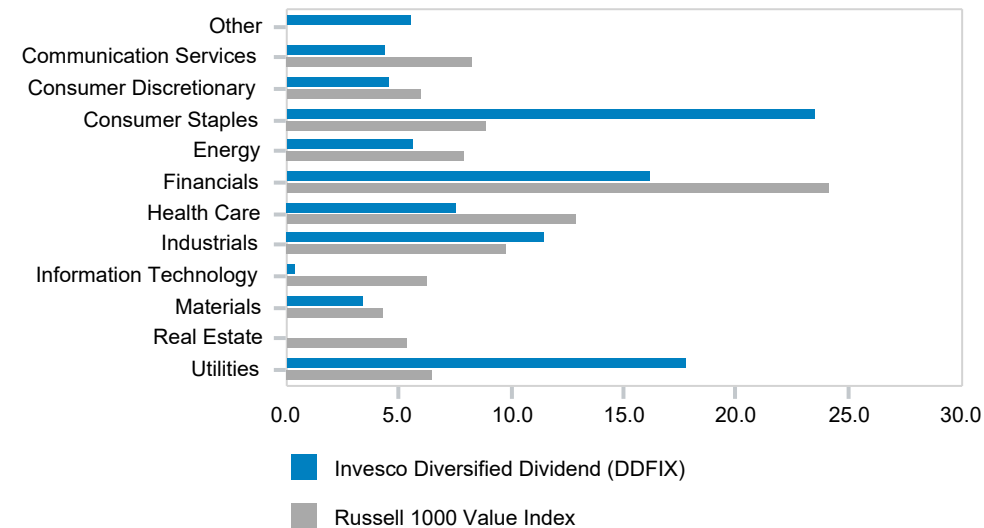
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	80	766
Avg. Market Cap (\$)	79,657,799,269	9,817,467,640
Price/Earnings (P/E)	23.26	17.85
Price/Book (P/B)	4.49	2.21
Dividend Yield	3.11	2.56
Annual EPS	16.55	4.58
5 Yr EPS	2.38	6.44
3 Yr EPS Growth	5.17	N/A
Beta (5 Years, Monthly)	0.77	1.00

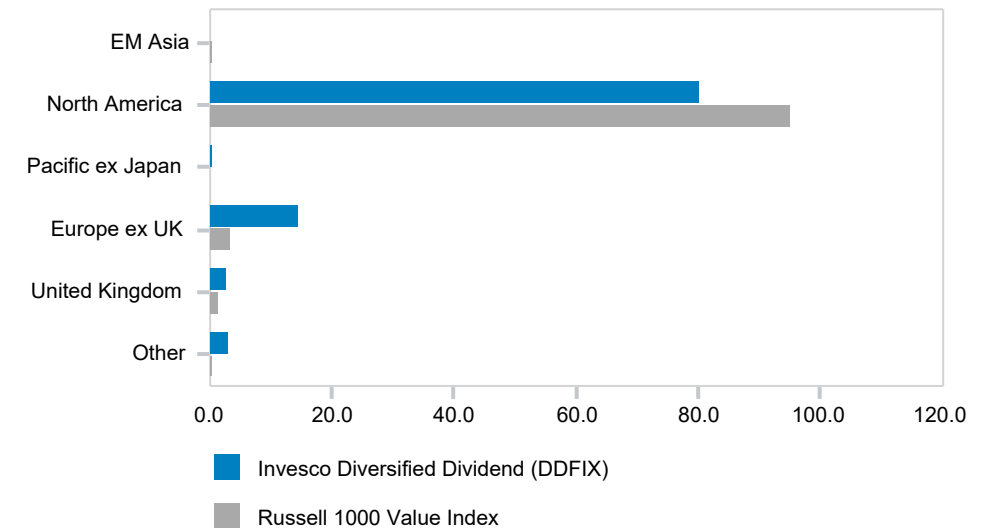
**Top Ten Securities As of 11/30/2019**

Hartford Financial Services Group	3.4 %
Energy Corp ORD	3.3 %
General Mills Inc ORD	3.1 %
Procter & Gamble Co ORD	2.9 %
Coca-Cola Co ORD	2.7 %
AT&T Inc ORD	2.6 %
Dominion Energy Inc ORD	2.5 %
PPL Corp ORD	2.5 %
Exelon Corp ORD	2.2 %
Kimberly-Clark Corp ORD	2.1 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.



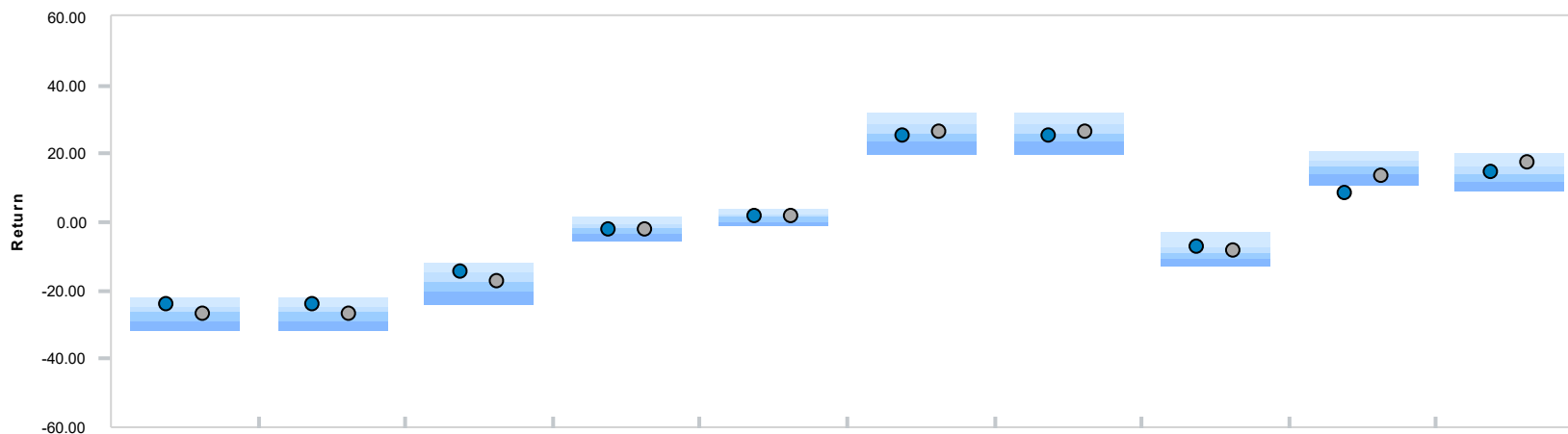
**Mutual Fund Info from Lipper**

Product Name : Invesco Dvsfd Div;R5 (DDFIX)  
Fund Family : Invesco Funds  
Ticker : DDFIX  
Peer Group : IM U.S. Large Cap Value Equity (MF)  
Benchmark : Russell 1000 Value Index  
Fund Inception : 10/25/2005  
Portfolio Manager : Meggan Walsh  
Total Assets : \$4,002 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.53%  
Net Expense : 0.52%  
Turnover : 10%

**Summary Description**

The investment seeks long-term growth of capital and, secondarily, current income. The fund invests primarily in dividend-paying equity securities. It invests in securities that the portfolio managers believe are undervalued based on various valuation measures. The fund may invest up to 25% of its net assets in securities of foreign issuers.

**Peer Group Analysis - IM U.S. Large Cap Value Equity (MF)**



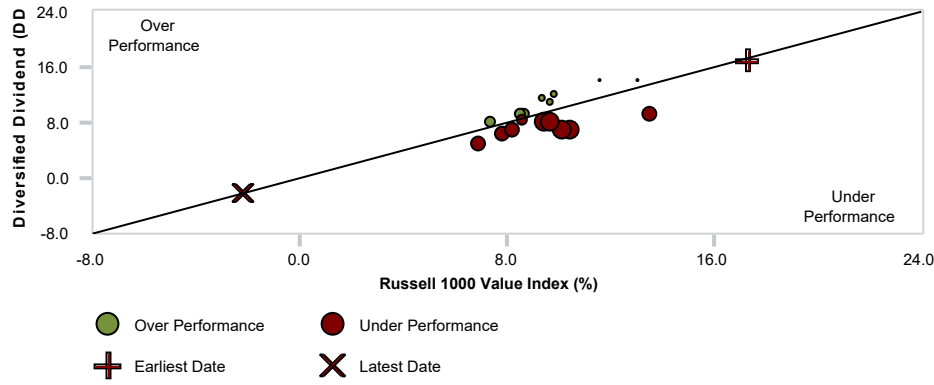
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● Invesco Diversified Dividend (DDFIX)	-24.22 (18)	-24.22 (18)	-14.83 (29)	-2.33 (56)	1.80 (40)	25.46 (60)	25.46 (60)	-7.54 (28)	8.53 (99)	14.66 (39)
○ Russell 1000 Value Index	-26.73 (53)	-26.73 (53)	-17.17 (51)	-2.18 (54)	1.90 (37)	26.54 (45)	26.54 (45)	-8.27 (36)	13.66 (77)	17.34 (19)
Median	-26.58	-26.58	-17.13	-1.92	1.48	26.07	26.07	-9.08	16.29	13.82

**Comparative Performance**

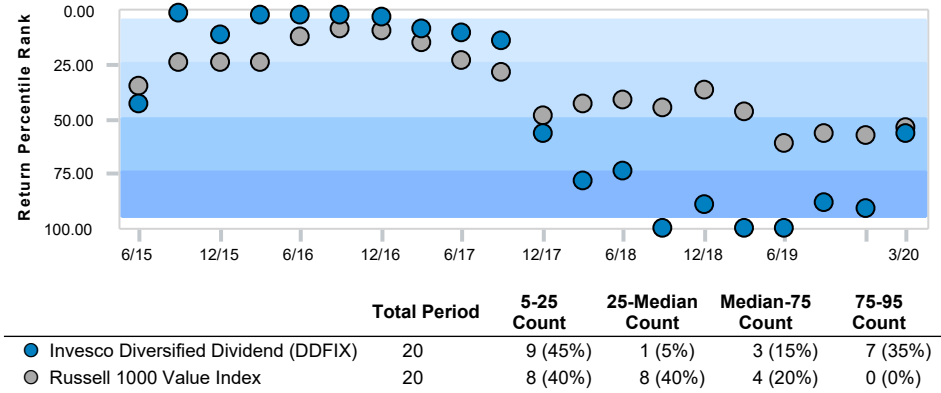
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
Invesco Diversified Dividend (DDFIX)	5.19 (92)	3.33 (3)	3.41 (54)	11.63 (49)	-9.02 (7)	3.86 (95)
Russell 1000 Value Index	7.41 (55)	1.36 (53)	3.84 (39)	11.93 (40)	-11.72 (29)	5.70 (57)
IM U.S. Large Cap Value Equity (MF) Median	7.57	1.41	3.49	11.58	-12.92	5.95



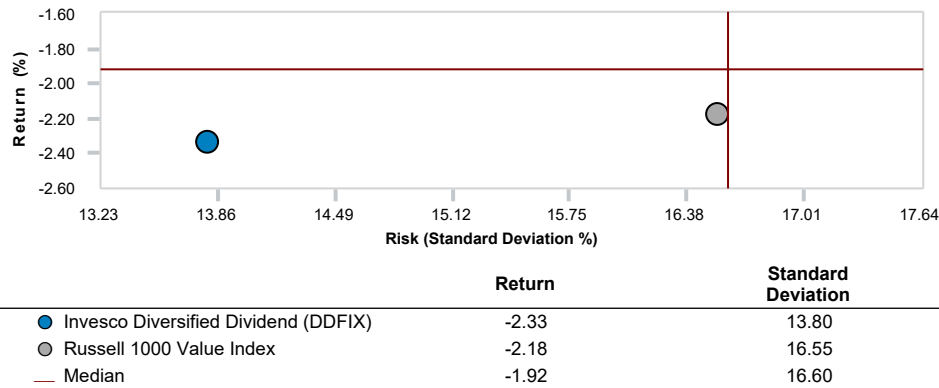
**3 Yr Rolling Under/Over Performance - 5 Years**



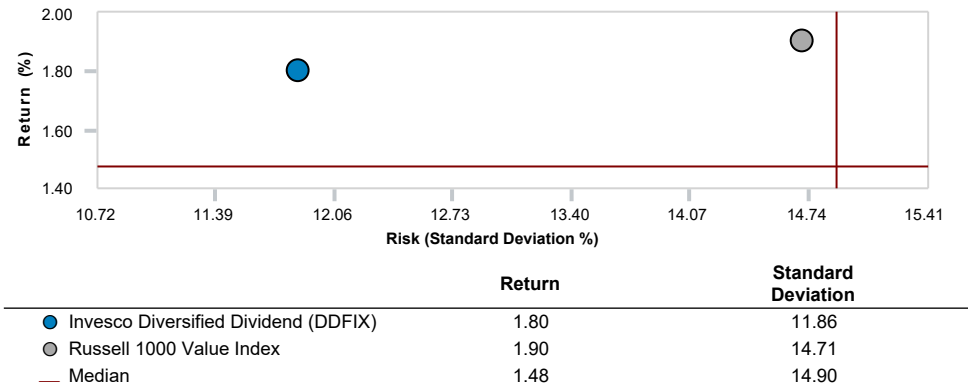
**3 Yr Rolling Percentile Ranking - 5 Years**



**Peer Group Scattergram - 3 Years**



**Peer Group Scattergram - 5 Years**



**Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Invesco Diversified Dividend (DDFIX)	4.49	72.17	76.18	-0.75	-0.14	-0.23	0.81	11.85
Russell 1000 Value Index	0.00	100.00	100.00	0.00	N/A	-0.15	1.00	13.99

**Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Invesco Diversified Dividend (DDFIX)	4.81	72.20	70.10	0.20	-0.10	0.11	0.77	9.52
Russell 1000 Value Index	0.00	100.00	100.00	0.00	N/A	0.13	1.00	11.58



**Fund Information**

Fund Name :	Vanguard Institutional Index Fund: Vanguard Institutional Index Fund; Institutional Shares	Portfolio Assets :	\$242,173 Million
Fund Family :	Vanguard Group Inc	Portfolio Manager :	Butler/Louie
Ticker :	VINIX	PM Tenure :	2000--2017
Inception Date :	07/31/1990	Fund Style :	IM S&P 500 Index (MF)
Fund Assets :	\$116,814 Million	Style Benchmark :	S&P 500 Index
Portfolio Turnover :	6%		

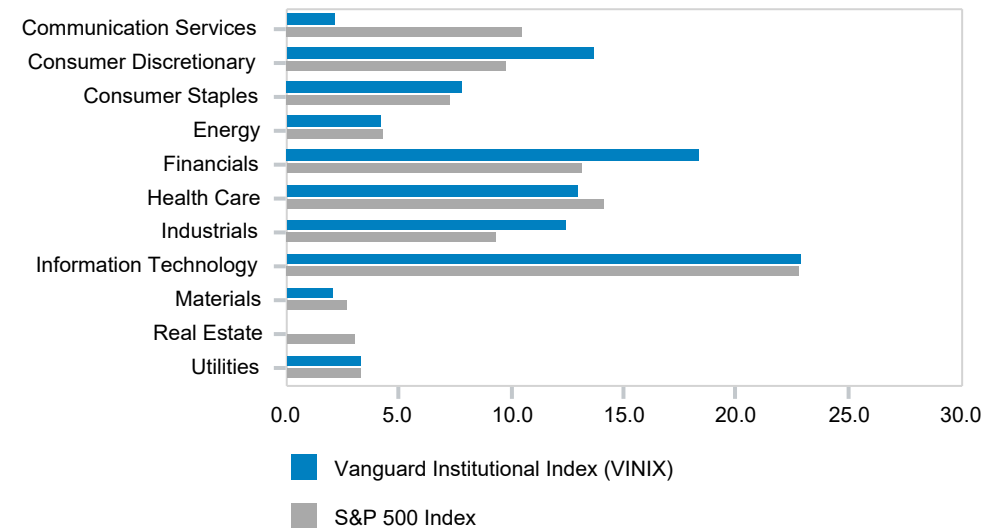
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	512	505
Avg. Market Cap (\$)	262,580,297,338	23,482,483,200
Price/Earnings (P/E)	28.65	22.16
Price/Book (P/B)	7.38	3.55
Dividend Yield	2.22	1.90
Annual EPS	26.50	7.65
5 Yr EPS	15.75	14.28
3 Yr EPS Growth	19.09	N/A
Beta (5 Years, Monthly)	1.00	1.00

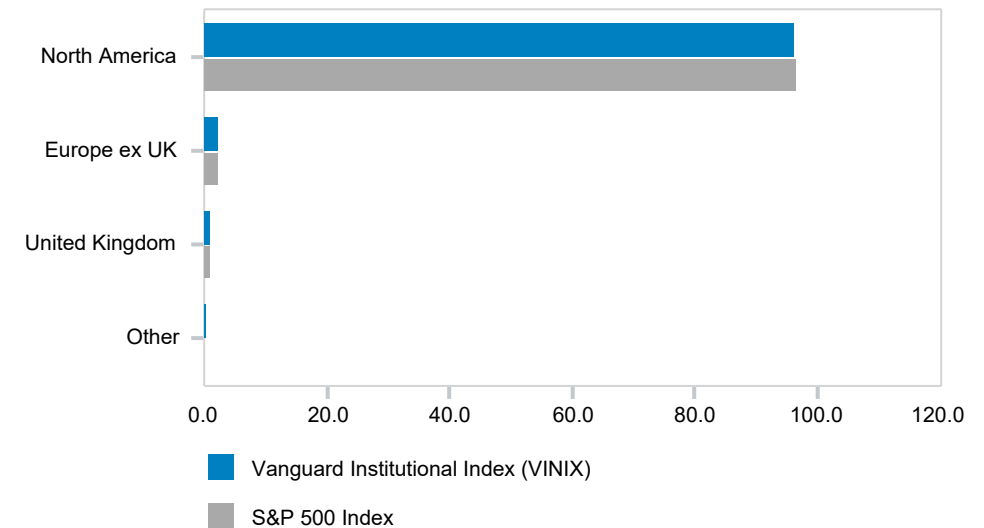
**Top Ten Securities As of 11/30/2019**

Microsoft Corp ORD	4.4 %
Apple Inc ORD	4.3 %
Amazon.com Inc ORD	2.9 %
Facebook Inc ORD	1.9 %
Berkshire Hathaway Inc ORD	1.7 %
JPMorgan Chase & Co ORD	1.6 %
Alphabet Inc ORD 1	1.5 %
Alphabet Inc ORD 2	1.5 %
Johnson & Johnson ORD	1.4 %
Visa Inc ORD	1.2 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.



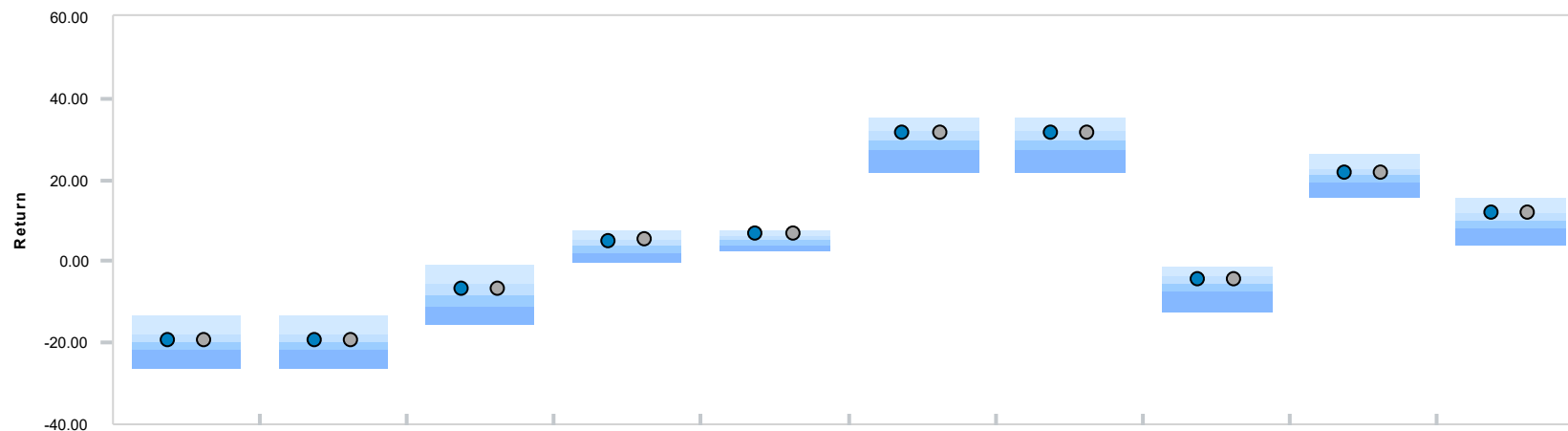
**Mutual Fund Info from Lipper**

Product Name : Vanguard Instl Indx;Inst (VINIX)  
Fund Family : Vanguard Group Inc  
Ticker : VINIX  
Peer Group : IM U.S. Large Cap Core Equity (MF)  
Benchmark : S&P 500 Index  
Fund Inception : 07/31/1990  
Portfolio Manager : Butler/Louie  
Total Assets : \$116,814 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.04%  
Net Expense : 0.04%  
Turnover : 6%

**Summary Description**

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. It 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.

**Peer Group Analysis - IM U.S. Large Cap Core Equity (MF)**



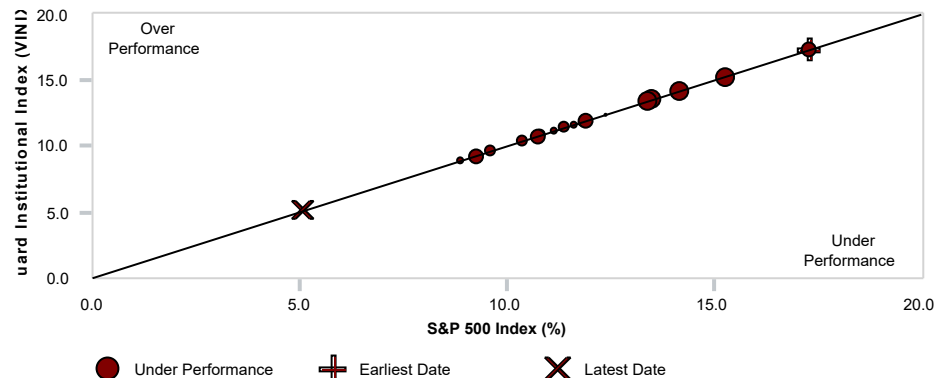
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● Vanguard Institutional Index (VINIX)	-19.60 (44)	-19.60 (44)	-7.00 (36)	5.08 (29)	6.70 (15)	31.46 (30)	31.46 (30)	-4.42 (31)	21.79 (39)	11.93 (27)
○ S&P 500 Index	-19.60 (44)	-19.60 (44)	-6.98 (36)	5.10 (29)	6.73 (14)	31.49 (30)	31.49 (30)	-4.38 (30)	21.83 (38)	11.96 (26)
Median	-19.85	-19.85	-8.37	3.80	5.23	29.67	29.67	-5.61	21.17	10.07

**Comparative Performance**

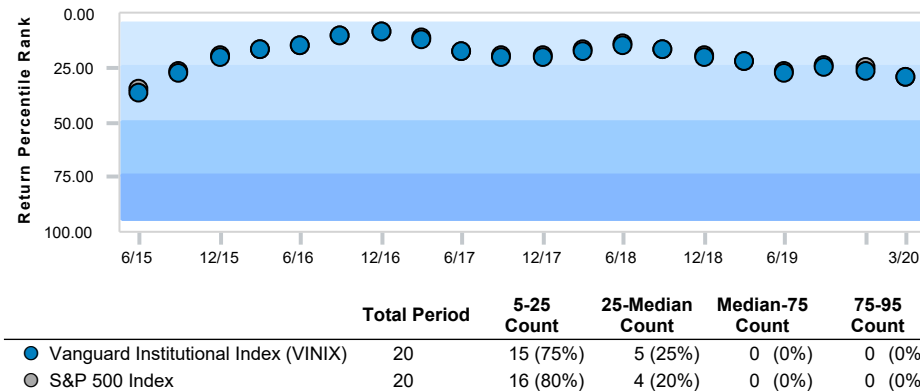
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
Vanguard Institutional Index (VINIX)	9.06 (39)	1.69 (40)	4.30 (44)	13.65 (31)	-13.53 (46)	7.70 (32)
S&P 500 Index	9.07 (38)	1.70 (39)	4.30 (44)	13.65 (31)	-13.52 (46)	7.71 (32)
IM U.S. Large Cap Core Equity (MF) Median	8.72	1.46	4.15	13.08	-13.74	7.28



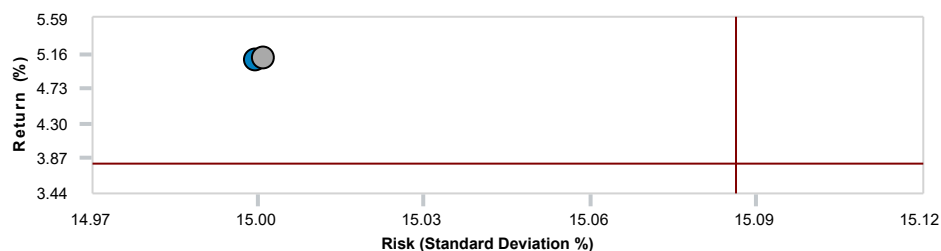
### 3 Yr Rolling Under/Over Performance - 5 Years



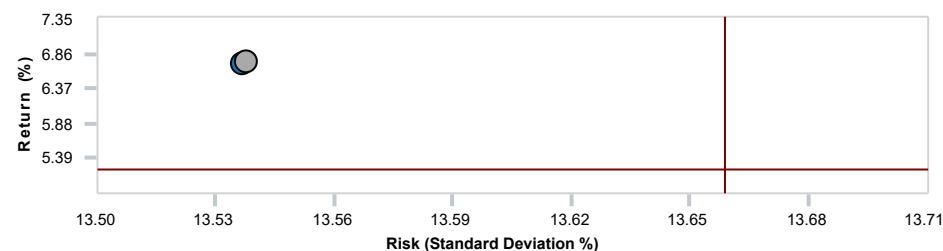
### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



### Peer Group Scattergram - 5 Years



### Historical Statistics - 3 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Vanguard Institutional Index (VINIX)	0.01	99.91	100.03	-0.03	-2.34	0.29	1.00	11.71
S&P 500 Index	0.00	100.00	100.00	0.00	N/A	0.29	1.00	11.71

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Vanguard Institutional Index (VINIX)	0.01	99.91	100.04	-0.02	-2.16	0.46	1.00	9.88
S&P 500 Index	0.00	100.00	100.00	0.00	N/A	0.46	1.00	9.88



**Fund Information**

Fund Name : Vanguard Index Funds: Vanguard Mid-Cap Index Fund; Admiral Shares  
 Fund Family : Vanguard Group Inc  
 Ticker : VIMAX  
 Inception Date : 11/12/2001  
 Fund Assets : \$47,640 Million  
 Portfolio Turnover : 16%

Portfolio Assets : \$115,437 Million  
 Portfolio Manager : Butler/Johnson  
 PM Tenure : 2001--2016  
 Fund Style : IM U.S. Mid Cap Core Equity (MF)  
 Style Benchmark : Vanguard Spliced Mid Cap Index

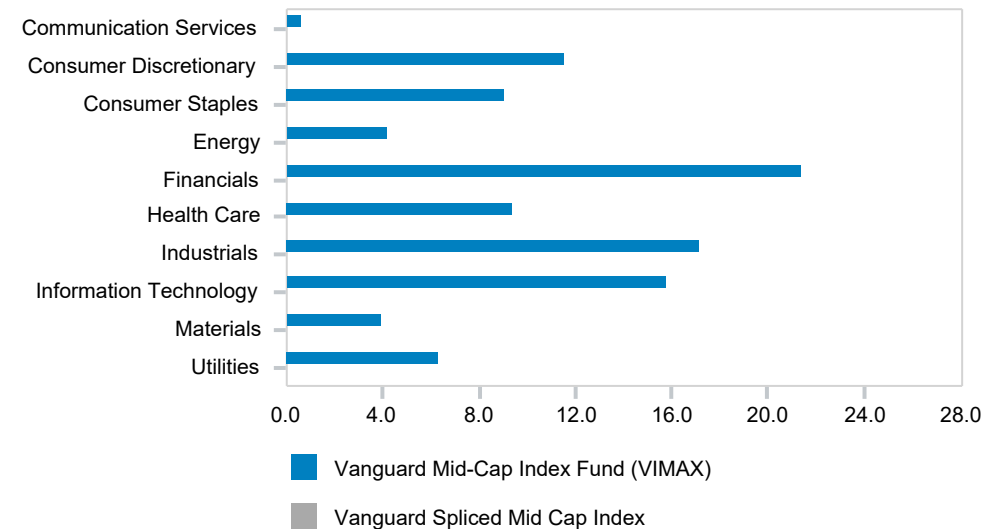
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	350	N/A
Avg. Market Cap (\$)	17,723,234,994	-
Price/Earnings (P/E)	30.31	N/A
Price/Book (P/B)	6.05	N/A
Dividend Yield	2.22	N/A
Annual EPS	24.56	N/A
5 Yr EPS	13.43	N/A
3 Yr EPS Growth	18.53	N/A
Beta (5 Years, Monthly)	1.00	1.00

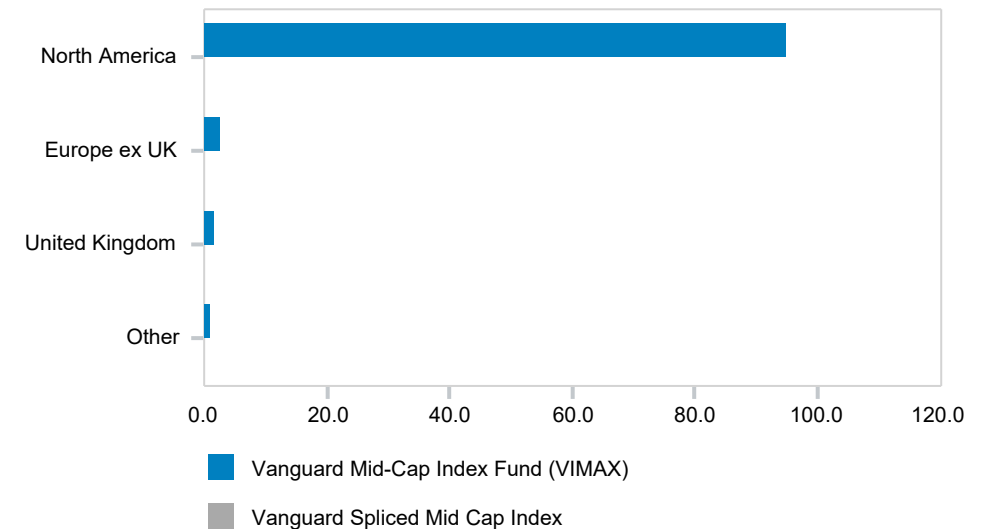
**Top Ten Securities As of 11/30/2019**

Advanced Micro Devices Inc ORD	1.0 %
Newmont Goldcorp Corp ORD	0.7 %
Amphenol Corp ORD	0.7 %
ONEOK Inc ORD	0.7 %
TransDigm Group Inc ORD	0.7 %
WEC Energy Group Inc ORD	0.6 %
Motorola Solutions Inc ORD	0.6 %
IHS Markit Ltd ORD	0.6 %
Eversource Energy ORD	0.6 %
SBA Communications Corp ORD	0.6 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.





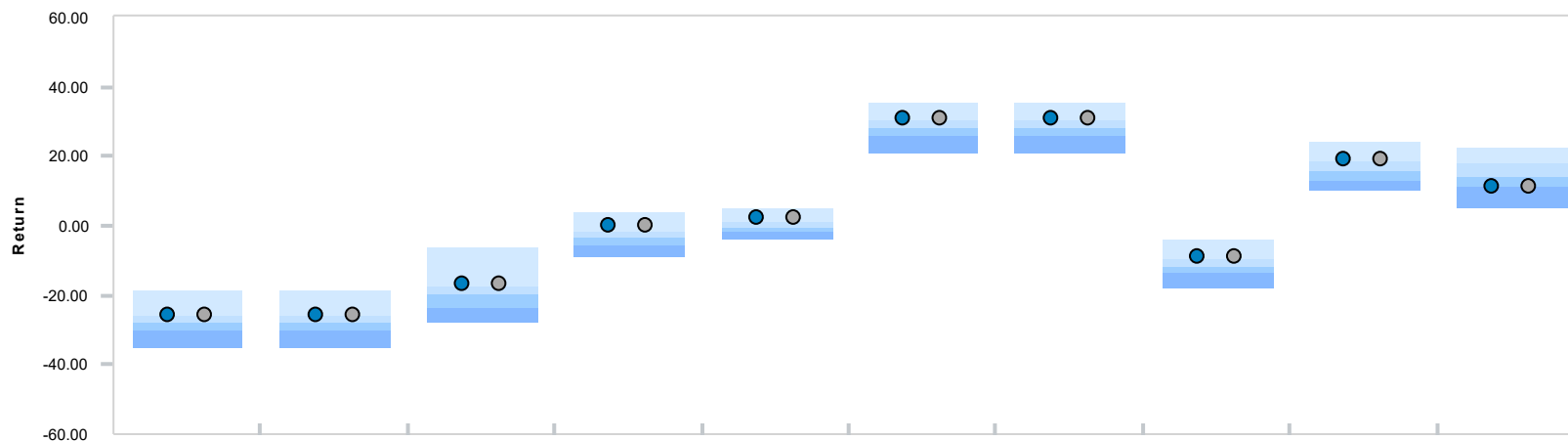
**Mutual Fund Info from Lipper**

Product Name : Vanguard Md-Cp I:Adm (VIMAX)  
Fund Family : Vanguard Group Inc  
Ticker : VIMAX  
Peer Group : IM U.S. Mid Cap Core Equity (MF)  
Benchmark : Vanguard Spliced Mid Cap Index  
Fund Inception : 11/12/2001  
Portfolio Manager : Butler/Johnson  
Total Assets : \$47,640 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.05%  
Net Expense : 0.05%  
Turnover : 16%

**Summary Description**

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.

**Peer Group Analysis - IM U.S. Mid Cap Core Equity (MF)**



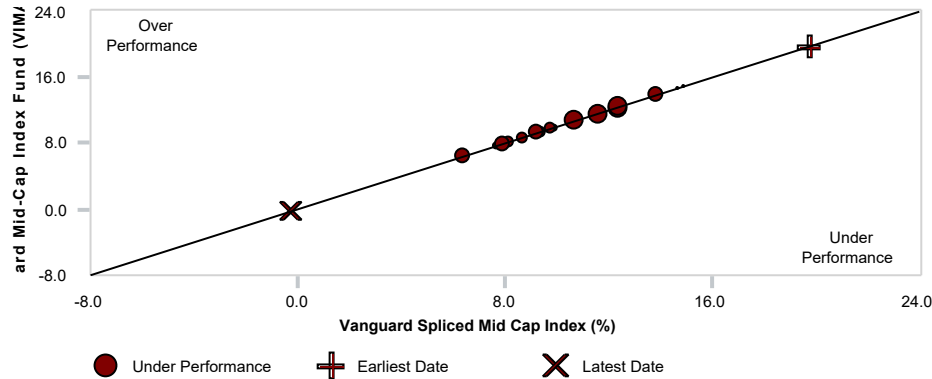
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● Vanguard Mid-Cap Index Fund (VIMAX)	-25.72 (26)	-25.72 (26)	-16.65 (21)	-0.26 (14)	2.08 (14)	31.03 (20)	31.03 (20)	-9.23 (23)	19.25 (19)	11.22 (75)
○ Vanguard Spliced Mid Cap Index	-25.74 (27)	-25.74 (27)	-16.65 (21)	-0.25 (13)	2.11 (13)	31.09 (19)	31.09 (19)	-9.22 (23)	19.30 (19)	11.25 (73)
Median	-28.30	-28.30	-19.67	-3.64	-0.37	28.08	28.08	-11.52	15.44	14.23

**Comparative Performance**

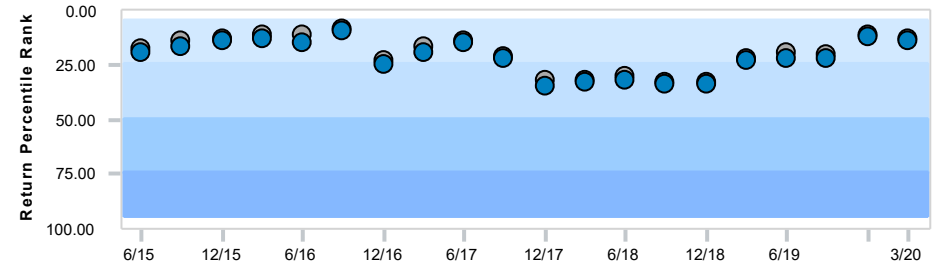
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
Vanguard Mid-Cap Index Fund (VIMAX)	6.88 (50)	0.61 (62)	4.36 (41)	16.77 (8)	-15.46 (45)	4.67 (42)
Vanguard Spliced Mid Cap Index	6.88 (50)	0.62 (61)	4.37 (40)	16.79 (6)	-15.46 (45)	4.65 (42)
IM U.S. Mid Cap Core Equity (MF) Median	6.85	0.98	4.14	14.57	-15.85	4.20



**3 Yr Rolling Under/Over Performance - 5 Years**

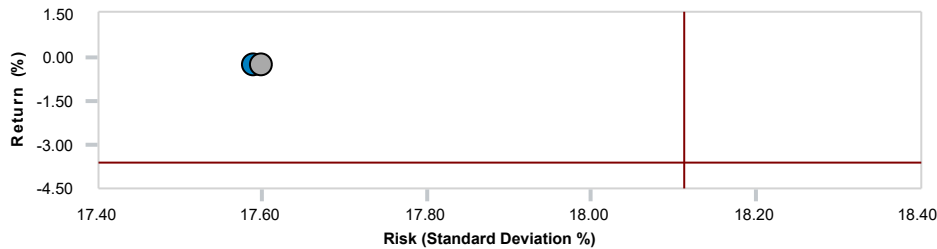


**3 Yr Rolling Percentile Ranking - 5 Years**



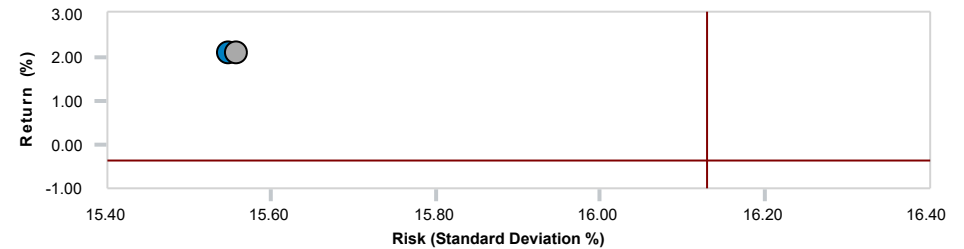
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
● Vanguard Mid-Cap Index Fund (VIMAX)	20	15 (75%)	5 (25%)	0 (0%)	0 (0%)
○ Vanguard Spliced Mid Cap Index	20	15 (75%)	5 (25%)	0 (0%)	0 (0%)

**Peer Group Scattergram - 3 Years**



	Return	Standard Deviation
● Vanguard Mid-Cap Index Fund (VIMAX)	-0.26	17.59
○ Vanguard Spliced Mid Cap Index	-0.25	17.60
— Median	-3.64	18.11

**Peer Group Scattergram - 5 Years**



	Return	Standard Deviation
● Vanguard Mid-Cap Index Fund (VIMAX)	2.08	15.55
○ Vanguard Spliced Mid Cap Index	2.11	15.56
— Median	-0.37	16.13

**Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Vanguard Mid-Cap Index Fund (VIMAX)	0.03	99.96	100.04	-0.02	-0.61	-0.02	1.00	14.65
Vanguard Spliced Mid Cap Index	0.00	100.00	100.00	0.00	N/A	-0.02	1.00	14.66

**Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Vanguard Mid-Cap Index Fund (VIMAX)	0.03	99.90	100.02	-0.02	-0.89	0.14	1.00	12.32
Vanguard Spliced Mid Cap Index	0.00	100.00	100.00	0.00	N/A	0.14	1.00	12.33



**Fund Information**

Fund Name : Carillon Series Trust: Carillon Scout Mid Cap Fund; Class I Shares  
 Fund Family : Carillon Tower Advisers Inc  
 Ticker : UMBMX  
 Inception Date : 10/31/2006  
 Fund Assets : \$2,727 Million  
 Portfolio Turnover : 106%

Portfolio Assets : \$2,900 Million  
 Portfolio Manager : G. Patrick Dunkerley  
 PM Tenure : 2006  
 Fund Style : IM U.S. Mid Cap Core Equity (MF)  
 Style Benchmark : Russell Midcap Index

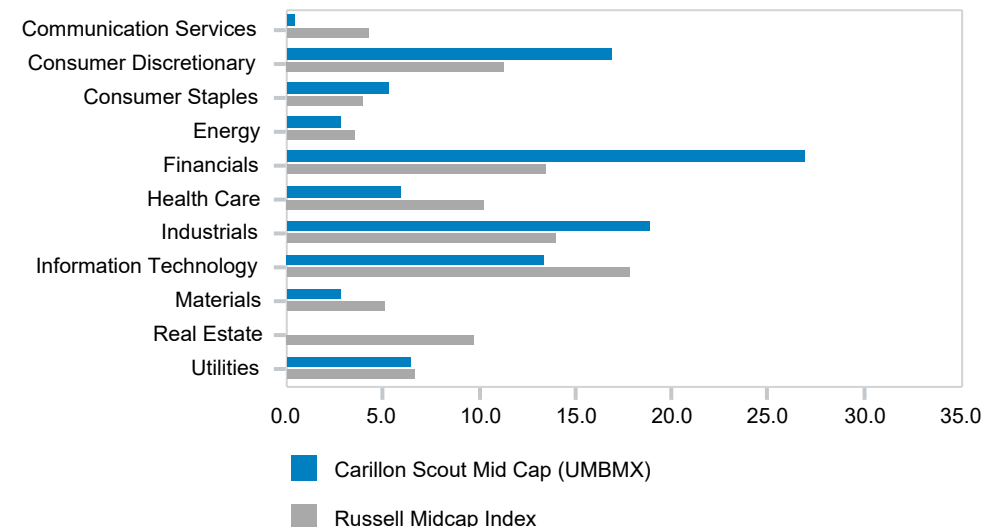
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	144	804
Avg. Market Cap (\$)	16,515,644,399	8,386,549,745
Price/Earnings (P/E)	28.15	21.45
Price/Book (P/B)	5.29	2.98
Dividend Yield	2.29	1.73
Annual EPS	22.69	3.92
5 Yr EPS	14.91	11.58
3 Yr EPS Growth	14.14	N/A
Beta (5 Years, Monthly)	0.94	1.00

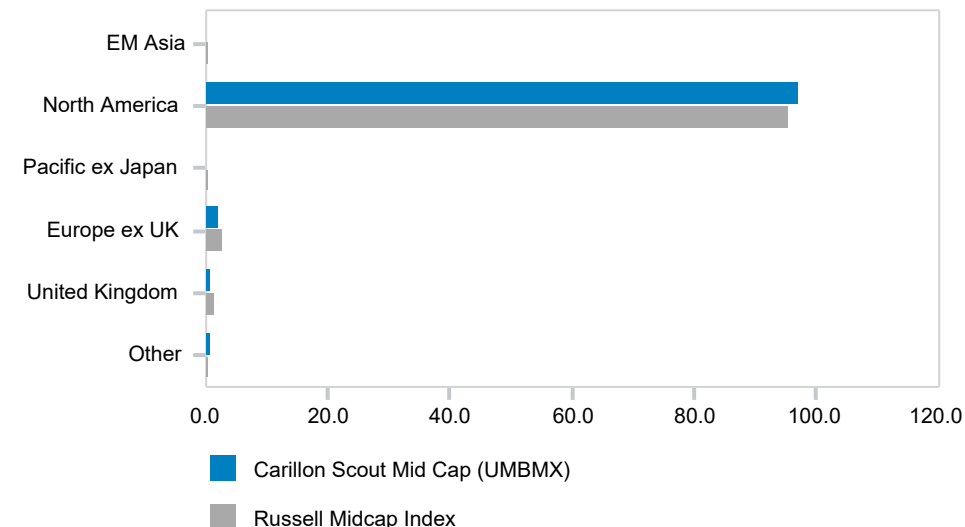
**Top Ten Securities As of 11/30/2019**

Dollar General Corp ORD	2.5 %
AGNC Investment Corp ORD	2.2 %
WEC Energy Group Inc ORD	2.1 %
Lincoln National Corp ORD	2.1 %
Caseys General Stores Inc ORD	2.0 %
Mid-America Apartment Communities	1.9 %
Royal Caribbean Cruises Ltd ORD	1.8 %
Ally Financial Inc ORD	1.6 %
Teleflex Inc ORD	1.6 %
Americold Realty Trust ORD	1.5 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.



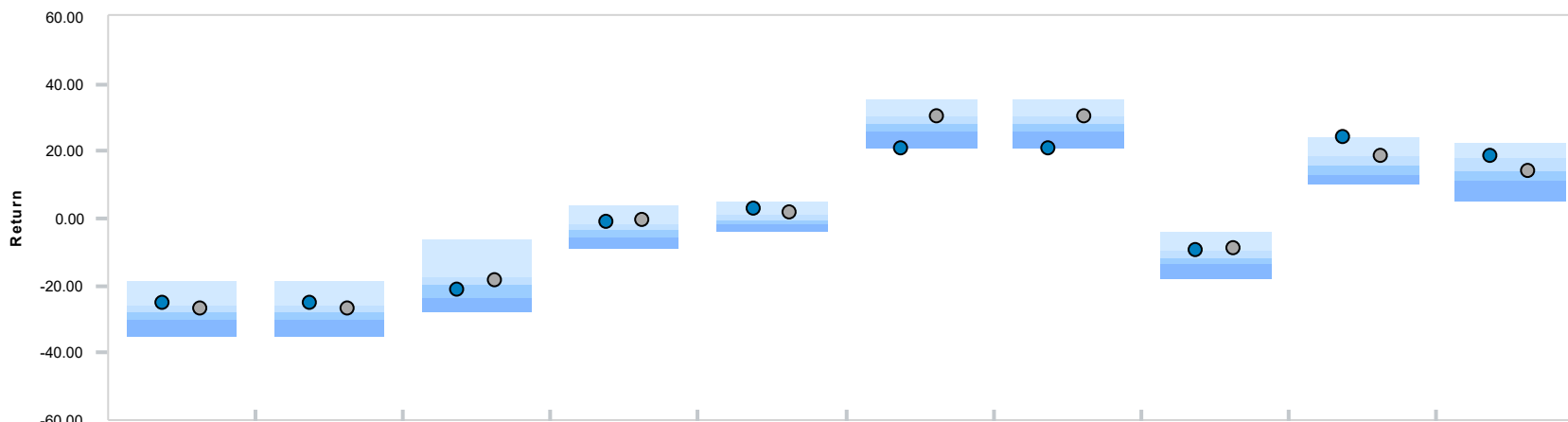
**Mutual Fund Info from Lipper**

Product Name : Carillon:Sct Mid Cap;I (UMBMX)  
Fund Family : Carillon Tower Advisers Inc  
Ticker : UMBMX  
Peer Group : IM U.S. Mid Cap Core Equity (MF)  
Benchmark : Russell Midcap Index  
Fund Inception : 10/31/2006  
Portfolio Manager : G. Patrick Dunkerley  
Total Assets : \$2,727 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.98%  
Net Expense : 0.98%  
Turnover : 106%

**Summary Description**

The investment seeks long-term growth of capital. Under normal circumstances, at least 80% of the fund's net assets will be invested in mid cap equity securities. Mid cap equity securities are securities issued by companies that fall within the market capitalization range of the Russell Midcap® Index (the "index") at the time of purchase. It maintains a portfolio of investments diversified across companies and economic sectors.

**Peer Group Analysis - IM U.S. Mid Cap Core Equity (MF)**



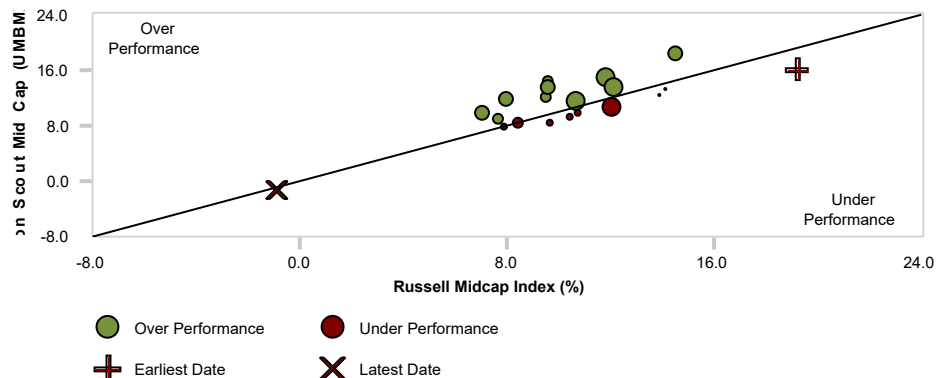
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● Carillon Scout Mid Cap (UMBMX)	-25.25 (20)	-25.25 (20)	-21.21 (64)	-1.33 (22)	2.73 (10)	20.76 (95)	20.76 (95)	-9.74 (27)	24.02 (6)	18.31 (21)
○ Russell Midcap Index	-27.07 (37)	-27.07 (37)	-18.31 (38)	-0.81 (18)	1.85 (18)	30.54 (25)	30.54 (25)	-9.06 (20)	18.52 (27)	13.80 (55)
Median	-28.30	-28.30	-19.67	-3.64	-0.37	28.08	28.08	-11.52	15.44	14.23

**Comparative Performance**

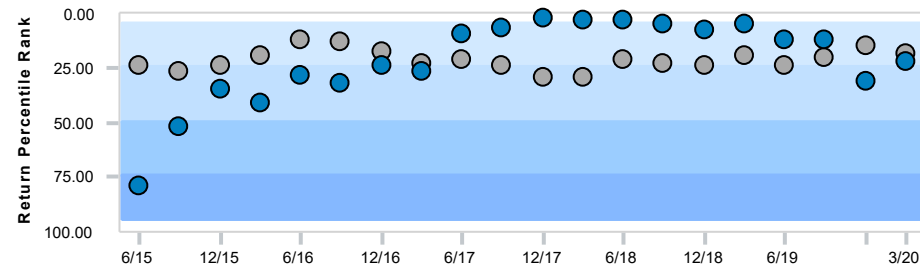
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
Carillon Scout Mid Cap (UMBMX)	4.94 (94)	-0.65 (84)	1.10 (94)	14.56 (51)	-16.83 (68)	6.73 (8)
Russell Midcap Index	7.06 (43)	0.48 (65)	4.13 (52)	16.54 (11)	-15.37 (42)	5.00 (29)
IM U.S. Mid Cap Core Equity (MF) Median	6.85	0.98	4.14	14.57	-15.85	4.20



### 3 Yr Rolling Under/Over Performance - 5 Years

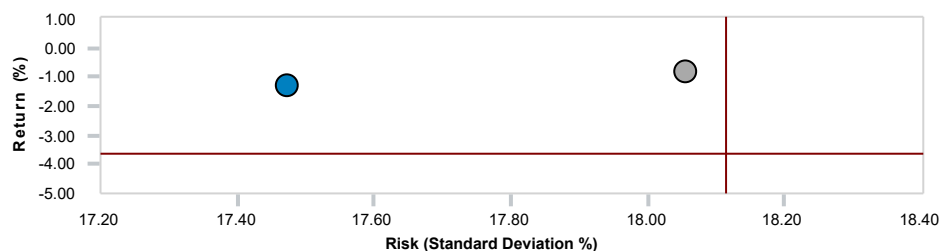


### 3 Yr Rolling Percentile Ranking - 5 Years



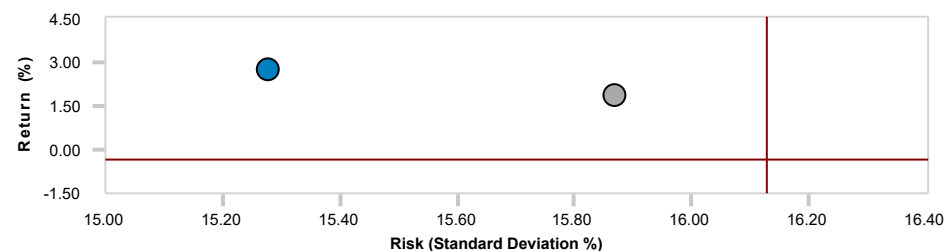
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
● Carillon Scout Mid Cap (UMBMX)	20	12 (60%)	6 (30%)	1 (5%)	1 (5%)
● Russell Midcap Index	20	17 (85%)	3 (15%)	0 (0%)	0 (0%)

### Peer Group Scattergram - 3 Years



	Return	Standard Deviation
● Carillon Scout Mid Cap (UMBMX)	-1.33	17.47
● Russell Midcap Index	-0.81	18.06
— Median	-3.64	18.11

### Peer Group Scattergram - 5 Years



	Return	Standard Deviation
● Carillon Scout Mid Cap (UMBMX)	2.73	15.28
● Russell Midcap Index	1.85	15.87
— Median	-0.37	16.13

### Historical Statistics - 3 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Carillon Scout Mid Cap (UMBMX)	3.59	94.39	97.27	-0.60	-0.18	-0.09	0.95	14.72
Russell Midcap Index	0.00	100.00	100.00	0.00	N/A	-0.05	1.00	15.13

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Carillon Scout Mid Cap (UMBMX)	3.65	99.36	94.87	0.96	0.21	0.18	0.94	12.01
Russell Midcap Index	0.00	100.00	100.00	0.00	N/A	0.13	1.00	12.60



**Fund Information**

Fund Name :	Goldman Sachs Trust: Goldman Sachs Small Cap Value Fund; Institutional Shares	Portfolio Assets :	\$5,993 Million
Fund Family :	Goldman Sachs & Co/GSAM	Portfolio Manager :	Davis/Crystal/Butkus
Ticker :	GSSIX	PM Tenure :	2006--2006--2011
Inception Date :	08/15/1997	Fund Style :	IM U.S. Small Cap Core Equity (MF)
Fund Assets :	\$3,320 Million	Style Benchmark :	Russell 2000 Value Index
Portfolio Turnover :	47%		

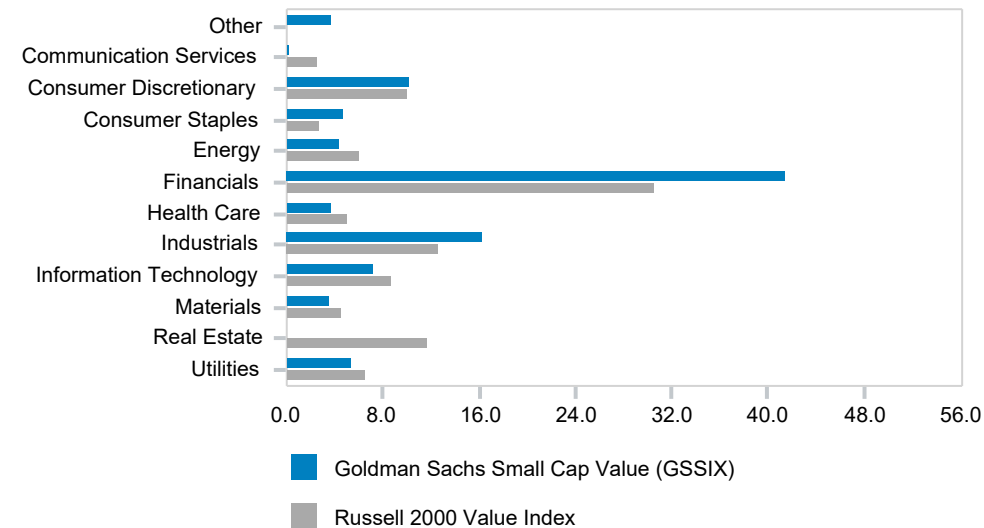
**Portfolio Characteristics As of 09/30/2019**

	Portfolio	Benchmark
Total Securities	229	1,402
Avg. Market Cap (\$)	3,212,371,070	650,338,405
Price/Earnings (P/E)	26.31	14.01
Price/Book (P/B)	2.80	1.59
Dividend Yield	2.81	2.23
Annual EPS	30.83	1.65
5 Yr EPS	12.44	9.48
3 Yr EPS Growth	19.10	N/A
Beta (5 Years, Monthly)	0.96	1.00

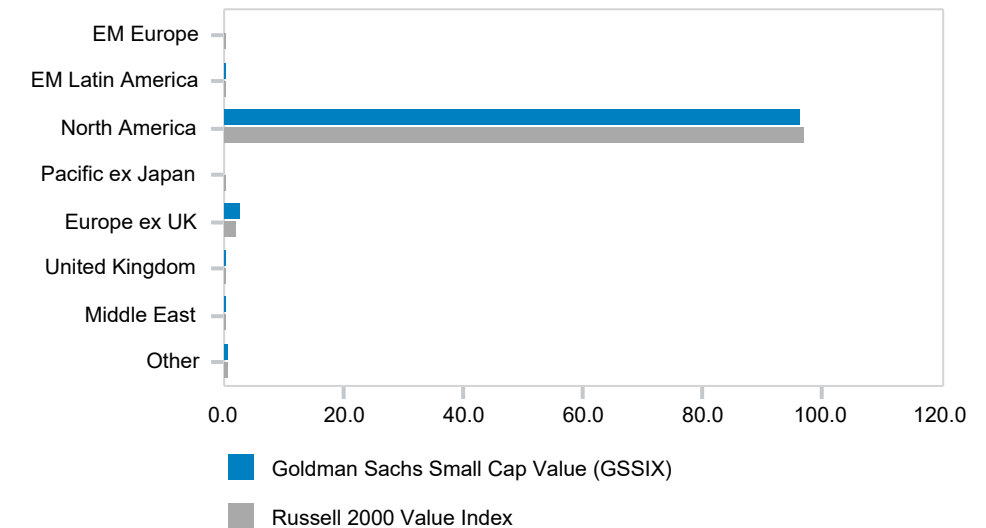
**Top Ten Securities As of 09/30/2019**

CyrusOne Inc ORD	1.3 %
Portland General Electric Co ORD	1.2 %
ALLETE Inc ORD	1.1 %
Pebblebrook Hotel Trust ORD	1.0 %
PS Business Parks Inc ORD	1.0 %
SkyWest Inc ORD	1.0 %
Healthcare Realty Trust Inc ORD	1.0 %
Saia Inc ORD	0.9 %
Banner Corp ORD	0.9 %
CenterState Bank Corp ORD	0.9 %

**Sector Weights As of 09/30/2019**



**Region Weights As of 09/30/2019**



Statistics provided by Lipper. Most recent available data shown.



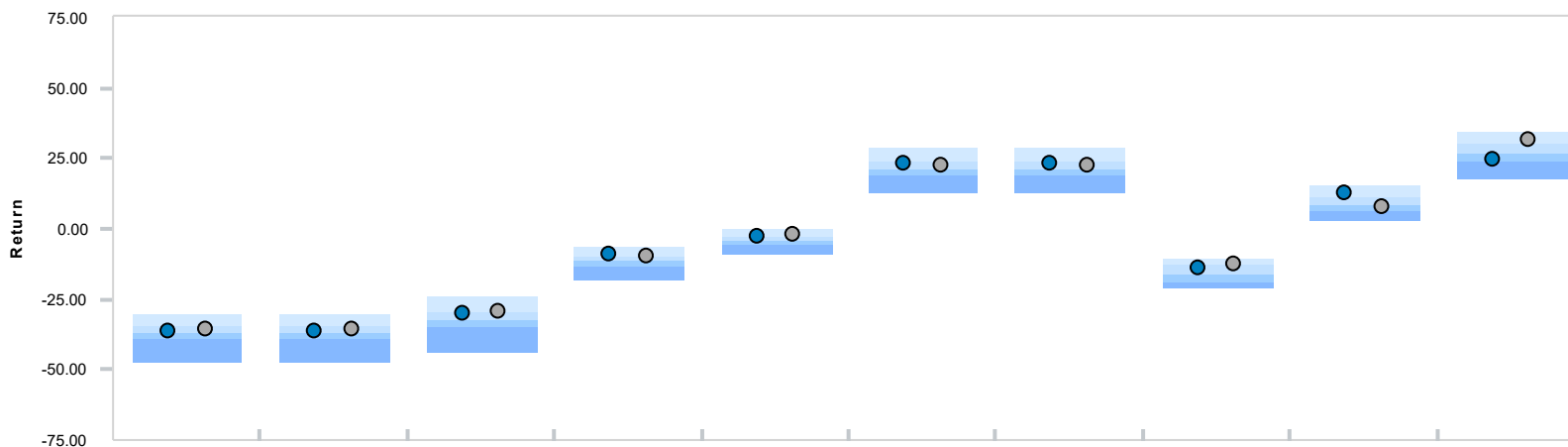
**Mutual Fund Info from Lipper**

Product Name : Goldman:Sm Cap Val:I (GSSIX)  
Fund Family : Goldman Sachs & Co/GSAM  
Ticker : GSSIX  
Peer Group : IM U.S. Small Cap Value Equity (MF)  
Benchmark : Russell 2000 Value Index  
Fund Inception : 08/15/1997  
Portfolio Manager : Davis/Crystal/Butkus  
Total Assets : \$3,320 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.97%  
Net Expense : 0.94%  
Turnover : 47%

**Summary Description**

The investment seeks long-term capital appreciation. The fund normally invests at least 80% of its net assets plus any borrowings for investment purposes (measured at time of purchase) ("net assets") in a diversified portfolio of equity investments in small-cap issuers with public stock market capitalizations within the range of the market capitalization of companies constituting the Russell 2000® Value Index at the time of investment. Although it will invest primarily in publicly traded U.S. securities, including real estate investment trusts, it may also invest in foreign securities.

**Peer Group Analysis - IM U.S. Small Cap Value Equity (MF)**



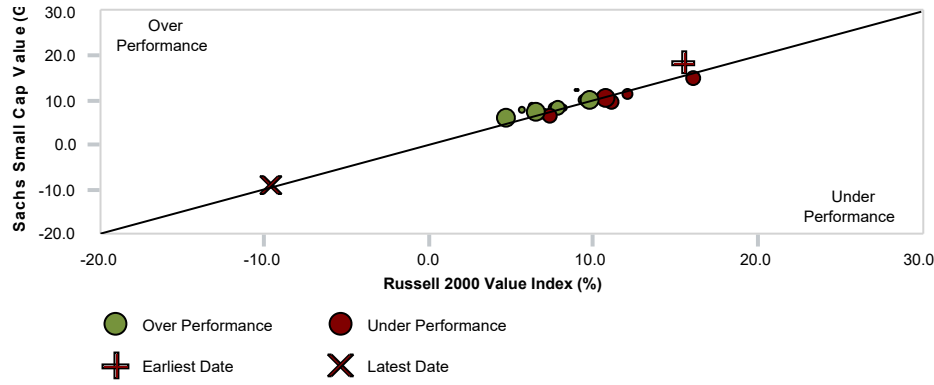
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● Goldman Sachs Small Cap Value (GSSIX)	-36.11 (42)	-36.11 (42)	-30.06 (34)	-9.22 (23)	-2.73 (24)	23.14 (27)	23.14 (27)	-14.02 (35)	12.35 (18)	24.65 (72)
○ Russell 2000 Value Index	-35.66 (38)	-35.66 (38)	-29.64 (30)	-9.51 (26)	-2.42 (19)	22.39 (36)	22.39 (36)	-12.86 (24)	7.84 (57)	31.74 (15)
Median	-37.32	-37.32	-32.43	-11.13	-4.35	21.26	21.26	-16.08	8.32	26.61

**Comparative Performance**

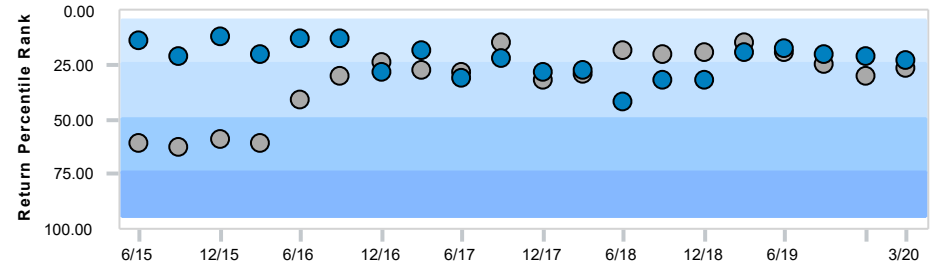
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
Goldman Sachs Small Cap Value (GSSIX)	7.05 (79)	-0.93 (56)	3.21 (15)	12.49 (46)	-18.08 (21)	3.26 (10)
Russell 2000 Value Index	8.49 (38)	-0.57 (50)	1.38 (37)	11.93 (63)	-18.67 (34)	1.60 (41)
IM U.S. Small Cap Value Equity (MF) Median	8.12	-0.60	0.75	12.39	-19.94	1.28



**3 Yr Rolling Under/Over Performance - 5 Years**

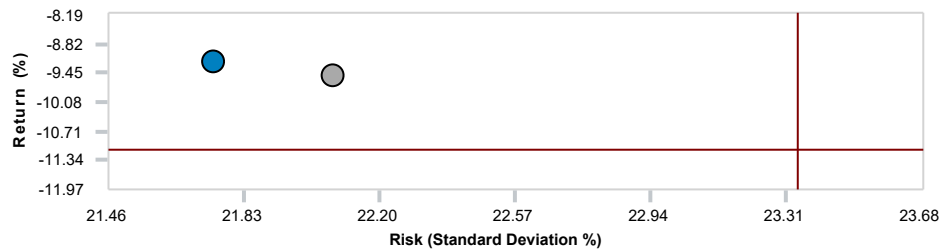


**3 Yr Rolling Percentile Ranking - 5 Years**



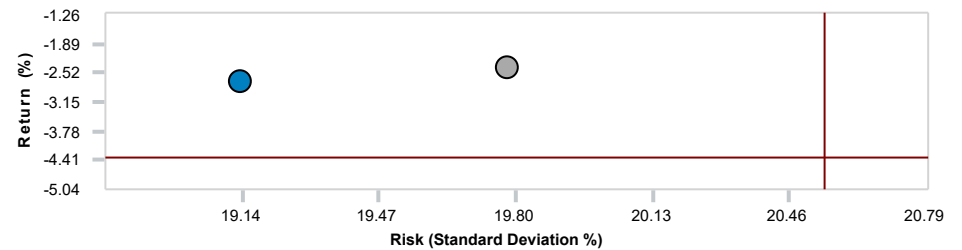
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
● Goldman Sachs Small Cap Value (GSSIX)	20	13 (65%)	7 (35%)	0 (0%)	0 (0%)
● Russell 2000 Value Index	20	8 (40%)	8 (40%)	4 (20%)	0 (0%)

**Peer Group Scattergram - 3 Years**



	Return	Standard Deviation
● Goldman Sachs Small Cap Value (GSSIX)	-9.22	21.75
● Russell 2000 Value Index	-9.51	22.07
— Median	-11.13	23.34

**Peer Group Scattergram - 5 Years**



	Return	Standard Deviation
● Goldman Sachs Small Cap Value (GSSIX)	-2.73	19.14
● Russell 2000 Value Index	-2.42	19.78
— Median	-4.35	20.55

**Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Goldman Sachs Small Cap Value (GSSIX)	2.66	93.44	94.15	0.10	0.10	-0.41	0.98	19.12
Russell 2000 Value Index	0.00	100.00	100.00	0.00	N/A	-0.41	1.00	19.26

**Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Goldman Sachs Small Cap Value (GSSIX)	2.82	90.84	92.76	-0.45	-0.15	-0.10	0.96	15.63
Russell 2000 Value Index	0.00	100.00	100.00	0.00	N/A	-0.08	1.00	15.78





**Fund Information**

Fund Name : Vanguard Index Funds: Vanguard Small-Cap Index Fund; Admiral Shares  
 Fund Family : Vanguard Group Inc  
 Ticker : VSMAX  
 Inception Date : 11/13/2000  
 Fund Assets : \$42,386 Million  
 Portfolio Turnover : 15%

Portfolio Assets : \$100,375 Million  
 Portfolio Manager : Coleman/O'Reilly  
 PM Tenure : 2016--2016  
 Fund Style : IM U.S. SMID Cap Core Equity (MF)  
 Style Benchmark : Vanguard Spliced Small Cap Index

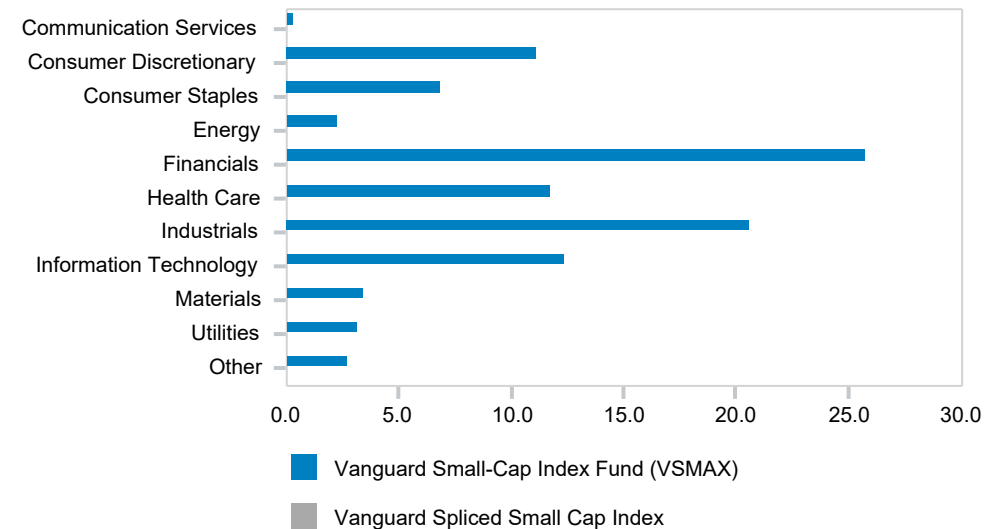
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	1,375	N/A
Avg. Market Cap (\$)	5,262,333,230	-
Price/Earnings (P/E)	29.78	N/A
Price/Book (P/B)	5.19	N/A
Dividend Yield	2.59	N/A
Annual EPS	21.89	N/A
5 Yr EPS	13.01	N/A
3 Yr EPS Growth	15.58	N/A
Beta (5 Years, Monthly)	1.00	1.00

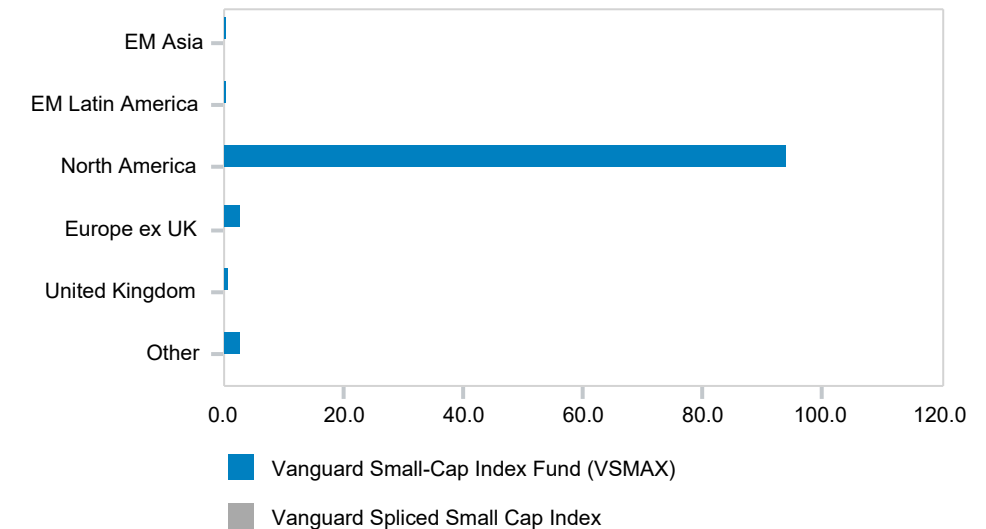
**Top Ten Securities As of 11/30/2019**

Burlington Stores Inc ORD	0.4 %
Zebra Technologies Corp ORD	0.4 %
Leidos Holdings Inc ORD	0.3 %
Steris plc ORD	0.3 %
Atmos Energy Corp ORD	0.3 %
Teledyne Technologies Inc ORD	0.3 %
RingCentral Inc ORD	0.3 %
IDEX Corp ORD	0.3 %
Equity LifeStyle Properties Inc	0.3 %
Tyler Technologies Inc ORD	0.3 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.



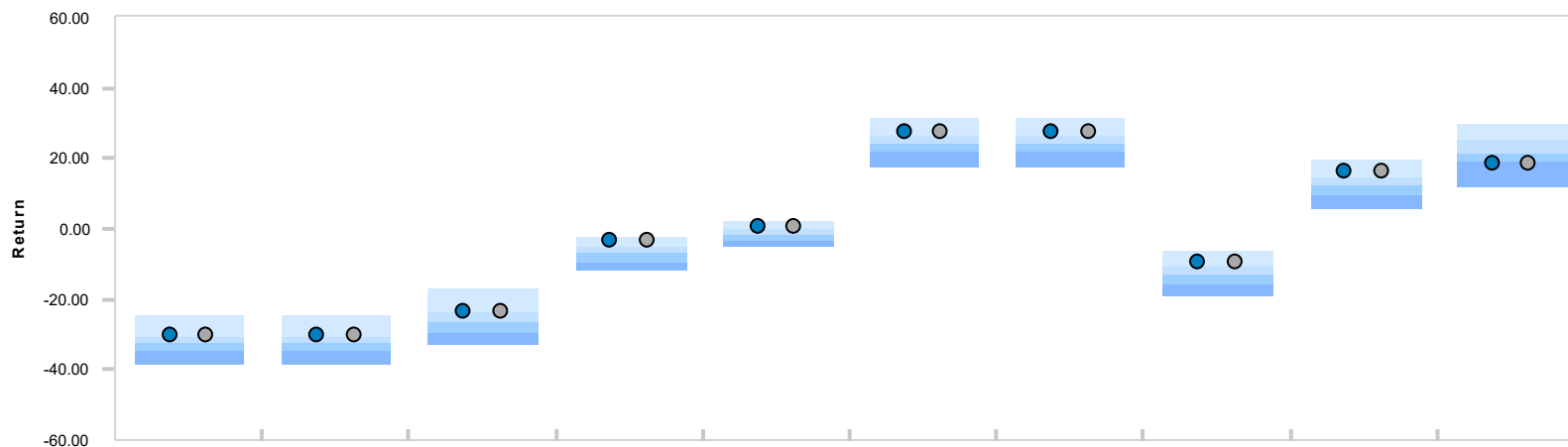
**Mutual Fund Info from Lipper**

Product Name : Vanguard S-C Id;Adm (VSMAX)  
Fund Family : Vanguard Group Inc  
Ticker : VSMAX  
Peer Group : IM U.S. Small Cap Core Equity (MF)  
Benchmark : Vanguard Spliced Small Cap Index  
Fund Inception : 11/13/2000  
Portfolio Manager : Coleman/O'Reilly  
Total Assets : \$42,386 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.05%  
Net Expense : 0.05%  
Turnover : 15%

**Summary Description**

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.

