



Fiduciary Investment Review™

Q4 2019

Prepared for:

**Maryland State Retirement and Pension System
Optional Retirement Program**

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Maryland Optional Retirement Program (ORP) History and Overview

Maryland ORP History

The Optional Retirement Program (ORP) was established by Chapter 556 in 1975. It was created to offer an alternative to the defined benefit retirement plan for the professional staff of the State's public higher education institutions. The ORP is a defined contribution plan, in lieu of the various state-operated defined benefit plans. The Plan does not require member contributions and is solely funded with employer contributions at a rate of 7.25% of a participant's salary.

Upon joining the ORP, a member is immediately fully vested in the member's total account benefit. Enrollment into the ORP is an irrevocable decision.

The Board has the authority to hire and terminate vendors for the ORP, as well as approve the investment options offered by the approved vendors.

- TIAA-CREF was the sole vendor for the ORP until 1993.
- Chapter 428 of the Acts of 1993 authorized the expansion of the ORP to include up to four additional vendors to complement TIAA.
- As of July 1, 1995, the Board added VALIC, Aetna and Twentieth Century, as additional vendors.
- Voya (formerly ING & Aetna) and American Century (formerly Twentieth Century) were terminated as vendors on December 31, 2004.
- The Board added Fidelity as a vendor in 2005.
- VALIC was terminated as a vendor on December 31, 2007.

The Board is NOT responsible for:

- Retirement counseling with respect to the program;
- Preparing or disseminating information with respect to any annuity contract offered by a vendor; and
- Enrolling, terminating, or retiring a participating employee.

An employing institution includes:

- The University System of Maryland;
- Morgan State University;
- St. Mary's College;
- The Maryland Higher Education Commission; and
- Any community college or regional community college

An employing institution is responsible for administering the enrollment, termination or retirement of its employees participating in the ORP.

Maryland ORP Overview

Total assets in the Fidelity plan have increased from \$398.2 million to \$531.5 million over two years ending December 31, 2019. The increase in plan assets resulted from net contributions totaling \$62.2 million and market action of \$71.1 million. Contributions for the period were \$89.2 million, an increase of 20.7%, and disbursements were \$29.7 million, an increase of 34.5%. Transfers from other providers equaled \$2.2 million. As of December 31, 2019, 57.5% of plan assets were invested in Fidelity Freedom Target Date Funds, a 34.9% increase since the end of 2017. In addition, 72.6% of 2019 plan contributions were directed to those funds, down modestly from 73.8% at the end of 2017. The Fidelity Freedom 2040 had the most assets, followed by Fidelity Freedom 2045 and then 2035. As of December 31, 2019, there were approximately 12,237 participants (9,961 active & 2,276 inactive/terminated) in the Plan, a 16.0% increase from 10,548 as the end of 2017.

In 2018, the following changes were made to the Fidelity investment lineup:

- Brokerage Link was added
- Fidelity Diversified International Fund K6 share (FKIDX) replaced Fidelity Diversified International Fund K share (FDIKX)
- Vanguard FTSE Social Index Fund (VFTSX) replaced Neuberger Berman Sustainable Equity Fund (NBSRX)
- AQR Global Equity Fund (AQGRX) replaced Franklin Mutual Global Discovery Fund (FMDRX)

Maryland ORP Overview Continued...

The majority of the State of Maryland ORP assets remain in the TIAA plan. As of December 31, 2019, plan assets totaled approximately \$3.4 billion, a two-year increase of \$251.2 million. Plan contributions of approximately \$169.6 million, an increase of 1.1% over the prior two years, were offset by disbursements of \$325.3 million, an increase of 33.5%. Investment gains for the two years totaled \$402.8 million. As of December 31, 2019, 30.2% of plan assets were invested in the TIAA Traditional account. However, only 11.7% of 2019 plan contributions was directed to that investment option, while 41.7% was directed to Target Date Funds. This contribution trend has been consistent since 2013. As of the end of 2019, 52.8% of Plan assets is invested in the TIAA Traditional and CREF Stock Account, a decrease from 56.2% in 2017. There were approximately 33,039 participants in the Plan at the end of 2019, a slight decrease from 33,459 at the end of 2017.

In 2018, the following changes were made to the TIAA investment line-up:

- TIAA-CREF Self Directed Account was added
- Vanguard Inflation-Protected Securities Fund Admiral Shares (VAIPX) mapped to Vanguard Inflation-Protected Securities Fund Institutional Shares (VIPIX)
- CREF Equity Index was closed and mapped in the RC contracts to Vanguard Institutional Index (VINIX)
- CREF Money Market was closed in the RC contracts and mapped to Vanguard Treasury Money Market (VUSXX)
- Assets in the legacy Retirement Annuity contracts were not eligible for mapping.

Maryland ORP Investment Lineup Return Analysis

Return Analysis - Fidelity

Performance as of 12/31/2019

Core Lineup	Ticker/ ID	QTR	YTD	Annualized Returns				Since Incept.	Share Class Inception	Strategy Inception	Expense Ratio	
				1 Year	3 Year	5 Year	10 Year				Gross	Net
Money Market												
Vanguard Treasury Money Market Investor	VUSXX	0.43	2.14	2.14	1.57	1.00	0.50	2.46	12/14/1992	12/14/1992	0.09	0.09
BBgBarc 3M t-bill		0.47	2.30	2.30	1.68	1.09	0.60	-	-	-	-	-
Core Fixed Income												
Fidelity US Bond Index	FXNAX	0.06	8.48	8.48	3.94	2.99	3.67	3.29	5/4/2011	5/4/2011	0.03	0.03
Westem Asset Core Bond I	WATFX	0.64	10.44	10.44	4.91	4.00	5.17	6.67	9/4/1990	9/4/1990	0.53	0.45
BB Aggregate Bond		0.18	8.72	8.72	4.03	3.05	3.75	-	-	-	-	-
U.S. Government TIPS												
Fidelity Inflation-Prot Bd Index	FIPDX	0.56	8.31	8.31	3.23	2.55	-	1.39	5/16/2012	5/16/2012	0.05	0.05
BB TIPS		0.79	8.43	8.43	3.32	2.62	3.36	-	-	-	-	-
Balanced												
Fidelity Balanced K	FBAKX	7.29	24.48	24.48	11.72	8.46	10.12	7.66	5/9/2008	11/6/1986	0.45	0.45
1.43% Merrill Lynch 3-Month T-Bill, 30.27% BB Aggregate Bond, 62.15% Russell 3000, 6.16% MSCI ACWI Index ex USA ND USD		6.16	22.66	22.66	10.83	8.25	9.71	-	-	-	-	-

Disclosure

Performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data quoted.

The performance data quoted may not reflect the deduction of additional fees, if applicable. Additional fees would reduce the performance quoted.

Performance data is subject to change without prior notice. Expenses shown reflect the fund's prospectus Net and Gross expense ratios.

Some funds, accounts, or share classes may not be available for investment. Performance history prior to inception (if applicable) reflects another share class or account reflecting the manager's historical performance record.


Fund Inception Date - the date on which a fund commenced operations.


Share Class Inception Date - the date on which a fund's share class was introduced.

Contact Financial Integrity Resources Management, LLC with any questions about this report or for the most current month-end performance at (410) 463-9466.

Return Analysis - Fidelity

Performance as of 12/31/2019

Core Lineup	Ticker/ ID	QTR	YTD	Annualized Returns				Since Incept.	Share Class Inception	Strategy Inception	Expense Ratio	
				1 Year	3 Year	5 Year	10 Year				Gross	Net
Large Cap Value												
BlackRock Equity Dividend Instl	MADVX	8.33	27.52	27.52	11.39	9.92	11.40	10.10	11/29/1988	11/29/1988	0.71	0.71
Russell 1000 Value Index		7.41	26.54	26.54	9.68	8.29	11.80	-	-	-	-	-
Large Cap Blend												
Fidelity 500 Index	FXAIX	9.06	31.47	31.47	15.25	11.69	13.54	12.96	5/4/2011	5/4/2011	0.02	0.02
Vanguard FTSE Social Index Admiral	VFTAX	10.53	33.93	33.93	17.11	12.40	14.35	23.59	2/7/2019	1/14/2003	0.14	0.14
Fidelity Contrafund K	FCNKX	10.29	30.17	30.17	19.04	13.22	14.08	10.53	5/9/2008	5/17/1967	0.73	0.73
S&P500 Index		9.07	31.49	31.49	15.27	11.70	13.56	-	-	-	-	-
Large Cap Growth												
Fidelity Blue Chip Growth K	FBGKX	13.83	33.56	33.56	22.55	14.77	15.99	13.00	5/9/2008	12/31/1987	0.70	0.70
Russell 1000 Growth Index		10.62	36.39	36.39	20.49	14.63	15.22	-	-	-	-	-
Mid Cap Blend												
Fidelity Mid-Cap Stock K	FKMCX	6.44	25.47	25.47	11.75	9.28	12.48	9.00	5/9/2008	3/29/1994	0.62	0.62
S&P Mid Cap 400 Index		7.06	26.20	26.20	9.26	9.03	12.72	-	-	-	-	-
Small Cap Blend												
DFA US Small Cap I	DFSTX	8.46	21.75	21.75	5.66	7.10	12.11	10.20	3/19/1992	3/19/1992	0.37	0.37
Fidelity Small Cap Index	FSSNX	10.01	25.71	25.71	8.77	8.43	-	12.84	9/8/2011	9/8/2011	0.03	0.03
Russell 2000 Index		9.94	25.52	25.52	8.59	8.23	11.83	-	-	-	-	-
International Large Cap Blend												
Fidelity Diversified Intl K6	FKIDX	9.98	29.75	29.75	11.79*	6.81*	6.73*	7.09	5/25/2017	5/25/2017	0.60	0.60
MSCI EAFE ND USD		8.17	22.01	22.01	9.56	5.67	5.50	-	-	-	-	-
Fidelity Global ex US Index	FSGGX	8.71	21.34	21.34	10.00	5.61	-	5.95	9/8/2011	9/8/2011	0.06	0.06
MSCI ACWI ex USA NR		8.92	21.51	21.51	9.87	5.51	4.97	-	-	-	-	-
Global Equity												
AQR Global Equity R6 	AQGRX	8.85	22.64	22.64	9.64	7.73	9.45	7.16	1/8/2014	12/31/2009	0.73	0.71
MSCI The World Index ND USD		8.56	27.67	27.67	12.57	8.74	9.47	-	-	-	-	-

 Removal candidates

*Longer term annualized performance 3, 5 and 10 year are from Fidelity Diversified Intl K share (FDIKX), a separate higher expense (+.03) fund with the same manager, investment objective and holdings; however, subject to different cash flow, asset value and performance.

Return Analysis - Fidelity

Performance as of 12/31/2019

Core Lineup	Ticker/ ID	QTR	YTD	Annualized Returns				Since Incept.	Share Class Inception	Strategy Inception	Expense Ratio	
				1 Year	3 Year	5 Year	10 Year				Gross	Net
Target Date Funds												
Fidelity Freedom Income K	FNSHX	2.37	10.74	10.74	5.57	4.27	4.57	4.60	7/20/2017	10/17/1996	0.42	0.42
26.17% Merrill Lynch 3-Month T-Bill, 48.38% BB Aggregate Bond, 14.19% Russell 3000, 11.26% MSCI ACWI Index ex USA ND USD		2.43	11.24	11.24	5.55	4.02	4.46	-	-	-	-	-
Fidelity Freedom Index Inc Instl Prem	FFGZX	1.72	10.68	10.68	5.43	3.93	3.99	4.10	6/24/2015	10/2/2009	0.08	0.08
Fidelity Freedom 2005 K	FSNJX	3.03	12.33	12.33	6.56	5.02	5.68	5.19	7/20/2017	11/6/2003	0.42	0.42
21.80% Merrill Lynch 3-Month T-Bill, 38.81% BB Aggregate Bond, 21.68% Russell 3000, 17.71% MSCI ACWI Index ex USA ND USD		3.79	14.52	14.52	7.09	5.10	5.68	-	-	-	-	-
Fidelity Freedom Index 2005 Instl Prem	FFGFX	2.23	12.37	12.37	6.43	4.72	5.24	4.78	6/24/2015	10/2/2009	0.08	0.08
Fidelity Freedom 2010 K	FSNKX	3.92	14.41	14.41	7.49	5.68	6.56	5.82	7/20/2017	10/17/1996	0.46	0.46
15% Merrill Lynch 3-Month T-Bill, 36.74% BB Aggregate Bond, 27.36% Russell 3000, 20.90% MSCI ACWI Index ex USA ND USD		4.55	16.68	16.68	8.05	5.80	6.51	-	-	-	-	-
Fidelity Freedom Index 2010 Instl Prem	FFWTX	3.05	14.40	14.40	7.36	5.41	6.18	5.44	6/24/2015	10/2/2009	0.08	0.08
Fidelity Freedom 2015 K	FSNLX	4.86	16.37	16.37	8.35	6.29	7.00	6.42	7/20/2017	11/6/2003	0.49	0.49
11.47% Merrill Lynch 3-Month T-Bill, 34.92% BB Aggregate Bond, 32.33% Russell 3000, 21.28% MSCI ACWI Index ex USA ND USD		4.95	17.85	17.85	8.59	6.22	7.02	-	-	-	-	-
Fidelity Freedom Index 2015 Instl Prem	FIWFX	3.83	16.52	16.52	8.33	6.10	6.67	6.10	6/24/2015	10/2/2009	0.08	0.08
Fidelity Freedom 2020 K	FSNOX	5.77	18.14	18.14	9.04	6.77	7.49	6.91	7/20/2017	10/17/1996	0.53	0.53
8.14% Merrill Lynch 3-Month T-Bill, 30.39% BB Aggregate Bond, 37.48% Russell 3000, 23.99% MSCI ACWI Index ex USA ND USD		5.66	19.60	19.60	9.38	6.77	7.65	-	-	-	-	-
Fidelity Freedom Index 2020 Instl Prem	FIWTX	4.58	18.30	18.30	9.03	6.59	7.20	6.58	6/24/2015	10/2/2009	0.08	0.08

Return Analysis - Fidelity

Performance as of 12/31/2019

Core Lineup	Ticker/ ID	QTR	YTD	Annualized Returns				Since Incept.	Share Class Inception	Strategy Inception	Expense Ratio	
				1 Year	3 Year	5 Year	10 Year				Gross	Net
Target Date Funds												
Fidelity Freedom 2025 K	FSNPX	6.44	19.57	19.57	9.59	7.15	8.10	7.32	7/20/2017	11/6/2003	0.56	0.56
6.38% Merrill Lynch 3-Month T-Bill, 24.20% BB Aggregate Bond, 42.40% Russell 3000, 27.02% MSCI ACWI Index ex USA ND USD		6.39	21.31	21.31	10.16	7.31	8.25	-	-	-	-	-
Fidelity Freedom Index 2025 Instl Prem	FFEDX	5.08	19.73	19.73	9.63	7.02	7.90	6.96	6/24/2015	10/2/2009	0.08	0.08
Fidelity Freedom 2030 K	FSNQX	7.37	21.87	21.87	10.78	7.98	8.67	8.05	7/20/2017	10/17/1996	0.60	0.60
5.27% Merrill Lynch 3-Month T-Bill, 17.29% BB Aggregate Bond, 49.17% Russell 3000, 28.27% MSCI ACWI Index ex USA ND USD		7.10	23.04	23.04	10.94	7.89	8.91	-	-	-	-	-
Fidelity Freedom Index 2030 Instl Prem	FFEGX	5.98	22.18	22.18	10.90	7.91	8.51	7.78	6/24/2015	10/2/2009	0.08	0.08
Fidelity Freedom 2035 K	FSNUX	8.90	24.55	24.55	11.70	8.60	9.19	8.67	7/20/2017	11/6/2003	0.63	0.63
4.90% Merrill Lynch 3-Month T-Bill, 7.69% BB Aggregate Bond, 56.67% Russell 3000, 30.75% MSCI ACWI Index ex USA ND USD		7.93	24.84	24.84	11.77	8.46	9.54	-	-	-	-	-
Fidelity Freedom Index 2035 Instl Prem	FFEZX	7.22	25.01	25.01	11.97	8.65	9.17	8.51	6/24/2015	10/2/2009	0.08	0.08
Fidelity Freedom 2040 K	FSNVX	9.54	25.49	25.49	11.85	8.69	9.28	8.80	7/20/2017	9/6/2000	0.65	0.65
4.33% Merrill Lynch 3-Month T-Bill, 5.52% BB Aggregate Bond, 59.24% Russell 3000, 30.91% MSCI ACWI Index ex USA ND USD		8.11	25.25	25.25	11.96	8.60	9.71	-	-	-	-	-
Fidelity Freedom Index 2040 Instl Prem	FFIZX	7.85	26.11	26.11	12.18	8.77	9.28	8.65	6/24/2015	10/2/2009	0.08	0.08
Fidelity Freedom 2045 K	FSNZX	9.61	25.54	25.54	11.85	8.69	9.33	8.79	7/20/2017	6/1/2006	0.65	0.65
4.45% Merrill Lynch 3-Month T-Bill, 4.57% BB Aggregate Bond, 59.26% Russell 3000, 31.72% MSCI ACWI Index ex USA ND USD		8.21	25.42	25.42	12.03	8.64	9.73	-	-	-	-	-
Fidelity Freedom Index 2045 Instl Prem	FFOLX	7.83	26.09	26.09	12.17	8.76	9.33	8.65	6/24/2015	10/2/2009	0.08	0.08