**Peer Group Analysis - IM U.S. Small Cap Core Equity (MF)**



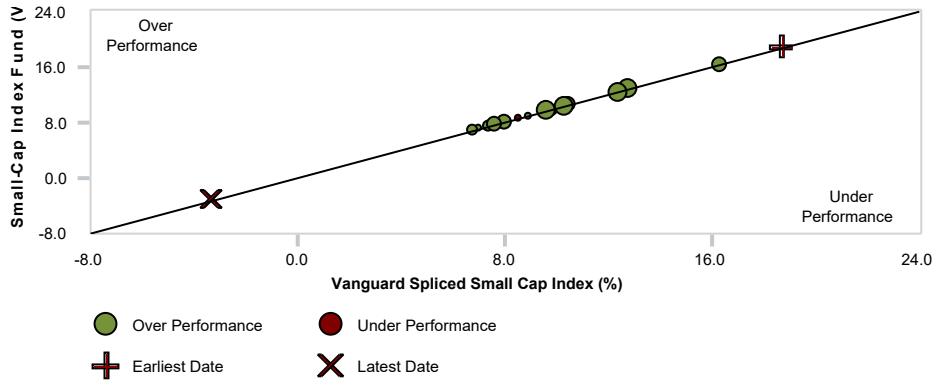
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● Vanguard Small-Cap Index Fund (VSMAX)	-30.07 (21)	-30.07 (21)	-23.33 (25)	-3.27 (11)	0.42 (15)	27.37 (16)	27.37 (16)	-9.31 (18)	16.24 (13)	18.30 (78)
○ Vanguard Spliced Small Cap Index	-30.08 (21)	-30.08 (21)	-23.38 (25)	-3.28 (11)	0.40 (16)	27.35 (16)	27.35 (16)	-9.33 (18)	16.24 (13)	18.26 (78)
Median	-32.66	-32.66	-26.14	-6.85	-1.80	23.87	23.87	-12.68	12.38	21.34

**Comparative Performance**

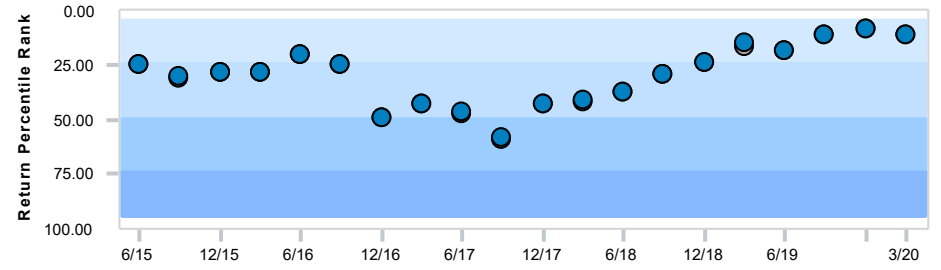
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
Vanguard Small-Cap Index Fund (VSMAX)	8.14 (50)	-1.45 (60)	2.87 (34)	16.18 (8)	-18.33 (24)	4.77 (13)
Vanguard Spliced Small Cap Index	8.12 (50)	-1.47 (60)	2.86 (34)	16.21 (8)	-18.33 (24)	4.77 (13)
IM U.S. Small Cap Core Equity (MF) Median	8.12	-1.09	2.19	13.13	-19.89	2.96



**3 Yr Rolling Under/Over Performance - 5 Years**

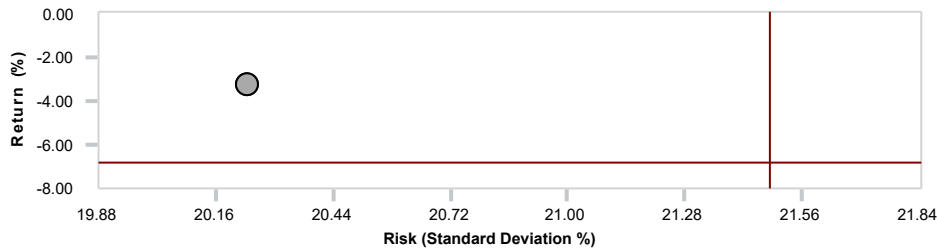


**3 Yr Rolling Percentile Ranking - 5 Years**



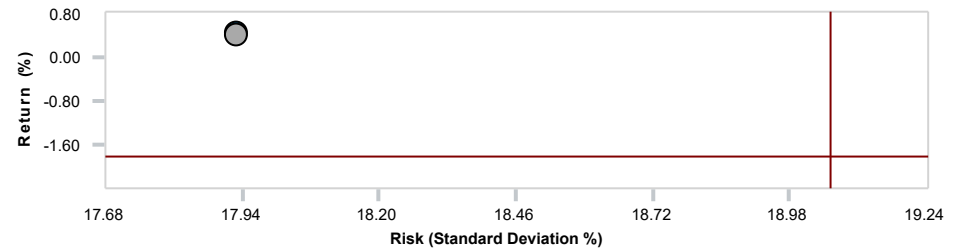
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
● Vanguard Small-Cap Index Fund (VSMAX)	20	9 (45%)	10 (50%)	1 (5%)	0 (0%)
● Vanguard Spliced Small Cap Index	20	9 (45%)	10 (50%)	1 (5%)	0 (0%)

**Peer Group Scattergram - 3 Years**



	Return	Standard Deviation
● Vanguard Small-Cap Index Fund (VSMAX)	-3.27	20.24
● Vanguard Spliced Small Cap Index	-3.28	20.24
— Median	-6.85	21.48

**Peer Group Scattergram - 5 Years**



	Return	Standard Deviation
● Vanguard Small-Cap Index Fund (VSMAX)	0.42	17.93
● Vanguard Spliced Small Cap Index	0.40	17.93
— Median	-1.80	19.06

**Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Vanguard Small-Cap Index Fund (VSMAX)	0.03	100.08	100.01	0.02	0.66	-0.14	1.00	17.05
Vanguard Spliced Small Cap Index	0.00	100.00	100.00	0.00	N/A	-0.15	1.00	17.05

**Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Vanguard Small-Cap Index Fund (VSMAX)	0.03	100.10	100.01	0.02	0.75	0.05	1.00	14.30
Vanguard Spliced Small Cap Index	0.00	100.00	100.00	0.00	N/A	0.05	1.00	14.30



**Fund Information**

Fund Name : TIAA-CREF Funds: International Equity Index Fund; Premier Class Shares  
Fund Family : TIAA-CREF  
Ticker : TRIPX  
Inception Date : 09/30/2009  
Fund Assets : \$267 Million  
Portfolio Turnover : 4%

Portfolio Assets : \$13,832 Million  
Portfolio Manager : Campagna/Liao/Tran  
PM Tenure : 2009--2014--2019  
Fund Style : IM International Multi-Cap Core Equity (MF)  
Style Benchmark : MSCI EAFE (Net) Index

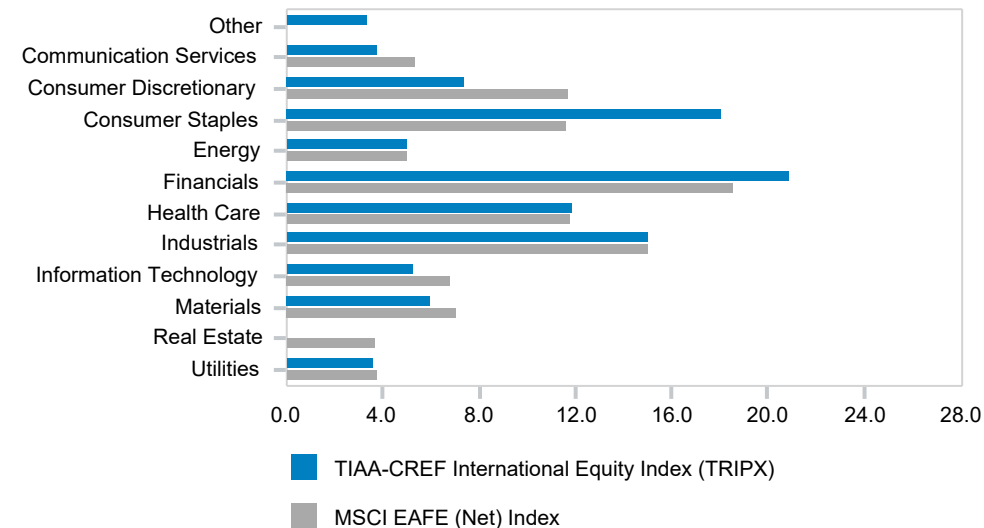
**Portfolio Characteristics As of 10/31/2019**

	Portfolio	Benchmark
Total Securities	954	925
Avg. Market Cap (\$)	64,605,019,737	10,405,088,033
Price/Earnings (P/E)	23.04	16.91
Price/Book (P/B)	3.60	2.50
Dividend Yield	3.08	3.50
Annual EPS	9.15	153.99
5 Yr EPS	7.10	5.98
3 Yr EPS Growth	12.06	N/A
Beta (5 Years, Monthly)	0.97	1.00

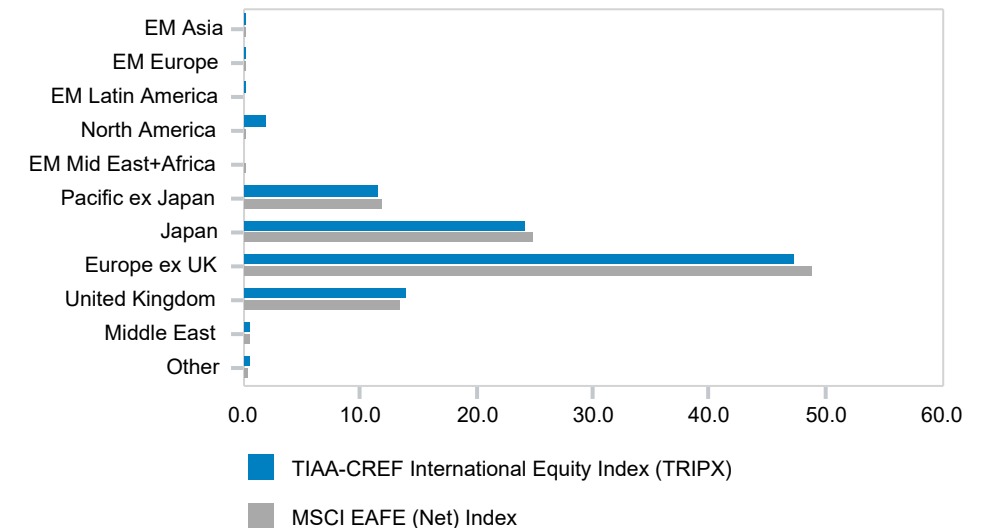
**Top Ten Securities As of 10/31/2019**

Nestle SA ORD	2.2 %
Roche Holding AG Par	1.4 %
Novartis AG ORD	1.3 %
Toyota Motor Corp ORD	1.1 %
HSBC Holdings PLC ORD	1.0 %
SAP SE ORD	0.9 %
BP PLC ORD	0.9 %
AstraZeneca PLC ORD	0.9 %
Total SA ORD	0.9 %
Royal Dutch Shell PLC ORD	0.9 %

**Sector Weights As of 10/31/2019**



**Region Weights As of 10/31/2019**



Statistics provided by Lipper. Most recent available data shown.



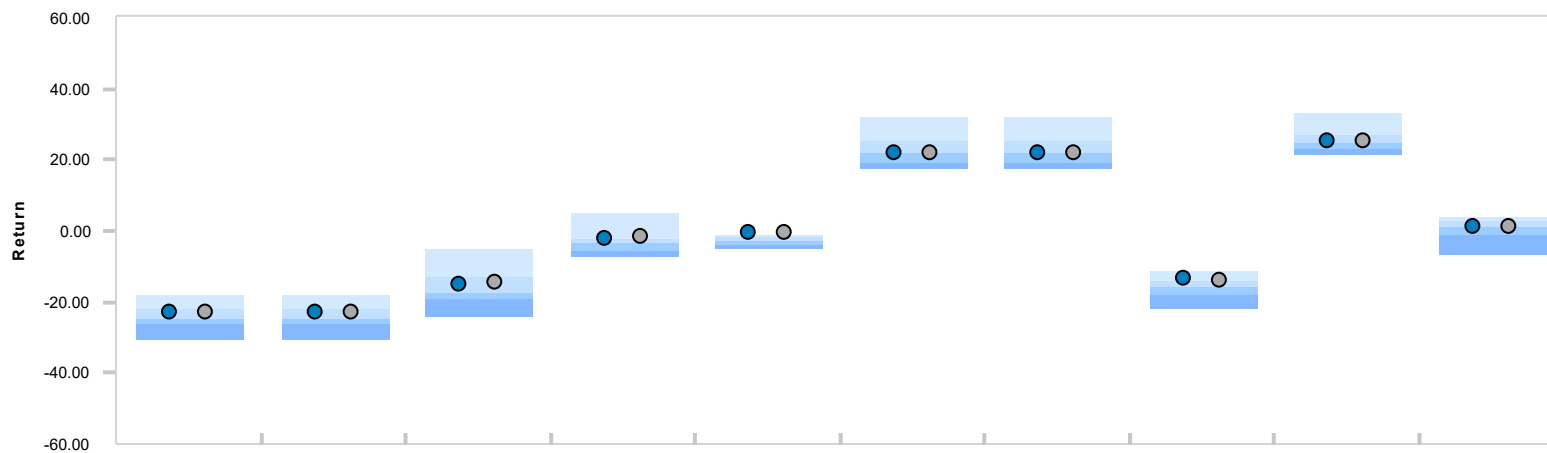
**Mutual Fund Info from Lipper**

Product Name : TIAA-CREF:Intl Eq Ix;Prmr (TRIPX)  
Fund Family : TIAA-CREF  
Ticker : TRIPX  
Peer Group : IM International Large Cap Core Equity (MF)  
Benchmark : MSCI EAFE (Net) Index  
Fund Inception : 09/30/2009  
Portfolio Manager : Campagna/Liao/Tran  
Total Assets : \$267 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.21%  
Net Expense : 0.21%  
Turnover : 4%

**Summary Description**

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. The fund primarily invests its assets in equity securities selected to track a designated stock market index.

**Peer Group Analysis - IM International Large Cap Core Equity (MF)**



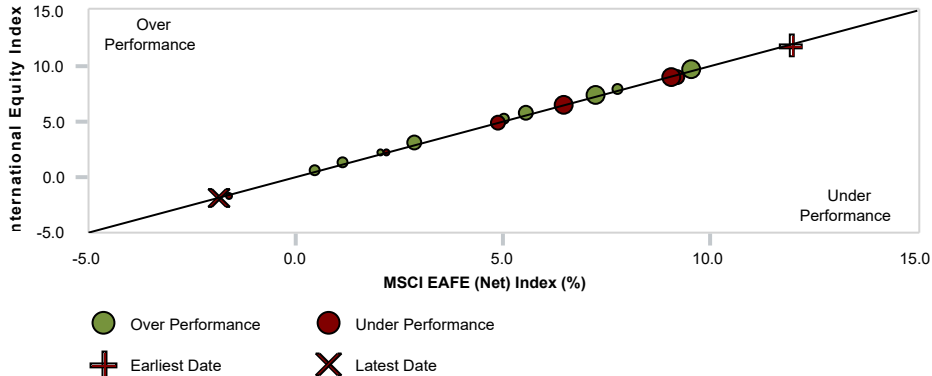
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● TIAA-CREF International Equity Index (TRIPX)	-23.01 (33)	-23.01 (33)	-14.89 (31)	-2.00 (25)	-0.68 (2)	21.59 (58)	21.59 (58)	-13.39 (19)	25.14 (37)	1.08 (52)
○ MSCI EAFE (Net) Index	-22.83 (31)	-22.83 (31)	-14.38 (29)	-1.82 (24)	-0.62 (1)	22.01 (52)	22.01 (52)	-13.79 (25)	25.03 (38)	1.00 (53)
Median	-24.46	-24.46	-17.17	-3.55	-2.78	22.06	22.06	-15.69	24.43	1.27

**Comparative Performance**

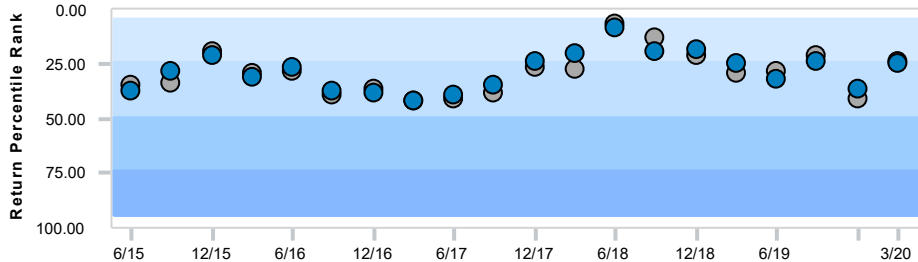
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
TIAA-CREF International Equity Index (TRIPX)	7.81 (72)	-1.04 (42)	3.60 (32)	10.00 (55)	-12.34 (22)	1.38 (27)
MSCI EAFE (Net) Index	8.17 (67)	-1.07 (43)	3.68 (32)	9.98 (56)	-12.54 (23)	1.35 (28)
IM International Large Cap Core Equity (MF) Median	9.05	-1.28	2.81	10.12	-13.64	0.53



**3 Yr Rolling Under/Over Performance - 5 Years**



**3 Yr Rolling Percentile Ranking - 5 Years**



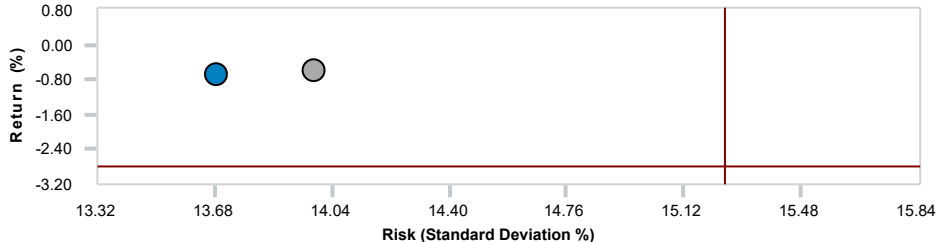
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
● TIAA-CREF International Equity Index (TRIPX)	20	9 (45%)	11 (55%)	0 (0%)	0 (0%)
● MSCI EAFE (Net) Index	20	6 (30%)	14 (70%)	0 (0%)	0 (0%)

**Peer Group Scattergram - 3 Years**



	Return	Standard Deviation
● TIAA-CREF International Equity Index (TRIPX)	-2.00	14.51
● MSCI EAFE (Net) Index	-1.82	14.38
— Median	-3.55	16.08

**Peer Group Scattergram - 5 Years**



	Return	Standard Deviation
● TIAA-CREF International Equity Index (TRIPX)	-0.68	13.69
● MSCI EAFE (Net) Index	-0.62	13.99
— Median	-2.78	15.25

**Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF International Equity Index (TRIPX)	1.66	97.95	98.85	-0.16	-0.10	-0.19	1.00	12.01
MSCI EAFE (Net) Index	0.00	100.00	100.00	0.00	N/A	-0.18	1.00	11.78

**Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF International Equity Index (TRIPX)	1.92	95.92	96.38	-0.09	-0.05	-0.06	0.97	10.74
MSCI EAFE (Net) Index	0.00	100.00	100.00	0.00	N/A	-0.06	1.00	10.81



**Fund Information**

Fund Name : New Economy Fund; Class R5E Shares  
Fund Family : American Funds  
Ticker : RNGHX  
Inception Date : 11/20/2015  
Fund Assets : \$56 Million  
Portfolio Turnover : 38%

Portfolio Assets : \$22,647 Million  
Portfolio Manager : Team Managed  
PM Tenure :  
Fund Style : IM U.S. Multi-Cap Growth Equity (MF)  
Style Benchmark : MSCI AC World Index (Net)

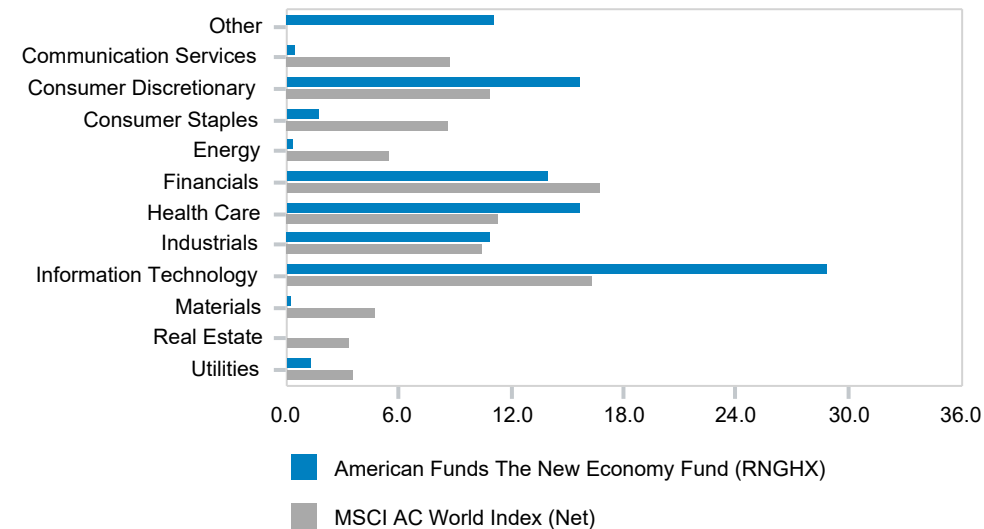
**Portfolio Characteristics As of 09/30/2019**

	Portfolio	Benchmark
Total Securities	202	2,852
Avg. Market Cap (\$)	153,390,151,433	9,684,917,630
Price/Earnings (P/E)	32.35	17.43
Price/Book (P/B)	7.88	2.88
Dividend Yield	1.71	2.57
Annual EPS	25.87	185.54
5 Yr EPS	25.07	12.82
3 Yr EPS Growth	30.42	N/A
Beta (3 Years, Monthly)	0.98	1.00

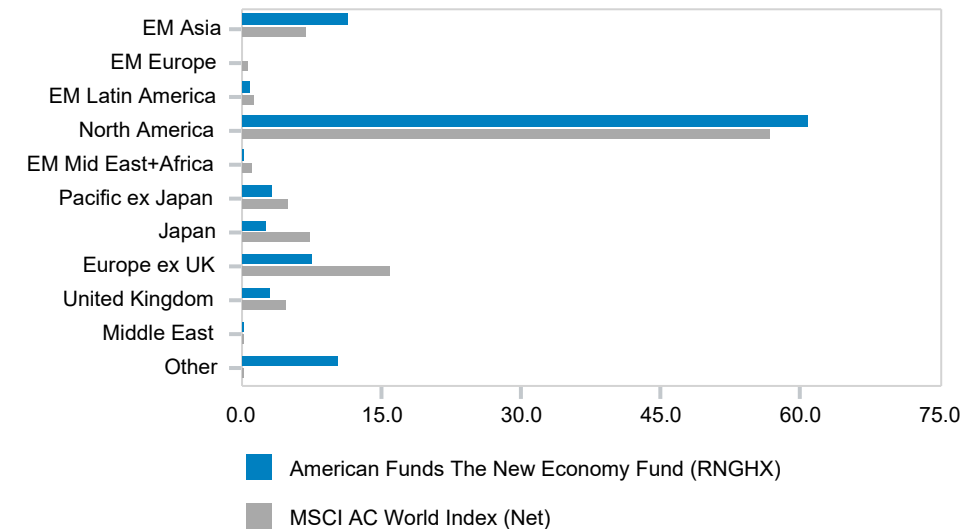
**Top Ten Securities As of 09/30/2019**

Capital Group Central Cash Fund;	10.1 %
Netflix Inc ORD	3.2 %
Micron Technology Inc ORD	2.3 %
Broadcom Inc ORD	2.3 %
Amazon.com Inc ORD	2.3 %
Microsoft Corp ORD	2.3 %
Facebook Inc ORD	2.1 %
Samsung Electronics Co Ltd ORD	1.8 %
Kotak Mahindra Bank Ltd ORD	1.6 %
Mastercard Inc ORD	1.5 %

**Sector Weights As of 09/30/2019**



**Region Weights As of 09/30/2019**



Statistics provided by Lipper. Most recent available data shown.



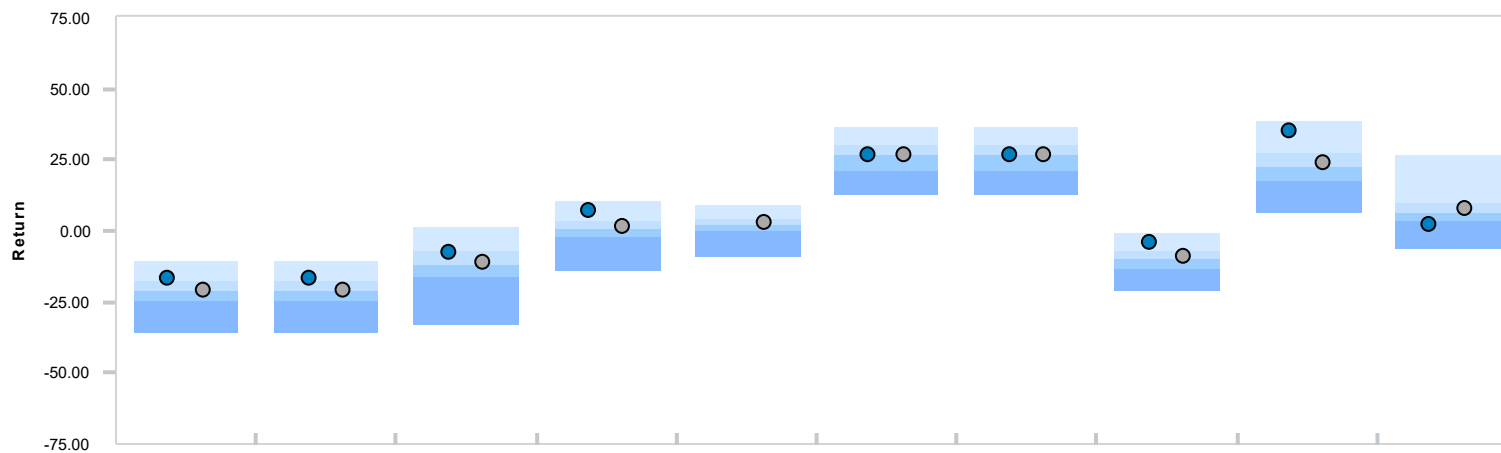
**Mutual Fund Info from Lipper**

Product Name : American Funds NEco;R5E (RNGHX)  
Fund Family : American Funds  
Ticker : RNGHX  
Peer Group : IM Global Equity (MF)  
Benchmark : MSCI AC World Index (Net)  
Fund Inception : 11/20/2015  
Portfolio Manager : Team Managed  
Total Assets : \$56 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.59%  
Net Expense : 0.59%  
Turnover : 38%

**Summary Description**

The investment seeks long term growth of capital; current income is a secondary consideration. The fund invests primarily in common stocks that the investment adviser believes have the potential for growth. It normally invests in securities of companies that can benefit from innovation, exploit new technologies or provide products and services that meet the demands of an evolving global economy. The fund may invest a significant portion of its assets in issuers based outside the United States, including those based in developing countries.

**Peer Group Analysis - IM Global Equity (MF)**



	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● American Funds The New Economy Fund (RNGHX)	-16.52 (21)	-16.52 (21)	-7.83 (30)	7.33 (11)	N/A	26.69 (48)	26.69 (48)	-4.04 (14)	34.71 (8)	2.32 (79)
○ MSCI AC World Index (Net)	-21.37 (53)	-21.37 (53)	-11.26 (48)	1.50 (43)	2.85 (38)	26.60 (49)	26.60 (49)	-9.42 (46)	23.97 (42)	7.86 (36)
Median	-21.16	-21.16	-11.65	0.61	1.84	26.37	26.37	-9.72	22.33	6.33

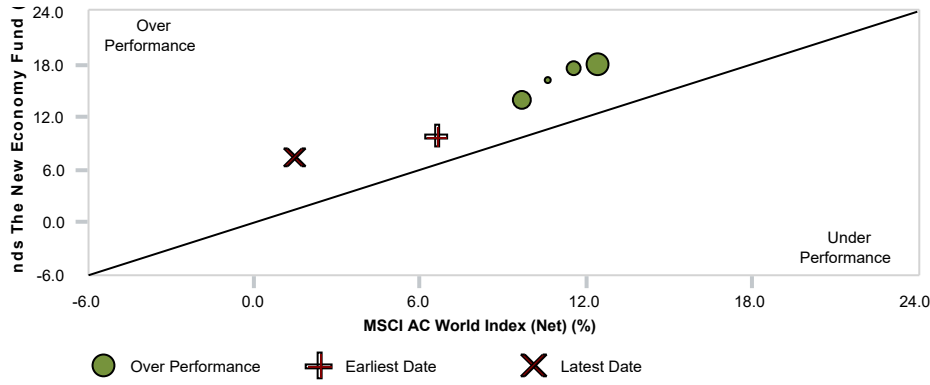
**Comparative Performance**

	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
American Funds The New Economy Fund (RNGHX)	10.36 (27)	-1.66 (73)	1.74 (80)	14.74 (24)	-13.15 (46)	1.47 (74)
MSCI AC World Index (Net)	8.95 (47)	-0.03 (46)	3.61 (48)	12.18 (57)	-12.75 (43)	4.28 (31)
IM Global Equity (MF) Median	8.64	-0.28	3.50	12.60	-13.46	3.15

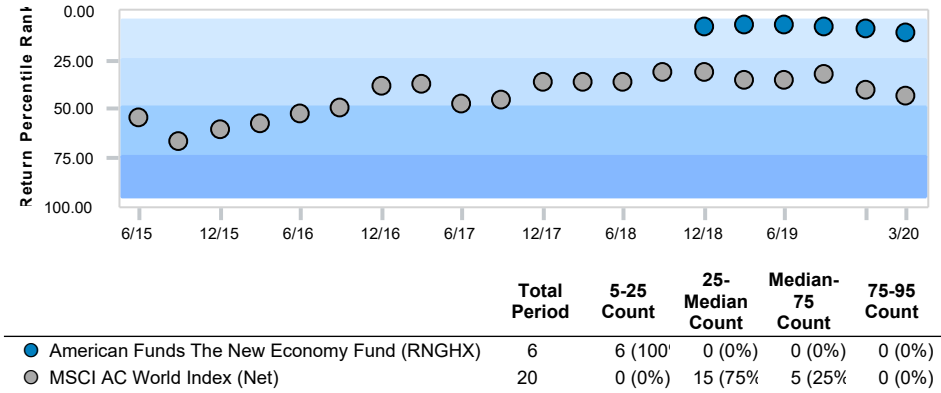




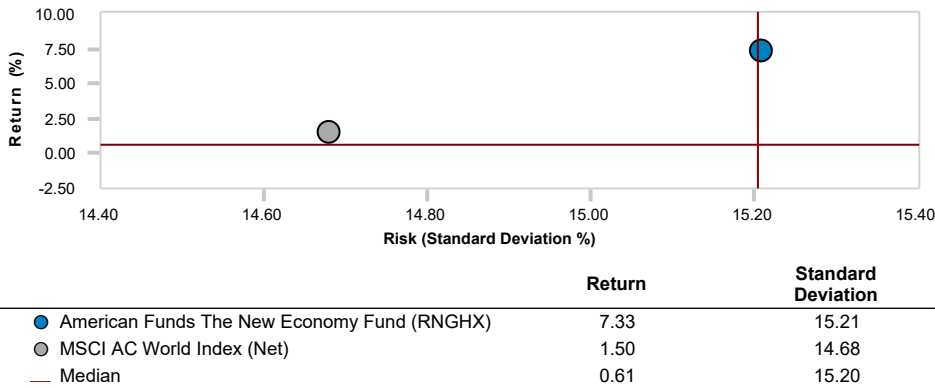
**3 Yr Rolling Under/Over Performance - 5 Years**



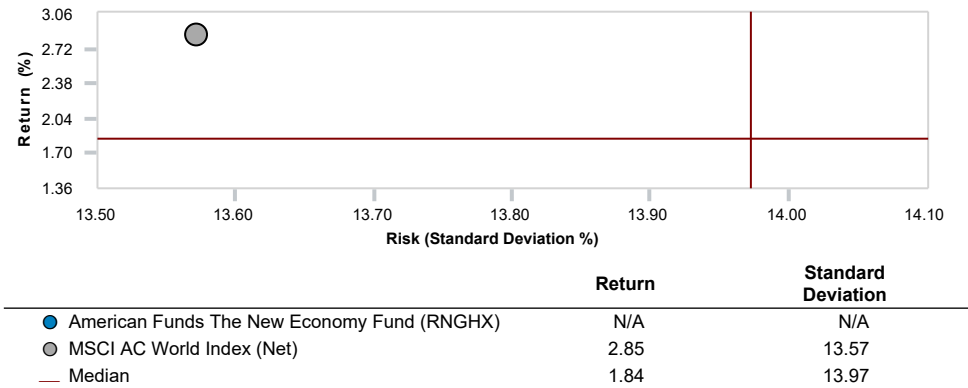
**3 Yr Rolling Percentile Ranking - 5 Years**



**Peer Group Scattergram - 3 Years**



**Peer Group Scattergram - 5 Years**



**Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
American Funds The New Economy Fund (RNGHX)	5.06	117.78	87.94	5.89	1.12	0.42	0.98	11.24
MSCI AC World Index (Net)	0.00	100.00	100.00	0.00	N/A	0.05	1.00	11.80

**Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
American Funds The New Economy Fund (RNGHX)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI AC World Index (Net)	0.00	100.00	100.00	0.00	N/A	0.19	1.00	10.27



**Fund Information**

Fund Name : Lazard Funds, Inc: Lazard International Equity Portfolio; Institutional Shares  
 Fund Family : Lazard Asset Management LLC  
 Ticker : LZIEX  
 Inception Date : 10/01/1991  
 Fund Assets : \$2,431 Million  
 Portfolio Turnover : 36%

Portfolio Assets : \$2,790 Million  
 Portfolio Manager : John R. Reinsberg  
 PM Tenure : 1991  
 Fund Style : IM International Large Cap Growth Equity (MF)  
 Style Benchmark : MSCI EAFE (Net) Index

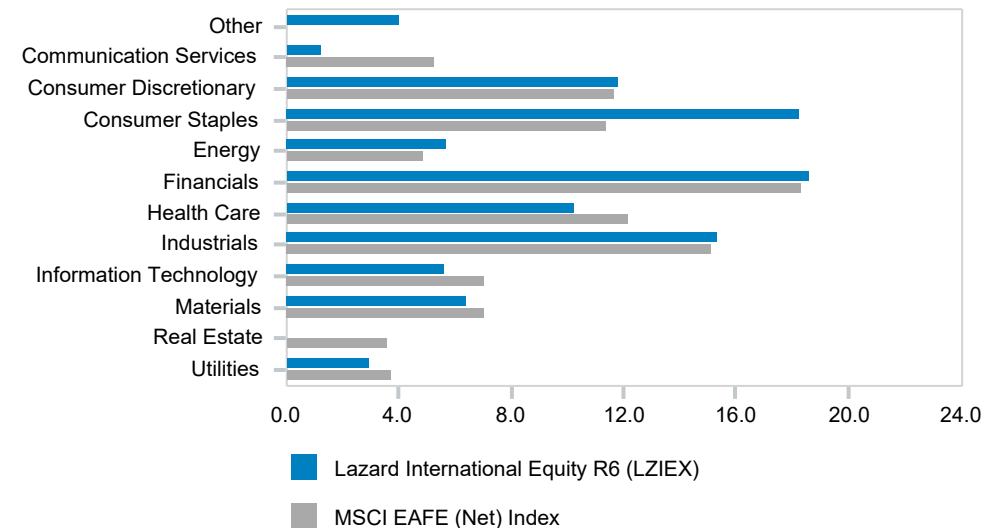
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	74	920
Avg. Market Cap (\$)	69,643,170,214	10,691,136,779
Price/Earnings (P/E)	23.51	16.98
Price/Book (P/B)	3.61	2.32
Dividend Yield	3.05	3.43
Annual EPS	6.44	154.37
5 Yr EPS	7.02	5.98
3 Yr EPS Growth	17.90	N/A
Beta (5 Years, Monthly)	0.90	1.00

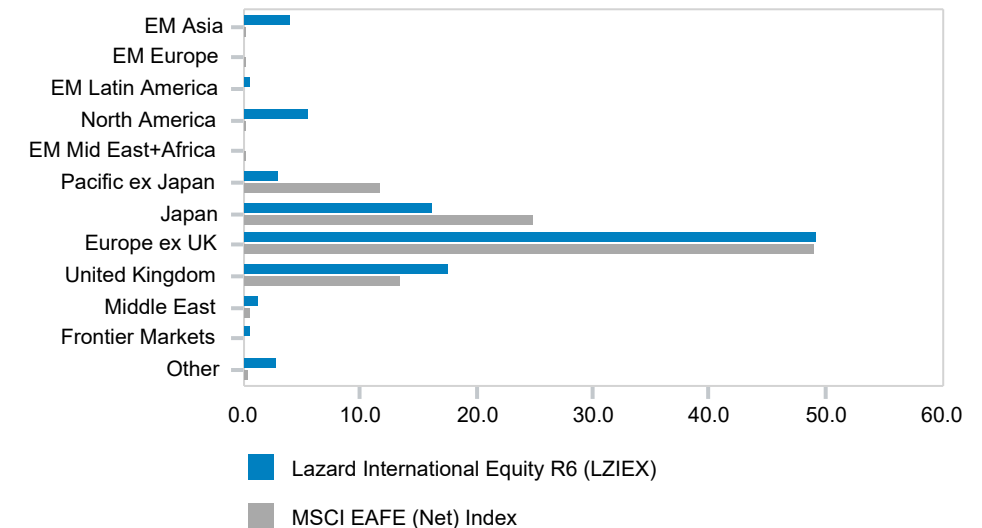
**Top Ten Securities As of 11/30/2019**

SAP SE ORD	3.3 %
Novartis AG ORD	3.1 %
Medtronic PLC ORD	3.1 %
Royal Dutch Shell PLC ORD	2.9 %
State Street Institutional Treas	2.8 %
Sanofi SA ORD	2.6 %
Volkswagen AG PFD	2.6 %
Relx PLC ORD	2.6 %
Safran SA ORD	2.6 %
Aon PLC ORD	2.5 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.



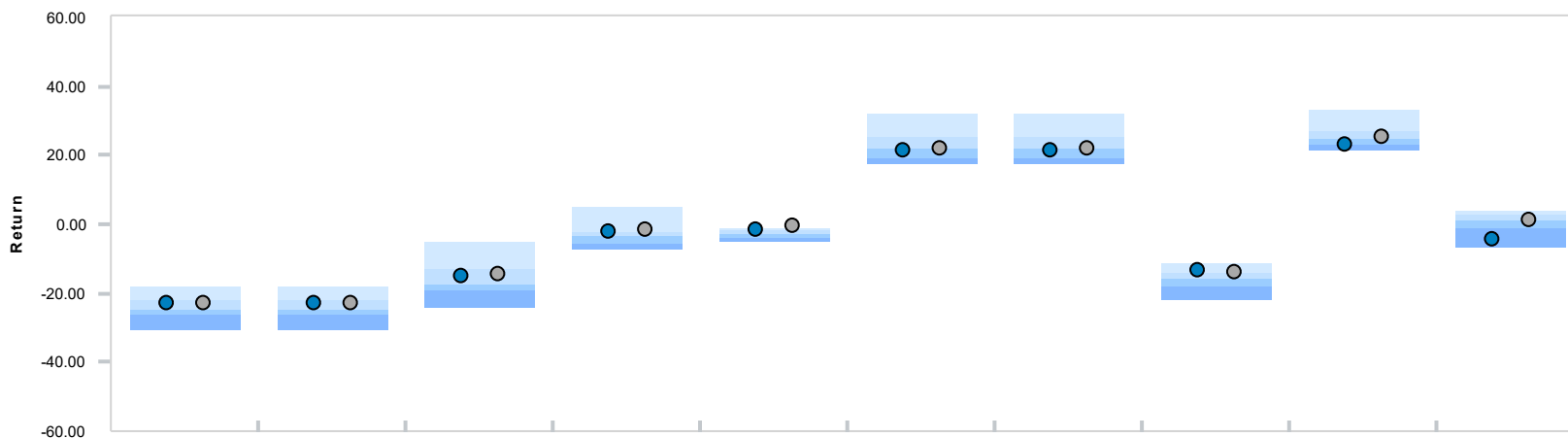
**Mutual Fund Info from Lipper**

Product Name : Lazard:Intl Eqty:Inst (LZIE)  
Fund Family : Lazard Asset Management LLC  
Ticker : LZIE  
Peer Group : IM International Large Cap Core Equity (MF)  
Benchmark : MSCI EAFE (Net) Index  
Fund Inception : 10/01/1991  
Portfolio Manager : John R. Reinsberg  
Total Assets : \$2,431 Million  
Total Assets Date : 11/30/2019  
Gross Expense : 0.81%  
Net Expense : 0.81%  
Turnover : 36%

**Summary Description**

The investment seeks long-term total return, principally from growth of capital. The fund invests normally in a minimum of ten countries throughout the world, focusing on companies located in Europe, the Pacific Basin and emerging industrialized countries whose economies and political regimes appear stable. It invests primarily (no less than 65% of its total assets) in common and preferred stocks of foreign companies, including those located in emerging market countries. Companies in the fund's portfolio generally have market capitalizations in excess of \$1 billion at the time of purchase.

**Peer Group Analysis - IM International Large Cap Core Equity (MF)**



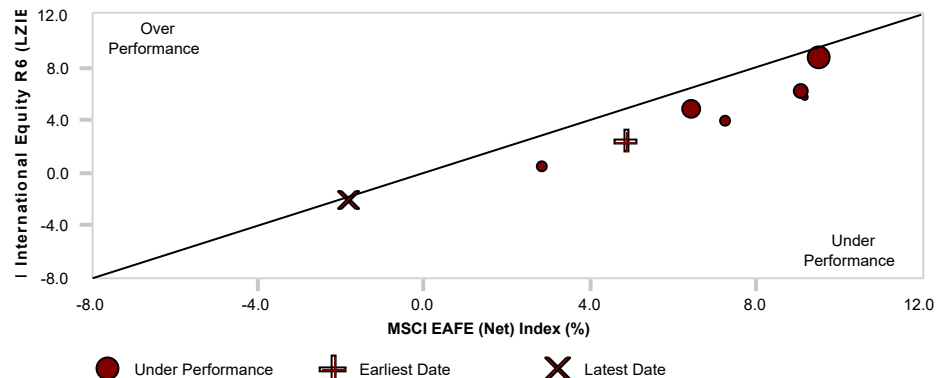
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● Lazard International Equity R6 (LZIE)	-23.05 (33)	-23.05 (33)	-15.18 (32)	-2.11 (25)	-1.94 (34)	21.19 (63)	21.19 (63)	-13.61 (22)	22.81 (82)	-4.73 (91)
○ MSCI EAFE (Net) Index	-22.83 (31)	-22.83 (31)	-14.38 (29)	-1.82 (24)	-0.62 (1)	22.01 (52)	22.01 (52)	-13.79 (25)	25.03 (38)	1.00 (53)
Median	-24.46	-24.46	-17.17	-3.55	-2.78	22.06	22.06	-15.69	24.43	1.27

**Comparative Performance**

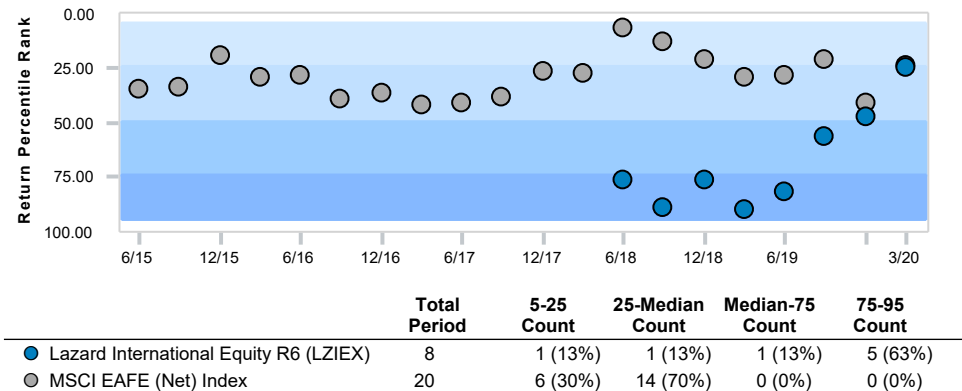
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
Lazard International Equity R6 (LZIE)	6.51 (94)	-1.54 (52)	5.10 (24)	9.95 (56)	-11.86 (11)	0.73 (43)
MSCI EAFE (Net) Index	8.17 (67)	-1.07 (43)	3.68 (32)	9.98 (56)	-12.54 (23)	1.35 (28)
IM International Large Cap Core Equity (MF) Median	9.05	-1.28	2.81	10.12	-13.64	0.53



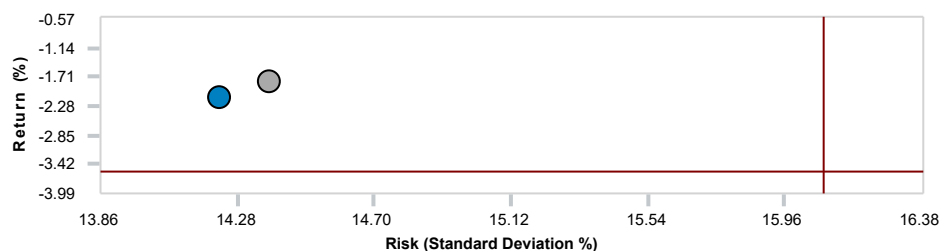
### 3 Yr Rolling Under/Over Performance - 5 Years



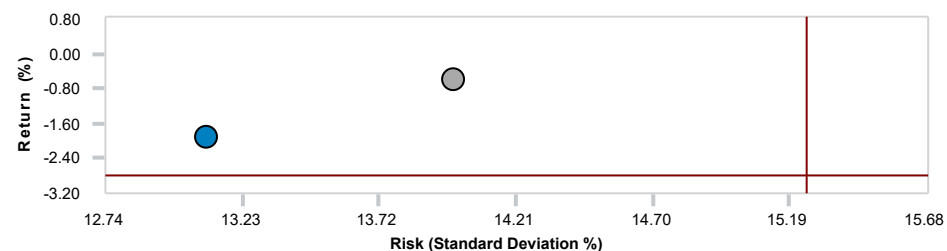
### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



### Peer Group Scattergram - 5 Years



### Historical Statistics - 3 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Lazard International Equity R6 (LZIE)	3.06	92.46	94.36	-0.33	-0.10	-0.20	0.97	11.93
MSCI EAFE (Net) Index	0.00	100.00	100.00	0.00	N/A	-0.18	1.00	11.78

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Lazard International Equity R6 (LZIE)	3.74	83.80	91.21	-1.41	-0.39	-0.17	0.90	10.57
MSCI EAFE (Net) Index	0.00	100.00	100.00	0.00	N/A	-0.06	1.00	10.81



**Fund Information**

Fund Name : SMALLCAP World Fund, Inc; Class R5E Shares  
 Fund Family : American Funds  
 Ticker : RSLDX  
 Inception Date : 11/20/2015  
 Fund Assets : \$52 Million  
 Portfolio Turnover : 39%

Portfolio Assets : \$48,763 Million  
 Portfolio Manager : Team Managed  
 PM Tenure :  
 Fund Style : IM Global SMID Cap Equity (MF)  
 Style Benchmark : MSCI World Small Cap (Net)

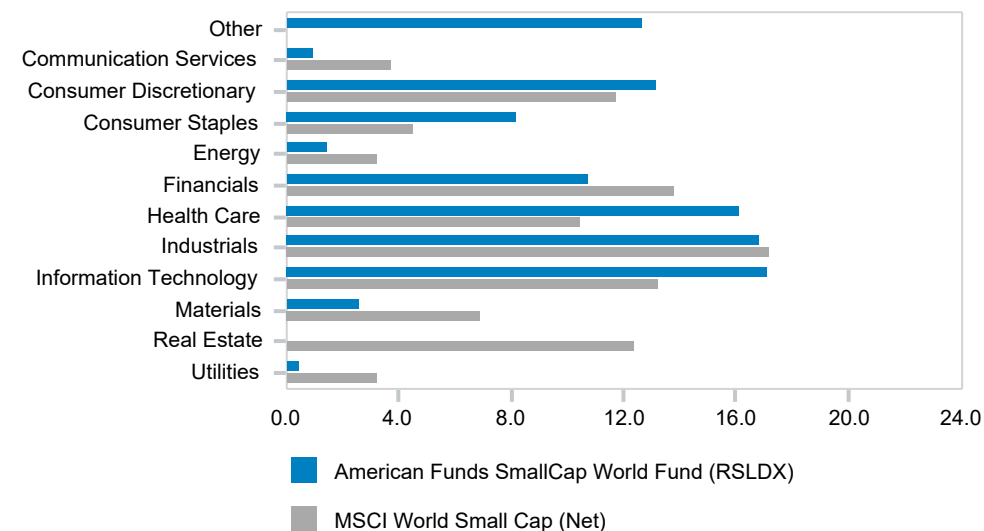
**Portfolio Characteristics As of 09/30/2019**

	Portfolio	Benchmark
Total Securities	777	1
Avg. Market Cap (\$)	5,669,828,321	-
Price/Earnings (P/E)	35.01	N/A
Price/Book (P/B)	8.27	N/A
Dividend Yield	1.81	N/A
Annual EPS	18.41	N/A
5 Yr EPS	21.31	N/A
3 Yr EPS Growth	24.99	N/A
Beta (3 Years, Monthly)	0.85	1.00

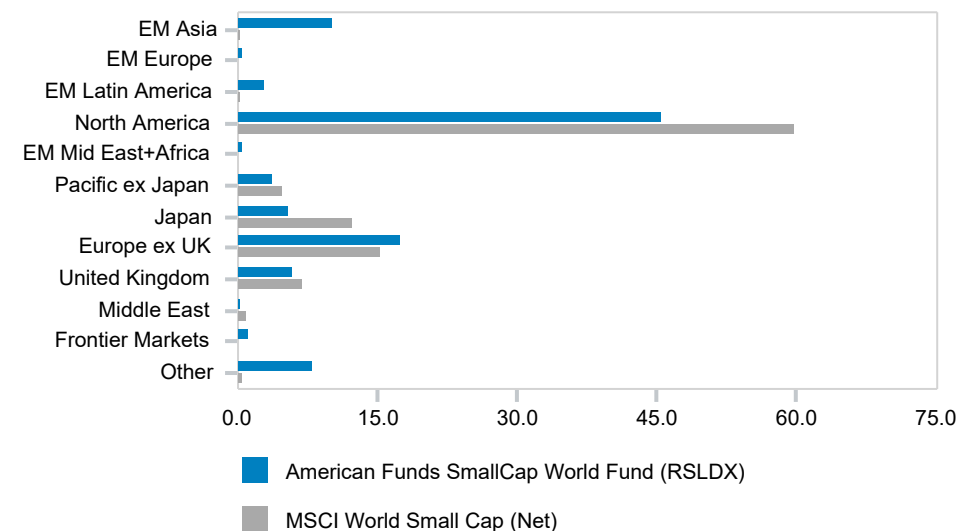
**Top Ten Securities As of 09/30/2019**

Capital Group Central Cash Fund;	6.2 %
Insulet Corp ORD	1.7 %
RingCentral Inc ORD	1.4 %
Kotak Mahindra Bank Ltd ORD	1.0 %
MongoDB Inc ORD	0.9 %
WiseTech Global Ltd ORD	0.7 %
Notre Dame Intermedica Participacoes	0.7 %
Molina Healthcare Inc ORD	0.7 %
Allakos Inc ORD	0.7 %
Paycom Software Inc ORD	0.7 %

**Sector Weights As of 09/30/2019**



**Region Weights As of 09/30/2019**



Statistics provided by Lipper. Most recent available data shown.



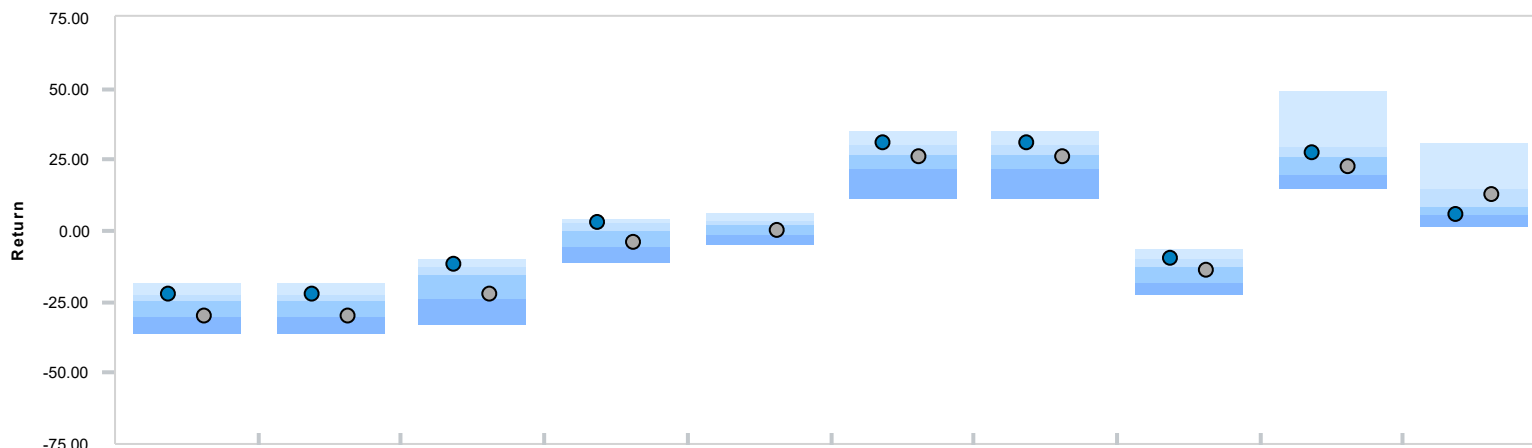
**Mutual Fund Info from Lipper**

Product Name : American Funds SMCP;R5E (RSLDX)  
Fund Family : American Funds  
Ticker : RSLDX  
Peer Group : IM Global SMID Cap Equity (MF)  
Benchmark : MSCI World Small Cap (Net)  
Fund Inception : 11/20/2015  
Portfolio Manager : Team Managed  
Total Assets : \$52 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.83%  
Net Expense : 0.83%  
Turnover : 39%

**Summary Description**

The investment seeks long-term growth of capital. Normally the fund invests at least 80% of its net assets in growth-oriented common stocks and other equity-type securities (such as preferred stocks, convertible preferred stocks and convertible bonds) of companies with small market capitalizations. The investment adviser currently defines "small market capitalization" companies to be companies with market capitalizations of \$4.0 billion or less. Under normal circumstances, the fund will invest a significant portion of its assets outside the United States, including in emerging markets.

**Peer Group Analysis - IM Global SMID Cap Equity (MF)**



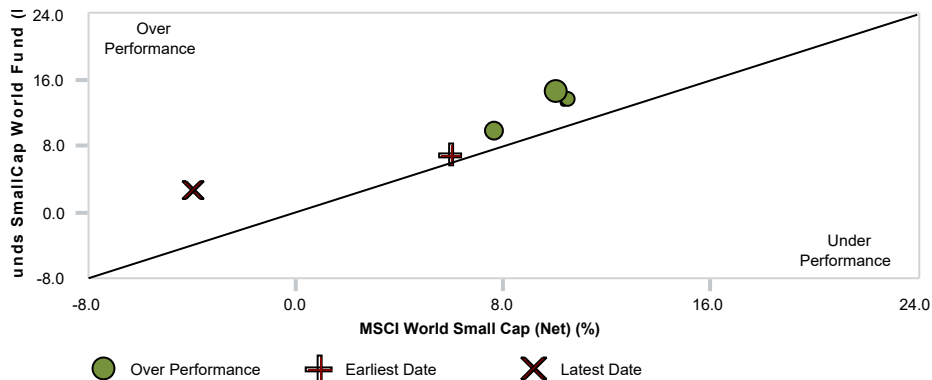
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● American Funds SmallCap World Fund (RSLDX)	-22.52 (17)	-22.52 (17)	-12.10 (21)	2.50 (25)	N/A	31.08 (17)	31.08 (17)	-9.50 (22)	27.09 (37)	5.90 (69)
○ MSCI World Small Cap (Net)	-30.06 (77)	-30.06 (77)	-22.39 (72)	-3.95 (70)	0.06 (66)	26.19 (52)	26.19 (52)	-13.86 (56)	22.66 (70)	12.71 (33)
Median	-24.34	-24.34	-15.44	0.27	2.05	26.75	26.75	-12.45	25.87	8.55

**Comparative Performance**

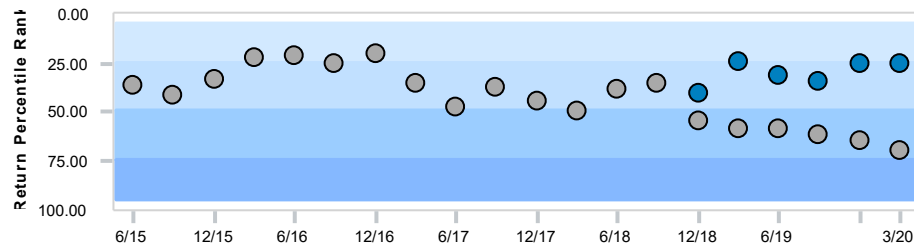
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
American Funds SmallCap World Fund (RSLDX)	11.10 (24)	-2.05 (47)	4.25 (43)	15.54 (19)	-16.23 (50)	3.31 (27)
MSCI World Small Cap (Net)	9.76 (59)	-0.86 (23)	1.97 (74)	13.72 (49)	-17.73 (67)	1.96 (54)
IM Global SMID Cap Equity (MF) Median	10.14	-2.11	4.13	12.96	-16.24	2.35



**3 Yr Rolling Under/Over Performance - 5 Years**

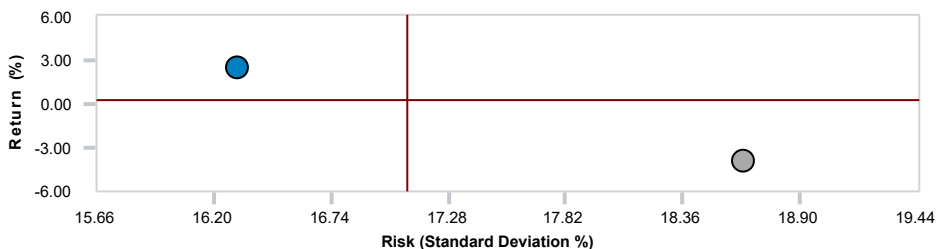


**3 Yr Rolling Percentile Ranking - 5 Years**



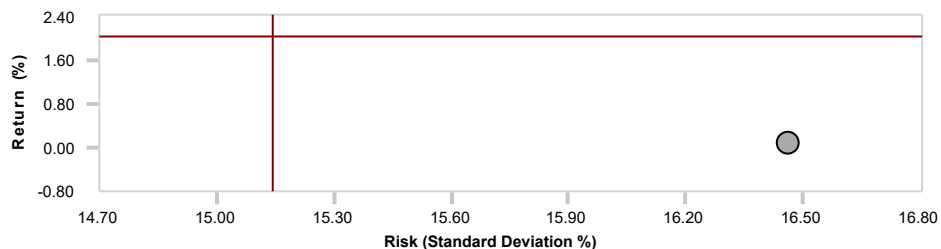
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
American Funds SmallCap World Fund (RSLDX)	6	3 (50%)	3 (50%)	0 (0%)	0 (0%)
MSCI World Small Cap (Net)	20	4 (20%)	10 (50%)	6 (30%)	0 (0%)

**Peer Group Scattergram - 3 Years**



	Return	Standard Deviation
American Funds SmallCap World Fund (RSLDX)	2.50	16.31
MSCI World Small Cap (Net)	-3.95	18.64
Median	0.27	17.09

**Peer Group Scattergram - 5 Years**



	Return	Standard Deviation
American Funds SmallCap World Fund (RSLDX)	N/A	N/A
MSCI World Small Cap (Net)	0.06	16.46
Median	2.05	15.14

**Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
American Funds SmallCap World Fund (RSLDX)	4.59	100.83	74.24	5.87	1.31	0.13	0.85	13.35
MSCI World Small Cap (Net)	0.00	100.00	100.00	0.00	N/A	-0.21	1.00	16.13

**Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
American Funds SmallCap World Fund (RSLDX)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI World Small Cap (Net)	0.00	100.00	100.00	0.00	N/A	0.02	1.00	13.51



**Fund Information**

Fund Name : DFA Investment Dimensions Group Inc: Emerging Markets Small Cap Portfolio; Institutional Class Shares  
 Fund Family : Dimensional Fund Advisors LP  
 Ticker : DEMSX  
 Inception Date : 03/05/1998  
 Fund Assets : \$6,762 Million  
 Portfolio Turnover : 12%

Portfolio Assets : \$6,762 Million  
 Portfolio Manager : Fogdall/Singh/Phillips  
 PM Tenure : 2012--2015--2017  
 Fund Style : IM Emerging Markets Equity (MF)  
 Style Benchmark : MSCI Emerging Markets Small Cap (Net)

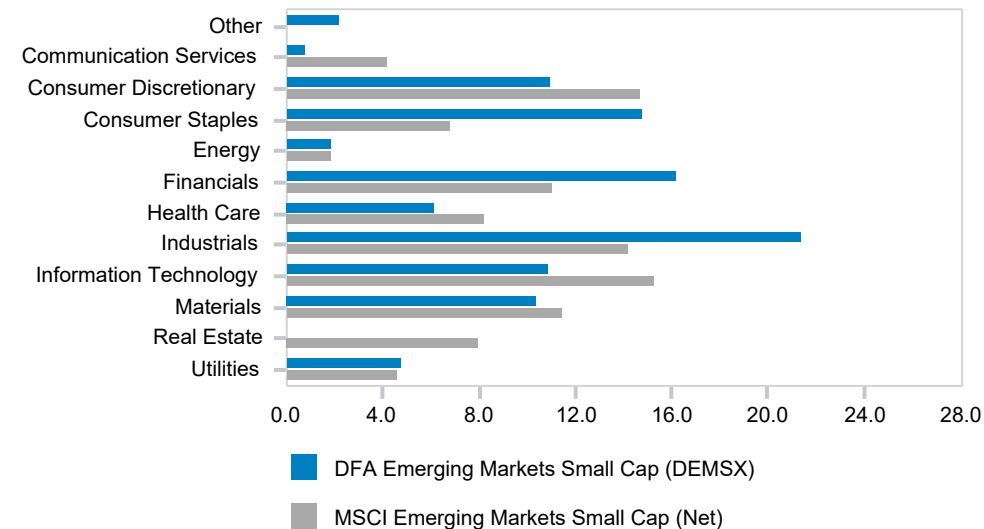
**Portfolio Characteristics As of 04/30/2019**

	Portfolio	Benchmark
Total Securities	4,177	1,571
Avg. Market Cap (\$)	1,458,013,970	697,848,531
Price/Earnings (P/E)	20.88	13.01
Price/Book (P/B)	2.50	2.17
Dividend Yield	3.12	2.58
Annual EPS	14.93	609.26
5 Yr EPS	10.40	11.19
3 Yr EPS Growth	14.25	N/A
Beta (5 Years, Monthly)	1.01	1.00

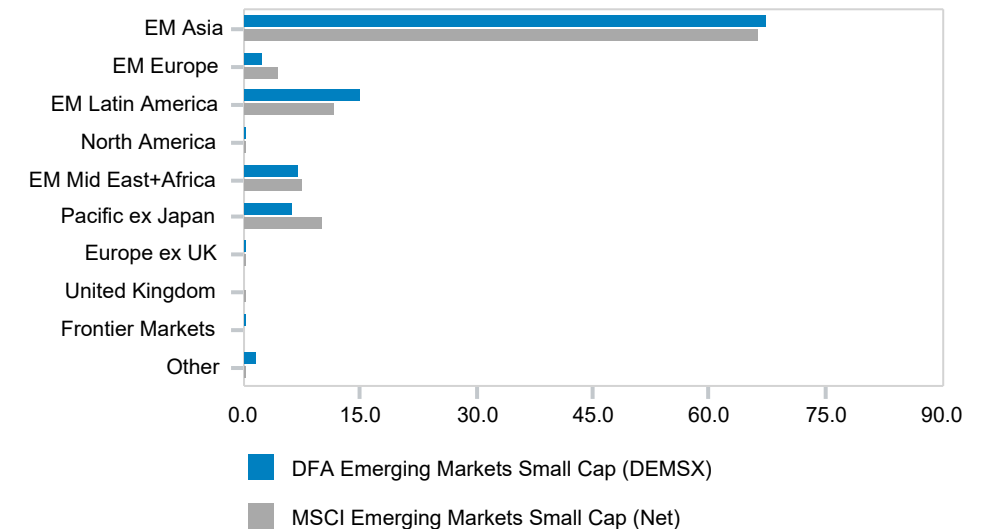
**Top Ten Securities As of 04/30/2019**

Equatorial Energia SA ORD	0.6 %
SPAR Group Ltd ORD	0.4 %
BR Malls Participacoes SA ORD	0.4 %
Clicks Group Ltd ORD	0.4 %
Li Ning Co Ltd ORD	0.4 %
Avi Ltd ORD	0.3 %
Sul America SA	0.3 %
Transmissora Alianca de Energia	0.3 %
Truworths International Ltd ORD	0.3 %
Impala Platinum Holdings Ltd ORD	0.3 %

**Sector Weights As of 04/30/2019**



**Region Weights As of 04/30/2019**



Statistics provided by Lipper. Most recent available data shown.





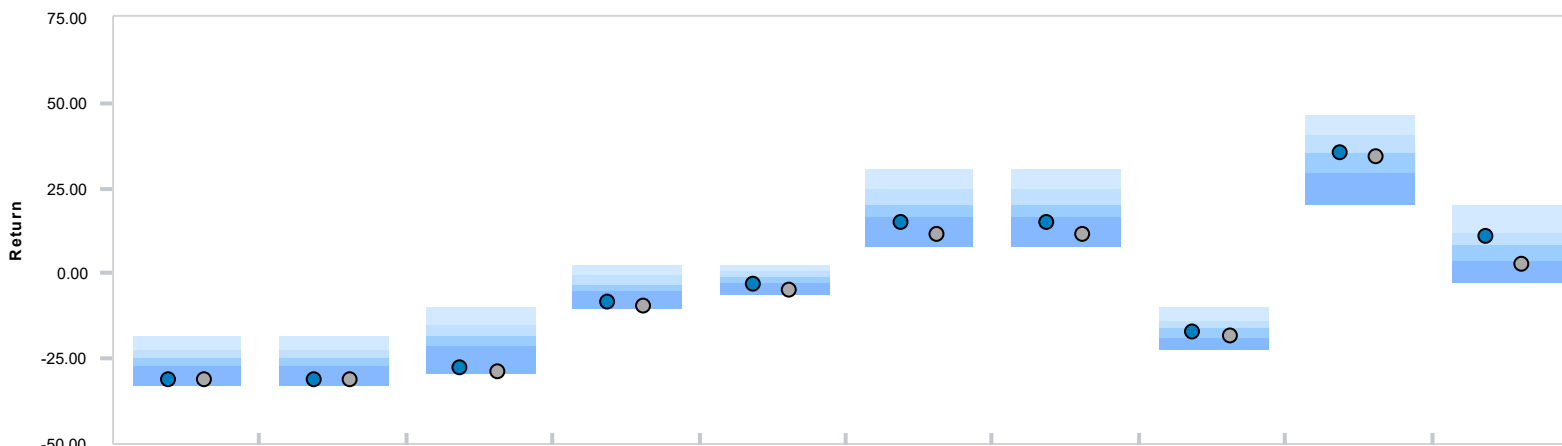
**Mutual Fund Info from Lipper**

Product Name : DFA Emg Mkts Sm Cap;l (DEMSX)  
Fund Family : Dimensional Fund Advisors LP  
Ticker : DEMSX  
Peer Group : IM Emerging Markets Equity (MF)  
Benchmark : MSCI Emerging Markets Small Cap (Net)  
Fund Inception : 03/05/1998  
Portfolio Manager : Fogdall/Singh/Phillips  
Total Assets : \$6,762 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.90%  
Net Expense : 0.70%  
Turnover : 12%

**Summary Description**

The investment seeks 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 Small Cap Series (the "Emerging Markets Small Cap 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 Small Cap Series will invest at least 80% of its net assets in emerging market investments that are designated in the Prospectus as Approved Market securities of small companies.

**Peer Group Analysis - IM Emerging Markets Equity (MF)**



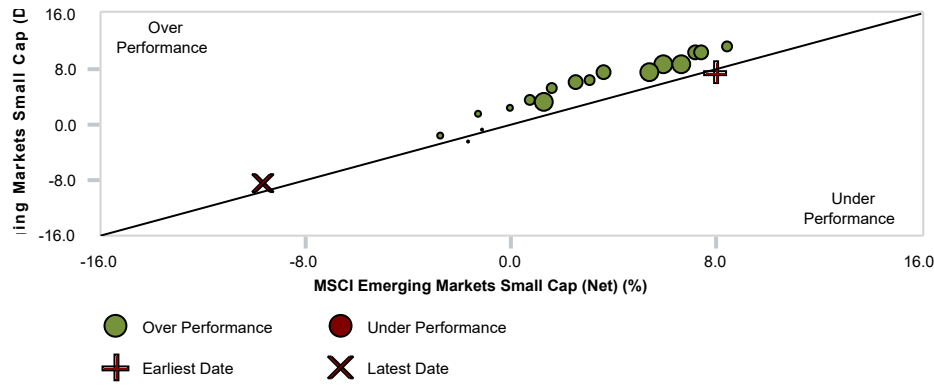
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● DFA Emerging Markets Small Cap (DEMSX)	-31.56 (91)	-31.56 (91)	-27.73 (92)	-8.60 (92)	-3.00 (81)	14.89 (79)	14.89 (79)	-17.56 (62)	35.26 (51)	10.92 (32)
○ MSCI Emerging Markets Small Cap (Net)	-31.37 (91)	-31.37 (91)	-28.98 (95)	-9.64 (95)	-5.17 (93)	11.51 (89)	11.51 (89)	-18.59 (71)	33.84 (58)	2.28 (85)
Median	-24.82	-24.82	-18.26	-3.02	-1.13	20.05	20.05	-16.40	35.37	8.35

**Comparative Performance**

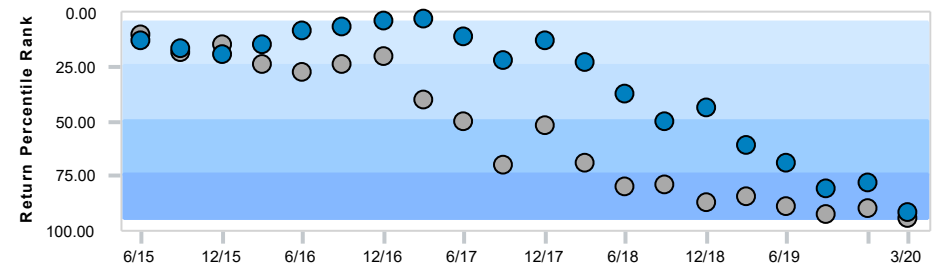
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
DFA Emerging Markets Small Cap (DEMSX)	10.01 (68)	-4.75 (78)	0.77 (70)	8.80 (73)	-5.70 (24)	-4.54 (75)
MSCI Emerging Markets Small Cap (Net)	9.52 (72)	-4.58 (76)	-0.98 (96)	7.76 (81)	-7.18 (43)	-4.21 (73)
IM Emerging Markets Equity (MF) Median	11.05	-3.46	1.60	10.38	-7.62	-2.45



**3 Yr Rolling Under/Over Performance - 5 Years**

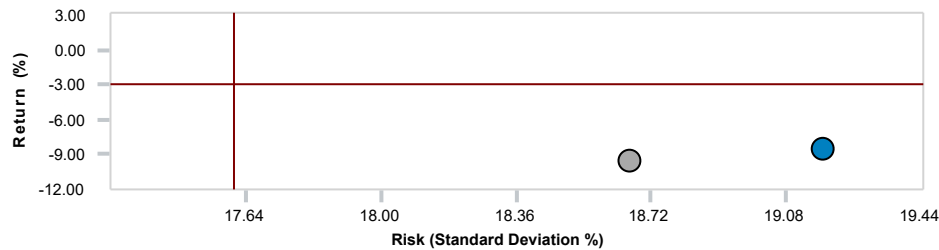


**3 Yr Rolling Percentile Ranking - 5 Years**



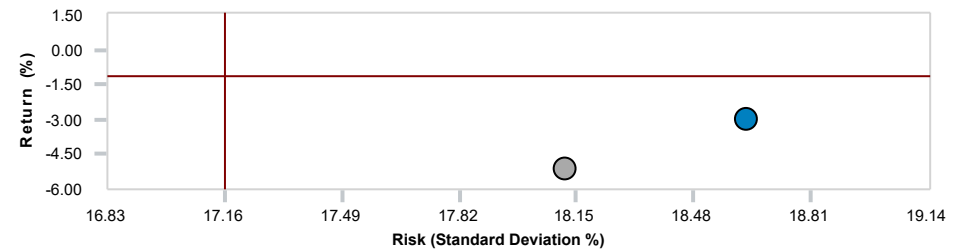
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
● DFA Emerging Markets Small Cap (DEMSX)	20	12 (60%)	3 (15%)	2 (10%)	3 (15%)
● MSCI Emerging Markets Small Cap (Net)	20	6 (30%)	3 (15%)	3 (15%)	8 (40%)

**Peer Group Scattergram - 3 Years**



	Return	Standard Deviation
● DFA Emerging Markets Small Cap (DEMSX)	-8.60	19.18
● MSCI Emerging Markets Small Cap (Net)	-9.64	18.66
— Median	-3.02	17.61

**Peer Group Scattergram - 5 Years**



	Return	Standard Deviation
● DFA Emerging Markets Small Cap (DEMSX)	-3.00	18.63
● MSCI Emerging Markets Small Cap (Net)	-5.17	18.12
— Median	-1.13	17.16

**Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
DFA Emerging Markets Small Cap (DEMSX)	2.39	109.25	101.60	1.40	0.52	-0.46	1.02	16.67
MSCI Emerging Markets Small Cap (Net)	0.00	100.00	100.00	0.00	N/A	-0.53	1.00	16.79

**Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
DFA Emerging Markets Small Cap (DEMSX)	3.36	108.10	97.22	2.40	0.69	-0.13	1.01	14.67
MSCI Emerging Markets Small Cap (Net)	0.00	100.00	100.00	0.00	N/A	-0.26	1.00	15.00



**Fund Information**

Fund Name : Vanguard Bond Index Funds: Vanguard Total Bond Market Index Fund; Admiral Shares	Portfolio Assets : \$253,193 Million
Fund Family : Vanguard Group Inc	Portfolio Manager : Joshua C. Barrickman
Ticker : VBTLX	PM Tenure : 2013
Inception Date : 11/12/2001	Fund Style : IM U.S. Broad Market Core Fixed Income (MF)
Fund Assets : \$107,098 Million	Style Benchmark : Bloomberg Barclays U.S. Aggregate
Portfolio Turnover : 54%	

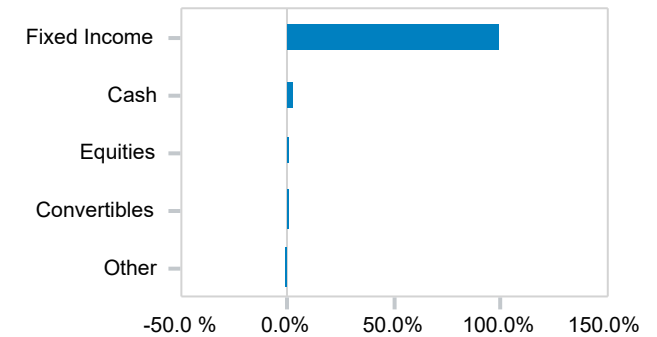
**Fund Characteristics As of 09/30/2019**

Avg. Coupon	3.20 %
Nominal Maturity	N/A
Effective Maturity	8.10 Years
Duration	5.96 Years
SEC 30 Day Yield	2.7
Avg. Credit Quality	AA

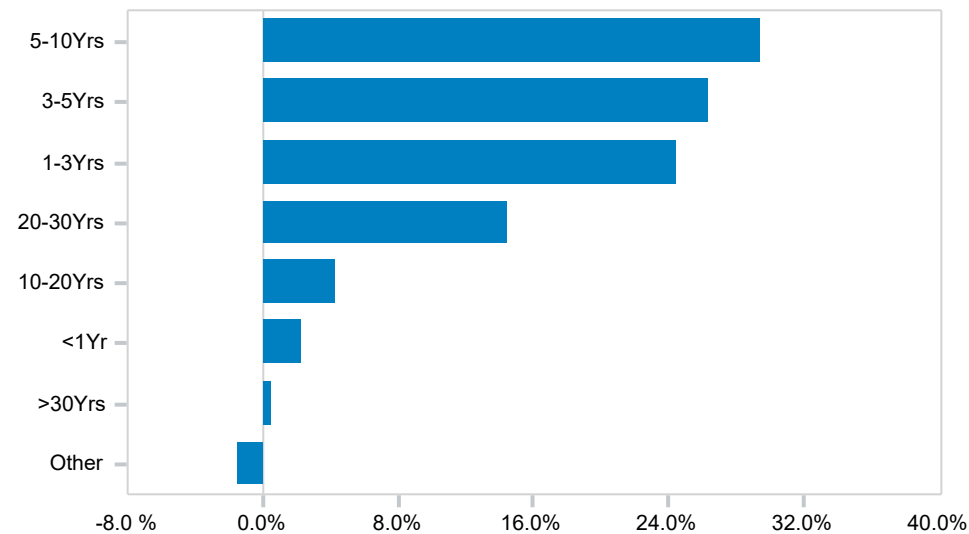
**Top Ten Securities As of 09/30/2019**

Treasury Notes/Bonds	42.0 %
Corporate Notes/Bonds	29.7 %
GNMA and Other Mtg Backed	23.8 %
Government Agency Securities	2.0 %
US\$ Denominated Fgn. Gvt.	1.4 %
Asset Backed Securities	0.5 %

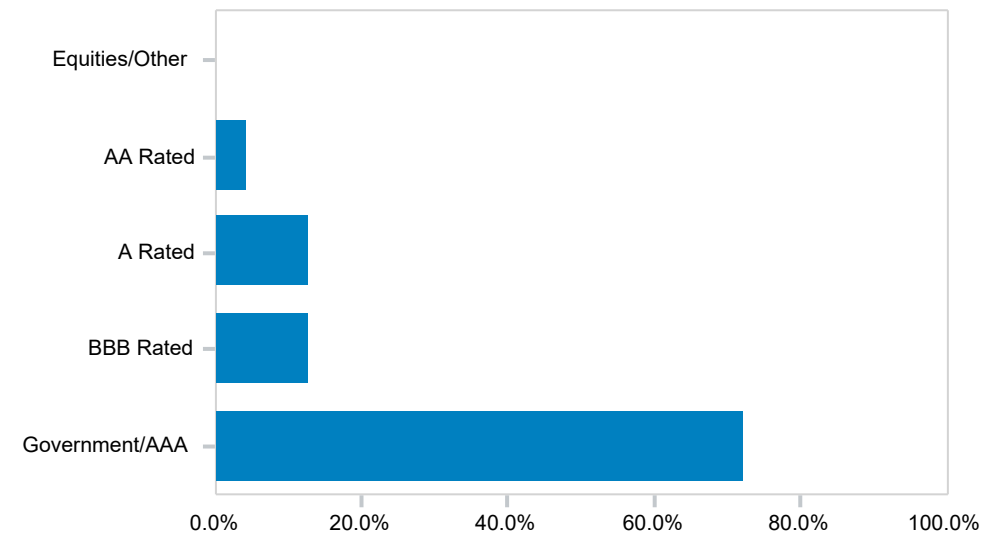
**Asset Allocation As of 09/30/2019**



**Maturity Distribution As of 09/30/2019**



**Sector/Quality Allocation As of 09/30/2019**



Statistics provided by Lipper. Most recent available data shown.



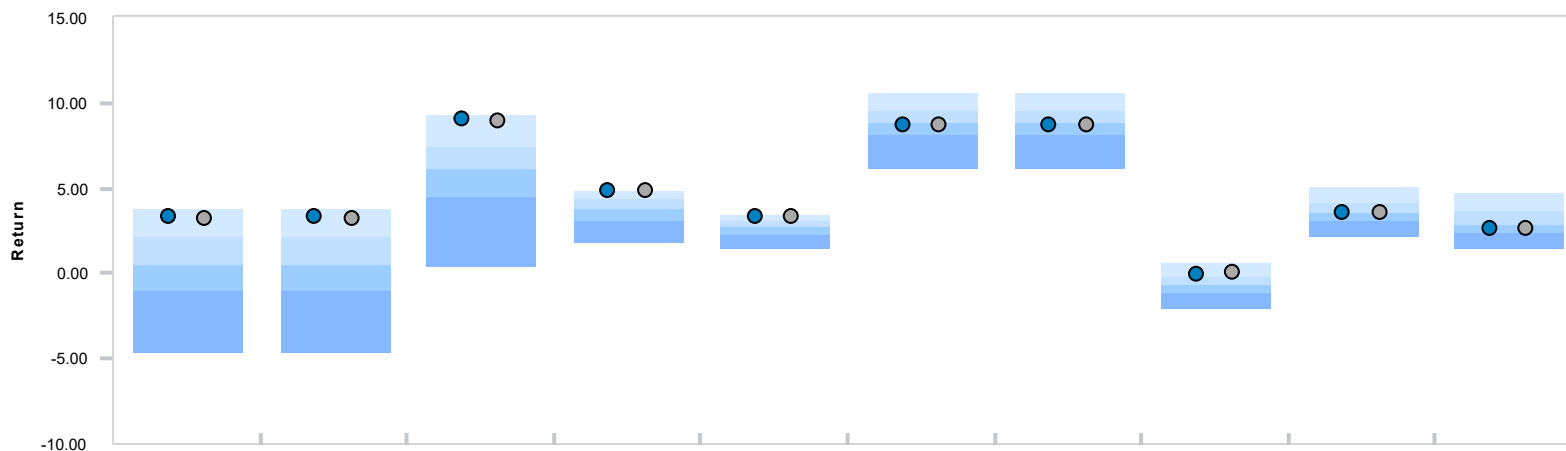
**Mutual Fund Info from Lipper**

Product Name : Vanguard Tot Bd;Adm (VBTLX)  
Fund Family : Vanguard Group Inc  
Ticker : VBTLX  
Peer Group : IM U.S. Broad Market Core Fixed Income (MF)  
Benchmark : Blmbg. Barc. U.S. Aggregate Index  
Fund Inception : 11/12/2001  
Portfolio Manager : Joshua C. Barrickman  
Total Assets : \$107,098 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.05%  
Net Expense : 0.05%  
Turnover : 54%

**Summary Description**

The investment seeks the performance of a broad, market-weighted bond index. The fund employs an indexing investment approach designed to track the performance of the Barclays U.S. Aggregate Float Adjusted Index. This index represents a wide spectrum of public, investment-grade, taxable, fixed income securities in the United States-including government, corporate, and international dollar-denominated bonds, as well as mortgage-backed and asset-backed securities-all with maturities of more than 1 year. All of the fund's investments will be selected through the sampling process, and at least 80% of the fund's assets will be invested in bonds held in the index.

**Peer Group Analysis - IM U.S. Broad Market Core Fixed Income (MF)**



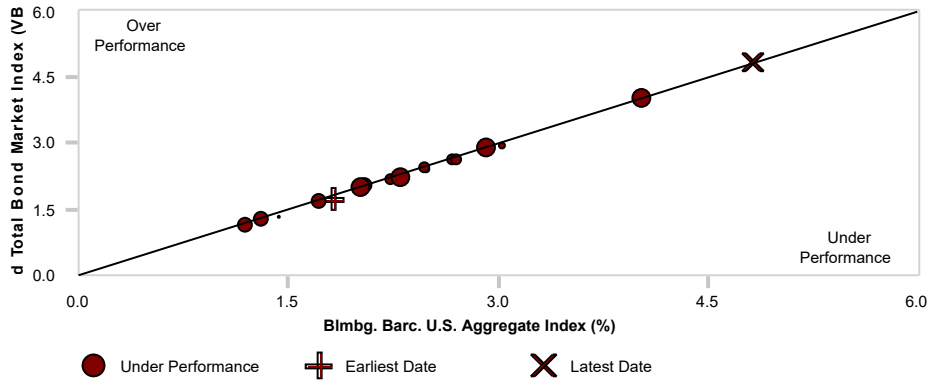
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● Vanguard Total Bond Market Index (VBTLX)	3.27 (14)	3.27 (14)	9.06 (8)	4.83 (6)	3.33 (9)	8.71 (53)	8.71 (53)	-0.03 (20)	3.56 (53)	2.60 (63)
○ Blmbg. Barc. U.S. Aggregate Index	3.15 (16)	3.15 (16)	8.93 (11)	4.82 (7)	3.36 (7)	8.72 (53)	8.72 (53)	0.01 (18)	3.54 (54)	2.65 (61)
Median	0.56	0.56	6.16	3.76	2.74	8.78	8.78	-0.63	3.59	2.86

**Comparative Performance**

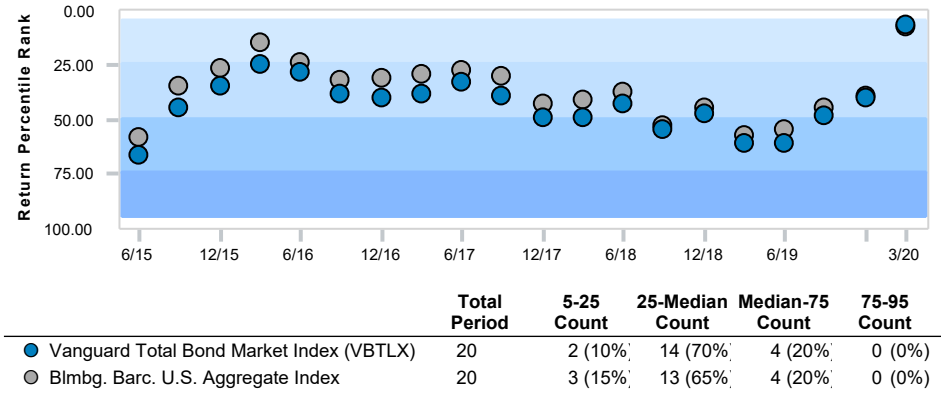
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
Vanguard Total Bond Market Index (VBTLX)	0.03 (71)	2.43 (12)	3.07 (42)	2.94 (71)	1.61 (14)	0.03 (62)
Blmbg. Barc. U.S. Aggregate Index	0.18 (51)	2.27 (34)	3.08 (42)	2.94 (72)	1.64 (11)	0.02 (65)
IM U.S. Broad Market Core Fixed Income (MF) Median	0.18	2.16	3.04	3.23	0.99	0.09



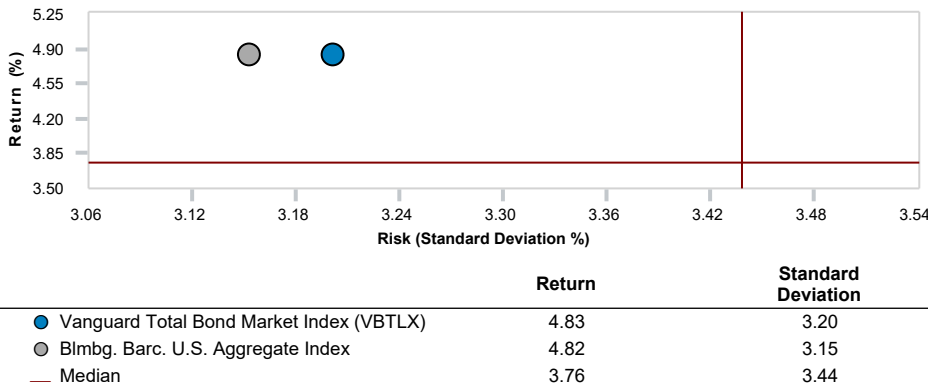
**3 Yr Rolling Under/Over Performance - 5 Years**



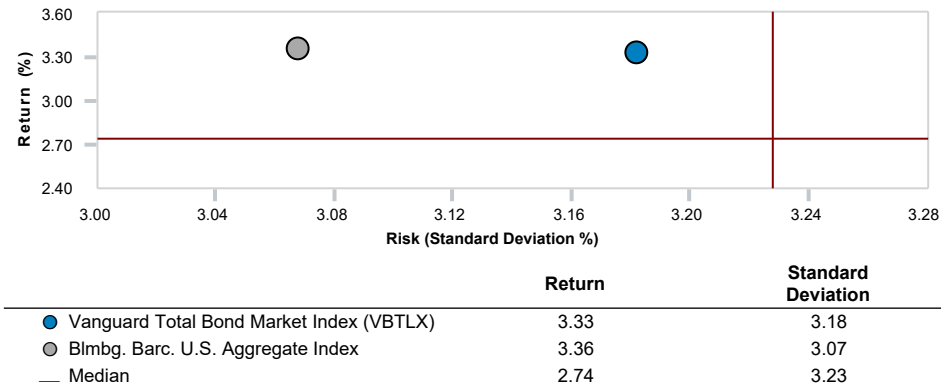
**3 Yr Rolling Percentile Ranking - 5 Years**



**Peer Group Scattergram - 3 Years**



**Peer Group Scattergram - 5 Years**



**Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Vanguard Total Bond Market Index (VBTLX)	0.28	99.21	97.28	-0.05	0.01	0.94	1.01	1.25
Blmbg. Barc. U.S. Aggregate Index	0.00	100.00	100.00	0.00	N/A	0.95	1.00	1.26

**Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Vanguard Total Bond Market Index (VBTLX)	0.31	101.50	104.59	-0.14	-0.08	0.69	1.03	1.67
Blmbg. Barc. U.S. Aggregate Index	0.00	100.00	100.00	0.00	N/A	0.73	1.00	1.58



**Fund Information**

Fund Name :	Metropolitan West Funds: Total Return Bond Fund; Class I Shares	Portfolio Assets :	\$80,539 Million
Fund Family :	Metropolitan West Asset Management LLC	Portfolio Manager :	Team Managed
Ticker :	MWTIX	PM Tenure :	
Inception Date :	03/31/2000	Fund Style :	IM U.S. Broad Market Core+ Fixed Income (MF)
Fund Assets :	\$45,786 Million	Style Benchmark :	Bloomberg Barclays U.S. Aggregate
Portfolio Turnover :	255%		

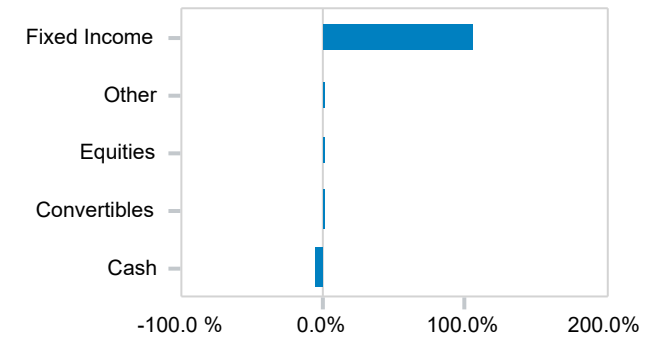
**Fund Characteristics As of 09/30/2019**

Avg. Coupon	3.00 %
Nominal Maturity	7.69 Years
Effective Maturity	N/A
Duration	5.75 Years
SEC 30 Day Yield	3.9
Avg. Credit Quality	AA

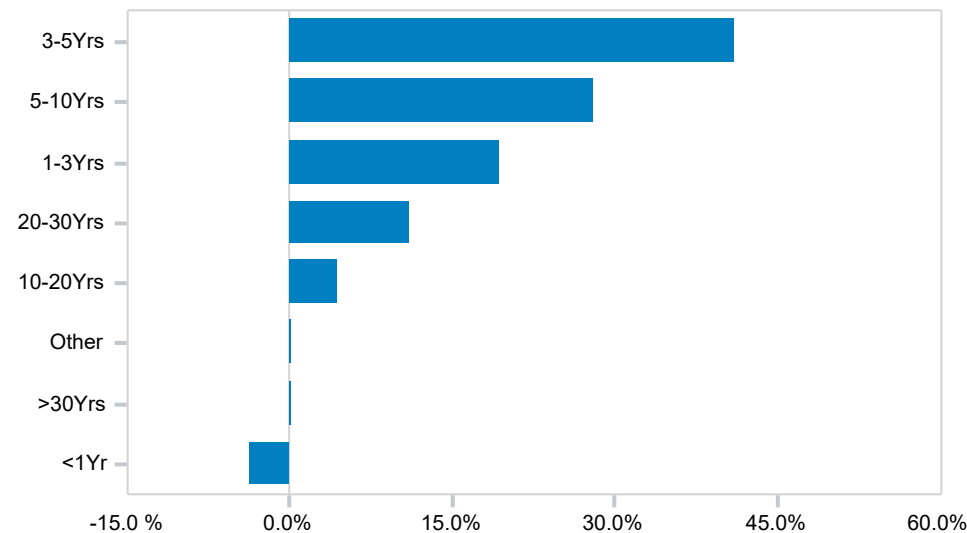
**Top Ten Securities As of 09/30/2019**

GNMA and Other Mtg Backed	43.6 %
Government Agency Securities	31.0 %
Corporate Notes/Bonds	26.9 %
Asset Backed Securities	4.8 %

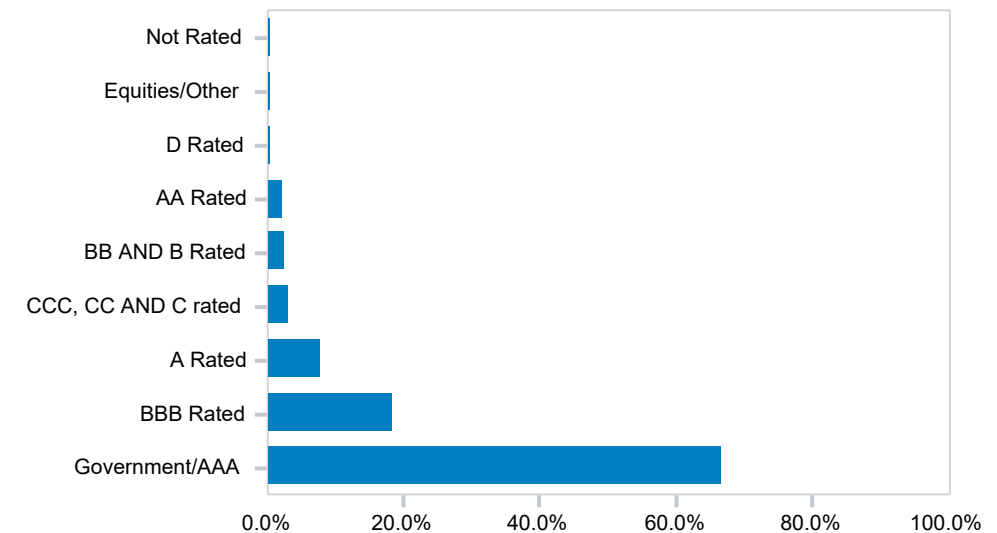
**Asset Allocation As of 09/30/2019**



**Maturity Distribution As of 09/30/2019**



**Sector/Quality Allocation As of 09/30/2019**



Statistics provided by Lipper. Most recent available data shown.



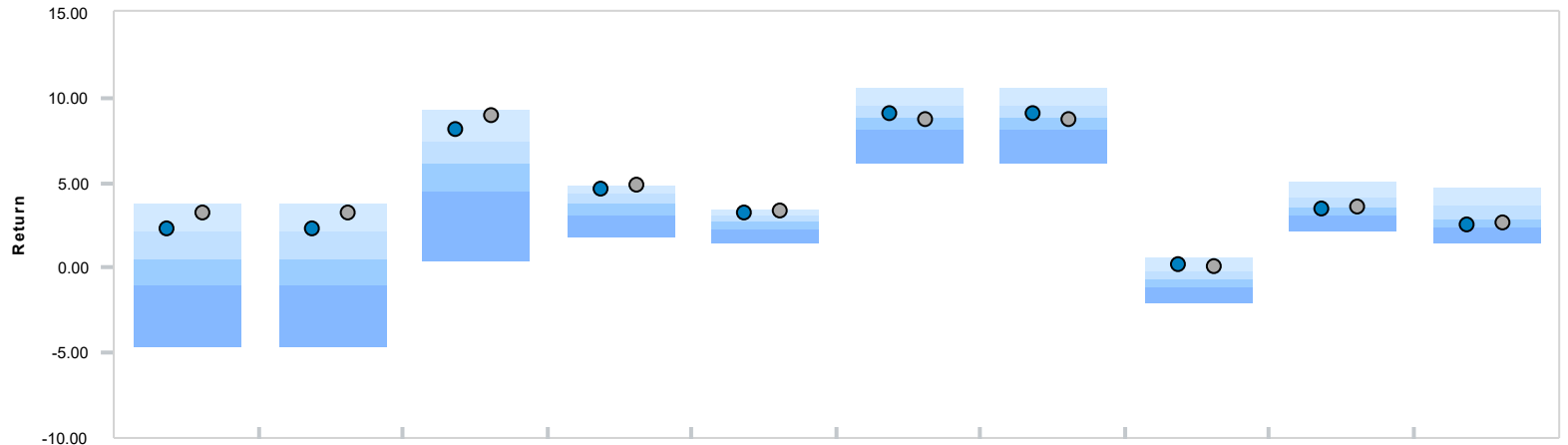
**Mutual Fund Info from Lipper**

Product Name : Met West Total Return;I (MWTIX)  
Fund Family : Metropolitan West Asset Management LLC  
Ticker : MWTIX  
Peer Group : IM U.S. Broad Market Core Fixed Income (MF)  
Benchmark : Blmbg. Barc. U.S. Aggregate Index  
Fund Inception : 03/31/2000  
Portfolio Manager : Team Managed  
Total Assets : \$45,786 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.44%  
Net Expense : 0.44%  
Turnover : 255%

**Summary Description**

The investment seeks to maximize long-term total return. The fund pursues its objective by investing, under normal circumstances, at least 80% of its net assets in investment grade fixed income securities or unrated securities that are determined by the Adviser to be of similar quality. Up to 20% of the fund's net assets may be invested in securities rated below investment grade. The fund also invests at least 80% of its net assets plus borrowings for investment purposes in fixed income securities it regards as bonds.

**Peer Group Analysis - IM U.S. Broad Market Core Fixed Income (MF)**



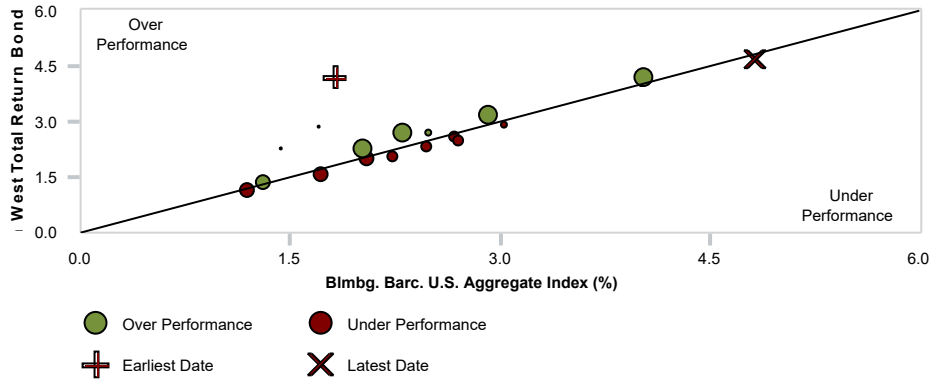
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● Metropolitan West Total Return Bond (MWTIX)	2.32 (21)	2.32 (21)	8.16 (19)	4.65 (13)	3.22 (16)	9.09 (39)	9.09 (39)	0.16 (12)	3.43 (60)	2.46 (71)
○ Blmbg. Barc. U.S. Aggregate Index	3.15 (16)	3.15 (16)	8.93 (11)	4.82 (7)	3.36 (7)	8.72 (53)	8.72 (53)	0.01 (18)	3.54 (54)	2.65 (61)
Median	0.56	0.56	6.16	3.76	2.74	8.78	8.78	-0.63	3.59	2.86

**Comparative Performance**

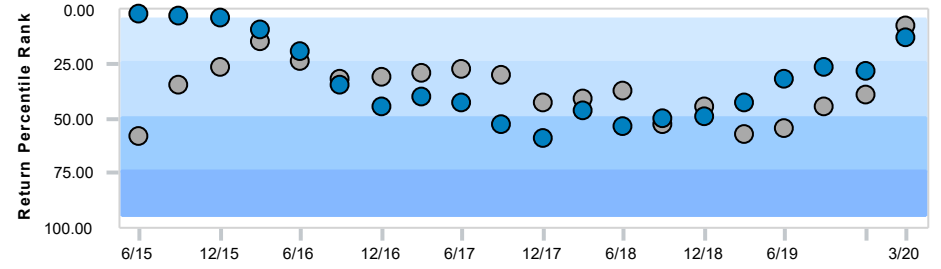
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
Metropolitan West Total Return Bond (MWTIX)	0.19 (49)	2.24 (41)	3.20 (26)	3.20 (53)	1.53 (18)	0.04 (59)
Blmbg. Barc. U.S. Aggregate Index	0.18 (51)	2.27 (34)	3.08 (42)	2.94 (72)	1.64 (11)	0.02 (65)
IM U.S. Broad Market Core Fixed Income (MF) Median	0.18	2.16	3.04	3.23	0.99	0.09



**3 Yr Rolling Under/Over Performance - 5 Years**

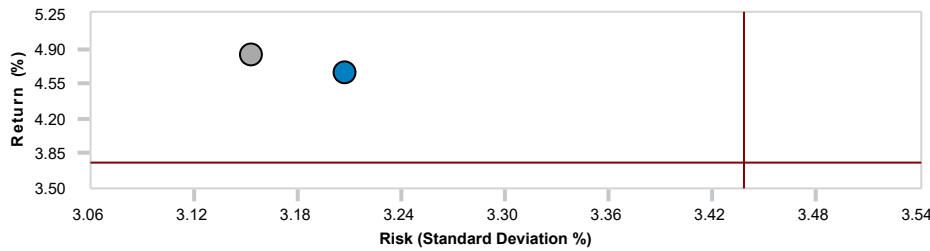


**3 Yr Rolling Percentile Ranking - 5 Years**



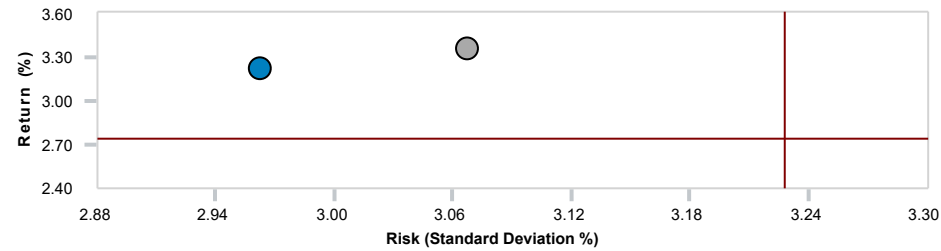
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
● Metropolitan West Total Return Bond (MWTIX)	20	6 (30%)	11 (55%)	3 (15%)	0 (0%)
● Bimbg. Barc. U.S. Aggregate Index	20	3 (15%)	13 (65%)	4 (20%)	0 (0%)

**Peer Group Scattergram - 3 Years**



	Return	Standard Deviation
● Metropolitan West Total Return Bond (MWTIX)	4.65	3.21
● Bimbg. Barc. U.S. Aggregate Index	4.82	3.15
— Median	3.76	3.44

**Peer Group Scattergram - 5 Years**



	Return	Standard Deviation
● Metropolitan West Total Return Bond (MWTIX)	3.22	2.96
● Bimbg. Barc. U.S. Aggregate Index	3.36	3.07
— Median	2.74	3.23

**Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Metropolitan West Total Return Bond (MWTIX)	0.48	98.61	103.40	-0.20	-0.35	0.88	1.01	1.37
Bimbg. Barc. U.S. Aggregate Index	0.00	100.00	100.00	0.00	N/A	0.95	1.00	1.26

**Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Metropolitan West Total Return Bond (MWTIX)	0.50	94.70	93.01	0.02	-0.27	0.71	0.95	1.51
Bimbg. Barc. U.S. Aggregate Index	0.00	100.00	100.00	0.00	N/A	0.73	1.00	1.58





**Fund Information**

Fund Name : BlackRock Funds V: BlackRock High Yield Bond Portfolio; Institutional Shares	Portfolio Assets : \$18,061 Million
Fund Family : BlackRock Inc	Portfolio Manager : Team Managed
Ticker : BHYIX	PM Tenure :
Inception Date : 11/19/1998	Fund Style : IM U.S. High Yield Bonds (MF)
Fund Assets : \$11,254 Million	Style Benchmark : FTSE High Yield Market Index
Portfolio Turnover : 102%	

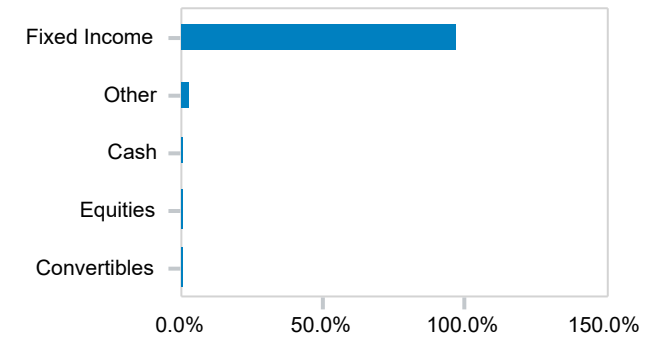
**Fund Characteristics As of 09/30/2019**

Avg. Coupon	4.97 %
Nominal Maturity	N/A
Effective Maturity	6.93 Years
Duration	1.49 Years
SEC 30 Day Yield	7.0
Avg. Credit Quality	CCC

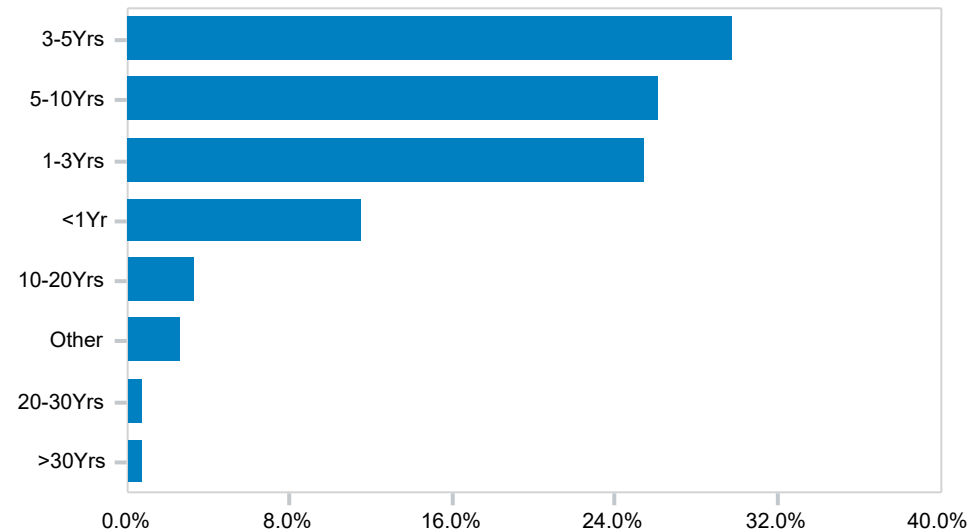
**Top Ten Securities As of 09/30/2019**

Corporate Notes/Bonds	97.5 %
Asset Backed Securities	0.0%

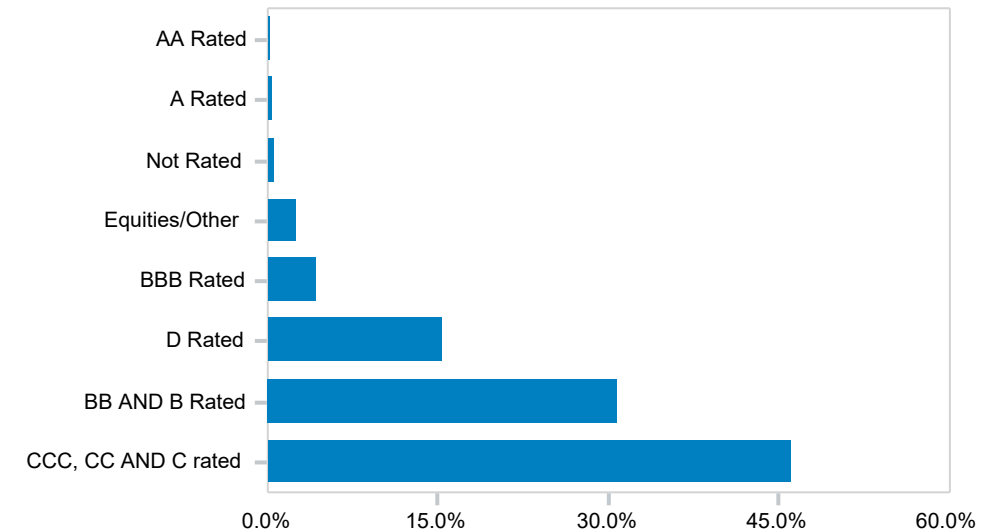
**Asset Allocation As of 09/30/2019**



**Maturity Distribution As of 09/30/2019**



**Sector/Quality Allocation As of 09/30/2019**



Statistics provided by Lipper. Most recent available data shown.



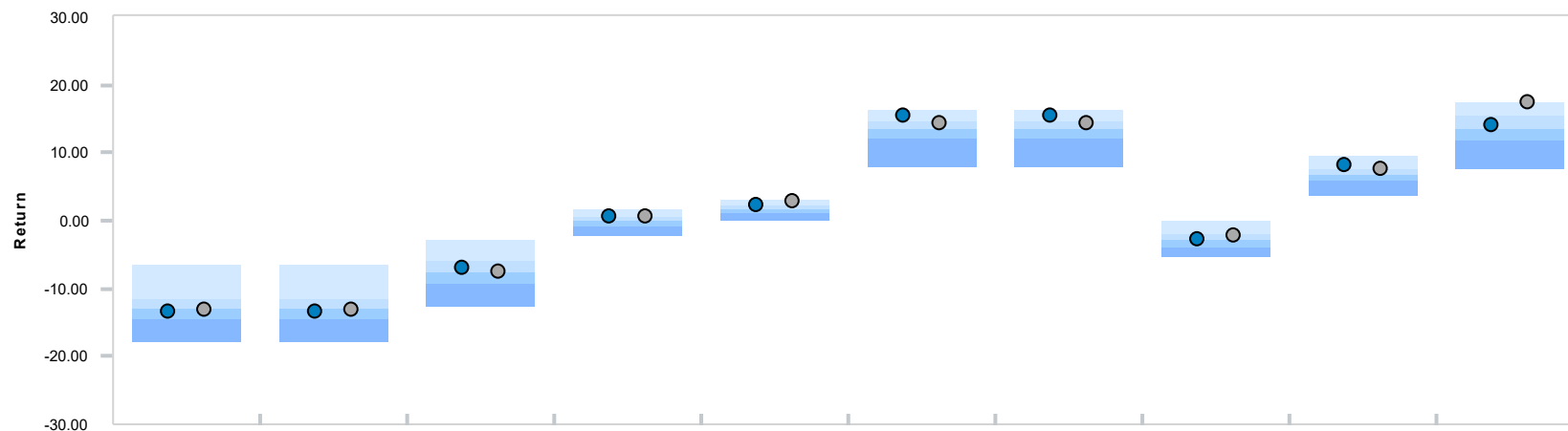
**Mutual Fund Info from Lipper**

Product Name : BlackRock:HY Bd:I (BHYIX)  
Fund Family : BlackRock Inc  
Ticker : BHYIX  
Peer Group : IM U.S. High Yield Bonds (MF)  
Benchmark : ICE BofAML High Yield Master II  
Fund Inception : 11/19/1998  
Portfolio Manager : Team Managed  
Total Assets : \$11,254 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.61%  
Net Expense : 0.61%  
Turnover : 102%

**Summary Description**

The investment seeks to maximize total return, consistent with income generation and prudent investment management. The fund invests primarily in non-investment grade bonds with maturities of ten years or less. It normally invests at least 80% of its assets in high yield bonds. The fund may invest up to 30% of its assets in non-dollar denominated bonds of issuers located outside of the United States. Its investment in non-dollar denominated bonds may be on a currency hedged or unhedged basis. The fund may also invest in convertible and preferred securities.

**Peer Group Analysis - IM U.S. High Yield Bonds (MF)**



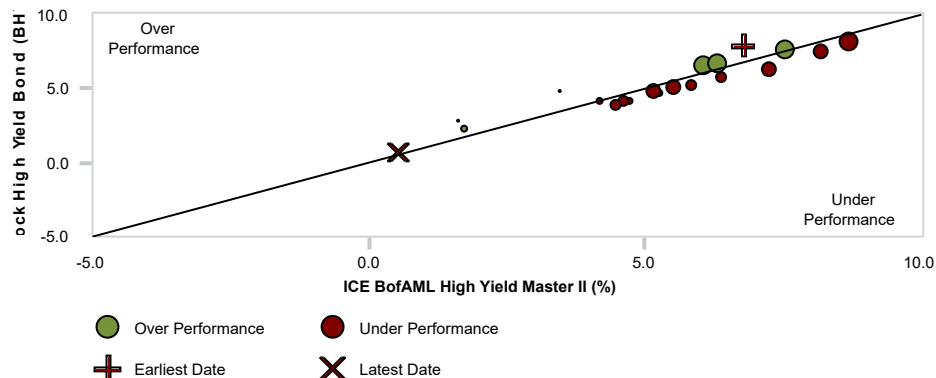
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● BlackRock High Yield Bond (BHYIX)	-13.47 (58)	-13.47 (58)	-7.01 (42)	0.66 (24)	2.36 (19)	15.30 (15)	15.30 (15)	-2.86 (48)	8.20 (13)	13.93 (44)
○ ICE BofAML High Yield Master II	-13.12 (55)	-13.12 (55)	-7.45 (48)	0.55 (26)	2.67 (11)	14.41 (32)	14.41 (32)	-2.27 (32)	7.48 (25)	17.49 (5)
Median	-12.80	-12.80	-7.57	-0.12	1.64	13.51	13.51	-2.91	6.65	13.49

**Comparative Performance**

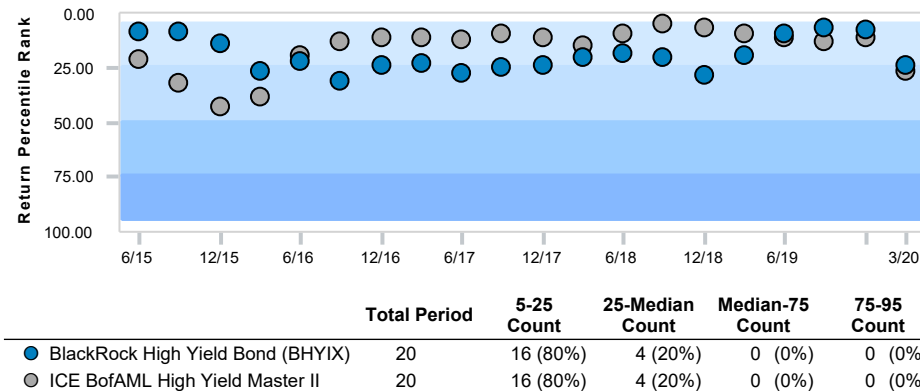
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
BlackRock High Yield Bond (BHYIX)	2.70 (34)	1.93 (8)	2.66 (32)	7.29 (29)	-5.27 (73)	2.27 (35)
ICE BofAML High Yield Master II	2.61 (41)	1.22 (52)	2.56 (38)	7.40 (23)	-4.67 (49)	2.44 (21)
IM U.S. High Yield Bonds (MF) Median	2.47	1.23	2.40	6.87	-4.76	2.11



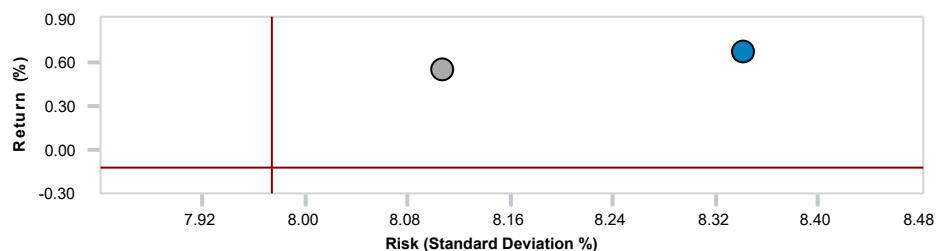
### 3 Yr Rolling Under/Over Performance - 5 Years



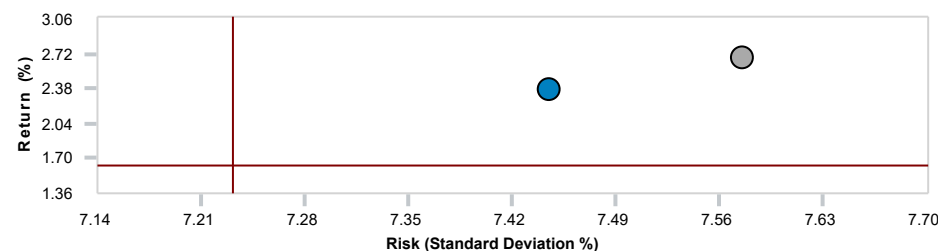
### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



### Peer Group Scattergram - 5 Years



### Historical Statistics - 3 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
BlackRock High Yield Bond (BHYIX)	0.62	104.80	103.50	0.11	0.22	-0.09	1.03	7.34
ICE BofAML High Yield Master II	0.00	100.00	100.00	0.00	N/A	-0.11	1.00	7.12

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
BlackRock High Yield Bond (BHYIX)	1.19	94.20	96.17	-0.22	-0.26	0.20	0.97	6.12
ICE BofAML High Yield Master II	0.00	100.00	100.00	0.00	N/A	0.23	1.00	5.98



**Fund Information**

Fund Name :	DFA Investment Dimensions Group Inc: DFA Real Estate Securities Portfolio; Institutional Class Shares	Portfolio Assets :	\$10,490 Million
Fund Family :	Dimensional Fund Advisors LP	Portfolio Manager :	Fogdall/Smart/Schneider
Ticker :	DFREX	PM Tenure :	2012--2017--2019
Inception Date :	01/05/1993	Fund Style :	IM Real Estate Sector (MF)
Fund Assets :	\$10,490 Million	Style Benchmark :	FTSE NAREIT All Equity REITs
Portfolio Turnover :	3%		

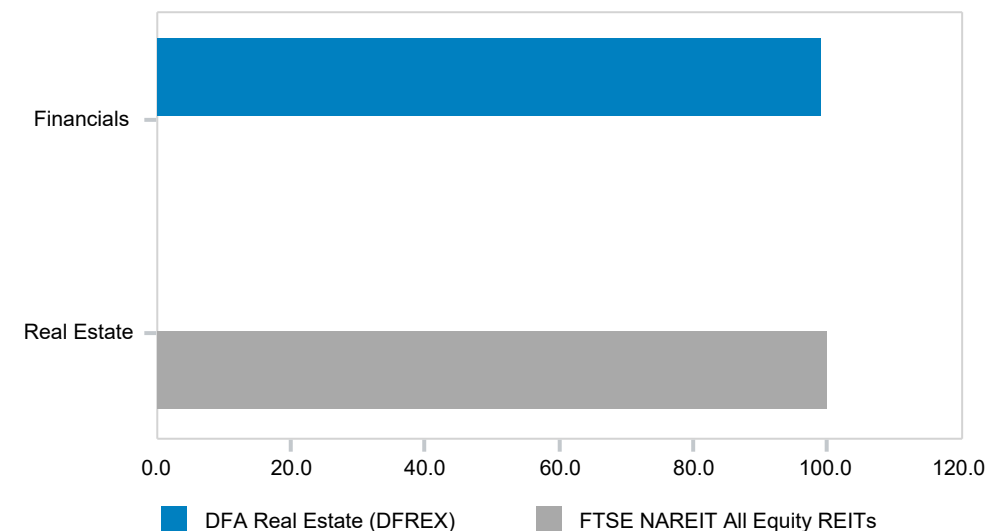
**Portfolio Characteristics As of 07/31/2019**

	Portfolio	Benchmark
Total Securities	160	1
Avg. Market Cap (\$)	27,878,152,313	-
Price/Earnings (P/E)	41.92	N/A
Price/Book (P/B)	5.04	N/A
Dividend Yield	3.64	N/A
Annual EPS	27.79	N/A
5 Yr EPS	24.62	N/A
3 Yr EPS Growth	11.90	N/A
Beta (5 Years, Monthly)	1.01	1.00

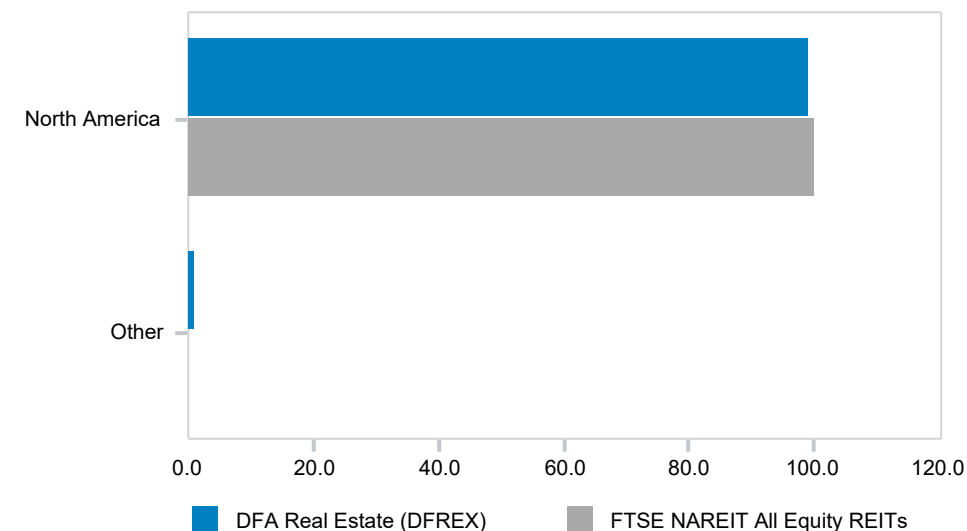
**Top Ten Securities As of 07/31/2019**

American Tower Corp ORD	8.4 %
Crown Castle International Corp	5.0 %
Prologis Inc ORD	4.6 %
Simon Property Group Inc ORD	4.5 %
Equinix Inc ORD	3.8 %
Public Storage ORD	3.4 %
Welltower Inc ORD	3.0 %
Equity Residential ORD	2.6 %
AvalonBay Communities Inc ORD	2.6 %
SBA Communications Corp ORD	2.5 %

**Sector Weights As of 07/31/2019**



**Region Weights As of 07/31/2019**



Statistics provided by Lipper. Most recent available data shown.



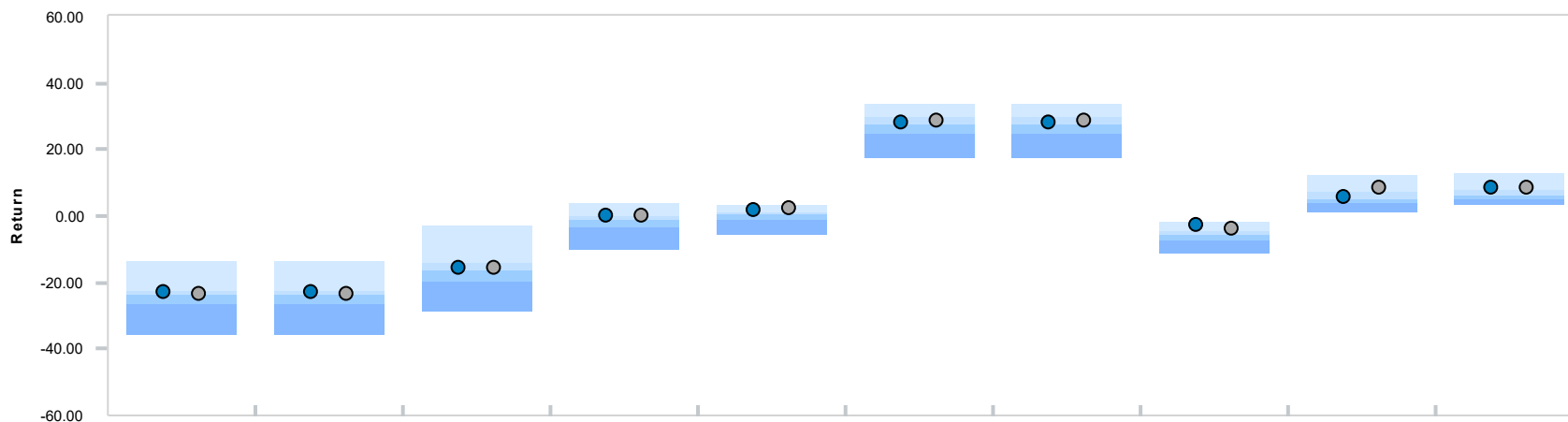
### Mutual Fund Info from Lipper

Product Name : DFA Real Estate;I (DFREX)  
Fund Family : Dimensional Fund Advisors LP  
Ticker : DFREX  
Peer Group : IM Real Estate Sector (MF)  
Benchmark : FTSE NAREIT All Equity REITs  
Fund Inception : 01/05/1993  
Portfolio Manager : Fogdall/Smart/Schneider  
Total Assets : \$10,490 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.19%  
Net Expense : 0.18%  
Turnover : 3%

### Summary Description

The investment seeks long-term capital appreciation. The fund, using a free float-adjusted market capitalization weighted approach, purchases readily marketable equity securities of companies whose principal activities include ownership, management, development, construction, or sale of residential, commercial or industrial real estate. It will principally invest in equity securities of companies in certain real estate investment trusts and companies engaged in residential construction and firms, except partnerships, whose principal business is to develop commercial property.

### Peer Group Analysis - IM Real Estate Sector (MF)



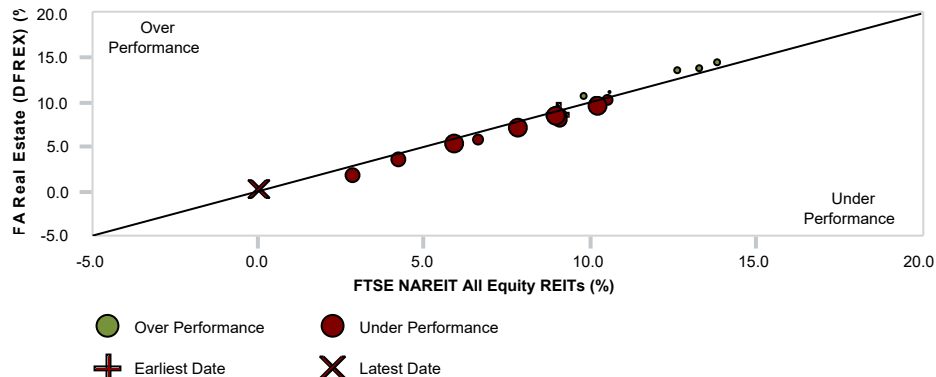
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● DFA Real Estate (DFREX)	-23.06 (41)	-23.06 (41)	-15.79 (48)	0.09 (28)	1.54 (20)	28.10 (43)	28.10 (43)	-2.99 (8)	5.71 (42)	8.38 (21)
○ FTSE NAREIT All Equity REITs	-23.44 (50)	-23.44 (50)	-15.93 (50)	0.06 (28)	1.99 (12)	28.66 (38)	28.66 (38)	-4.04 (17)	8.67 (16)	8.63 (19)
Median	-23.52	-23.52	-16.07	-1.27	0.29	27.38	27.38	-5.82	5.20	6.10

### Comparative Performance

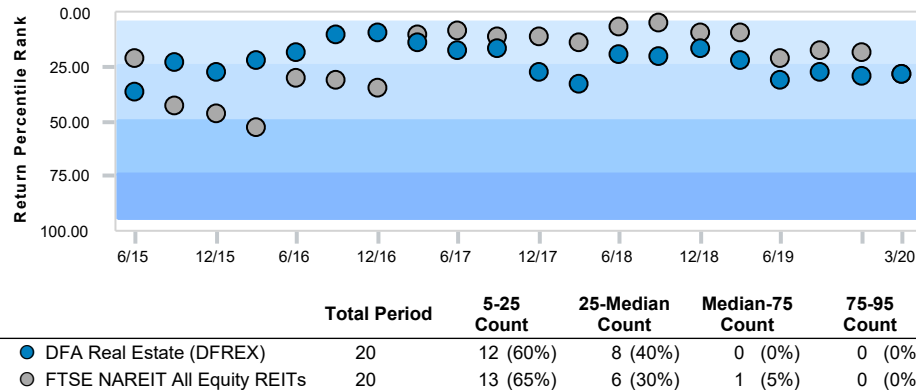
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
DFA Real Estate (DFREX)	-0.11 (61)	7.69 (36)	1.74 (61)	17.04 (29)	-5.15 (8)	1.18 (21)
FTSE NAREIT All Equity REITs	0.13 (51)	7.73 (35)	1.79 (60)	17.17 (24)	-6.07 (24)	0.87 (37)
IM Real Estate Sector (MF) Median	0.14	7.38	2.06	16.38	-6.78	0.64



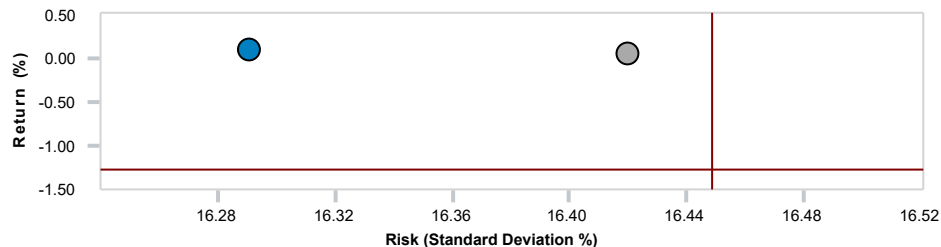
### 3 Yr Rolling Under/Over Performance - 5 Years



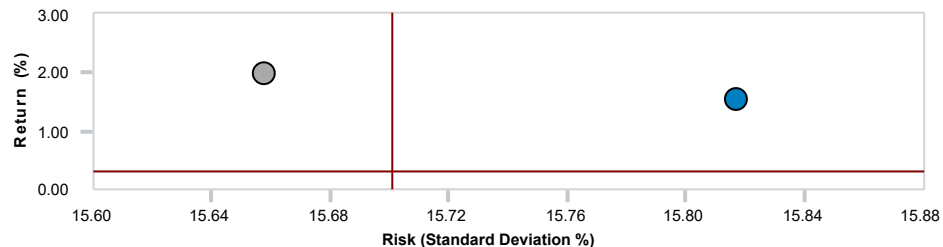
### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



### Peer Group Scattergram - 5 Years



### Historical Statistics - 3 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
DFA Real Estate (DFREX)	0.90	98.98	98.81	0.03	0.02	-0.02	0.99	13.24
FTSE NAREIT All Equity REITs	0.00	100.00	100.00	0.00	N/A	-0.02	1.00	13.40

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
DFA Real Estate (DFREX)	1.33	100.76	103.27	-0.43	-0.31	0.10	1.01	11.77
FTSE NAREIT All Equity REITs	0.00	100.00	100.00	0.00	N/A	0.13	1.00	11.65



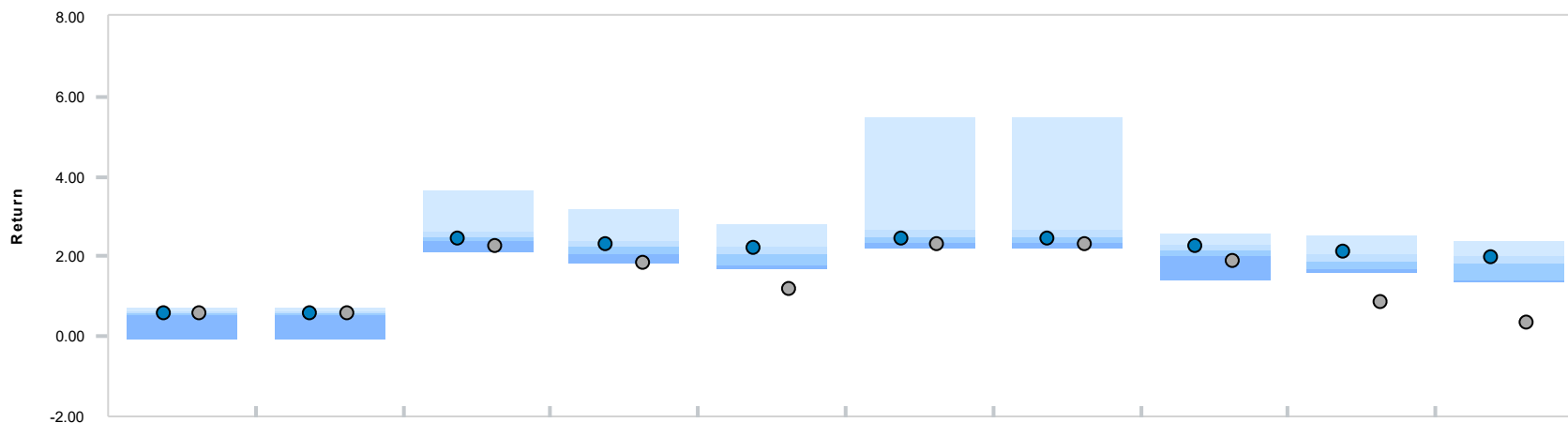
**Mutual Fund Info from Lipper**

No data found.

**Summary Description**

ICMA-RC employs a structured and diversified multi-product, multi-manager approach in managing the PLUS Fund. The Plus Fund invests primarily in a diversified and tiered portfolio of stable value investment contracts and in fixed income securities, fixed income mutual funds, and fixed income commingled trust funds (fixed income assets) that back certain stable value investment contracts. In addition, the PLUS Fund invest in money market mutual funds, as well as cash and cash equivalents. The PLUS Fund's portfolio may include different types of investments with a variety of negotiated terms and maturities, and is diversified across sectors and issuers. The composition of the PLUS Fund portfolio and its allocations to various stable value investments and fixed income investment sectors, across the Fund's multiple tiers, is determined based on prevailing economic and capital market conditions, relative value analysis, liquidity needs, and other factors.

**Peer Group Analysis - IM U.S. GIC/Stable Value (SA+CF)**



	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● Vantage Trust PLUS Fund R10	0.58 (50)	0.58 (50)	2.44 (55)	2.31 (34)	2.19 (33)	2.45 (60)	2.45 (60)	2.27 (32)	2.12 (16)	1.98 (29)
● ICE BofAML 3 Month U.S. T-Bill	0.58 (77)	0.58 (77)	2.25 (91)	1.83 (95)	1.19 (100)	2.28 (94)	2.28 (94)	1.87 (87)	0.86 (100)	0.33 (100)
Median	0.58	0.58	2.47	2.24	2.04	2.51	2.51	2.14	1.86	1.85

**Comparative Performance**

	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
Vantage Trust PLUS Fund R10	0.60 (48)	0.62 (59)	0.61 (58)	0.59 (54)	0.59 (55)	0.57 (37)
ICE BofAML 3 Month U.S. T-Bill	0.46 (96)	0.56 (97)	0.64 (32)	0.60 (46)	0.56 (68)	0.49 (87)
IM U.S. GIC/Stable Value (SA+CF) Median	0.60	0.64	0.63	0.60	0.60	0.55



**Fund Information**

Fund Name : TIAA-CREF Funds: Lifecycle Retirement Income Fund; Premier Class Shares  
 Fund Family : TIAA-CREF  
 Ticker : TPILX  
 Inception Date : 09/30/2009  
 Fund Assets : \$23 Million  
 Portfolio Turnover : 25%

Portfolio Assets : \$571 Million  
 Portfolio Manager : Team Managed  
 PM Tenure :  
 Fund Style : IM Mixed-Asset Target Today (MF)  
 Style Benchmark : Dow Jones Global Conservative Index

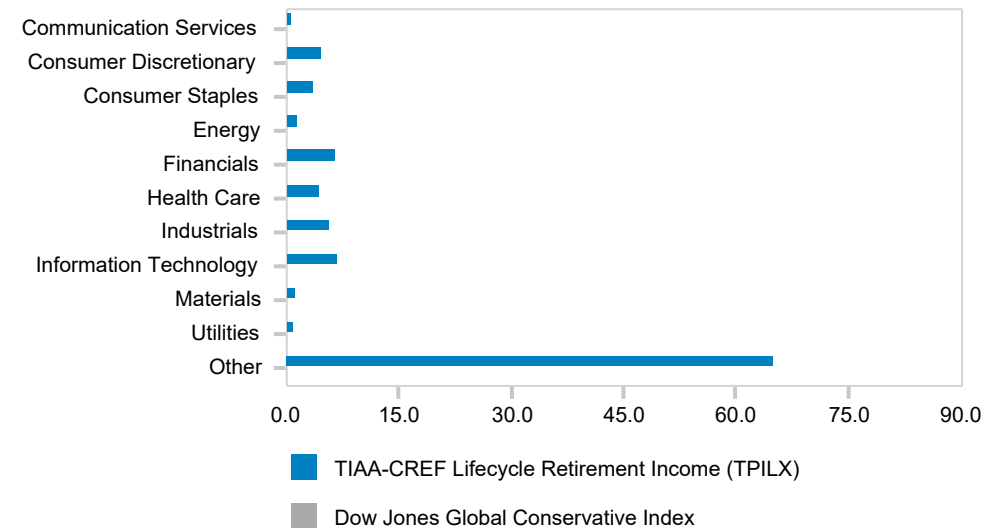
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	22	N/A
Avg. Market Cap (\$)	58,216,434,517	-
Price/Earnings (P/E)	9.56	N/A
Price/Book (P/B)	2.16	N/A
Dividend Yield	0.83	N/A
Annual EPS	8.67	N/A
5 Yr EPS	5.62	N/A
3 Yr EPS Growth	7.18	N/A
Beta (5 Years, Monthly)	1.86	1.00

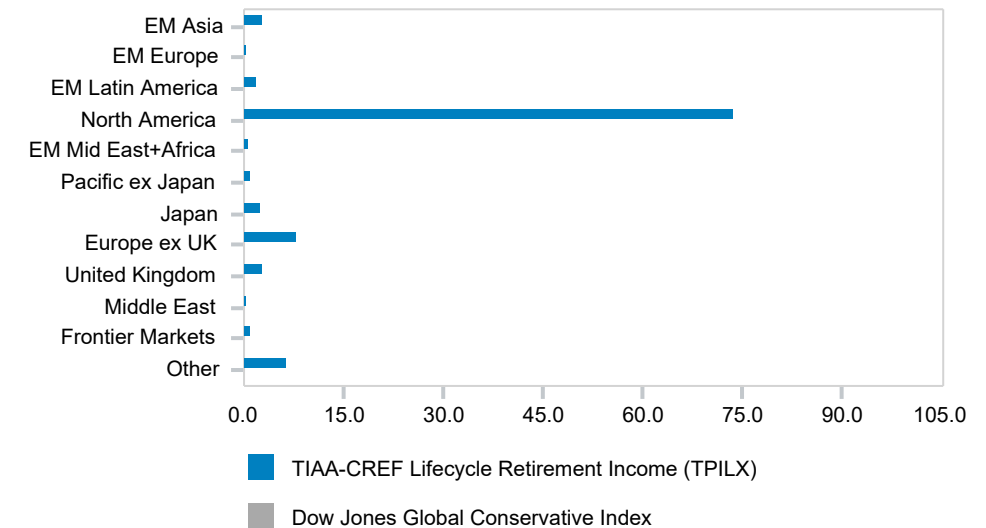
**Top Ten Securities As of 11/30/2019**

TIAA-CREF Bond Fund;W	21.1 %
TIAA-CREF Bond Plus Fund;W	12.9 %
TIAA-CREF Short-Term Bond Fund;W	10.1 %
TIAA-CREF Inflation-Linked Bond	10.0 %
TIAA-CREF Growth & Income Fund;W	5.4 %
TIAA-CREF Large-Cap Growth Fund;W	4.8 %
TIAA-CREF Large-Cap Value Fund;W	4.5 %
TIAA-CREF Quant Large-Cap Growth	4.2 %
TIAA-CREF Quant International Equity	3.2 %
TIAA-CREF Quant Large-Cap Value	2.8 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.





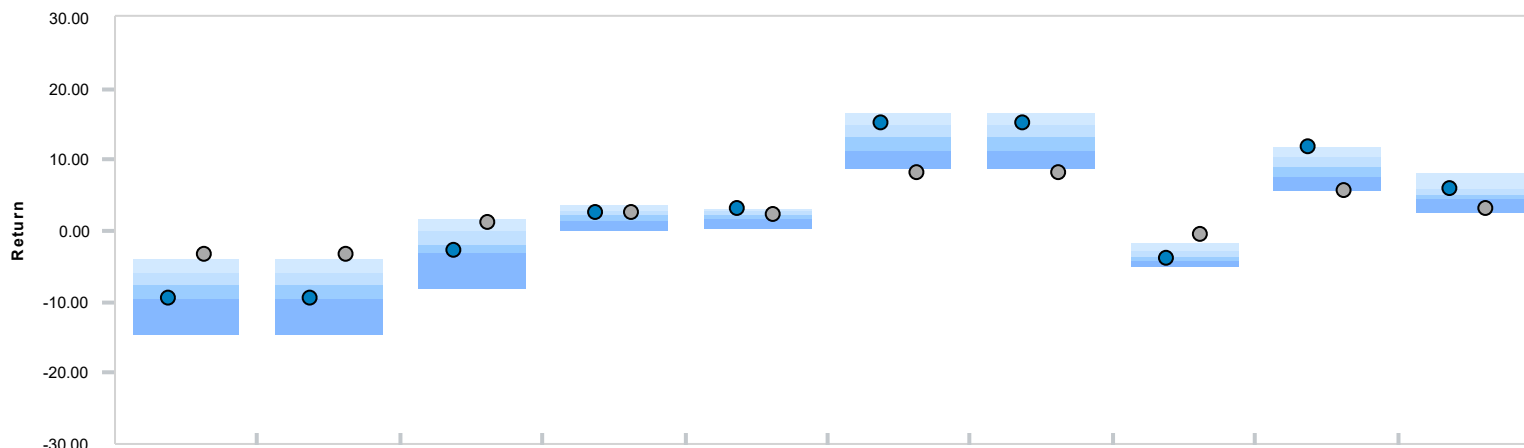
**Mutual Fund Info from Lipper**

Product Name : TIAA-CREF:Lfcy Ret;Prmr (TPILX)  
 Fund Family : TIAA-CREF  
 Ticker : TPILX  
 Peer Group : IM Mixed-Asset Target Today (MF)  
 Benchmark : Dow Jones Global Conservative Index  
 Fund Inception : 09/30/2009  
 Portfolio Manager : Team Managed  
 Total Assets : \$23 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.68%  
 Net Expense : 0.52%  
 Turnover : 25%

**Summary Description**

The investment seeks high total return over time primarily through income, with a secondary emphasis on capital appreciation. 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. The managers expect to allocate approximately 40.00% of the fund's assets to equity underlying funds and 60.00% of its assets to fixed-income underlying funds. These allocations represent targets for equity and fixed-income asset classes. Target allocations may be changed and actual allocations may vary up to ten percentage points from the targets.

**Peer Group Analysis - IM Mixed-Asset Target Today (MF)**



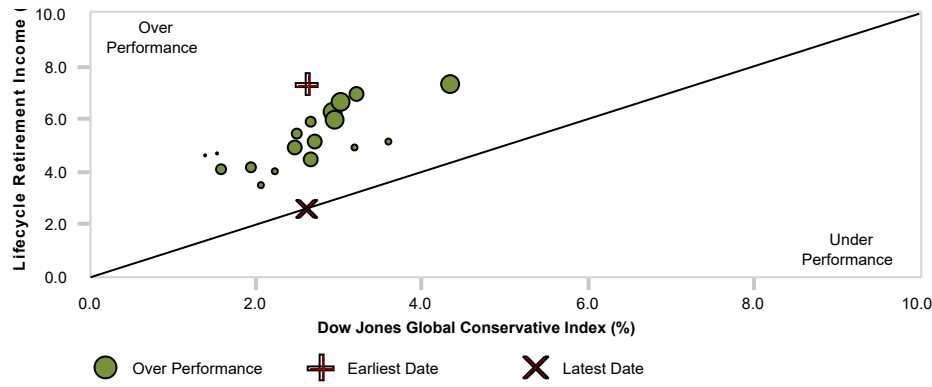
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● TIAA-CREF Lifecycle Retirement Income (TPILX)	-9.64 (76)	-9.64 (76)	-2.67 (60)	2.57 (36)	2.95 (11)	15.03 (23)	15.03 (23)	-3.90 (67)	11.84 (6)	5.89 (24)
○ Dow Jones Global Conservative Index	-3.38 (2)	-3.38 (2)	1.10 (13)	2.61 (31)	2.20 (48)	8.13 (99)	8.13 (99)	-0.62 (2)	5.73 (95)	3.01 (92)
Median	-7.59	-7.59	-1.87	2.12	2.12	13.31	13.31	-3.57	8.85	5.07

**Comparative Performance**

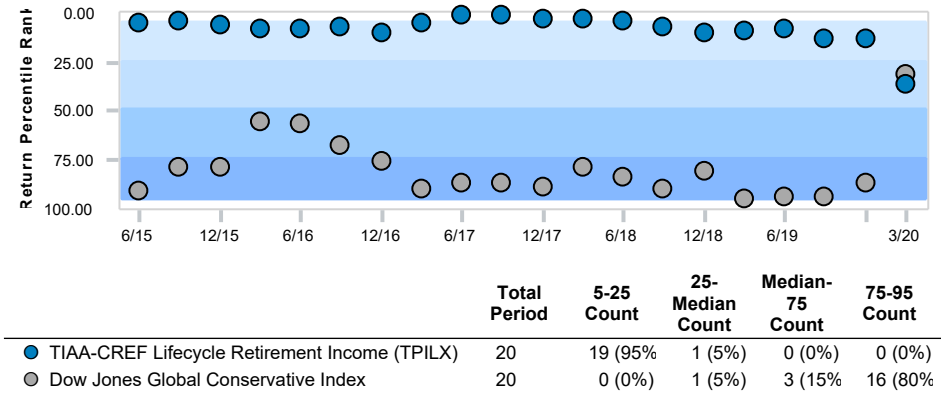
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
TIAA-CREF Lifecycle Retirement Income (TPILX)	3.54 (11)	1.04 (82)	2.95 (38)	6.79 (21)	-5.40 (90)	1.54 (39)
Dow Jones Global Conservative Index	1.47 (95)	0.96 (87)	2.14 (92)	3.34 (100)	-1.25 (3)	0.61 (90)
IM Mixed-Asset Target Today (MF) Median	2.60	1.27	2.86	6.05	-4.03	1.41



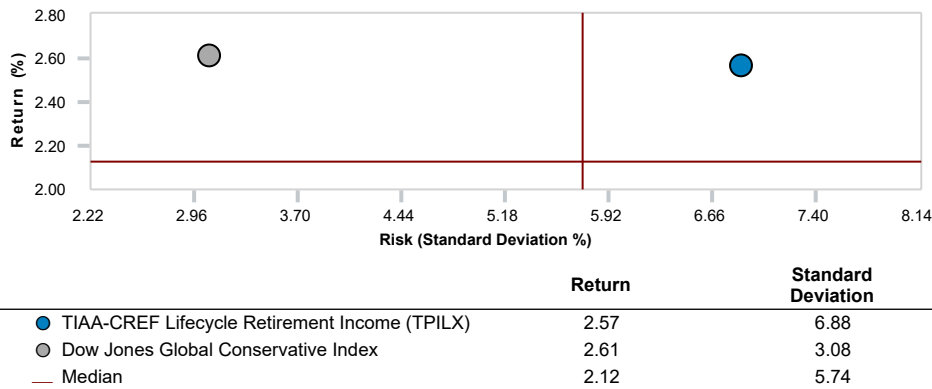
**3 Yr Rolling Under/Over Performance - 5 Years**



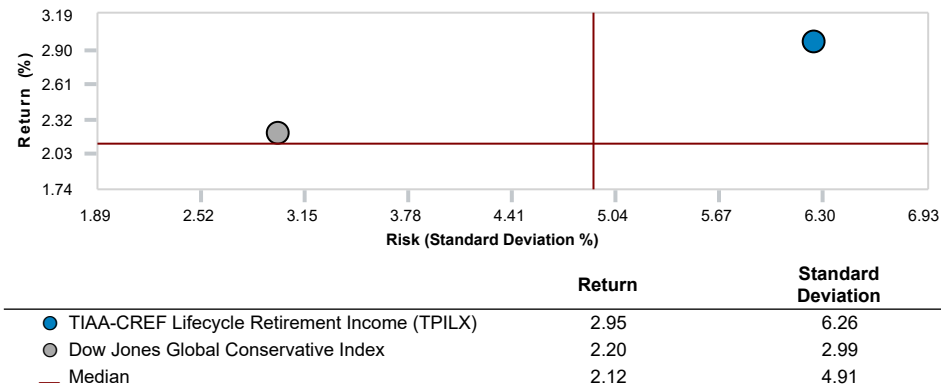
**3 Yr Rolling Percentile Ranking - 5 Years**



**Peer Group Scattergram - 3 Years**



**Peer Group Scattergram - 5 Years**



**Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle Retirement Income (TPILX)	4.03	183.28	264.48	-2.80	0.04	0.14	2.14	5.57
Dow Jones Global Conservative Index	0.00	100.00	100.00	0.00	N/A	0.26	1.00	2.31

**Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle Retirement Income (TPILX)	3.84	178.33	209.00	-1.03	0.23	0.31	1.86	4.75
Dow Jones Global Conservative Index	0.00	100.00	100.00	0.00	N/A	0.35	1.00	2.08



**Fund Information**

Fund Name : TIAA-CREF Funds: Lifecycle 2010 Fund; Premier Class Shares  
 Fund Family : TIAA-CREF  
 Ticker : TCTPX  
 Inception Date : 09/30/2009  
 Fund Assets : \$85 Million  
 Portfolio Turnover : 22%

Portfolio Assets : \$1,219 Million  
 Portfolio Manager : Team Managed  
 PM Tenure :  
 Fund Style : IM Mixed-Asset Target 2010 (MF)  
 Style Benchmark : Dow Jones Global Target 2010 Index

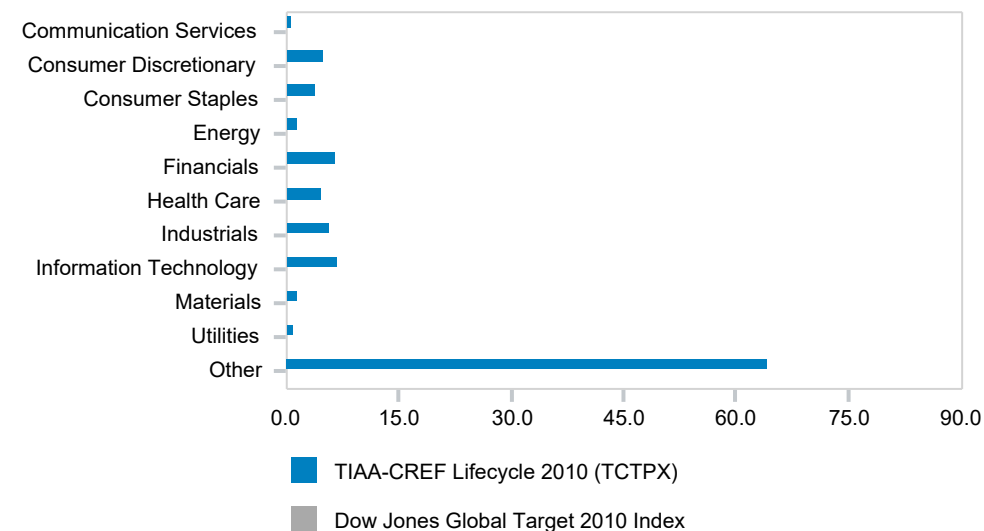
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	22	N/A
Avg. Market Cap (\$)	59,147,930,163	-
Price/Earnings (P/E)	9.73	N/A
Price/Book (P/B)	2.20	N/A
Dividend Yield	0.85	N/A
Annual EPS	8.82	N/A
5 Yr EPS	5.72	N/A
3 Yr EPS Growth	7.31	N/A
Beta (5 Years, Monthly)	1.84	1.00

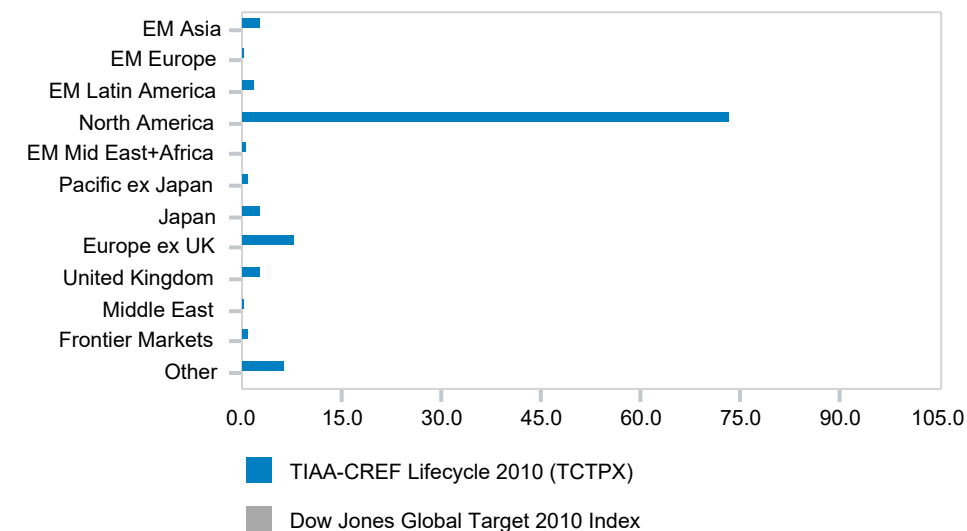
**Top Ten Securities As of 11/30/2019**

TIAA-CREF Bond Fund;W	21.1 %
TIAA-CREF Bond Plus Fund;W	12.8 %
TIAA-CREF Short-Term Bond Fund;W	9.9 %
TIAA-CREF Inflation-Linked Bond	9.8 %
TIAA-CREF Growth & Income Fund;W	5.5 %
TIAA-CREF Large-Cap Growth Fund;W	4.9 %
TIAA-CREF Large-Cap Value Fund;W	4.6 %
TIAA-CREF Quant Large-Cap Growth	4.3 %
TIAA-CREF Quant International Equity	3.3 %
TIAA-CREF Quant Large-Cap Value	2.9 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.