Return Analysis - Fidelity

Performance as of 12/31/2019

Core Lineup	Ticker/ ID	QTR	YTD	Annualized Returns				Since Incept.	Share Class Inception	Strategy Inception	Expense Ratio	
				1 Year	3 Year	5 Year	10 Year				Gross	Net
Target Date Funds												
Fidelity Freedom 2050 K	FNSBX	9.57	25.48	25.48	11.85	8.68	9.33	8.79	7/20/2017	6/1/2006	0.65	0.65
4.62% Merrill Lynch 3-Month T-Bill, 2.91% BB Aggregate Bond, 59.31% Russell 3000, 33.15% MSCI ACWI Index ex USA ND USD		8.37	25.71	25.71	12.15	8.70	9.78	-	-	-	-	-
Fidelity Freedom Index 2050 Instl Prem	FFOPX	7.86	26.09	26.09	12.18	8.78	9.35	8.65	6/24/2015	10/2/2009	0.08	0.08
Fidelity Freedom 2055 K												
Fidelity Freedom 2055 K	FNSDX	9.68	25.57	25.57	11.88	8.70	-	8.83	7/20/2017	6/1/2011	0.65	0.65
5.04% Merrill Lynch 3-Month T-Bill, 2.75% BB Aggregate Bond, 58.06% Russell 3000, 34.16% MSCI ACWI Index ex USA ND USD		8.34	25.49	25.49	12.05	8.60	-	-	-	-	-	-
Fidelity Freedom Index 2055 Instl Prem	FFLDX	7.86	26.08	26.08	12.18	8.75	-	8.65	6/24/2015	6/1/2011	0.08	0.08
Fidelity Freedom 2060 K												
Fidelity Freedom 2060 K	FNSFX	9.58	25.44	25.44	11.81	8.66	-	8.79	7/20/2017	8/5/2014	0.65	0.65
5.41% Merrill Lynch 3-Month T-Bill, 3.06% BB Aggregate Bond, 56.29% Russell 3000, 35.25% MSCI ACWI Index ex USA ND USD		8.22	24.97	24.97	11.83	8.42	-	-	-	-	-	-
Fidelity Freedom Index 2060 Instl Prem	FFLEX	7.93	26.21	26.21	12.22	8.77	-	8.66	6/24/2015	8/5/2014	0.08	0.08
Fidelity Freedom 2065 Fund K												
Fidelity Freedom 2065 Fund K	FFSDX	9.52	-	-	-	-	-	-	6/28/2019	6/28/2019	-	0.65
FID FF 2065 Comp		7.98	-	-	-	-	-	-	-	-	-	-
Fidelity Freedom Index 2065 Instl Pm	FFIKX	7.94	-	-	-	-	-	8.58	6/28/2019	6/28/2019	0.08	0.08




Return Analysis - TIAA

Performance as of 12/31/2019

Core Lineup	Ticker/ ID	QTR	YTD	Annualized Returns				Since Incept.	Share Class Inception	Strategy Inception	Expense Ratio	
				1 Year	3 Year	5 Year	10 Year				Gross	Net
Money Market/Stable Value												
Vanguard Treasury Money Market Investor	VUSXX	0.43	2.14	2.14	1.57	1.00	0.50	2.46	12/14/1992	12/14/1992	0.09	0.09
TIAA Traditional		0.98	4.01	4.01	4.06	4.18	4.24	4.44	-	-	-	-
BBgBarc 3M t-bill		0.47	2.30	2.30	1.68	1.09	0.60	-	-	-	-	-
Core Fixed Income												
Vanguard Total Bond Market Index I	VBPIX	0.03	8.73	8.73	4.03	3.01	3.70	5.12	9/18/1995	12/11/1986	0.04	0.04
CREF Bond Market R3	F00000VAW1	0.16	9.03	9.03	4.25	3.34	3.89	3.13	4/24/2015	4/24/2015	0.27	0.27
BB Aggregate Bond		0.18	8.72	8.72	4.03	3.05	3.75	-	-	-	-	-
U.S. Government TIPS												
Vanguard Inflation-Protected Secs I	VIPIX	0.52	8.18	8.18	3.18	2.48	3.28	3.93	12/12/2003	6/29/2000	0.07	0.07
BB TIPS		0.79	8.43	8.43	3.32	2.62	3.36	-	-	-	-	-
Balanced												
CREF Social Choice R3	F00000VAW7	5.14	20.80	20.80	9.73	7.06	8.29	8.35	4/24/2015	4/24/2015	0.24	0.24
0.25% Merrill Lynch 3-Month T-Bill, 40% BB Aggregate Bond, 46.11% Russell 3000, 13.65% MSCI ACWI Index ex USA ND USD		5.31	19.85	19.85	9.50	7.08	8.20	-	-	-	-	-

Return Analysis - TIAA

Performance as of 12/31/2019

Core Lineup	Ticker/ ID	QTR	YTD	Annualized Returns				Since Incept.	Share Class Inception	Strategy Inception	Expense Ratio	
				1 Year	3 Year	5 Year	10 Year				Gross	Net
Large Cap Value												
American Funds Washington Mutual R6	RWMGX	7.67	25.93	25.93	13.90	10.97	13.09	14.74	5/1/2009	7/31/1952	0.27	0.27
Russell 1000 Value Index		7.41	26.54	26.54	9.68	8.29	11.80	-	-	-	-	-
Large Cap Blend												
Vanguard Institutional Index I	VINIX	9.06	31.46	31.46	15.24	11.67	13.53	10.07	7/31/1990	7/31/1990	0.04	0.04
S&P500 Index		9.07	31.49	31.49	15.27	11.70	13.56	-	-	-	-	-
CREF Stock R3 	F00000VAVP	8.90	27.45	27.45	12.43	9.00	10.44	9.85	4/24/2015	4/24/2015	0.30	0.30
70.65% Russell 3000, 29.35% MSCI ACWI Index ex USA ND USD		9.06	28.19	28.19	13.23	9.59	10.94	-	-	-	-	-
Large Cap Growth												
CREF Growth R3 	F00000VAVV	8.88	31.66	31.66	19.18	13.15	14.39	9.18	4/24/2015	4/24/2015	0.24	0.24
Russell 1000 Growth Index		10.62	36.39	36.39	20.49	14.63	15.22	-	-	-	-	-
Mid Cap Blend												
Vanguard Mid Cap Index InstitutionalPlus	VMCPX	6.88	31.06	31.06	12.38	9.28	13.11	12.00	12/15/2010	5/21/1998	0.03	0.03
CRSP US Mid Cap Index		6.88	31.09	31.09	12.39	9.29	13.25	-	-	-	-	-
Small Cap Blend												
TIAA-CREF Small-Cap Blend Idx Inst	TISBX	9.97	25.53	25.53	8.73	8.42	11.99	10.69	10/1/2002	10/1/2002	0.06	0.06
TIAA-CREF Quant Small-Cap Equity Instl	TISEX	7.60	23.86	23.86	7.84	8.54	12.16	10.67	10/1/2002	10/1/2002	0.41	0.41
Russell 2000 Index		9.94	25.52	25.52	8.59	8.23	11.83	-	-	-	-	-
International Equity												
Vanguard Total Intl Stock Index I	VTSNX	9.05	21.56	21.56	9.90	5.88	5.13	5.24	11/29/2010	4/29/1996	0.08	0.08
American Funds Europacific Growth R6	RERGX	10.09	27.40	27.40	12.45	7.41	6.73	9.43	5/1/2009	4/16/1984	0.49	0.49
MSCI ACWI ex USA NR		8.92	21.51	21.51	9.87	5.51	4.97	-	-	-	-	-
Global Equity												
CREF Global Equities R3 	F00000VAVS	9.86	28.28	28.28	11.95	8.01	9.10	7.75	4/24/2015	4/24/2015	0.27	0.27
MSCIACWINR		8.95	26.60	26.60	12.44	8.41	8.79	-	-	-	-	-

 Removal candidates

Return Analysis - TIAA

Performance as of 12/31/2019

Core Lineup	Ticker/ ID	QTR	YTD	Annualized Returns				Since Incept.	Share Class Inception	Strategy Inception	Expense Ratio	
				1 Year	3 Year	5 Year	10 Year				Gross	Net
Target Date Funds												
TIAA-CREF Lifecycle Retire Income Instl	TLRIX	3.59	15.30	15.30	7.52	5.73	6.77	5.24	11/30/2007	11/30/2007	0.53	0.37
3.40% Merrill Lynch 3-Month T-Bill, 51.94% BB Aggregate Bond, 29.00% Russell 3000, 15.67% MSCI ACWI Index ex USA ND USD		3.99	16.24	16.24	7.79	5.71	6.55	-	-	-	-	-
TIAA-CREF Lifecycle Index Ret Inc Instl	TRILX	3.69	15.39	15.39	7.47	5.53	6.61	6.66	9/30/2009	9/30/2009	0.28	0.10
TIAA-CREF Lifecycle 2010 Institutional	TCTIX	3.62	15.43	15.43	7.74	5.92	7.18	5.49	1/17/2007	10/15/2004	0.50	0.37
3.92% Merrill Lynch 3-Month T-Bill, 46.06% BB Aggregate Bond, 31.06% Russell 3000, 18.96% MSCI ACWI Index ex USA ND USD		4.56	17.46	17.46	8.36	6.09	6.94	-	-	-	-	-
TIAA-CREF Lifecycle Index 2010 Instl	TLTIX	3.72	15.57	15.57	7.66	5.69	6.99	7.08	9/30/2009	9/30/2009	0.25	0.10
TIAA-CREF Lifecycle 2015 Institutional	TCNIX	4.13	16.51	16.51	8.24	6.26	7.62	5.60	1/17/2007	10/15/2004	0.50	0.38
2.50% Merrill Lynch 3-Month T-Bill, 41.36% BB Aggregate Bond, 35.38% Russell 3000, 20.76% MSCI ACWI Index ex USA ND USD		5.13	18.87	18.87	9.01	6.55	7.48	-	-	-	-	-
TIAA-CREF Lifecycle Index 2015 Instl	TLFIX	4.13	16.70	16.70	8.20	6.09	7.44	7.55	9/30/2009	9/30/2009	0.23	0.10
TIAA-CREF Lifecycle 2020 Institutional	TCWIX	4.51	17.79	17.79	8.88	6.69	8.16	5.72	1/17/2007	10/15/2004	0.51	0.39
2.00% Merrill Lynch 3-Month T-Bill, 34.91% BB Aggregate Bond, 40.28% Russell 3000, 22.81% MSCI ACWI Index ex USA ND USD		5.79	20.39	20.39	9.71	7.05	8.04	-	-	-	-	-
TIAA-CREF Lifecycle Index 2020 Instl	TLWIX	4.61	17.95	17.95	8.87	6.56	8.00	8.14	9/30/2009	9/30/2009	0.21	0.10
TIAA-CREF Lifecycle 2025 Institutional	TCYIX	5.20	19.44	19.44	9.63	7.19	8.70	5.88	1/17/2007	10/15/2004	0.52	0.41
0.85% Merrill Lynch 3-Month T-Bill, 27.69% BB Aggregate Bond, 46.65% Russell 3000, 24.82% MSCI ACWI Index ex USA ND USD		6.56	22.26	22.26	10.56	7.67	8.74	-	-	-	-	-
TIAA-CREF Lifecycle Index 2025 Instl	TLQIX	5.26	19.59	19.59	9.66	7.13	8.60	8.76	9/30/2009	9/30/2009	0.21	0.10

Return Analysis - TIAA

Performance as of 12/31/2019

Core Lineup	Ticker/ ID	QTR	YTD	Annualized Returns				Since Incept.	Share Class Inception	Strategy Inception	Expense Ratio	
				1 Year	3 Year	5 Year	10 Year				Gross	Net
Target Date Funds												
TIAA-CREF Lifecycle 2030 Institutional	TCRIX	6.01	21.27	21.27	10.34	7.67	9.22	5.99	1/17/2007	10/15/2004	0.53	0.42
0.52% Merrill Lynch 3-Month T-Bill, 19.80% BB Aggregate Bond, 52.93% Russell 3000, 26.75% MSCI ACWI Index ex USA ND USD		7.31	24.03	24.03	11.37	8.24	9.39	-	-	-	-	-
TIAA-CREF Lifecycle Index 2030 Instl	TLHIX	6.02	21.35	21.35	10.49	7.71	9.20	9.39	9/30/2009	9/30/2009	0.20	0.10
TIAA-CREF Lifecycle 2035 Institutional	TCIIX	6.71	23.04	23.04	11.07	8.11	9.68	6.25	1/17/2007	10/15/2004	0.54	0.43
0.00% Merrill Lynch 3-Month T-Bill, 12.35% BB Aggregate Bond, 59.16% Russell 3000, 28.48% MSCI ACWI Index ex USA ND USD		8.04	25.75	25.75	12.13	8.79	10.01	-	-	-	-	-
TIAA-CREF Lifecycle Index 2035 Instl	TLYIX	6.72	23.02	23.02	11.25	8.24	9.76	9.97	9/30/2009	9/30/2009	0.19	0.10
TIAA-CREF Lifecycle 2040 Institutional	TCOIX	7.50	24.56	24.56	11.72	8.51	10.03	6.55	1/17/2007	10/15/2004	0.55	0.44
0.13% Merrill Lynch 3-Month T-Bill, 7.36% BB Aggregate Bond, 63.89% Russell 3000, 28.61% MSCI ACWI Index ex USA ND USD		8.44	26.74	26.74	12.58	9.12	10.41	-	-	-	-	-
TIAA-CREF Lifecycle Index 2040 Instl	TLZIX	7.43	24.52	24.52	11.96	8.73	10.18	10.38	9/30/2009	9/30/2009	0.19	0.10
TIAA-CREF Lifecycle 2045 Institutional	TTFIX	8.23	25.87	25.87	12.05	8.76	10.14	6.19	11/30/2007	11/30/2007	0.56	0.45
0.00% Merrill Lynch 3-Month T-Bill, 5.07% BB Aggregate Bond, 66.54% Russell 3000, 28.39% MSCI ACWI Index ex USA ND USD		8.59	27.17	27.17	12.77	9.28	10.60	-	-	-	-	-
TIAA-CREF Lifecycle Index 2045 Instl	TLXIX	8.09	25.84	25.84	12.38	9.03	10.34	10.53	9/30/2009	9/30/2009	0.19	0.10
TIAA-CREF Lifecycle 2050 Institutional	TFTIX	8.39	26.19	26.19	12.18	8.86	10.19	6.21	11/30/2007	11/30/2007	0.57	0.45
0.00% Merrill Lynch 3-Month T-Bill, 4.59% BB Aggregate Bond, 67.34% Russell 3000, 28.06% MSCI ACWI Index ex USA ND USD		8.63	27.29	27.29	12.83	9.33	10.66	-	-	-	-	-
TIAA-CREF Lifecycle Index 2050 Instl	TLLIX	8.21	26.03	26.03	12.51	9.15	10.39	10.59	9/30/2009	9/30/2009	0.19	0.10

Return Analysis - TIAA

Performance as of 12/31/2019

Core Lineup	Ticker/ ID	QTR	YTD	Annualized Returns				Since Incept.	Share Class Inception	Strategy Inception	Expense Ratio	
				1 Year	3 Year	5 Year	10 Year				Gross	Net
Target Date Funds												
TIAA-CREF Lifecycle 2055 Institutional	TTRIX	8.53	26.36	26.36	12.27	8.93	-	8.99	4/29/2011	4/29/2011	0.59	0.45
0.00% Merrill Lynch 3-Month T-Bill, 3.59% BB Aggregate Bond, 67.47% Russell 3000, 28.95% MSCI ACWI Index ex USA ND USD		8.73	27.45	27.45	12.90	9.36	-	-	-	-	-	-
TIAA-CREF Lifecycle Index 2055 Instl	TTIIX	8.32	26.37	26.37	12.62	9.24	-	9.40	4/29/2011	4/29/2011	0.22	0.10
TIAA-CREF Lifecycle 2060 Institutional	TLXNX	8.60	26.70	26.70	12.34	9.01	-	8.83	9/26/2014	9/26/2014	0.71	0.45
0.00% Merrill Lynch 3-Month T-Bill, 2.99% BB Aggregate Bond, 66.57% Russell 3000, 30.44% MSCI ACWI Index ex USA ND USD		8.77	27.44	27.44	12.89	9.33	-	-	-	-	-	-
TIAA-CREF Lifecycle Index 2060 Instl	TVIIX	8.45	26.51	26.51	12.72	9.34	-	9.16	9/26/2014	9/26/2014	0.33	0.10

Maryland ORP Recommendation Summary

Maryland ORP Recommendation Summary

Fidelity Recommendations

Share class conversion:

- Approve the share class change for the Vanguard FTSE Social Index Fund from VFTAX to VFTNX.

Plan Investment Lineup improvement:

- Remove AQR Global Equity Fund (AQGRX) and replace with Victory RS Global Fund (RGGRX).
- Replace the Fidelity Freedom Target Date Series (active) with the Fidelity Freedom Target Date Index Series (passive).

TIAA Recommendations

Share class conversion:

- Approve the share class change for the Vanguard Institutional Index Fund from VINIX to VIIX.

Plan Investment Lineup improvement:

- Remove CREF Stock Account and replace with Hartford Core Equity Fund (HAITX) in the RC contract.
- Remove CREF Growth Account and replace with T. Rowe Price Institutional Large Cap Growth Fund (TRLGX) in the RC contract.
- Remove CREF Global Equities Account and replace with Victory RS Global Fund (RGGRX) in the RC contract.
- Existing assets and contributions to the RC contracts will be mapped to the new funds. Assets in the legacy Retirement Annuity contracts are not eligible for mapping.
- Replace the TIAA-CREF Lifecycle Target Date Series (active) with the TIAA-CREF Lifecycle Target Date Series Index Series (passive).

Fidelity Recommendations

1. Approve the share class change for the Vanguard FTSE Social Index Fund from VFTAX to VFTNX.
 - a. Replacement is recommended due to the expense ratio reduction from 0.14% to 0.12%.
 - b. VFTNX has a better performance than VFTAX as of 12/31/2019.
 - c. Assets and future contributions of this Fund should be mapped to the new share class VFTNX to reduce expenses.
 - d. The strategy and the manager of both funds are the same.

Fund	Ticker	Annualized Returns				Net Expense Ratio
		1yr	3yr	5yr	10yr	
Vanguard FTSE Social Index Fund Admiral	VFTAX	33.93	17.11	12.40	14.35	0.14
Vanguard FTSE Social Index Fund I	VFTNX	33.96	17.14	12.42	14.38	0.12

2. Remove AQR Global Equity Fund and replace with Victory RS Global Fund (RGGRX).
 - a. AQR Global Equity Fund has underperformed MSCI ACWI Index over 1, 3 and 5-year annualized periods, and is rated as three-star by Morningstar.
 - b. Victory RS Global Fund is rated as four-star by Morningstar and outperformed MSCI ACWI Index over 1, 3 and 5-year annualized periods with a lower expense ratio than AQR Global Equity Fund (0.55% vs. 0.71%). The investment philosophy is based on the belief that positive investment outcomes can be attained through a blend of sophisticated systematic investing and experienced human judgment. The utilization of a quantitative stock selection approach, in addition to providing a qualitative overlay through model output validation and company due diligence, is expected to result in a broader set of investment opportunities and enhance the quality and reliability of information provided by the models.
 - c. Assets and future contributions should be mapped from the AQR Global Equity Fund (AQGRX) to the Victory RS Global Fund (RGGRX).

Fidelity Recommendations Continued...

3. Replace the Fidelity Freedom Target Date Series (active) with the Fidelity Freedom Target Date Index Series (passive).
 - a. Active management has not been able to consistently add value over a long-term period.
 - b. The expense ratio of the passive series is 0.08% vs. 0.37% for the active series. Participants will save 0.29%.
 - c. The overall volatility of the Freedom active series is higher than the Freedom passive series; the 5-year Sharpe ratios of all vintages of the Freedom passive series are higher than the active series.
 - d. 10% tactical strategy is built in the Freedom passive series, similar to the active series.
 - e. All vintages of the Freedom passive series have overall higher up-market/down-market capture ratios than the Freedom active series.