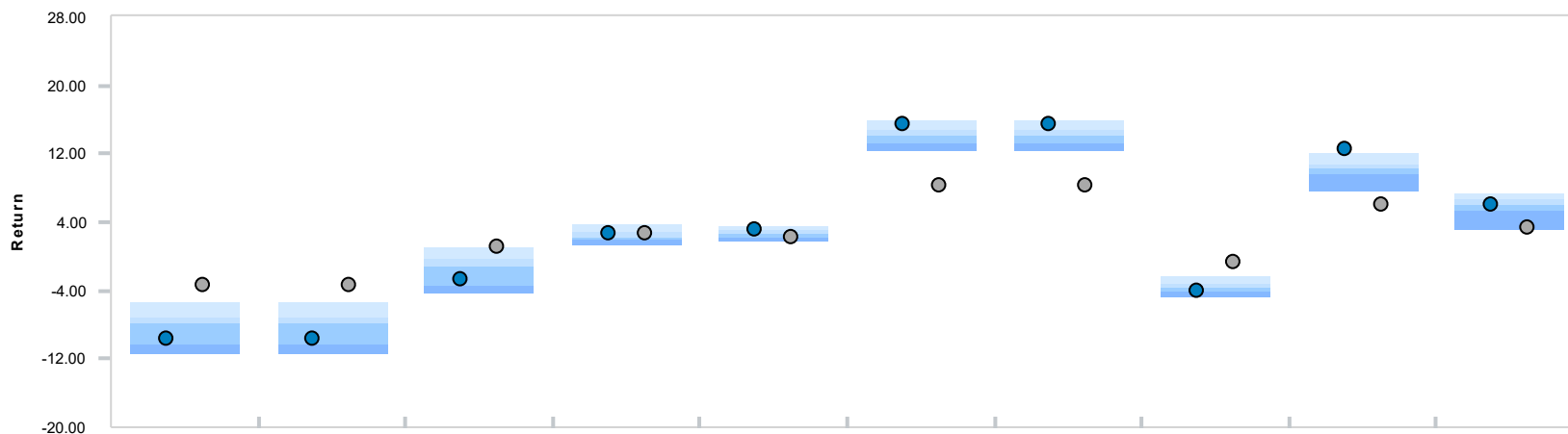
**Mutual Fund Info from Lipper**

Product Name : TIAA-CREF:Lfcy 2010:Prmr (TCTPX)  
Fund Family : TIAA-CREF  
Ticker : TCTPX  
Peer Group : IM Mixed-Asset Target 2010 (MF)  
Benchmark : Dow Jones Global Target 2010 Index  
Fund Inception : 09/30/2009  
Portfolio Manager : Team Managed  
Total Assets : \$85 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.65%  
Net Expense : 0.52%  
Turnover : 22%

**Summary Description**

The investment seeks high total return over time through a combination of capital appreciation and income. 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 (collectively, the "underlying funds"). The manager expects to allocate approximately 45.00% of the fund's assets to equity underlying funds and 55.00% of the fund's assets to fixed-income underlying funds. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

**Peer Group Analysis - IM Mixed-Asset Target 2010 (MF)**



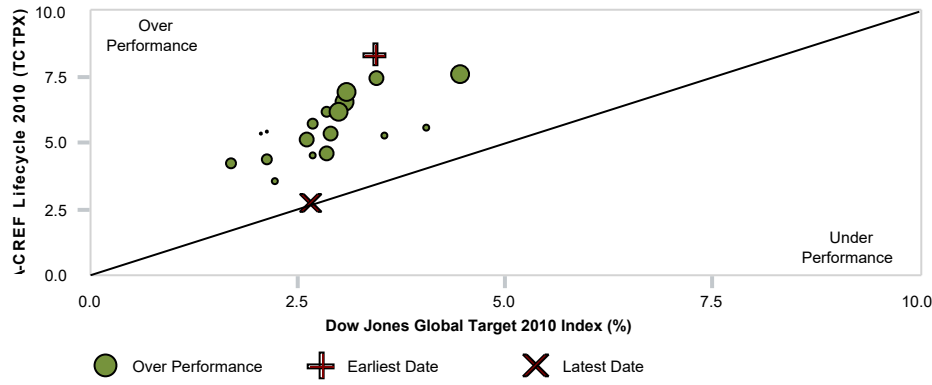
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● TIAA-CREF Lifecycle 2010 (TCTPX)	-9.69 (66)	-9.69 (66)	-2.65 (65)	2.70 (39)	3.10 (24)	15.36 (14)	15.36 (14)	-4.09 (73)	12.52 (2)	6.06 (50)
○ Dow Jones Global Target 2010 Index	-3.39 (1)	-3.39 (1)	1.12 (6)	2.68 (40)	2.29 (74)	8.22 (100)	8.22 (100)	-0.68 (1)	6.07 (100)	3.33 (95)
Median	-7.82	-7.82	-1.22	2.28	2.68	14.19	14.19	-3.58	10.24	6.06

**Comparative Performance**

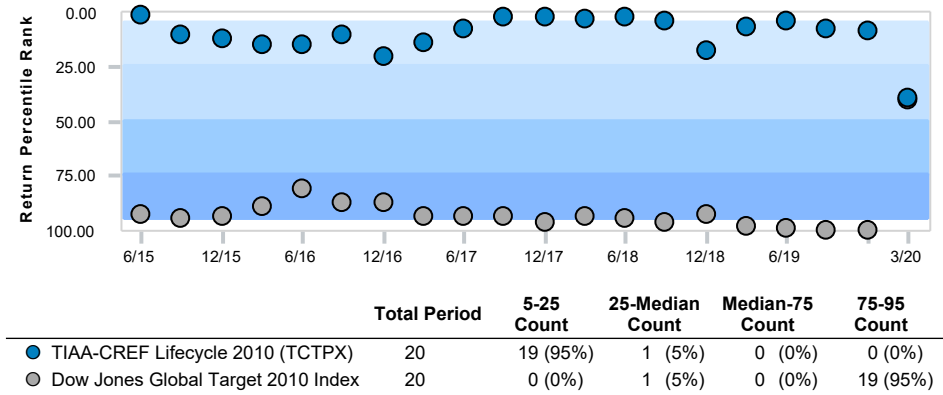
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
TIAA-CREF Lifecycle 2010 (TCTPX)	3.61 (44)	1.05 (38)	2.96 (42)	7.01 (12)	-5.80 (97)	1.72 (28)
Dow Jones Global Target 2010 Index	1.48 (100)	0.96 (48)	2.16 (100)	3.39 (100)	-1.30 (1)	0.61 (100)
IM Mixed-Asset Target 2010 (MF) Median	3.50	0.95	2.90	6.29	-4.60	1.57



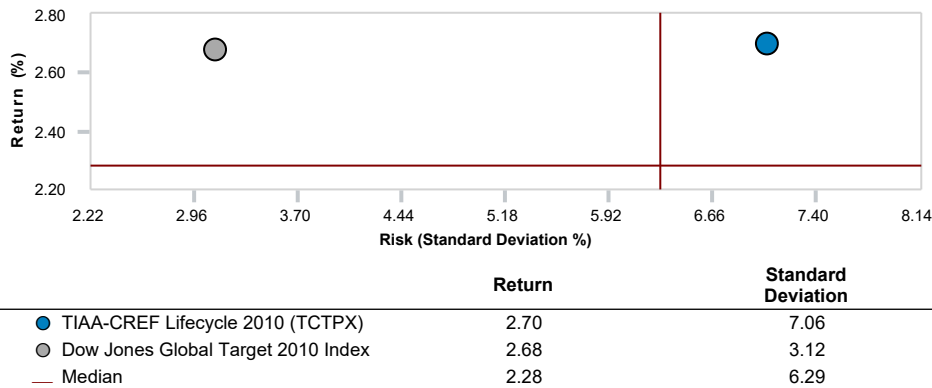
3 Yr Rolling Under/Over Performance - 5 Years



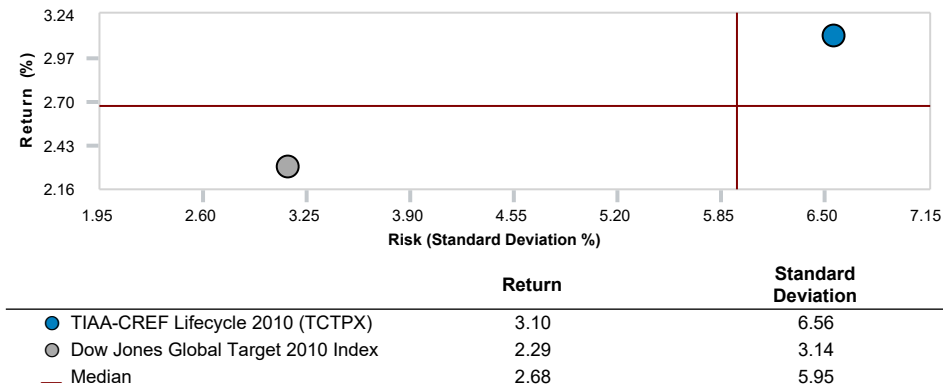
3 Yr Rolling Percentile Ranking - 5 Years



Peer Group Scattergram - 3 Years



Peer Group Scattergram - 5 Years



Historical Statistics - 3 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2010 (TCTPX)	4.21	185.20	265.96	-2.84	0.05	0.16	2.15	5.68
Dow Jones Global Target 2010 Index	0.00	100.00	100.00	0.00	N/A	0.28	1.00	2.33

Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2010 (TCTPX)	4.08	177.49	205.56	-0.98	0.23	0.32	1.84	4.92
Dow Jones Global Target 2010 Index	0.00	100.00	100.00	0.00	N/A	0.37	1.00	2.16



**Fund Information**

Fund Name : TIAA-CREF Funds: Lifecycle 2015 Fund; Premier Class Shares  
 Fund Family : TIAA-CREF  
 Ticker : TCFPX  
 Inception Date : 09/30/2009  
 Fund Assets : \$124 Million  
 Portfolio Turnover : 21%

Portfolio Assets : \$1,832 Million  
 Portfolio Manager : Team Managed  
 PM Tenure :  
 Fund Style : IM Mixed-Asset Target 2015 (MF)  
 Style Benchmark : Dow Jones Global Target 2015 Index

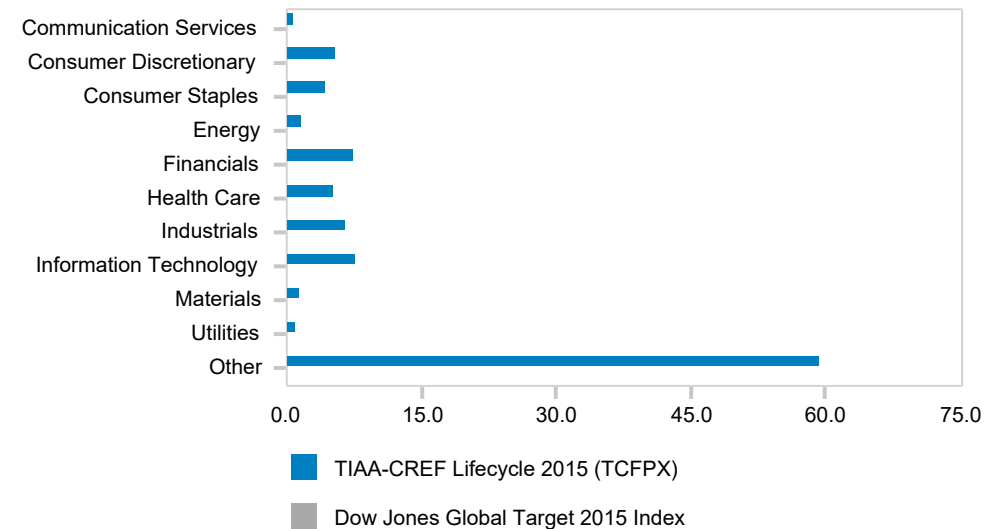
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	22	N/A
Avg. Market Cap (\$)	67,390,848,541	-
Price/Earnings (P/E)	11.06	N/A
Price/Book (P/B)	2.50	N/A
Dividend Yield	0.96	N/A
Annual EPS	10.04	N/A
5 Yr EPS	6.51	N/A
3 Yr EPS Growth	8.32	N/A
Beta (5 Years, Monthly)	1.61	1.00

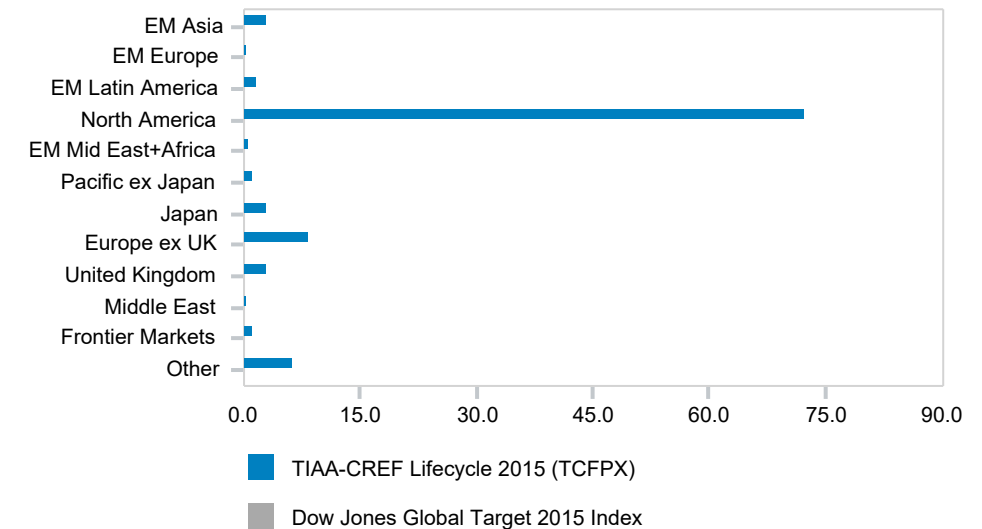
**Top Ten Securities As of 11/30/2019**

TIAA-CREF Bond Fund;W	20.5 %
TIAA-CREF Bond Plus Fund;W	12.4 %
TIAA-CREF Short-Term Bond Fund;W	7.9 %
TIAA-CREF Inflation-Linked Bond	7.8 %
TIAA-CREF Growth & Income Fund;W	6.2 %
TIAA-CREF Large-Cap Growth Fund;W	5.6 %
TIAA-CREF Large-Cap Value Fund;W	5.3 %
TIAA-CREF Quant Large-Cap Growth	4.9 %
TIAA-CREF Quant International Equity	3.6 %
TIAA-CREF Quant Large-Cap Value	3.3 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.



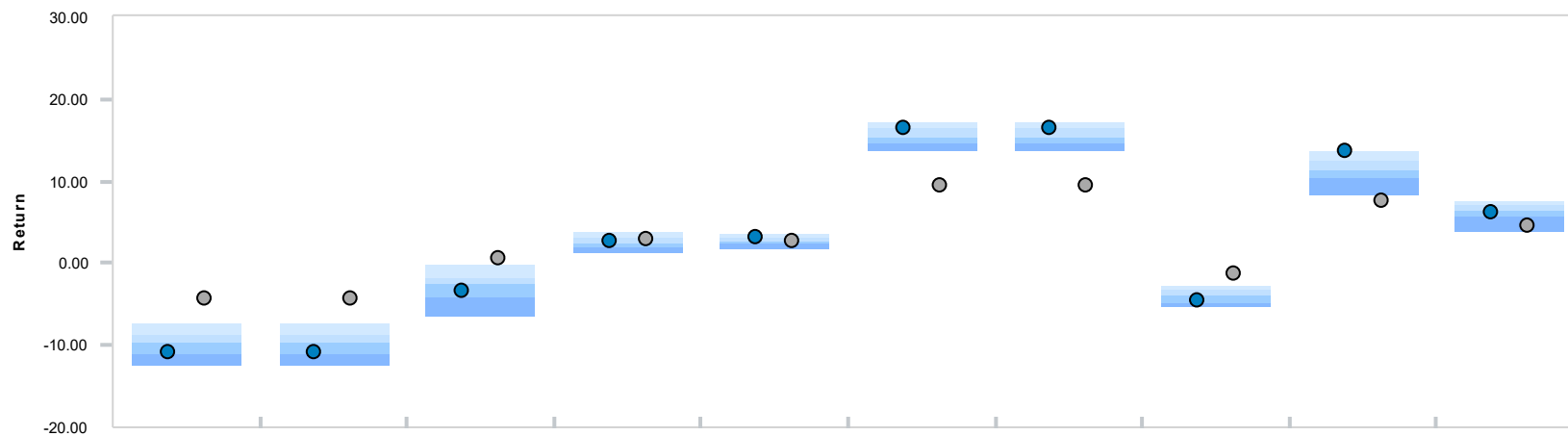
**Mutual Fund Info from Lipper**

Product Name : TIAA-CREF:Lfcy 2015:Prmr (TCFPX)  
Fund Family : TIAA-CREF  
Ticker : TCFPX  
Peer Group : IM Mixed-Asset Target 2015 (MF)  
Benchmark : Dow Jones Global Target 2015 Index  
Fund Inception : 09/30/2009  
Portfolio Manager : Team Managed  
Total Assets : \$124 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.65%  
Net Expense : 0.53%  
Turnover : 21%

**Summary Description**

The investment seeks high total return over time through a combination of capital appreciation and income. 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. The managers expect to allocate approximately 50.00% of the fund's assets to equity underlying funds and 50.00% of the fund's assets to fixed-income underlying funds. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

**Peer Group Analysis - IM Mixed-Asset Target 2015 (MF)**



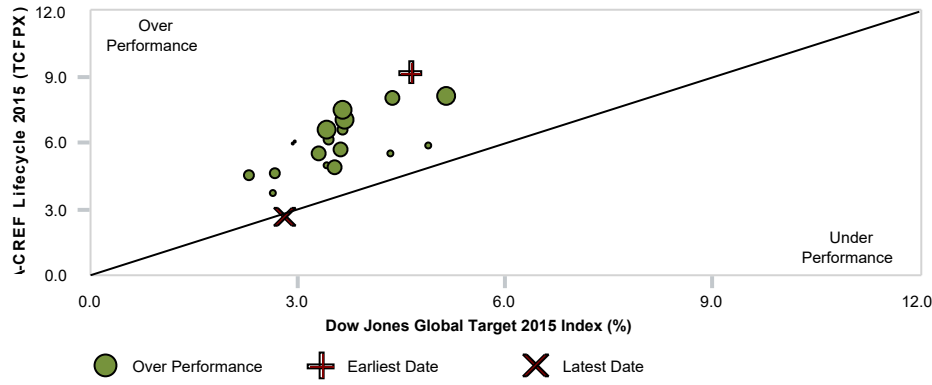
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● TIAA-CREF Lifecycle 2015 (TCFPX)	-10.82 (73)	-10.82 (73)	-3.48 (68)	2.66 (40)	3.15 (21)	16.36 (33)	16.36 (33)	-4.60 (73)	13.75 (6)	6.28 (57)
○ Dow Jones Global Target 2015 Index	-4.45 (1)	-4.45 (1)	0.64 (3)	2.84 (31)	2.62 (52)	9.54 (100)	9.54 (100)	-1.28 (1)	7.59 (100)	4.51 (91)
Median	-9.71	-9.71	-2.50	2.41	2.72	15.31	15.31	-3.90	11.40	6.40

**Comparative Performance**

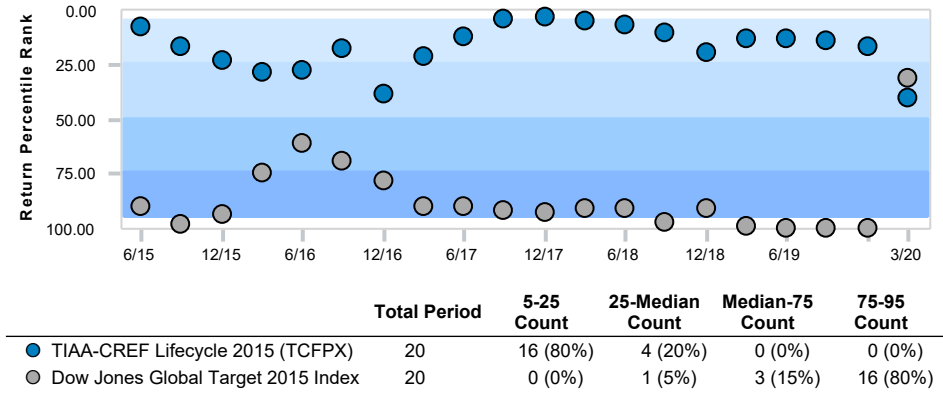
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
TIAA-CREF Lifecycle 2015 (TCFPX)	4.05 (39)	0.92 (50)	3.07 (31)	7.51 (23)	-6.47 (89)	1.90 (33)
Dow Jones Global Target 2015 Index	1.76 (100)	1.03 (41)	2.44 (95)	4.01 (100)	-1.81 (1)	0.67 (98)
IM Mixed-Asset Target 2015 (MF) Median	3.85	0.92	2.95	7.11	-5.71	1.79



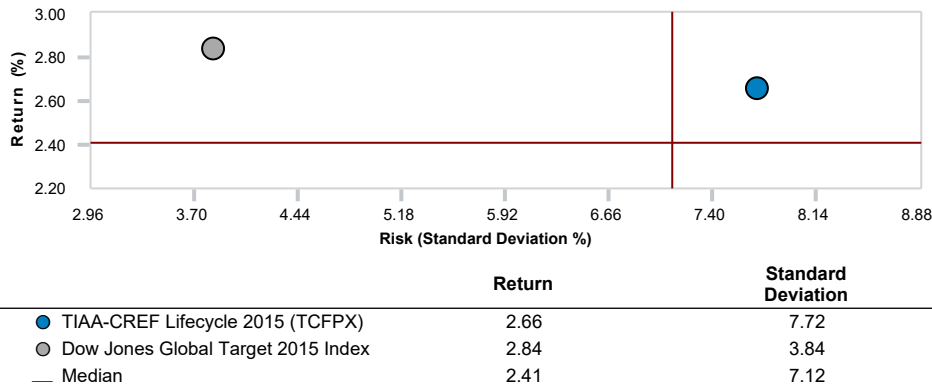
### 3 Yr Rolling Under/Over Performance - 5 Years



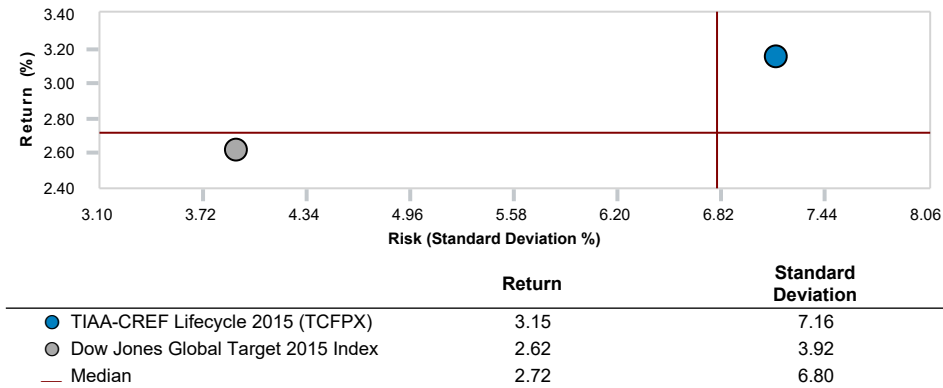
### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



### Peer Group Scattergram - 5 Years



### Historical Statistics - 3 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2015 (TCFPX)	4.25	168.57	226.03	-2.54	0.01	0.14	1.91	6.21
Dow Jones Global Target 2015 Index	0.00	100.00	100.00	0.00	N/A	0.27	1.00	2.90

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2015 (TCFPX)	4.15	154.54	174.18	-0.91	0.17	0.31	1.61	5.39
Dow Jones Global Target 2015 Index	0.00	100.00	100.00	0.00	N/A	0.38	1.00	2.69





**Fund Information**

Fund Name : TIAA-CREF Funds: Lifecycle 2020 Fund; Premier Class Shares  
 Fund Family : TIAA-CREF  
 Ticker : TCWPX  
 Inception Date : 09/30/2009  
 Fund Assets : \$294 Million  
 Portfolio Turnover : 23%

Portfolio Assets : \$3,866 Million  
 Portfolio Manager : Team Managed  
 PM Tenure :  
 Fund Style : IM Mixed-Asset Target 2020 (MF)  
 Style Benchmark : Dow Jones Global Target 2020 Index

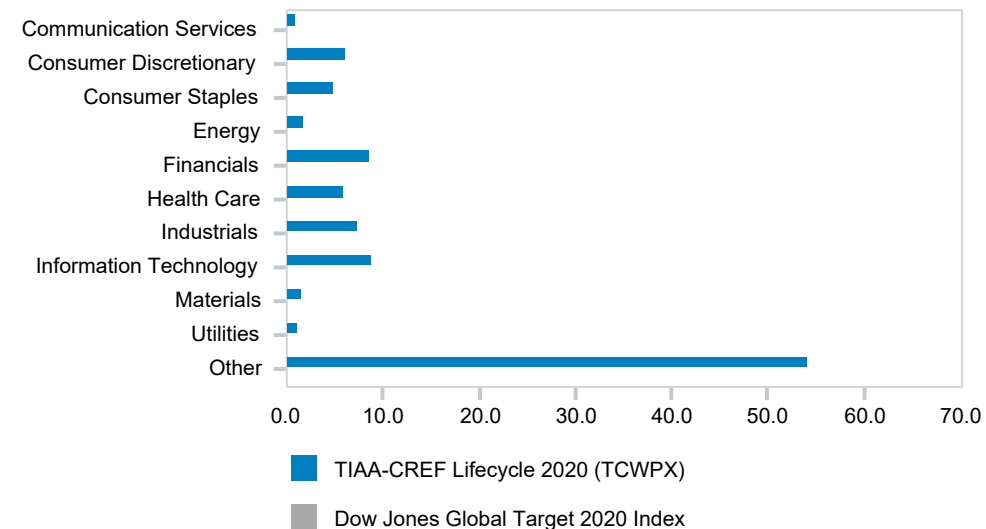
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	22	N/A
Avg. Market Cap (\$)	76,096,596,812	-
Price/Earnings (P/E)	12.52	N/A
Price/Book (P/B)	2.83	N/A
Dividend Yield	1.09	N/A
Annual EPS	11.36	N/A
5 Yr EPS	7.36	N/A
3 Yr EPS Growth	9.41	N/A
Beta (5 Years, Monthly)	1.49	1.00

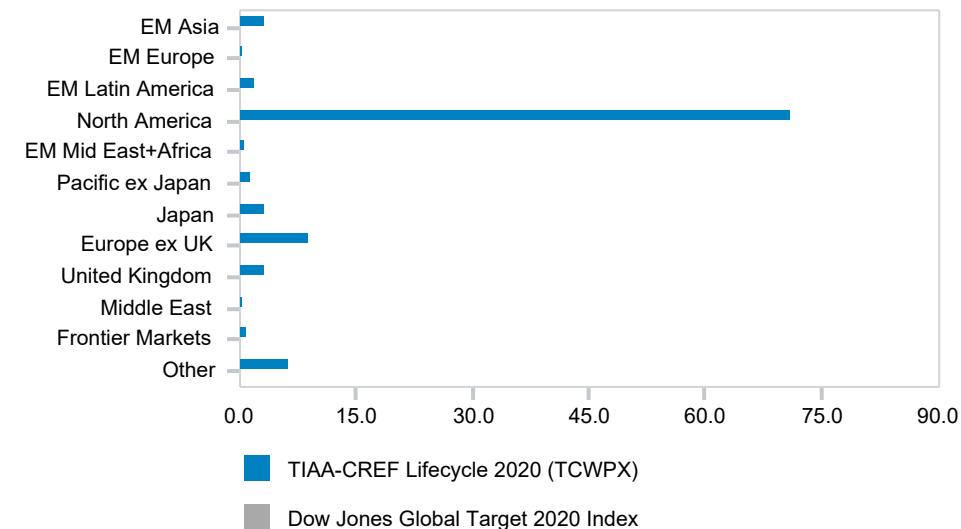
**Top Ten Securities As of 11/30/2019**

TIAA-CREF Bond Fund;W	19.8 %
TIAA-CREF Bond Plus Fund;W	12.0 %
TIAA-CREF Growth & Income Fund;W	7.0 %
TIAA-CREF Large-Cap Growth Fund;W	6.3 %
TIAA-CREF Large-Cap Value Fund;W	5.9 %
TIAA-CREF Short-Term Bond Fund;W	5.9 %
TIAA-CREF Inflation-Linked Bond	5.8 %
TIAA-CREF Quant Large-Cap Growth	5.5 %
TIAA-CREF Quant International Equity	4.1 %
TIAA-CREF Quant Large-Cap Value	3.7 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.



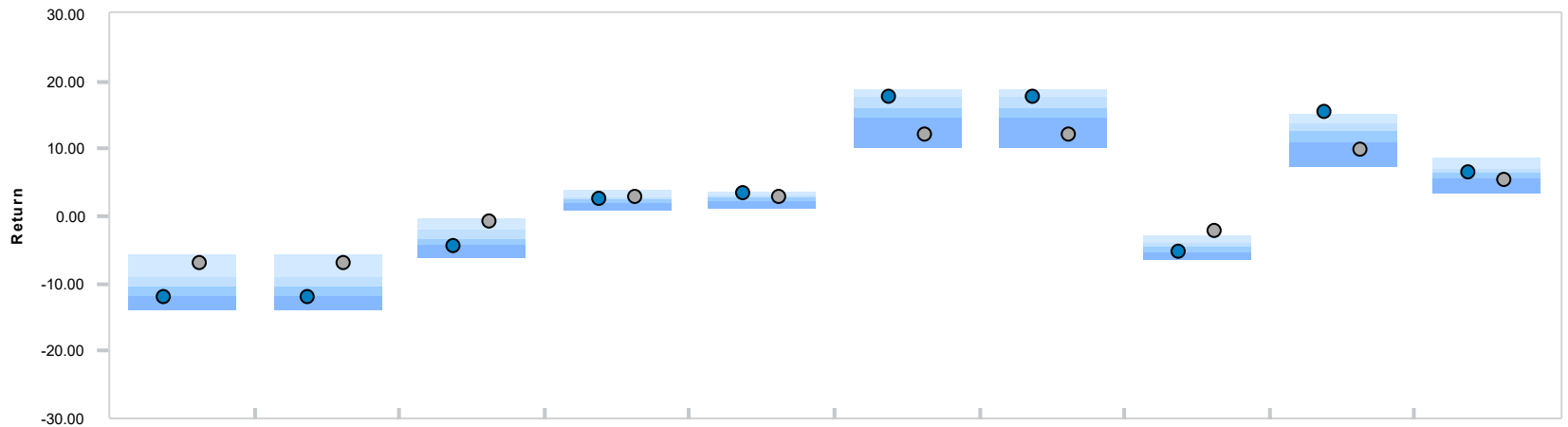
**Mutual Fund Info from Lipper**

Product Name : TIAA-CREF:Lfcy 2020:Prmr (TCWPX)  
 Fund Family : TIAA-CREF  
 Ticker : TCWPX  
 Peer Group : IM Mixed-Asset Target 2020 (MF)  
 Benchmark : Dow Jones Global Target 2020 Index  
 Fund Inception : 09/30/2009  
 Portfolio Manager : Team Managed  
 Total Assets : \$294 Million  
 Total Assets Date : 12/31/2019  
 Gross Expense : 0.66%  
 Net Expense : 0.54%  
 Turnover : 23%

**Summary Description**

The investment seeks high total return over time through a combination of capital appreciation and income. 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. The managers expect to allocate approximately 58.00% of the fund's assets to equity underlying funds and 42.00% of the fund's assets to fixed-income underlying funds. These allocations represent targets for equity and fixed-income asset classes. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

**Peer Group Analysis - IM Mixed-Asset Target 2020 (MF)**



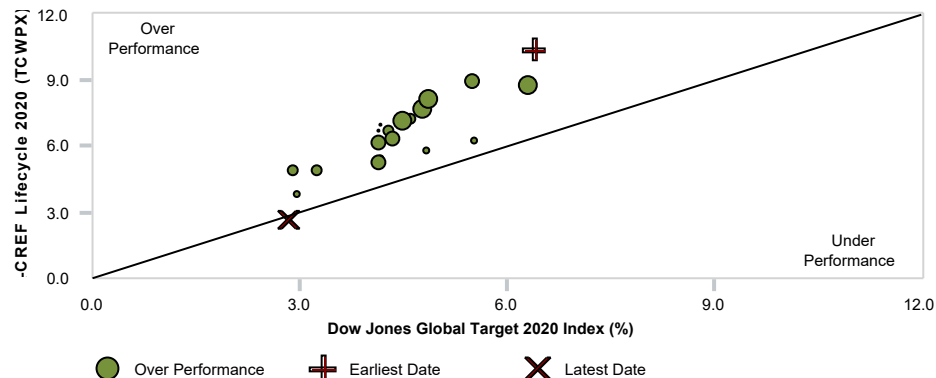
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● TIAA-CREF Lifecycle 2020 (TCWPX)	-12.01 (82)	-12.01 (82)	-4.36 (76)	2.65 (38)	3.27 (16)	17.59 (25)	17.59 (25)	-5.26 (73)	15.35 (4)	6.52 (45)
○ Dow Jones Global Target 2020 Index	-6.89 (8)	-6.89 (8)	-0.84 (10)	2.86 (24)	2.82 (46)	12.00 (91)	12.00 (91)	-2.33 (3)	9.88 (82)	5.27 (81)
Median	-10.35	-10.35	-3.30	2.43	2.74	15.97	15.97	-4.52	12.69	6.36

**Comparative Performance**

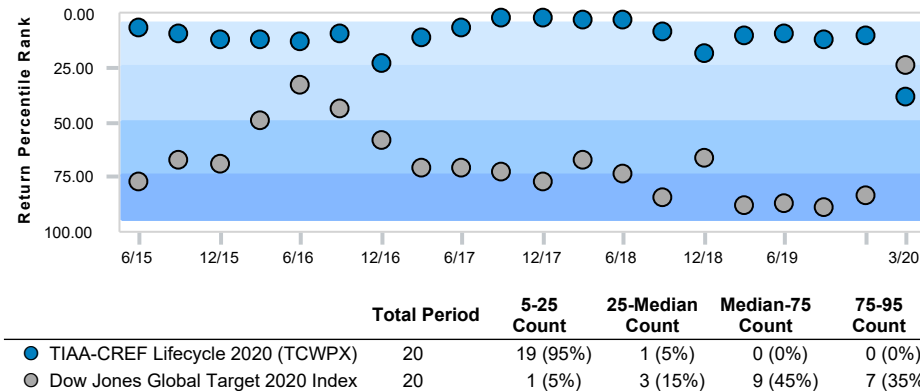
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
TIAA-CREF Lifecycle 2020 (TCWPX)	4.51 (24)	0.89 (61)	3.07 (49)	8.19 (19)	-7.50 (87)	2.12 (39)
Dow Jones Global Target 2020 Index	2.50 (90)	1.01 (49)	2.85 (70)	5.17 (96)	-2.78 (2)	0.81 (95)
IM Mixed-Asset Target 2020 (MF) Median	3.92	1.00	3.07	7.35	-6.29	2.02



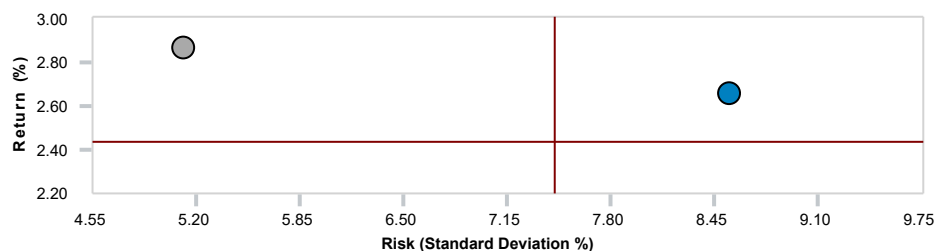
### 3 Yr Rolling Under/Over Performance - 5 Years



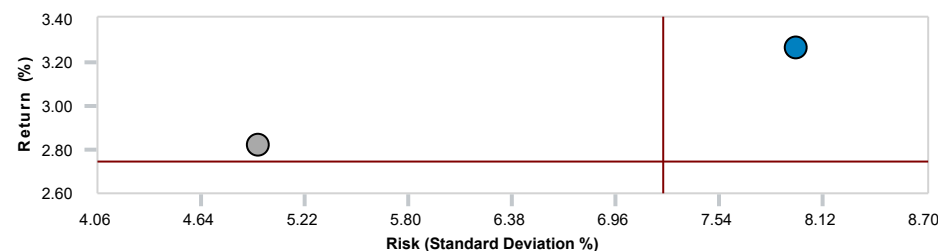
### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



### Peer Group Scattergram - 5 Years



### Historical Statistics - 3 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2020 (TCWPX)	3.90	149.63	179.26	-1.73	0.01	0.14	1.60	6.88
Dow Jones Global Target 2020 Index	0.00	100.00	100.00	0.00	N/A	0.22	1.00	3.98

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2020 (TCWPX)	3.85	140.51	151.44	-0.79	0.16	0.30	1.49	6.02
Dow Jones Global Target 2020 Index	0.00	100.00	100.00	0.00	N/A	0.35	1.00	3.51



**Fund Information**

Fund Name : TIAA-CREF Funds: Lifecycle 2025 Fund; Premier Class Shares  
 Fund Family : TIAA-CREF  
 Ticker : TCQPX  
 Inception Date : 09/30/2009  
 Fund Assets : \$346 Million  
 Portfolio Turnover : 20%

Portfolio Assets : \$4,859 Million  
 Portfolio Manager : Team Managed  
 PM Tenure :  
 Fund Style : IM Mixed-Asset Target 2025 (MF)  
 Style Benchmark : Dow Jones Global Target 2025 Index

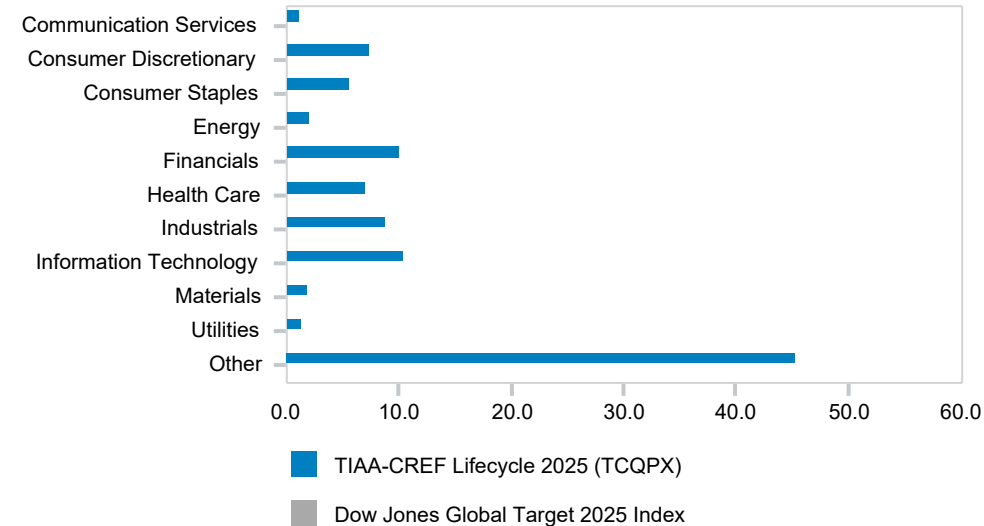
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	22	N/A
Avg. Market Cap (\$)	90,360,509,274	-
Price/Earnings (P/E)	14.87	N/A
Price/Book (P/B)	3.36	N/A
Dividend Yield	1.29	N/A
Annual EPS	13.50	N/A
5 Yr EPS	8.74	N/A
3 Yr EPS Growth	11.17	N/A
Beta (5 Years, Monthly)	1.39	1.00

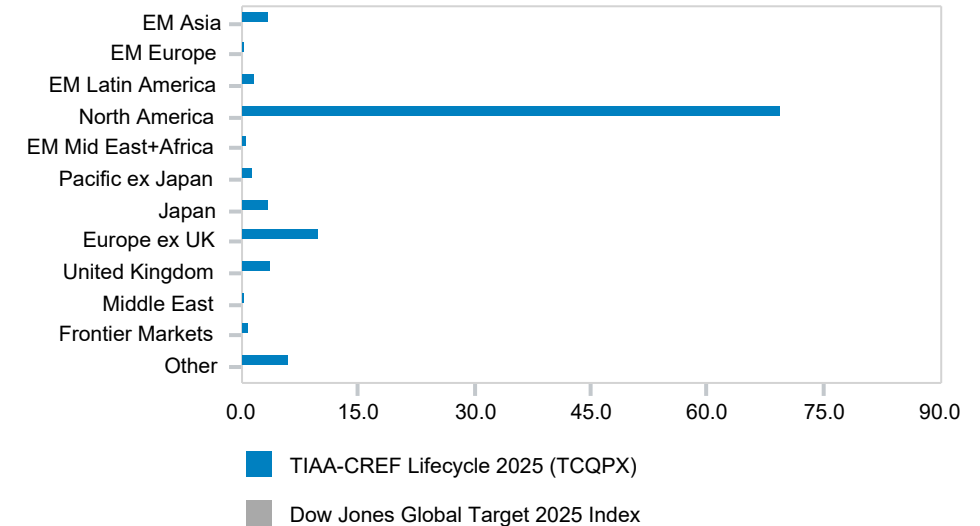
**Top Ten Securities As of 11/30/2019**

TIAA-CREF Bond Fund;W	17.2 %
TIAA-CREF Bond Plus Fund;W	10.5 %
TIAA-CREF Growth & Income Fund;W	8.3 %
TIAA-CREF Large-Cap Growth Fund;W	7.5 %
TIAA-CREF Large-Cap Value Fund;W	7.1 %
TIAA-CREF Quant Large-Cap Growth	6.6 %
TIAA-CREF Quant International Equity	4.8 %
TIAA-CREF Quant Large-Cap Value	4.4 %
TIAA-CREF Short-Term Bond Fund;W	3.9 %
TIAA-CREF Inflation-Linked Bond	3.8 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.



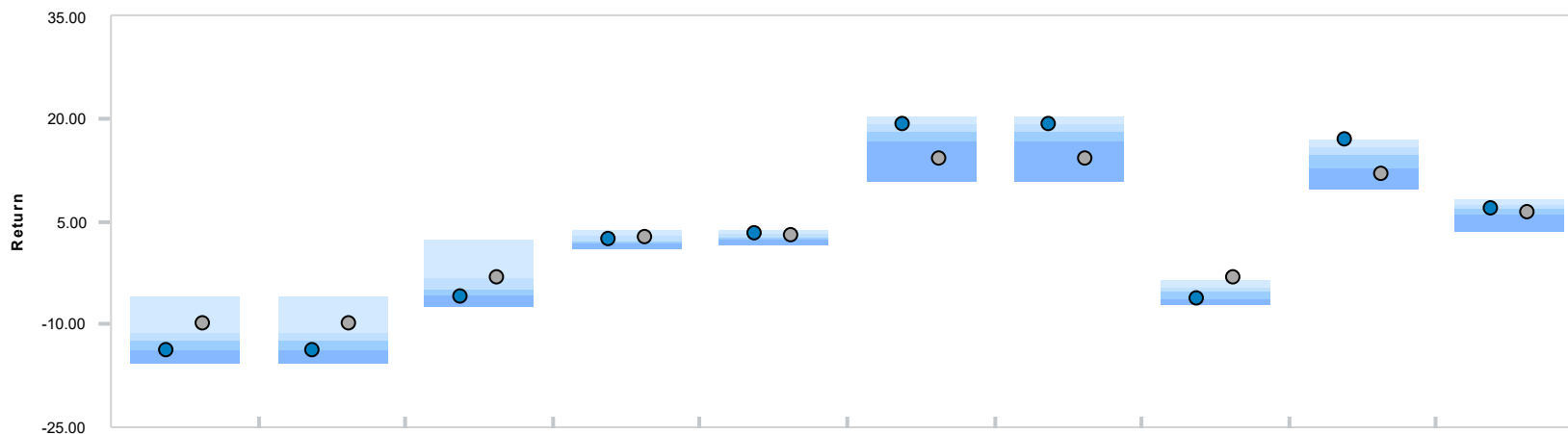
**Mutual Fund Info from Lipper**

Product Name : TIAA-CREF:Lfcy 2025:Prmr (TCQPX)  
Fund Family : TIAA-CREF  
Ticker : TCQPX  
Peer Group : IM Mixed-Asset Target 2025 (MF)  
Benchmark : Dow Jones Global Target 2025 Index  
Fund Inception : 09/30/2009  
Portfolio Manager : Team Managed  
Total Assets : \$346 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.67%  
Net Expense : 0.56%  
Turnover : 20%

**Summary Description**

The investment seeks high total return over time through a combination of capital appreciation and income. 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. The managers expect to allocate approximately 66.00% of the fund's assets to equity underlying funds and 34.00% of the fund's assets to fixed-income underlying funds. These allocations represent targets for equity and fixed-income asset classes. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

**Peer Group Analysis - IM Mixed-Asset Target 2025 (MF)**



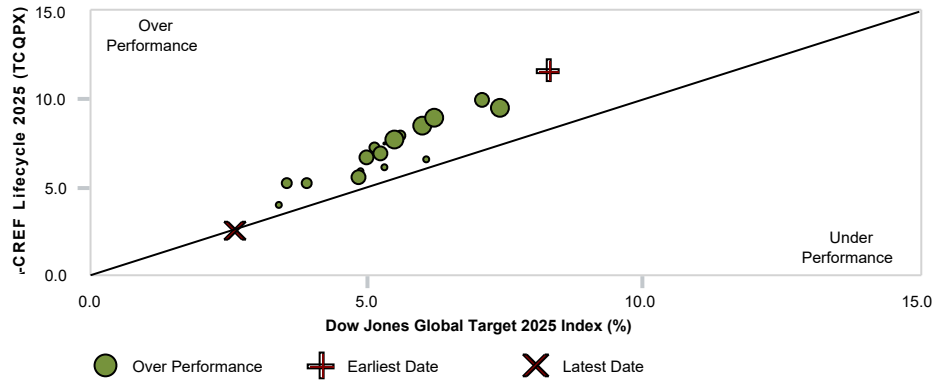
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● TIAA-CREF Lifecycle 2025 (TCQPX)	-13.87 (82)	-13.87 (82)	-5.83 (79)	2.47 (44)	3.26 (24)	19.29 (26)	19.29 (26)	-6.23 (78)	17.19 (3)	6.87 (50)
○ Dow Jones Global Target 2025 Index	-9.76 (12)	-9.76 (12)	-2.99 (21)	2.63 (36)	2.93 (47)	14.38 (92)	14.38 (92)	-3.22 (4)	12.02 (83)	6.39 (68)
Median	-12.52	-12.52	-4.72	2.33	2.86	18.18	18.18	-5.23	14.95	6.87

**Comparative Performance**

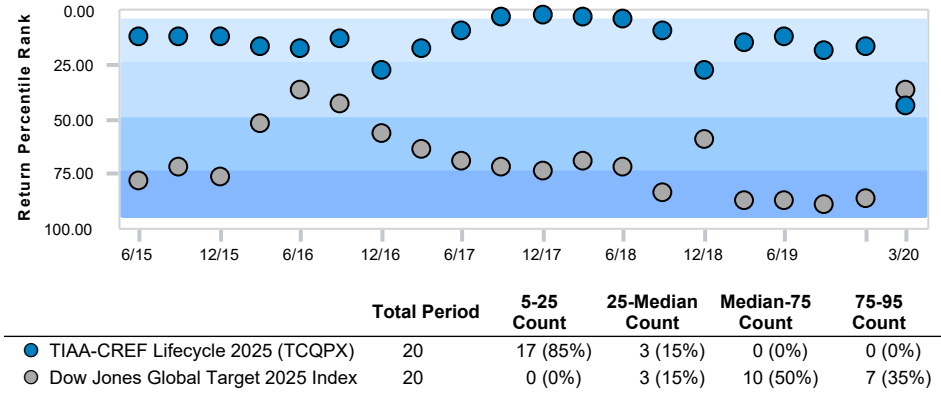
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
TIAA-CREF Lifecycle 2025 (TCQPX)	5.21 (29)	0.78 (62)	3.12 (56)	9.10 (18)	-8.91 (91)	2.45 (38)
Dow Jones Global Target 2025 Index	3.59 (86)	0.80 (60)	2.95 (71)	6.40 (93)	-4.45 (6)	1.31 (96)
IM Mixed-Asset Target 2025 (MF) Median	4.71	0.92	3.16	8.48	-7.55	2.34



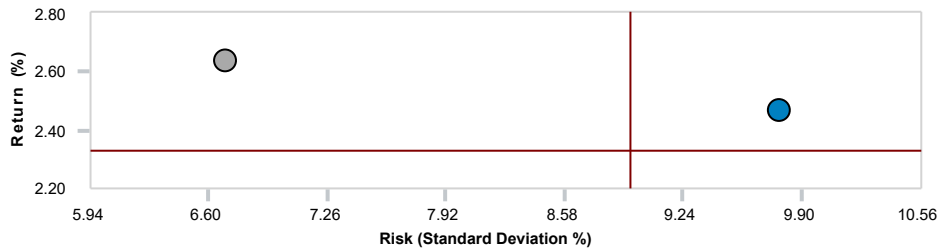
### 3 Yr Rolling Under/Over Performance - 5 Years



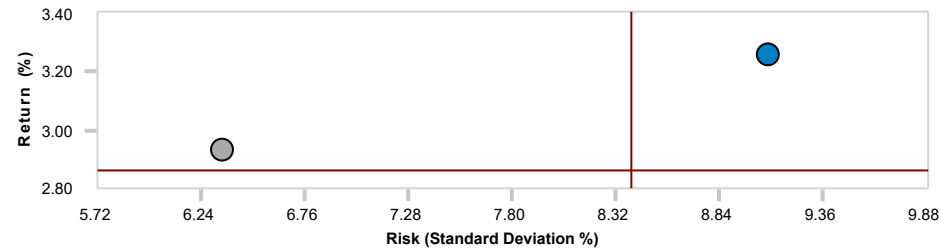
### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



### Peer Group Scattergram - 5 Years



### Historical Statistics - 3 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2025 (TCQPX)	3.40	139.03	154.00	-1.13	0.03	0.11	1.44	7.89
Dow Jones Global Target 2025 Index	0.00	100.00	100.00	0.00	N/A	0.15	1.00	5.31

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2025 (TCQPX)	3.35	132.22	139.41	-0.66	0.16	0.27	1.39	6.89
Dow Jones Global Target 2025 Index	0.00	100.00	100.00	0.00	N/A	0.30	1.00	4.61



**Fund Information**

Fund Name : TIAA-CREF Funds: Lifecycle 2030 Fund; Premier Class Shares  
 Fund Family : TIAA-CREF  
 Ticker : TCHPX  
 Inception Date : 09/30/2009  
 Fund Assets : \$369 Million  
 Portfolio Turnover : 20%

Portfolio Assets : \$4,899 Million  
 Portfolio Manager : Team Managed  
 PM Tenure :  
 Fund Style : IM Mixed-Asset Target 2030 (MF)  
 Style Benchmark : Dow Jones Global Target 2030 Index

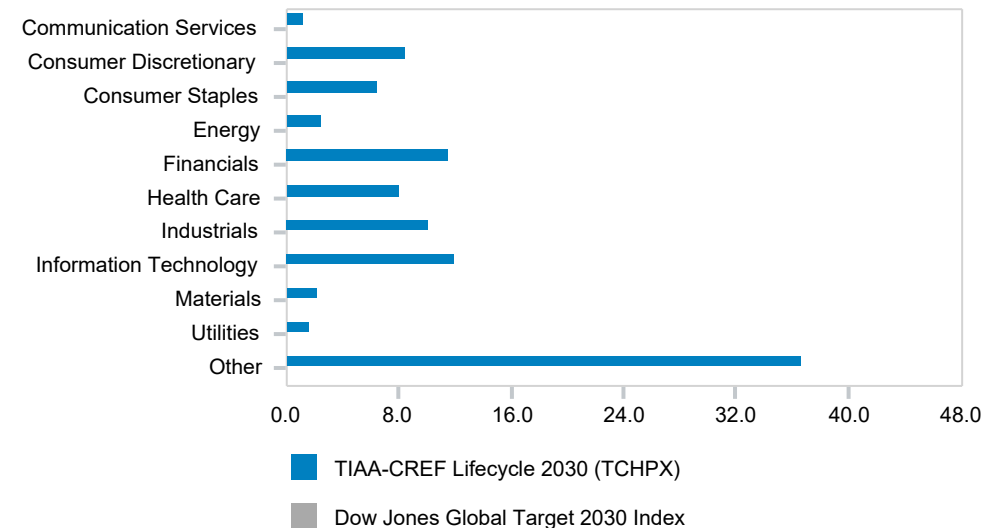
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	22	N/A
Avg. Market Cap (\$)	104,591,325,461	-
Price/Earnings (P/E)	17.23	N/A
Price/Book (P/B)	3.90	N/A
Dividend Yield	1.50	N/A
Annual EPS	15.64	N/A
5 Yr EPS	10.13	N/A
3 Yr EPS Growth	12.94	N/A
Beta (5 Years, Monthly)	1.24	1.00

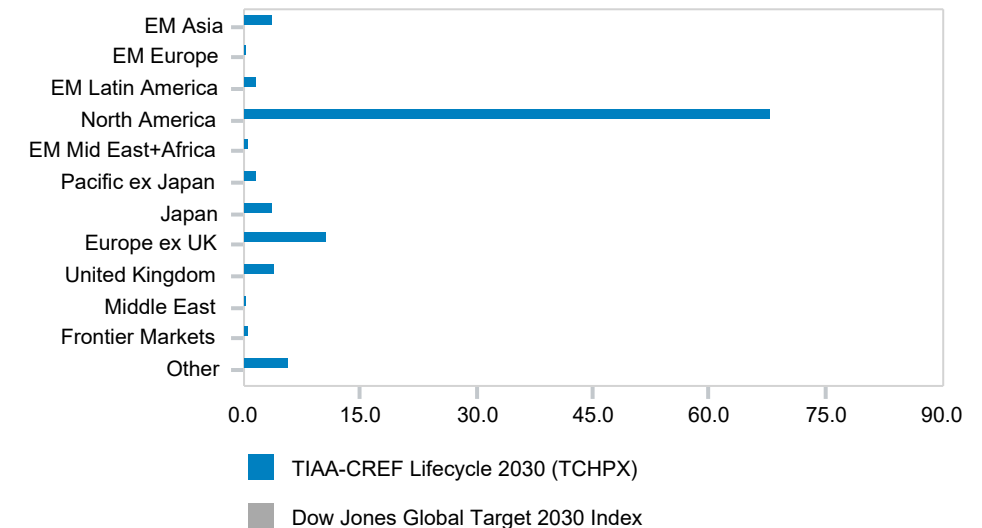
**Top Ten Securities As of 11/30/2019**

TIAA-CREF Bond Fund;W	14.7 %
TIAA-CREF Growth & Income Fund;W	9.5 %
TIAA-CREF Bond Plus Fund;W	9.0 %
TIAA-CREF Large-Cap Growth Fund;W	8.8 %
TIAA-CREF Large-Cap Value Fund;W	8.3 %
TIAA-CREF Quant Large-Cap Growth	7.6 %
TIAA-CREF Quant International Equity	5.4 %
TIAA-CREF Quant Large-Cap Value	5.1 %
TIAA-CREF International Opportunities	4.2 %
TIAA-CREF International Equity	4.2 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.



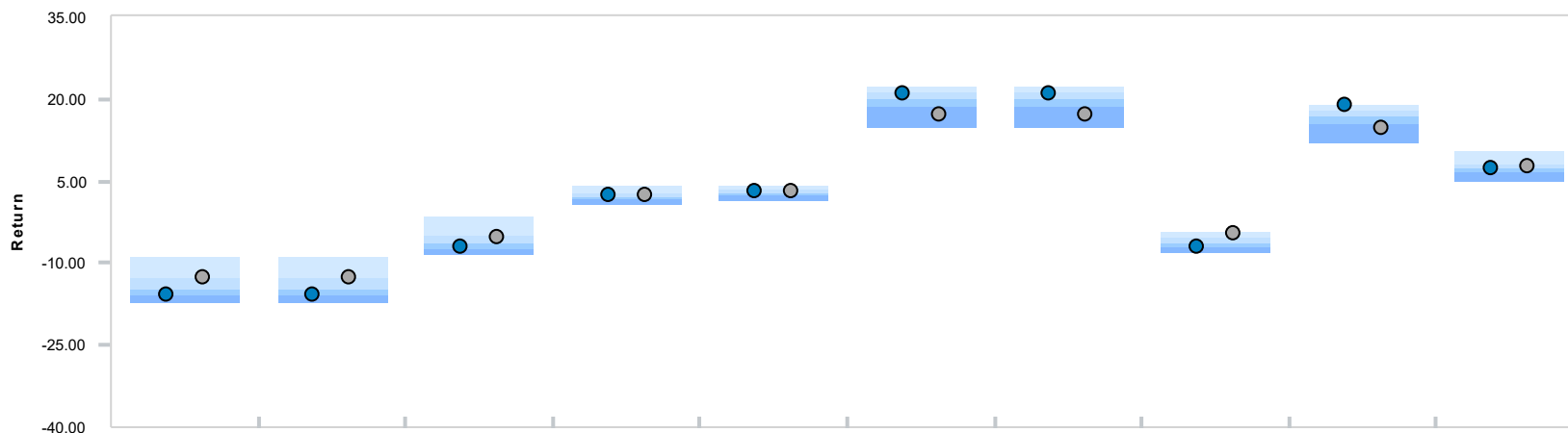
### Mutual Fund Info from Lipper

Product Name : TIAA-CREF:Lfcy 2030:Prmr (TCHPX)  
Fund Family : TIAA-CREF  
Ticker : TCHPX  
Peer Group : IM Mixed-Asset Target 2030 (MF)  
Benchmark : Dow Jones Global Target 2030 Index  
Fund Inception : 09/30/2009  
Portfolio Manager : Team Managed  
Total Assets : \$369 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.68%  
Net Expense : 0.57%  
Turnover : 20%

### Summary Description

The investment seeks high total return over time through a combination of capital appreciation and income. 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. The managers expect to allocate approximately 74.00% of the fund's assets to equity underlying funds and 26.00% of the fund's assets to fixed-income underlying funds. These allocations represent targets for equity and fixed-income asset classes. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

### Peer Group Analysis - IM Mixed-Asset Target 2030 (MF)



	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● TIAA-CREF Lifecycle 2030 (TCHPX)	-15.69 (72)	-15.69 (72)	-7.20 (68)	2.26 (42)	3.25 (30)	21.13 (30)	21.13 (30)	-7.18 (75)	19.02 (4)	7.22 (54)
○ Dow Jones Global Target 2030 Index	-12.80 (26)	-12.80 (26)	-5.45 (31)	2.34 (39)	3.02 (43)	17.06 (87)	17.06 (87)	-4.43 (9)	14.64 (78)	7.50 (41)
Median	-14.81	-14.81	-6.53	2.11	2.87	20.08	20.08	-6.32	16.92	7.30

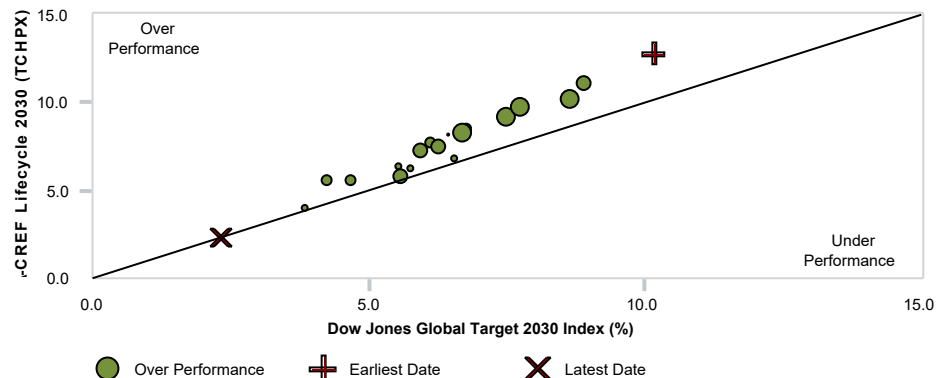
### Comparative Performance

	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
TIAA-CREF Lifecycle 2030 (TCHPX)	6.03 (27)	0.58 (62)	3.21 (49)	10.04 (24)	-10.31 (90)	2.81 (44)
Dow Jones Global Target 2030 Index	4.67 (81)	0.58 (63)	2.99 (72)	7.96 (93)	-6.57 (9)	1.96 (90)
IM Mixed-Asset Target 2030 (MF) Median	5.53	0.72	3.21	9.52	-8.98	2.75

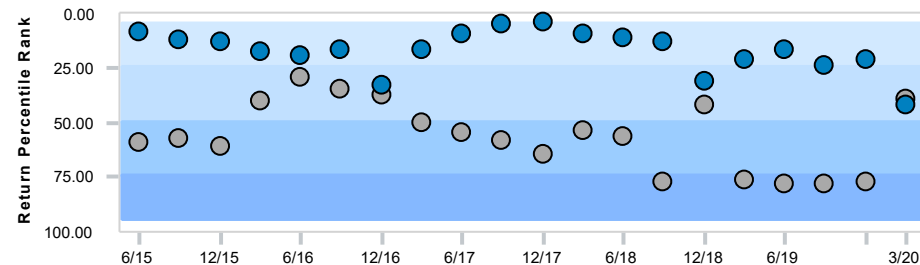




### 3 Yr Rolling Under/Over Performance - 5 Years

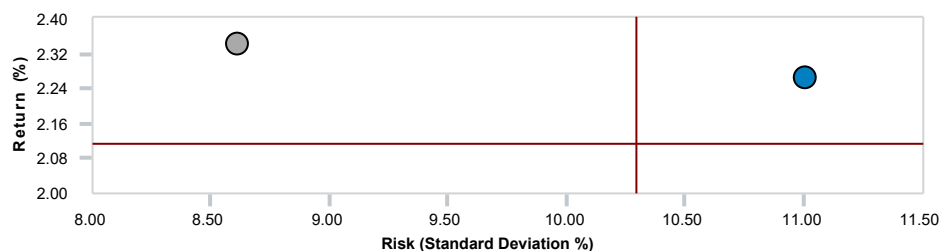


### 3 Yr Rolling Percentile Ranking - 5 Years



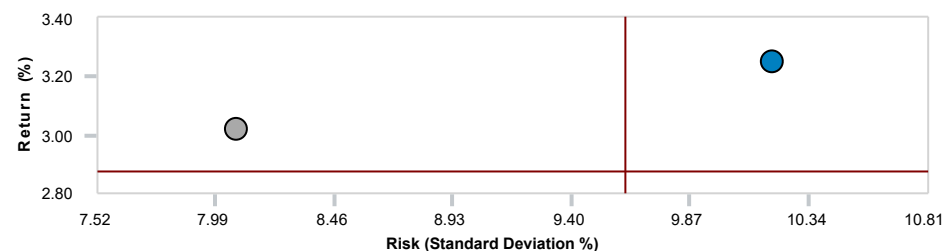
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
TIAA-CREF Lifecycle 2030 (TCHPX)	20	17 (85%)	3 (15%)	0 (0%)	0 (0%)
Dow Jones Global Target 2030 Index	20	0 (0%)	7 (35%)	8 (40%)	5 (25%)

### Peer Group Scattergram - 3 Years



	Return	Standard Deviation
TIAA-CREF Lifecycle 2030 (TCHPX)	2.26	11.01
Dow Jones Global Target 2030 Index	2.34	8.62
Median	2.11	10.29

### Peer Group Scattergram - 5 Years



	Return	Standard Deviation
TIAA-CREF Lifecycle 2030 (TCHPX)	3.25	10.20
Dow Jones Global Target 2030 Index	3.02	8.07
Median	2.87	9.62

### Historical Statistics - 3 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2030 (TCHPX)	2.64	126.26	132.12	-0.56	0.06	0.09	1.27	8.86
Dow Jones Global Target 2030 Index	0.00	100.00	100.00	0.00	N/A	0.10	1.00	6.90

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2030 (TCHPX)	2.67	123.27	127.36	-0.38	0.16	0.25	1.24	7.74
Dow Jones Global Target 2030 Index	0.00	100.00	100.00	0.00	N/A	0.26	1.00	5.99



**Fund Information**

Fund Name : TIAA-CREF Funds: Lifecycle 2035 Fund; Premier Class Shares  
 Fund Family : TIAA-CREF  
 Ticker : TCYPX  
 Inception Date : 09/30/2009  
 Fund Assets : \$408 Million  
 Portfolio Turnover : 17%

Portfolio Assets : \$5,011 Million  
 Portfolio Manager : Team Managed  
 PM Tenure :  
 Fund Style : IM Mixed-Asset Target 2035 (MF)  
 Style Benchmark : Dow Jones Global Target 2035 Index

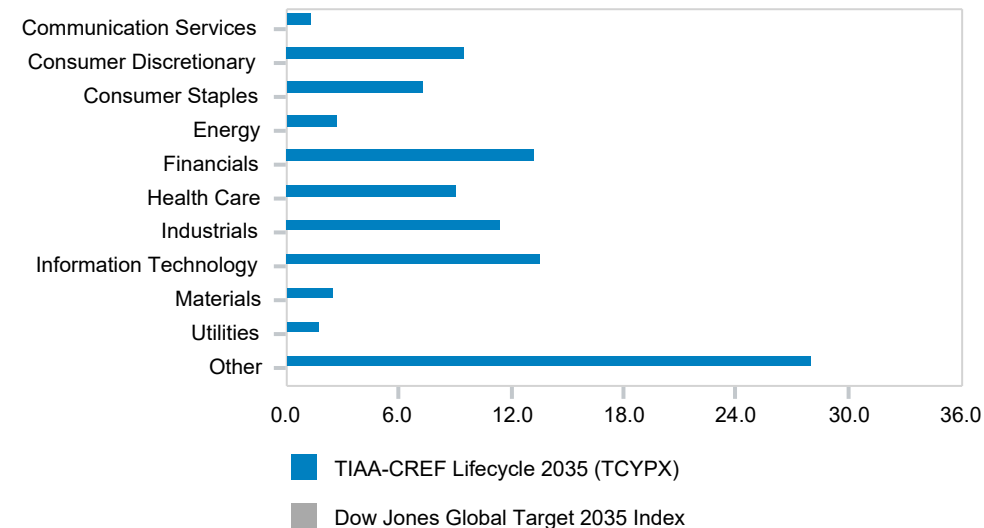
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	20	N/A
Avg. Market Cap (\$)	118,869,461,024	-
Price/Earnings (P/E)	19.59	N/A
Price/Book (P/B)	4.43	N/A
Dividend Yield	1.70	N/A
Annual EPS	17.78	N/A
5 Yr EPS	11.51	N/A
3 Yr EPS Growth	14.70	N/A
Beta (5 Years, Monthly)	1.14	1.00

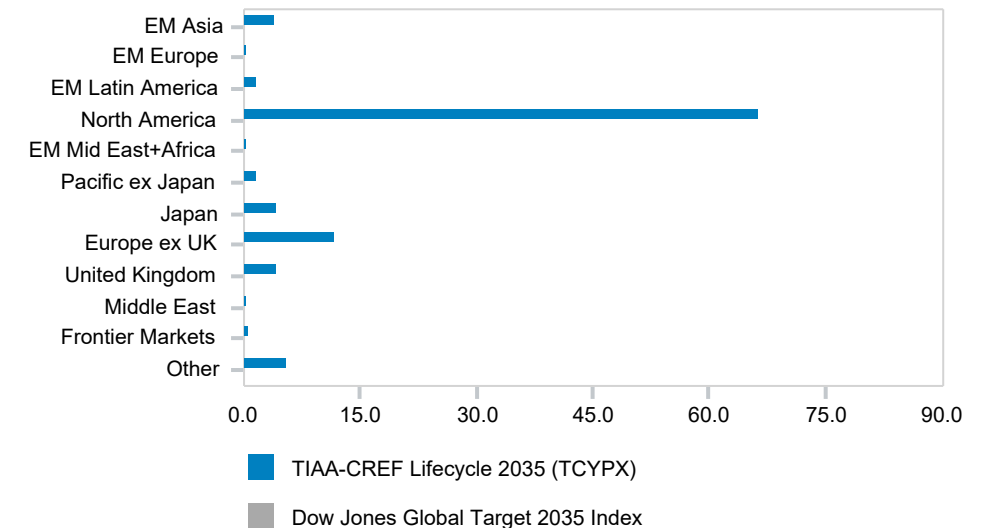
**Top Ten Securities As of 11/30/2019**

TIAA-CREF Bond Fund;W	11.8 %
TIAA-CREF Growth & Income Fund;W	10.8 %
TIAA-CREF Large-Cap Growth Fund;W	10.0 %
TIAA-CREF Large-Cap Value Fund;W	9.4 %
TIAA-CREF Quant Large-Cap Growth	8.6 %
TIAA-CREF Bond Plus Fund;W	7.3 %
TIAA-CREF Quant International Equity	6.1 %
TIAA-CREF Quant Large-Cap Value	5.8 %
TIAA-CREF International Opportunities	4.8 %
TIAA-CREF International Equity	4.8 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.



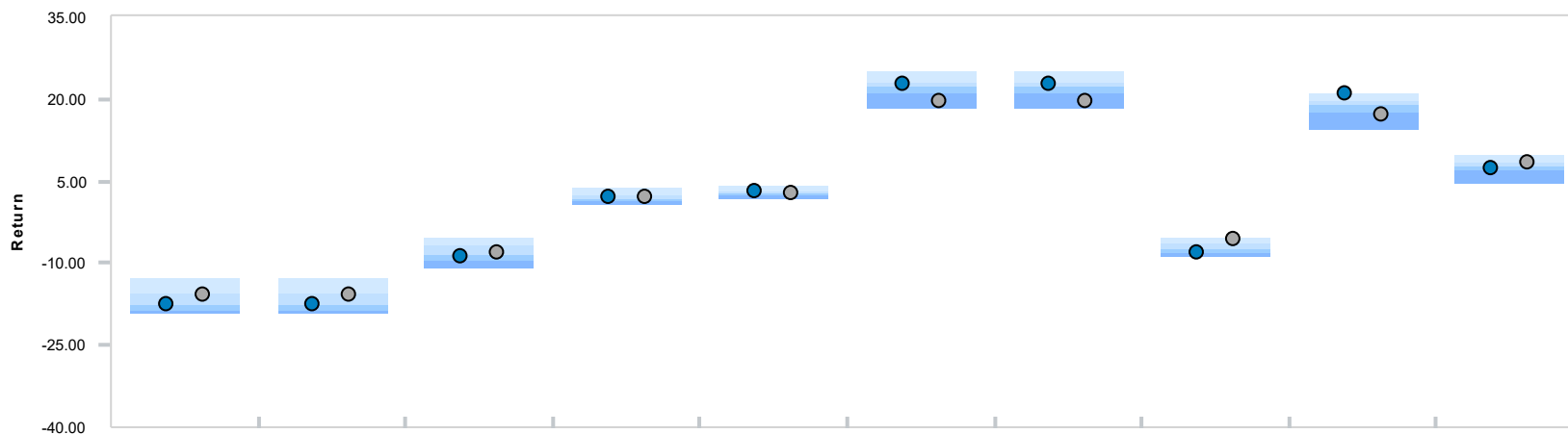
**Mutual Fund Info from Lipper**

Product Name : TIAA-CREF:Lfcy 2035:Prmr (TCYPX)  
Fund Family : TIAA-CREF  
Ticker : TCYPX  
Peer Group : IM Mixed-Asset Target 2035 (MF)  
Benchmark : Dow Jones Global Target 2035 Index  
Fund Inception : 09/30/2009  
Portfolio Manager : Team Managed  
Total Assets : \$408 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.69%  
Net Expense : 0.58%  
Turnover : 17%

**Summary Description**

The investment seeks high total return over time through a combination of capital appreciation and income. 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. The managers expect to allocate approximately 82.00% of the fund's assets to equity underlying funds and 18.00% of the fund's assets to fixed-income underlying funds. These allocations represent targets for equity and fixed-income asset classes. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

**Peer Group Analysis - IM Mixed-Asset Target 2035 (MF)**



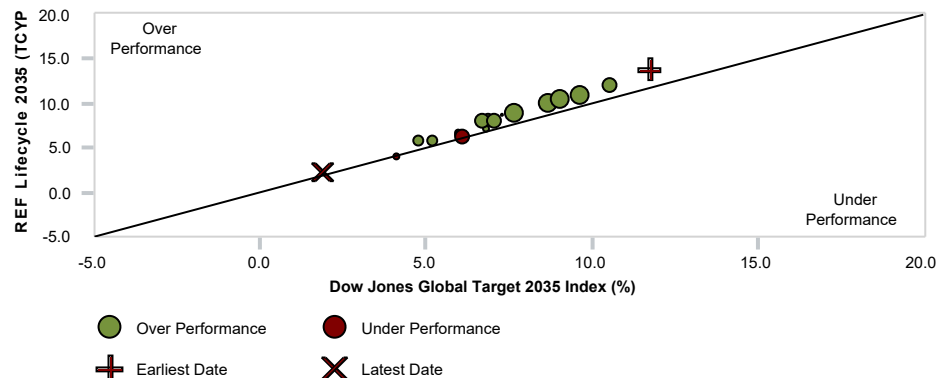
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● TIAA-CREF Lifecycle 2035 (TCYPX)	-17.58 (54)	-17.58 (54)	-8.73 (53)	2.03 (41)	3.20 (29)	22.86 (32)	22.86 (32)	-8.12 (83)	20.88 (6)	7.40 (61)
○ Dow Jones Global Target 2035 Index	-15.78 (32)	-15.78 (32)	-7.96 (43)	1.88 (44)	2.91 (44)	19.70 (88)	19.70 (88)	-5.80 (15)	16.99 (78)	8.49 (25)
Median	-17.40	-17.40	-8.57	1.77	2.74	22.26	22.26	-7.26	18.72	7.75

**Comparative Performance**

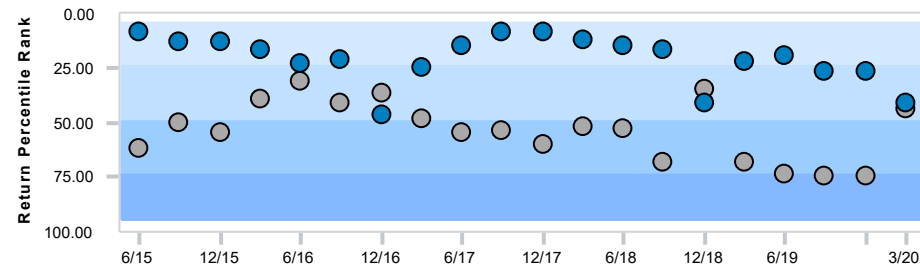
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
TIAA-CREF Lifecycle 2035 (TCYPX)	6.83 (27)	0.38 (65)	3.26 (52)	10.95 (26)	-11.71 (96)	3.21 (43)
Dow Jones Global Target 2035 Index	5.72 (83)	0.37 (66)	3.00 (81)	9.53 (83)	-8.70 (10)	2.54 (90)
IM Mixed-Asset Target 2035 (MF) Median	6.46	0.53	3.28	10.30	-10.19	3.15



### 3 Yr Rolling Under/Over Performance - 5 Years

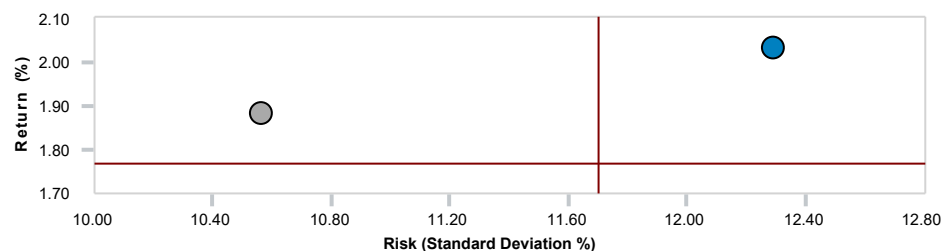


### 3 Yr Rolling Percentile Ranking - 5 Years



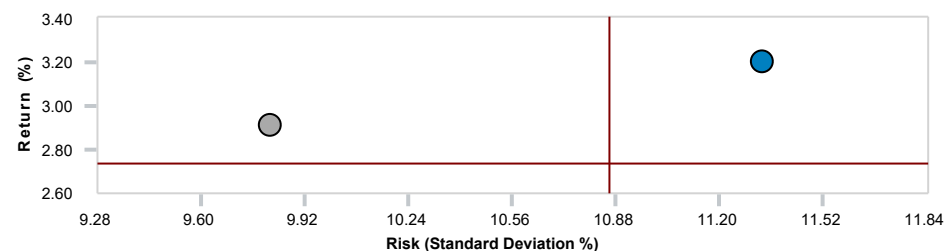
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
TIAA-CREF Lifecycle 2035 (TCYPX)	20	15 (75%)	5 (25%)	0 (0%)	0 (0%)
Dow Jones Global Target 2035 Index	20	0 (0%)	8 (40%)	12 (60%)	0 (0%)

### Peer Group Scattergram - 3 Years



	Return	Standard Deviation
TIAA-CREF Lifecycle 2035 (TCYPX)	2.03	12.30
Dow Jones Global Target 2035 Index	1.88	10.57
Median	1.77	11.70

### Peer Group Scattergram - 5 Years



	Return	Standard Deviation
TIAA-CREF Lifecycle 2035 (TCYPX)	3.20	11.33
Dow Jones Global Target 2035 Index	2.91	9.82
Median	2.74	10.86

### Historical Statistics - 3 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2035 (TCYPX)	2.03	117.31	117.89	-0.03	0.17	0.08	1.16	9.92
Dow Jones Global Target 2035 Index	0.00	100.00	100.00	0.00	N/A	0.06	1.00	8.54

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2035 (TCYPX)	2.09	115.72	116.45	-0.03	0.22	0.23	1.14	8.66
Dow Jones Global Target 2035 Index	0.00	100.00	100.00	0.00	N/A	0.22	1.00	7.41



**Fund Information**

Fund Name : TIAA-CREF Funds: Lifecycle 2040 Fund; Premier Class Shares  
Fund Family : TIAA-CREF  
Ticker : TCZPX  
Inception Date : 09/30/2009  
Fund Assets : \$494 Million  
Portfolio Turnover : 18%

Portfolio Assets : \$5,931 Million  
Portfolio Manager : Team Managed  
PM Tenure :  
Fund Style : IM Mixed-Asset Target 2040 (MF)  
Style Benchmark : Dow Jones Global Target 2040 Index

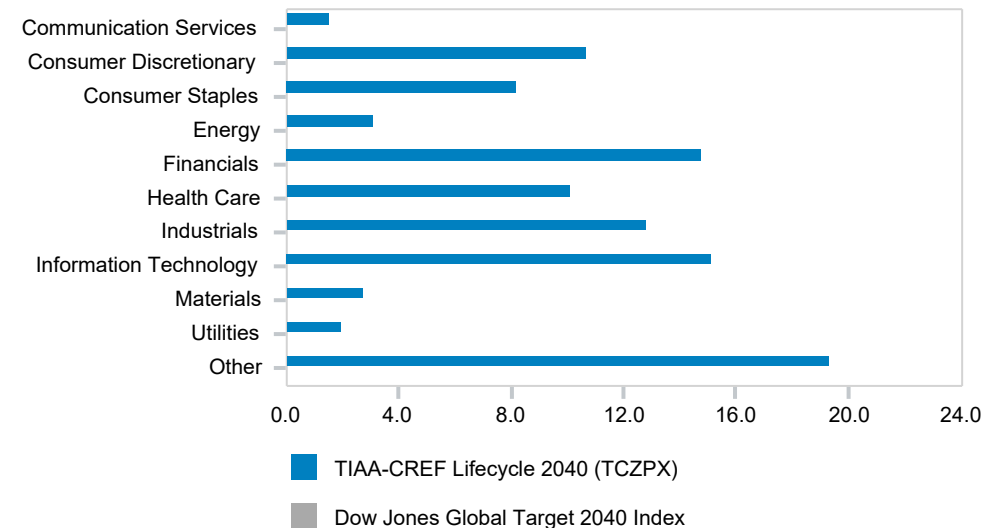
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	20	N/A
Avg. Market Cap (\$)	133,218,310,137	-
Price/Earnings (P/E)	21.97	N/A
Price/Book (P/B)	4.96	N/A
Dividend Yield	1.91	N/A
Annual EPS	19.94	N/A
5 Yr EPS	12.90	N/A
3 Yr EPS Growth	16.49	N/A
Beta (5 Years, Monthly)	1.09	1.00

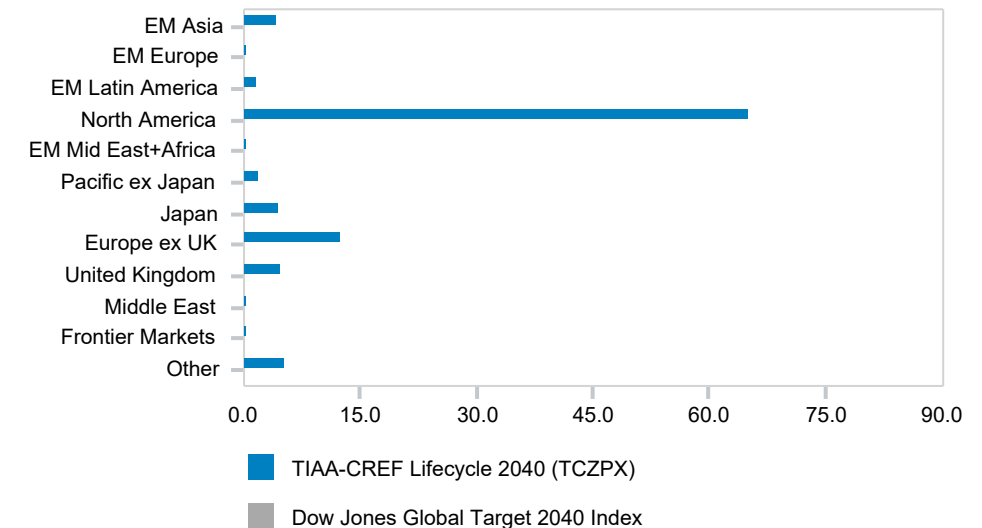
**Top Ten Securities As of 11/30/2019**

TIAA-CREF Growth & Income Fund;W	12.1 %
TIAA-CREF Large-Cap Growth Fund;W	11.2 %
TIAA-CREF Large-Cap Value Fund;W	10.6 %
TIAA-CREF Quant Large-Cap Growth	9.7 %
TIAA-CREF Bond Fund;W	7.1 %
TIAA-CREF Quant International Equity	6.8 %
TIAA-CREF Quant Large-Cap Value	6.5 %
TIAA-CREF International Opportunities	5.3 %
TIAA-CREF International Equity	5.3 %
TIAA-CREF Bond Plus Fund;W	4.4 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.