TIAA Recommendations

1. Approve the share class change for the Vanguard Institutional Index Fund from VINIX to VIIIIX.
 - a. Replacement is recommended due to the expense ratio reduction from 0.035% to 0.020%. Participants will save 0.015%.
 - b. VIIIIX has better performance than VINIX as of 12/31/2019.
 - c. Assets and future contributions in this fund should be mapped to the new share class VIIIIX to reduce expenses.
 - d. The strategy and the manager of both funds are the same.

Fund	Ticker	Annualized Returns				Net Expense Ratio
		1yr	3yr	5yr	10yr	
Vanguard Institutional Index Fund I	VINIX	31.46	15.24	11.67	13.53	0.04
Vanguard Institutional Index Fund Instl Pl	VIIIIX	31.48	15.26	11.69	13.55	0.02

2. Remove CREF Stock Account and replace with Hartford Core Equity Fund (HAITX).
 - a. CREF Stock Account has underperformed the CREF custom benchmark for the 1, 3, 5 and 10-year annualized periods.
 - b. Replace with an active large blend fund to diversify the TIAA investment lineup since a passive option already exists in the large cap blend category.
 - c. Hartford Core Equity Fund is rated as five-star by Morningstar and has outperformed the Russell 1000 Index for 1, 3, 5 and 10-year annualized periods with a below average expense ratio. The Fund uses fundamental research designed to identify stocks with improving quality metrics, business momentum, and attractive relative valuations. The portfolio of the Fund seeks to be broadly diversified by industry and company. The focus of the strategy is to add value through bottom-up stock selection.
 - d. Assets in the Retirement Choice contract and future contributions should be mapped to the Hartford Core Equity Fund (HAITX). Assets in the legacy Retirement Annuity contracts are not eligible for mapping.
 - e. CREF stock is 70% domestic and 30% international, while Hartford Core Equity Fund is US-focused.

TIAA Recommendations Continued...

3. Remove CREF Growth Account and replace with T. Rowe Price Institutional Large Cap Growth Fund (TRLGX).
 - a. CREF Growth Account has underperformed the Russell 1000 Growth Index benchmark for 1, 3, 5 and 10-year annualized periods.
 - b. T. Rowe Price Institutional Large Cap Growth Fund is rated as five-star by Morningstar and has outperformed the Russell 1000 Growth Index for 3, 5, and 10-year annualized periods with a below average expense ratio. The strategy of the Fund is a bottom-up, pure growth approach emphasizing high-quality, rapid growing, large-capitalization companies that are well run and score well on environmental, social and governance (ESG) measures. The approach has been durable and style consistent over the last several years. Stock selection is the primary source of value added. Assets in the Retirement Choice contract and future contributions should be mapped to the T. Rowe Price Institutional Large Cap Growth Fund (TRLGX).
 - c. Assets in the legacy Retirement Annuity contracts are not eligible for mapping.

4. Remove CREF Global Equities Account and replace with Victory RS Global Fund (RGGRX).
 - a. CREF Global Equities Account has underperformed the MSCI ACWI Index for 3 and 5-year annualized periods.
 - b. Victory RS Global Fund is rated as four-star by Morningstar and has outperformed MSCI ACWI Index for 1, 3 and 5-year annualized periods. The investment philosophy is based on the belief that positive investment outcomes can be attained through a blend of sophisticated systematic investing and experienced human judgment. The utilization of a quantitative stock selection approach, in addition to providing a qualitative overlay through model output validation and company due diligence, is expected to result in a broader set of investment opportunities and enhance the quality and reliability of information provided by the models.
 - c. Assets in the Retirement Choice contract and future contributions should be mapped to the Victory RS Global Fund (RGGRX). Assets in the legacy Retirement Annuity contracts are not eligible for mapping.

5. Replace the TIAA-CREF Lifecycle Target Date Series (active) with the TIAA-CREF Lifecycle Target Date Series Index Series (passive).
 - a. Active management has not been able to consistently add value over a long-term period.
 - b. The expense ratio of the passive series is 0.10% vs. 0.42% for the active series. Participants will save 0.32%.
 - c. The overall volatility of the Lifecycle active series is higher than the Lifecycle passive series; the 5-year Sharpe ratios of all vintages of the Lifecycle passive series are higher than the active series.
 - d. All vintages of the Lifecycle passive series have overall higher up-market/down-market capture ratios than the Lifecycle active series.

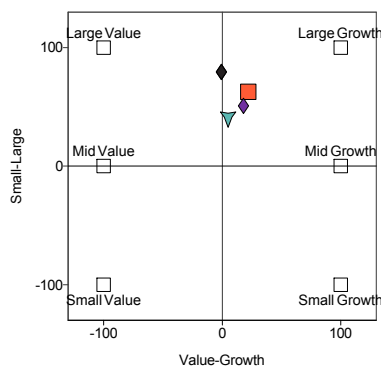
Returns Analysis	QTR	YTD	1 Yr	3 Yr Ann.	5 Yr Ann.	10 Yr Ann.	Since Inception	Manager Name	Manager Tenure (Years)	Fund Inception	Net Exp. Ratio	Gross Exp. Ratio
■ Victory RS Global R6	10.26	30.83	30.83	15.67	11.48	NA	12.80	U-Wen Kok	6.50	05/16/2011	0.55	1.40
▼ AQR Global Equity R6	8.85	22.64	22.64	9.64	7.73	9.45	7.16	Clifford S. Asness	10.01	12/31/2009	0.71	0.73
◆ CREF Global Equities R3	9.86	28.28	28.28	11.95	8.01	9.10	7.09	John N. Tribolet	13.68	04/24/2015	0.27	0.27
◆ MSCI ACWI NR	8.95	26.60	26.60	12.44	8.41	8.79						
Global Equity Average	9.16	26.51	26.51	12.00	7.97	8.71					1.10	1.29

Calendar Year Returns	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD
■ Victory RS Global R6	NA	NA	18.30	29.50	5.04	3.96	7.01	24.75	-5.17	30.83
▼ AQR Global Equity R6	13.83	-7.03	18.67	27.67	3.81	2.86	7.03	25.57	-14.41	22.64
◆ CREF Global Equities R3	12.24	-7.74	18.45	27.27	4.17	-0.34	5.11	24.81	-12.36	28.28
◆ MSCI ACWI NR	12.67	-7.35	16.13	22.80	4.16	-2.36	7.86	23.97	-9.42	26.60
Global Equity Average	13.62	-8.20	17.14	25.57	2.60	-0.59	5.44	24.78	-10.79	26.51

Scorecard - Active	Ticker/ID	Style			Risk/Return			Peer Group		Qual. (2pt. max)	Score			
		Style	Style Drift	R ²	Risk/Return	Up/Down	Info Ratio	Return Rank	Info Ratio Rank		12/31 2019	09/30 2019	06/28 2019	03/29 2019
Victory RS Global R6	RGGRX	1	1	1	1	1	1	1	1	2	10	10	10	
		22.09/62.65	15.42	95.98	10.76/11.48	100.28/80.16	1.12	17.00	3.00		GE	GE	GE	
AQR Global Equity R6	AQGRX	1	0	1	0	0	0	0	0	2	4	6	6	6
		4.02/41.34	28.20	92.95	11.98/7.73	92.81/96.88	-0.32	59.00	59.00		GE	GE	GE	GE
CREF Global Equities R3	F00000VAVS	1	1	1	0	0	0	0	0	2	5	6	5	5
		17.91/50.80	21.05	98.30	12.23/8.01	101.07/106.96	-0.44	51.00	62.00		GE	GE	GE	GE

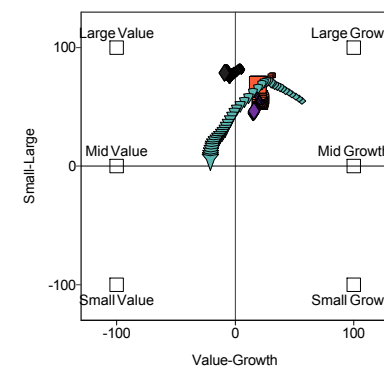
Average Style

Jan 15 - Dec 19

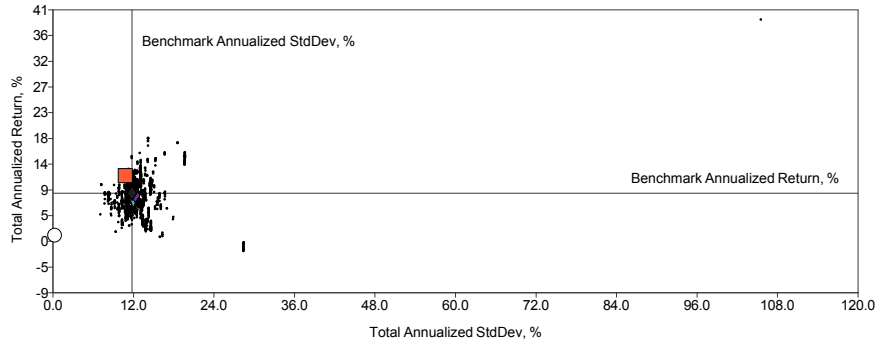


Style Drift

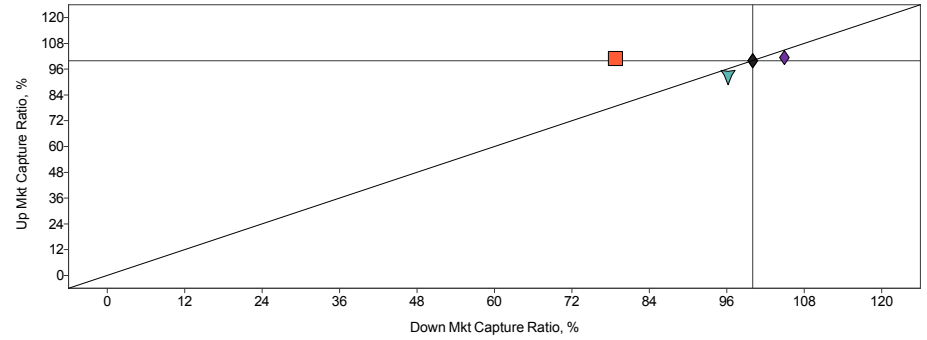
36 Month rolling windows, Jan 15 - Dec 19



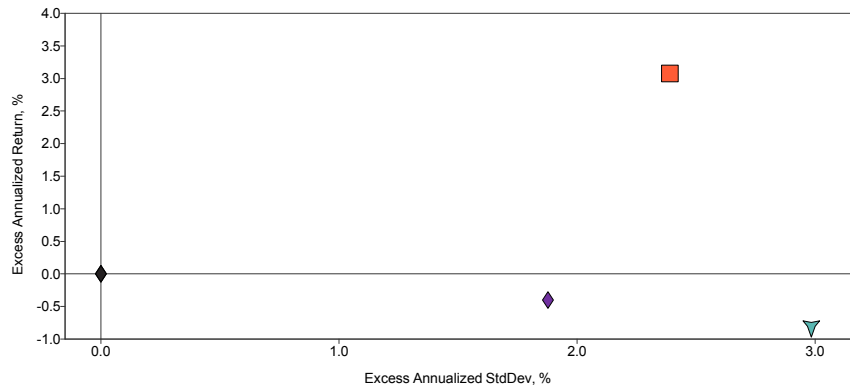
Risk / Return *Single Computation, Jan 15 - Dec 19*



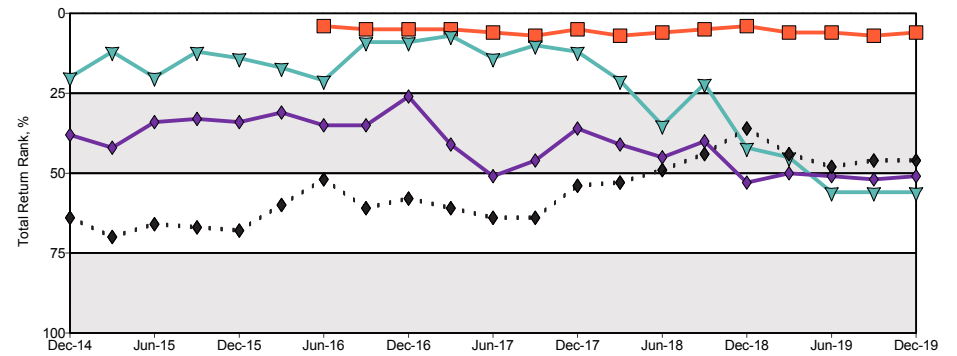
Up/Down Capture *Jan 15 - Dec 19*



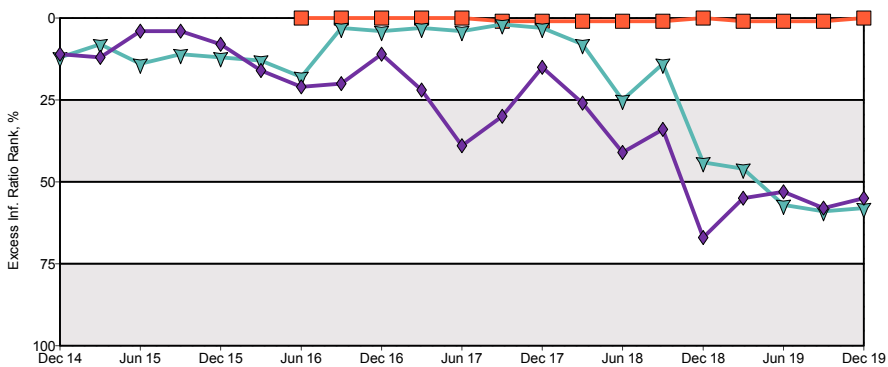
Relative Risk Return *Jan 15 - Dec 19*



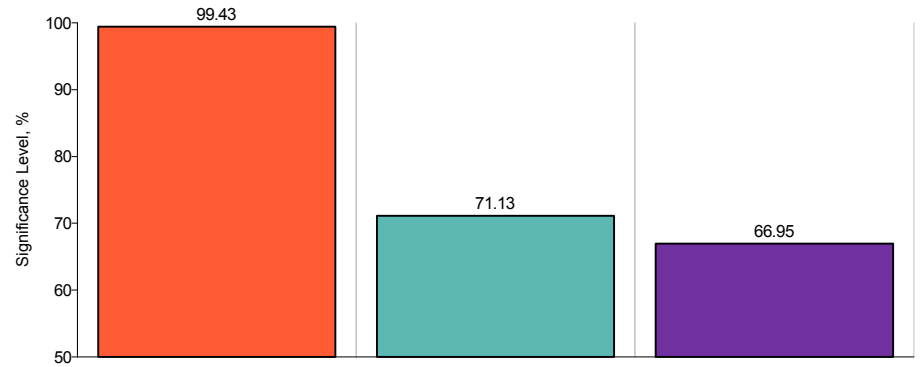
Rolling 5 Year Return Rank *20 quarter rolling windows, Jan 10 - Dec 19*



Rolling 5 Year Information Ratio Rank *20 quarter rolling windows, Jan 10 - Dec 19*



Significance Level* *Jan 15 - Dec 19*



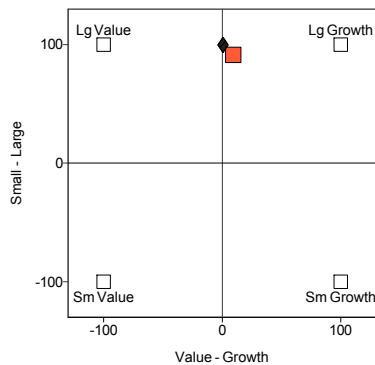
* Significance level provides to what degree (of statistical confidence) a fund's outperformance was due to manager skill and not a result of chance or luck.

Returns Analysis	QTR	YTD	1 Yr	3 Yr Ann.	5 Yr Ann.	10 Yr Ann.	Since Inception	Manager Name	Manager Tenure (Years)	Fund Inception	Net Exp. Ratio	Gross Exp. Ratio
■ Hartford Core Equity R6	9.06	33.89	33.89	17.21	12.73	14.58	12.62	Mammen Chally	21.68	04/30/1998	0.39	0.39
◆ Russell 1000 Index	9.04	31.43	31.43	15.05	11.48	13.54						
Large Cap Blend Average	8.34	28.78	28.78	12.89	9.52	11.50					0.97	1.03

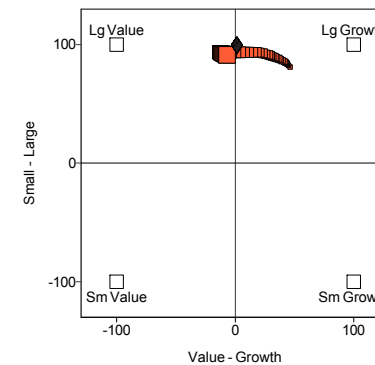
Calendar Year Returns	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD
■ Hartford Core Equity R6	14.49	1.47	17.29	35.63	15.89	6.90	5.75	22.17	-1.55	33.89
◆ Russell 1000 Index	16.10	1.50	16.42	33.11	13.24	0.92	12.05	21.69	-4.78	31.43
Large Cap Blend Average	13.75	-1.13	14.81	31.91	10.54	-0.68	10.35	20.06	-6.87	28.78

Scorecard - Active	Ticker/ID	Style			Risk/Return			Peer Group		Qual.	Score			
		Style	Style Drift	R ²	Risk/Return	Up/Down	Info Ratio	Return Rank	Info Ratio Rank	(2pt. max)	12/31 2019	09/30 2019	06/28 2019	03/29 2019
Hartford Core Equity R6	HAITX	1	1	1	1	1	1	1	1	2	10	10	10	10
		9.32/91.26	15.62	95.87	11.08/12.73	95.77/83.27	0.49	13.00	13.00		LCB	LCB	LCB	LCB

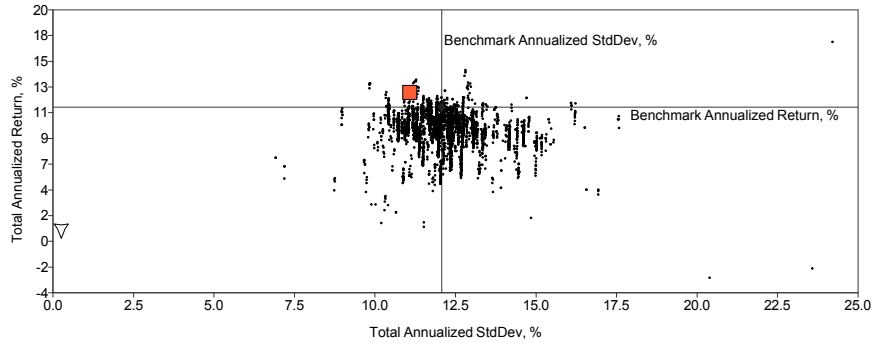
Average Style Jan 15 - Dec 19



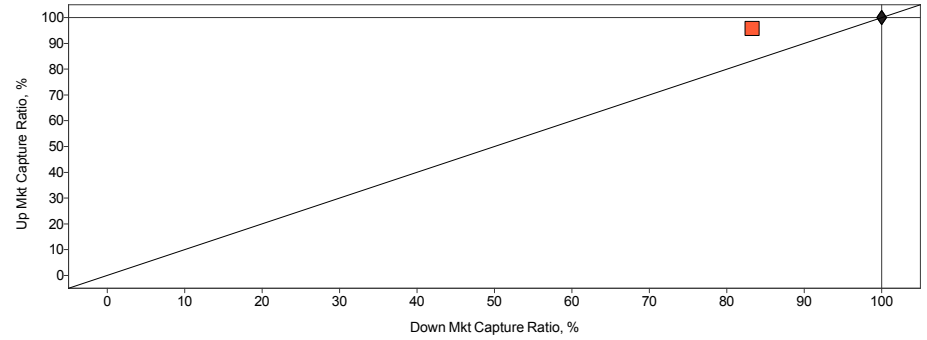
Style Drift 36 Month rolling windows, Jan 15 - Dec 19



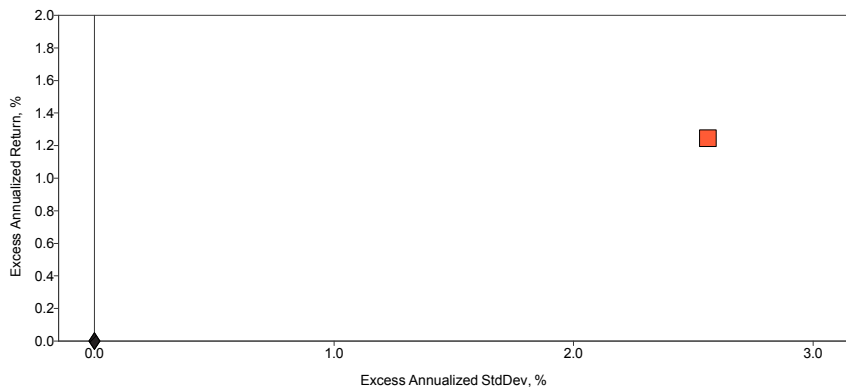
Risk / Return *Single Computation, Jan 15 - Dec 19*



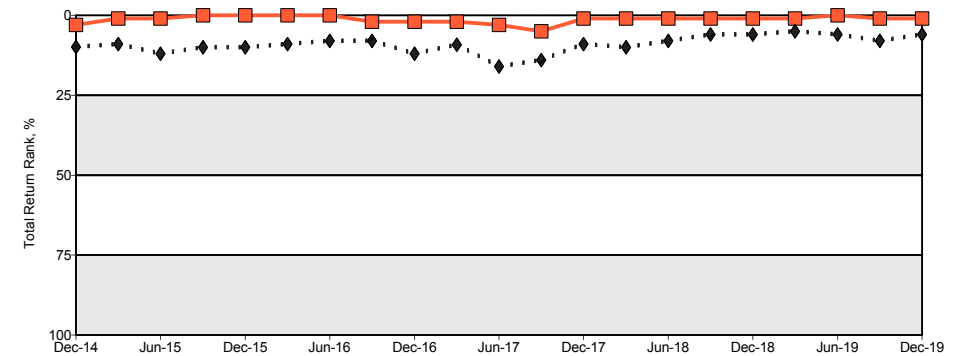
Up/Down Capture *Jan 15 - Dec 19*



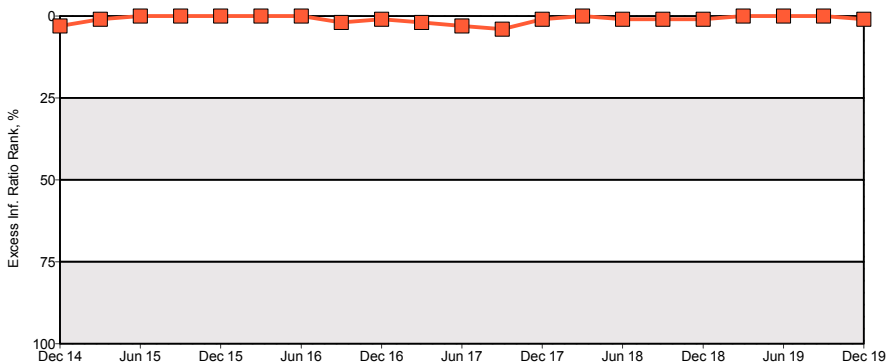
Relative Risk Return *Jan 15 - Dec 19*



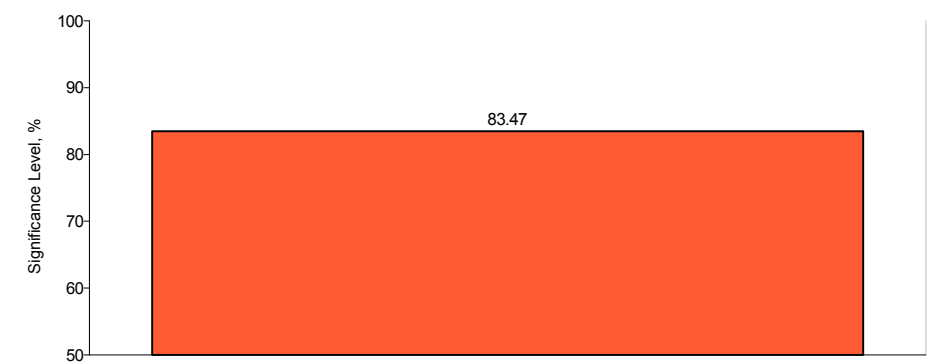
Rolling 5 Year Return Rank *20 quarter rolling windows, Jan 10 - Dec 19*



Rolling 5 Year Information Ratio Rank *20 quarter rolling windows, Jan 10 - Dec 19*



Significance Level *Jan 15 - Dec 19*



* Significance level provides to what degree (of statistical confidence) a fund's outperformance was due to manager skill and not a result of chance or luck.

Returns Analysis	QTR	YTD	1 Yr	3 Yr Ann.	5 Yr Ann.	10 Yr Ann.	Since Inception	Manager Name	Manager Tenure (Years)	Fund Inception	Net Exp. Ratio	Gross Exp. Ratio
■ CREF Stock R3	8.90	27.45	27.45	12.43	9.00	10.44	8.22	Hans L. Erickson	23.77	04/24/2015	0.30	0.30
◆ Style Benchmark*	9.06	28.19	28.19	13.23	9.59	10.94						
Aggressive Average**	7.78	24.64	24.64	11.00	7.77	9.36					0.88	0.97

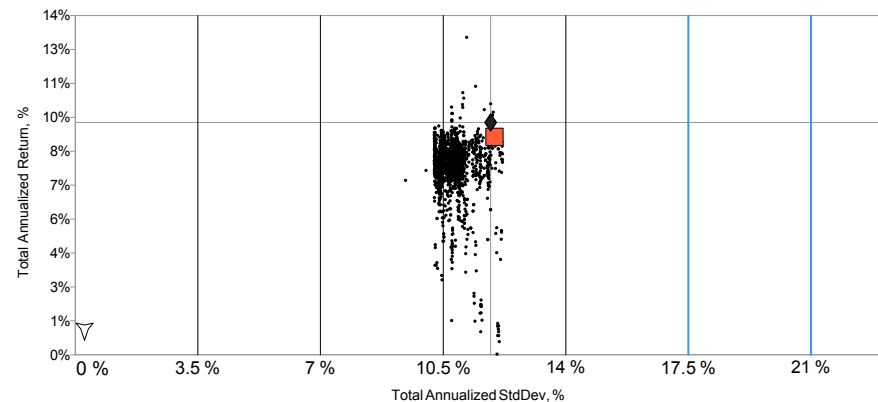
*70.65% Russell 3000, 29.35% MSCI ACWI Index ex USA ND USD

** Aggressive average is the average performance of all funds in the aggressive peer group

Calendar Year Returns	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD
■ CREF Stock R3	15.72	-4.94	17.26	27.83	6.41	-0.84	9.17	23.43	-9.65	27.45
◆ Style Benchmark	15.30	-3.48	16.62	28.02	7.53	-1.31	10.33	22.92	-7.87	28.19
Aggressive Average	15.14	-4.05	15.56	23.57	5.68	-1.91	8.39	20.41	-8.85	24.64

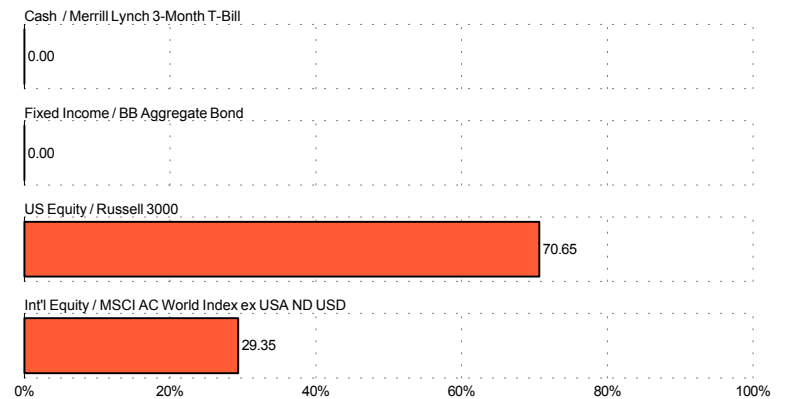
Scorecard - Asset Allocation	Ticker/ID	Style			Risk/Return			Peer Group		Qual.	Allocation Score			
		Risk Level	Style Diversity	R ²	Risk/Return	Up/Down	Info Ratio	Return Rank	SR Rank	(2pt. max)	12/31 2019	09/30 2019	06/28 2019	03/29 2019
CREF Stock R3	F00000VAVP	1	0	1	0	0	0	1	1	2	6	6	6	5
		11.96	100.00/0.00	99.63	11.96/9.00	98.45/102.06	-0.81	4.00	37.00		AGG	AGG	AGG	AGG

Risk Level Jan 15 - Dec 19

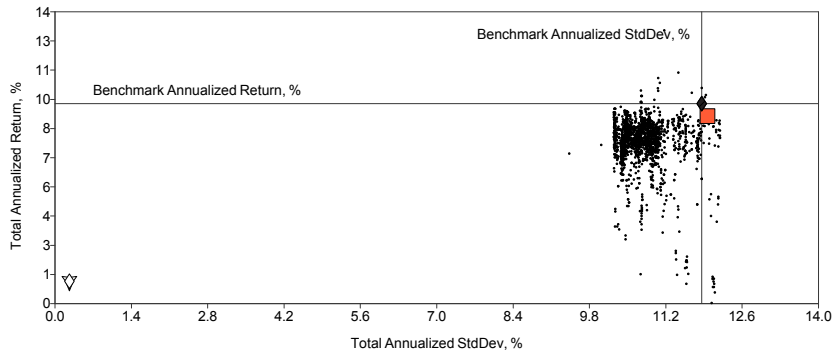


● Aggressive ■ CREF Stock R3 ▽ Cash ◆ Style Benchmark

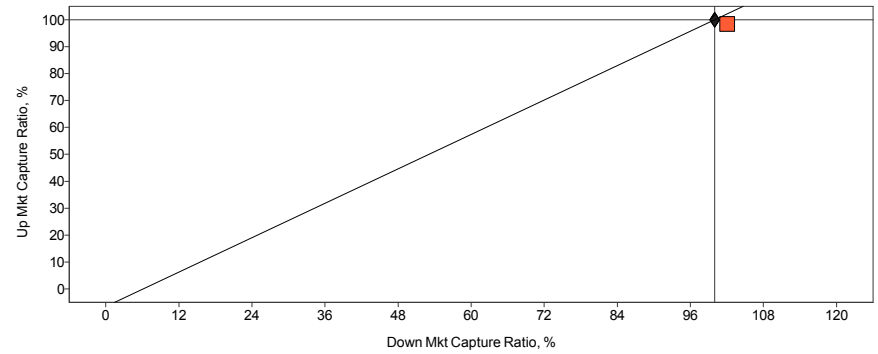
Style Diversity / Benchmark Jan 15 - Dec 19



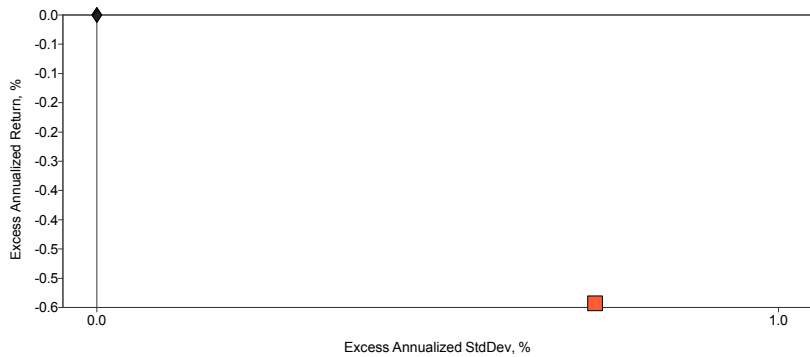
Risk / Return *Single Computation, Jan 15 - Dec 19*



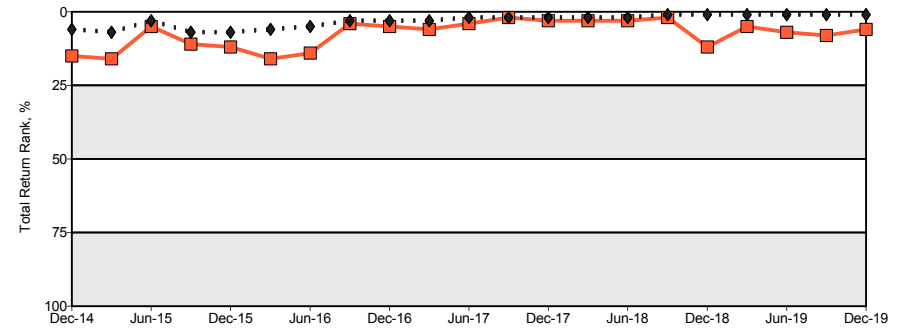
Up/Down Capture *Jan 15 - Dec 19*



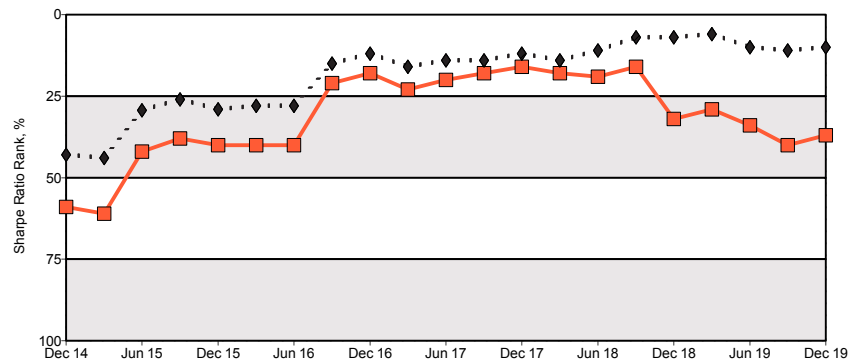
Relative Risk Return *Jan 15 - Dec 19*



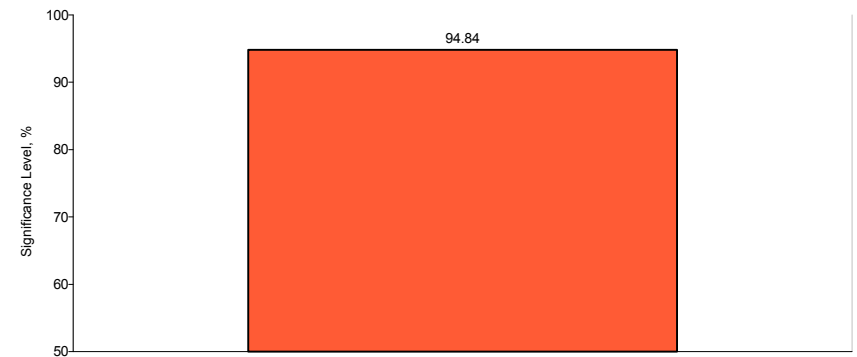
Rolling 5 Year Return Rank *20 quarter rolling windows, Jan 10 - Dec 19*



Rolling 5 Year Sharpe Ratio Rank *20 quarter rolling windows, Jan 10 - Dec 19*



Significance Level *Single Computation, Jan 15 - Dec 19*



* Significance level provides to what degree (of statistical confidence) a fund's outperformance was due to manager skill and not a result of chance or luck.