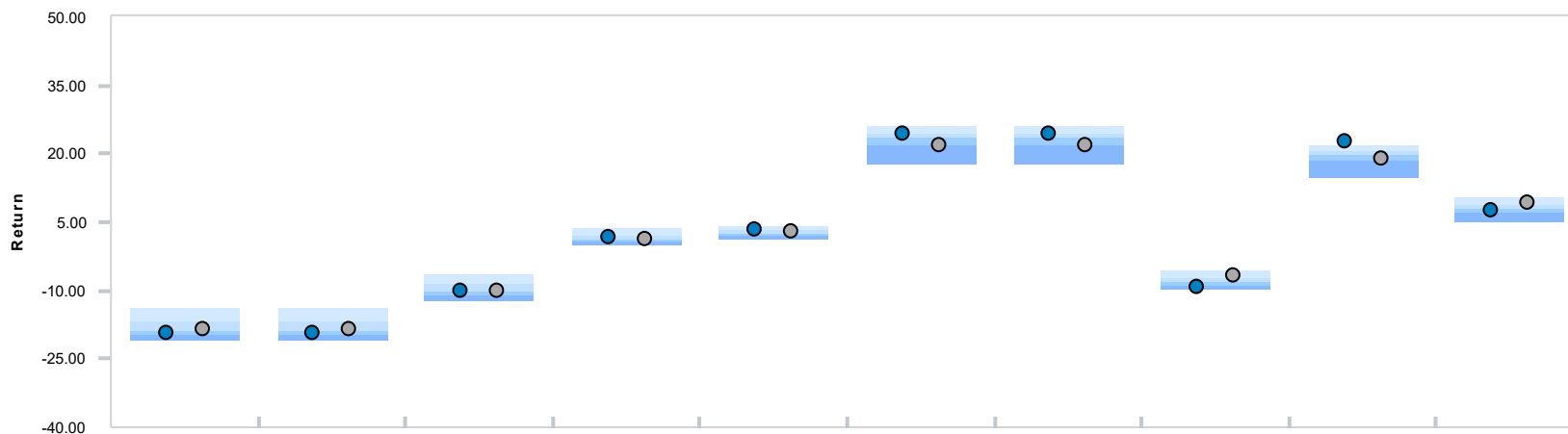
**Mutual Fund Info from Lipper**

Product Name : TIAA-CREF:Lfcy 2040:Prmr (TCZPX)  
Fund Family : TIAA-CREF  
Ticker : TCZPX  
Peer Group : IM Mixed-Asset Target 2040 (MF)  
Benchmark : Dow Jones Global Target 2040 Index  
Fund Inception : 09/30/2009  
Portfolio Manager : Team Managed  
Total Assets : \$494 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.70%  
Net Expense : 0.59%  
Turnover : 18%

**Summary Description**

The investment seeks high total return over time through a combination of capital appreciation and income. 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. The managers expect to allocate approximately 90.00% of the fund's assets to equity underlying funds and 10.00% of the fund's assets to fixed-income underlying funds. These allocations represent targets for equity and fixed-income asset classes. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

**Peer Group Analysis - IM Mixed-Asset Target 2040 (MF)**



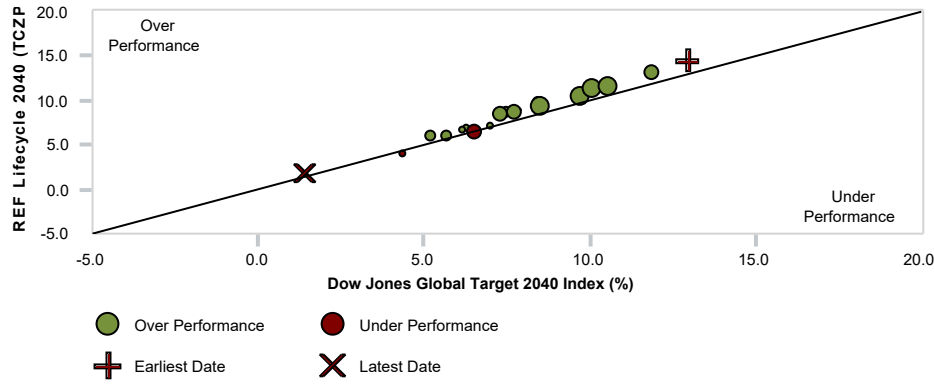
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● TIAA-CREF Lifecycle 2040 (TCZPX)	-19.25 (53)	-19.25 (53)	-10.09 (52)	1.76 (36)	3.14 (26)	24.52 (26)	24.52 (26)	-9.11 (86)	22.69 (1)	7.65 (58)
○ Dow Jones Global Target 2040 Index	-18.42 (44)	-18.42 (44)	-10.24 (56)	1.41 (48)	2.76 (41)	22.03 (74)	22.03 (74)	-6.94 (23)	18.97 (65)	9.30 (15)
Median	-19.12	-19.12	-10.06	1.34	2.54	23.63	23.63	-7.98	19.74	7.95

**Comparative Performance**

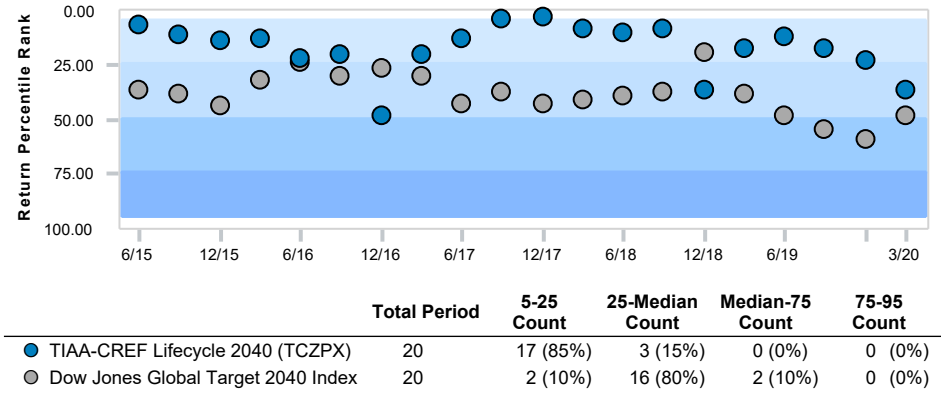
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
TIAA-CREF Lifecycle 2040 (TCZPX)	7.51 (30)	0.19 (67)	3.36 (42)	11.84 (19)	-13.16 (100)	3.53 (34)
Dow Jones Global Target 2040 Index	6.66 (71)	0.17 (70)	2.99 (82)	10.90 (56)	-10.46 (25)	3.03 (82)
IM Mixed-Asset Target 2040 (MF) Median	7.10	0.35	3.26	10.98	-11.04	3.40



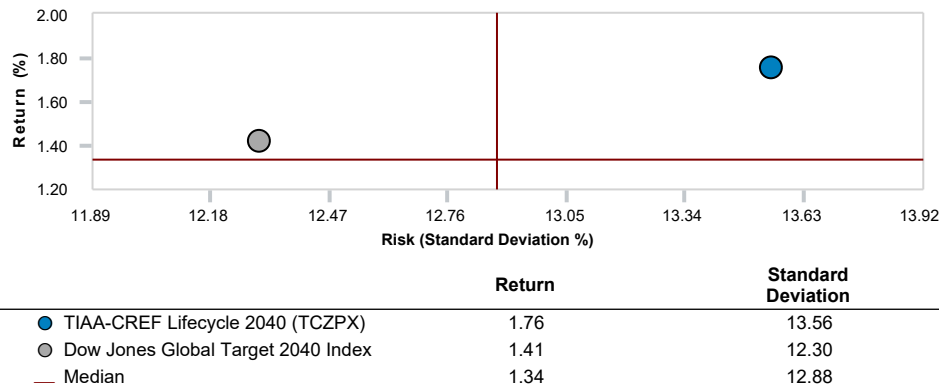
### 3 Yr Rolling Under/Over Performance - 5 Years



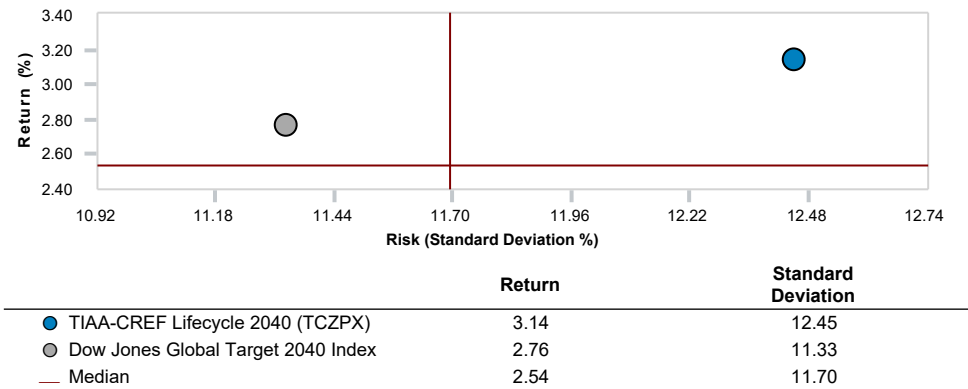
### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



### Peer Group Scattergram - 5 Years



### Historical Statistics - 3 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2040 (TCZPX)	1.72	112.75	111.12	0.29	0.30	0.06	1.10	10.92
Dow Jones Global Target 2040 Index	0.00	100.00	100.00	0.00	N/A	0.03	1.00	10.01

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2040 (TCZPX)	1.88	111.25	110.27	0.20	0.27	0.22	1.09	9.52
Dow Jones Global Target 2040 Index	0.00	100.00	100.00	0.00	N/A	0.20	1.00	8.66



**Fund Information**

Fund Name : TIAA-CREF Funds: Lifecycle 2045 Fund; Premier Class Shares  
 Fund Family : TIAA-CREF  
 Ticker : TTFPX  
 Inception Date : 09/30/2009  
 Fund Assets : \$309 Million  
 Portfolio Turnover : 13%

Portfolio Assets : \$3,511 Million  
 Portfolio Manager : Team Managed  
 PM Tenure :  
 Fund Style : IM Mixed-Asset Target 2045 (MF)  
 Style Benchmark : Dow Jones Global Target 2045 Index

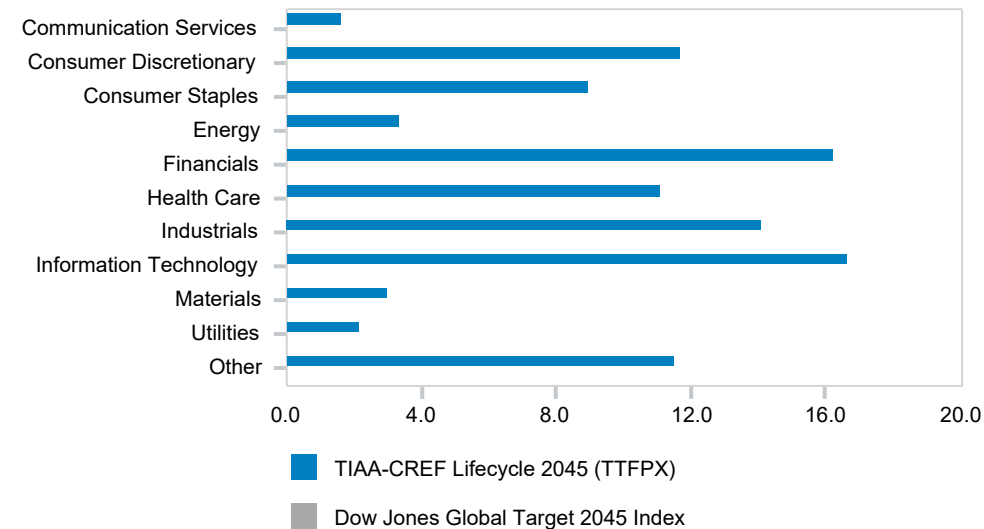
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	20	N/A
Avg. Market Cap (\$)	146,019,889,090	-
Price/Earnings (P/E)	24.10	N/A
Price/Book (P/B)	5.44	N/A
Dividend Yield	2.09	N/A
Annual EPS	21.88	N/A
5 Yr EPS	14.16	N/A
3 Yr EPS Growth	18.09	N/A
Beta (5 Years, Monthly)	1.04	1.00

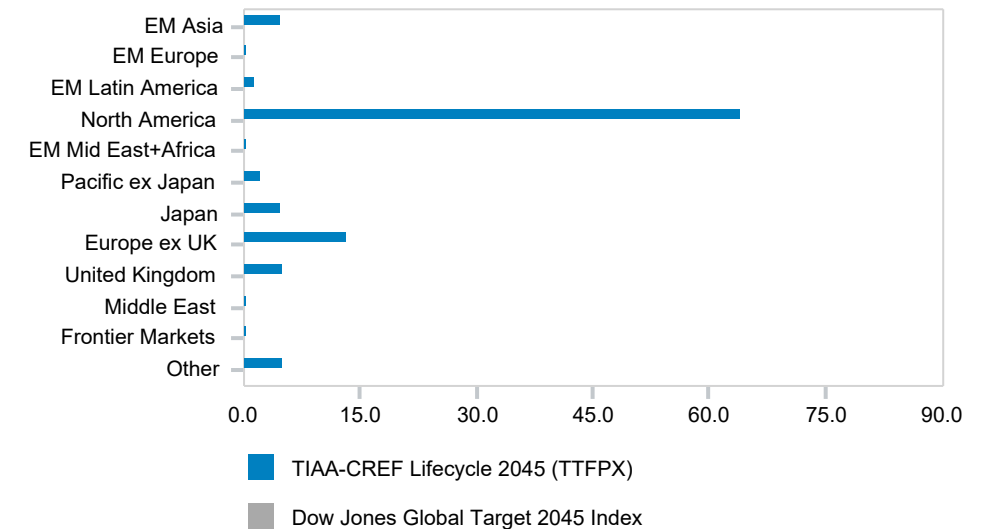
**Top Ten Securities As of 11/30/2019**

TIAA-CREF Growth & Income Fund;W	13.3 %
TIAA-CREF Large-Cap Growth Fund;W	12.2 %
TIAA-CREF Large-Cap Value Fund;W	11.5 %
TIAA-CREF Quant Large-Cap Growth	10.6 %
TIAA-CREF Quant International Equity	7.4 %
TIAA-CREF Quant Large-Cap Value	7.1 %
TIAA-CREF International Opportunities	5.8 %
TIAA-CREF International Equity	5.8 %
TIAA-CREF Emerging Markets Equity	4.7 %
TIAA-CREF Quant International Small-Cap	3.6 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.





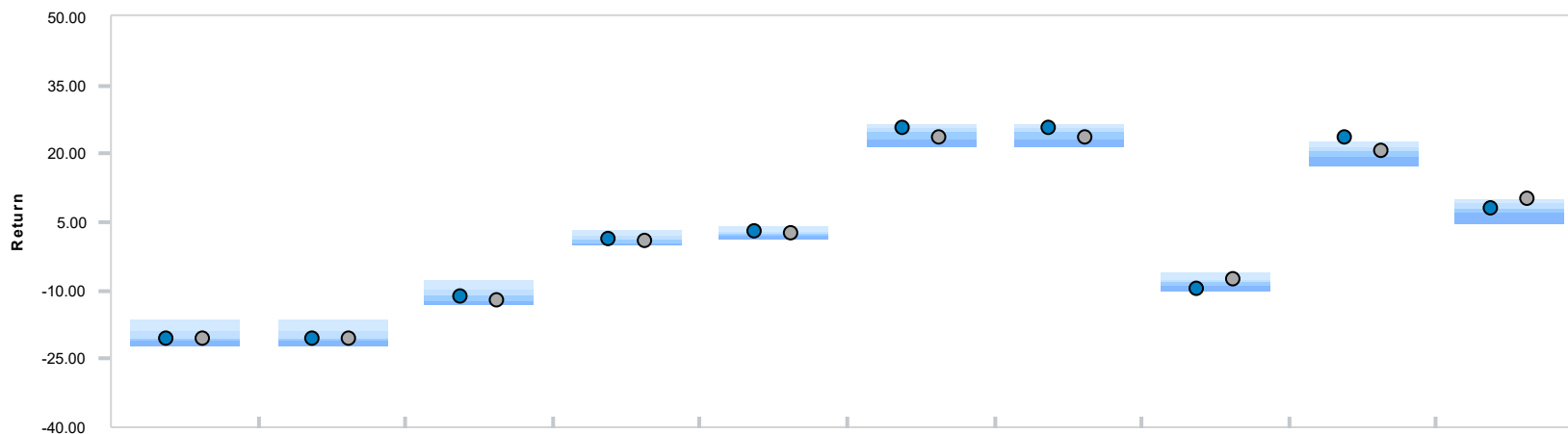
**Mutual Fund Info from Lipper**

Product Name : TIAA-CREF:Lfcy 2045:Prmr (TTFPX)  
Fund Family : TIAA-CREF  
Ticker : TTFPX  
Peer Group : IM Mixed-Asset Target 2045 (MF)  
Benchmark : Dow Jones Global Target 2045 Index  
Fund Inception : 09/30/2009  
Portfolio Manager : Team Managed  
Total Assets : \$309 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.71%  
Net Expense : 0.60%  
Turnover : 13%

**Summary Description**

The investment seeks high total return over time through a combination of capital appreciation and income. 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. The managers expect to allocate approximately 91.00% of the fund's assets to equity underlying funds and 9.00% of the fund's assets to fixed-income underlying funds. These allocations represent targets for equity and fixed-income asset classes. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

**Peer Group Analysis - IM Mixed-Asset Target 2045 (MF)**



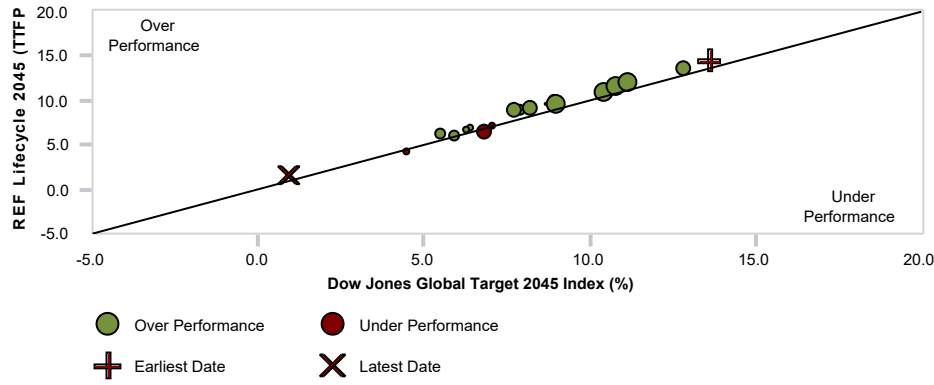
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● TIAA-CREF Lifecycle 2045 (TTFPX)	-20.67 (62)	-20.67 (62)	-11.33 (58)	1.38 (40)	2.98 (30)	25.73 (19)	25.73 (19)	-9.78 (93)	23.45 (2)	7.85 (61)
○ Dow Jones Global Target 2045 Index	-20.47 (51)	-20.47 (51)	-12.04 (75)	0.97 (53)	2.59 (47)	23.71 (67)	23.71 (67)	-7.80 (38)	20.36 (59)	9.85 (7)
Median	-20.47	-20.47	-11.01	1.06	2.49	24.61	24.61	-8.19	20.65	8.15

**Comparative Performance**

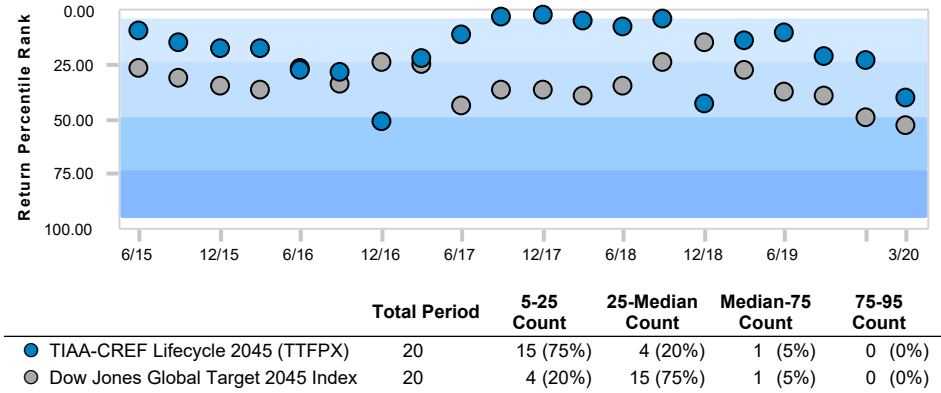
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
TIAA-CREF Lifecycle 2045 (TTFPX)	8.22 (25)	0.00 (72)	3.29 (53)	12.49 (9)	-14.14 (100)	3.76 (31)
Dow Jones Global Target 2045 Index	7.39 (63)	0.02 (70)	2.97 (89)	11.85 (33)	-11.75 (50)	3.39 (68)
IM Mixed-Asset Target 2045 (MF) Median	7.54	0.26	3.33	11.46	-11.77	3.53



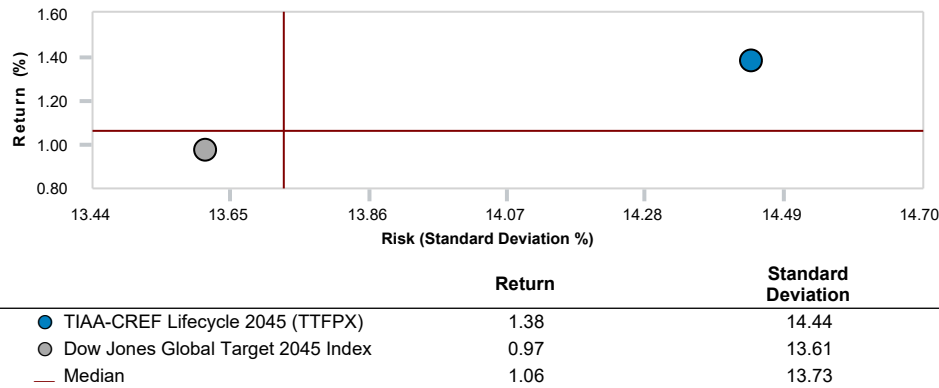
### 3 Yr Rolling Under/Over Performance - 5 Years



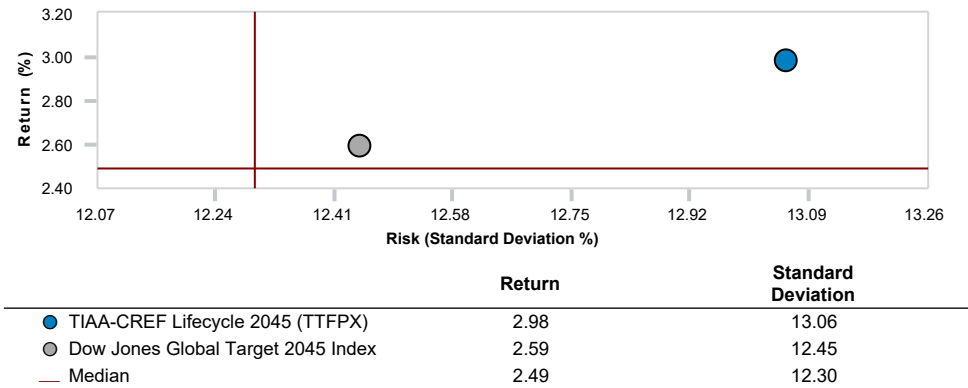
### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



### Peer Group Scattergram - 5 Years



### Historical Statistics - 3 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2045 (TTFPX)	1.51	108.84	106.59	0.42	0.35	0.04	1.06	11.68
Dow Jones Global Target 2045 Index	0.00	100.00	100.00	0.00	N/A	0.01	1.00	11.15

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2045 (TTFPX)	1.65	105.36	103.30	0.32	0.28	0.20	1.04	10.05
Dow Jones Global Target 2045 Index	0.00	100.00	100.00	0.00	N/A	0.18	1.00	9.59



**Fund Information**

Fund Name : TIAA-CREF Funds: Lifecycle 2050 Fund; Premier Class Shares  
Fund Family : TIAA-CREF  
Ticker : TCLPX  
Inception Date : 09/30/2009  
Fund Assets : \$214 Million  
Portfolio Turnover : 12%

Portfolio Assets : \$2,410 Million  
Portfolio Manager : Team Managed  
PM Tenure :  
Fund Style : IM Mixed-Asset Target 2050 (MF)  
Style Benchmark : Dow Jones Global Target 2050 Index

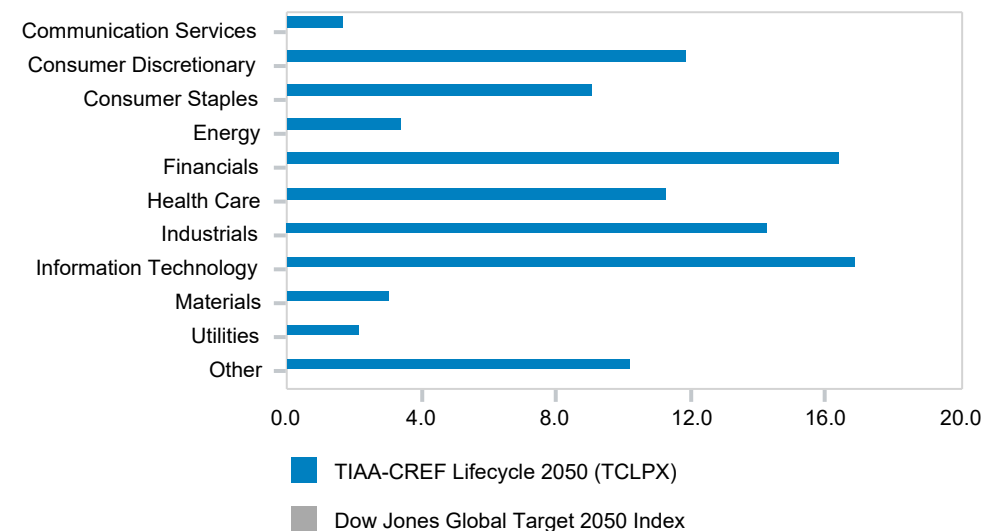
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	20	N/A
Avg. Market Cap (\$)	148,011,299,390	-
Price/Earnings (P/E)	24.43	N/A
Price/Book (P/B)	5.52	N/A
Dividend Yield	2.12	N/A
Annual EPS	22.19	N/A
5 Yr EPS	14.35	N/A
3 Yr EPS Growth	18.34	N/A
Beta (5 Years, Monthly)	1.00	1.00

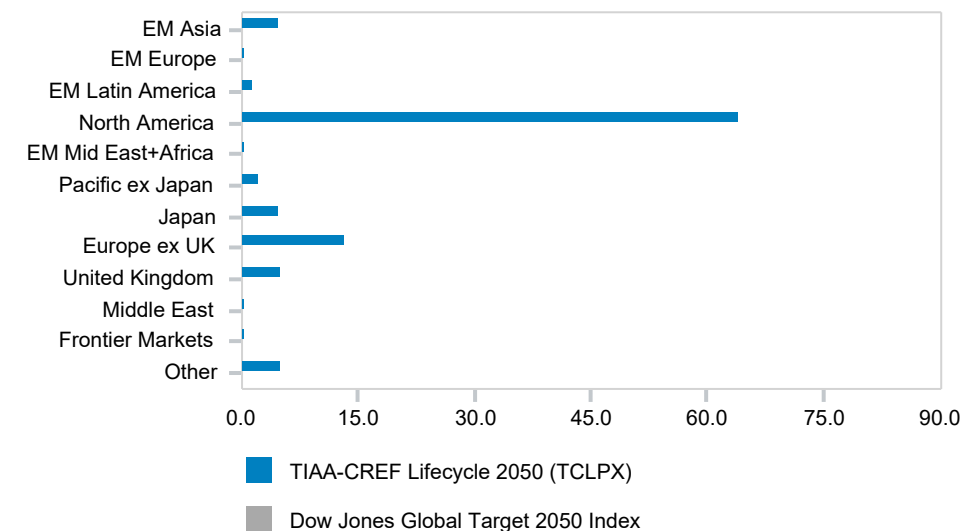
**Top Ten Securities As of 11/30/2019**

TIAA-CREF Growth & Income Fund;W	13.5 %
TIAA-CREF Large-Cap Growth Fund;W	12.3 %
TIAA-CREF Large-Cap Value Fund;W	11.7 %
TIAA-CREF Quant Large-Cap Growth	10.8 %
TIAA-CREF Quant International Equity	7.6 %
TIAA-CREF Quant Large-Cap Value	7.2 %
TIAA-CREF International Opportunities	5.9 %
TIAA-CREF International Equity	5.9 %
TIAA-CREF Emerging Markets Equity	4.8 %
TIAA-CREF Quant International Small-Cap	3.7 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.



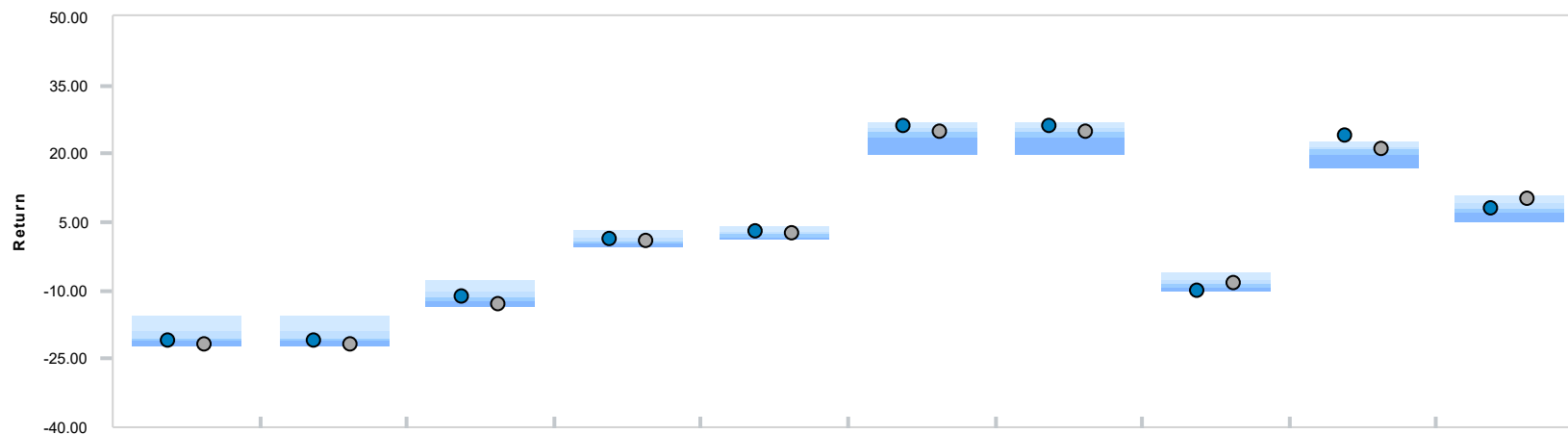
**Mutual Fund Info from Lipper**

Product Name : TIAA-CREF:Lfcy 2050:Prmr (TCLPX)  
Fund Family : TIAA-CREF  
Ticker : TCLPX  
Peer Group : IM Mixed-Asset Target 2050 (MF)  
Benchmark : Dow Jones Global Target 2050 Index  
Fund Inception : 09/30/2009  
Portfolio Manager : Team Managed  
Total Assets : \$214 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.72%  
Net Expense : 0.60%  
Turnover : 12%

**Summary Description**

The investment seeks high total return over time through a combination of capital appreciation and income. 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. The adviser expects to allocate approximately 92.25% of the fund's assets to equity underlying funds and 7.75% of the fund's assets to fixed-income underlying funds. These allocations represent targets for equity and fixed-income asset classes. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

**Peer Group Analysis - IM Mixed-Asset Target 2050 (MF)**



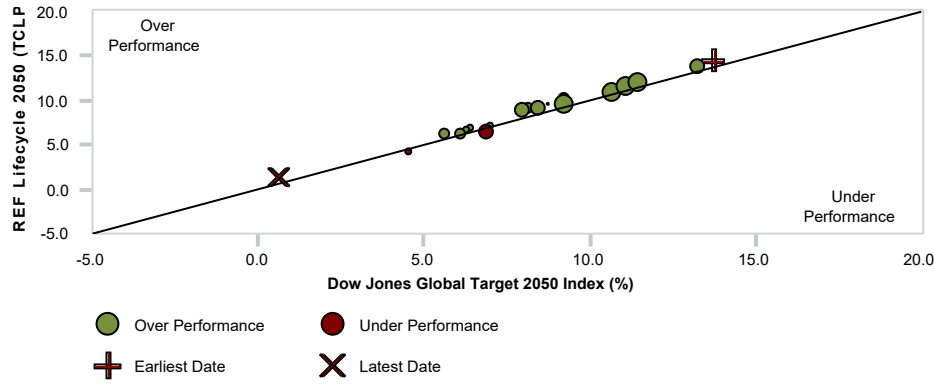
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● TIAA-CREF Lifecycle 2050 (TCLPX)	-20.91 (62)	-20.91 (62)	-11.56 (56)	1.34 (38)	3.01 (27)	25.93 (19)	25.93 (19)	-9.93 (90)	23.76 (2)	7.99 (54)
○ Dow Jones Global Target 2050 Index	-21.71 (85)	-21.71 (85)	-13.15 (89)	0.65 (63)	2.45 (47)	24.69 (50)	24.69 (50)	-8.29 (44)	21.02 (46)	10.10 (10)
Median	-20.55	-20.55	-11.35	0.91	2.36	24.67	24.67	-8.54	20.80	8.10

**Comparative Performance**

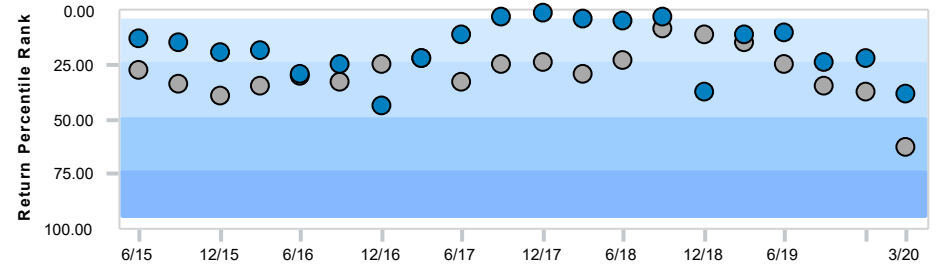
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
TIAA-CREF Lifecycle 2050 (TCLPX)	8.28 (27)	0.00 (71)	3.27 (58)	12.62 (10)	-14.33 (100)	3.74 (37)
Dow Jones Global Target 2050 Index	7.84 (37)	-0.07 (74)	2.95 (86)	12.39 (16)	-12.46 (67)	3.58 (50)
IM Mixed-Asset Target 2050 (MF) Median	7.61	0.22	3.32	11.52	-11.84	3.57



**3 Yr Rolling Under/Over Performance - 5 Years**

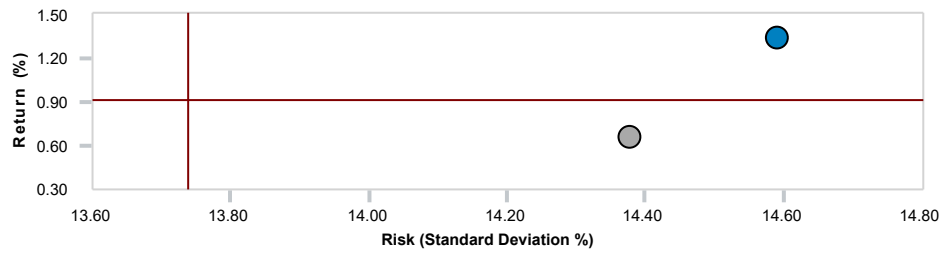


**3 Yr Rolling Percentile Ranking - 5 Years**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
● TIAA-CREF Lifecycle 2050 (TCLPX)	20	16 (80%)	4 (20%)	0 (0%)	0 (0%)
● Dow Jones Global Target 2050 Index	20	9 (45%)	10 (50%)	1 (5%)	0 (0%)

**Peer Group Scattergram - 3 Years**



	Return	Standard Deviation
● TIAA-CREF Lifecycle 2050 (TCLPX)	1.34	14.59
● Dow Jones Global Target 2050 Index	0.65	14.38
— Median	0.91	13.74

**Peer Group Scattergram - 5 Years**



	Return	Standard Deviation
● TIAA-CREF Lifecycle 2050 (TCLPX)	3.01	13.17
● Dow Jones Global Target 2050 Index	2.45	13.04
— Median	2.36	12.41

**Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2050 (TCLPX)	1.33	104.94	101.26	0.69	0.53	0.04	1.01	11.80
Dow Jones Global Target 2050 Index	0.00	100.00	100.00	0.00	N/A	-0.01	1.00	11.83

**Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2050 (TCLPX)	1.53	102.27	98.93	0.54	0.36	0.20	1.00	10.14
Dow Jones Global Target 2050 Index	0.00	100.00	100.00	0.00	N/A	0.16	1.00	10.11



**Fund Information**

Fund Name : TIAA-CREF Funds: Lifecycle 2055 Fund; Premier Class Shares  
 Fund Family : TIAA-CREF  
 Ticker : TTRPX  
 Inception Date : 04/29/2011  
 Fund Assets : \$86 Million  
 Portfolio Turnover : 10%

Portfolio Assets : \$898 Million  
 Portfolio Manager : Team Managed  
 PM Tenure :  
 Fund Style : IM Mixed-Asset Target 2055 (MF)  
 Style Benchmark : Dow Jones Global Target 2055 Index

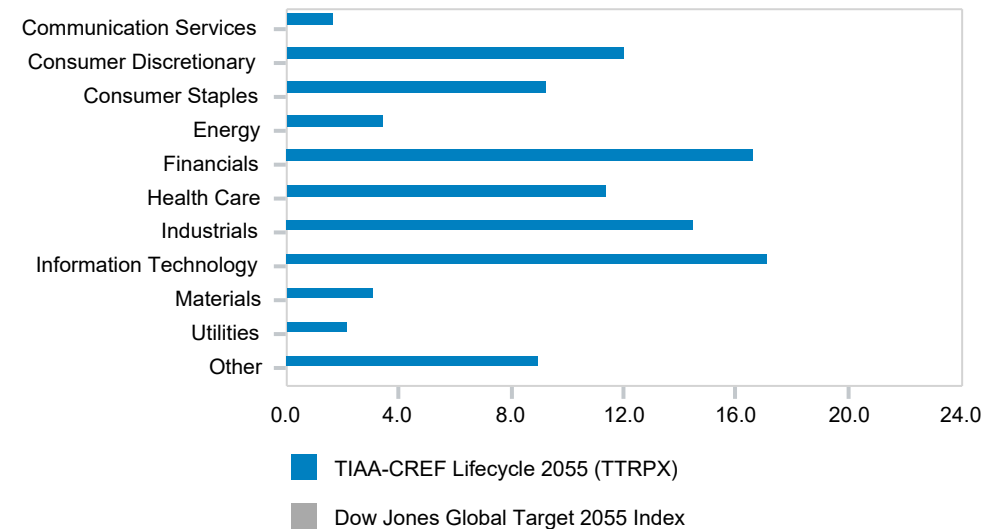
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	20	N/A
Avg. Market Cap (\$)	150,016,134,392	-
Price/Earnings (P/E)	24.78	N/A
Price/Book (P/B)	5.59	N/A
Dividend Yield	2.15	N/A
Annual EPS	22.50	N/A
5 Yr EPS	14.55	N/A
3 Yr EPS Growth	18.60	N/A
Beta (5 Years, Monthly)	1.00	1.00

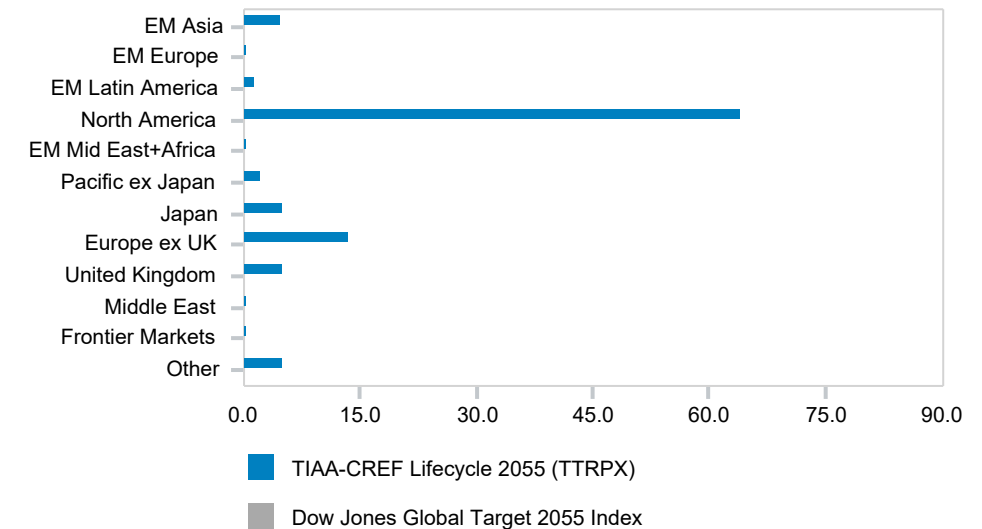
**Top Ten Securities As of 11/30/2019**

TIAA-CREF Growth & Income Fund;W	13.7 %
TIAA-CREF Large-Cap Growth Fund;W	12.5 %
TIAA-CREF Large-Cap Value Fund;W	11.8 %
TIAA-CREF Quant Large-Cap Growth	10.9 %
TIAA-CREF Quant International Equity	7.7 %
TIAA-CREF Quant Large-Cap Value	7.3 %
TIAA-CREF International Opportunities	6.0 %
TIAA-CREF International Equity	6.0 %
TIAA-CREF Emerging Markets Equity	4.8 %
TIAA-CREF Quant International Small-Cap	3.7 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.



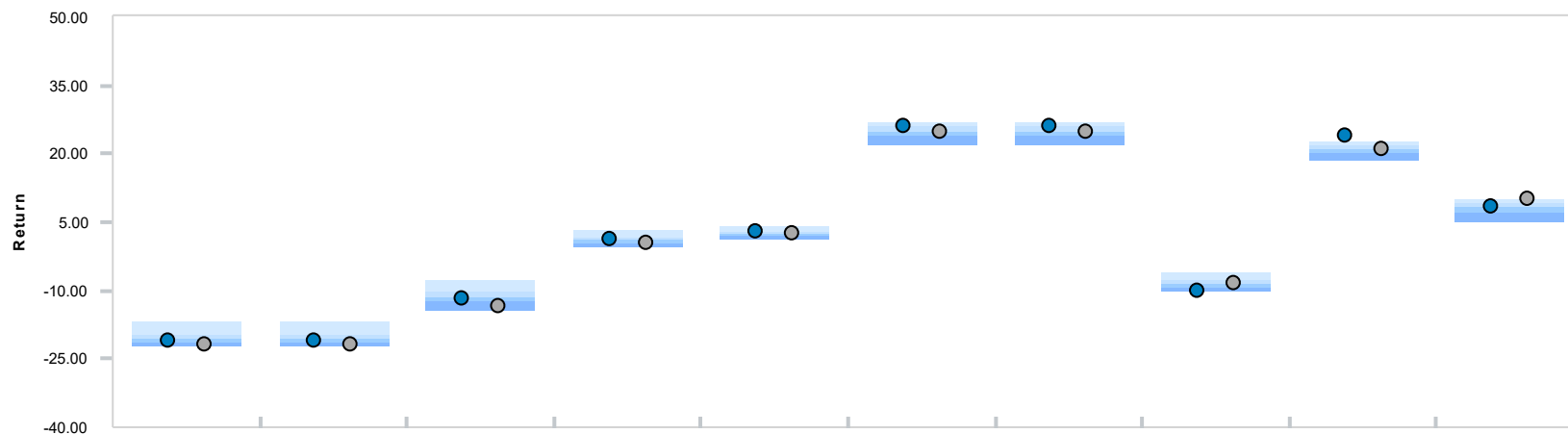
### Mutual Fund Info from Lipper

Product Name : TIAA-CREF:Lfcy 2055:Prmr (TTRPX)  
Fund Family : TIAA-CREF  
Ticker : TTRPX  
Peer Group : IM Mixed-Asset Target 2055 (MF)  
Benchmark : Dow Jones Global Target 2055 Index  
Fund Inception : 04/29/2011  
Portfolio Manager : Team Managed  
Total Assets : \$86 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.74%  
Net Expense : 0.60%  
Turnover : 10%

### Summary Description

The investment seeks high total return over time through a combination of capital appreciation and income. 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. The adviser expects to allocate approximately 93.50% of the fund's assets to equity underlying funds and 6.50% of the fund's assets to fixed-income underlying funds. These allocations represent targets for equity and fixed-income asset classes. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

### Peer Group Analysis - IM Mixed-Asset Target 2055 (MF)



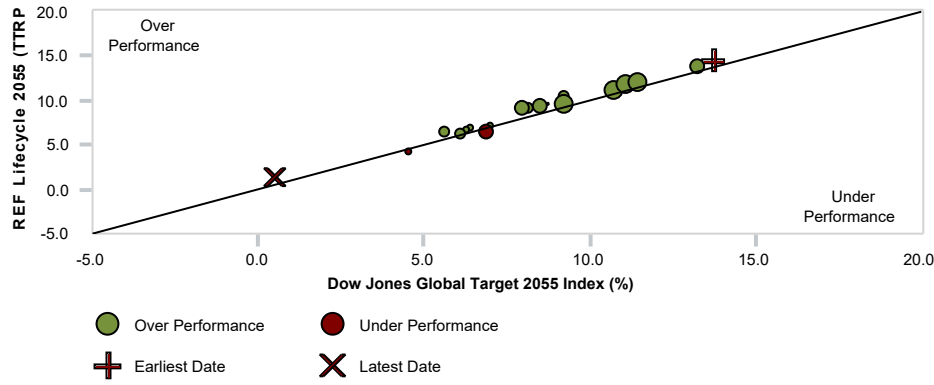
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● TIAA-CREF Lifecycle 2055 (TTRPX)	-21.14 (65)	-21.14 (65)	-11.75 (55)	1.31 (37)	3.01 (30)	26.21 (17)	26.21 (17)	-10.10 (94)	24.07 (3)	8.16 (53)
○ Dow Jones Global Target 2055 Index	-22.05 (85)	-22.05 (85)	-13.45 (91)	0.54 (71)	2.39 (52)	24.89 (48)	24.89 (48)	-8.37 (46)	21.06 (52)	10.11 (6)
Median	-20.70	-20.70	-11.60	1.02	2.44	24.84	24.84	-8.48	21.12	8.25

### Comparative Performance

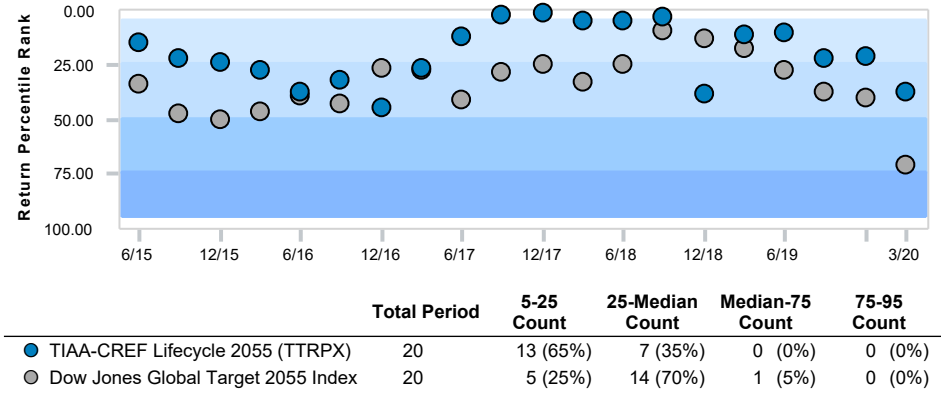
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
TIAA-CREF Lifecycle 2055 (TTRPX)	8.41 (25)	-0.07 (69)	3.30 (55)	12.77 (9)	-14.50 (100)	3.77 (37)
Dow Jones Global Target 2055 Index	7.95 (36)	-0.09 (73)	2.95 (88)	12.48 (15)	-12.57 (67)	3.60 (52)
IM Mixed-Asset Target 2055 (MF) Median	7.77	0.16	3.35	11.68	-11.92	3.63



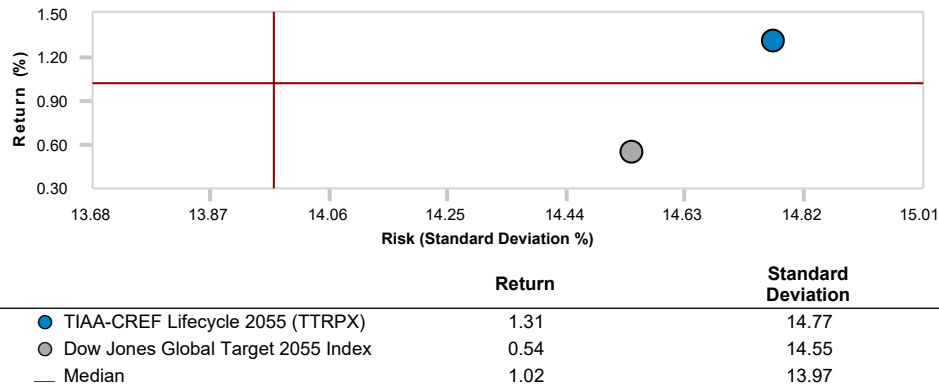
**3 Yr Rolling Under/Over Performance - 5 Years**



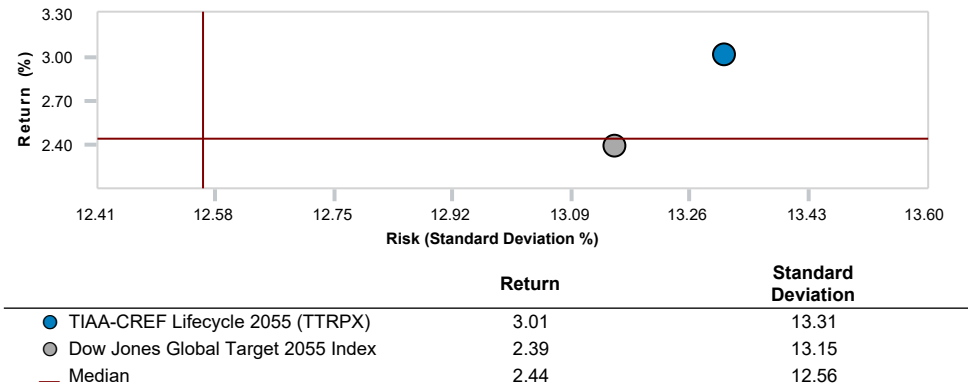
**3 Yr Rolling Percentile Ranking - 5 Years**



**Peer Group Scattergram - 3 Years**



**Peer Group Scattergram - 5 Years**



**Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2055 (TTRPX)	1.40	105.56	101.47	0.77	0.56	0.04	1.01	11.95
Dow Jones Global Target 2055 Index	0.00	100.00	100.00	0.00	N/A	-0.01	1.00	11.99

**Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2055 (TTRPX)	1.56	102.98	99.29	0.62	0.40	0.20	1.00	10.24
Dow Jones Global Target 2055 Index	0.00	100.00	100.00	0.00	N/A	0.16	1.00	10.22





**Fund Information**

Fund Name : TIAA-CREF Funds: Lifecycle 2060 Fund; Premier Class Shares  
 Fund Family : TIAA-CREF  
 Ticker : TLXPX  
 Inception Date : 09/26/2014  
 Fund Assets : \$14 Million  
 Portfolio Turnover : 36%

Portfolio Assets : \$187 Million  
 Portfolio Manager : Team Managed  
 PM Tenure :  
 Fund Style : IM Mixed-Asset Target 2060+ (MF)  
 Style Benchmark : Dow Jones Global Target 2060 Index

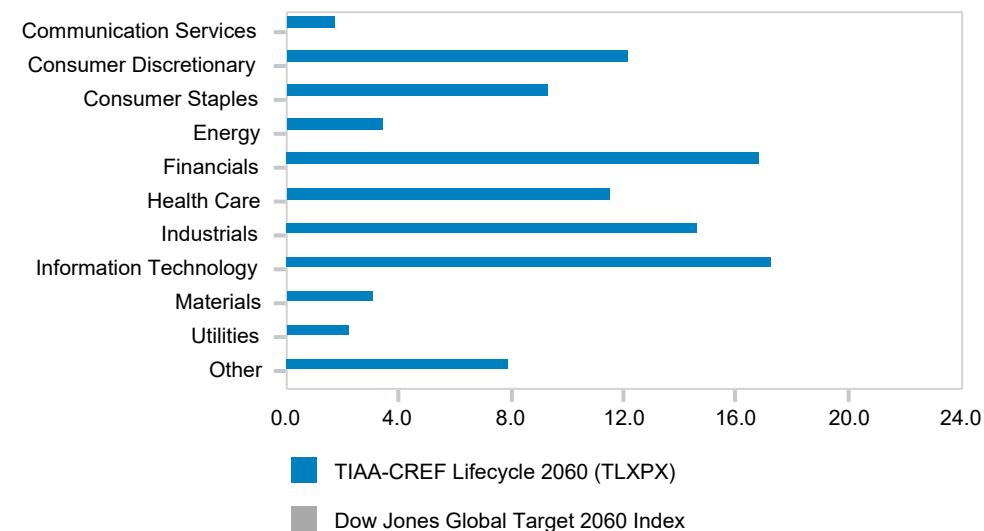
**Portfolio Characteristics As of 11/30/2019**

	Portfolio	Benchmark
Total Securities	20	N/A
Avg. Market Cap (\$)	151,709,244,504	-
Price/Earnings (P/E)	25.06	N/A
Price/Book (P/B)	5.66	N/A
Dividend Yield	2.18	N/A
Annual EPS	22.75	N/A
5 Yr EPS	14.72	N/A
3 Yr EPS Growth	18.81	N/A
Beta (5 Years, Monthly)	1.01	1.00

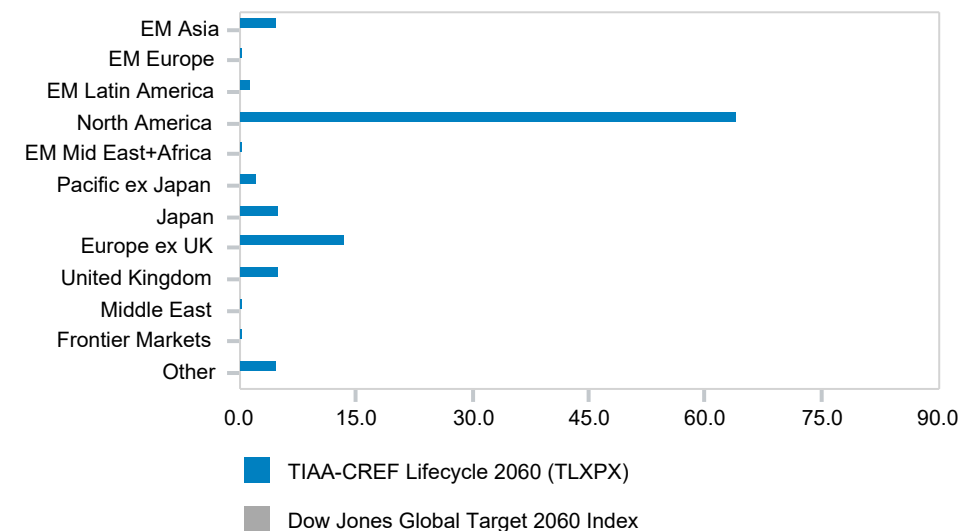
**Top Ten Securities As of 11/30/2019**

TIAA-CREF Growth & Income Fund;W	13.8 %
TIAA-CREF Large-Cap Growth Fund;W	12.6 %
TIAA-CREF Large-Cap Value Fund;W	11.9 %
TIAA-CREF Quant Large-Cap Growth	11.0 %
TIAA-CREF Quant International Equity	7.8 %
TIAA-CREF Quant Large-Cap Value	7.4 %
TIAA-CREF International Opportunities	6.1 %
TIAA-CREF International Equity	6.0 %
TIAA-CREF Emerging Markets Equity	4.9 %
TIAA-CREF Quant International Small-Cap	3.7 %

**Sector Weights As of 11/30/2019**



**Region Weights As of 11/30/2019**



Statistics provided by Lipper. Most recent available data shown.



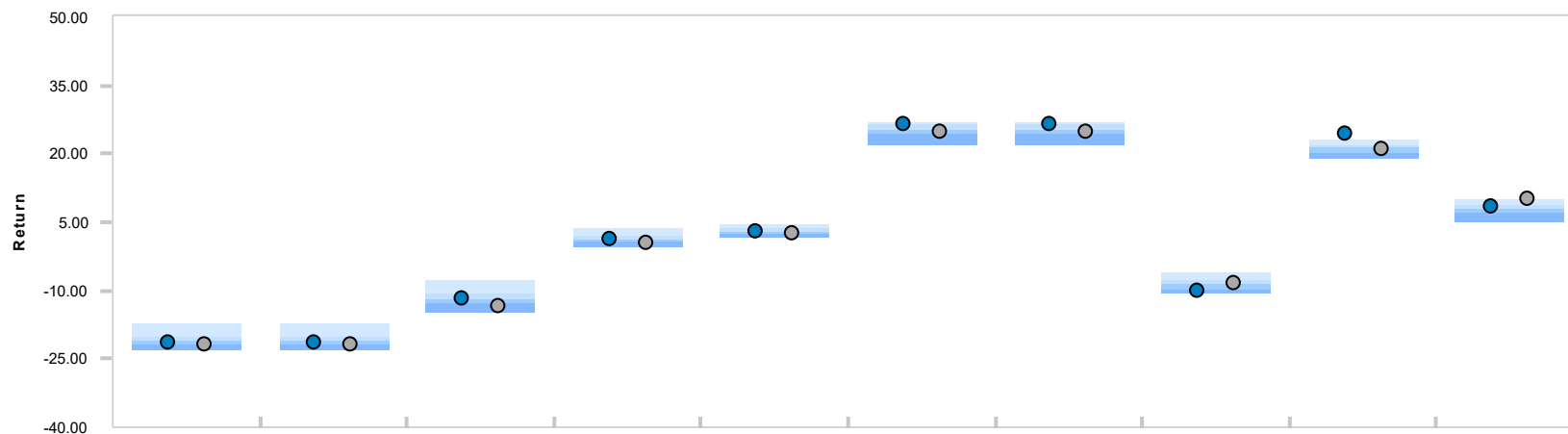
### Mutual Fund Info from Lipper

Product Name : TIAA-CREF:Lfcy 2060:Prmr (TLXPX)  
Fund Family : TIAA-CREF  
Ticker : TLXPX  
Peer Group : IM Mixed-Asset Target 2060+ (MF)  
Benchmark : Dow Jones Global Target 2060 Index  
Fund Inception : 09/26/2014  
Portfolio Manager : Team Managed  
Total Assets : \$14 Million  
Total Assets Date : 12/31/2019  
Gross Expense : 0.86%  
Net Expense : 0.60%  
Turnover : 36%

### Summary Description

The investment seeks high total return over time through a combination of capital appreciation and income. 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. The adviser expects to allocate approximately 93.50% of the fund's assets to equity underlying funds and 6.50% of the fund's assets to fixed-income underlying funds. These allocations represent targets for equity and fixed-income asset classes. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

### Peer Group Analysis - IM Mixed-Asset Target 2060+ (MF)



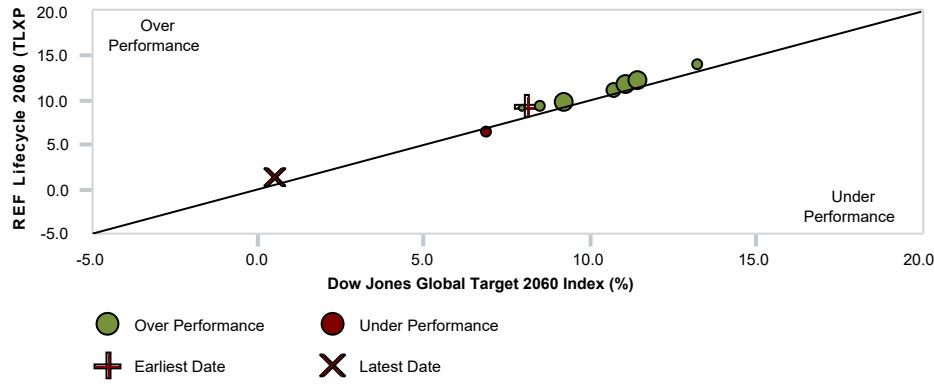
	QTR	YTD	1 YR	3 YR	5 YR	2019	2019	2018	2017	2016
● TIAA-CREF Lifecycle 2060 (TLXPX)	-21.35 (64)	-21.35 (64)	-11.93 (56)	1.28 (47)	3.04 (55)	26.47 (20)	26.47 (20)	-10.27 (92)	24.29 (2)	8.27 (37)
○ Dow Jones Global Target 2060 Index	-22.05 (80)	-22.05 (80)	-13.45 (85)	0.54 (78)	2.39 (74)	24.89 (60)	24.89 (60)	-8.37 (46)	21.06 (60)	10.11 (4)
Median	-21.00	-21.00	-11.65	1.18	3.08	25.08	25.08	-8.66	21.30	7.86

### Comparative Performance

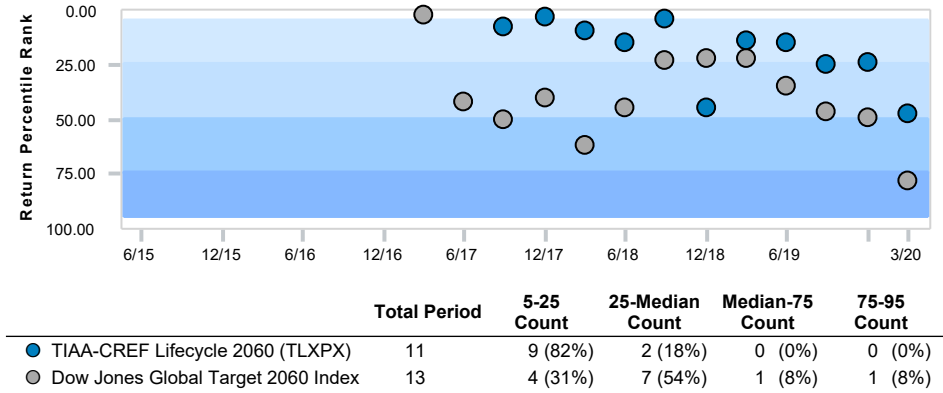
	1 Qtr Ending Dec-2019	1 Qtr Ending Sep-2019	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018
TIAA-CREF Lifecycle 2060 (TLXPX)	8.48 (23)	0.00 (66)	3.23 (65)	12.93 (10)	-14.75 (100)	3.85 (42)
Dow Jones Global Target 2060 Index	7.95 (46)	-0.09 (73)	2.95 (91)	12.48 (21)	-12.57 (59)	3.60 (64)
IM Mixed-Asset Target 2060+ (MF) Median	7.82	0.19	3.41	12.01	-12.32	3.76



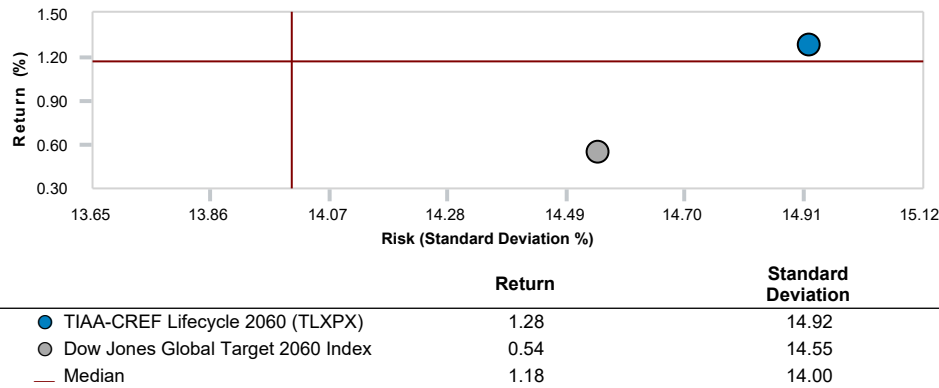
**3 Yr Rolling Under/Over Performance - 5 Years**



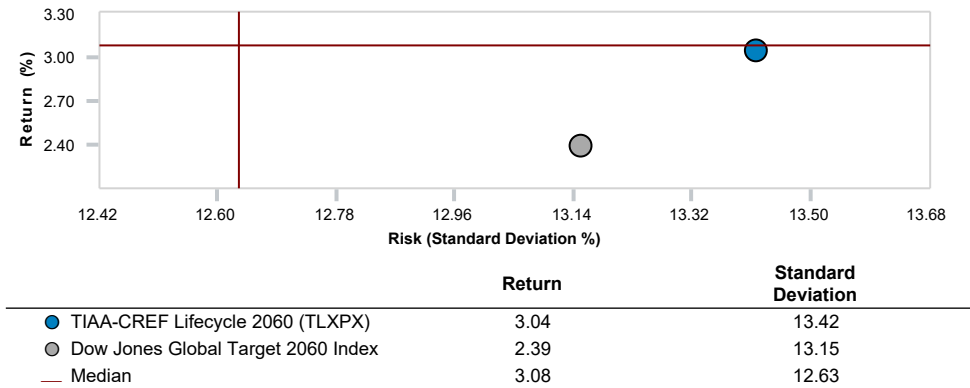
**3 Yr Rolling Percentile Ranking - 5 Years**



**Peer Group Scattergram - 3 Years**



**Peer Group Scattergram - 5 Years**



**Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2060 (TLXPX)	1.44	106.64	102.65	0.76	0.55	0.04	1.02	12.07
Dow Jones Global Target 2060 Index	0.00	100.00	100.00	0.00	N/A	-0.01	1.00	11.99

**Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
TIAA-CREF Lifecycle 2060 (TLXPX)	1.58	103.69	99.91	0.63	0.42	0.20	1.01	10.32
Dow Jones Global Target 2060 Index	0.00	100.00	100.00	0.00	N/A	0.16	1.00	10.22



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<b>Active Return</b>	- Arithmetic difference between the manager's performance and the designated benchmark return over a specified time period.
<b>Alpha</b>	- A measure of the difference between a portfolio's actual performance and its expected return based on its level of risk as determined by beta. It determines the portfolio's non-systemic return, or its historical performance not explained by movements of the market.
<b>Beta</b>	- A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of the portfolio's systematic risk.
<b>Consistency</b>	- The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. Higher consistency indicates the manager has contributed more to the product's performance.
<b>Distributed to Paid In (DPI)</b>	- The ratio of money distributed to Limited Partners by the fund, relative to contributions. It is calculated by dividing cumulative distributions by paid in capital. This multiple shows the investor how much money they got back. It is a good measure for evaluating a fund later in its life because there are more distributions to measure against.
<b>Down Market Capture</b>	- The ratio of average portfolio performance over the designated benchmark during periods of negative returns. A lower value indicates better product performance
<b>Downside Risk</b>	- A measure similar to standard deviation that utilizes only the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. A higher factor is indicative of a riskier product.
<b>Excess Return</b>	- Arithmetic difference between the manager's performance and the risk-free return over a specified time period.
<b>Excess Risk</b>	- A measure of the standard deviation of a portfolio's performance relative to the risk free return.
<b>Information Ratio</b>	- This calculates the value-added contribution of the manager and is derived by dividing the active rate of return of the portfolio by the tracking error. The higher the Information Ratio, the more the manager has added value to the portfolio.
<b>Public Market Equivalent (PME)</b>	- Designs a set of analyses used in the Private Equity Industry to evaluate the performance of a Private Equity Fund against a public benchmark or index.
<b>R-Squared</b>	- The percentage of a portfolio's performance that can be explained by the behavior of the appropriate benchmark. A high R-Squared means the portfolio's performance has historically moved in the same direction as the appropriate benchmark.
<b>Return</b>	- Compounded rate of return for the period.
<b>Sharpe Ratio</b>	- Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is an absolute rate of return per unit of risk. A higher value demonstrates better historical risk-adjusted performance.
<b>Standard Deviation</b>	- A statistical measure of the range of a portfolio's performance. It represents the variability of returns around the average return over a specified time period.
<b>Total Value to Paid In (TVPI)</b>	- The ratio of the current value of remaining investments within a fund, plus the total value of all distributions to date, relative to the total amount of capital paid into the fund to date. It is a good measure of performance before the end of a fund's life
<b>Tracking Error</b>	- This is a measure of the standard deviation of a portfolio's returns in relation to the performance of its designated market benchmark.
<b>Treynor Ratio</b>	- Similar to Sharpe ratio but utilizes beta rather than excess risk as determined by standard deviation. It is calculated by taking the excess rate of return above the risk free rate divided by beta to derive the absolute rate of return per unit of risk. A higher value indicates a product has achieved better historical risk-adjusted performance.
<b>Up Market Capture</b>	- The ratio of average portfolio performance over the designated benchmark during periods of positive returns. A higher value indicates better product performance.



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AndCo compiled this report for the sole use of the client for which it was prepared. AndCo is responsible for evaluating the performance results of the Total Fund along with the investment advisors by comparing their performance with indices and other related peer universe data that is deemed appropriate. AndCo uses the results from this evaluation to make observations and recommendations to the client.

AndCo uses time-weighted calculations which are founded on standards recommended by the CFA Institute. The calculations and values shown are based on information that is received from custodians. AndCo analyzes transactions as indicated on the custodian statements and reviews the custodial market values of the portfolio. As a result, this provides AndCo with a reasonable basis that the investment information presented is free from material misstatement. This methodology of evaluating and measuring performance provides AndCo with a practical foundation for our observations and recommendations. Nothing came to our attention that would cause AndCo to believe that the information presented is significantly misstated.

This performance report is based on data obtained by the client's custodian(s), investment fund administrator, or other sources believed to be reliable. While these sources are believed to be reliable, the data providers are responsible for the accuracy and completeness of their statements. Clients are encouraged to compare the records of their custodian(s) to ensure this report fairly and accurately reflects their various asset positions.

The strategies listed may not be suitable for all investors. We believe the information provided here is reliable, but do not warrant its accuracy or completeness. Past performance is not an indication of future performance. Any information contained in this report is for informational purposes only and should not be construed to be an offer to buy or sell any securities, investment consulting, or investment management services.

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Investment Performance Review  
Period Ending December 31, 2020

**City of Fort Worth  
457 Deferred Compensation Plan**

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As we start this new year, and on behalf of our entire AndCo family, Thank You for the opportunity to continue to serve you! I'm sure most of us are ready to turn the page on 2020 and all of the unique "firsts" we had to deal with – social distancing, masks, quarantining, and virtual meetings just to name a few. While 2020 definitely introduced new features into our daily routines, one constant remained the same at AndCo, our unwavering commitment to serve you within a model that is independent, singularly focused, customized, and passionately delivered. We take our role as your consultant and trusted advisor earnestly and will continue to work hard to maintain your trust and confidence in this unique and dynamic time. We are honored and privileged you have chosen AndCo as your consultant and we wanted to provide a brief update on the firm.

As we start 2021, we are 91 team members strong advising approximately \$100 billion in client assets – both around record highs. All departments within AndCo have grown over the years as we thoughtfully invest in our firm to provide the services you expect and we demand from our team.

Looking back at 2020, it represented another year of significant investment in the organization. We made personnel and technology investments within consulting, research, client solutions, compliance, finance, IT and marketing. We created an intranet for our team members to efficiently and effectively stay connected within the organization to collectively serve you, our valued clients, and our team members better. We continued enhancing our research team with two new hires in the department who have significant experience and tailored skillsets in certain asset classes. We added additional management within our client solutions department to provide more support and structure to the team. We also restructured our marketing department to enhance the quality of our deliverables and further promote the AndCo brand. While 2020 was a busy year for AndCo in terms of reinvesting and enhancing our structure, please know we are not done. We are strong believers that if you are not evolving, adapting and moving forward, you will get left behind. In the service business, that would mean our clients would not get the service they expect or deserve and that does not work for AndCo. As we budget for 2021 and continue to reinvest in our organization, you'll likely see additional hires made firmwide along with continued investments in technologies. All of these efforts are to better serve you!

Every January our firm hosts our firmwide retreat in Central Florida. It is a great time for everyone in the firm to spend time with one another. Along with this valuable time together we also review how the firm did strategically the previous year, renew our goals and initiatives for the upcoming year, and conduct activities and discussions to strengthen our culture. Due to the pandemic, we did not hold our firmwide retreat in person this year.

However, we did utilize our new intranet to provide a series of virtual firm updates where we covered many of the topics we normally present in person. While we cannot replace being physically together for several days, we were thrilled to have a virtual venue to provide this valuable information to our team and demonstrate new ways for us to stay connected during this unique time.

At the beginning of each year we also discuss the AndCo partnership, and when earned, announce new partners. This year I am happy to report two new team members made partner at AndCo - Jacob Peacock and Dan Osika. Jacob has been with the firm for almost 9 years and is currently a Consulting Director. Dan has been with AndCo for 6 years and has held multiple roles at the firm. Today Dan serves as a Marketing Consultant in our marketing department. We are extremely happy for both Jacob and Dan and are very lucky to have them as valuable team members. With the additions of Jacob and Dan, we now have 11 partners at AndCo with the majority of departments represented. We are looking to create a multigeneration employee-owned and employee-managed organization with our equity program. This will allow us to protect our mission, vision and values going forward as well as our commitment to serve you the best we possibly can.

In closing, our name, AndCo, reminds us who we work for every day - "Our Client" &Co. You, our clients, will always be our first priority. As we continue to discuss strategic decisions and reinvestments regarding our firm, please know that our decisions are filtered through the following question: "How does this benefit our clients?" If it doesn't benefit you, we don't do it, it's that simple. We said this last year and we'll say it again next year. If this commitment ever falters, you need to find a new consultant.

We know that each of our clients is facing many challenges and we will be there to help support you through all environments. We are honored and humbled that you have chosen AndCo as your partner. We do not take that relationship for granted and will continue to work tirelessly to exceed your expectations.

Thank you again for your valued partnership and the opportunity to serve you. Happy New Year!



Mike Welker, CFA  
CEO





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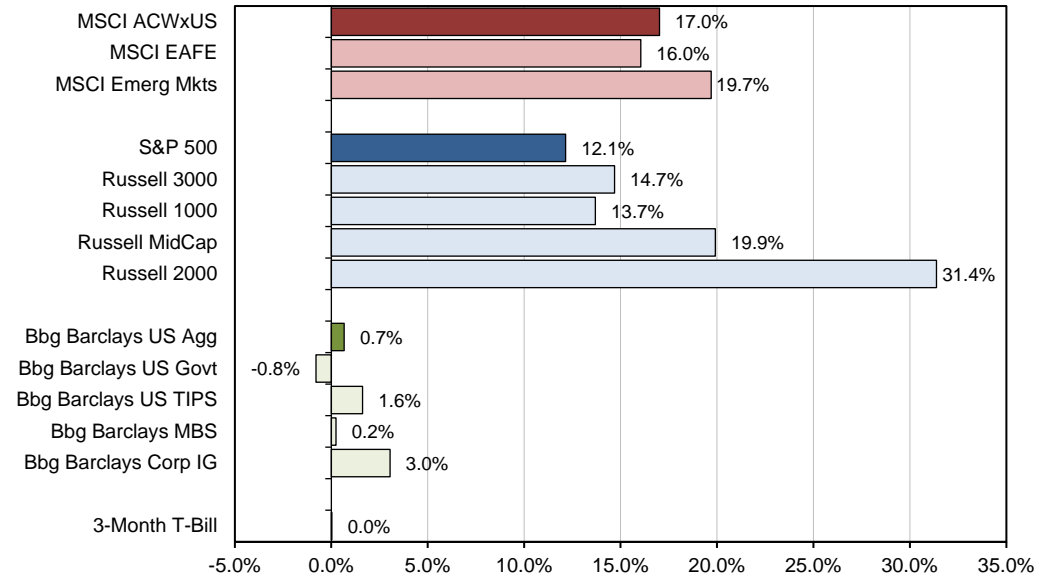


## 4th Quarter 2020 Market Environment

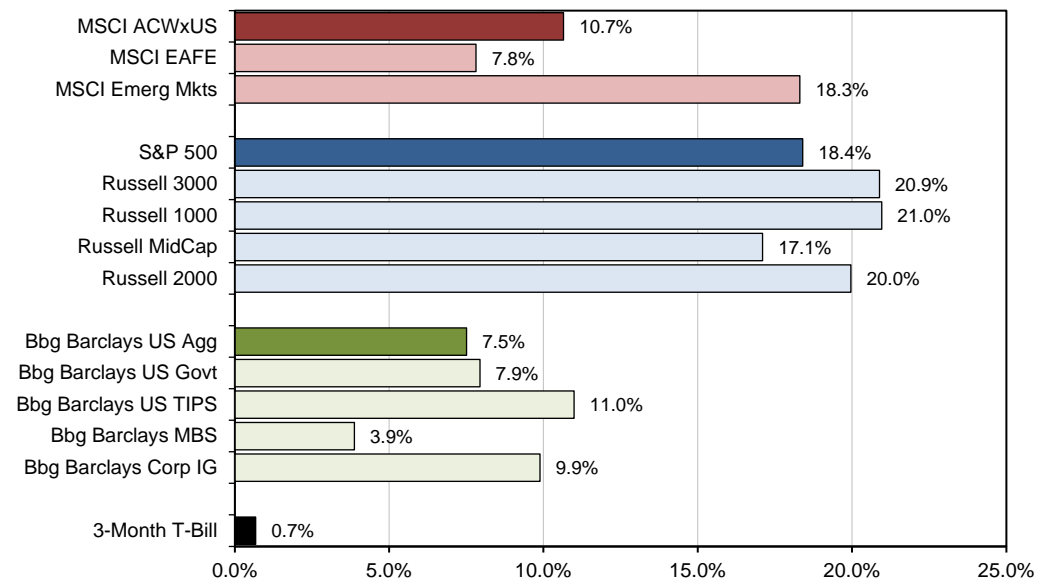


- Investment market index returns were broadly positive during the 4<sup>th</sup> quarter of 2020 except for the US Government bond benchmark. Performance during the period was largely driven by expectations related to the rollout of vaccines to treat the pandemic, the resolution of the US Presidential election, and the potential for additional government stimulus. Within domestic equity markets, there was a reversal in a recent trend with small cap stocks outperforming large cap issues. The Russell 2000 returned 31.4% compared to a 12.1% return for the S&P 500. This was the small cap benchmark's single strongest quarterly return since its inception in 1979. US equity markets ended 2020 with robust positive performance despite continued uncertainty associated with pandemic and slower than expected vaccine rollouts. For the full year, performance for domestic equities was strong across the capitalization spectrum with large cap stocks returning 18.4%, mid-caps 17.1%, and small caps 20.0%.
- Similar to domestic stocks, international equity returns were strong during the 4<sup>th</sup> quarter of 2020. International markets also benefited from the release of vaccines in addition to monetary policy relief from the European Central Bank. International returns were also amplified by a weakening US dollar which continued its decline against most major currencies. Emerging markets outperformed developed markets for the period with the MSCI Emerging Markets Index returning 19.7% compared to a return of 16.0% for the MSCI EAFE Index. Developed markets posted a modest return of 7.8% over the 1-year period while emerging markets returned a stronger 18.3%.
- Fixed income index performance was disparate during the 4<sup>th</sup> quarter. Corporate bonds performed well during the period as evidenced by the 3.0% return of the Bloomberg Barclays Corporate Investment Grade Index. In contrast, the Bloomberg Barclays US Government Bond Index returned -0.8% and was negatively affected by rising US interest rates. TIPS continued to outpace nominal bonds over concerns about rising US inflation and posted a return of 1.6% for the period. For the year, bonds posted solid returns across most sectors led by TIPS and Corporate bonds which returned 11.0% and 9.9%, respectively. For the year, the benchmark Bloomberg Barclays US Aggregate Bond Index returned a solid 7.5%.

### Quarter Performance



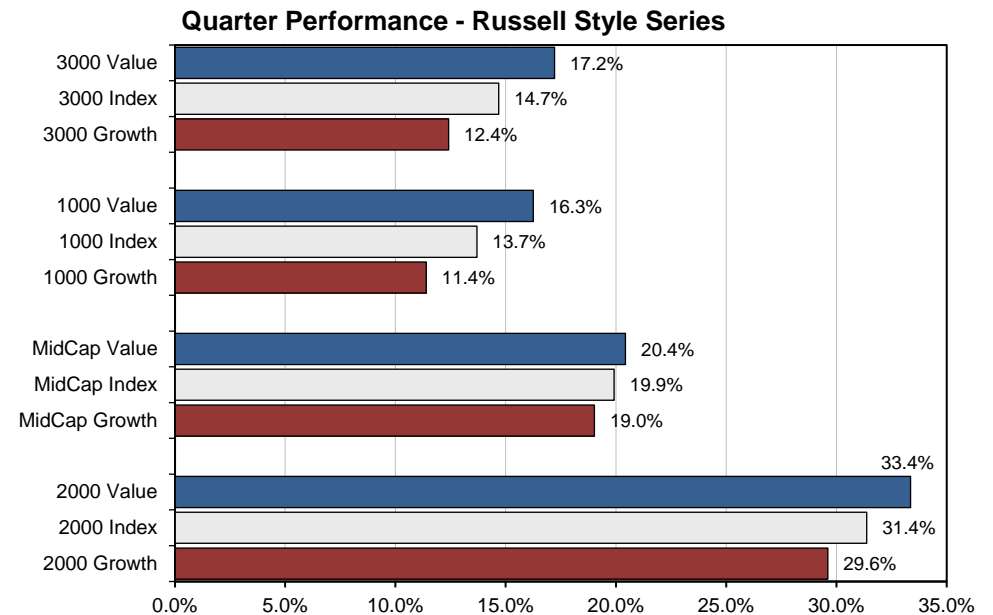
### 1-Year Performance



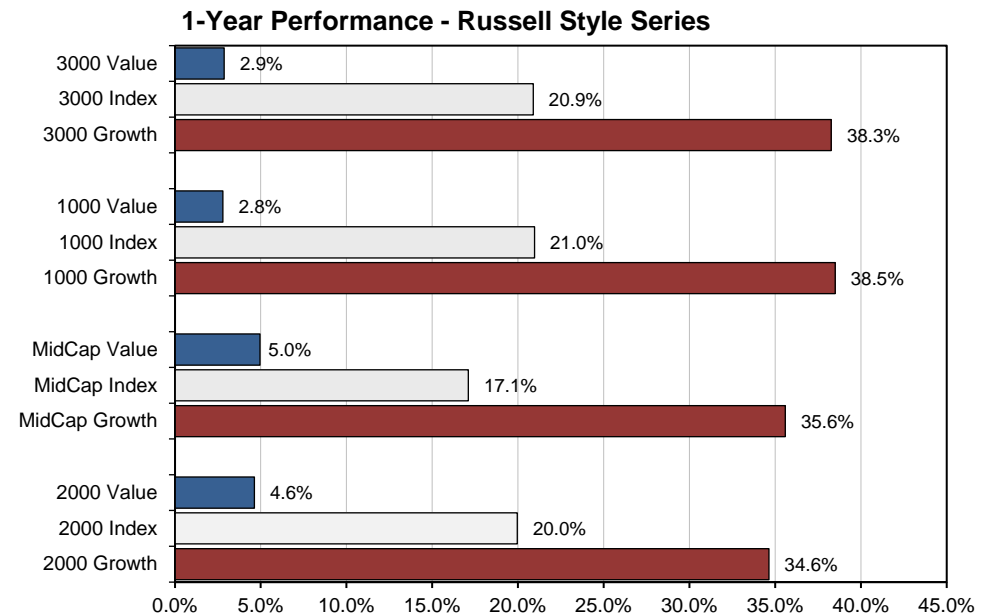
Source: Investment Metrics



- Despite 2020 experiencing one of the most dramatic drawdowns in history, US equities managed to recover all of their losses and closed the year delivering three straight quarters of strong gains across the capitalization and style spectrum. During the 4<sup>th</sup> quarter, value stocks reversed the recent trend and outperformed growth stocks across the full capitalization spectrum. It is important to note, value indexes contain large exposures to sectors like energy and financials which performed well during the 4<sup>th</sup> quarter. For the period, the Russell 2000 Value Index was the best performing style index with a return of 33.4% (also a record for the index). This performance was followed by mid and large cap value index returns of 20.4% and 16.3%, respectively. While slightly lower relative to their value counterparts, growth style benchmarks were also strong for the quarter with the small cap growth index returning 29.6% while mid and large cap growth stocks posted returns of 19.0% and 11.4%, respectively.