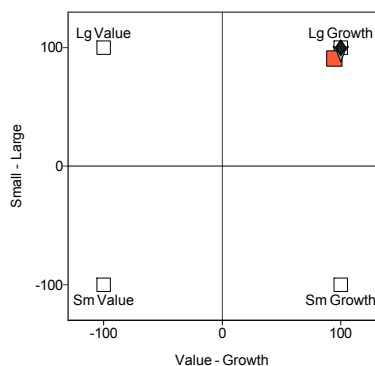
Returns Analysis	QTR	YTD	1 Yr	3 Yr Ann.	5 Yr Ann.	10 Yr Ann.	Since Inception	Manager Name	Manager Tenure (Years)	Fund Inception	Net Exp. Ratio	Gross Exp. Ratio
■ T. Rowe Price Instl Large Cap Growth	10.00	28.49	28.49	22.70	15.90	16.04	10.93	Taymour R. Tamaddon	3.00	10/31/2001	0.56	0.56
▼ CREF Growth R3	8.88	31.66	31.66	19.18	13.15	14.39	12.37	Susan Hirsch	14.01	04/24/2015	0.23	0.23
◆ Russell 1000 Growth Index	10.62	36.39	36.39	20.49	14.63	15.22						
Large Cap Growth Average	9.54	31.77	31.77	18.29	12.22	13.18					1.00	1.08

Calendar Year Returns	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD
■ T. Rowe Price Instl Large Cap Growth	16.29	-1.40	17.55	44.44	8.72	10.08	2.85	37.82	4.32	28.49
▼ CREF Growth R3	14.98	1.19	15.87	35.00	13.66	6.46	2.92	31.83	-2.46	31.66
◆ Russell 1000 Growth Index	16.71	2.64	15.26	33.48	13.05	5.67	7.08	30.21	-1.51	36.39
Large Cap Growth Average	15.10	-2.13	16.00	34.23	10.02	4.49	3.12	28.17	-1.91	31.77

Scorecard - Active	Ticker/ID	Style			Risk/Return			Peer Group		Qual.	Score			
		Style	Style Drift	R ²	Risk/Return	Up/Down	Info Ratio	Return Rank	Info Ratio Rank	(2pt. max)	12/31 2019	09/30 2019	06/28 2019	03/29 2019
T. Rowe Price Instl Large Cap Growth	TRLGX	1	1	1	1	1	1	1	1	1	9	9	9	9
		94.59/90.84	10.37	89.89	13.90/15.90	105.92/101.59	0.29	2.00	1.00	T	LCG	LCG	LCG	LCG
CREF Growth R3	F00000VAVV	1	1	1	0	0	0	1	1	2	7	7	7	7
		100.00/96.60	2.60	98.56	13.40/13.15	98.79/108.63	-0.89	33.00	39.00		LCG	LCG	LCG	LCG

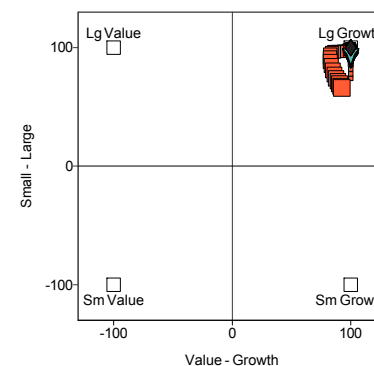
Average Style

Jan 15 - Dec 19

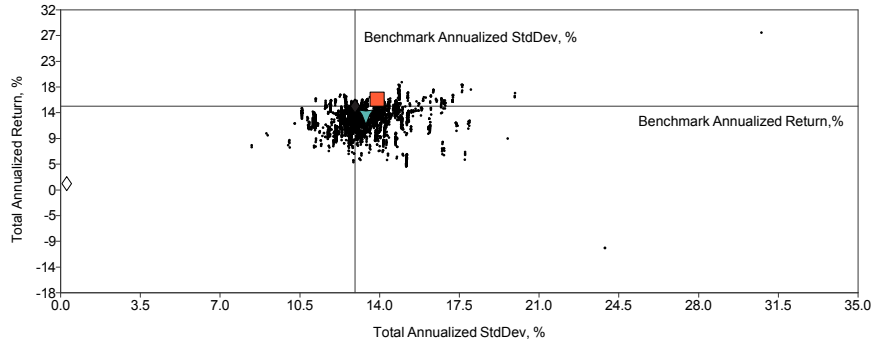


Style Drift

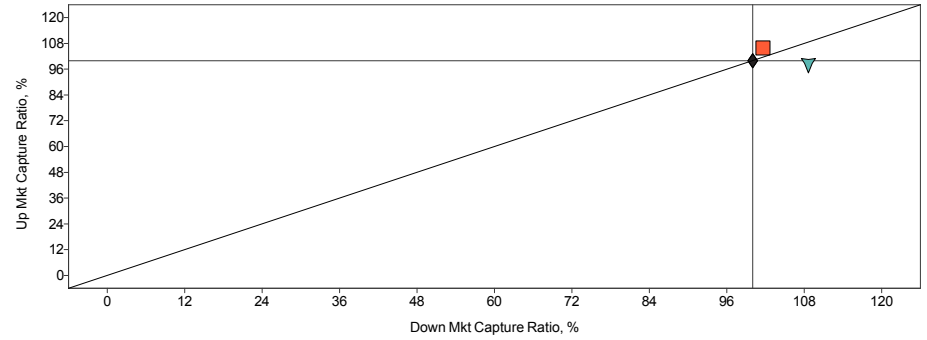
36 Month rolling windows, Jan 15 - Dec 19



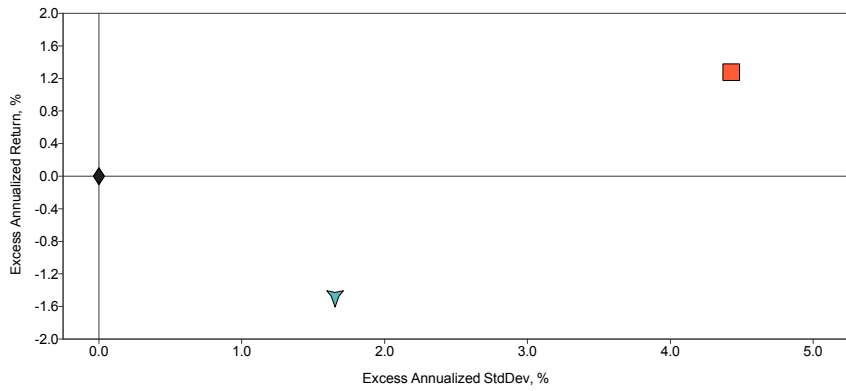
Risk / Return *Single Computation, Jan 15 - Dec 19*



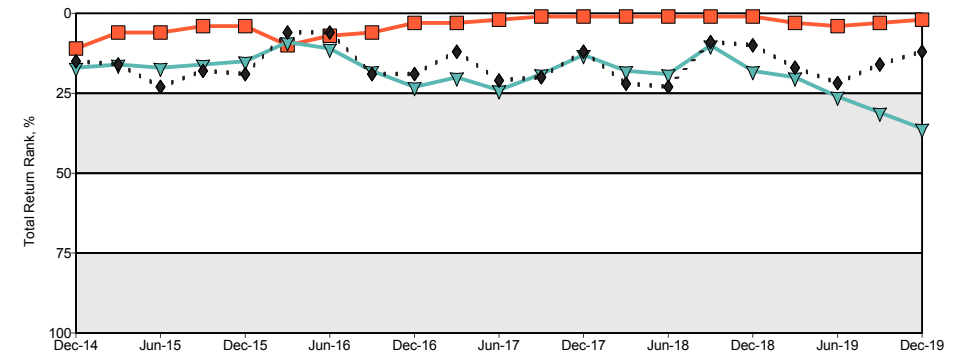
Up/Down Capture *Jan 15 - Dec 19*



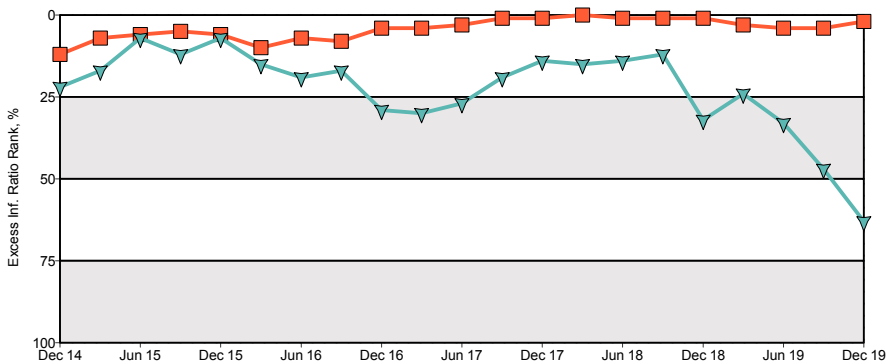
Relative Risk Return *Jan 15 - Dec 19*



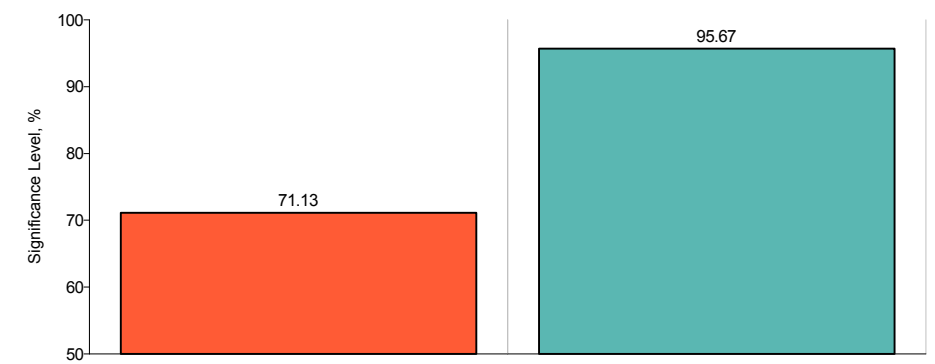
Rolling 5 Year Return Rank *20 quarter rolling windows, Jan 10 - Dec 19*



Rolling 5 Year Information Ratio Rank *20 quarter rolling windows, Jan 10 - Dec 19*



Significance Level *Jan 15 - Dec 19*



* Significance level provides to what degree (of statistical confidence) a fund's outperformance was due to manager skill and not a result of chance or luck.

Summary Comparison Passive TDFs Evaluation

Glidepath Data

A TDFs equity exposure and the rate of change in its equity exposure as participants approach retirement are used to categorize TDFs into three different risk postures in correspondence to the risk index.

Conservative
<54

Moderate
55 - 69

Aggressive
>70

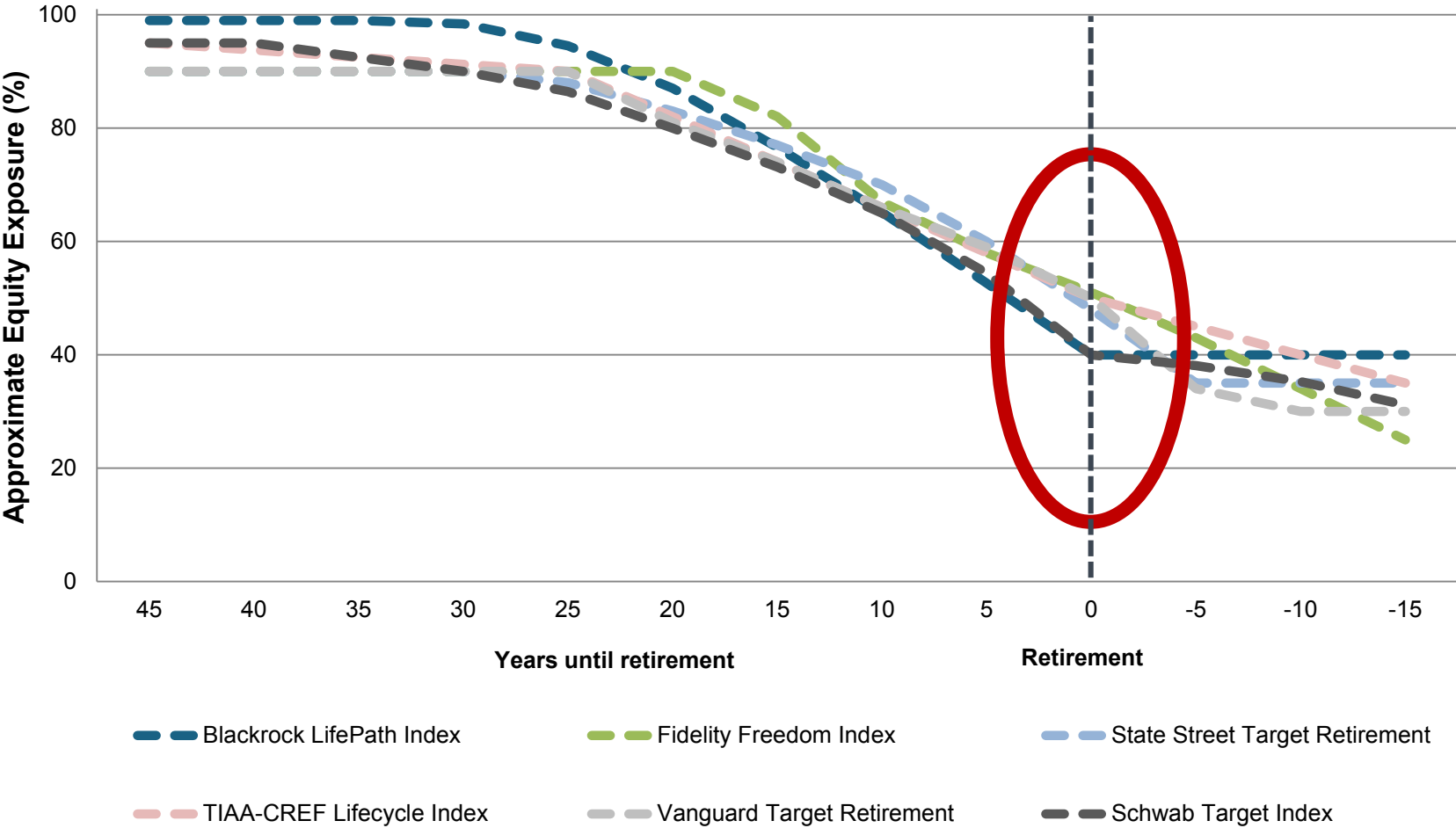
Product Name	TDF Design Analysis	Risk Index	Equity (Approx.)		Approx. Equity Exposure at age 65	Glidepath Slope	Tactical %	Management Style	Investment Approach
			Starting Eq	Ending Eq					
Fidelity Freedom Index	Aggressive	81	90%	19%	51%	1.6	10%	Passive	Proprietary Funds
State Street Target Retirement	Aggressive	83	90%	35%	48%	1.9	0%	Passive	Proprietary Funds
TIAA-CREF Lifecycle Index	Aggressive	76	95%	20%	50%	1.3	0%	Passive	Proprietary Funds
Vanguard Target Retirement	Aggressive	85	90%	30%	50%	1.9	0%	Passive	Proprietary Funds
BlackRock LifePath Index	Moderate	68	99%	40%	40%	1.3	0%	Passive	Proprietary Funds
Schwab Target Index	Moderate	68	95%	25%	40%	1.5	0%	Passive	Proprietary Funds

Proprietary Funds means only funds that are managed by a TDF investment manager are used.

Multi-manager means both proprietary and non-proprietary funds are used, but proprietary funds are the primary underlying investment vehicles.

Open-architecture means no proprietary funds are required to be used.

TDF Considerations Glidepaths



Asset Class Coverage

	Traditional TDF					
	Aggressive				Moderate	
	Fidelity Freedom Index	State Street Target Retirement	TIAA-CREF Lifecycle Index	Vanguard Target Retirement	BlackRock LifePath Index	Schwab Target Index
U.S. Large Cap Equity	X	X	X	X	X	X
U.S. Mid Cap Equity	X	X	X	X	X	X
U.S. Small Cap Equity	X	X	X	X	X	X
International Equity	X	X	X	X	X	X
Emerging Market Equity	X	X	X	X	X	X
U.S. Fixed Income	X	X	X	X	X	X
U.S. TIPS	X	X	X	X	X	X
High Yield Fixed Income		X				
International Fixed Income				X		
Emerging Market Debt				X		
REITs		X			X	X
Commodities						

Fees

	Traditional TDF					
	Aggressive			Moderate		
	Fidelity Freedom Index Instl Prem	State Street Target Retirement K	TIAA-CREF Lifecycle Index Instl	Vanguard Target Retirement Instl	BlackRock LifePath Index K	Schwab Target Index Instl
Investment Philosophy	Passive	Passive	Passive	Passive	Passive	Passive
Average Investment Expense	0.08%	0.09%	0.10%	0.09%	0.10%	0.08%
Revenue Sharing	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Investment Management Expense	0.08%	0.09%	0.10%	0.09%	0.10%	0.08%

Summary Comparison

	Traditional TDF					
	Aggressive				Moderate	
	Fidelity Freedom Index	State Street Target Retirement	TIAA-CREF Lifecycle Index	Vanguard Target Retirement	BlackRock LifePath Index	Schwab Target Index
TDF Risk Index	81	83	76	85	68	68
Management Style	Passive	Passive	Passive	Passive	Passive	Passive
# of Asset Classes	7	9	7	9	8	8
# Underlying Fund Managers	1	1	1	1	1	1
# Underlying Funds on Watchlist	0	2	0	0	0	0
Average Underlying Fund Score	9.0	8.4	9.5	8.8	9.5	9.9
ERISA 3(38)	No	No	No	No	No	No
Glidepath Manager	Fidelity	State Street	TIAA	Vanguard	BlackRock	Schwab
Trustee/ Custodian	Fidelity	State Street	TIAA	Vanguard	BlackRock	Schwab
Net Expense Ratio	0.08%	0.09%	0.10%	0.09%	0.10%	0.08%

Passive TDFs Return Analysis (Page 1 of 2)

Group/Investment	QTR			1-Year			3-Year			5-Year			10-Year		
	10/1/2019 12/31/2019			1/1/2019 12/31/2019			1/1/2017 12/31/2019			1/1/2015 12/31/2019			1/1/2010 12/31/2019		
	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev
Target Date Retirement															
BlackRock LifePath® Index Retire K	3.47	0.21	0.22	15.90	0.78	1.37	7.39	1.16	4.76	5.49	0.91	4.83	-	-	-
Fidelity Freedom® Index 2015 Investor	3.82	0.21	0.24	16.48	0.72	1.56	8.27	1.19	5.38	6.04	0.85	5.80	6.64	0.94	6.44
Schwab Target 2015 Index	3.31	0.20	0.22	15.00	0.77	1.30	7.15	1.18	4.48	-	-	-	-	-	-
State Street Target Retirement 2015 I	3.33	0.23	0.19	14.59	0.71	1.37	7.10	1.15	4.56	5.29	0.83	5.06	-	-	-
TIAA-CREF Lifecycle Index 2015 Instl	4.13	0.23	0.25	16.70	0.70	1.62	8.20	1.17	5.38	6.09	0.89	5.60	7.44	1.01	6.77
Vanguard Target Retirement Income Inv	2.60	0.19	0.18	13.16	0.83	1.05	6.36	1.27	3.55	4.80	0.99	3.70	5.82	1.28	4.02
Target Date 2025															
BlackRock LifePath® Index 2025 K	4.89	0.24	0.29	18.98	0.67	1.94	9.04	1.10	6.51	6.64	0.82	6.84	-	-	-
Fidelity Freedom® Index 2025 Investor	5.06	0.22	0.31	19.69	0.65	2.09	9.58	1.11	6.93	6.97	0.81	7.31	7.87	0.87	8.43
Schwab Target 2025 Index	4.71	0.22	0.30	18.89	0.66	1.98	9.23	1.11	6.59	-	-	-	-	-	-
State Street Target Retirement 2025 I	5.26	0.23	0.31	20.76	0.65	2.21	9.98	1.11	7.30	7.11	0.79	7.68	-	-	-
TIAA-CREF Lifecycle Index 2025 Instl	5.26	0.23	0.32	19.59	0.63	2.13	9.66	1.11	6.98	7.13	0.84	7.27	8.60	0.92	8.72
Vanguard Target Retirement 2025 Inv	5.22	0.23	0.32	19.63	0.62	2.16	9.57	1.09	7.05	6.99	0.81	7.37	8.59	0.91	8.85
Target Date 2035															
BlackRock LifePath® Index 2035 K	6.77	0.23	0.42	23.08	0.59	2.71	10.88	1.04	8.69	7.87	0.76	9.03	-	-	-
Fidelity Freedom® Index 2035 Investor	7.25	0.23	0.45	24.95	0.57	3.07	11.92	1.02	9.86	8.60	0.76	10.14	9.14	0.82	10.72
Schwab Target 2035 Index	6.13	0.22	0.39	22.38	0.59	2.65	10.65	1.03	8.54	-	-	-	-	-	-
State Street Target Retirement 2035 I	6.55	0.23	0.40	23.62	0.61	2.70	11.24	1.06	8.84	7.94	0.76	9.15	-	-	-
TIAA-CREF Lifecycle Index 2035 Instl	6.72	0.23	0.42	23.02	0.58	2.75	11.25	1.06	8.84	8.24	0.80	9.12	9.76	0.86	10.80
Vanguard Target Retirement 2035 Inv	6.68	0.23	0.40	22.44	0.57	2.74	10.86	1.02	8.79	7.81	0.75	9.14	9.54	0.84	10.83