- Despite the 4<sup>th</sup> quarter's trend reversal, for the full year, growth-oriented stocks significantly outperformed value stocks across all market capitalizations with each growth benchmark posting returns in excess of 30.0%. The widest performance dispersion between growth and value for the year was in the large cap space with the Russell 1000 Growth Index returning 38.5%, which outpaced the large cap value benchmark by more than 35.0%. A combination of factors drove the performance of growth stocks during the year including investors seeking companies with the ability to growth revenues, structural shifts in the economy related to technologies, and momentum.

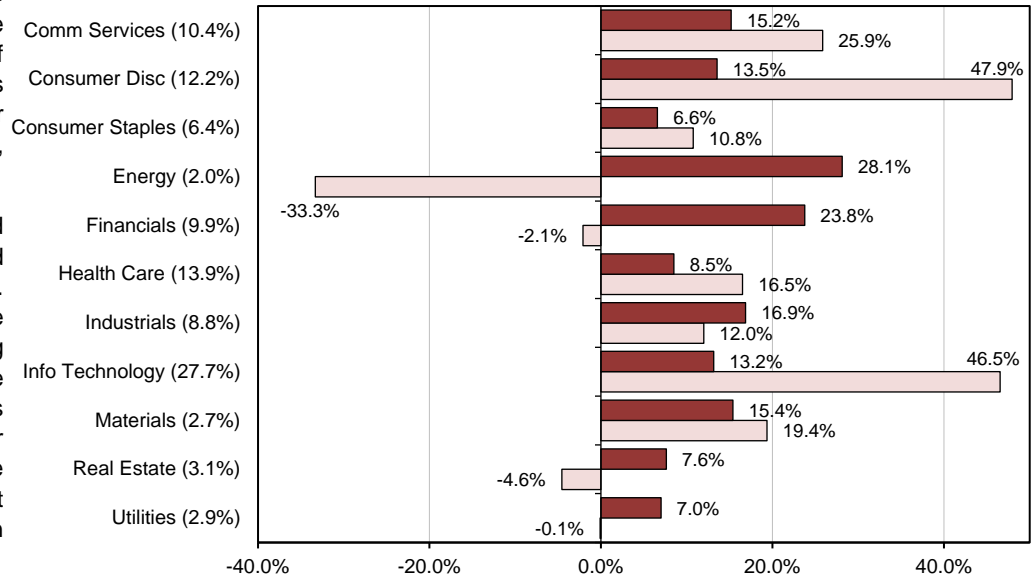


Source: Investment Metrics

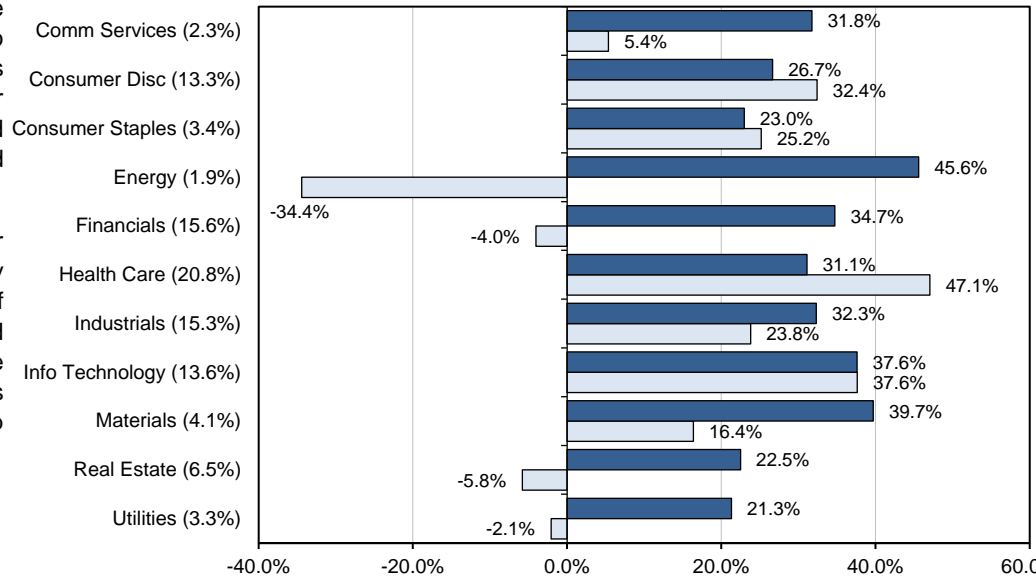


- Sector performance was positive across all eleven large cap economic sectors for the 4<sup>th</sup> quarter. However, only five sectors outpaced the return of the broader Russell 1000 Index. The positive news surrounding the release of COVID-19 vaccines provided the catalyst for cyclical sectors to rebound as expectations for economic growth improved. The best performing sectors for the quarter were energy, financials, and industrials with returns of 28.1%, 23.8%, and 16.9%, respectively.
- Over the trailing 1-year period, seven of the eleven large cap sectors produced positive results. Performance was led by the consumer discretionary and technology sectors which delivered returns of 47.9% and 46.5%, respectively. In a sign of narrow leadership, only three of the eleven sectors exceeded the return of the broad benchmark over the full year. In contrast to the strong positive performance in some sectors, four sectors that disappointed for the year were energy (-33.3%), real estate (-4.6%), financials (-2.1%), and utilities (-0.1%). The significant drawdown in energy prices earlier in the year combined with declining commercial real estate prices put downward pressure on these sectors. Finally, the staggering dispersion between the best performing (consumer discretionary) and worst-performing (energy) sectors in the large cap benchmark was in excess of 81.0% for the year.
- Quarterly results for small cap sectors were higher than their respective large capitalization counterparts. All eleven sectors posted positive returns for the period with six of eleven outpacing the Russell 2000 Index return. Similar to large caps, economically sensitive sectors such as energy (45.6%), materials (39.7%), technology (37.6%), and financials (34.7%) drove results. Sector performance was largely attributable to rising commodity prices, a continued decline in the US dollar, and expectations that global economic growth would accelerate following the rollout of vaccines.
- Over the trailing 1-year period, despite the strong broad market results, sector returns were more mixed. Negative sector performance was realized in energy (-34.4%), real estate (-5.8%), financials (-4.0%), and utilities (-2.1%). Much of the year's negative results were seen following the drawdown experienced during the 1<sup>st</sup> quarter in the initial reaction to the pandemic. In contrast, the healthcare sector delivered strong results (47.1%) for the period as investors looked for opportunities to invest in companies with the potential to develop therapeutics and treatments for COVID-19.

**Russell 1000** ■ Quarter □ 1-Year



**Russell 2000** ■ Quarter □ 1-Year



Source: Morningstar Direct  
 As a result of the GICS classification changes on 9/28/2018 and certain associated reporting limitations, sector performance represents backward looking performance for the prior year of each sector's current constituency, post creation of the Communication Services sector.



**The Market Environment**  
**Top 10 Index Weights & Quarterly Performance for the Russell 1000 & 2000**  
As of December 31, 2020

Top 10 Weighted Stocks				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Apple Inc	6.03%	14.8%	82.3%	Information Technology
Microsoft Corp	4.69%	6.0%	42.5%	Information Technology
Amazon.com Inc	3.89%	3.4%	76.3%	Consumer Discretionary
Facebook Inc A	1.85%	4.3%	33.1%	Communication Services
Tesla Inc	1.50%	64.5%	743.4%	Consumer Discretionary
Alphabet Inc A	1.48%	19.6%	30.9%	Communication Services
Alphabet Inc Class C	1.43%	19.2%	31.0%	Communication Services
Berkshire Hathaway Inc Class B	1.23%	8.9%	2.4%	Financials
Johnson & Johnson	1.17%	6.5%	10.9%	Health Care
JPMorgan Chase & Co	1.08%	33.2%	-5.5%	Financials

Top 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Nordstrom Inc	0.01%	161.8%	-22.7%	Consumer Discretionary
Coty Inc Class A	0.01%	160.0%	-36.9%	Consumer Staples
Lemonade Inc Ordinary Shares	0.00%	146.4%	N/A	Financials
Capri Holdings Ltd	0.02%	133.3%	10.1%	Consumer Discretionary
Kohl's Corp	0.02%	119.6%	-16.8%	Consumer Discretionary
Enphase Energy Inc	0.05%	112.5%	571.5%	Information Technology
Spirit AeroSystems Hldgs Inc Class A	0.01%	106.8%	-46.3%	Industrials
Olin Corp	0.01%	100.3%	50.6%	Materials
Tapestry Inc	0.02%	98.8%	17.0%	Consumer Discretionary
Eaton Vance Corp	0.02%	90.9%	60.5%	Financials

Bottom 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Zoom Video Communications Inc	0.16%	-28.2%	395.8%	Information Technology
SolarWinds Corp Ordinary Shares	0.00%	-26.5%	-19.4%	Information Technology
Beyond Meat Inc	0.02%	-24.7%	65.3%	Consumer Staples
BigCommerce Hldgs Inc Ord. Series 1	0.00%	-23.0%	N/A	Information Technology
Wayfair Inc Class A	0.04%	-22.4%	149.9%	Consumer Discretionary
Global Blood Therapeutics Inc	0.01%	-21.5%	-45.5%	Health Care
Vroom Inc Ordinary Shares	0.00%	-20.9%	N/A	Consumer Discretionary
Jamf Holding Corp Ordinary Shares	0.00%	-20.4%	N/A	Information Technology
bluebird bio Inc	0.01%	-19.8%	-50.7%	Health Care
Quidel Corp	0.02%	-18.1%	139.4%	Health Care

Top 10 Weighted Stocks				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Penn National Gaming Inc	0.54%	18.8%	237.9%	Consumer Discretionary
Caesars Entertainment Inc	0.54%	32.5%	24.5%	Consumer Discretionary
Plug Power Inc	0.51%	152.9%	973.1%	Industrials
Sunrun Inc	0.42%	-10.0%	402.4%	Industrials
Mirati Therapeutics Inc	0.38%	32.3%	70.4%	Health Care
Darling Ingredients Inc	0.37%	60.1%	105.4%	Consumer Staples
Ultragenyx Pharmaceutical Inc	0.35%	68.4%	224.1%	Health Care
Deckers Outdoor Corp	0.32%	30.3%	69.8%	Consumer Discretionary
II-VI Inc	0.31%	87.3%	125.6%	Information Technology
Arrowhead Pharmaceuticals Inc	0.31%	78.2%	21.0%	Health Care

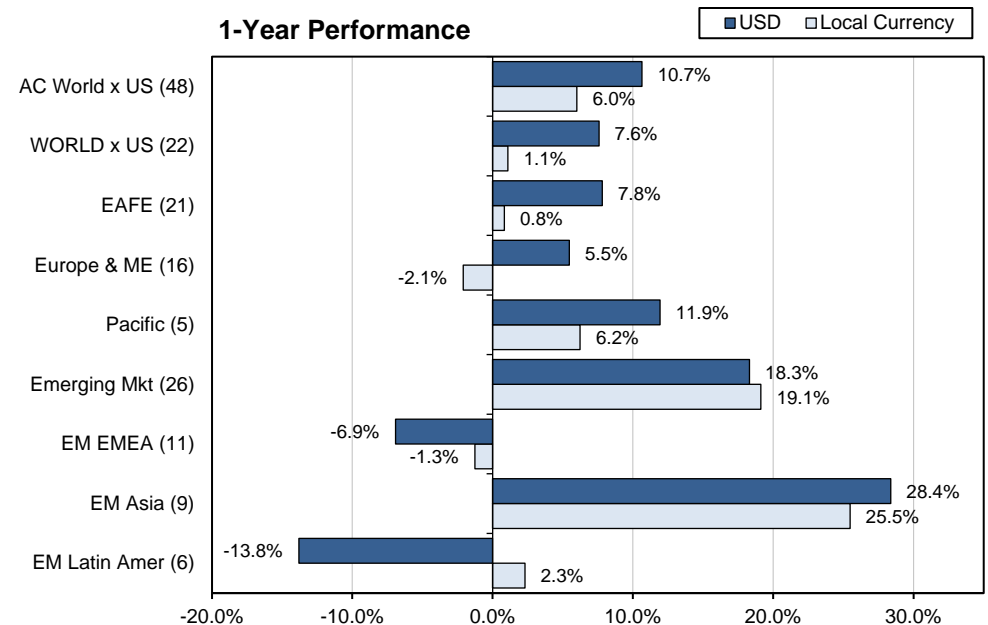
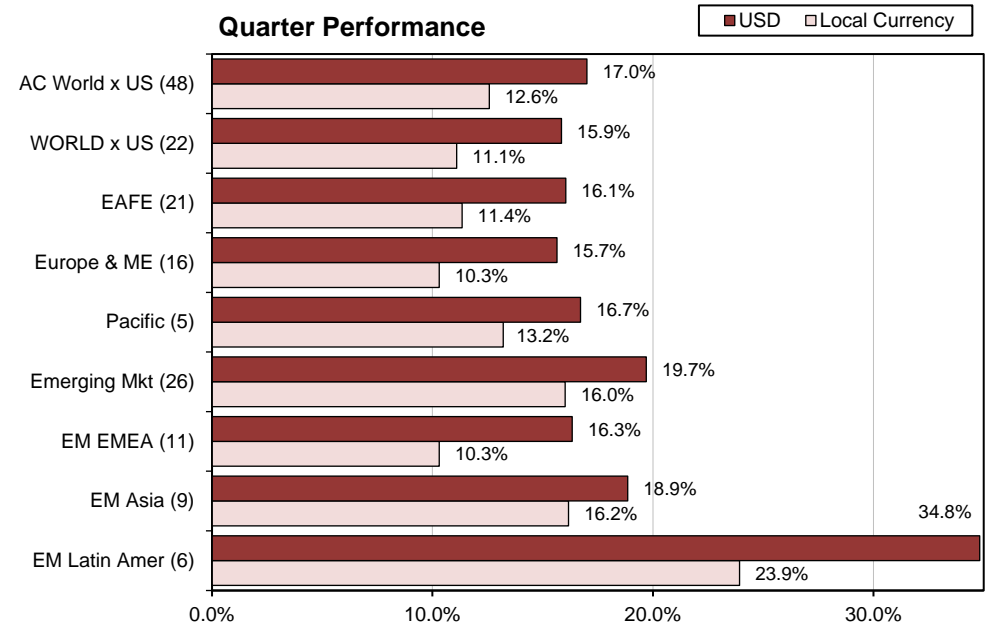
Top 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
FuelCell Energy Inc	0.13%	422.0%	345.0%	Industrials
Silvergate Capital Corp Class A	0.05%	416.0%	367.1%	Financials
Magnite Inc	0.13%	342.2%	276.3%	Consumer Discretionary
SM Energy Co	0.03%	287.3%	-44.9%	Energy
Solid Biosciences Inc	0.01%	273.4%	70.3%	Health Care
Five Prime Therapeutics Inc	0.02%	261.9%	270.6%	Health Care
Arvinas Inc	0.12%	259.7%	106.7%	Health Care
Beam Therapeutics Inc	0.13%	231.6%	N/A	Health Care
Veru Inc	0.02%	230.2%	158.2%	Consumer Staples
Clean Energy Fuels Corp	0.04%	216.9%	235.9%	Energy

Bottom 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Aprea Therapeutics Inc	0.00%	-79.6%	-89.3%	Health Care
Brainstorm Cell Therapeutics Inc	0.00%	-73.3%	5.7%	Health Care
Catabasis Pharmaceuticals Inc	0.00%	-65.4%	-63.8%	Health Care
Assembly Biosciences Inc	0.01%	-63.2%	-70.4%	Health Care
Ovid Therapeutics Inc	0.00%	-59.8%	-44.3%	Health Care
AMC Entertainment Hldgs Inc Class A	0.01%	-55.0%	-70.5%	Communication Services
Aytu BioScience Inc	0.00%	-49.7%	-38.5%	Health Care
Cyclerion Therapeutics Inc Ord. Shrs.	0.00%	-49.7%	12.5%	Health Care
iBio Inc	0.01%	-48.3%	321.7%	Health Care
Vaxcyte Inc Ordinary Shares	0.02%	-46.2%	N/A	Health Care

Source: Morningstar Direct



- Broad international equity returns were positive in both local currency and USD terms for the 4<sup>th</sup> quarter. Much like US equity markets, the international markets were positively impacted by the announcement and release of COVID-19 vaccines and benefited from additional monetary stimulus. The US dollar continued its year-to-date decline against most major currencies through the period which acted as a tailwind for US investor returns.
- For the 4<sup>th</sup> quarter, developed market equities were positive in both USD and local currency terms with the MSCI EAFE Index returning 16.1% and 11.4%, respectively. Despite several European countries reporting rising infection rates, expectations for continued economic growth and continued coordinated central bank policies, drove markets higher. In particular, the European Union approved a 1.8 trillion-euro financial package while the European Central Bank increased its asset purchases from 500 billion euros to 1.85 trillion euros with the goal of providing support to the markets and stimulating growth.
- Relative to developed markets, emerging markets significantly outperformed during the quarter as investors anticipated future economic growth would benefit companies in these markets. The MSCI Emerging Market Index returned 19.7% in USD and 16.0% in local currency terms. The relative outperformance in emerging markets was largely driven by Latin American countries, specifically Colombia, which posted an outsized return of 48.7% during the quarter. The recovery in oil prices also contributed to the region's outperformance as several Latin American countries (Brazil, Mexico, and Columbia) are highly sensitive to commodity price fluctuations.
- The trailing 1-year returns for international developed market equities were broadly positive across regions and currencies. Returns were higher in US dollar terms as the currency weakened against most major developed market currencies on concerns surrounding monetary stimulus, growth in the US debt, and uncertainty regarding the contested US election. For the period, the MSCI EAFE Index returned 7.8% in US dollar terms and 0.8% in local currency terms.
- During the trailing 1-year period, emerging markets posted strong returns in both US dollar and local currency terms. The MSCI Emerging Markets Index rose 18.3% in US dollar and 19.1% in local currency terms. Within the index, Asian countries outperformed as evidenced by the EM Asia component, which rose 28.4% US dollar terms. These countries have excelled in containing the pandemic which has led to faster local recoveries.



Source: MSCI Global Index Monitor (Returns are Net)



**The Market Environment**  
**US Dollar International Index Attribution & Country Detail**  
As of December 31, 2020

MSCI - EAFE	Sector Weight	Quarter Return	1-Year Return
Communication Services	5.2%	16.4%	12.6%
Consumer Discretionary	12.5%	22.4%	15.8%
Consumer Staples	10.9%	6.9%	5.7%
Energy	3.1%	31.2%	-27.5%
Financials	16.3%	25.4%	-3.9%
Health Care	12.9%	4.0%	11.4%
Industrials	15.2%	15.8%	10.9%
Information Technology	8.9%	16.9%	28.4%
Materials	7.9%	20.1%	20.6%
Real Estate	3.1%	14.9%	-6.9%
Utilities	3.9%	13.6%	14.2%
<b>Total</b>	<b>100.0%</b>	<b>16.1%</b>	<b>7.8%</b>

MSCI - ACWixUS	Sector Weight	Quarter Return	1-Year Return
Communication Services	7.1%	13.7%	18.9%
Consumer Discretionary	13.8%	15.9%	22.9%
Consumer Staples	8.9%	8.5%	6.7%
Energy	4.3%	22.5%	-23.5%
Financials	18.0%	24.7%	-4.5%
Health Care	9.6%	6.2%	15.4%
Industrials	11.6%	16.2%	10.8%
Information Technology	12.7%	24.7%	45.4%
Materials	8.1%	20.0%	21.2%
Real Estate	2.6%	12.6%	-9.8%
Utilities	3.3%	14.4%	9.4%
<b>Total</b>	<b>100.0%</b>	<b>17.0%</b>	<b>10.7%</b>

MSCI - Emerging Mkt	Sector Weight	Quarter Return	1-Year Return
Communication Services	11.6%	11.6%	27.5%
Consumer Discretionary	18.3%	7.6%	36.7%
Consumer Staples	5.9%	16.7%	10.7%
Energy	5.0%	14.9%	-15.4%
Financials	18.0%	24.4%	-8.2%
Health Care	4.7%	19.2%	52.8%
Industrials	4.3%	21.3%	5.0%
Information Technology	20.5%	34.2%	60.1%
Materials	7.6%	29.8%	24.8%
Real Estate	2.1%	6.1%	-16.9%
Utilities	2.0%	21.1%	-5.2%
<b>Total</b>	<b>100.0%</b>	<b>19.7%</b>	<b>18.3%</b>

Country	MSCI-EAFE Weight	MSCI-ACWixUS Weight	Quarter Return	1- Year Return
Japan	25.3%	15.8%	15.3%	14.5%
United Kingdom	14.0%	8.8%	16.9%	-10.5%
France	11.1%	6.9%	20.4%	4.1%
Switzerland	9.7%	6.0%	8.2%	11.6%
Germany	9.4%	5.9%	11.5%	11.6%
Australia	7.1%	4.4%	22.9%	8.7%
Netherlands	3.9%	2.4%	18.4%	24.2%
Sweden	3.4%	2.1%	14.4%	23.9%
Hong Kong	3.3%	2.0%	15.5%	5.8%
Denmark	2.5%	1.6%	14.0%	43.7%
Spain	2.4%	1.5%	27.7%	-4.8%
Italy	2.4%	1.5%	22.4%	1.8%
Finland	1.1%	0.7%	10.1%	20.4%
Singapore	1.1%	0.7%	18.8%	-7.5%
Belgium	1.0%	0.6%	18.3%	-8.1%
Ireland	0.7%	0.4%	13.0%	15.1%
Israel	0.6%	0.4%	19.3%	15.0%
Norway	0.6%	0.4%	18.8%	-1.8%
New Zealand	0.3%	0.2%	13.2%	19.9%
Austria	0.2%	0.1%	47.3%	-3.3%
Portugal	0.2%	0.1%	21.6%	14.4%
<b>Total EAFE Countries</b>	<b>100.0%</b>	<b>62.5%</b>	<b>16.1%</b>	<b>7.8%</b>
Canada		6.3%	13.9%	5.3%
<b>Total Developed Countries</b>		<b>68.8%</b>	<b>15.9%</b>	<b>7.6%</b>
China		12.2%	11.2%	29.5%
Korea		4.2%	38.3%	44.6%
Taiwan		4.0%	23.2%	41.0%
India		2.9%	21.0%	15.6%
Brazil		1.6%	37.0%	-19.0%
South Africa		1.1%	22.1%	-4.0%
Russia		0.9%	21.6%	-12.5%
Saudi Arabia		0.8%	6.5%	0.7%
Thailand		0.6%	25.5%	-11.7%
Mexico		0.5%	31.0%	-1.9%
Malaysia		0.5%	10.1%	3.7%
Indonesia		0.4%	31.8%	-8.1%
Philippines		0.2%	22.2%	-3.4%
Qatar		0.2%	2.4%	-2.4%
Poland		0.2%	16.5%	-11.4%
Chile		0.2%	28.5%	-5.6%
United Arab Emirates		0.2%	10.6%	-0.9%
Turkey		0.1%	30.3%	-8.8%
Peru		0.1%	29.9%	-4.7%
Hungary		0.1%	39.2%	-11.7%
Colombia		0.1%	48.7%	-19.0%
Argentina		0.0%	21.2%	12.7%
Czech Republic		0.0%	34.1%	-4.0%
Greece		0.0%	16.4%	-26.9%
Egypt		0.0%	-5.0%	-22.5%
Pakistan		0.0%	7.7%	-17.1%
<b>Total Emerging Countries</b>		<b>31.0%</b>	<b>19.7%</b>	<b>18.3%</b>
<b>Total ACWixUS Countries</b>		<b>100.0%</b>	<b>17.0%</b>	<b>10.7%</b>

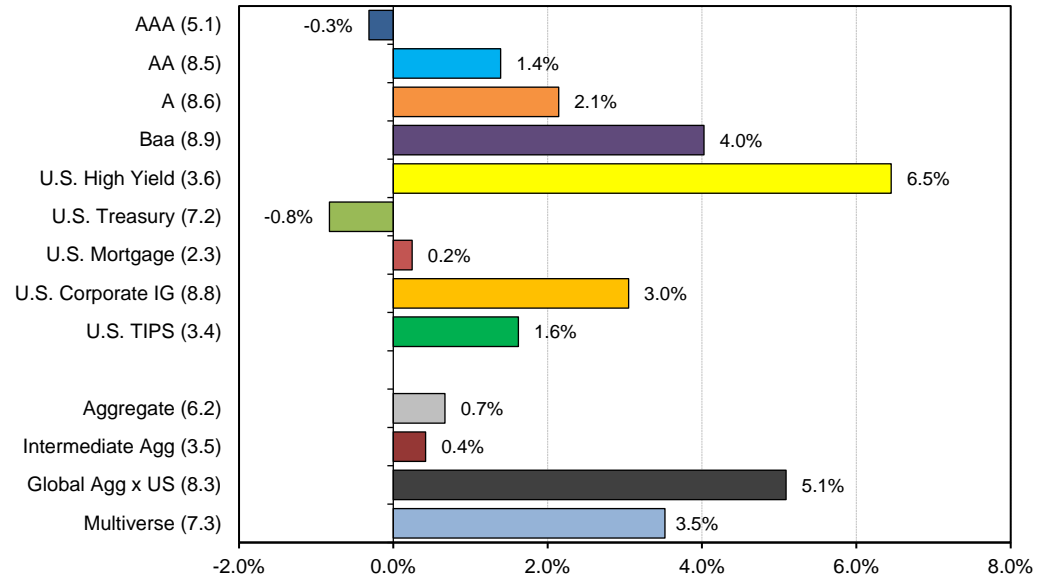
Source: Morningstar Direct, MSCI Global Index Monitor (Returns are Net in USD)  
As a result of the GICS classification changes on 9/28/2018 and certain associated reporting limitations, sector performance represents backward looking performance for the prior year of each sector's current constituency, post creation of the Communication Services sector.



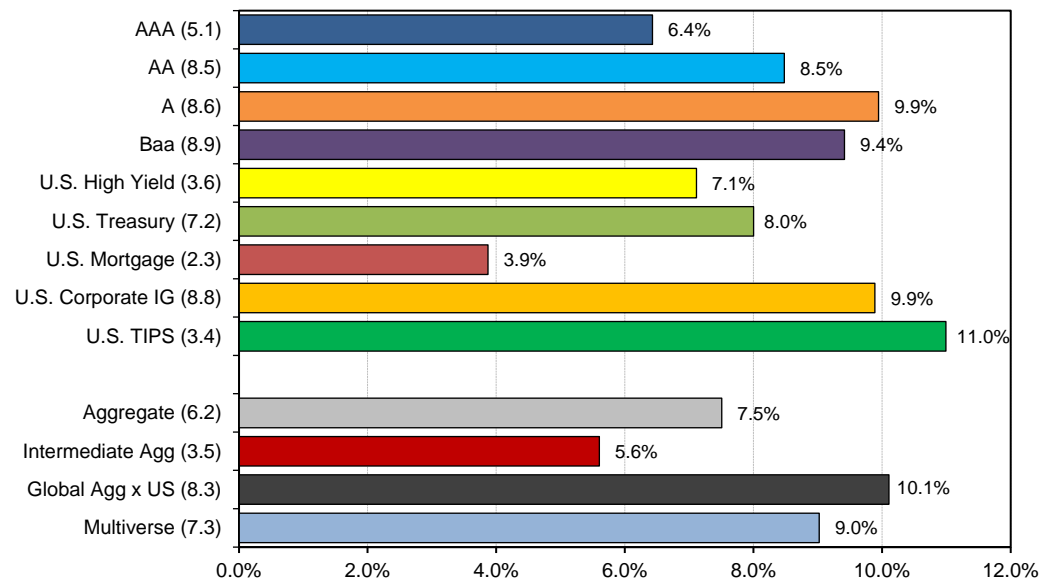


- During the 4<sup>th</sup> quarter, lower-quality bonds significantly outpaced higher-quality issues as investors continued to search for higher-yielding assets and became more comfortable accepting higher risk. For the quarter, the best performing category was high yield bonds which returned 6.5% and the laggard was US Treasury bonds which declined -0.8%. Returns of both US High Yield and Investment Grade Corporate bonds were driven by rising expectations of future US economic growth. Global bonds delivered a solid quarter returning 5.1% with results primarily attributable to a weakening US dollar. Finally, US TIPS increased 1.6% as inflation expectations rose during the period. During the quarter, the broad Bloomberg Barclays US Aggregate Index returned a slim 0.7%. While the return of the index was positive for the period, the performance of both US Treasury and mortgage bonds were a drag on results. US interest rates also began to rise during the period which acted as a general headwind to bond performance. With the duration of the broad index now over six years, any meaningful rise in interest rates will likely have a negative impact on future performance.
- Similar to stocks, over the trailing 1-year period bond markets experienced strong results despite some indices suffering significant drawdowns during the 1<sup>st</sup> quarter. Generally, lower-quality bonds outperformed higher-quality issues for the period, US Corporate Investment Grade bonds still delivered an equity-like 9.9% return for the year and US Treasury bonds managed a solid return of 8.0%. While High Yield bonds also delivered positive results, the benchmark lagged higher-quality issues due to the 1<sup>st</sup> quarter's selloff. For the year, both Investment Grade and High Yield spreads relative to US Treasury bonds narrowed, which provided a boost to non-Treasury results. Finally, US TIPS were the best performing segment of the market rising 11.0% for the year on expectations of future inflation resulting from accelerating economic growth.
- For the year, global bonds also performed well. The Bloomberg Barclays Global Aggregate Bond Index returned 10.1%, outpacing the domestic Bloomberg Barclays US Aggregate Index's return of 7.5%. Some of the relative outperformance of global bonds can be attributed to the decline in the US dollar relative to other currencies. Additionally, US interest rates began to rise later in the year which negatively contributed to performance while global Treasury bond rates remained largely steady.

**Quarter Performance**



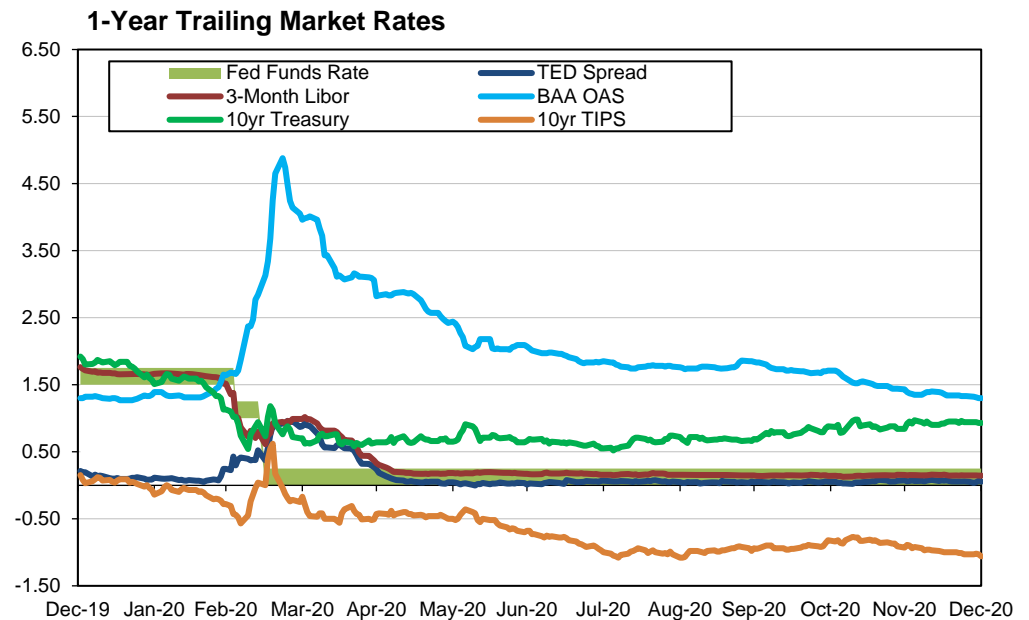
**1-Year Performance**



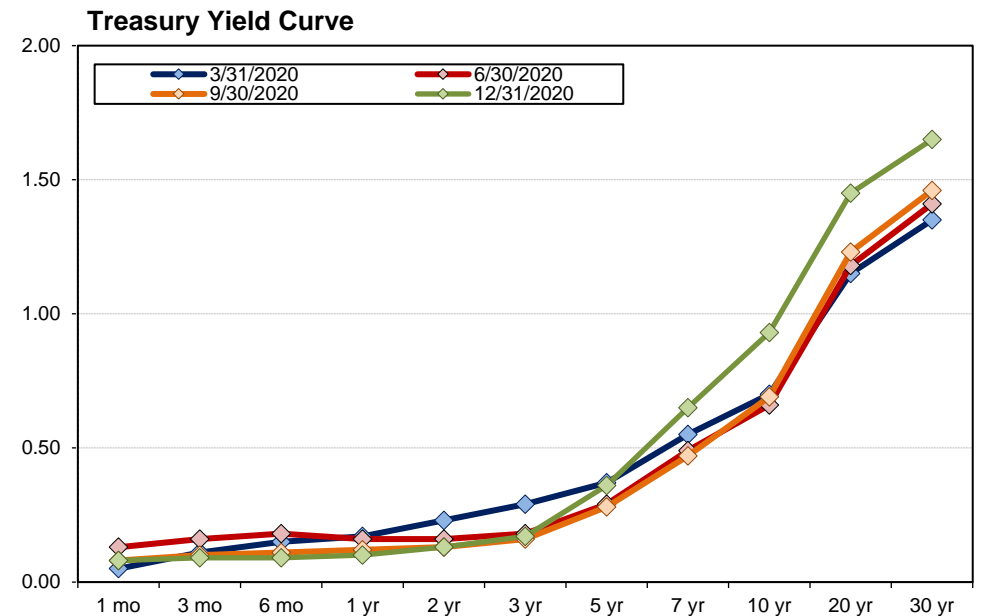
Source: Bloomberg



- Much of the index performance detailed in the bar graphs on the previous page is visible on a time series basis by reviewing the yield graph to the right. The "1-Year Trailing Market Rates" chart illustrates that over the last year, the US 10-year Treasury (green line) fell from yields of greater than 1.5% to a low of roughly 0.5%, before ending the year slightly higher than 0.9%. During the year, US interest rates declined significantly following the onset of the pandemic and the response from the US Federal Reserve Bank (Fed) to lower rates back near zero. During the 4<sup>th</sup> quarter, US interest rates began to rise in anticipation of higher US economic growth. The blue line illustrates changes in the BAA OAS (Option Adjusted Spread). This measure quantifies the additional yield premium that investors require to purchase and hold non-Treasury investment grade issues. The line illustrates the dramatic increase in credit spreads during the 1<sup>st</sup> quarter as global economic growth collapsed. Since that time, credit spreads have steadily declined as concerns over potential widespread defaults have subsided. The green band across the graph illustrates the Fed Fund Rate. At the beginning of 2020 the rate range was 1.50%-1.75% however, as a result of the pandemic, the Fed cut the range to 0.00%-0.25%, where it remained at the end of the 4<sup>th</sup> quarter. The Fed has indicated a willingness to keep US interest rates lower in an effort to supply the market with liquidity and help stimulate growth.



- The lower graph provides a snapshot of the US Treasury yield curve at the end of each of the last four quarters. While short-term US interest rates have remained largely unchanged throughout the year, longer-term interest rates began moving higher during the 4<sup>th</sup> quarter. The combination of additional fiscal stimulus, increased US Treasury issuance, and expectations for increasing inflation, all contributed to higher long-term rates. Importantly, the Fed has stated that it is comfortable allowing US inflation to exceed its 2% target in the near-term in an effort to achieve a long-term average of 2% inflation. This approach, combined with the need to dramatically increase debt issuance to supply fiscal stimulus, could result in higher US interest rates as markets normalize.

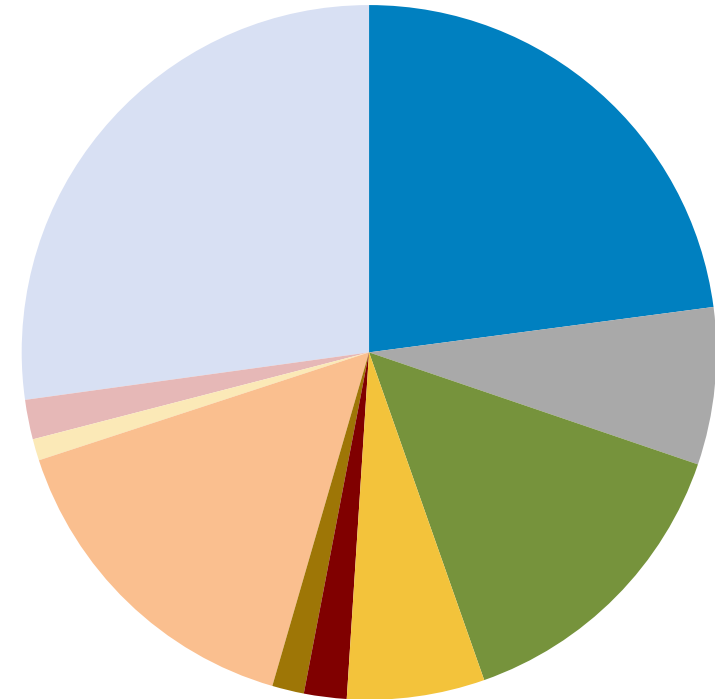
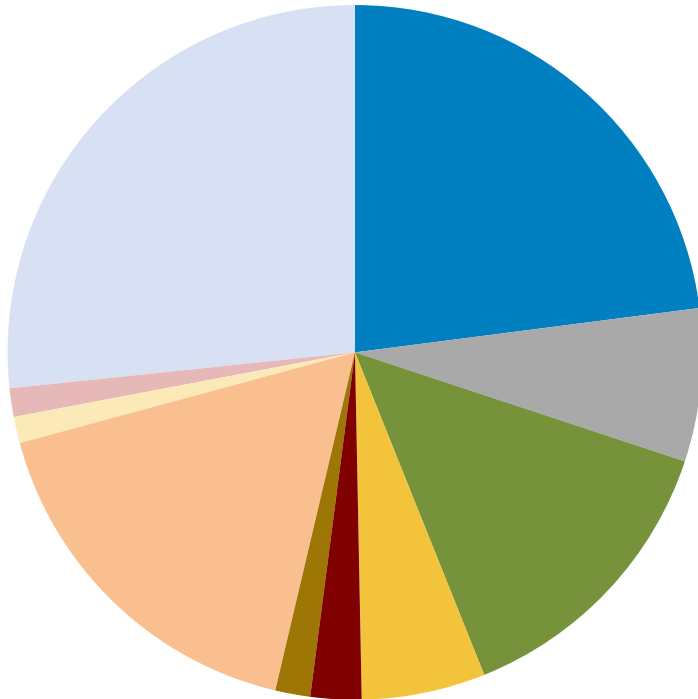


Source: US Department of Treasury, FRED (Federal Reserve of St. Louis)



December 31, 2019 : \$271,807,503

December 31, 2020 : \$304,210,921



Asset Allocation by Segment

Segments	Market Value	Allocation
Domestic Equity	62,403,683	23.0
International Equity	19,359,219	7.1
Global Equity	37,649,941	13.9
Domestic Fixed Income	15,665,642	5.8
Loans	6,429,710	2.4
Other Fixed Income	4,415,812	1.6
VT Plus	46,505,893	17.1
Real Estate	3,329,541	1.2
Cash	3,612,181	1.3
Balanced	72,435,880	26.6

Asset Allocation by Segment

Segments	Market Value	Allocation
Domestic Equity	69,703,147	22.9
International Equity	22,233,405	7.3
Global Equity	43,813,932	14.4
Domestic Fixed Income	19,475,505	6.4
Loans	6,034,346	2.0
Other Fixed Income	4,507,709	1.5
VT Plus	47,105,931	15.5
Real Estate	3,049,692	1.0
Cash	5,591,205	1.8
Balanced	82,696,049	27.2



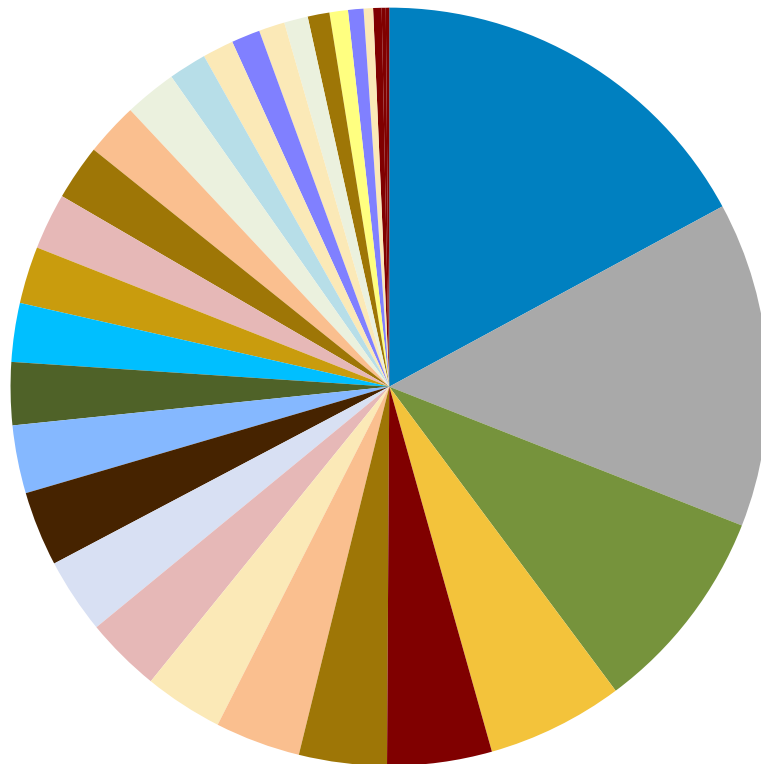
**Asset Allocation By Manager**

**457 Total Fund**

**As of December 31, 2020**

**December 31, 2019 : \$271,807,503**

**Allocation**



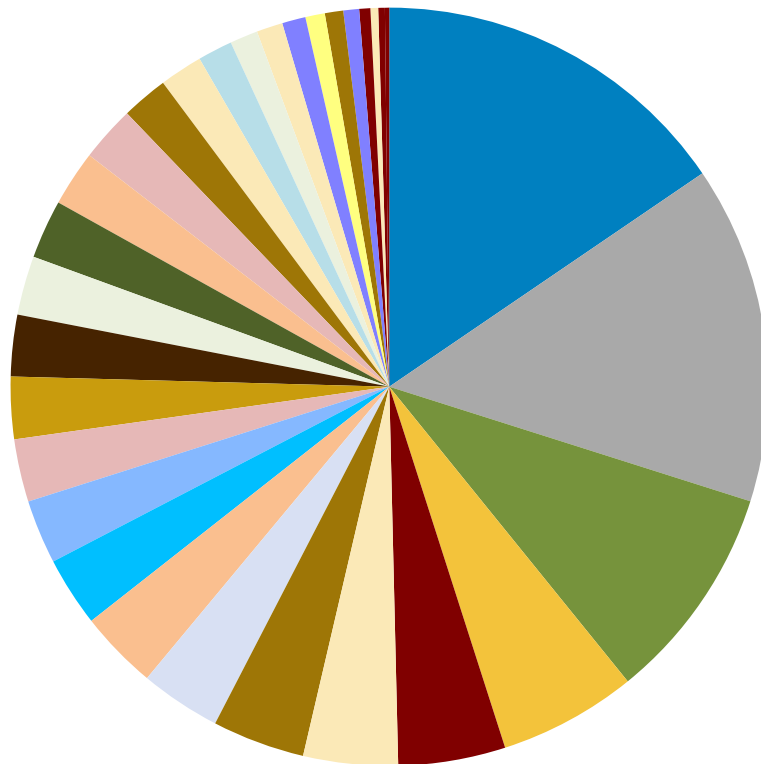
	<b>Market Value</b>	<b>Allocation</b>
Vantage Trust PLUS Fund R10	46,505,893	17.1
American Funds The New Economy Fund (RNGHX)	37,649,941	13.9
Vanguard Institutional Index (VINIX)	24,040,957	8.8
TIAA-CREF Lifecycle 2035 (TCYPX)	15,842,004	5.8
TIAA-CREF Lifecycle 2030 (TCHPX)	12,126,388	4.5
TIAA-CREF Lifecycle 2040 (TCZPX)	10,179,840	3.7
TIAA-CREF Lifecycle 2025 (TCQPX)	9,900,808	3.6
Metropolitan West Total Return Bond (MWTIX)	9,135,055	3.4
Goldman Sachs Small Cap Value (GSSIX)	8,752,131	3.2
Carillon Scout Mid Cap (UMBMX)	8,737,401	3.2
Invesco Diversified Dividend (DDFIX)	8,674,588	3.2
TIAA-CREF International Equity Index (TRIPX)	7,877,964	2.9
TIAA-CREF Lifecycle 2020 (TCWPIX)	7,271,216	2.7
American Funds SmallCap World Fund (RSLDX)	6,812,415	2.5
TIAA-CREF Lifecycle 2045 (TTFPX)	6,612,311	2.4
Vanguard Total Bond Market Index (VBTLX)	6,530,587	2.4
Loan Fund	6,429,710	2.4
Vanguard Mid-Cap Index Fund (VIMAX)	6,170,288	2.3
Vanguard Small-Cap Index Fund (VSMAX)	6,028,319	2.2
BlackRock High Yield Bond (BHYIX)	4,415,812	1.6
Vanguard Treasury Money Market (VUSXX)	3,612,181	1.3
DFA Real Estate (DFREX)	3,329,541	1.2
TIAA-CREF Lifecycle 2015 (TCFPX)	3,005,400	1.1
TIAA-CREF Lifecycle 2050 (TCLPX)	2,762,647	1.0
Lazard International Equity R6 (LZIEX)	2,524,563	0.9
DFA Emerging Markets Small Cap (DEMSX)	2,144,277	0.8
TIAA-CREF Lifecycle 2010 (TCTPX)	1,773,828	0.7
TIAA-CREF Lifecycle Retirement Income (TPILX)	1,110,008	0.4
TIAA-CREF Lifecycle 2055 (TTRPX)	975,229	0.4
TIAA-CREF Self Directed	466,712	0.2
TIAA-CREF Lifecycle 2060 (TLXPX)	409,490	0.2



**Asset Allocation By Manager**  
**457 Total Fund**  
**As of December 31, 2020**

December 31, 2020 : \$304,210,921

**Allocation**



	Market Value	Allocation
Vantage Trust PLUS Fund R10	47,105,931	15.5
American Funds The New Economy Fund (RNGHX)	43,813,932	14.4
Vanguard Institutional Index (VINIX)	28,221,710	9.3
TIAA-CREF Lifecycle 2035 (TCYPX)	17,910,369	5.9
TIAA-CREF Lifecycle 2030 (TCHPX)	13,910,739	4.6
Metropolitan West Total Return Bond (MWTIX)	12,268,118	4.0
TIAA-CREF Lifecycle 2040 (TCZPX)	12,000,486	3.9
Carillon Scout Mid Cap (UMBMX)	10,486,363	3.4
TIAA-CREF Lifecycle 2025 (TCQPX)	10,218,499	3.4
American Funds SmallCap World Fund (RSLDX)	9,015,541	3.0
TIAA-CREF International Equity Index (TRIPX)	8,307,253	2.7
Goldman Sachs Small Cap Value (GSSIX)	8,146,695	2.7
TIAA-CREF Lifecycle 2045 (TTFPX)	8,064,785	2.7
Invesco Diversified Dividend (DDFIX)	7,972,057	2.6
Vanguard Small-Cap Index Fund (VSMAX)	7,657,345	2.5
TIAA-CREF Lifecycle 2020 (TCWPIX)	7,636,443	2.5
Vanguard Mid-Cap Index Fund (VIMAX)	7,218,976	2.4
Vanguard Total Bond Market Index (VBTLX)	7,207,387	2.4
Loan Fund	6,034,346	2.0
Vanguard Treasury Money Market (VUSXX)	5,591,205	1.8
BlackRock High Yield Bond (BHYIX)	4,507,709	1.5
TIAA-CREF Lifecycle 2050 (TCLPX)	3,631,761	1.2
TIAA-CREF Lifecycle 2015 (TCFPX)	3,404,327	1.1
DFA Real Estate (DFREX)	3,049,692	1.0
DFA Emerging Markets Small Cap (DEMSX)	2,528,989	0.8
Lazard International Equity R6 (LZIEX)	2,381,622	0.8
TIAA-CREF Lifecycle 2010 (TCTPX)	2,056,643	0.7
TIAA-CREF Lifecycle 2055 (TTRPX)	1,428,601	0.5
TIAA-CREF Lifecycle Retirement Income (TPILX)	1,007,525	0.3
TIAA-CREF Self Directed	856,475	0.3
TIAA-CREF Lifecycle 2060 (TLXPX)	569,396	0.2



Domestic Equity Funds	Style Category	Market Value	Expense Ratio	Category Average Exp Ratio	Rolling 3 Year top half of peers	4 Quarters top half of peers	7 of last 12 quarters top half of peers	On Watch List
Invesco Diversified Dividend (DDFIX)	Large Value	\$7,972,057	0.51	0.85	No	No	No	Yes
Vanguard Institutional Index (VINIX)	Large Blend	\$28,221,710	0.04	0.85	-	-	-	No
Vanguard Mid-Cap Index (VIMAX)	Mid Cap Blend	\$7,218,976	0.05	1.00	-	-	-	No
Carillon Scout Mid-Cap (UMBXM)	Mid Cap Blend	\$10,486,363	0.98	1.00	Yes	Yes	Yes	No
Goldman Sachs Small Cap Value (GSSIX)	Small-Cap Value	\$8,146,695	0.95	1.09	Yes	Yes	Yes	No
Vanguard Small-Cap Index (VSMAX)	Small-Cap Blend	\$7,657,345	0.05	1.09	-	-	-	No

International Equity Funds	Style Category	Market Value	Expense Ratio	Category Average Exp Ratio	Rolling 3 Year top half of peers	4 Quarters top half of peers	7 of last 12 quarters top half of peers	On Watch List
TIAA-CREF International Equity (TRIPX)	Foreign Large Blend	\$8,307,253	0.21	0.95	Yes	Yes	Yes	No
Amer Funds The New Economy (RNGHX)	Global Blend	\$43,813,932	0.57	0.85	Yes	N/A	N/A	No
Lazard International Equity R6 (LZIEIX)	Foreign Large Blend	\$2,381,622	0.82	0.95	Yes	Yes	No	No
Amer Funds SmallCap World (RSLDX)	Foreign Small Blend	\$9,015,541	0.83	1.04	Yes	N/A	N/A	No
DFA Emerging Markets Small Cap (DEMSX)	Diversified Emerging Mkts	\$2,528,989	0.67	1.20	No	No	No	No

Fixed Income & Other Funds	Style Category	Market Value	Expense Ratio	Category Average Exp Ratio	Rolling 3 Year top half of peers	4 Quarters top half of peers	7 of last 12 quarters top half of peers	On Watch List
Vanguard Total Bond Market (VBTLX)	Intermediate-Term Bond	\$7,207,387	0.05	0.60	-	-	-	No
Metropolitan West Total Return (MWTIX)	Intermediate-Term Bond	\$12,268,118	0.46	0.60	Yes	Yes	Yes	No
BlackRock High Yield Bond (BHYIX)	High Yield Bond	\$4,507,709	0.62	0.86	Yes	Yes	Yes	No
DFA Real Estate (DFREX)	Real Estate	\$3,049,692	0.18	1.00	Yes	Yes	Yes	No



Funds	Style Category	Market Value	Expense Ratio	Category Average Exp Ratio	Rolling 3 Year top half of peers	4 Quarters top half of peers	7 of last 12 quarters top half of peers	On Watch List
TIAA-CREF Lifecycle Retirement (TPILX)	Retirement Income	\$1,007,525	0.52	0.93	Yes	Yes	Yes	No
TIAA-CREF Lifecycle 2010 (TCTPX)	Target Date 2000-2010	\$2,056,643	0.52	0.49	Yes	Yes	Yes	No
TIAA-CREF Lifecycle 2015 (TCFPX)	Target Date 2011-2015	\$3,404,327	0.53	0.55	Yes	Yes	Yes	No
TIAA-CREF Lifecycle 2020 (TCWPX)	Target Date 2016-2020	\$7,636,443	0.54	0.61	Yes	Yes	Yes	No
TIAA-CREF Lifecycle 2025 (TCQPX)	Target Date 2021-2025	\$10,218,499	0.56	0.64	Yes	Yes	Yes	No
TIAA-CREF Lifecycle 2030 (TCHPX)	Target Date 2026-2030	\$13,910,739	0.57	0.67	Yes	Yes	Yes	No
TIAA-CREF Lifecycle 2035 (TCYPX)	Target Date 2031-2035	\$17,910,369	0.58	0.65	Yes	Yes	Yes	No
TIAA-CREF Lifecycle 2040 (TCZPX)	Target Date 2036-2040	\$12,000,486	0.59	0.68	Yes	Yes	Yes	No
TIAA-CREF Lifecycle 2045 (TTFPX)	Target Date 2041-2045	\$8,064,785	0.60	0.67	Yes	Yes	Yes	No
TIAA-CREF Lifecycle 2050 (TCLPX)	Target Date 2046-2050	\$3,631,761	0.60	0.70	Yes	Yes	Yes	No
TIAA-CREF Lifecycle 2055 (TTRPX)	Target-Date 2055	\$1,428,601	0.60	0.68	Yes	Yes	Yes	No
TIAA-CREF Lifecycle 2060 (TLXPX)	Target-Date 2060+	\$569,396	0.60	0.68	Yes	Yes	Yes	No

**Investment Policy Statement (IPS) Criteria**

Rolling 3 year average > 50 percentile

4 consecutive quarters > 50% (Rolling 3yrs)

7 of last 12 quarters >50% (Rolling 3yrs)

Fund meets criteria
Fails one or more quantitative criteria
Fails one or more quantitative criteria; corrective action recommended



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	4th Quarter 2020	3rd Quarter 2020	2nd Quarter 2020	1st Quarter 2020	4th Quarter 2019
Total Assets (\$M)	\$304.2	\$277.4	\$265.8	\$234.1	\$271.8
Contributions	\$3,398,387	\$2,900,454	\$3,300,413	\$2,995,895	\$3,101,641
Transfers In	\$763,309	\$666,185	\$951,617	\$0	\$3,923,964
Distributions	\$6,981,160	\$6,227,510	\$5,057,605	\$2,100,132	\$2,493,798
Rollovers Out	\$3,960,000	\$1,325,434	\$2,065,483	\$2,367,112	\$1,284,635
Transfers Out	\$183,853	\$46,108	\$12,333	\$0	\$0
New Loans	\$330,253	\$647,314	\$375,427	\$653,829	\$656,869
No. of New Loans	33	44	24	49	46
Excess Plan Revenue Acct	\$68,886	\$68,912	\$68,904	\$68,720	\$78,756
Participants Contributing	2,992	2,990	3,006	3,015	2,988

Estimated amounts provided by TIAA



Asset Allocation & Performance													
	Allocation		Performance(%)										
	Market Value \$	%	QTR	YTD	1 YR	3 YR	5 YR	7 YR	10 YR				
<b>457 Total Fund</b>	<b>304,210,921</b>	<b>100.0</b>											
<b>Domestic Equity</b>													
Invesco Diversified Dividend (DDFIX)	7,972,057	2.6	13.73 (77)	0.44 (79)	0.44 (79)	5.23 (61)	7.72 (88)	7.53 (53)	9.73 (51)				
Russell 1000 Value Index			16.25 (43)	2.80 (48)	2.80 (48)	6.07 (47)	9.74 (38)	8.20 (33)	10.50 (26)				
IM U.S. Large Cap Value Equity (MF) Median			15.77	2.62	2.62	5.82	9.28	7.59	9.74				
Vanguard Institutional Index (VINIX)	28,221,710	9.3	12.15 (48)	18.39 (40)	18.39 (40)	14.15 (30)	15.19 (20)	12.89 (17)	13.86 (15)				
S&P 500 Index			12.15 (48)	18.40 (40)	18.40 (40)	14.18 (30)	15.22 (20)	12.92 (15)	13.88 (13)				
IM U.S. Large Cap Core Equity (MF) Median			12.02	16.00	16.00	12.44	13.57	11.40	12.40				
Vanguard Mid-Cap Index Fund (VIMAX)	7,218,976	2.4	18.02 (68)	18.24 (20)	18.24 (20)	12.04 (11)	13.28 (17)	11.13 (10)	12.40 (7)				
Vanguard Spliced Mid Cap Index			18.03 (67)	18.24 (20)	18.24 (20)	12.06 (10)	13.30 (15)	11.17 (8)	12.44 (6)				
IM U.S. Mid Cap Core Equity (MF) Median			19.40	10.02	10.02	7.85	10.12	7.86	9.70				
Carillon Scout Mid Cap (UMBMX)	10,486,363	3.4	21.64 (30)	27.27 (7)	27.27 (7)	11.52 (17)	15.27 (8)	11.54 (5)	12.55 (5)				
Russell Midcap Index			19.91 (46)	17.10 (25)	17.10 (25)	11.61 (15)	13.40 (14)	10.96 (13)	12.41 (7)				
IM U.S. Mid Cap Core Equity (MF) Median			19.40	10.02	10.02	7.85	10.12	7.86	9.70				
Goldman Sachs Small Cap Value (GSSIX)	8,146,695	2.7	31.58 (55)	2.06 (66)	2.06 (66)	2.62 (43)	8.64 (36)	6.32 (23)	9.62 (12)				
Russell 2000 Value Index			33.36 (38)	4.63 (42)	4.63 (42)	3.72 (31)	9.65 (26)	6.25 (24)	8.66 (25)				
IM U.S. Small Cap Value Equity (MF) Median			32.34	3.84	3.84	2.15	7.82	4.91	7.93				
Vanguard Small-Cap Index Fund (VSMAX)	7,657,345	2.5	27.10 (68)	19.11 (18)	19.11 (18)	11.22 (7)	13.60 (6)	10.09 (4)	12.01 (5)				
Vanguard Spliced Small Cap Index			27.10 (68)	19.07 (18)	19.07 (18)	11.20 (7)	13.58 (6)	10.07 (4)	11.98 (6)				
IM U.S. Small Cap Core Equity (MF) Median			28.43	10.36	10.36	6.28	10.35	7.28	9.52				
<b>International Equity/Global Equity</b>													
TIAA-CREF International Equity Index (TRIPX)	8,307,253	2.7	15.79 (55)	8.01 (54)	8.01 (54)	4.39 (42)	7.55 (34)	4.37 (24)	5.54 (11)				
MSCI EAFE (Net) Index			16.05 (51)	7.82 (55)	7.82 (55)	4.28 (45)	7.45 (35)	4.39 (24)	5.51 (11)				
IM International Large Cap Core Equity (MF) Median			16.08	8.50	8.50	4.18	6.68	3.25	4.58				
American Funds The New Economy Fund (RNGHX)	43,813,932	14.4	16.41 (41)	33.72 (20)	33.72 (20)	17.58 (15)	17.51 (11)	N/A	N/A				
MSCI AC World Index (Net)			14.68 (53)	16.25 (45)	16.25 (45)	10.06 (44)	12.26 (38)	8.87 (42)	9.13 (48)				
IM Global Equity (MF) Median			15.08	15.25	15.25	8.91	10.63	8.10	8.90				
Lazard International Equity R6 (LZIEIX)	2,381,622	0.8	15.34 (64)	8.76 (47)	8.76 (47)	4.42 (42)	6.03 (60)	3.86 (36)	6.02 (4)				
MSCI EAFE (Net) Index			16.05 (51)	7.82 (55)	7.82 (55)	4.28 (45)	7.45 (35)	4.39 (24)	5.51 (11)				
IM International Large Cap Core Equity (MF) Median			16.08	8.50	8.50	4.18	6.68	3.25	4.58				



	Allocation		Performance(%)									
	Market Value \$	%	QTR	YTD	1 YR	3 YR	5 YR	7 YR	10 YR			
American Funds SmallCap World Fund (RSLDX)	9,015,541	3.0	22.14 (44)	37.73 (26)	37.73 (26)	17.78 (14)	17.07 (19)	N/A	N/A			
MSCI World Small Cap (Net)			23.85 (28)	15.96 (63)	15.96 (63)	8.02 (70)	11.75 (68)	8.50 (53)	9.62 (60)			
IM Global SMID Cap Equity (MF) Median			21.86	24.11	24.11	13.08	14.62	8.64	10.64			
DFA Emerging Markets Small Cap (DEMSX)	2,528,989	0.8	19.43 (44)	13.80 (68)	13.80 (68)	2.53 (82)	10.09 (75)	6.17 (44)	3.74 (47)			
MSCI Emerging Markets Small Cap (Net)			22.22 (17)	19.29 (42)	19.29 (42)	2.69 (81)	8.19 (87)	4.87 (69)	2.29 (77)			
IM Emerging Markets Equity (MF) Median			19.11	17.49	17.49	5.56	11.74	5.85	3.60			
<b>Fixed Income &amp; Other</b>												
Vanguard Total Bond Market Index (VBTLX)	7,207,387	2.4	0.67 (88)	7.72 (65)	7.72 (65)	5.40 (49)	4.46 (59)	4.07 (49)	3.80 (60)			
Blmbg. Barc. U.S. Aggregate Index			0.67 (88)	7.51 (72)	7.51 (72)	5.34 (53)	4.44 (61)	4.09 (48)	3.84 (56)			
IM U.S. Broad Market Core Fixed Income (MF) Median			1.36	8.19	8.19	5.38	4.56	4.05	3.91			
Metropolitan West Total Return Bond (MWTIX)	12,268,118	4.0	1.20 (61)	9.12 (26)	9.12 (26)	6.04 (18)	4.79 (38)	4.30 (29)	4.74 (6)			
Blmbg. Barc. U.S. Aggregate Index			0.67 (88)	7.51 (72)	7.51 (72)	5.34 (53)	4.44 (61)	4.09 (48)	3.84 (56)			
IM U.S. Broad Market Core Fixed Income (MF) Median			1.36	8.19	8.19	5.38	4.56	4.05	3.91			
BlackRock High Yield Bond (BHYIX)	4,507,709	1.5	6.32 (43)	5.79 (39)	5.79 (39)	5.82 (18)	7.87 (16)	5.44 (12)	6.71 (6)			
ICE BofAML High Yield Master II			6.48 (36)	6.17 (31)	6.17 (31)	5.88 (16)	8.43 (6)	5.61 (7)	6.62 (7)			
IM U.S. High Yield Bonds (MF) Median			6.02	5.28	5.28	4.96	7.04	4.45	5.61			
DFA Real Estate (DFREX)	3,049,692	1.0	8.36 (73)	-5.04 (60)	-5.04 (60)	5.68 (30)	6.22 (28)	9.02 (19)	9.04 (20)			
FTSE NAREIT All Equity REITs			8.15 (77)	-5.12 (61)	-5.12 (61)	5.41 (33)	6.70 (18)	8.93 (21)	9.27 (17)			
IM Real Estate Sector (MF) Median			9.24	-4.23	-4.23	4.69	5.03	7.85	7.98			
Vanguard Treasury Money Market (VUSXX)	5,591,205	1.8	0.01 (10)	0.47 (13)	0.47 (13)	1.46 (12)	1.09 (13)	0.78 (14)	0.55 (14)			
90 Day U.S. Treasury Bill			0.03 (3)	0.67 (1)	0.67 (1)	1.61 (5)	1.18 (9)	0.85 (9)	0.62 (8)			
IM U.S. Taxable Money Market (MF) Median			0.00	0.30	0.30	1.25	0.86	0.62	0.44			
Vantage Trust PLUS Fund R10	47,105,931	15.5	0.52 (28)	2.22 (36)	2.22 (36)	2.32 (53)	2.21 (42)	2.16 (37)	2.33 (37)			
ICE BofAML 3 Month U.S. T-Bill			0.03 (100)	0.67 (100)	0.67 (100)	1.61 (100)	1.20 (100)	0.87 (100)	0.63 (100)			
IM U.S. GIC/Stable Value (SA+CF) Median			0.46	2.12	2.12	2.34	2.15	2.06	2.19			
<b>Target Date Funds</b>												
TIAA-CREF Lifecycle Retirement Income (TPILX)	1,007,525	0.3	6.60 (33)	10.93 (16)	10.93 (16)	7.04 (20)	7.75 (16)	6.14 (14)	6.64 (8)			
Dow Jones Global Conservative Index			4.02 (92)	8.05 (78)	8.05 (78)	5.11 (83)	4.81 (90)	3.88 (78)	3.92 (80)			
IM Mixed-Asset Target Today (MF) Median			6.07	9.49	9.49	6.09	6.58	4.86	5.06			
TIAA-CREF Lifecycle 2010 (TCTPX)	2,056,643	0.7	6.72 (36)	11.01 (24)	11.01 (24)	7.09 (31)	7.95 (16)	6.31 (11)	6.96 (9)			
Dow Jones Global Target 2010 Index			4.04 (99)	8.07 (96)	8.07 (96)	5.12 (100)	4.95 (100)	4.01 (97)	4.19 (95)			
IM Mixed-Asset Target 2010 (MF) Median			6.42	10.43	10.43	6.72	7.39	5.76	6.16			



	Allocation		Performance(%)									
	Market Value \$	%	QTR	YTD	1 YR	3 YR	5 YR	7 YR	10 YR			
TIAA-CREF Lifecycle 2015 (TCFPX)	3,404,327	1.1	7.41 (46)	11.68 (39)	11.68 (39)	7.43 (33)	8.43 (24)	6.66 (18)	7.38 (17)			
Dow Jones Global Target 2015 Index			4.38 (100)	8.30 (91)	8.30 (91)	5.41 (94)	5.66 (100)	4.52 (97)	4.81 (99)			
IM Mixed-Asset Target 2015 (MF) Median			7.18	11.40	11.40	7.11	7.92	6.21	6.78			
TIAA-CREF Lifecycle 2020 (TCWPX)	7,636,443	2.5	8.09 (38)	12.24 (33)	12.24 (33)	7.73 (32)	8.97 (25)	7.06 (19)	7.89 (14)			
Dow Jones Global Target 2020 Index			5.54 (94)	8.63 (83)	8.63 (83)	5.92 (83)	6.57 (83)	5.20 (78)	5.65 (79)			
IM Mixed-Asset Target 2020 (MF) Median			7.84	10.90	10.90	7.23	8.19	6.32	7.03			
TIAA-CREF Lifecycle 2025 (TCQPX)	10,218,499	3.4	9.33 (40)	13.34 (32)	13.34 (32)	8.23 (38)	9.69 (28)	7.57 (20)	8.48 (17)			
Dow Jones Global Target 2025 Index			7.26 (81)	9.62 (83)	9.62 (83)	6.66 (84)	7.66 (84)	6.00 (76)	6.58 (86)			
IM Mixed-Asset Target 2025 (MF) Median			9.02	12.13	12.13	7.83	9.00	6.80	7.70			
TIAA-CREF Lifecycle 2030 (TCHPX)	13,910,739	4.6	10.44 (45)	14.24 (32)	14.24 (32)	8.70 (40)	10.39 (30)	8.04 (23)	9.04 (18)			
Dow Jones Global Target 2030 Index			9.26 (72)	10.88 (79)	10.88 (79)	7.45 (77)	8.86 (76)	6.88 (65)	7.52 (75)			
IM Mixed-Asset Target 2030 (MF) Median			10.28	12.86	12.86	8.38	9.83	7.34	8.17			
TIAA-CREF Lifecycle 2035 (TCYPX)	17,910,369	5.9	11.69 (56)	15.15 (38)	15.15 (38)	9.14 (46)	11.03 (37)	8.46 (33)	9.53 (20)			
Dow Jones Global Target 2035 Index			11.33 (70)	12.15 (84)	12.15 (84)	8.14 (80)	9.93 (79)	7.61 (64)	8.31 (69)			
IM Mixed-Asset Target 2035 (MF) Median			11.83	14.15	14.15	9.06	10.64	8.04	8.73			
TIAA-CREF Lifecycle 2040 (TCZPX)	12,000,486	3.9	12.83 (56)	16.11 (33)	16.11 (33)	9.53 (43)	11.66 (31)	8.87 (29)	9.96 (14)			
Dow Jones Global Target 2040 Index			13.25 (39)	13.28 (70)	13.28 (70)	8.76 (67)	10.84 (56)	8.23 (55)	8.95 (52)			
IM Mixed-Asset Target 2040 (MF) Median			12.90	14.74	14.74	9.33	11.00	8.31	9.05			
TIAA-CREF Lifecycle 2045 (TTFPX)	8,064,785	2.7	13.95 (48)	17.14 (28)	17.14 (28)	9.94 (35)	12.09 (25)	9.17 (28)	10.16 (16)			
Dow Jones Global Target 2045 Index			14.81 (31)	14.18 (63)	14.18 (63)	9.20 (63)	11.48 (47)	8.66 (45)	9.37 (44)			
IM Mixed-Asset Target 2045 (MF) Median			13.87	15.38	15.38	9.54	11.39	8.61	9.26			
TIAA-CREF Lifecycle 2050 (TCLPX)	3,631,761	1.2	14.16 (54)	17.34 (27)	17.34 (27)	10.00 (37)	12.21 (22)	9.26 (23)	10.23 (15)			
Dow Jones Global Target 2050 Index			15.83 (11)	14.78 (58)	14.78 (58)	9.49 (54)	11.83 (36)	8.90 (40)	9.56 (38)			
IM Mixed-Asset Target 2050 (MF) Median			14.26	15.54	15.54	9.59	11.39	8.65	9.33			
TIAA-CREF Lifecycle 2055 (TTRPX)	1,428,601	0.5	14.42 (52)	17.43 (29)	17.43 (29)	10.04 (38)	12.32 (24)	9.32 (26)	N/A			
Dow Jones Global Target 2055 Index			16.17 (5)	15.03 (59)	15.03 (59)	9.60 (54)	11.90 (38)	8.95 (39)	9.59 (39)			
IM Mixed-Asset Target 2055 (MF) Median			14.48	15.65	15.65	9.67	11.55	8.69	9.46			
TIAA-CREF Lifecycle 2060 (TLXPX)	569,396	0.2	14.49 (64)	17.57 (27)	17.57 (27)	10.09 (41)	12.42 (29)	N/A	N/A			
Dow Jones Global Target 2060 Index			16.17 (5)	15.03 (61)	15.03 (61)	9.60 (58)	11.90 (48)	8.94 (N/A)	9.58 (N/A)			
IM Mixed-Asset Target 2060+ (MF) Median			14.72	15.99	15.99	9.80	11.85	N/A	N/A			



	Allocation		Performance(%)						
	Market Value \$	%	QTR	YTD	1 YR	3 YR	5 YR	7 YR	10 YR
<b>Brokerage &amp; Loan Fund</b>									
TIAA-CREF Self Directed	856,475	0.3							
Loan Fund	6,034,346	2.0							



## Asset Allocation &amp; Performance

	Allocation		Performance(%)									
	Market Value \$	%	YTD	2019	2018	2017	2016	2015	2014	2013	2012	
<b>457 Total Fund</b>	<b>304,210,921</b>	<b>100.0</b>										
<b>Domestic Equity</b>												
Invesco Diversified Dividend (DDFIX)	7,972,057	2.6	0.44 (79)	25.46 (60)	-7.54 (28)	8.53 (99)	14.66 (39)	2.09 (2)	12.32 (21)	29.31 (89)	17.66 (26)	
Russell 1000 Value Index			2.80 (48)	26.54 (45)	-8.27 (36)	13.66 (77)	17.34 (19)	-3.83 (58)	13.45 (9)	32.53 (48)	17.51 (28)	
IM U.S. Large Cap Value Equity (MF) Median			2.62	26.07	-9.08	16.29	13.82	-3.54	10.81	32.30	15.84	
Vanguard Institutional Index (VINIX)	28,221,710	9.3	18.39 (40)	31.46 (30)	-4.42 (31)	21.79 (39)	11.93 (27)	1.37 (33)	13.65 (17)	32.35 (39)	15.98 (39)	
S&P 500 Index			18.40 (40)	31.49 (29)	-4.38 (30)	21.83 (38)	11.96 (26)	1.38 (33)	13.69 (16)	32.39 (38)	16.00 (39)	
IM U.S. Large Cap Core Equity (MF) Median			16.00	29.68	-5.61	21.17	10.07	0.26	11.41	31.77	15.28	
Vanguard Mid-Cap Index Fund (VIMAX)	7,218,976	2.4	18.24 (20)	31.03 (20)	-9.23 (23)	19.25 (19)	11.22 (75)	-1.34 (24)	13.76 (11)	35.15 (49)	15.99 (49)	
Vanguard Spliced Mid Cap Index			18.24 (20)	31.09 (19)	-9.22 (23)	19.30 (19)	11.25 (73)	-1.28 (23)	13.83 (10)	35.21 (48)	16.04 (47)	
IM U.S. Mid Cap Core Equity (MF) Median			10.02	28.08	-11.52	15.44	14.23	-3.40	8.91	35.08	15.84	
Carillon Scout Mid Cap (UMBMX)	10,486,363	3.4	27.27 (7)	20.76 (95)	-9.74 (27)	24.02 (6)	18.31 (21)	1.41 (9)	4.09 (92)	37.68 (25)	9.89 (89)	
Russell Midcap Index			17.10 (25)	30.54 (25)	-9.06 (20)	18.52 (27)	13.80 (55)	-2.44 (34)	13.22 (16)	34.76 (53)	17.28 (33)	
IM U.S. Mid Cap Core Equity (MF) Median			10.02	28.08	-11.52	15.44	14.23	-3.40	8.91	35.08	15.84	
Goldman Sachs Small Cap Value (GSSIX)	8,146,695	2.7	2.06 (66)	23.14 (27)	-14.02 (35)	12.34 (18)	24.65 (72)	-5.39 (33)	7.28 (10)	38.82 (29)	16.54 (49)	
Russell 2000 Value Index			4.63 (42)	22.39 (36)	-12.86 (24)	7.84 (57)	31.74 (15)	-7.47 (55)	4.22 (37)	34.52 (68)	18.05 (38)	
IM U.S. Small Cap Value Equity (MF) Median			3.84	21.26	-16.08	8.32	26.61	-7.10	3.36	36.11	16.27	
Vanguard Small-Cap Index Fund (VSMAX)	7,657,345	2.5	19.11 (18)	27.37 (15)	-9.31 (18)	16.24 (13)	18.30 (78)	-3.64 (41)	7.50 (12)	37.81 (44)	18.24 (18)	
Vanguard Spliced Small Cap Index			19.07 (18)	27.35 (16)	-9.33 (18)	16.24 (13)	18.26 (78)	-3.68 (42)	7.54 (12)	37.77 (44)	18.20 (19)	
IM U.S. Small Cap Core Equity (MF) Median			10.36	23.86	-12.67	12.38	21.35	-4.34	4.61	36.95	14.57	
<b>International Equity/Global Equity</b>												
TIAA-CREF International Equity Index (TRIPX)	8,307,253	2.7	8.01 (54)	21.59 (58)	-13.39 (19)	25.14 (37)	1.08 (52)	-0.69 (13)	-5.60 (42)	21.75 (36)	18.87 (45)	
MSCI EAFE (Net) Index			7.82 (55)	22.01 (52)	-13.79 (25)	25.03 (38)	1.00 (53)	-0.81 (15)	-4.90 (29)	22.78 (23)	17.32 (58)	
IM International Large Cap Core Equity (MF) Median			8.50	22.06	-15.69	24.43	1.27	-2.75	-5.87	20.29	18.55	
American Funds The New Economy Fund (RNGHX)	43,813,932	14.4	33.72 (20)	26.69 (48)	-4.04 (14)	34.71 (8)	2.32 (80)	N/A	N/A	N/A	N/A	
MSCI AC World Index (Net)			16.25 (45)	26.60 (49)	-9.42 (46)	23.97 (42)	7.86 (36)	-2.36 (59)	4.16 (37)	22.80 (60)	16.13 (42)	
IM Global Equity (MF) Median			15.25	26.37	-9.72	22.33	6.34	-1.65	2.57	24.98	14.89	
Lazard International Equity R6 (LZIEIX)	2,381,622	0.8	8.76 (47)	21.19 (63)	-13.61 (22)	22.81 (82)	-4.18 (90)	1.62 (4)	-4.29 (27)	20.84 (41)	22.70 (8)	
MSCI EAFE (Net) Index			7.82 (55)	22.01 (52)	-13.79 (25)	25.03 (38)	1.00 (53)	-0.81 (15)	-4.90 (29)	22.78 (23)	17.32 (58)	
IM International Large Cap Core Equity (MF) Median			8.50	22.06	-15.69	24.43	1.27	-2.75	-5.87	20.29	18.55	