Passive TDFs Return Analysis (Page 2 of 2)

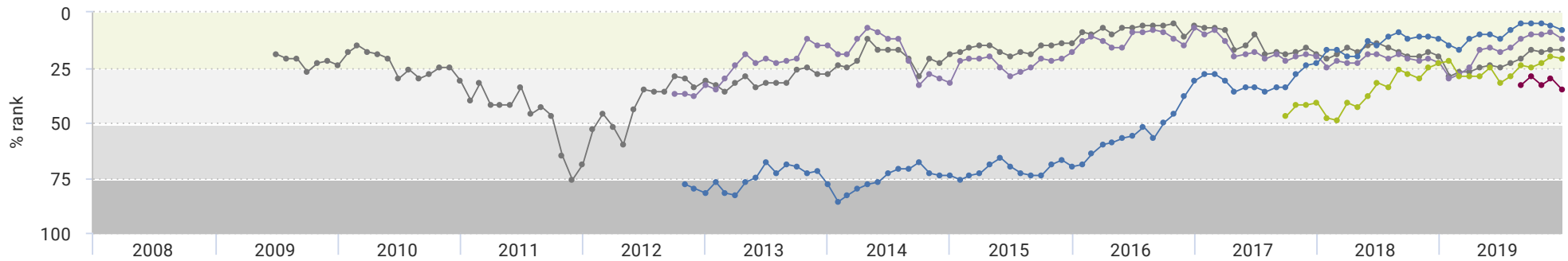
Group/Investment	QTR			1-Year			3-Year			5-Year			10-Year		
	10/1/2019 12/31/2019			1/1/2019 12/31/2019			1/1/2017 12/31/2019			1/1/2015 12/31/2019			1/1/2010 12/31/2019		
	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev
Target Date 2045															
BlackRock LifePath® Index 2045 K	8.28	0.23	0.52	26.25	0.55	3.31	12.23	1.00	10.38	8.75	0.74	10.65	-	-	-
Fidelity Freedom® Index 2045 Investor	7.87	0.23	0.50	26.05	0.55	3.29	12.15	0.99	10.39	8.72	0.75	10.45	9.31	0.81	11.04
Schwab Target 2045 Index	7.32	0.22	0.47	24.81	0.56	3.12	11.59	0.98	9.92	-	-	-	-	-	-
State Street Target Retirement 2045 I	7.40	0.23	0.46	25.45	0.56	3.15	11.93	1.00	10.08	8.39	0.73	10.27	-	-	-
TIAA-CREF Lifecycle Index 2045 Instl	8.09	0.23	0.50	25.84	0.54	3.34	12.38	1.00	10.48	9.03	0.77	10.54	10.34	0.86	11.57
Vanguard Target Retirement 2045 Inv	8.00	0.23	0.49	24.94	0.53	3.28	11.80	0.97	10.32	8.41	0.72	10.43	9.98	0.83	11.54
Target Date 2055															
BlackRock LifePath® Index 2055 K	8.60	0.23	0.54	26.89	0.55	3.45	12.42	0.99	10.72	8.89	0.74	10.90	-	-	-
Fidelity Freedom® Index 2055 Investor	7.87	0.23	0.49	26.01	0.55	3.28	12.13	0.99	10.38	8.71	0.75	10.43	-	-	-
Schwab Target 2055 Index	7.78	0.22	0.50	25.79	0.54	3.34	11.94	0.96	10.57	-	-	-	-	-	-
State Street Target Retirement 2055 I	7.55	0.23	0.47	25.65	0.56	3.19	12.05	1.00	10.17	8.41	0.73	10.31	-	-	-
TIAA-CREF Lifecycle Index 2055 Instl	8.32	0.23	0.52	26.37	0.53	3.46	12.62	1.00	10.80	9.24	0.78	10.75	-	-	-
Vanguard Target Retirement 2055 Inv	8.02	0.23	0.49	24.98	0.53	3.29	11.80	0.97	10.32	8.38	0.72	10.43	-	-	-
Simple Average															
BlackRock LifePath® Index K	6.40	0.23	0.40	22.22	0.63	2.56	10.39	1.06	8.21	7.53	0.79	8.45	-	-	-
Fidelity Freedom® Index Investor	6.37	0.22	0.40	22.64	0.61	2.66	10.81	1.06	8.59	7.81	0.78	8.83	-	-	-
Schwab Target Index	5.85	0.22	0.37	21.37	0.62	2.48	10.11	1.05	8.02	-	-	-	-	-	-
State Street Target Retirement I	6.02	0.23	0.37	22.01	0.62	2.52	10.46	1.06	8.19	7.43	0.77	8.50	-	-	-
TIAA-CREF Lifecycle Index Instl	6.50	0.23	0.40	22.30	0.60	2.66	10.82	1.07	8.50	7.95	0.81	8.65	-	-	-
Vanguard Target Retirement Inv	6.10	0.22	0.38	21.03	0.62	2.50	10.08	1.06	8.01	7.28	0.80	8.22	-	-	-

3-Year Rolling Returns | 2020 Funds

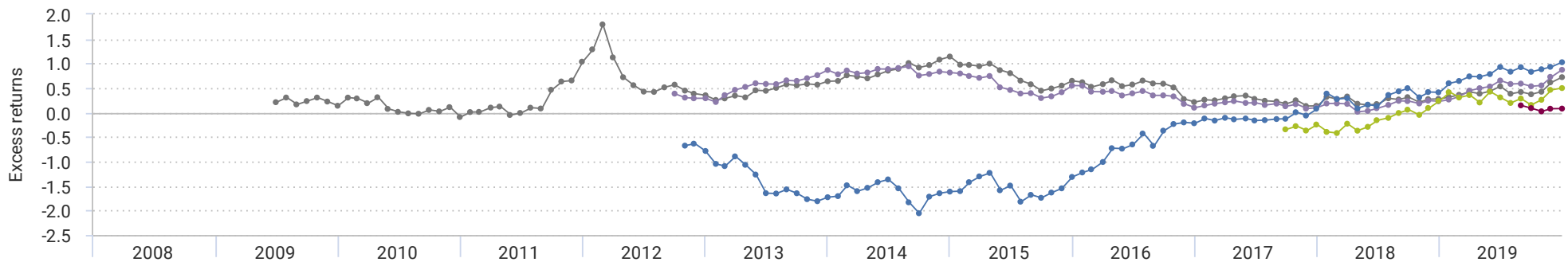
Time period: 01/01/2005 - 12/31/2019 | Rolling window: 3 years 1 month shift

1st to 25th Percentile 26th to 50th Percentile 51st to 75th Percentile 76th to 100th Percentile

Rolling Percentile Ranks - US Fund Target Date 2020



Rolling Excess Returns vs. S&P Target Date 2020



% of time	● Fidelity Freedom Index	● Schwab Target Index	● State Street Target Retirement	● TIAA-CREF Lifecycle Index	● Vanguard Target Retirement
Top quartile rank / # of periods available	30% / 87	0% / 5	32% / 28	84% / 88	65% / 127
Outperforms bmk / # of periods available	30% / 87	100% / 5	54% / 28	100% / 88	96% / 127

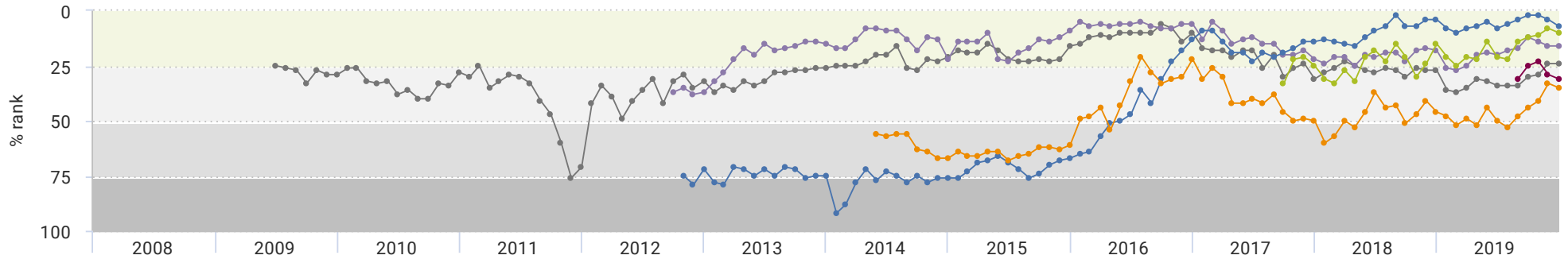
As of 12/31/2019. © 2019 Morningstar, Inc. All Rights Reserved. Past performance is not a guarantee of future results. Performance information may include extended performance returns, provided by Morningstar, where available. Performance includes the reinvestment of income. % rank in category refer to Morningstar's open end and exchange traded fund universe. Calculation period defaults to a maximum of 15 years; If selected funds or benchmark inceptioned more recently than 15 years ago, the calculation period for each fund will default to the shorter of each fund's and benchmark inception.

3-Year Rolling Returns | 2030 Funds

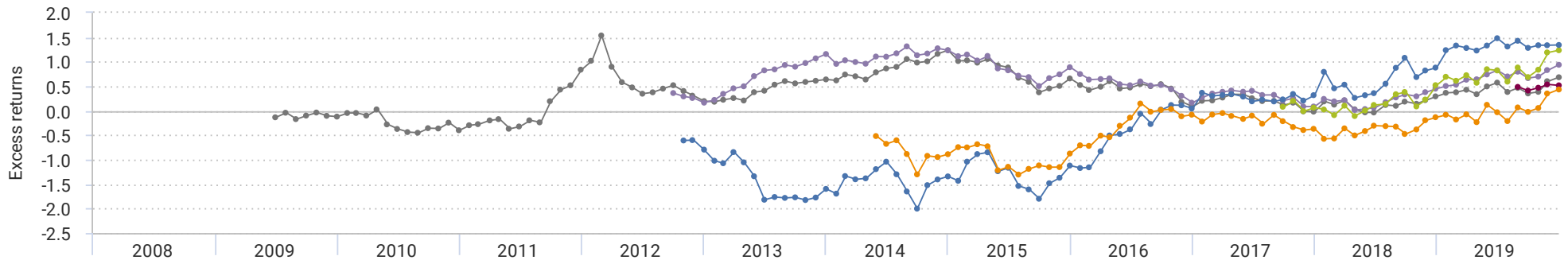
Time period: 01/01/2005 - 12/31/2019 | Rolling window: 3 years 1 month shift

1st to 25th Percentile 26th to 50th Percentile 51st to 75th Percentile 76th to 100th Percentile

Rolling Percentile Ranks - US Fund Target Date 2030



Rolling Excess Returns vs. S&P Target Date 2030



% of time	BlackRock LifePath Index	Fidelity Freedom Index	Schwab Target Index	State Street Target Retirement	TIAA-CREF Lifecycle Index	Vanguard Target Retirement
Top quartile rank / # of periods available	3% / 68	45% / 87	40% / 5	79% / 28	91% / 88	38% / 127
Outperforms bmk / # of periods available	12% / 68	46% / 87	100% / 5	89% / 28	100% / 88	76% / 127

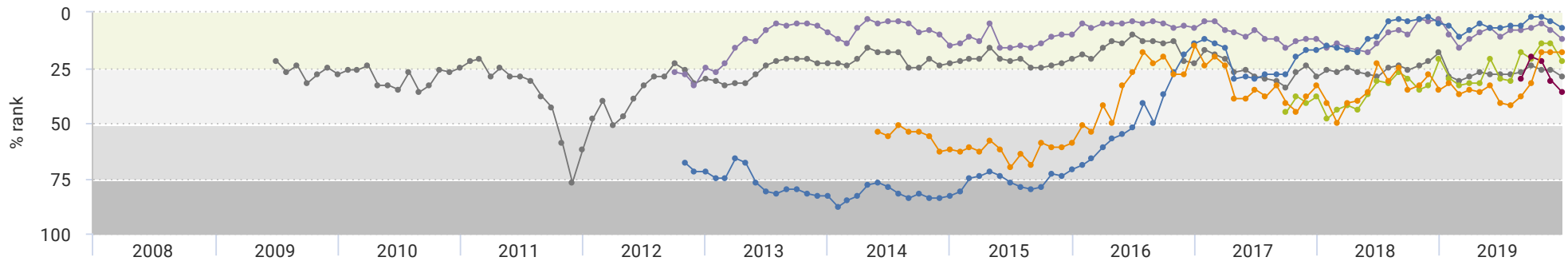
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3-Year Rolling Returns | 2040 Funds

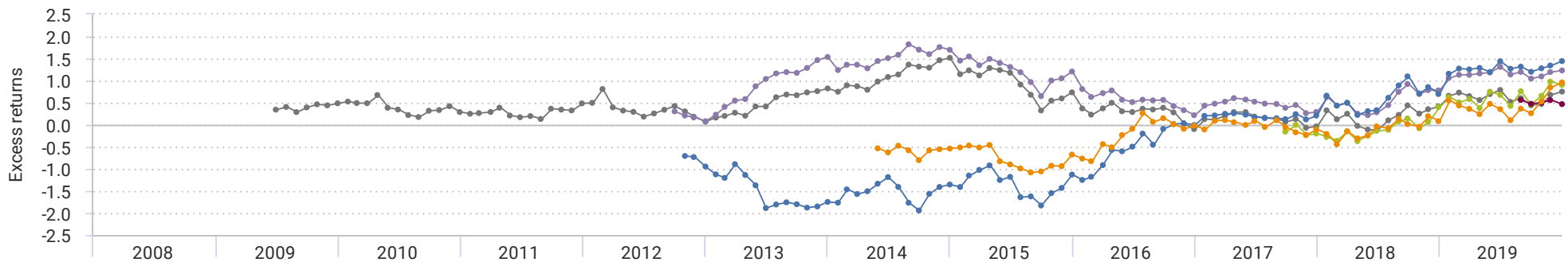
Time period: 01/01/2005 - 12/31/2019 | Rolling window: 3 years 1 month shift

1st to 25th Percentile 26th to 50th Percentile 51st to 75th Percentile 76th to 100th Percentile

Rolling Percentile Ranks - US Fund Target Date 2040



Rolling Excess Returns vs. S&P Target Date 2040

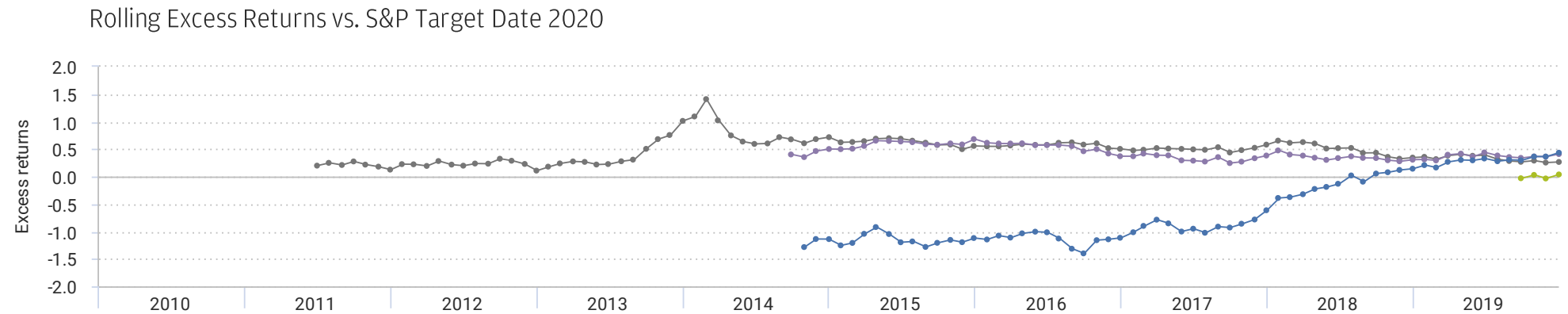
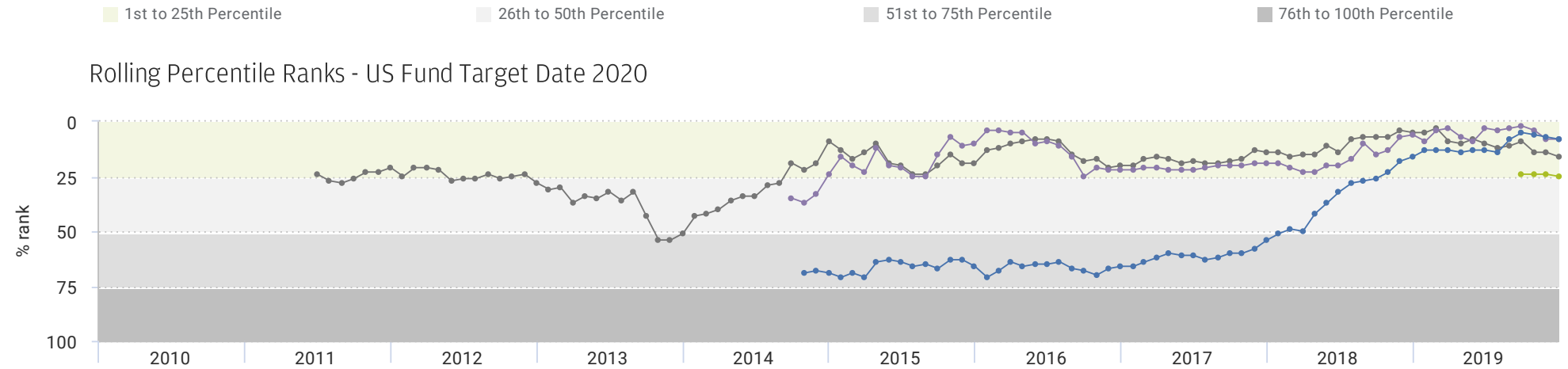


% of time	BlackRock LifePath Index	Fidelity Freedom Index	Schwab Target Index	State Street Target Retirement	TIAA-CREF Lifecycle Index	Vanguard Target Retirement
Top quartile rank / # of periods available	18% / 68	37% / 87	40% / 5	25% / 28	95% / 88	50% / 127
Outperforms bmk / # of periods available	37% / 68	44% / 87	100% / 5	57% / 28	100% / 88	95% / 127

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5-Year Rolling Returns | 2020 Funds