	Allocation		Performance(%)								
	Market Value \$	%	YTD	2019	2018	2017	2016	2015	2014	2013	2012
American Funds SmallCap World Fund (RSLDX)	9,015,541	3.0	37.73 (26)	31.08 (17)	-9.50 (22)	27.09 (37)	5.90 (69)	N/A	N/A	N/A	N/A
MSCI World Small Cap (Net)			15.96 (63)	26.19 (52)	-13.86 (56)	22.66 (70)	12.71 (33)	-0.31 (55)	1.90 (26)	32.38 (40)	17.55 (61)
IM Global SMID Cap Equity (MF) Median			24.11	26.75	-12.45	25.87	8.55	0.79	-1.61	29.90	19.64
DFA Emerging Markets Small Cap (DEMSX)	2,528,989	0.8	13.80 (68)	14.89 (79)	-17.56 (62)	35.26 (51)	10.92 (32)	-8.70 (19)	3.00 (10)	-1.38 (50)	24.44 (11)
MSCI Emerging Markets Small Cap (Net)			19.29 (42)	11.51 (89)	-18.59 (71)	33.84 (58)	2.28 (85)	-6.85 (11)	1.01 (17)	1.04 (32)	22.22 (17)
IM Emerging Markets Equity (MF) Median			17.49	20.06	-16.39	35.37	8.35	-13.66	-2.92	-1.42	18.78
<b>Fixed Income &amp; Other</b>											
Vanguard Total Bond Market Index (VBTLX)	7,207,387	2.4	7.72 (65)	8.71 (53)	-0.03 (20)	3.56 (53)	2.60 (63)	0.40 (31)	5.89 (31)	-2.14 (58)	4.15 (82)
Blmbg. Barc. U.S. Aggregate Index			7.51 (72)	8.72 (53)	0.01 (18)	3.54 (54)	2.65 (61)	0.55 (20)	5.97 (26)	-2.02 (53)	4.21 (81)
IM U.S. Broad Market Core Fixed Income (MF) Median			8.19	8.76	-0.63	3.59	2.86	0.09	5.55	-1.98	5.99
Metropolitan West Total Return Bond (MWTIX)	12,268,118	4.0	9.12 (26)	9.09 (39)	0.16 (12)	3.43 (60)	2.46 (71)	0.29 (38)	5.99 (25)	0.50 (2)	11.55 (1)
Blmbg. Barc. U.S. Aggregate Index			7.51 (72)	8.72 (53)	0.01 (18)	3.54 (54)	2.65 (61)	0.55 (20)	5.97 (26)	-2.02 (53)	4.21 (81)
IM U.S. Broad Market Core Fixed Income (MF) Median			8.19	8.76	-0.63	3.59	2.86	0.09	5.55	-1.98	5.99
BlackRock High Yield Bond (BHYIX)	4,507,709	1.5	5.79 (39)	15.30 (15)	-2.86 (48)	8.20 (13)	13.93 (44)	-4.04 (54)	3.38 (12)	9.30 (12)	17.12 (17)
ICE BofAML High Yield Master II			6.17 (31)	14.41 (32)	-2.27 (32)	7.48 (25)	17.49 (5)	-4.64 (64)	2.50 (22)	7.42 (30)	15.58 (33)
IM U.S. High Yield Bonds (MF) Median			5.28	13.51	-2.91	6.65	13.49	-3.85	1.49	6.61	14.72
DFA Real Estate (DFREX)	3,049,692	1.0	-5.04 (60)	28.10 (43)	-2.99 (8)	5.71 (42)	8.38 (20)	3.24 (41)	31.11 (20)	1.39 (56)	17.48 (34)
FTSE NAREIT All Equity REITs			-5.12 (61)	28.66 (38)	-4.04 (17)	8.67 (16)	8.63 (19)	2.83 (53)	28.03 (70)	2.86 (22)	19.70 (13)
IM Real Estate Sector (MF) Median			-4.23	27.38	-5.75	5.20	6.28	2.91	29.43	1.64	16.89
Vantage Trust PLUS Fund R10	47,105,931	15.5	2.22 (36)	2.45 (61)	2.27 (29)	2.12 (18)	1.98 (29)	2.03 (15)	2.07 (23)	2.27 (18)	2.72 (28)
ICE BofAML 3 Month U.S. T-Bill			0.67 (100)	2.28 (95)	1.87 (85)	0.86 (100)	0.33 (100)	0.05 (100)	0.04 (100)	0.07 (93)	0.11 (100)
IM U.S. GIC/Stable Value (SA+CF) Median			2.12	2.51	2.14	1.83	1.83	1.70	1.70	1.60	2.41
<b>Target Date Funds</b>											
TIAA-CREF Lifecycle Retirement Income (TPILX)	1,007,525	0.3	10.93 (16)	15.03 (23)	-3.90 (67)	11.84 (6)	5.89 (24)	0.10 (3)	4.38 (30)	9.69 (8)	11.34 (6)
Dow Jones Global Conservative Index			8.05 (78)	8.13 (99)	-0.62 (2)	5.73 (95)	3.01 (92)	-0.63 (22)	3.86 (51)	1.41 (85)	5.44 (93)
IM Mixed-Asset Target Today (MF) Median			9.49	13.31	-3.57	8.85	5.07	-1.42	3.87	5.29	8.84
TIAA-CREF Lifecycle 2010 (TCTPX)	2,056,643	0.7	11.01 (24)	15.36 (14)	-4.09 (73)	12.52 (2)	6.06 (50)	0.24 (3)	4.44 (38)	11.84 (8)	12.43 (5)
Dow Jones Global Target 2010 Index			8.07 (96)	8.22 (100)	-0.68 (1)	6.07 (100)	3.33 (95)	-0.72 (21)	4.20 (47)	3.00 (92)	6.40 (93)
IM Mixed-Asset Target 2010 (MF) Median			10.43	14.19	-3.58	10.24	6.06	-1.20	4.11	8.67	9.78
TIAA-CREF Lifecycle 2015 (TCFPX)	3,404,327	1.1	11.68 (39)	16.36 (33)	-4.60 (73)	13.75 (6)	6.28 (57)	0.18 (4)	4.63 (47)	13.72 (13)	13.35 (6)
Dow Jones Global Target 2015 Index			8.30 (91)	9.54 (100)	-1.28 (1)	7.59 (100)	4.51 (91)	-0.97 (35)	4.48 (50)	5.49 (83)	7.65 (94)
IM Mixed-Asset Target 2015 (MF) Median			11.40	15.31	-3.90	11.40	6.40	-1.29	4.47	10.42	10.81



	Allocation		Performance(%)								
	Market Value \$	%	YTD	2019	2018	2017	2016	2015	2014	2013	2012
TIAA-CREF Lifecycle 2020 (TCWPX)	7,636,443	2.5	12.24 (33)	17.59 (25)	-5.26 (73)	15.35 (4)	6.52 (45)	0.27 (1)	4.62 (53)	16.49 (12)	14.37 (5)
Dow Jones Global Target 2020 Index			8.63 (83)	12.00 (91)	-2.33 (3)	9.88 (82)	5.27 (81)	-1.04 (36)	4.81 (46)	9.05 (72)	9.23 (88)
IM Mixed-Asset Target 2020 (MF) Median			10.90	15.97	-4.52	12.69	6.36	-1.44	4.72	11.84	11.53
TIAA-CREF Lifecycle 2025 (TCQPX)	10,218,499	3.4	13.34 (32)	19.29 (26)	-6.23 (78)	17.19 (3)	6.87 (50)	0.22 (1)	4.73 (66)	19.11 (17)	15.49 (7)
Dow Jones Global Target 2025 Index			9.62 (83)	14.38 (92)	-3.22 (4)	12.02 (83)	6.39 (68)	-1.11 (38)	5.14 (52)	12.84 (76)	10.94 (89)
IM Mixed-Asset Target 2025 (MF) Median			12.13	18.18	-5.23	14.95	6.87	-1.37	5.19	15.85	13.00
TIAA-CREF Lifecycle 2030 (TCHPX)	13,910,739	4.6	14.24 (32)	21.13 (30)	-7.18 (75)	19.02 (4)	7.22 (54)	0.13 (4)	4.68 (65)	21.87 (12)	16.29 (7)
Dow Jones Global Target 2030 Index			10.88 (79)	17.06 (87)	-4.43 (9)	14.64 (78)	7.50 (41)	-1.21 (41)	5.50 (42)	16.59 (62)	12.56 (73)
IM Mixed-Asset Target 2030 (MF) Median			12.86	20.08	-6.32	16.92	7.30	-1.47	5.18	17.87	13.71
TIAA-CREF Lifecycle 2035 (TCYPX)	17,910,369	5.9	15.15 (38)	22.86 (32)	-8.12 (83)	20.88 (6)	7.40 (61)	0.10 (6)	4.53 (71)	24.51 (8)	17.19 (5)
Dow Jones Global Target 2035 Index			12.15 (84)	19.70 (88)	-5.80 (15)	16.99 (78)	8.49 (25)	-1.61 (52)	5.80 (38)	19.90 (66)	13.92 (67)
IM Mixed-Asset Target 2035 (MF) Median			14.15	22.26	-7.26	18.72	7.75	-1.53	5.40	20.78	14.75
TIAA-CREF Lifecycle 2040 (TCZPX)	12,000,486	3.9	16.11 (33)	24.52 (26)	-9.11 (86)	22.69 (1)	7.65 (58)	-0.06 (8)	4.49 (70)	26.09 (4)	17.38 (4)
Dow Jones Global Target 2040 Index			13.28 (70)	22.03 (74)	-6.94 (23)	18.97 (65)	9.30 (15)	-1.94 (60)	6.03 (32)	22.38 (44)	14.88 (52)
IM Mixed-Asset Target 2040 (MF) Median			14.74	23.63	-7.97	19.74	7.95	-1.66	5.38	21.61	14.92
TIAA-CREF Lifecycle 2045 (TTFPX)	8,064,785	2.7	17.14 (28)	25.73 (19)	-9.78 (93)	23.45 (2)	7.85 (61)	-0.01 (8)	4.48 (71)	26.07 (4)	17.32 (5)
Dow Jones Global Target 2045 Index			14.18 (63)	23.71 (67)	-7.80 (38)	20.36 (59)	9.85 (7)	-2.15 (71)	6.16 (30)	23.71 (36)	15.32 (55)
IM Mixed-Asset Target 2045 (MF) Median			15.38	24.61	-8.19	20.65	8.15	-1.65	5.55	23.07	15.47
TIAA-CREF Lifecycle 2050 (TCLPX)	3,631,761	1.2	17.34 (27)	25.93 (19)	-9.93 (90)	23.76 (2)	7.99 (54)	0.05 (7)	4.47 (74)	25.92 (8)	17.43 (7)
Dow Jones Global Target 2050 Index			14.78 (58)	24.69 (50)	-8.29 (44)	21.02 (46)	10.10 (10)	-2.23 (67)	6.19 (31)	23.89 (37)	15.35 (55)
IM Mixed-Asset Target 2050 (MF) Median			15.54	24.67	-8.54	20.80	8.10	-1.63	5.61	23.08	15.47
TIAA-CREF Lifecycle 2055 (TTRPX)	1,428,601	0.5	17.43 (29)	26.21 (18)	-10.10 (94)	24.07 (3)	8.16 (53)	0.00 (9)	4.39 (71)	26.07 (8)	17.42 (3)
Dow Jones Global Target 2055 Index			15.03 (59)	24.89 (49)	-8.37 (46)	21.06 (52)	10.11 (6)	-2.23 (71)	6.19 (35)	23.89 (40)	15.35 (59)
IM Mixed-Asset Target 2055 (MF) Median			15.65	24.85	-8.48	21.12	8.25	-1.67	5.43	23.21	15.60
TIAA-CREF Lifecycle 2060 (TLXPX)	569,396	0.2	17.57 (27)	26.47 (20)	-10.27 (92)	24.29 (2)	8.27 (37)	0.03 (9)	N/A	N/A	N/A
Dow Jones Global Target 2060 Index			15.03 (61)	24.89 (60)	-8.37 (46)	21.06 (60)	10.11 (4)	-2.23 (88)	6.11 (N/A)	23.89 (N/A)	15.35 (N/A)
IM Mixed-Asset Target 2060+ (MF) Median			15.99	25.08	-8.66	21.30	7.86	-1.01	N/A	N/A	N/A





	Allocation		Performance(%)								
	Market Value \$	%	YTD	2019	2018	2017	2016	2015	2014	2013	2012
<b>Brokerage &amp; Loan Fund</b>											
TIAA-CREF Self Directed	856,475	0.3									
Loan Fund	6,034,346	2.0									



<b>Asset Class</b>	<b>2060+</b>	<b>2055</b>	<b>2050</b>	<b>2045</b>	<b>2040</b>	<b>2035</b>	<b>2030</b>	<b>2025</b>	<b>2020</b>	<b>2015</b>	<b>2010</b>	<b>Retirement</b>
<b>Equity Range</b>												
Maximum	100%	100%	100%	95%	95%	90%	85%	75%	65%	55%	45%	45%
Minimum	50%	50%	50%	45%	45%	40%	35%	25%	15%	10%	5%	5%
<b>Fixed Income Range</b>												
Maximum	20%	20%	30%	35%	40%	50%	55%	65%	70%	75%	80%	85%
Minimum	0%	0%	0%	5%	5%	10%	15%	20%	25%	35%	40%	45%
<b>Cash Range</b>												
Maximum	20%	20%	30%	30%	30%	30%	30%	30%	35%	35%	35%	35%
Minimum	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Other Range</b>												
Maximum	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Minimum	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Target Date Universe</b>	<b>61</b>	<b>54</b>	<b>55</b>	<b>52</b>	<b>54</b>	<b>54</b>	<b>51</b>	<b>56</b>	<b>54</b>	<b>37</b>	<b>38</b>	<b>39</b>

**Morningstar Definitions:**

1. Cash - The percentage of the fund's assets in cash. This figure is calculated separately for the short and long positions of the portfolio, and the sum of the asset allocation of each will not necessarily equal 100%.
2. Other - The percentage of the fund's assets in other instruments. This figure is calculated separately for the short and long positions of the portfolio, and the sum of the asset allocation of each will not necessarily equal 100%.
3. Target Date Universe - Based on the number of unique glide paths in the Morningstar Target Date Universe. Only one share class is selected to represent the fund manager.



**TIAA-CREF Lifecycle Inst**  
**Target Date Fund Asset Allocation**  
December 31, 2020

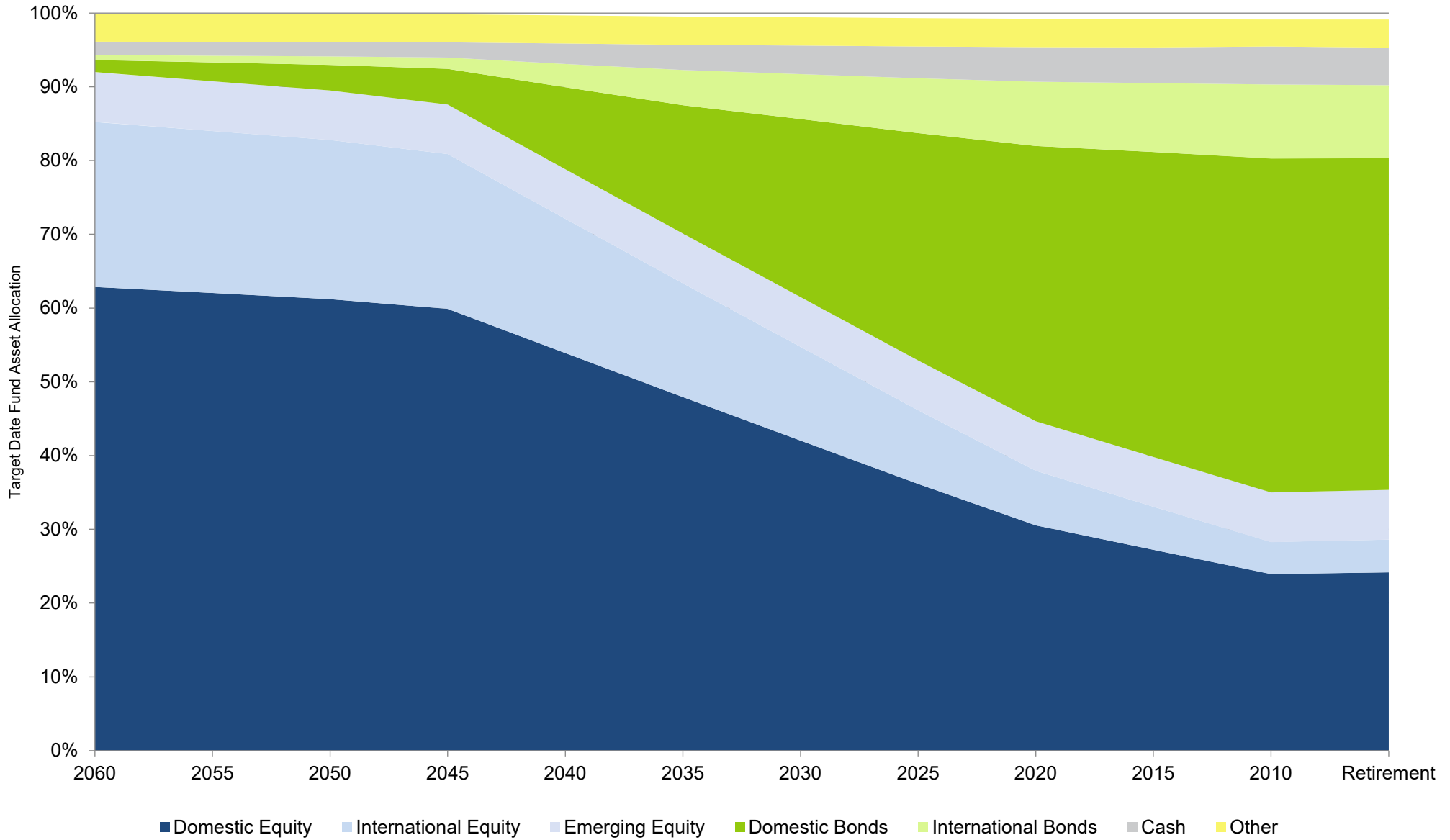
Asset Class	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	2010	Retirement
<b>Total Equity</b>	<b>92%</b>	<b>91%</b>	<b>90%</b>	<b>88%</b>	<b>79%</b>	<b>70%</b>	<b>61%</b>	<b>53%</b>	<b>45%</b>	<b>40%</b>	<b>35%</b>	<b>35%</b>
Domestic Equity	63%	62%	61%	60%	54%	48%	42%	36%	31%	27%	24%	24%
International Equity	22%	22%	22%	21%	18%	15%	13%	10%	7%	6%	4%	4%
Emerging Equity	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
<b>Total Fixed Income</b>	<b>2%</b>	<b>3%</b>	<b>5%</b>	<b>6%</b>	<b>14%</b>	<b>22%</b>	<b>30%</b>	<b>38%</b>	<b>46%</b>	<b>51%</b>	<b>55%</b>	<b>55%</b>
Domestic Bonds	2%	3%	3%	5%	11%	17%	24%	31%	37%	41%	45%	45%
International Bonds	1%	1%	1%	2%	3%	5%	6%	7%	9%	9%	10%	10%
<b>Cash</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>3%</b>	<b>3%</b>	<b>4%</b>	<b>4%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>
<b>Other</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>99%</b>	<b>99%</b>	<b>99%</b>	<b>99%</b>	<b>99%</b>	<b>99%</b>

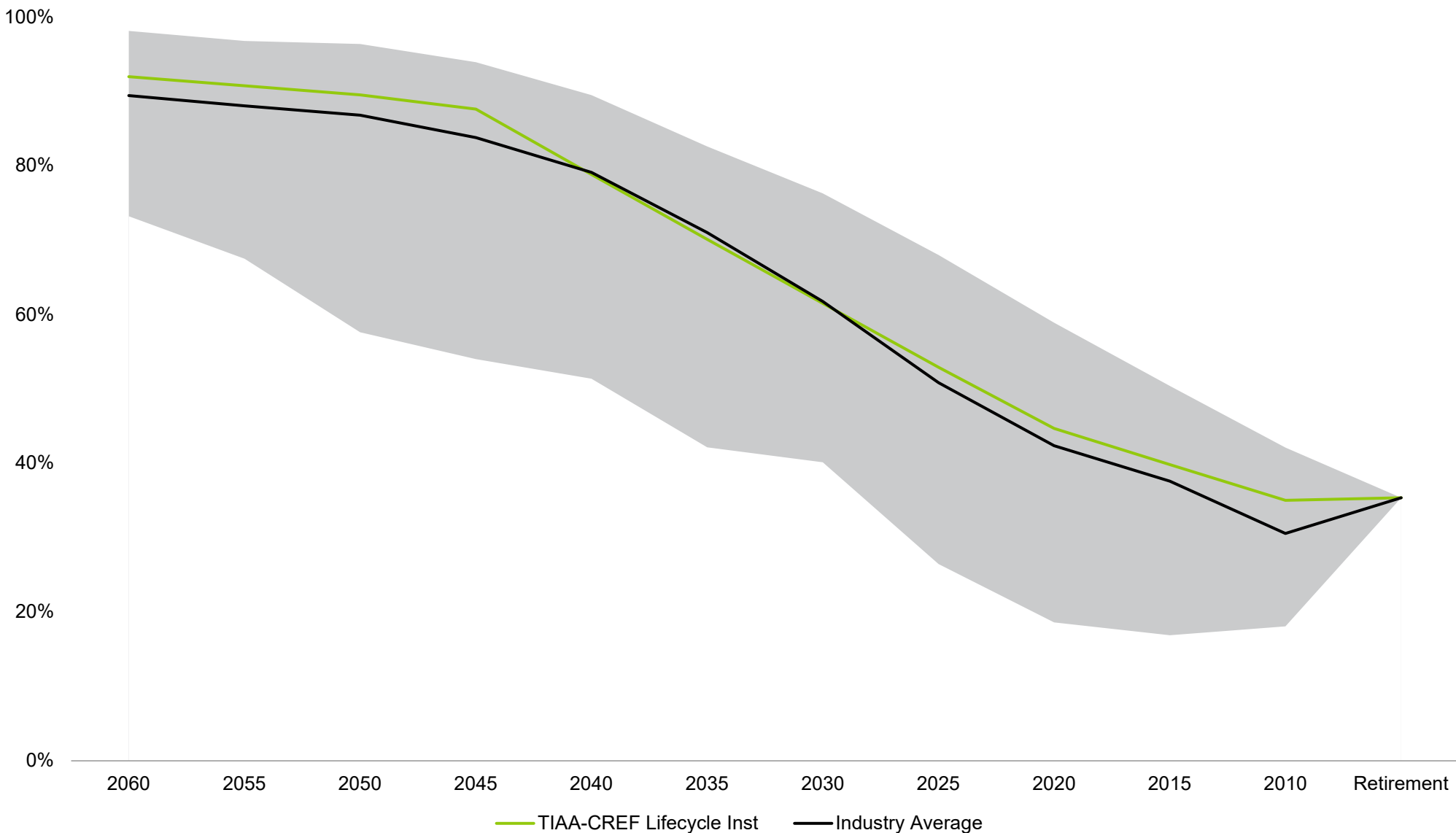
Terminal Equity Date:	30 years after Retirement
Active/Passive/Blend Allocation:	Active

Morningstar Definitions:

1. Cash - The percentage of the fund's assets in cash. This figure is calculated separately for the short and long positions of the portfolio, and the sum of the asset allocation of each will not necessarily equal 100%.
2. Other - The percentage of the fund's assets in other instruments. This figure is calculated separately for the short and long positions of the portfolio, and the sum of the asset allocation of each will not necessarily equal 100%.







- 1. Industry Range (Gray Bar) - Represents the equity allocation range of the Target Date Funds in the universe.
- 2. Industry Average - The average equity allocation of the investments included in the universe.



Quarterly	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
Review of plan investments and compliance with investment policy statement	✓	✓	✓	✓
Follow required procedures, including documentation of all meetings and decisions	✓	✓	✓	✓
Review performance of providers	✓	✓	✓	✓
<b>Periodically</b>				
Review QDIA selection	✓			✓
Allocation fund (Target Date or Risk-based) analysis	✓			✓
Investment policy statement review	Approved February 2020			✓
Employee education review	✓	✓	✓	✓
Plan recordkeeping & administration services review	✓	✓	✓	✓
Fee analysis	✓	✓	✓	✓
<b>Other Projects</b>				
Fiduciary Module	✓	✓	✓	✓
CARES Act	✓			
Small Balance Cash-out		✓		
Large Cap Value Search				✓



On October 30, 2020 the Department of Labor (DOL) issued their final rule in response to requests for fiduciary guidance related to recent trends involving ESG (environmental, social, governance) investing. While the final rule does not reference ESG specifically, it does clearly state that “fiduciaries must evaluate investments and investment courses of action based solely on pecuniary (financial) factors.”

Under the final rule:

- duty of loyalty prohibits fiduciaries from subordinating the interests of participants to unrelated objectives and bars them from sacrificing investment return or taking on additional investment risk to promote non-pecuniary goals.
- if a fiduciary cannot distinguish between alternative investments on the basis of pecuniary factors and the fiduciary chooses one of the investments on the basis of a non-pecuniary factor, the fiduciary must document why pecuniary factors alone did not provide a sufficient basis to select the investment.
- the preamble of the final rule encourages fiduciaries to break ties using their best judgment on the basis of pecuniary factors alone.

Fiduciaries need to be in compliance with most pieces of the final rule by the beginning of 2021, but plans will have until April 30, 2022 to make any necessary changes to qualified default investment alternatives (QDIAs) that currently may consider non-pecuniary factors.

During the past year, our education modules have covered a broad set of topics including two significant pieces of legislation, safe harbor protections, QDIAs, private equity in DC plans, and a review of Investment Policy Statements (IPS).

**Fiduciary News – The SECURE Act**

The SECURE (Setting Every Community Up for Retirement Enhancement) Act represents the first major retirement legislation since the Pension Protection Act (PPA) of 2006. Some of the main provisions of this Act include:

- Expands retirement savings by increasing the Auto Enrollment Safe Harbor cap from 10 to 15 percent. (Section 101)

**The CARES Act's Impact on Retirement Plan Withdrawals**

**Withdrawal changes**

- Penalty-free withdrawals for coronavirus-related distributions (CRDs) up to \$100,000 throughout 2020 and the mandatory 20% tax withholding will not apply.
- Repayment of CRDs permitted for up to three years after taking the distribution.
- CRDs may be spread out over a three-year period for taxable income.
- *Withdrawals are not considered hardship distributions so a plan may allow this*

**Distributing following**

2020 Fiduciary Education  
 Qualified Default Investment Alternatives (QDIA)  
 as of June 30, 2020

A Qualified Default Investment Alternatives (QDIA) is a default investment option chosen by plan fiduciaries for participants who fail to make an investment election for their account balances. The intent is to ensure that an investment qualifying as a QDIA is appropriate as a single investment capable of meeting a participant's long-term retirement savings needs. The DOL's final regulation outlines all eligible QDIA options including the three main types as summarized below:<sup>1</sup>

- A product with a mix of investments that consider the individual's age or retirement date (an example of such a product could be a life-cycle or target retirement date fund);
- An investment service that allocates contributions among existing plan options to provide an asset mix that consider the individual's age or retirement date (an example of such a service could be managed accounts);
- A product with a mix of investments that consider the characteristics of the group of employees, rather than everyone (an example of such a product could be a balanced fund).

In evaluating a particular investment for consideration as a QDIA, the fiduciary must engage in an objective, thorough, and analytical process that considers all relevant facts and circumstances and then act accordingly. While QDIA regulation is specifically for ERISA plans; it is considered an industry best practice for all plans.<sup>2</sup>

1 Based on excerpts from Regulation Relating to Qualified Default Investment Alternatives in Participant-Directed Individual Account Plans DOL Fact Sheet April 2008  
 2 CFR 2550.404a-1

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2020 Fiduciary Education  
 Private Equity in Defined Contribution Plans  
 as of June 30, 2020

On June 3, 2020, the DOL published an Information Letter permitting plan sponsors to utilize private equity in certain pre-diversified investment options like target date funds, risk-based funds and balanced funds as long as the investments include sufficient liquidity with readily available market values to ensure participants can take distributions and make exchanges among the plan's investment line-up.

2020 Fiduciary Education  
 Investment Policy Statements  
 as of September 30, 2020

The letter also provides an option with a private equity investment.

- Does a private equity investment option
- Is the private equity investment managed
- Is the private equity investment diversified
- Do the private equity investments have a long track record
- Have private equity investments been able to provide a return

**Purpose of an Investment Policy Statement**

The overall purpose of an Investment Policy Statement (IPS) is to define general investment goals and to establish a process for consistent and informed decision making in monitoring and evaluating the investments within the fiduciary's stewardship.

Reasons to create, approve, and regularly review an IPS include:

- Provides evidence of a prudent investment decision making process
- Serves as a multi-generational document to support continuity in decision making as plan fiduciaries change
- Helps protect fiduciaries from making decisions based on external sources (participants, vendors, money managers, etc.)
- May assist in defense against potential fiduciary liability

Based on excerpts from DOL Information Letter 2020-06-03

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For clients that have plan forfeitures and/or expense accounts, fiduciaries should review and document any actions taken on a regular basis.

### **Plan Forfeitures**

- Forfeitures refer to the non-vested portion of a participant's employer contribution account at the time they separate from employment.
- Fiduciaries should verify if any forfeitures need to be processed and spend the forfeiture account balance based on plan provisions (i.e., used to offset or reduce current or future contributions, reallocate as additional contributions, or pay eligible plan expenses).

### **Expense Accounts**

- Expense accounts give the ability to pay eligible plan-related expenses from plan assets.
- Fiduciaries should have a procedure for spending any surplus amounts that remain in the account.

In addition, fiduciaries should regularly review the participant usage and associated expenses of other plan features such as managed accounts, self-directed brokerage, and loans.

	2019	2020	2021
<b>Elective Deferrals - 401(k), 403(b), and Most 457 Plans</b>	\$19,000	\$19,500	<b>\$19,500</b>
<b>Catch-up Contribution</b>	\$6,000	\$6,500	<b>\$6,500</b>
<b>DC Plan Combined Annual Contribution Limit</b>	\$56,000	\$57,000	<b>\$58,000</b>
<b>Defined Benefit Annual Benefit Limit</b>	\$225,000	\$230,000	<b>\$230,000</b>
<b>Highly Compensated Employee Threshold</b>	\$125,000	\$130,000	<b>\$130,000</b>
<b>Top Heavy Key Employee Dollar Limit</b>	\$180,000	\$185,000	<b>\$185,000</b>
<b>SIMPLE Plan Contribution Limit</b>	\$13,000	\$13,500	<b>\$13,500</b>
<b>SIMPLE Plan Catch-up</b>	\$3,000	\$3,000	<b>\$3,000</b>
<b>IRA Contribution Limit</b>	\$6,000	\$6,000	<b>\$6,000</b>
<b>IRA Catch-Up</b>	\$1,000	\$1,000	<b>\$1,000</b>
<b>HSA Contribution Limit, Single</b>	\$3,500	\$3,550	<b>\$3,600</b>
<b>HSA Contribution Limit, Non-Single</b>	\$7,000	\$7,100	<b>\$7,200</b>

Source: IRS Notice 2020-79 and Revenue Procedure 2020-32

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<b>Active Return</b>	- Arithmetic difference between the manager's performance and the designated benchmark return over a specified time period.
<b>Alpha</b>	- A measure of the difference between a portfolio's actual performance and its expected return based on its level of risk as determined by beta. It determines the portfolio's non-systemic return, or its historical performance not explained by movements of the market.
<b>Beta</b>	- A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of the portfolio's systematic risk.
<b>Consistency</b>	- The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. Higher consistency indicates the manager has contributed more to the product's performance.
<b>Distributed to Paid In (DPI)</b>	- The ratio of money distributed to Limited Partners by the fund, relative to contributions. It is calculated by dividing cumulative distributions by paid in capital. This multiple shows the investor how much money they got back. It is a good measure for evaluating a fund later in its life because there are more distributions to measure against.
<b>Down Market Capture</b>	- The ratio of average portfolio performance over the designated benchmark during periods of negative returns. A lower value indicates better product performance
<b>Downside Risk</b>	- A measure similar to standard deviation that utilizes only the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. A higher factor is indicative of a riskier product.
<b>Excess Return</b>	- Arithmetic difference between the manager's performance and the risk-free return over a specified time period.
<b>Excess Risk</b>	- A measure of the standard deviation of a portfolio's performance relative to the risk free return.
<b>Information Ratio</b>	- This calculates the value-added contribution of the manager and is derived by dividing the active rate of return of the portfolio by the tracking error. The higher the Information Ratio, the more the manager has added value to the portfolio.
<b>Public Market Equivalent (PME)</b>	- Designs a set of analyses used in the Private Equity Industry to evaluate the performance of a Private Equity Fund against a public benchmark or index.
<b>R-Squared</b>	- The percentage of a portfolio's performance that can be explained by the behavior of the appropriate benchmark. A high R-Squared means the portfolio's performance has historically moved in the same direction as the appropriate benchmark.
<b>Return</b>	- Compounded rate of return for the period.
<b>Sharpe Ratio</b>	- Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is an absolute rate of return per unit of risk. A higher value demonstrates better historical risk-adjusted performance.
<b>Standard Deviation</b>	- A statistical measure of the range of a portfolio's performance. It represents the variability of returns around the average return over a specified time period.
<b>Total Value to Paid In (TVPI)</b>	- The ratio of the current value of remaining investments within a fund, plus the total value of all distributions to date, relative to the total amount of capital paid into the fund to date. It is a good measure of performance before the end of a fund's life
<b>Tracking Error</b>	- This is a measure of the standard deviation of a portfolio's returns in relation to the performance of its designated market benchmark.
<b>Treynor Ratio</b>	- Similar to Sharpe ratio but utilizes beta rather than excess risk as determined by standard deviation. It is calculated by taking the excess rate of return above the risk free rate divided by beta to derive the absolute rate of return per unit of risk. A higher value indicates a product has achieved better historical risk-adjusted performance.
<b>Up Market Capture</b>	- The ratio of average portfolio performance over the designated benchmark during periods of positive returns. A higher value indicates better product performance.



AndCo compiled this report for the sole use of the client for which it was prepared. AndCo is responsible for evaluating the performance results of the Total Fund along with the investment advisors by comparing their performance with indices and other related peer universe data that is deemed appropriate. AndCo uses the results from this evaluation to make observations and recommendations to the client.

AndCo uses time-weighted calculations which are founded on standards recommended by the CFA Institute. The calculations and values shown are based on information that is received from custodians. AndCo analyzes transactions as indicated on the custodian statements and reviews the custodial market values of the portfolio. As a result, this provides AndCo with a reasonable basis that the investment information presented is free from material misstatement. This methodology of evaluating and measuring performance provides AndCo with a practical foundation for our observations and recommendations. Nothing came to our attention that would cause AndCo to believe that the information presented is significantly misstated.

This performance report is based on data obtained by the client's custodian(s), investment fund administrator, or other sources believed to be reliable. While these sources are believed to be reliable, the data providers are responsible for the accuracy and completeness of their statements. Clients are encouraged to compare the records of their custodian(s) to ensure this report fairly and accurately reflects their various asset positions.

The strategies listed may not be suitable for all investors. We believe the information provided here is reliable, but do not warrant its accuracy or completeness. Past performance is not an indication of future performance. Any information contained in this report is for informational purposes only and should not be construed to be an offer to buy or sell any securities, investment consulting, or investment management services.

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Large Cap Value Equity Manager Analysis  
December 31, 2020

**City of Fort Worth  
457 Deferred Compensation Plan**

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**Purpose for this Manager Evaluation Report**

The purpose of this search is to evaluate options for the potential replacement of Invesco Dividend Income.

**Investment Options for this Manager Evaluation Report**

<b>Firm Name</b>	<b>Strategy Name</b>	<b>Vehicle</b>	<b>Management Fee</b>	<b>Investment Minimum</b>
BNY Mellon	BNY Mellon Dynamic Value Fund Class Y (DRGYX)	MF	0.65%	None
Dodge & Cox	Dodge & Cox Stock (DODGX)	MF	0.52%	\$2,500
MFS Investment Management	MFS Value R6 (MEIKX)	MF	0.47%	None
Vanguard Group, Inc. Subadvisors: Wellington Management, Vanguard Group	Vanguard Equity Income Admiral (VEIRX)	MF	0.19%	None
Invesco Advisers, Inc.	Invesco Dividend Income R5 (FSIUX)	MF	0.67%	\$1,000,000

### Definition and Characteristics

US Large Cap Value is typically defined as US-based companies with a market capitalization over \$5 billion that have lower price-to-book and price-to-earnings ratios and lower forecasted growth rates. The primary benchmark for strategies in this space is the Russell 1000 Value Index. The index contains those stocks with lower than average price-to-book and price-to-earnings ratios and lower 3-yr forecasted growth rates within the Russell 1000 on Russell's annual reconstitution day, typically calculated at the end of May. The Financials sector dominates the index, accounting for over 25% of the weight by market cap. The Energy, Healthcare, Industrials, Consumer Staples, and Technology sectors also all have meaningful weights. The index contains approximately 700 individual names, but the largest companies by market cap dominate the index. The weighted average market cap of the index typically exceeds \$100 billion, while the median market cap is less than \$10 billion.

### Role within a Portfolio

The primary role of a US Large Cap Value strategy is to provide diversified exposure to the US stock market with a style tilt toward those names with attractive valuations. The value style factor has historically shown to perform well over long periods. Stocks in the value space often demonstrate lower price volatility and higher dividend rates. Active managers in the space typically look for mispricing in a stock's valuation relative to its future business prospects. Within the portfolio, a Large Cap Value strategy is usually paired with a Large Cap Growth strategy to provide additional diversification across different economic environments.

### Benchmark and Peer Group

This US Large Cap Value search report will use the following benchmark and peer group:

**Index – Russell 1000 Value:** Consists of the stocks in the Russell 1000 Index with lower than average forecasted growth rates and lower price-to-book and price-to-earnings ratios.

**Morningstar Category - Large Value:** Large Value portfolios invest primarily in big US companies that are less expensive or growing more slowly than other Large Cap stocks. Stocks in the top 70% of the capitalization of the US equity market are defined as Large Cap. Value is defined based on low valuations (low price ratios and high dividend yields) and slow growth (low growth rates for earnings, sales, book value, and cash flow).



# Investment Option Comparison

	BNY Mellon Dynamic Value Fund Y	Dodge & Cox Stock	MFS Value R6	Vanguard Equity-Income Adm
<b>Firm Information</b>				
Year Founded	1/1/1933	1/1/1930	1/1/1924	1/1/1975
US Headquarters Location	Boston, MA	San Francisco, CA	Boston, MA	Malvern, PA
Number of Major Global Offices	3	2	9	12
Year Began Managing Ext. Funds	1/1/1970	1/1/1930	1/1/1924	1/1/1975
Firm AUM (\$ M)	524,648	326,700	608,000	4,600,000
Ownership Type	Subsidiary	Independent	Subsidiary	Mutual Company
Largest Owner (Name)	BNY Mellon	Not Disclosed	SunLife Financial	Not Disclosed
Employee Ownership (%)	2	100	6	0
Qualify as Emerging Manager?	No	No	No	No
<b>Strategy Information</b>				
Inception Date	1/1/1994	1/4/1965	2/1/1989	3/31/1988
Open/Closed	Open	Open	Open	Open
Primary Benchmark	Russell 1000 Value	Russell 1000 Value	Russell 1000 Value	Russell 1000 Value
Secondary Benchmark	None	S&P 500	None	FTSE High Dividend Yield
Peer Universe	US Large Cap Value	US Large Cap Value	US Large Cap Value	US Large Cap Value
Outperformance Estimate (%)	1-3	1-3	1-2	1-2
Tracking Error Estimate (%)	3-5	3-5	2-4	2-4
Strategy AUM (\$ M)	6,323	102,100	89,600	40,200
Strategy AUM as % Firm Assets	1	31	15	1
Estimated Capacity (\$ M)	20,000	120,000	Limited Capacity	50,000
Investment Approach - Primary	Bottom-up	Bottom-up	Bottom-up	Bottom-up
Investment Approach - Secondary	Fundamental	Fundamental	Fundamental	Hybrid

The source of data and figures provided is generally the respective managers. Certain data represents AndCo's view and could differ from the manager's interpretation. The most current AUM of each strategy may therefore differ from what is currently stated.

	BNY Mellon Dynamic Value Fund Y	Dodge & Cox Stock	MFS Value R6	Vanguard Equity-Income Adm
<b>Team Information</b>				
Decision Making Structure	PM-Led	Committee	PM-Led	Multi-Manager
Number of Decision Makers	1	9	2	3
Names of Decision Makers	B. Ferguson	9 Person Committee Team	N. Chitkara, K. Cannan	M. Reckmeyer, J. Stetler, B. Guo
Date Began Managing Strategy	2003	1992-2021	2006, 2019	2007, 2003, 2016
Date Began with Firm	1997	1983-2009	1997, 2013	1994, 1982, 2007
Number of Products Managed by Team	4	5	3	18
Number of Investment Analysts	22	27	64	70
Investment Analyst Team Structure	Sector/Industry Specialists	Sector/Industry Specialists	Sector/Industry Specialists	Combination

**Portfolio Construction Information**

	Value	Value	Value	Value
Broad Style Category	Value	Value	Value	Value
Style Bias	Relative Value	Traditional Value	Relative Value	Dividend-Oriented
Sector Constraint Type	Benchmark Relative	None	None	Benchmark Relative
Sector Constraints (%)	+/-10	None	None	+/-10
Typical Sector/s Overweight	Financials	Technology	Industrials	Consumer Staples
Typical Sector/s Underweight	Utilities, Real Estate	Utilities, Real Estate	Energy, Utilities	Financials
Typical Number of Holdings	65-100	60-90	80-100	160-220
Average Full Position Size (%)	+ 0.5 vs Index	1-3	1	2-3
Maximum Position Size (%)	5	5	5, 1.5x	5
Annual Typical Asset Turnover (%)	50-100	30-45	20-40	20-40
Annual Typical Name Turnover (%)	60-80	15-20	10-20	20-40
Maximum Cash Allocation (%)	5	10	2	None
Maximum Foreign Exposure (%)	0	20	10	25

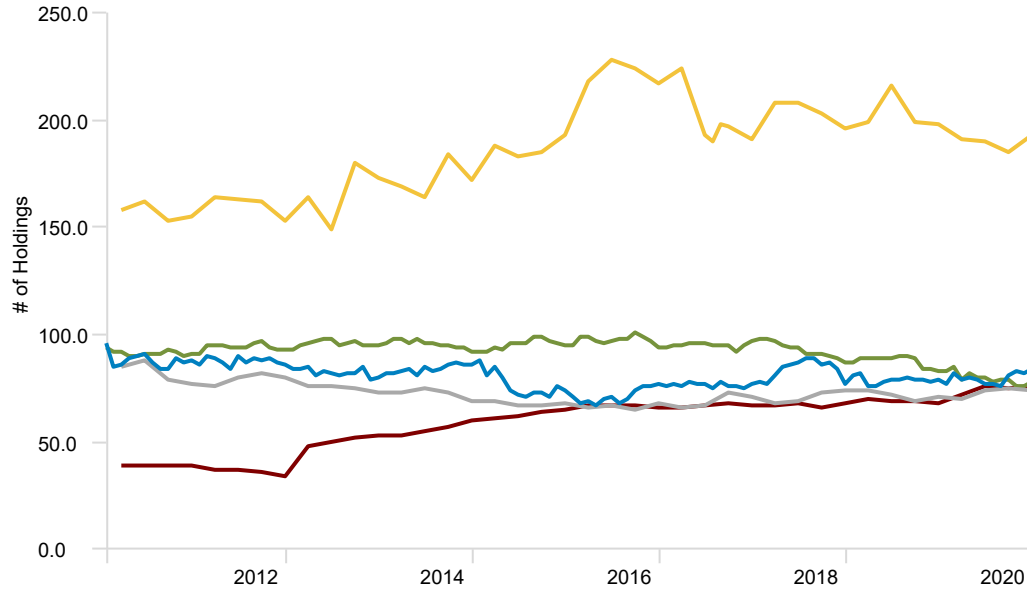
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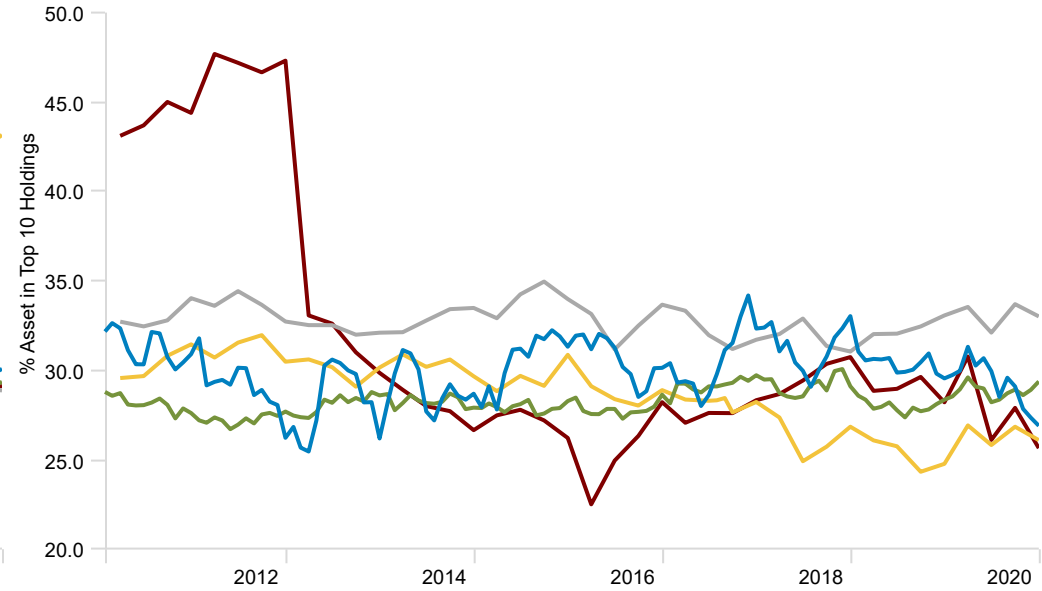
As of 12/31/2020

	BNY Mellon Dynamic Value Fund Y	Dodge & Cox Stock	MFS Value R6	Vanguard Equity-Income Adm	Invesco Dividend Income R5	Russell 1000 Value TR USD
<b>COMPOSITION</b>						
# of Holdings	84	74	78	193	76	850
% Asset in Top 10 Holdings	26.90	33.02	29.38	26.10	25.65	16.56
Asset Alloc Cash %	0.00	0.69	1.29	2.22	4.98	0.00
Asset Alloc Equity %	100.00	99.23	98.71	97.78	95.01	100.00
Asset Alloc Bond %	0.00	0.00	0.00	0.00	0.01	0.00
Asset Alloc Other %	0.00	0.08	0.00	0.00	0.00	0.00
<b>CHARACTERISTICS</b>						
Average Market Cap (mil)	49,046.96	70,547.75	93,337.52	94,335.12	51,371.69	62,821.09
P/E Ratio (TTM)	22.70	20.14	23.74	20.33	20.34	21.81
P/B Ratio (TTM)	2.09	1.68	2.82	2.51	2.14	2.27
LT Earn Growth	8.63	7.85	7.40	5.98	5.33	9.70
Dividend Yield	2.03	2.31	2.32	3.08	3.45	2.41
ROE % (TTM)	10.07	7.45	20.67	21.66	20.28	13.10
<b>GICS SECTORS %</b>						
Energy %	5.38	8.21	1.99	4.34	4.94	4.58
Materials %	7.43	1.47	3.93	3.15	4.07	4.73
Industrials %	12.78	9.34	17.65	10.68	10.31	13.11
Consumer Discretionary %	5.92	2.70	1.66	4.29	9.47	7.68
Consumer Staples %	4.24	1.15	7.23	13.69	21.51	7.44
Healthcare %	14.22	16.21	19.63	18.32	10.33	13.81
Financials %	28.57	28.60	26.23	20.52	14.05	19.52
Information Technology %	11.88	19.31	10.79	10.54	3.10	9.73
Communication Services %	2.63	13.01	3.86	5.76	5.02	9.51
Utilities %	6.37	0.00	6.68	7.66	14.45	5.46
Real Estate %	0.58	0.00	0.36	1.05	2.75	4.43
<b>MARKET CAPITALIZATION</b>						
Market Cap Giant %	15.93	23.86	30.72	36.77	31.68	27.36
Market Cap Large %	47.24	47.20	56.53	43.95	34.77	39.89
Market Cap Mid %	31.96	26.18	11.46	15.48	18.36	27.94
Market Cap Small %	4.87	1.90	0.00	1.53	9.02	4.80
Market Cap Micro %	0.00	0.00	0.00	0.05	1.18	0.00

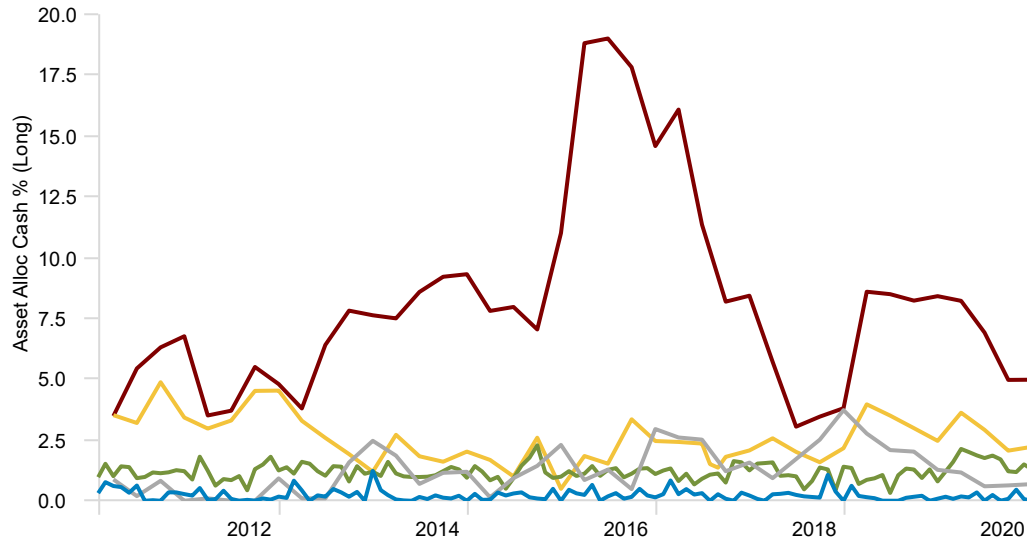
Historical Number of Holdings



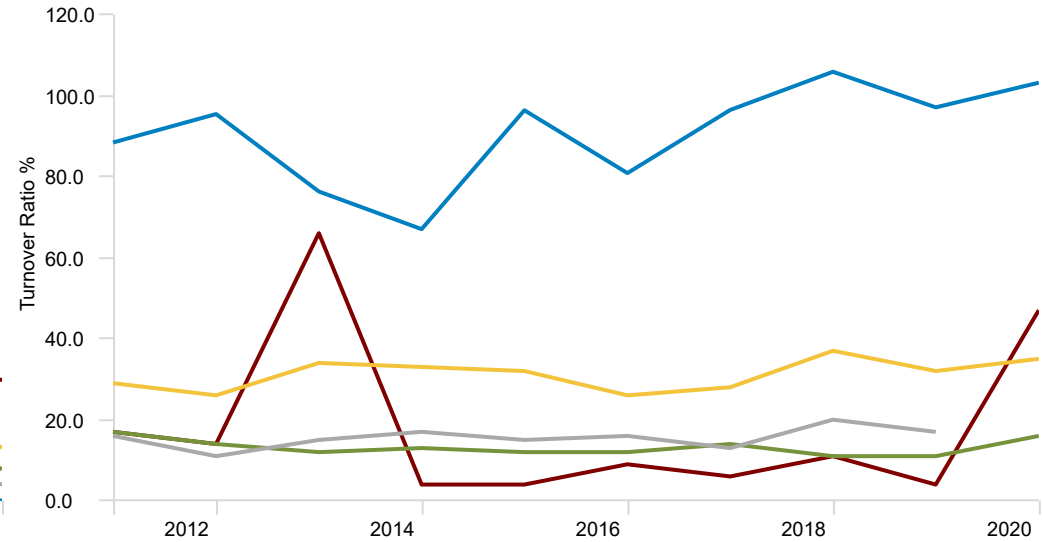
Historical Percentage of Assets in Top 10 Holdings



Historical Cash Allocation



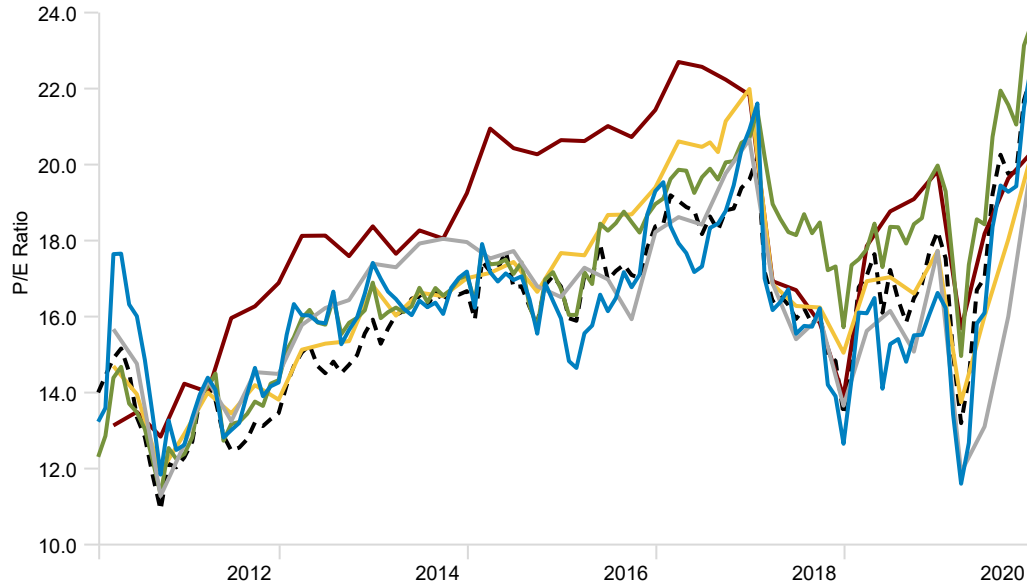
Historical Portfolio Turnover



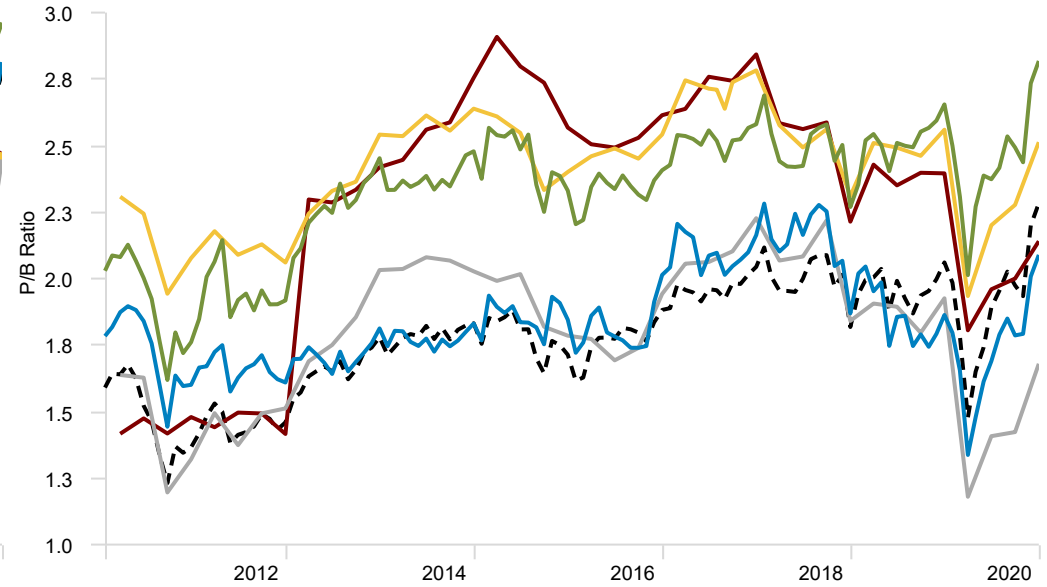
— BNY Mellon Dynamic Value Fund Y      — Dodge & Cox Stock  
— Vanguard Equity-Income Adm      — Invesco Dividend Income R5  
— MFS Value R6



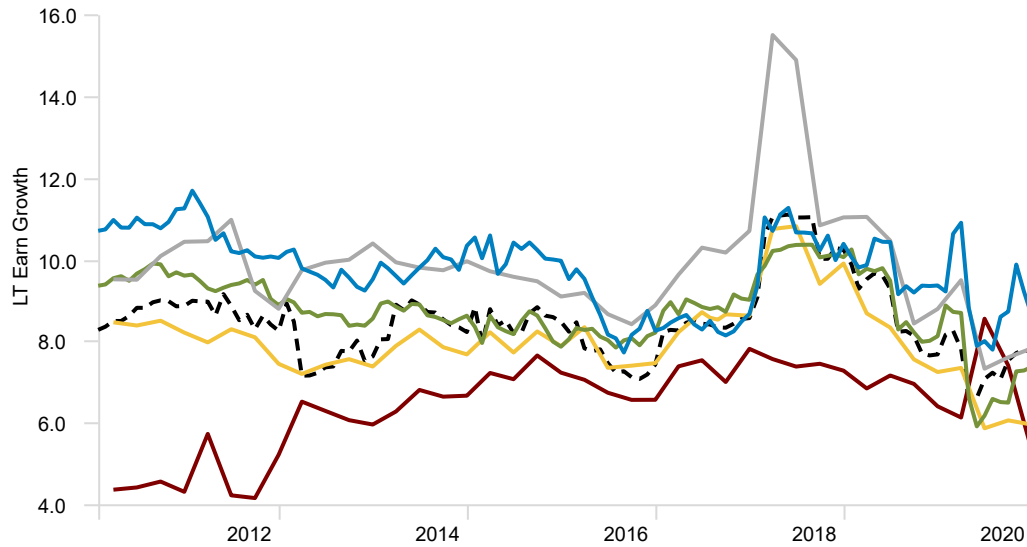
Historical P/E Ratio



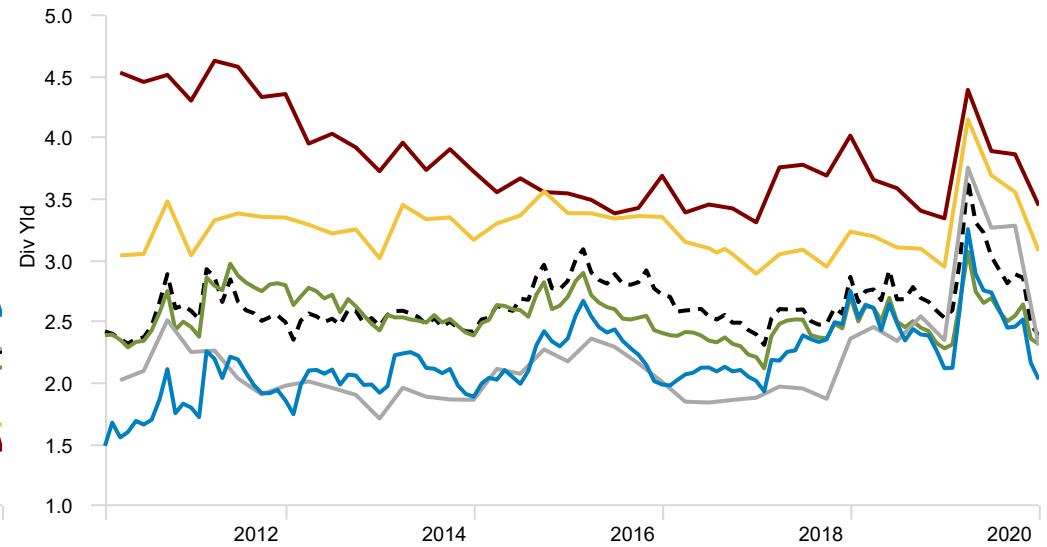
Historical P/B Ratio



Historical Earnings Growth



Historical Dividend Yield



— BNY Mellon Dynamic Value Fund Y

— Dodge & Cox Stock

— MFS Value R6

— Vanguard Equity-Income Adm

— Invesco Dividend Income R5

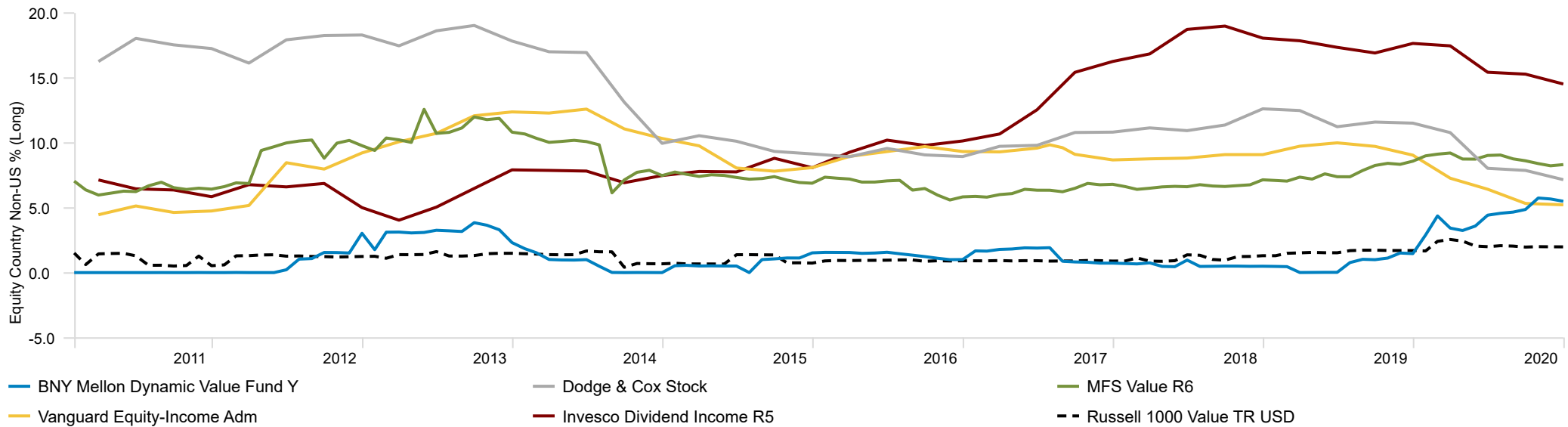
- - Russell 1000 Value TR USD



**Current Portfolio Region Allocation**

	BNY Mellon Dynamic Value Fund Y	Dodge & Cox Stock	MFS Value R6	Vanguard Equity-Income Adm	Invesco Dividend Income R5	Russell 1000 Value TR USD
Equity Country United States %	94.50	92.79	91.57	94.66	84.70	98.02
Equity Region North America %	94.51	92.79	92.23	95.23	86.04	98.02
Equity Region Latin America %	0.00	0.00	0.00	0.00	0.00	0.03
Equity Region United Kingdom %	0.75	2.45	1.91	1.56	3.68	1.02
Equity Region Europe dev %	3.29	4.76	4.81	2.95	10.29	0.60
Equity Region Europe emrg %	0.00	0.00	0.00	0.00	0.00	0.00
Equity Region Japan %	0.00	0.00	0.00	0.00	0.00	0.00
Equity Region Australasia %	0.00	0.00	0.00	0.00	0.00	0.00
Equity Region Asia dev %	0.00	0.00	0.00	0.26	0.00	0.00
Equity Region Asia emrg %	1.46	0.00	1.05	0.00	0.00	0.34
Equity Region Africa/Middle East %	0.00	0.00	0.00	0.00	0.00	0.00
Equity Region Developed %	98.54	100.00	98.95	100.00	100.00	99.66
Equity Region Emerging %	1.46	0.00	1.05	0.00	0.00	0.34

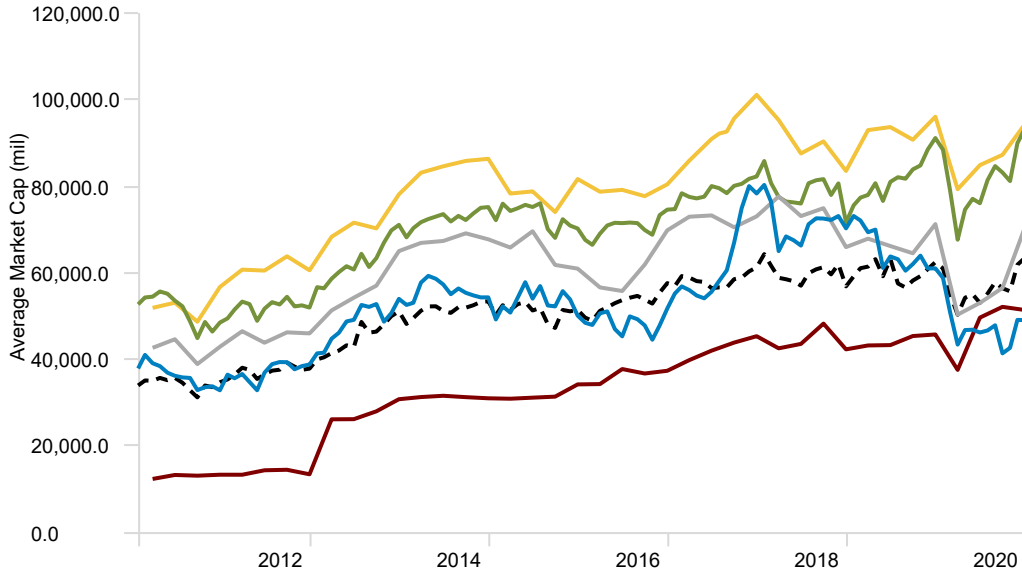
**Historical Non-US Portfolio Exposure**



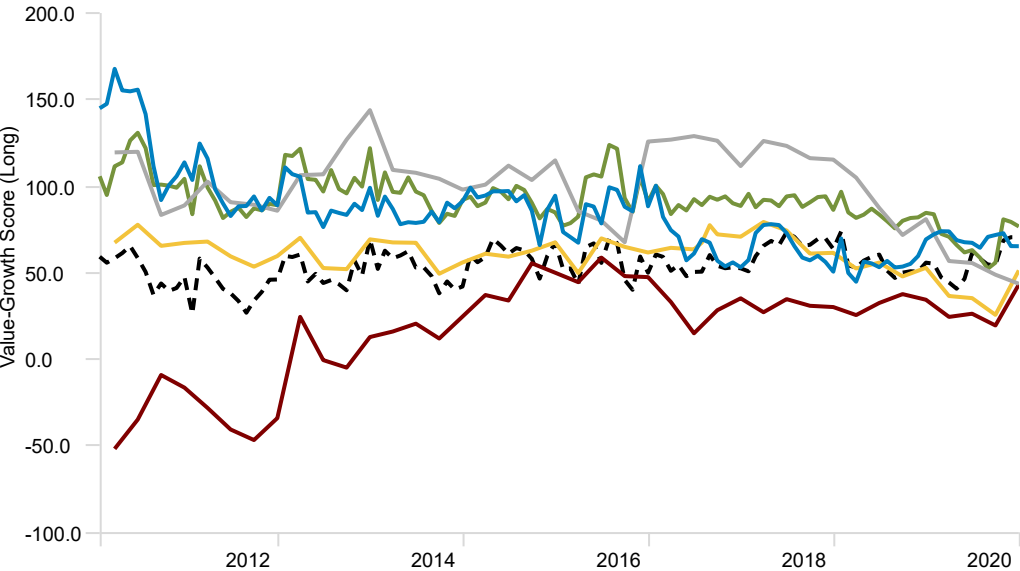
Style Allocation

	BNY Mellon Dynamic Value Fund Y	Dodge & Cox Stock	MFS Value R6	Vanguard Equity-Income Adm	Invesco Dividend Income R5	Russell 1000 Value TR USD
Equity Style Large Value %	25.56	37.92	35.40	41.32	36.84	28.33
Equity Style Large Core %	32.05	23.87	51.29	37.84	28.86	34.79
Equity Style Large Growth %	5.56	9.28	0.56	1.57	0.75	3.29
Equity Style Mid Value %	19.33	17.51	3.22	11.46	13.42	12.74
Equity Style Mid Core %	11.38	7.91	8.25	4.01	4.93	13.62
Equity Style Mid Growth %	1.26	0.76	0.00	0.00	0.00	1.86
Equity Style Small Value %	1.14	1.69	0.00	0.95	6.71	1.97
Equity Style Small Core %	2.56	0.00	0.00	0.33	3.50	2.70
Equity Style Small Growth %	1.17	0.00	0.00	0.15	0.00	0.43

Historical Average Market Capitalization



Historical Value - Growth Score

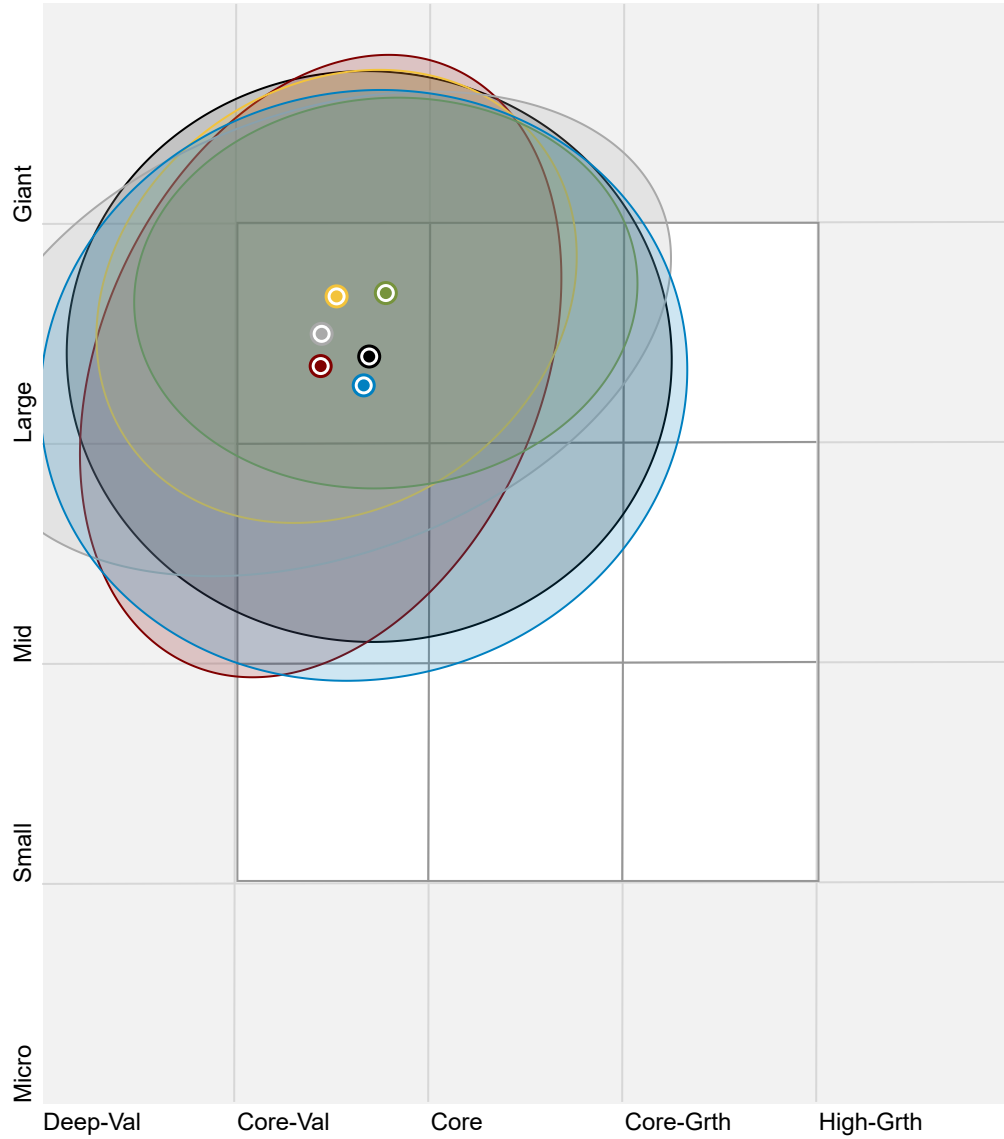


— BNY Mellon Dynamic Value Fund Y     
 — Dodge & Cox Stock  
— Vanguard Equity-Income Adm     
 — Invesco Dividend Income R5



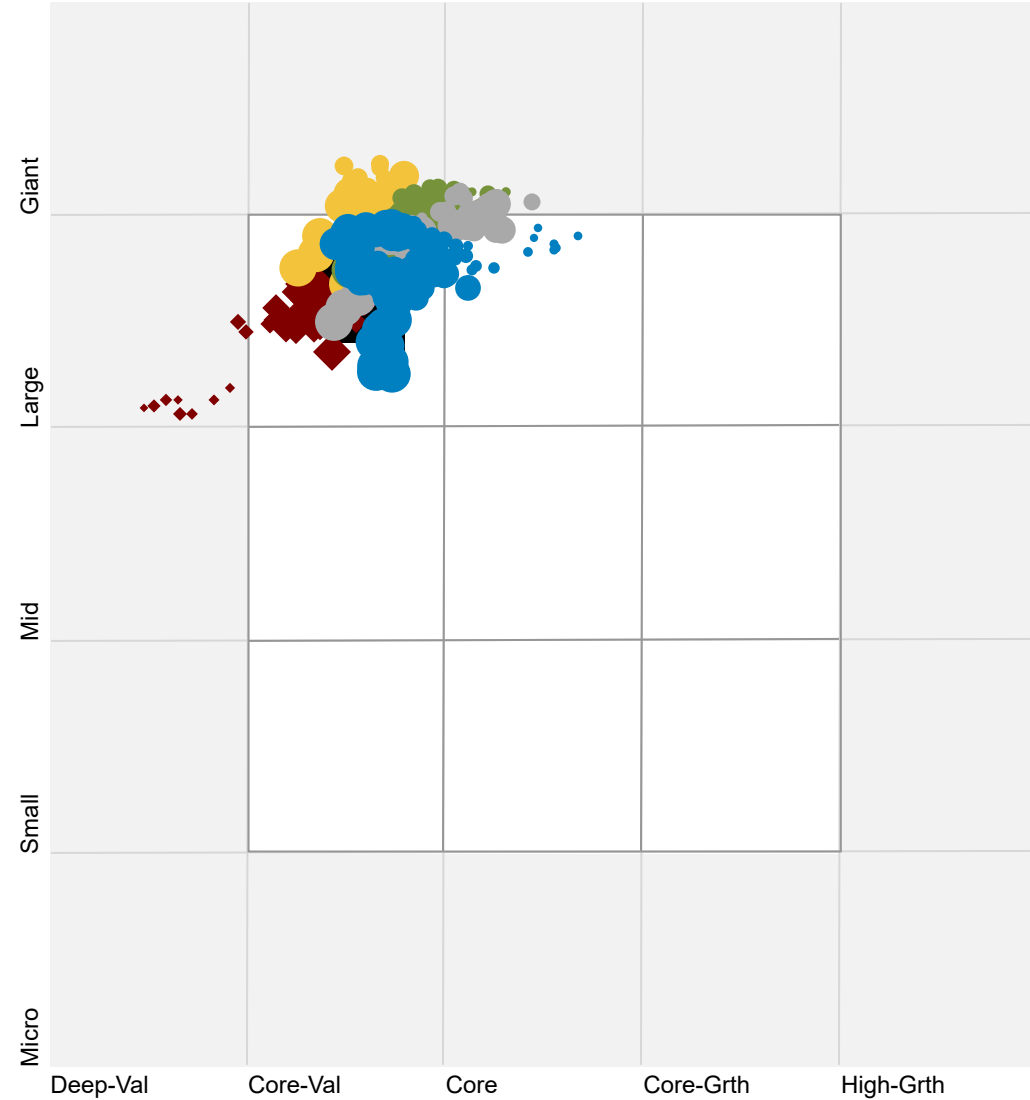


Current Portfolio Holdings-Style Map



Historical Holdings-Based Style Trail

Time Period: 1/31/2011 to 12/31/2020



● BNY Mellon Dynamic Value Fund Y

● Dodge & Cox Stock

● MFS Value R6

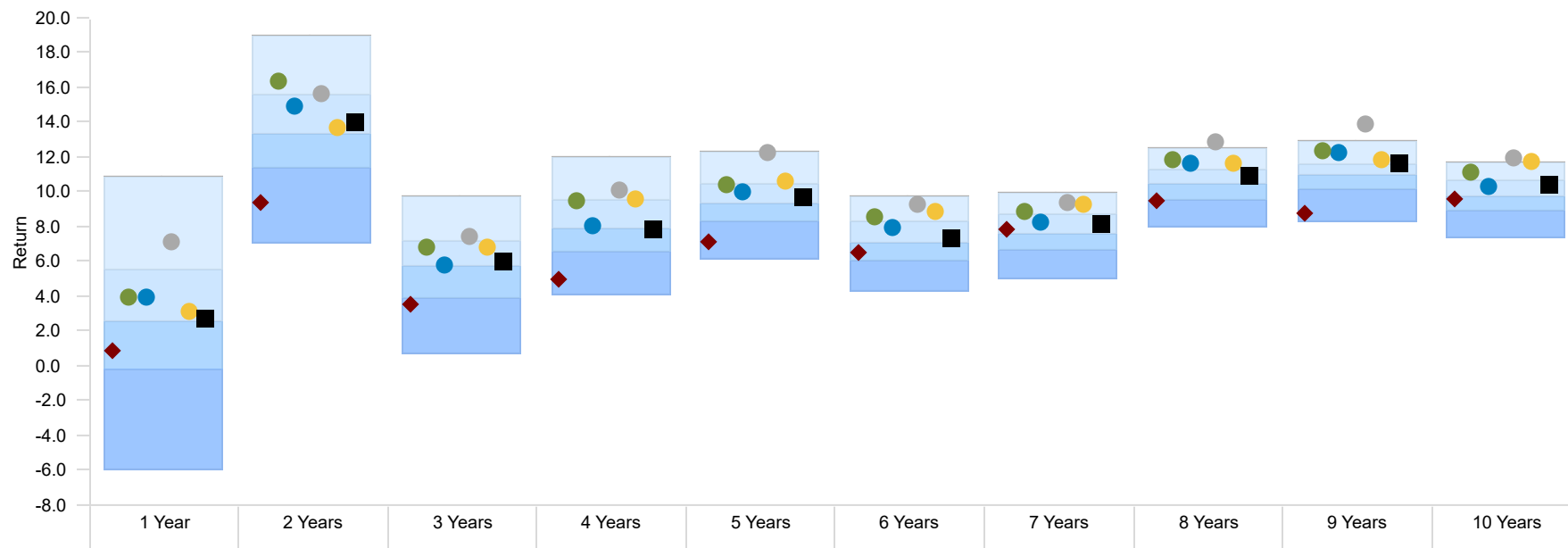
● Vanguard Equity-Income Adm

◆ Invesco Dividend Income R5

■ Russell 1000 Value TR USD

# Quantitative Review

Peer Group (5-95%): Funds - U.S. - Large Value

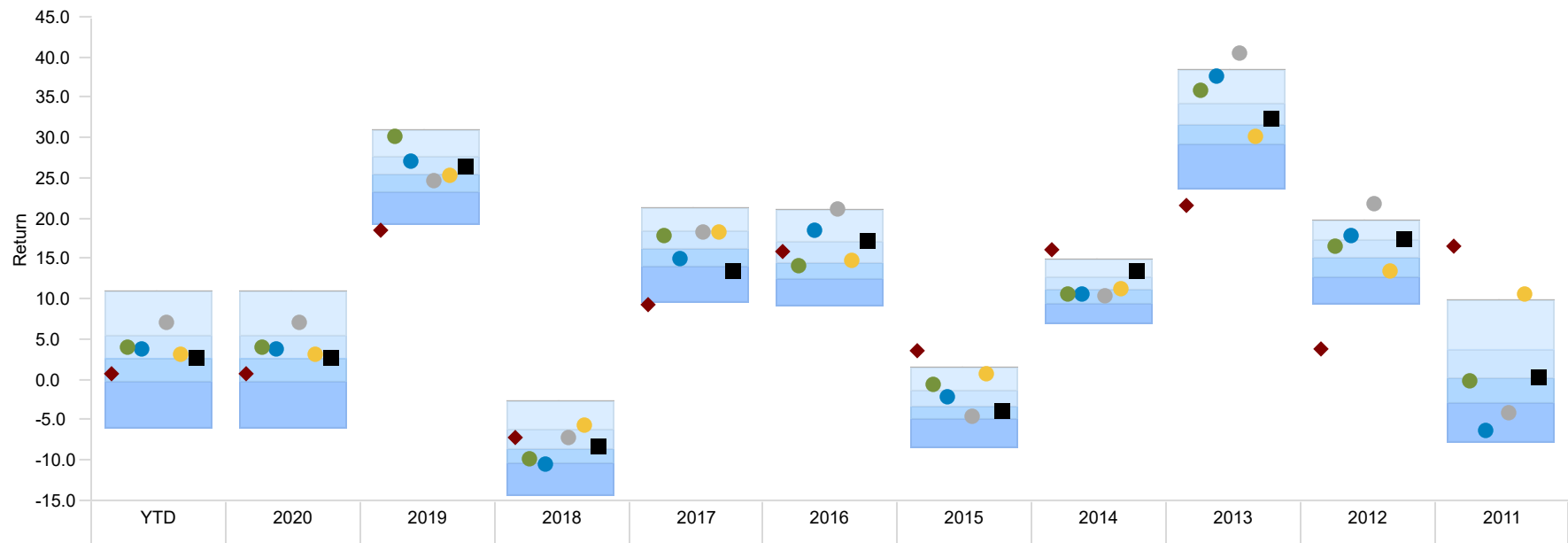


	1 Year	Rank	2 Years	Rank	3 Years	Rank	4 Years	Rank	5 Years	Rank	6 Years	Rank	7 Years	Rank	8 Years	Rank	9 Years	Rank	10 Years	Rank
BNY Mellon Dynamic Value Fund Y	3.95	36	14.95	31	5.79	48	8.06	47	10.08	32	7.96	30	8.35	32	11.66	17	12.34	12	10.33	33
Dodge & Cox Stock	7.16	17	15.66	24	7.52	21	10.13	19	12.27	6	9.29	8	9.45	11	12.92	2	13.90	1	11.96	3
MFS Value R6	4.03	35	16.37	18	6.91	29	9.55	26	10.47	26	8.58	19	8.87	22	11.94	13	12.44	10	11.13	16
Vanguard Equity-Income Adm	3.13	43	13.70	46	6.85	31	9.64	24	10.66	22	8.96	12	9.30	14	11.72	16	11.93	19	11.80	4
Invesco Dividend Income R5	0.88	67	9.41	88	3.62	79	5.03	90	7.15	90	6.56	62	7.88	43	9.51	76	8.87	92	9.63	55
Russell 1000 Value TR USD	2.80	47	14.05	41	6.07	44	7.92	50	9.74	39	7.35	42	8.20	35	10.98	33	11.69	24	10.50	28