Time period: 01/01/2005 - 12/31/2019 | Rolling window: 5 years 1 month shift



% of time	● Fidelity Freedom Index	● Schwab Target Index	● State Street Target Retirement	● TIAA-CREF Lifecycle Index	● Vanguard Target Retirement
Top quartile rank / # of periods available	24% / 63	- / -	100% / 4	95% / 64	73% / 103
Outperforms bmk / # of periods available	27% / 63	- / -	50% / 4	100% / 64	100% / 103

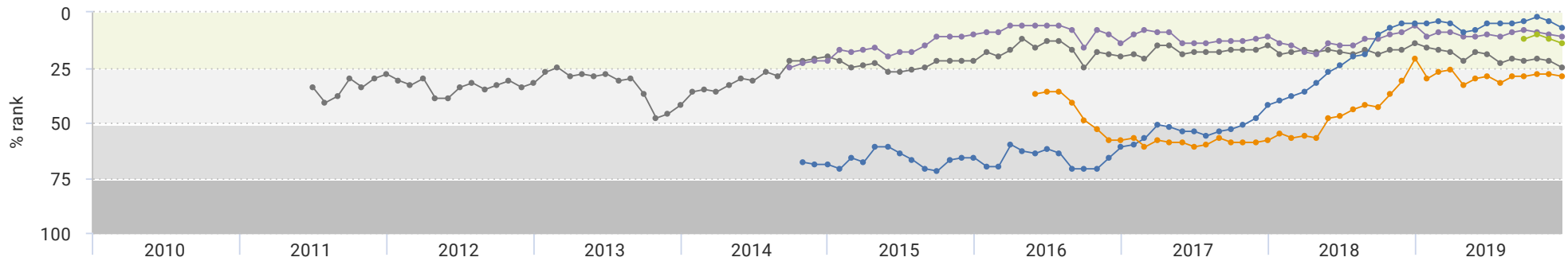
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5-Year Rolling Returns | 2030 Funds

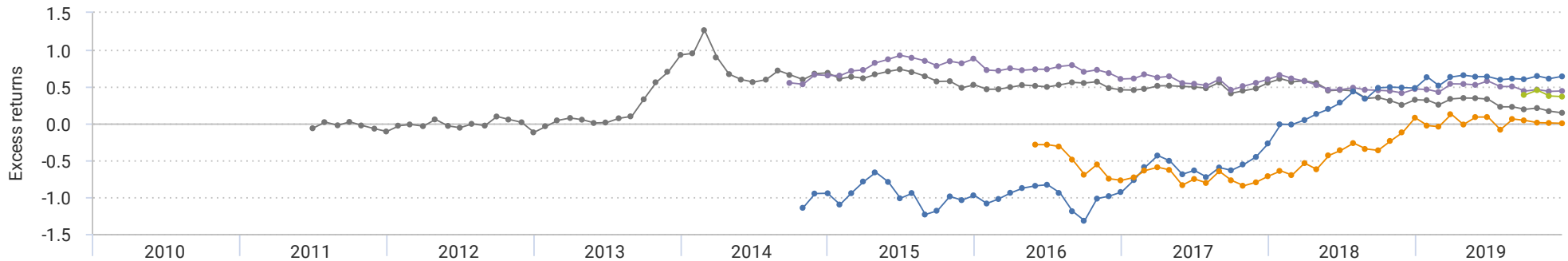
Time period: 01/01/2005 - 12/31/2019 | Rolling window: 5 years 1 month shift

1st to 25th Percentile 26th to 50th Percentile 51st to 75th Percentile 76th to 100th Percentile

Rolling Percentile Ranks - US Fund Target Date 2030



Rolling Excess Returns vs. S&P Target Date 2030



% of time	BlackRock LifePath Index	Fidelity Freedom Index	Schwab Target Index	State Street Target Retirement	TIAA-CREF Lifecycle Index	Vanguard Target Retirement
Top quartile rank / # of periods available	2% / 44	30% / 63	- / -	100% / 4	100% / 64	60% / 103
Outperforms bmk / # of periods available	20% / 44	35% / 63	- / -	100% / 4	100% / 64	86% / 103

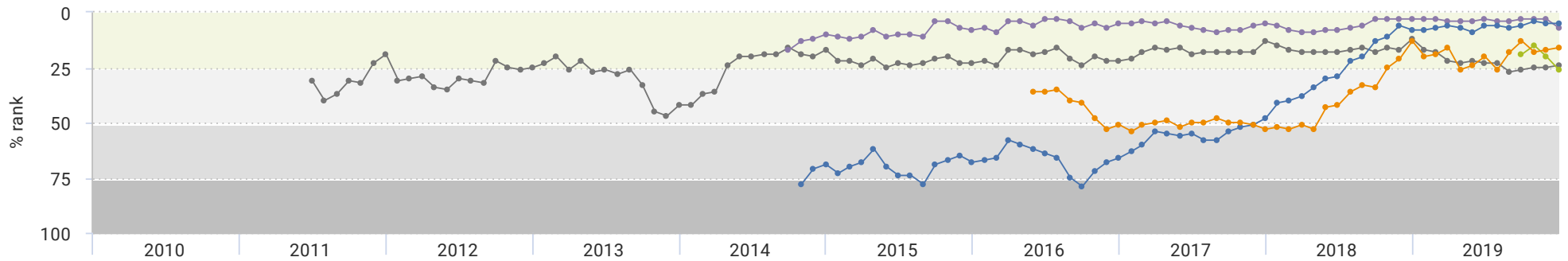
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5-Year Rolling Returns | 2040 Funds

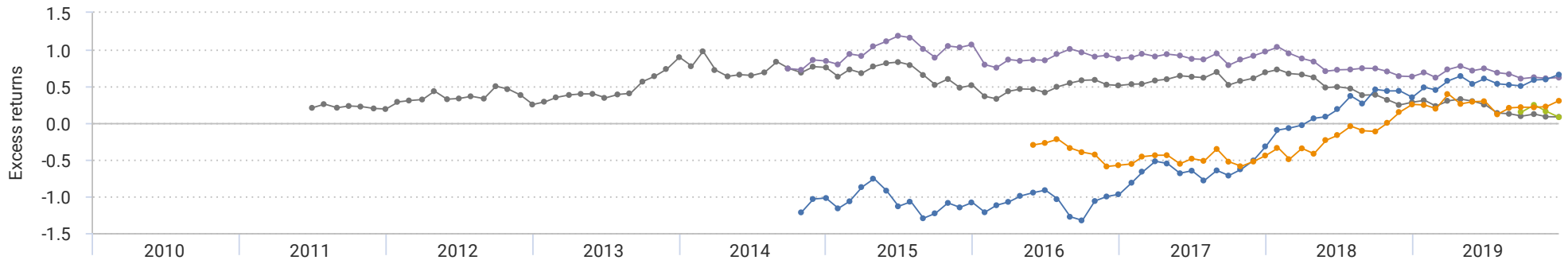
Time period: 01/01/2005 - 12/31/2019 | Rolling window: 5 years 1 month shift

1st to 25th Percentile 26th to 50th Percentile 51st to 75th Percentile 76th to 100th Percentile

Rolling Percentile Ranks - US Fund Target Date 2040



Rolling Excess Returns vs. S&P Target Date 2040

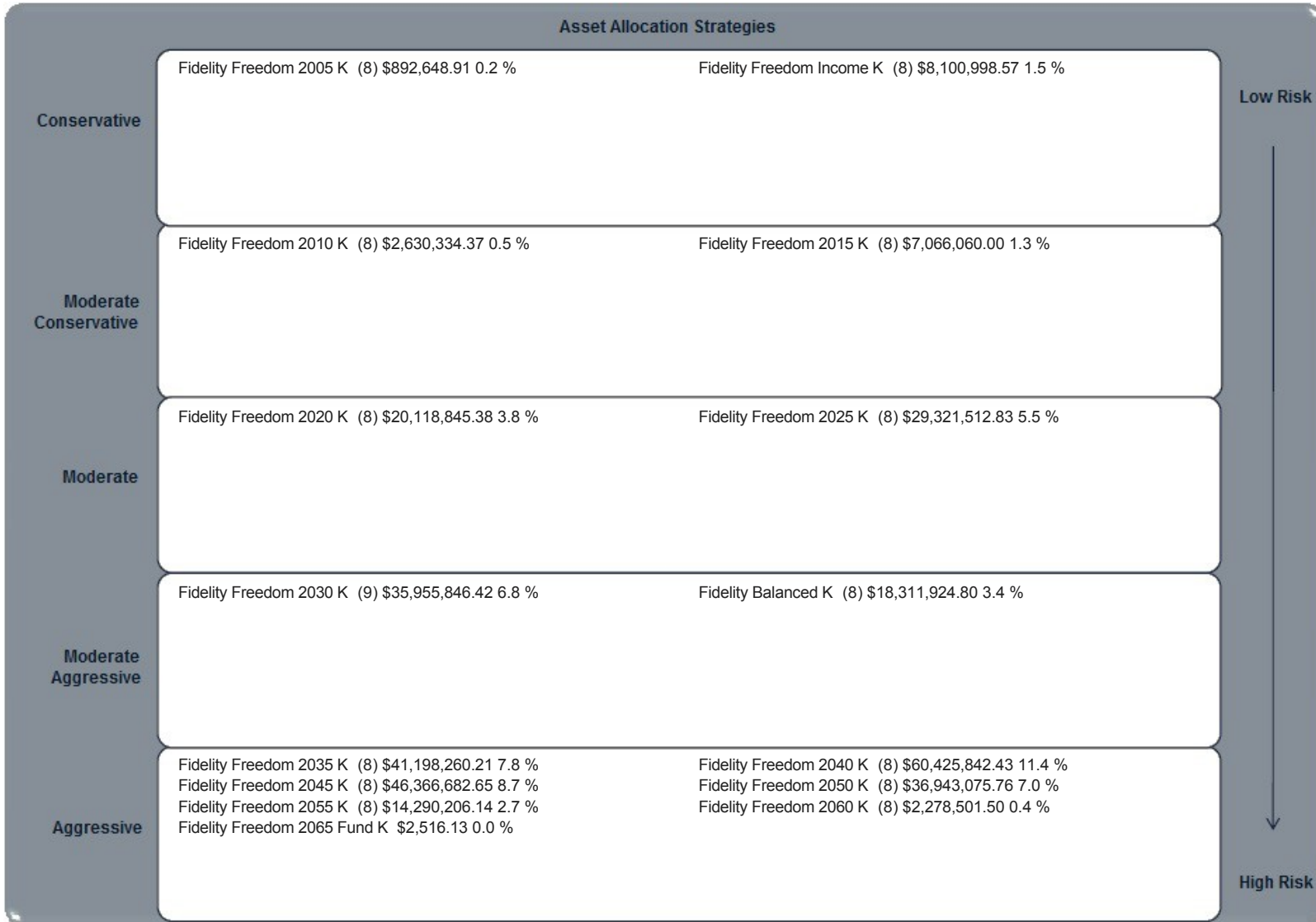


% of time	BlackRock LifePath Index	Fidelity Freedom Index	Schwab Target Index	State Street Target Retirement	TIAA-CREF Lifecycle Index	Vanguard Target Retirement
Top quartile rank / # of periods available	30% / 44	29% / 63	- / -	75% / 4	100% / 64	73% / 103
Outperforms bmk / # of periods available	34% / 44	33% / 63	- / -	100% / 4	100% / 64	100% / 103

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Fidelity Investment Lineup Analysis

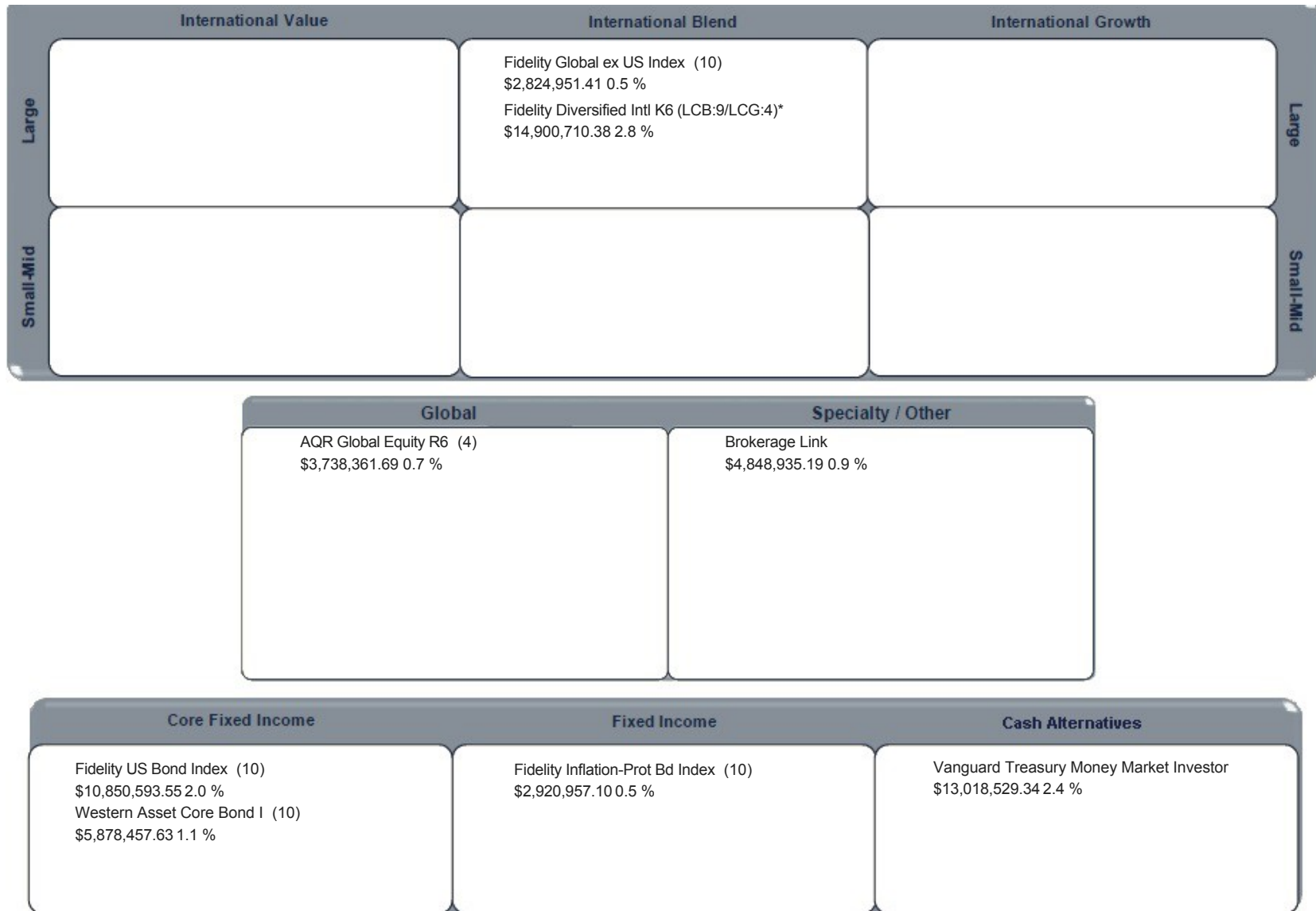
Style Box - Fidelity



Style Box - Fidelity

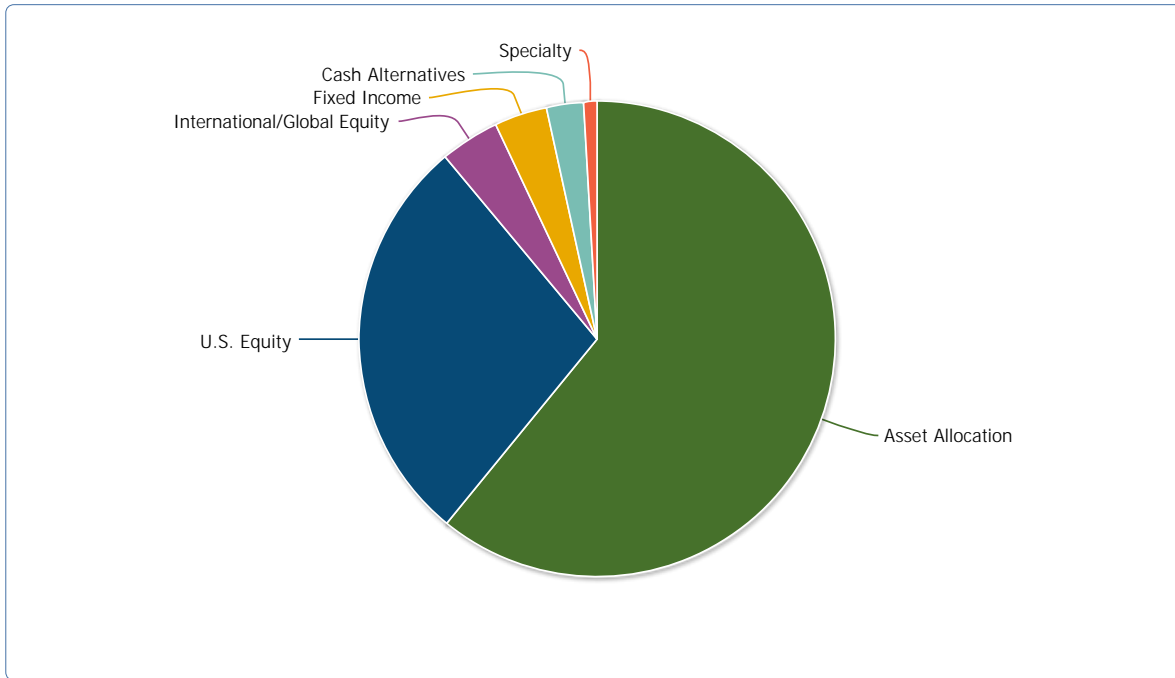
	Value	Blend	Growth
Large	BlackRock Equity Dividend Instl (10) \$9,508,710.24 1.8 %	Fidelity 500 Index (10) \$40,256,177.42 7.6 % Vanguard FTSE Social Index Admiral (9) \$4,842,777.82 0.9 % Fidelity Contrafund K (LCB:9/LCG:8) \$31,384,695.22 5.9%	Fidelity Blue Chip Growth K (9) \$30,515,909.95 5.7 %
Mid		Fidelity Mid-Cap Stock K (9) \$17,780,153.83 3.3 %	
Small		DFA US Small Cap I (7) \$10,002,618.37 1.9 % Fidelity Small Cap Index (10) \$4,342,241.21 0.8 %	

Style Box - Fidelity



*Fidelity Diversified International K6 does not have a five-year performance track record; therefore, our system does not provide scoring. Fidelity Diversified International K's scores are inserted above as a proxy so consideration for tracking errors exists between the two funds which are attributed to differences in expense ratios and cash flows.