- BNY Mellon Dynamic Value Fund Y
- Dodge & Cox Stock
- MFS Value R6
- Vanguard Equity-Income Adm
- ◆ Invesco Dividend Income R5
- Russell 1000 Value TR USD



Peer Group (5-95%): Funds - U.S. - Large Value



	YTD	Rank	2020	Rank	2019	Rank	2018	Rank	2017	Rank	2016	Rank	2015	Rank	2014	Rank	2013	Rank	2012	Rank	2011	Rank
BNY Mellon Dynamic Value Fund Y	3.95	36	3.95	36	27.11	30	-10.39	75	15.17	64	18.54	16	-2.04	31	10.72	58	37.80	7	17.99	17	-6.23	89
Dodge & Cox Stock	7.16	17	7.16	17	24.83	58	-7.07	31	18.33	25	21.28	5	-4.49	69	10.40	63	40.55	3	22.01	3	-4.08	81
MFS Value R6	4.03	35	4.03	35	30.18	7	-9.78	69	17.86	30	14.25	53	-0.42	14	10.68	59	35.95	14	16.57	33	-0.05	51
Vanguard Equity-Income Adm	3.13	43	3.13	43	25.35	51	-5.65	21	18.49	24	14.82	45	0.86	7	11.38	46	30.19	66	13.58	67	10.69	4
Invesco Dividend Income R5	0.88	67	0.88	67	18.67	96	-7.07	31	9.37	95	16.09	31	3.67	1	16.14	3	21.61	96	3.85	99	16.71	1
Russell 1000 Value TR USD	2.80	47	2.80	47	26.54	35	-8.27	44	13.66	78	17.34	22	-3.83	59	13.45	16	32.53	39	17.51	21	0.39	47

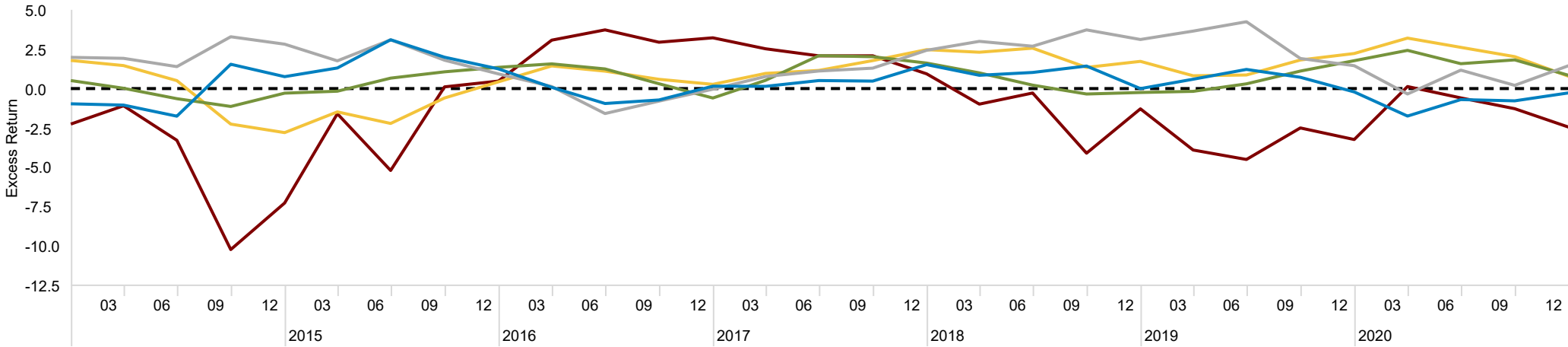
- BNY Mellon Dynamic Value Fund Y
- Dodge & Cox Stock
- MFS Value R6
- Vanguard Equity-Income Adm
- ◆ Invesco Dividend Income R5
- Russell 1000 Value TR USD



**Rolling Excess Returns**

Time Period: 1/1/2011 to 12/31/2020

Rolling Window: 3 Years 3 Months shift Calculation Benchmark: Russell 1000 Value TR USD

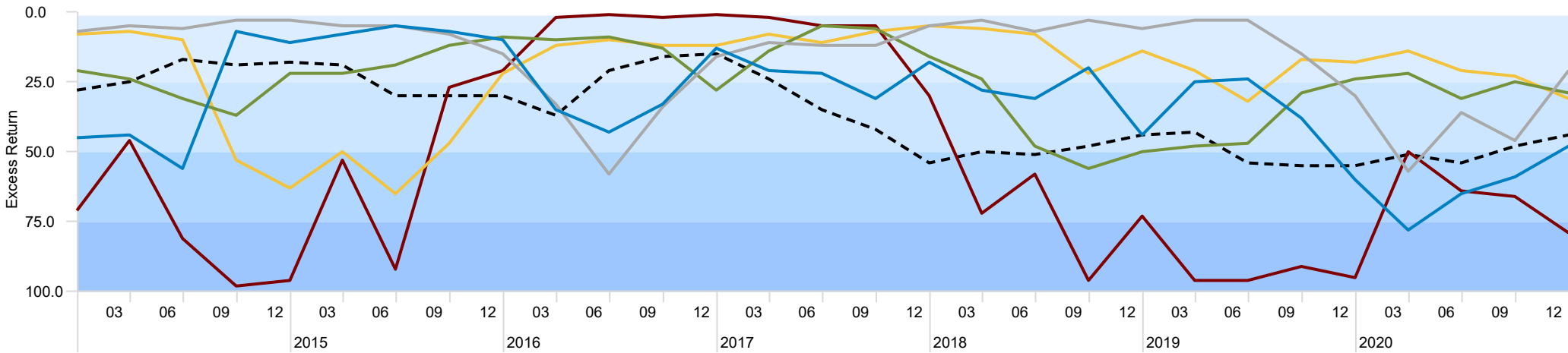


**Rolling Excess Return Rankings**

Time Period: 1/1/2011 to 12/31/2020

Rolling Window: 3 Years 3 Months shift Calculation Benchmark: Russell 1000 Value TR USD

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



BNY Mellon Dynamic Value Fund Y  
Vanguard Equity-Income Adm

Dodge & Cox Stock  
Invesco Dividend Income R5

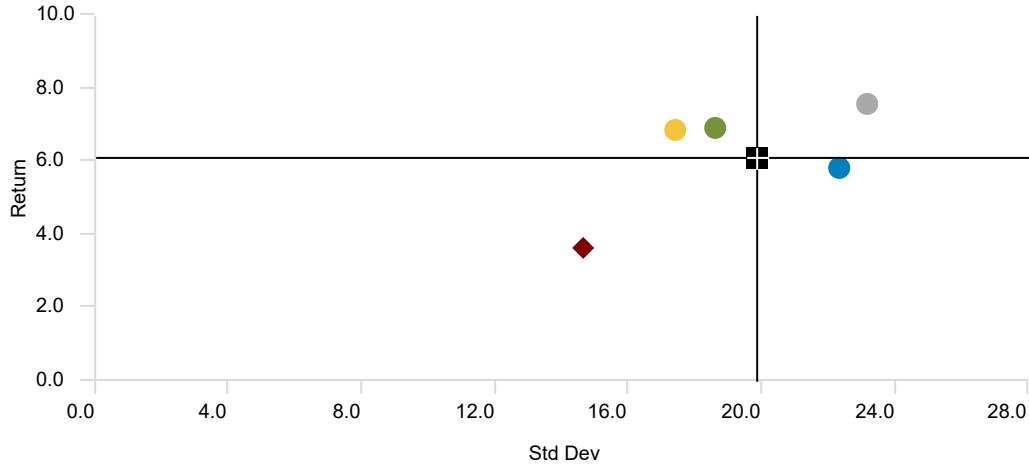
MFS Value R6  
Russell 1000 Value TR USD



**Risk-Reward: 3-Year**

Time Period: 1/1/2018 to 12/31/2020

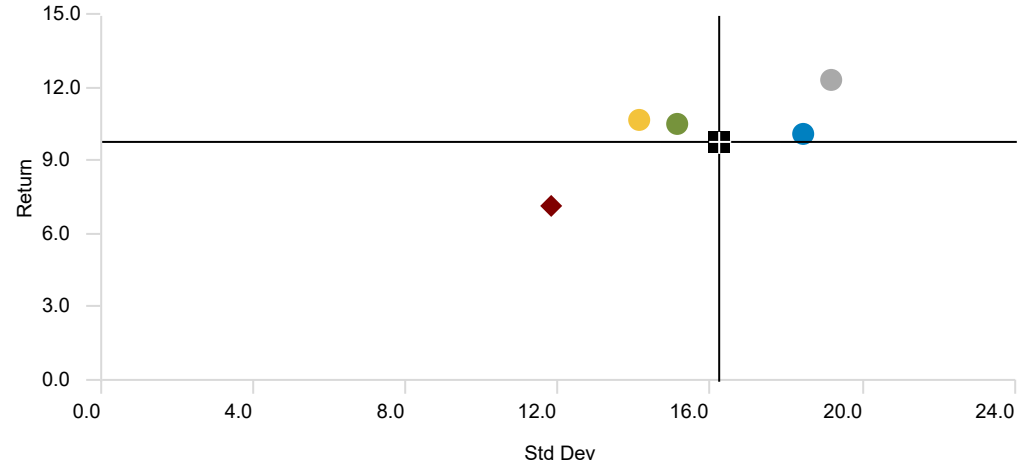
Calculation Benchmark: Russell 1000 Value TR USD



**Risk-Reward: 5-Year**

Time Period: 1/1/2016 to 12/31/2020

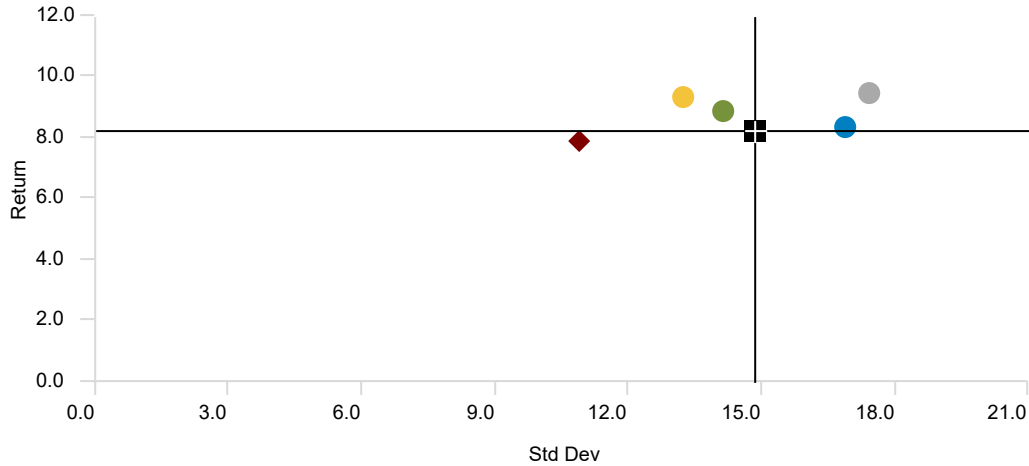
Calculation Benchmark: Russell 1000 Value TR USD



**Risk-Reward: 7-Year**

Time Period: 1/1/2014 to 12/31/2020

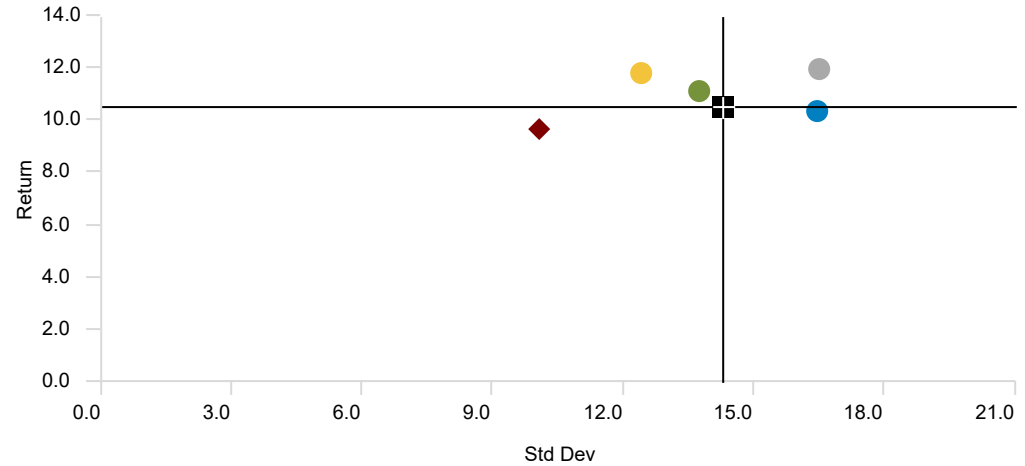
Calculation Benchmark: Russell 1000 Value TR USD



**Risk-Reward: 10-Year**

Time Period: 1/1/2011 to 12/31/2020

Calculation Benchmark: Russell 1000 Value TR USD



● BNY Mellon Dynamic Value Fund Y

● Dodge & Cox Stock

● MFS Value R6

● Vanguard Equity-Income Adm

◆ Invesco Dividend Income R5

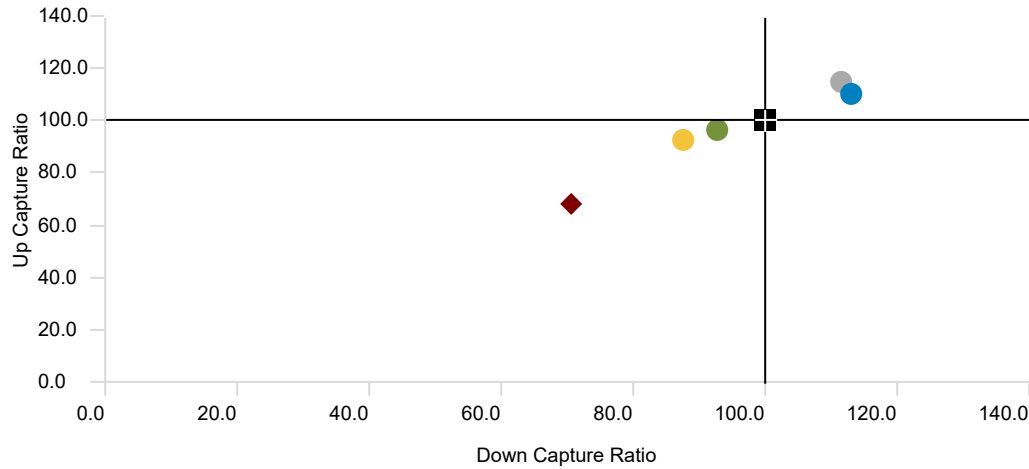
■ Russell 1000 Value TR USD



**Up and Down Market Capture: 3-Year**

Time Period: 1/1/2018 to 12/31/2020

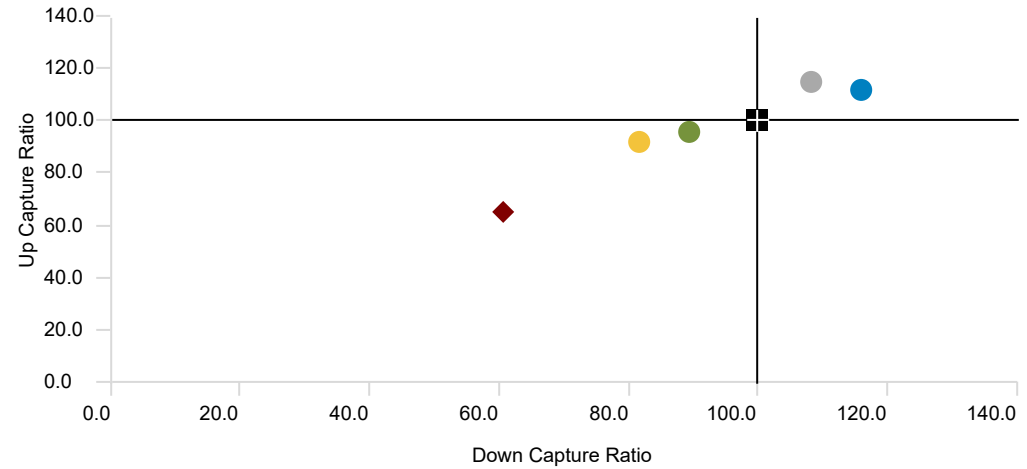
Calculation Benchmark: Russell 1000 Value TR USD



**Up and Down Market Capture: 5-Year**

Time Period: 1/1/2016 to 12/31/2020

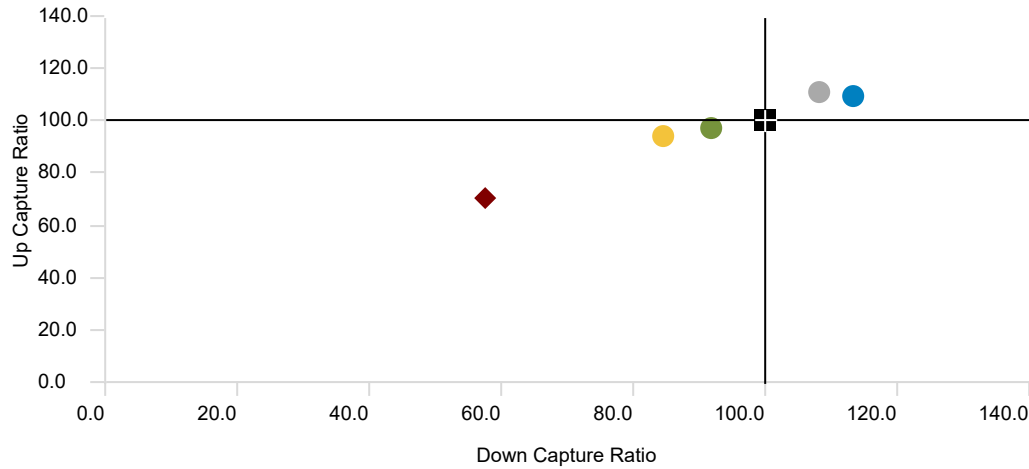
Calculation Benchmark: Russell 1000 Value TR USD



**Up and Down Market Capture: 7-Year**

Time Period: 1/1/2014 to 12/31/2020

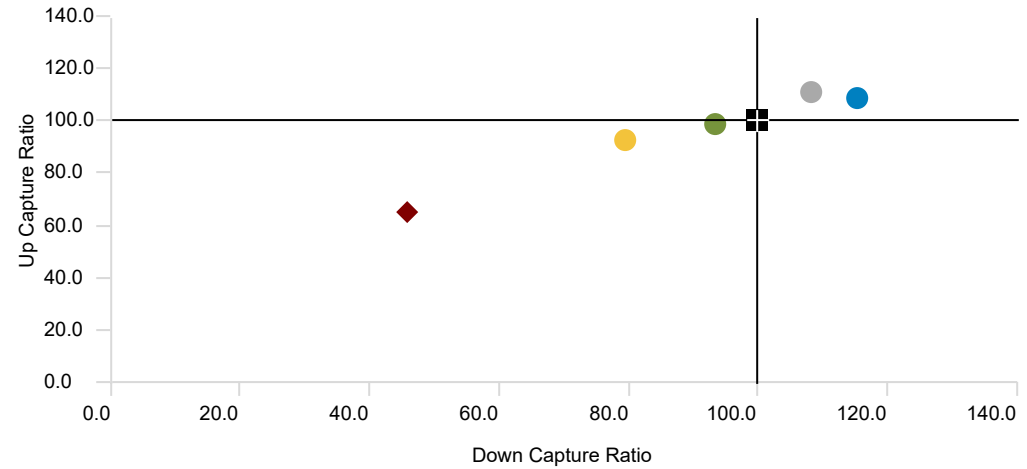
Calculation Benchmark: Russell 1000 Value TR USD



**Up and Down Market Capture: 10-Year**

Time Period: 1/1/2011 to 12/31/2020

Calculation Benchmark: Russell 1000 Value TR USD



● BNY Mellon Dynamic Value Fund Y

● Dodge & Cox Stock

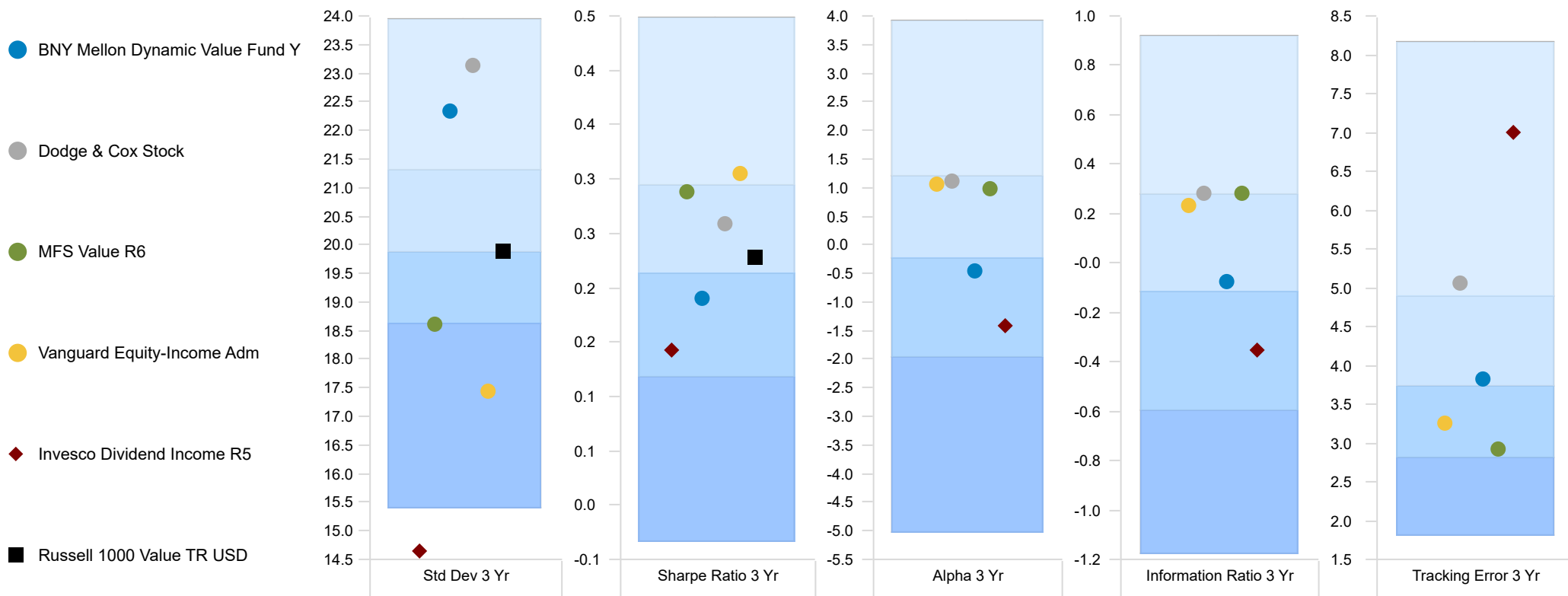
● MFS Value R6

● Vanguard Equity-Income Adm

◆ Invesco Dividend Income R5

■ Russell 1000 Value TR USD



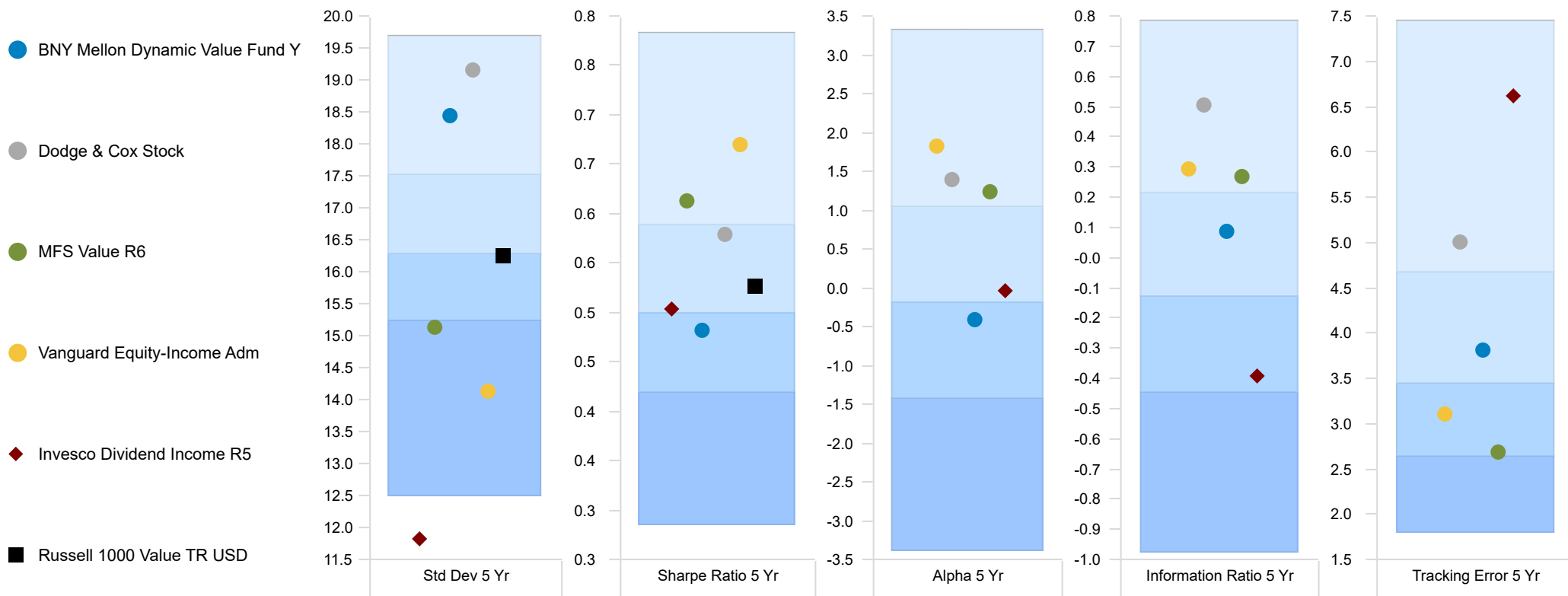


Time Period: 1/1/2018 to 12/31/2020

	Std Dev	Rank	Sharpe Ratio	Rank	Alpha	Rank	Information Ratio	Rank	Tracking Error	Rank
BNY Mellon Dynamic Value Fund Y	22.36	17	0.19	56	-0.44	53	-0.07	47	3.83	46
Dodge & Cox Stock	23.16	11	0.26	36	1.12	27	0.29	25	5.07	24
MFS Value R6	18.63	75	0.29	27	1.00	29	0.29	25	2.93	70
Vanguard Equity-Income Adm	17.44	84	0.31	23	1.08	28	0.24	29	3.27	59
Invesco Dividend Income R5	14.66	97	0.14	69	-1.41	68	-0.35	63	7.00	8
Russell 1000 Value TR USD	19.90	49	0.23	45	0.00	45	0.00	100	0.00	100



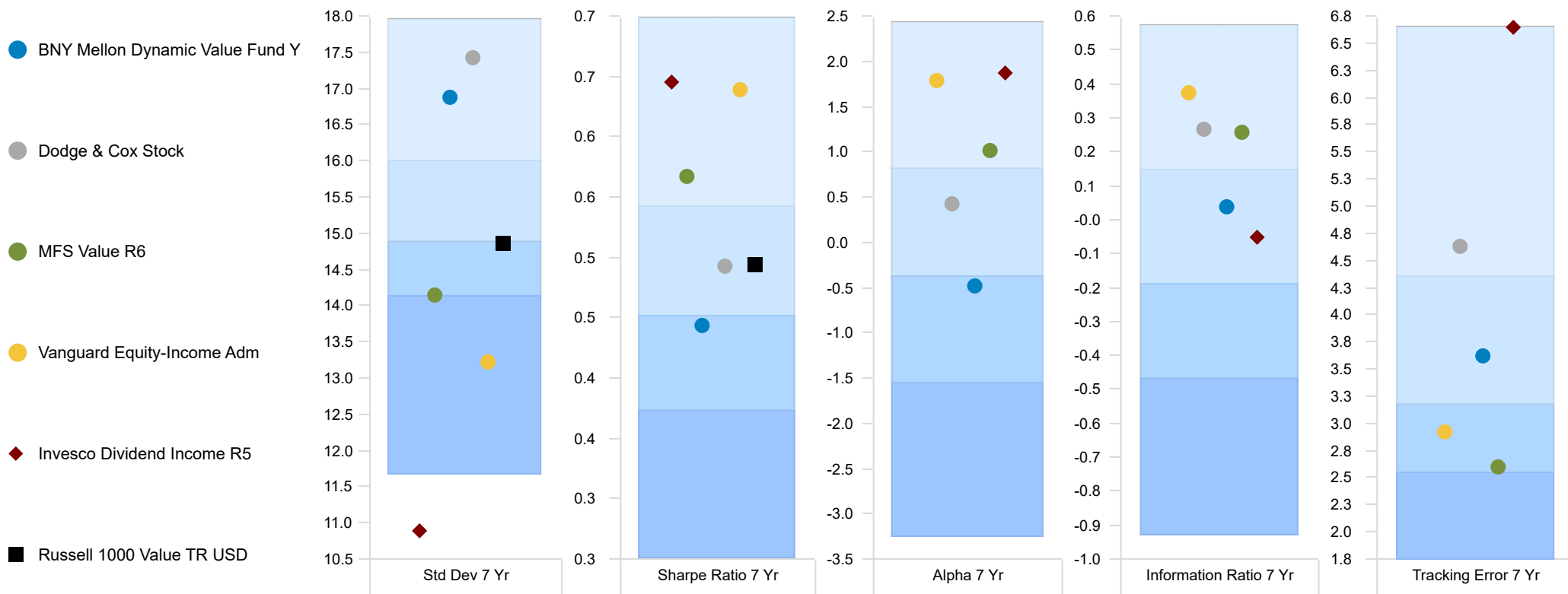




Time Period: 1/1/2016 to 12/31/2020

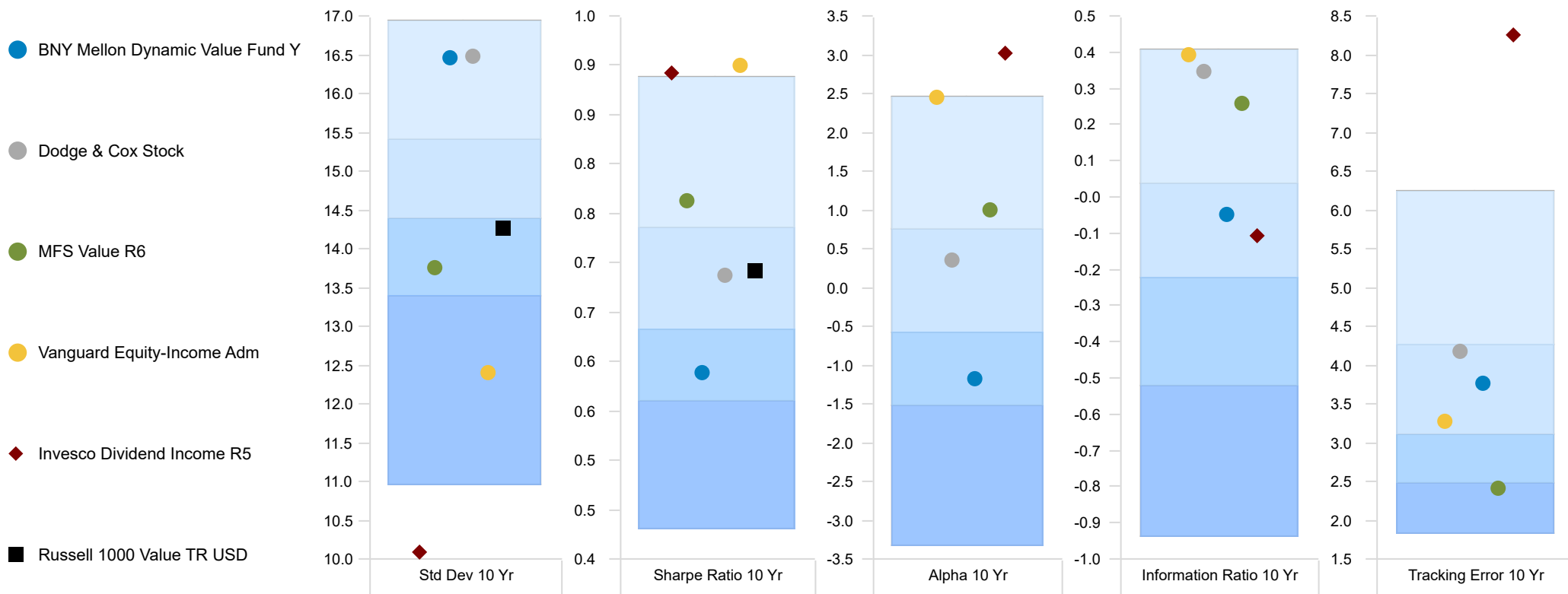
	Std Dev	Rank	Sharpe Ratio	Rank	Alpha	Rank	Information Ratio	Rank	Tracking Error	Rank
BNY Mellon Dynamic Value Fund Y	18.46	15	0.48	55	-0.39	54	0.09	32	3.82	41
Dodge & Cox Stock	19.16	8	0.58	27	1.41	20	0.51	11	5.00	22
MFS Value R6	15.15	76	0.61	21	1.25	23	0.27	21	2.70	73
Vanguard Equity-Income Adm	14.15	84	0.67	14	1.83	16	0.30	19	3.11	60
Invesco Dividend Income R5	11.84	99	0.50	49	-0.02	46	-0.39	70	6.63	8
Russell 1000 Value TR USD	16.26	50	0.53	41	0.00	45	0.00		0.00	100





Time Period: 1/1/2014 to 12/31/2020

	Std Dev	Rank	Sharpe Ratio	Rank	Alpha	Rank	Information Ratio	Rank	Tracking Error	Rank
BNY Mellon Dynamic Value Fund Y	16.89	14	0.44	53	-0.47	52	0.04	32	3.63	41
Dodge & Cox Stock	17.43	8	0.49	37	0.43	32	0.27	16	4.64	21
MFS Value R6	14.15	74	0.57	21	1.03	23	0.26	16	2.60	73
Vanguard Equity-Income Adm	13.23	85	0.64	10	1.79	11	0.38	10	2.92	61
Invesco Dividend Income R5	10.90	99	0.65	9	1.89	10	-0.05	39	6.66	5
Russell 1000 Value TR USD	14.88	51	0.49	36	0.00	41	0.00		0.00	100



Time Period: 1/1/2011 to 12/31/2020

	Std Dev	Rank	Sharpe Ratio	Rank	Alpha	Rank	Information Ratio	Rank	Tracking Error	Rank
BNY Mellon Dynamic Value Fund Y	16.46	9	0.59	65	-1.16	67	-0.05	31	3.77	36
Dodge & Cox Stock	16.50	9	0.69	34	0.36	31	0.35	8	4.18	26
MFS Value R6	13.77	67	0.76	19	1.01	21	0.26	10	2.41	77
Vanguard Equity-Income Adm	12.42	88	0.90	4	2.47	5	0.40	6	3.28	46
Invesco Dividend Income R5	10.09	99	0.89	5	3.03	2	-0.11	37	8.26	2
Russell 1000 Value TR USD	14.28	55	0.69	32	0.00	37	0.00		0.00	100

# Investment Option Narratives

**Firm Overview**

The Mellon U.S. Dynamic Large Cap Value team was previously part of The Boston Company Asset Management (TBC). TBC was founded and registered with the SEC in 1970. The firm, specializing in fundamental equity management, was previously an independently operated subsidiary of The BNY Mellon Corporation (NYSE: BK). On November 13, 2017, BNY Mellon Investment Management announced its intent to combine Mellon Capital Management Corporation (Mellon Capital), Standish Mellon Asset Management Company LLC (Standish) and TBC to form a specialist multi-asset investment manager overseeing more than \$500 billion in assets. The merger became effective February 1, 2018 and the combined company rebranded as Mellon Investments Corporation on January 2, 2019.

**Team Overview**

Lead PM Brian Ferguson has served as the key decision-maker for Mellon U.S. Dynamic U.S. Large Cap Value since 2003. John Bailer and David Intoppa serve as co-managers with Bailer being the lead on Mellon's Equity Income and High Dividend strategies. Each PM serves in a dual analyst role with Ferguson overseeing Health Care and Financials, Bailer covering Consumer Discretionary, Consumer Staples, Technology and Telecommunications and Intoppa having oversight on Energy, Industrials Materials and Utilities. A centralized research group, which includes more than 15 U.S.-focused research analysts organized by sector, also supports the team.

**Strategy Overview**

The strategy follows a classic, bottom-up, fundamental approach. The Mellon U.S. Dynamic LCV team believes that successful investing is achieved through a three-fold philosophy: a) focus on equity securities with attractive valuations relative to the market, sector and stock history, while avoiding value traps by marrying traditional valuation measures with companies that exhibit business improvement, b) use proprietary, unbiased research resources to identify opportunities that are underappreciated and/or not fully understood, and c) employ risk controls at all levels of the portfolio construction process to minimize unintended exposures and ensure performance is driven by stock selection.

The investment team periodically reviews all potential securities to create a working list of roughly 20 to 30 portfolio addition candidates. They use quantitative screens to source ideas, while also employing qualitative screens to uncover potential opportunities not yet reflected in quantitative data. Once the working list is established, the dedicated team takes responsibility for conducting fundamental research on those names consistent with their sector coverage. Many research inputs are utilized, including Mellon's centralized research team consisting of over 20 investment professionals. The work culminates in a written recommendation to PM Brian Ferguson that includes up and down price targets and the related investment thesis incorporating valuation, fundamental and business improvement ideas. The dedicated analysts ultimately recommend individual stocks with attractive risk/reward characteristics. Ferguson makes the final determination as to whether a security is added to the portfolio in addition to its weighting.

The strategy will typically include 65 to 100 holdings with a maximum single-stock weight of 5%. Sector weights are maintained at a maximum +/- 10% relative to the representative sector weight in the index. The strategy will remain fully invested at all times with cash levels typically no greater than 1%. Portfolio turnover is typically within a range of 50-100%.

**Expectations**

Given the team's focus on stock-selection, the portfolio has been able to perform well in multiple market environments. There are periods, typically short-term in nature, when stock performance does not reward attractive valuations and business improvement. It is during these periods that the strategy may lag. This occurred in 2006 when the team started to reduce its financials weight as the sector continued to outperform. However, this reversed in 2007 and benefitted relative performance.

The strategy's risk-controlled, yet active approach has contributed to tracking error in the 3-5% range that we expect to continue. The portfolio has historically underweighted yield-oriented sectors (Real Estate and Utilities), while maintaining a modest overweight in the financials sector.

Mellon U.S. Dynamic Large Cap Value has historically struggled on a relative basis in periods with short-term bursts of upward or downward momentum-driven price action without fundamental support. In addition, we would expect the strategy to underperform in periods driven by deep value cyclicals and/or high dividend yielders.

**Points to Consider**

The emphasis on stock selection and the all-weather nature of the historical performance results in an unpredictable return pattern. For instance, the strategy boasts a historical downside capture ratio of approximately 103% for a large portion of its existence, which indicates a beta profile of close to 1, but the path to achieving that figure has been inconsistent. In the last four down calendar years (2007, 2008, 2011 and 2015), the strategy has either significantly underperformed (2011) or greatly outperformed (2007). In 2008 and 2013, the strategy was slightly better than the benchmark, but only on a gross-of-fees basis. Similarly, the strategy has done very well in strong up markets (2013), but also lagged in 2014, a double-digit return year led by lower volatility stocks. While we expect the strategy to outperform over extended periods of time, a client's inception point may determine their patience level, should it perform poorly from the onset of funding.

**Recommendation Summary**

We consider the "all weather" nature of Mellon U.S. Dynamic Large Cap Value to be differentiating, as lead PM Brian Ferguson has successfully outperformed the benchmark and peer group median in most years since taking over the strategy in 2003, regardless of whether value, momentum or quality is leading the market. The strategy invests solely in U.S. based companies, is fairly diversified, and possesses solid risk controls. Its active share tends to fall within the 65-75% range and the team sets active position sizes relative to the Russell 1000 Value Index with every stock either zero weight or overweight relative to the index. The investment team has remained stable over time and has consistently adhered to strategy's "value with a catalyst" approach that combines both quantitative screening and in-depth fundamental research. We consider Mellon U.S. Dynamic Large Cap Value to be appropriate as a core large cap value option for most client types. For clients that do not qualify for the strategy's lower priced separate account or collective investment fund, we support BNY Mellon Dynamic Value, the firm's mutual fund vehicle.

## Firm Overview

Established in 1930, Dodge & Cox (D&C) is one of the oldest investment management firms in the country. In its early years, the firm managed assets exclusively for individuals and families but began to work with institutional clients in the 1960s.

D&C is an independent investment firm owned entirely by its active employees and operates out of a single investment office in San Francisco. D&C's independence allows it to make business decisions that they believe to be in the long-term best interest of their clients. D&C manages more than \$250 billion in client assets within three primary broad asset classes: US Equity, International Equity and US Fixed Income.

## Team Overview

The nine-member Investment Policy Committee (IPC) makes all decisions on the Dodge & Cox Stock strategy. The IPC is comprised of senior portfolio managers and analysts and is led by Chairman and CIO Charles Pohl. Other members of the IPC include Director of Research Bryan Cameron, Associate CIO David Hoeft, Associate Director of Research Steven Voorhis, as well as Senior Analysts Phillip Barret, Kathleen McCarthy, Karol Marcin, Benjamin Garosi and Karim Fakhry. The average D&C tenure of the IPC members is more than 20 years. The IPC attempts to reach consensus on the merits of a particular recommendation. Each member has the opportunity to provide his or her input equally. The firm's global equity team comprises more than 30 portfolio managers and industry analysts.

Dodge & Cox's philosophy is built on traditional valuation investment principles that have been employed since the founding of the firm. The firm believes if the team conducts intense, bottom-up company research and builds a diversified portfolio of stocks trading at a substantial discount to their long-term profit opportunities, investors will gain a solid premium over a three- to five-year period.

The process begins with the industry analysts' idea generation, which can come from a variety of sources including, but not limited to: industry conferences, news, industry publications, valuation screens, annual reports and company management teams. For stocks of interest, research analysts will build cash flow, balance sheet and income statement models forecasted out three-to-five years. To assist with model forecasting, analysts visit each company and meet with the management teams. In addition, he/she talks with competitors, customers and suppliers to develop a 360-degree assessment of the company. The investment process is collegial/collaborative so analysts and portfolio managers are engaged in communication throughout. Prior to presenting a stock to the IPC, analysts vet stock ideas within one of four super sector committees (Technology, Media & Telecom, Health Care/Consumer, Finance/REITs and Industrials/Materials/Energy). The IPC has final decision-making authority on buys and sells and on final portfolio construction. Sales typically occur when stock prices reflect a more optimistic outlook than D&C's expectations or due to deteriorating long-term fundamentals.

The fund typically holds 60-90 stocks, with cash below 5% in most market conditions. Average annual portfolio turnover is low, typically 15-20%. The strategy is broadly diversified relative to the S&P 500 Index sectors, although typically maintains a pro-cyclical tilt and is underweight the yield-oriented sectors (Utilities, REITs).

## Expectations

The strategy has maintained a pro-cyclical bias with a beta of approximately 1.1 over the past decade. As such, the approach tends to underperform during strong market sell-offs, such as 2008, as well as yield-oriented market environments, such as 2011. Conversely, D&C Stock typically outperforms during strong market recoveries such as 2009 or 2012, or when value-oriented stocks are leading the market, such as 2016.

The fund's non U.S. exposure ranges from the mid-single digits to 20%. As such, weak non-U.S. equity markets may provide a headwind to performance. The firm does not have a specific target for tracking error, which has fallen in the 4% range over the past the decade, near the top quartile of the peer group.

## Points to Consider

In 2004, the strategy closed due to heavy inflows, prior to AUM peaking near \$125 billion in 2007. At that time, the firm was finding more opportunities in the mid cap areas of the market and dealing with significant inflows. The strategy has experienced net outflows over the past several years and reopened in 2019 at approximately \$100 billion in AUM. The IPC is finding more opportunities in mega caps and the firm's ability to take advantage of mid cap opportunities may be limited going forward.

The firm developed a reputation for being deeper value in the late 1990s, when the IPC stuck to its value-orientation through the technology bubble. However, the approach is well diversified across value themes. The IPC organizes its portfolio holdings into four main categories: deep value or turnaround, cyclical or asset plays, compounders and above average growers. Depending on allocation to these categories, the strategy may fluctuate between deeper value and core value, however the IPC has remained true to their value orientation such that overall valuation measures are below those of the index.

Chairman and CIO Charles Pohl and Director of Research Bryan Cameron will be stepping away from the organization as of June 30, 2022, and December 31, 2021, respectively. We do not believe there is cause for concern given D&C's committee approach to investment management and gradual transition to experienced successors. In anticipation of their departure from the US Equity committee, Global Industry Analyst Karim Fakhry (43 years old, 15+ years at D&C) was added to the committee in January 2021.

We believe D&C Stock possesses several key differentiators and recommend the strategy as a core large cap value offering for both participant-directed accounts and plan sponsor-directed accounts. First, management has adhered to same long-term, value oriented process since the fund's inception in 1965. Second, we like the firm's structure and focus. D&C is 100% employee-owned and the firm manages three equity strategies (Stock, International and Global) that follow the same investment philosophy. Third, the IPC's experience and tenure is a testament to the firm's collegial culture. Most of D&C's employees spend their entire careers at the firm and employee turnover is low (sub 5%) relative to peers. While we expect D&C Stock to generate solid excess returns over the long-term, we acknowledge the strategy's higher beta profile and recommend the strategy only for clients that can be patient during periods of risk-aversion, when the approach typically lags.

## Firm Overview

MFS' investment management history dates back to 1924. MFS began managing tax-exempt capital in 1970. Headquartered in Boston, MFS has been a majority-owned subsidiary of Sun Life of Canada since 1982. The firm maintains considerable autonomy in managing its day-to-day business. Up to 22% of MFS' common stock is available for ownership by senior management, investment professionals and other key employees. MFS has nine offices around the world. Total firm assets under management (AUM) are over \$500 billion across a plethora of equity, fixed income and balanced/blended strategies. The client mix is about 50/50 institutional/retail.

## Team Overview

Nevin Chitkara and Katherine Cannan have managed MFS Value since 2006 and 2019, respectively. They are jointly responsible for portfolio decisions. Chitkara joined MFS as a research analyst in 1997 and previously covered U.S. media, cellular telephone, and paper & packaging industries, as well as Northern European stocks and Pan-European media and utility companies. Cannan possesses over 10 years of research experience and joined MFS in 2013. She has covered multiple industries during her tenure with MFS, including energy, technology and telecommunications.

MFS' global equity research platform consists of more than 60 fundamental equity analysts organized into eight global sector teams and located around the world. The global sector analyst teams support all MFS investment strategies. More than 25 analysts are dedicated to U.S. equity research. Each analyst is a specialist, covering approximately two different industries on average in a particular region. The platform also comprises more than 40 fixed income and quantitative research analysts.

## Strategy Overview

The MFS Value team believes that stock prices often overreact to short-term events, thus providing opportunities for long-term investors. Their ideal holding is a high-quality company with above-average rates of free cash flow growth that is trading below intrinsic value. The portfolio managers employ a bottom-up, fundamental research process that seeks to invest in undervalued companies that possess sustainable, durable franchises, generate significant free cash flow, have strong balance sheets and management teams that are good stewards of capital.

The investment universe for MFS Value comprises those stocks in the Russell 1000 Index in addition to their global multi-national peers. Of that universe, approximately 250-350 companies meet the team's quality metrics, which mostly comprises U.S.-based companies with market capitalizations greater than \$5 billion. The portfolio managers work closely with MFS' global industry analysts throughout the research process, including accompanying them on company visits, working through their financial models and valuation framework. Research analysts generate a large majority of ideas that make their way into the fund. The portfolio managers consider current valuations relative to a company's history, its peers and overall market in constructing a portfolio of 80-100 stocks. A change to relative valuations or a breakdown in a company's quality dimensions are the primary reasons stocks are sold. Annual turnover ranges from 10-30%. Sector allocations are driven by the firm's bottom-up process with a 25% cap at the industry level. The fund has tended to be overweight Consumer Staples and Industrials stocks, and underweight Energy and Utilities, relative to the Russell 1000 Value Index.

## Expectations

MFS Value's quality bias contributes to its outperformance during periods of risk-aversion, as measured by high yield spreads widening. The strategy performed well through the 2008 downturn, as well as during the market sell-off from the third quarter of 2014 through the first quarter of 2016.

The strategy typically lags during lower quality rallies, led by companies with low profitability or those with highly levered balance sheets, such as the market rebound in 2009, or the second half of 2016. Additionally, MFS Value tends to be underweight mid and small cap stocks relative to the benchmark, which hurt relative performance in 2010.

## Points to Consider

MFS soft-closed this strategy to new separate accounts in the third quarter of 2013, however recently reopened with limited capacity. The MFS Value team managed nearly \$90 billion in large cap value assets at the end of 2020 including the equity sleeve of the firm's Total Return strategy. While this is a year-end peak for the strategy, the increase in AUM has been due entirely to capital appreciation rather than net inflows. Since the soft closure in 2013, the strategy has had net outflows of more than \$10 billion. In addition, MFS has confirmed the portfolio has an improved liquidity profile considering market conditions.

Steve Gorham, who was a PM on MFS Value since 2002, stepped off of the strategy at the end of 2020. Katherine Cannan, previously a research analyst on the strategy, was added as a PM effective December 31, 2019, giving her a full year to get up to speed with Gorham still involved. Chitkara remains on the strategy, and has moved to being completely focused on MFS Value. He transitioned off of two MFS balanced portfolios at the end of 2020. The announcement exemplifies the firm's proactive approach to succession planning and we remain confident in the strategy.

## Recommendation Summary

We recommend MFS Value as a core large cap value option for AndCo clients. The strategy's portfolio managers are supported by robust, integrated global research platform that fosters a culture of collaboration. The 0.47% expense ratio for the R6 share is competitive relative to other institutionally priced large cap value options. The strategy is ideal for clients seeking a high-quality, diversified large cap value strategy with modest tracking error and high performance consistency over rolling three-year periods. Over the long-term, the approach has outperformed the Russell 1000 Value Index while exhibiting below average volatility. Given the strategy will tend to lag during low-quality rallies, clients may benefit pairing the strategy with an approach that exhibits greater cyclicality and up-market capture.

**Firm Overview**

Founded in 1975 and headquartered in Malvern, PA, The Vanguard Group (Vanguard) is structured as a mutual company, owned by the Vanguard funds and its investors. Vanguard's fund family comprises more than 170 member funds with more than \$5 trillion in assets across a broad array of investment categories including passive equities, active equities, bond funds, balanced funds, money market and stable value strategies. The firm's Portfolio Review Department (PRD), comprises more than 70 investment professionals who oversee the firm's more than \$500 billion in externally managed funds.

**Team Overview**

Vanguard Equity Income follows a multimanager approach with approximately 35% of the fund managed by the firm's Quantitative Equity Group (QEG), and 65% overseen by Wellington Management. Vanguard's QEG comprises more than 20 investment professionals dedicated to modeling, fund management and analysis. QEG oversees more than \$30 billion in active equities. James Stetter and Binbin Guo have advised the fund since 2003 and 2010, respectively. Stetter joined Vanguard in 1982, while Guo joined in 2007. Portfolio decisions are driven by the team's quantitative model.

Wellington Management, headquartered in Boston, oversees more than \$1 trillion in assets. The firm's equity-income team, based in Radnor, PA comprises eight portfolio managers and analysts, who are supported by close to 50 centralized global industry analysts. Mike Reckmeyer joined Wellington in 1994 and has managed this fund since 2007. He is the sole decision maker for Wellington's portion of the portfolio.

**Strategy Overview**

Vanguard Equity Income seeks to provide investors over the long term with a source of dividend income and stock market exposure with below average volatility. The philosophy is based on the belief that dividend income is a more stable source of total return than capital appreciation. The fund's multi-manager structure combines Vanguard's quantitative approach with Wellington's fundamental, bottom-up investment process.

Vanguard QEG follows a risk-controlled investment process that emphasizes valuation, quality, growth, sentiment, and management decisions. It is managed on a sector neutral basis relative to the FTSE High Dividend Yield Index with a growth tilt. The Vanguard sleeve typically holds 100-130 stocks with turnover in the 40-50% range.

Wellington follows a bottom-up, contrarian approach that emphasizes high-quality companies in out-of-favor industries. Areas of opportunity include misunderstood negative events, consolidating industry structures, low but improving returns on capital or new management teams. Wellington will typically hold 60-75 stocks, with 20-30% annual turnover and sector weights that remain within 10% of the benchmark. The Wellington portfolio targets a dividend yield that is consistently higher than the S&P 500 Index.

**Expectations**

Vanguard Equity Income's emphasis on higher quality companies with above average yields has resulted in a lower volatility portfolio relative the Russell 1000 Value Index. The strategy has generated most of its alpha in risk-off market environments, such as 2008, which favored dividend-paying stocks. The fund's beta has ranged from 0.8-0.9 over the past decade.

The strategy generally lags in strong up-markets that favor growth-oriented companies, such as 2013. Additionally, Vanguard Equity Income tends to overweight mega-cap companies, which detracts from relative performance during markets led by smaller-cap stocks.

The fund's tracking error relative to the Russell 1000 Value Index is typically 2-4%. It is generally overweight consumer staples companies and underweight financial services stocks. Wellington may own up to 20% in non U.S. stocks, which has historically resulted in the fund holding 5-10% in foreign equities.

**Points to Consider**

Long-time back-up portfolio manager Karen Grimes retired at the end of 2018. Her back-up PM responsibilities were assumed by Adam Illfelder, a member of team since 2008, who also assumed lead portfolio manager responsibilities from Grimes on Wellington's Value Equity strategy. The team also added research analyst Ravi Gill in early 2019.

**Recommendation Summary**

We recommend Vanguard Equity Income as a conservative large cap value option. We like the fund's multi-manager approach, which combines two distinct and complementary investment processes. Wellington's fundamental, high-quality investment approach has provided strong down market protection and pairs nicely with Vanguard's quantitative, lower tracking error approach, which has generated more favorable upside participation. Both strategies have generated strong track records on a stand-alone basis. The fund's expense ratio is among the lowest in its category. The strategy is ideal for clients looking to add a low volatility, income-oriented option to their portfolios. Given the strategy may struggle in rising rate market environments, clients may want to pair Vanguard Equity Income with an approach that exhibits greater cyclical and up-market capture.



**Alpha** - A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta.

**Batting Average** – A measure of a manager's ability to consistently beat the market. It is calculated by dividing the number of months in which the manager beat or matched an index by the total number of months in the period.

**Best Quarter**- This is the highest quarterly (3 month) return of the investment since its inception.

**Beta** - A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of the portfolio's systematic risk.

**Down Period Percent** - Number of months below 0 divided by the total number of months.

**Downmarket Capture Ratio** - The ratio of average portfolio performance over the designated benchmark during periods of negative returns. A lower value indicates better product performance.

**Downside Std Dev** - This measures only deviations below a specified benchmark.

**Excess Return**- This is a measure of an investment's return in excess of a benchmark.

**Information Ratio** - This calculates the value-added contribution of the manager and is derived by dividing the excess rate of return of the portfolio by the tracking error. The higher the Information Ratio, the more the manager has added value to the portfolio.

**Longest Down-Streak Return** - Return for the longest series of negative monthly returns.

**Longest Down-Streak # of Periods** - Longest series of negative monthly returns.

**Longest Up-Streak Return** - Return for the longest series of positive monthly returns.

**Longest Up-Streak** - Longest series of positive monthly returns.

**Kurtosis** - Kurtosis indicates the peakedness of a distribution. For normal distribution, Kurtosis is 3.

**Max Drawdown** - The peak to trough decline during a specific record period of an investment or fund. It is usually quoted as the percentage between the peak to the trough.

**Max Drawdown # of Periods** - This is the number of months that encompasses the max drawdown for an investment.

**R-Squared** - The percentage of a portfolio's performance that can be explained by the behavior of the appropriate benchmark. A high R-Squared means the portfolio's performance has historically moved in the same direction as the appropriate benchmark.

**Return** - Compounded rate of return for the period.

**Sharpe Ratio** - Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is an absolute rate of return per unit of risk. A higher value demonstrates better historical risk-adjusted performance.

**Skewness** - Skewness reflects the degree of asymmetry of a distribution. If the distribution has a longer left tail, the function has negative skewness. Otherwise, it has positive skewness. A normal distribution

is symmetric with skewness 0.

**Sortino Ratio** - The Sortino Ratio is similar to Sharpe Ratio except it uses downside risk (Downside Deviation) in the denominator. It was developed in early 1980's by Frank Sortino. Since upside variability is not necessarily a bad thing, Sortino ratio is sometimes more preferable than Sharpe ratio.

**Standard Deviation** - A statistical measure of the range of a portfolio's performance. It represents the variability of returns around the average return over a specified time period.

**Tracking Error** - This is a measure of the standard deviation of a portfolio's excess returns versus its designated market benchmark.

**Treynor Ratio** - Similar to Sharpe Ratio, Treynor Ratio is a measurement of efficiency utilizing the relationship between annualized risk-adjusted return and risk. Unlike Sharpe Ratio, Treynor Ratio utilizes "market" risk (beta) instead of total risk (standard deviation). Good performance efficiency is measured by a high ratio.

**Up period Percent** - Number of months above 0 divided by the total number of months.

**Upmarket Capture Ratio** - The ratio of average portfolio performance over the designated benchmark during periods of positive returns. A higher value indicates better product performance.

**Value-Growth Score** - Morningstar assigns an Overall Value score and an Overall Growth score to each stock within a fund. Morningstar then calculates a net value-core-growth score for each stock by subtracting the stock's Overall Value score from its Overall Growth score. Once this is done, these raw scores are rescaled to range between -100 to 400 in order to fit within the Morningstar Style Box. Scores below 67 are classified as value, scores above 233 are classified as growth, and scores between 67 and 233 fit within the core boundaries.

**Worst Quarter** - This is the lowest quarterly (3 month) return of the investment since its inception.

**IMPORTANT DISCLOSURE INFORMATION**

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Performance data is provided for historical and informational purposes only. Where applicable, results shown represent past performance and do not represent expected future performance or experience. Past performance does not guarantee future results. Returns are typically stated net of fees, which may include: investment advisory fees, taxes and other expenses. There may be instances where certain returns are shown gross of fees (i.e., before the aforementioned fees are deducted) and would be noted as such. Generally, there are two instances where returns may be shown as gross figures. In the case of separate accounts, typically returns are demonstrated as gross of fees due to the fact that the fee structure would generally vary widely depending on the client’s size and circumstances. Additionally, there are instances where a strategy vehicle is relatively new and does not have a sufficiently long track record to represent a viable comparison relative to other strategies. Accordingly, the returns for the separate account version of such a strategy could be used as demonstrative of the performance for a similar vehicle; separate account returns are generally shown as gross of fees. It is important to note that any such separate accounts being used as a “proxy” are strictly for illustrative purposes. An investor should not expect the same results from the actual strategy(ies) under consideration. When client-specific performance is shown, AndCo uses time-weighted calculations, which are founded on standards recommended by the CFA Institute. In these cases, the performance-related data shown are based on information that is received from custodians. As a result, this provides AndCo with a reasonable basis that the investment information presented is free from material misstatement.

**RISK FACTORS**

**THE RISK DISCLOSURES HEREIN DO NOT PURPORT TO COVER ALL RISKS, PLEASE REFER TO THE RESPECTIVE PROSPECTUSES FOR COMPLETE INFORMATION.**

As presented in this report, although investing in equities can be beneficial, it is also important to consider the associated risks. Investing in such funds may not be suitable for all investors. Equity markets can be volatile and can decline significantly in response to, or investor perceptions of, issuer, market, economic, industry, political, regulatory, geopolitical, and other conditions. These conditions can affect a single issuer or type of security, issuers within a broad market sector, industry or geographic region, or the equity markets in general. The primary risk factors to consider include, but are not limited to: stock market risk, manager risk, investment style risk, sector-focus risk, issuer risk and liquidity risk. The securities markets are volatile and the market prices of the funds’ securities may decline generally. Securities fluctuate in price based on changes in a company’s financial condition and overall market and economic conditions. If the market prices of the securities owned by the fund fall, the value of your investment in the fund will decline. Depending on the specific strategy, there many additional considerations such as the risks associated with equity investing.

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CITY OF FORT WORTH



457 DEFERRED COMPENSATION  
PLAN

INVESTMENT POLICY STATEMENT

February ~~2020~~2021

## I. THE PLAN

The City of Fort Worth (the "City") sponsors a 457(b) Deferred Compensation Plan (The "Plan") for the benefit of its employees. The Plan is intended to fully comply with all applicable state and federal laws and regulations governing §457(b) deferred compensation plans. The Plan is intended to provide eligible employees with the long-term accumulation of retirement savings through employee contributions to individual participant accounts.

### II. THE PURPOSE OF THE INVESTMENT POLICY STATEMENT

The purpose of this Investment Policy Statement is to comply with the City of Fort Worth Deferred Compensation Plan Oversight Committee Charter and By-Laws by providing documentation of the procedures, care, skill, prudence and diligence that will be used by the City of Fort Worth Oversight Committee ("the Committee") in its duties related to operation of the deferred compensation plan, its purpose, its responsible parties, the number and types of investment available to participants, how and with what frequency investment options are reviewed and/or replaced, and other items to ensure the use of good judgment and prudent care in making decisions on behalf of Plan participants and their beneficiaries. This Investment Policy Statement is intended to communicate the Plan's administrative policy and procedures to its participants and to assist the Committee in making recommendations to the City Manager in a prudent manner.

The Committee will review this Investment Policy Statement at least annually, and, if appropriate, will make recommendations to amend the Policy at any time to reflect changes in capital markets, plan participant objectives, or other factors relevant to the Plan.

### III. PLAN OBJECTIVES

The primary objective of the Plan is to provide all eligible employees with the opportunity to establish and maintain a supplemental retirement savings plan.

The Plan:

1. Is for the exclusive benefit of plan participants and their beneficiaries;
2. Is a vehicle through which participants may accumulate assets to provide for a portion of their retirement needs;
3. Provides a broad range of investment options from which participants may construct an investment strategy to achieve their personal objectives ;
4. Seeks to minimize participation costs.

## IV. ROLES AND RESPONSIBILITIES

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The City is the Administrator of the Plan and is responsible for the Plan's structure, administration, and the overall monitoring of its administrative and investment activities. The City will engage Third Party Administrators to provide record keeping and investment management services. The City has appointed an Oversight Committee to assist it with the following responsibilities by recommending:

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- The determination of the Plan's administrative structure;
- Establishing and maintaining the Investment Policy Statement;
- Periodically evaluate the performance of the Plan's investment options and recommending changes, if necessary;
- Monitoring the performance of the Plan's Third Party Administrators.

The Committee is charged with making recommendations to the City Manager about and for the Plan that are exclusively in the best interests of the Plan's participants and beneficiaries. Final decision making authority for all decisions about the Plan rests with the City Council and/or City Manager, as appropriate.

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The City may also retain the services of consultant(s) to provide specific direction to the City and the Committee to capably and competently fulfill their responsibilities. The Consultant(s) will provide advice and assistance in: establishing investment policy objectives and guidelines; selecting investment options; reviewing such investment options over time; measuring and evaluating investment performance; and other tasks as deemed appropriate, and as otherwise provided through a contractual agreement between the parties.

Additional specialists such as attorneys, auditors, and others may be employed by the City to assist in meeting its responsibilities and obligations.

The Third Party Administrator will calculate individual participant balances and process participant contributions, disbursements, loans and hardship withdrawals. The Third Party Administrator will daily reconcile participant balances.

Any recommendation or action regarding the Plan by any City official, any City employee, any member of the Committee, or the Plan's Consultant that is not solely in the best interests of the Plan's participants and beneficiaries or which could create a conflict of interest, the potential of a conflict of interest, or any self-dealing is strictly prohibited.

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The Plan is self-directed, and consequently each participant has the responsibility to make his or her own decisions regarding the combination of investment options that best matches his or her needs. Participants are responsible for electing a combination of Investment Options based on the participant's unique time horizon, risk tolerance, return expectation, and asset class preferences. Neither the City of Fort Worth nor the Committee make any representation to participants regarding the outcome of individual

investment decisions or the adequacy of retirement assets to meet their retirement needs.

## V. SELECTION OF INVESTMENTS

The recommendation of investment options for the Plan is among the Committee's most important responsibilities. Set forth below are the considerations and guidelines employed in fulfilling this responsibility.

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### A. Investment Selection

The Plan provides a range of investment options that span the risk/reward spectrum and allow Plan participants to construct portfolios consistent with their unique individual circumstances, goals, time horizons and tolerance for risk. The investment offerings may consist of mutual funds, separate accounts, collective trusts, or other types of investments that are permitted by law and appropriate for this type of Plan. At least one of the investment options in the Plan must have an investment objective of preservation of principal.

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### B. Initial Selection Criteria

Actively managed investment options in the Plan are selected using the following criteria:

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- Each investment option has at least five (5) years of investment experience as of the date of review;
- Each investment option has a performance percentile ranking in the top third of its Morningstar peer group for the last three (3) year and/or five (5) year performance period ending on the date of review;
- Each investment option has a total net expense ratio that is equal to or less than the average of its Morningstar peer group.

At least 50% of the target date/target risk funds must meet the above criteria.

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Passively managed options (i.e., indexed funds) that are consistently managed to their published benchmark index are selected for the Plan solely on the basis of their net cost to participants.

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The Plan's Stable Value product is selected based on:

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- The product's focus and ability to effectively guarantee the safety of participants' contributions
- The quality of the product's underlying portfolio in assuring the relative safety of contributions
- The historical earnings of the product relative to its appropriate peer group
- An expense structure that compares favorably to the product's peer

The Committee may recommend and the City may approve any investment option for inclusion in the Plan that is deemed to be appropriate for the Plan's participants even though it may not meet all of the above criteria.

#### VI. QUALIFIED DEFAULT INVESTMENT ALTERNATIVE (QDIA)

The contributions of participants who do not make an active selection among the available options in the Plan's investment menu will be placed in the Plan's Target Date funds. The Target Date funds were selected as the Qualified Default Investment Alternative (QDIA), because they meet the long-term needs of Plan's participants. Defaulted contributions/assets will be placed into the appropriate target date fund based on the then current age and assumed time to retirement of the participant.

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#### VII. REVENUE CREDIT ACCOUNT

In the normal course of Plan Administration, the Plan may be reimbursed credits that consist of fees that are in excess of the contractual revenue required for plan administration and/or represent other payments from the Plan's record keeper related to its plan administration responsibilities. In the event that the Plan realizes such revenue, it is the policy of the Plan to deposit that revenue in an interest-bearing account as an asset of the Plan and to expend it exclusively by paying appropriate Plan-related expenses and/or periodically returning such revenue to the Plan's then current participants.

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#### VIII. INVESTMENT MONITORING AND REPORTING

The investment results of the investment options and their managers shall be periodically reviewed to ensure that the investment options remain price and performance competitive within their appropriate peer group. Reviews will include the ~~most recent performance returns in addition to the manager's three (3) and five (5) year performance ranking within its respective peer group following:~~

1. ~~Whether its performance over the five and ten-year trailing periods exceeds the appropriate benchmark.~~
2. ~~Whether its performance over the five and ten-year trailing periods ranks in the top 50th percentile of the appropriate peer group.~~
3. ~~Whether its Sharpe ratio over the five and ten-year trailing period ranks in the top 50th percentile of the appropriate peer group. The Sharpe ratio is defined as an investment's excess return (over the risk-free rate) divided by the standard deviation (risk) of the excess return.~~
4. ~~Whether it shows positive Alpha over the five and ten-year trailing period relative to the appropriate benchmark. Alpha is a measure of risk-adjusted performance that represents the portion of an investment's historical performance that is not explained by movements in the benchmark index.~~

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The funds shall also be monitored for excessive style drift, i.e. actual investment practices that differ from —the fund's primary objectives, investment style or market



City of Fort Worth

457 Deferred Compensation Investment Policy Statement capitalization. Excessive deviation from any objective may warrant the recommendation to watchlist an investment option and/or its ultimate removal from the Plan's investment menu.

While the Plan intends to offer a stable selection of funds and investment options, changes in the composition of investment options and managers may be necessary to ultimately preserve the investment objectives for the Plan and its participants. Considerable judgment, however, will be exercised in any recommendation to add or to eliminate an investment option from the Plan.

Performance Criteria;

~~The Deferred Compensation Committee will evaluate quarterly the relative fund performance for each of the investment options. The following criteria will be used to determine suitability of the investment option:~~

- ~~1. Any actively managed option in the plan is expected to consistently perform in the top 50% of its Morningstar peer group on a rolling three year basis.~~
- ~~2. The following factors shall be considered in the ongoing evaluation of the stable value product;~~

- a. Current market to book ratio
- b. Average quality of the product's underlying portfolio
- c. Average duration of the product's underlying portfolio
- d. Credit worthiness of a product's GIC and Wrap Issuers
- e. The product's yield compared to its relative peer group
- f. The product's expense structure relative to its peer group

- ~~3. In addition other investment performance measures will be reviewed to determine suitability of an investment option over an appropriate time period.~~

The Committee recognizes that the ongoing review and analysis of Investment Option is just as important as the due diligence implemented during the Investment Option selection process. It is at the Committee's discretion to take corrective action by recommending that an investment option be replaced, if it deems it appropriate, at any time. Events of concern identified by the Committee and/or the Consultant may prompt the immediate recommendation for removal of an Investment Option without it being watchlisted.

**Monitoring Investment Managers is a three step process:**

**Step 1 - On-Going Monitoring**

- The Consultant and the Committee will perform on-going analysis of all Investment Managers included in the Plan on a quarterly basis.
- In addition to reviewing quarterly investment performance, the Consultant and the Committee will evaluate:
  - o Material changes in the Investment Option's organization, investment philosophy and/or personnel
  - o The volatility of the investment performance of the Investment Manager compared to the volatility of an appropriate market index and/or peer group

**Step 2 - Formal Watch list**

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City of Fort Worth

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- If the Committee determines that any of the above factors, or any other development regarding the Investment Option's performance or organization, warrants a more thorough examination, the Committee will place the Investment Option on a formal "watchlist".
  
- Factors evaluated during the watchlist examination include, but are not limited to, the following:
  - o Extraordinary Events (Organizational Issues) such as:
    - Change in ownership (e.g., key people "cash out")
    - Change in professionals
    - Changes to an Investment Option's philosophy
    - Investment Option is involved in material litigation or fraud
    - Client-servicing problems
    - Significant account losses or significant account growth
    - Change in cost
    - Change in financial condition
    - Extreme performance volatility
  - o Risk adjusted performance measures
  
- Each Investment Manager is expected to consistently perform in the top 50th percentile versus an appropriate peer group of Investment Managers with similar investment styles.
- Additionally, each Investment Manager is expected to demonstrate favorable cumulative and rolling three-year risk-adjusted performance compared to its peer group. Risk adjusted performance measures will vary, but may include: Sharpe Ratio, Downside Risk, Information Ratio, and/or Relative Standard Deviation.

**Step 3 - Replace or Retain**

- As a result of the watchlist examination of the Investment Option, a recommendation from the Committee to either replace or retain the Investment Option will be made.
- In the event an option is replaced, participants in options eliminated from the Plan will be given a reasonable period of time to transfer their balance from the affected option to another available option within the Plan. If the participant does not respond in a timely manner, the Plan may affect a transfer of the balance to an appropriate investment option available in the Plan at that time.

**IX. FEE POLICY**

It is the policy of the of the Oversight Committee to ensure fees paid by participants are reasonable and to determine the most appropriate method of assessing fees. In achieving those objectives, the Committee will:

- Regularly, determine that all fees paid by plan participants for 3rd party plan services are reasonable and appropriate. The Committee uses various methods to make that determination including RFP's and/or fee benchmarking.
- Annually, determine the most appropriate way for participants to pay plan-related expenses.
- Quarterly, review all plan revenue that is generated by any investment option in the Plan to ensure that the revenue is being applied as instructed by the Committee.

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**IX. COORDINATION OF THE PLAN DOCUMENT**

Notwithstanding the foregoing, if any term or condition of the investment policy conflicts with any term or condition in the Plan, the terms and conditions of the Plan shall control.

**XI. PLAN PROVISIONS GOVERN**

This document is not meant to interpret, extend or change the provisions of the Plan in any way. The provisions of the Plan may only be determined accurately by reading the actual Plan document. If these procedures are inconsistent with the Plan document, the Plan document shall govern in every case.

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## **XII. CHANGE IN LAW**

If these procedures are inconsistent with a change in the law, regulations or rulings affecting retirement plans; the new law, regulations or rulings will control the operation of the plan.

## **XIII. AMENDMENT**

This Investment Policy Statement may be amended by the City Manager with the recommendation of the committee if deemed advisable.

## **XIV. CODE OF ETHICS**

Members of the Committee are governed by the Committee Code of Ethics found in Exhibit B of the Committee's Charter and By-Laws. Third Party Administrators are expected to be familiar with and adhere to the Code of Ethics. Committee members and Third Party Administrators shall avoid engagement in any activity or business that creates a conflict of interest, and shall not engage in conduct involving dishonesty, fraud, deceit, or misrepresentation.

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**XIV. ADOPTION OF THE INVESTMENT POLICY STATEMENT**

The City of Fort Worth hereby adopts this Policy.

Adopted by:

\_\_\_\_\_  
David Cooke, City Manager/Date

Approved as to Form:

\_\_\_\_\_  
Laetitia Brown, Sr. Asst City Attorney

Prepared with the assistance of our consultant, ~~Al DiCristafaro~~ Tony Kay

## **APPENDIX A**

*Historical Record: Adopted on December 13, 2012*

*Revised: May 2018*

*Revised: March 2020*

*Revised February 2021*

**From:** [Samford, John](#)  
**To:** [Hinton, Joanne](#); [Bailey, Veronica](#); [Bilbrey, Larry Jr](#); [Brown, Laetitia](#); [Elder, Shannon](#); [Elizabeth Dierdorf](#); [Salzman, Jared S.](#); [Trotter, Daryl D.](#); [Woody, Darryl W.](#); [Tony Kay](#); [Haydon, Vivianee](#); [Gregory, Nathan](#); [Ahrens, Donna](#)  
**Cc:** [Chapa, Jesus](#); [Zeno, Reginald](#)  
**Subject:** NAGDCA Presentations  
**Date:** Friday, December 4, 2020 12:27:00 PM  
**Attachments:** [NAGDCA 2020 Drive Change thru Communication.pdf](#)  
[NAGDCA 2020 Evolving Employee Support.pdf](#)  
[NAGDCA 2020 Evolving Governance.pdf](#)  
[NAGDCA 2020 Fraud & Cybersecurity.pdf](#)  
[NAGDCA 2020 Funding the Encore.pdf](#)  
[NAGDCA 2020 Goals & Outcomes.pdf](#)  
[NAGDCA 2020 Holistic Financial Wellness.pdf](#)  
[NAGDCA 2020 Show me the Money- A Focus on Fees.pdf](#)  
[NAGDCA 2020 Auto Features.pdf](#)  
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Good afternoon.

I appreciate your attendance and participation at the Deferred Compensation Oversight Committee meeting earlier this morning.

As mentioned, I've attached the presentations from some of the sessions I attended at this year's virtual National Association of Government Defined Contribution Administrators (NAGDCA) conference. The presentations are high level so please feel free to reach out to me if you'd like to discuss any topic in more detail.

My biggest take-a-way from the sessions I attended was that this committee is doing truly excellent work. I didn't note any particular topic or issue that we haven't already addressed or discussed as a committee. From my perspective, this committee is receiving timely and relevant input and recommendations from the third party record keeper and advisor.

Thanks,

**John R. Samford, CPA**

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