Plan Allocation by Investment Type - Fidelity



Investment Type	Assets	Percentage
Asset Allocation	\$323,903,256.10	60.9%
U.S. Equity	\$148,633,284.06	28.0%
International/Global Equity	\$21,464,023.48	4.0%
Fixed Income	\$19,650,008.28	3.7%
Money Market	\$13,018,529.34	2.4%
Brokerage	\$4,848,935.19	0.9%
Total	\$531,518,036.45	100%

as of 12/31/2019

Plan Allocation by Investment Type - Fidelity

Investment Name	Asset Class	Amount	Percentage	Score
Money Market		\$13,018,529		
Vanguard Treasury Money Market Investor	MM	\$13,018,529	2.4 %	N/A*
Fixed Income		\$19,650,008		
Fidelity US Bond Index	CFI-P	\$10,850,594	2.0 %	10
Western Asset Core Bond I	CFI	\$5,878,458	1.1 %	10
Fidelity Inflation-Prot Bd Index	UGT-P	\$2,920,957	0.5 %	10
U.S. Equity		\$148,633,284		
BlackRock Equity Dividend Instl	LCV	\$9,508,710	1.8 %	10
Fidelity 500 Index	LCB-P	\$40,256,177	7.6 %	10
Vanguard FTSE Social Index Admiral	LCB-P	\$4,842,778	0.9 %	9
Fidelity Contrafund K	LCB	\$31,384,695	5.9 %	9
Fidelity Blue Chip Growth K	LCG	\$30,515,910	5.7 %	9
Fidelity Mid-Cap Stock K	MCB	\$17,780,154	3.3 %	9
DFA US Small Cap I	SCB	\$10,002,618	1.9 %	7
Fidelity Small Cap Index	SCB-P	\$4,342,241	0.8 %	10
International/Global Equity		\$21,464,023		
Fidelity Diversified Intl K6**	ILCB	\$14,900,710	2.8 %	9
Fidelity Global ex US Index	IE-P	\$2,824,951	0.5 %	10
AQR Global Equity R6	GE	\$3,738,362	0.7 %	4

*Cash Equivalents (e.g., money market fund) and some specialty funds are not scored by the Scorecard System.

**Fidelity Diversified International K6 does not have a five-year performance track record; therefore, our system does not provide scoring. Fidelity Diversified International K's scores are inserted above as a proxy so consideration for tracking errors exists between the two funds which are attributed to differences in expense ratios and cash flows.

Plan Allocation by Investment Type - Fidelity

Investment Name	Asset Class	Amount	Percentage	Score
Asset Allocation		\$323,903,256		
Fidelity Balanced K	MA	\$18,311,925	3.4 %	8
Fidelity Freedom Income K	CON	\$8,100,999	1.5 %	8
Fidelity Freedom 2005 K	CON	\$892,649	0.2 %	8
Fidelity Freedom 2010 K	MC	\$2,630,334	0.5 %	8
Fidelity Freedom 2015 K	MC	\$7,066,060	1.3 %	8
Fidelity Freedom 2020 K	MOD	\$20,118,845	3.8 %	8
Fidelity Freedom 2025 K	MOD	\$29,321,513	5.5 %	8
Fidelity Freedom 2030 K	MA	\$35,955,846	6.8 %	9
Fidelity Freedom 2035 K	AGG	\$41,198,260	7.8 %	8
Fidelity Freedom 2040 K	AGG	\$60,425,842	11.4 %	8
Fidelity Freedom 2045 K	AGG	\$46,366,683	8.7 %	8
Fidelity Freedom 2050 K	AGG	\$36,943,076	7.0 %	8
Fidelity Freedom 2055 K	AGG	\$14,290,206	2.7 %	8
Fidelity Freedom 2060 K	AGG	\$2,278,502	0.4 %	8
Fidelity Freedom 2065 Fund K	AGG	\$2,516	0.0 %	N/A*
Brokerage		\$4,848,935		
Brokerage Link	SPC	\$4,848,935	0.9 %	N/A*
Total		\$531,518,036	100.0 %	

*Cash Equivalents (e.g., money market fund) and some specialty funds are not scored by the Scorecard System.

2018 Plan Activity - Fidelity

Fund	Beginning Balance 1/1/2018	Contributions	Disbursements	Net Exchanges	Other*	Market Action/Other Transactions**	Ending Balance 12/31/2018
Fidelity Balanced K	\$ 15,154,143.23	\$ 803,029.00	\$ (512,291.92)	\$ 204,367.93	\$ 8,094.13	\$ (605,896.03)	\$ 15,051,446.34
Fidelity Blue Chip Growth K	\$ 19,836,814.05	\$ 1,381,205.84	\$ (475,634.58)	\$ 727,876.20	\$ 66,397.03	\$ 88,539.19	\$ 21,625,197.73
Fidelity Contrafund K	\$ 25,541,347.82	\$ 1,245,425.91	\$ (888,476.69)	\$ (637,294.76)	\$ 79,781.99	\$ (454,242.00)	\$ 24,886,542.27
Fidelity Diversified Intl K	\$ 13,952,245.81	\$ 505,680.19	\$ (626,053.51)	\$ (13,529,357.12)	\$ 1,016.83	\$ (303,532.20)	\$ -
Fidelity Mid Cap Stock K	\$ 15,044,153.53	\$ 782,695.33	\$ (498,558.33)	\$ (426,151.43)	\$ 3,250.10	\$ (903,457.96)	\$ 14,001,931.24
Fidelity US Bond Idx IS	\$ 8,203,306.61	\$ 419,362.36	\$ (445,875.89)	\$ (7,987,494.80)	\$ 1,214.90	\$ (190,513.18)	\$ -
Fidelity US Bond Idx	\$ -	\$ 183,483.07	\$ (26,132.52)	\$ 8,686,100.46	\$ -	\$ 204,224.53	\$ 9,047,675.54
Fidelity 500 Index Inst	\$ 27,676,300.49	\$ 1,595,194.92	\$ (1,005,873.11)	\$ (30,101,038.41)	\$ 508.40	\$ 1,834,907.71	\$ -
Fidelity 500 index	\$ -	\$ 705,691.03	\$ (103,028.89)	\$ 30,507,631.30	\$ -	\$ (3,211,152.30)	\$ 27,899,141.14
Fidelity Global ex US Index Premium	\$ 1,959,365.14	\$ 168,223.92	\$ (106,626.95)	\$ (1,838,078.18)	\$ -	\$ (182,883.93)	\$ -
Fidelity Global ex US Index	\$ -	\$ 79,259.31	\$ (19,225.17)	\$ 2,228,884.51	\$ -	\$ (146,717.16)	\$ 2,142,201.49
Fidelity Small Cap Idx	\$ -	\$ 105,306.45	\$ (39,332.42)	\$ 4,097,694.58	\$ -	\$ (632,534.09)	\$ 3,531,134.52
Fidelity Small Cap Idx Premium	\$ 3,574,307.75	\$ 216,927.51	\$ (155,677.52)	\$ (3,797,975.82)	\$ 2,030.25	\$ 160,387.83	\$ -
Fidelity Infl Pr Bnd Premium	\$ 2,091,720.72	\$ 129,437.98	\$ (82,470.46)	\$ (2,095,755.02)	\$ -	\$ (42,933.22)	\$ -
Fidelity Infl Pr Bnd	\$ -	\$ 51,177.59	\$ (4,721.95)	\$ 2,201,075.34	\$ -	\$ 9,730.90	\$ 2,257,261.88
Fidelity Diversified Intl K6	\$ -	\$ 308,770.67	\$ (82,969.28)	\$ 13,079,760.09	\$ 16,237.40	\$ (1,750,756.33)	\$ 11,571,042.55
Fidelity Freedom Income K	\$ 7,259,315.83	\$ 727,308.66	\$ (316,886.15)	\$ (438,922.11)	\$ 39,167.82	\$ (129,262.41)	\$ 7,140,721.64
Fidelity Freedom 2005 K	\$ 824,239.50	\$ 60,848.20	\$ (9,565.73)	\$ (124,673.47)	\$ -	\$ (15,804.42)	\$ 735,044.08
Fidelity Freedom 2010 K	\$ 2,315,703.20	\$ 233,918.69	\$ (45,544.02)	\$ (55,436.60)	\$ -	\$ (86,962.98)	\$ 2,361,678.29
Fidelity Freedom 2015 K	\$ 7,231,299.67	\$ 600,837.92	\$ (844,056.14)	\$ (401,499.26)	\$ -	\$ (269,890.76)	\$ 6,316,691.43
Fidelity Freedom 2020 K	\$ 16,047,819.56	\$ 1,898,658.52	\$ (658,570.70)	\$ (400,784.02)	\$ 100,952.14	\$ (849,683.27)	\$ 16,138,392.23
Fidelity Freedom 2025 K	\$ 22,424,260.08	\$ 2,338,441.16	\$ (658,633.94)	\$ (181,172.92)	\$ 177,417.20	\$ (1,310,733.21)	\$ 22,789,578.37
Fidelity Freedom 2030 K	\$ 26,867,233.94	\$ 2,985,465.63	\$ (970,753.03)	\$ (164,939.35)	\$ 10,683.13	\$ (1,942,384.93)	\$ 26,785,305.39
Fidelity Freedom 2035 K	\$ 32,065,378.68	\$ 3,781,800.80	\$ (728,251.35)	\$ (718,214.54)	\$ 758.98	\$ (2,831,326.75)	\$ 31,570,145.82
Fidelity Freedom 2040 K	\$ 46,726,915.20	\$ 4,896,134.68	\$ (1,482,959.85)	\$ (819,378.63)	\$ 248,298.39	\$ (4,315,390.82)	\$ 45,253,618.97
Fidelity Freedom 2045 K	\$ 32,274,899.66	\$ 5,497,940.09	\$ (880,932.05)	\$ (592,747.29)	\$ -	\$ (3,229,869.40)	\$ 33,069,291.01
Fidelity Freedom 2050 K	\$ 24,761,565.71	\$ 5,481,198.08	\$ (849,491.56)	\$ (869,513.88)	\$ -	\$ (2,545,393.19)	\$ 25,978,365.16
Fidelity Freedom 2055 K	\$ 7,160,922.82	\$ 2,900,519.66	\$ (299,979.05)	\$ (78,104.38)	\$ -	\$ (882,639.55)	\$ 8,800,719.50
Fidelity Freedom 2060 K	\$ 518,298.15	\$ 659,253.05	\$ (14,336.00)	\$ (9,242.54)	\$ -	\$ (107,489.60)	\$ 1,046,483.06
BROKERAGELINK	\$ -	\$ -	\$ -	\$ 2,836,246.89	\$ -	\$ (222,249.23)	\$ 2,613,997.66
Western Asset Core Bond I	\$ 3,315,947.86	\$ 268,829.06	\$ (134,898.63)	\$ 1,009,239.74	\$ 3,456.57	\$ (6,965.78)	\$ 4,455,608.82
AQR Global Equity R6	\$ -	\$ 85,831.55	\$ (13,512.51)	\$ 3,500,378.65	\$ -	\$ (533,850.82)	\$ 3,038,846.87
DFA US Small Cap I	\$ 9,485,680.89	\$ 600,024.73	\$ (185,291.60)	\$ (383,717.73)	\$ 3,020.18	\$ (1,239,388.20)	\$ 8,280,328.27
Franklin Mtl Glb Dis R6	\$ 4,027,432.73	\$ 155,658.94	\$ (42,932.00)	\$ (4,190,453.97)	\$ 1,016.83	\$ 49,277.47	\$ -
BlackRock Equity Dividend Instl	\$ 7,994,862.48	\$ 438,077.12	\$ (409,948.53)	\$ (166,215.49)	\$ 1,944.42	\$ (529,509.88)	\$ 7,329,210.12
Vanguard FTSE Social Index	\$ -	\$ 69,066.79	\$ (16,655.33)	\$ 3,453,843.64	\$ -	\$ (449,611.61)	\$ 3,056,643.49
Vanguard Treasury Money Market Investor	\$ 10,741,584.58	\$ 630,542.02	\$ (478,786.21)	\$ 925,567.04	\$ 1,398.20	\$ 200,125.42	\$ 12,020,431.05
NB Sustain EQ Inv	\$ 3,107,262.93	\$ 105,397.25	\$ (30,685.82)	\$ (3,450,504.65)	\$ 508.42	\$ 268,021.87	\$ -
Total	\$ 398,184,328.63	\$ 43,096,623.68	\$ (14,145,619.39)	\$ (0.00)	\$ 767,153.31	\$ (27,107,810.29)	\$ 400,794,675.93

* Includes transfer of assets to Fidelity from another provider

** Includes investment-level dividends, gains/losses, fees, adjustments; realized gains, losses, dividends, forfeitures, etc.

2019 Plan Activity - Fidelity

Fund	Beginning Balance 1/1/2019	Contributions	Disbursements	Net Exchanges	Other*	Market Action/Other Transactions**	Ending Balance 12/31/2019
Fidelity Balanced K	\$ 15,051,446.34	\$ 777,254.37	\$ (684,807.00)	\$ (520,432.32)	\$ 20,149.77	\$ 93,971,494.49	\$ 18,311,924.80
Fidelity Blue Chip Growth K	\$ 21,625,197.73	\$ 1,782,721.14	\$ (682,670.02)	\$ 288,403.40	\$ 4,705.67	\$ 92,078,140.00	\$ 30,515,909.95
Fidelity Contrafund K	\$ 24,886,542.27	\$ 1,314,020.15	\$ (673,554.60)	\$ (1,687,455.93)	\$ 65,098.76	\$ 86,586,986.36	\$ 31,384,695.22
Fidelity Mid-Cap Stock K	\$ 14,001,931.24	\$ 897,751.80	\$ (295,100.57)	\$ (442,292.46)	\$ 655.81	\$ 79,840,827.70	\$ 17,780,153.83
Fidelity US Bond Index	\$ 9,047,675.54	\$ 652,140.94	\$ (683,682.10)	\$ 1,057,336.79	\$ 8,139.19	\$ 76,498,829.74	\$ 10,850,593.55
Fidelity 500 Index	\$ 27,899,141.14	\$ 2,759,145.83	\$ (1,269,689.13)	\$ 987,853.26	\$ 787,132.47	\$ 174,491,794.54	\$ 40,256,177.42
Fidelity Global ex US Index	\$ 2,142,201.49	\$ 328,258.11	\$ (92,051.80)	\$ (22,516.61)	\$ -	\$ 165,399,200.69	\$ 2,824,951.41
Fidelity Small Cap Index	\$ 3,531,134.52	\$ 430,070.02	\$ (171,710.19)	\$ (380,391.78)	\$ 32,557.62	\$ 164,930,140.47	\$ 4,342,241.21
Fidelity Inflation-Prot Bd Index	\$ 2,257,261.88	\$ 284,361.74	\$ (38,610.03)	\$ 220,891.06	\$ -	\$ 164,029,559.45	\$ 2,920,957.10
Fidelity Diversified Intl K6	\$ 11,571,042.55	\$ 741,757.54	\$ (447,027.57)	\$ (388,915.93)	\$ 19,546.23	\$ 163,832,507.00	\$ 14,900,710.38
Fidelity Freedom Income K	\$ 7,140,721.64	\$ 627,669.08	\$ (248,990.55)	\$ (177,712.61)	\$ -	\$ 160,428,199.44	\$ 8,100,998.57
Fidelity Freedom 2005 K	\$ 735,044.08	\$ 43,841.27	\$ (17,493.30)	\$ 38,263.64	\$ -	\$ 159,668,888.43	\$ 892,648.91
Fidelity Freedom 2010 K	\$ 2,361,678.29	\$ 206,311.45	\$ (189,098.58)	\$ (91,446.21)	\$ -	\$ 159,575,895.21	\$ 2,630,334.37
Fidelity Freedom 2015 K	\$ 6,316,691.43	\$ 524,655.37	\$ (656,539.70)	\$ (156,420.98)	\$ 13,024.43	\$ 159,233,005.79	\$ 7,066,060.00
Fidelity Freedom 2020 K	\$ 16,138,392.23	\$ 1,758,135.84	\$ (1,027,255.41)	\$ 206,804.65	\$ 3,085.24	\$ 158,208,356.34	\$ 20,118,845.38
Fidelity Freedom 2025 K	\$ 22,789,578.37	\$ 2,716,975.82	\$ (621,481.85)	\$ (518,501.69)	\$ 330,666.60	\$ 155,168,673.51	\$ 29,321,512.83
Fidelity Freedom 2030 K	\$ 26,785,305.39	\$ 3,324,566.45	\$ (523,686.17)	\$ 197,556.13	\$ 3,537.29	\$ 150,544,397.93	\$ 35,955,846.42
Fidelity Freedom 2035 K	\$ 31,570,145.82	\$ 3,507,421.91	\$ (1,130,859.16)	\$ (732,395.68)	\$ 33,116.09	\$ 144,375,830.60	\$ 41,198,260.21
Fidelity Freedom 2040 K	\$ 45,253,618.97	\$ 4,951,993.64	\$ (994,037.61)	\$ (818,787.95)	\$ 98,340.45	\$ 136,424,999.37	\$ 60,425,842.43
Fidelity Freedom 2045 K	\$ 33,069,291.01	\$ 5,366,146.03	\$ (786,749.55)	\$ (202,610.98)	\$ -	\$ 124,490,284.44	\$ 46,366,682.65
Fidelity Freedom 2050 K	\$ 25,978,365.16	\$ 5,830,027.89	\$ (1,396,272.42)	\$ (445,218.08)	\$ 1,531.65	\$ 115,569,678.30	\$ 36,943,075.76
Fidelity Freedom 2055 K	\$ 8,800,719.50	\$ 3,640,871.59	\$ (459,199.27)	\$ (185,452.45)	\$ -	\$ 108,595,036.74	\$ 14,290,206.14
Fidelity Freedom 2060 K	\$ 1,046,483.06	\$ 971,554.11	\$ (38,595.42)	\$ (39,582.64)	\$ -	\$ 106,101,769.97	\$ 2,278,501.50
Fidelity Freedom 2065 K	\$ -	\$ 2,425.26	\$ -	\$ -	\$ -	\$ 105,763,127.58	\$ 2,516.13
Brokerage Link	\$ 2,613,997.66	\$ -	\$ -	\$ 1,603,662.68	\$ -	\$ 105,763,036.71	\$ 4,848,935.19
Vanguard FTSE Social Index Admiral	\$ -	\$ 133,359.76	\$ (4,119.85)	\$ 4,334,720.60	\$ -	\$ 105,131,761.86	\$ 4,842,777.82
Western Asset Core Bond I	\$ 4,455,608.82	\$ 307,840.45	\$ (632,438.40)	\$ 1,226,127.26	\$ 1,154.68	\$ 104,752,944.55	\$ 5,878,457.63
AQR Global Equity R6	\$ 3,038,846.87	\$ 212,257.99	\$ (106,547.30)	\$ (86,574.11)	\$ -	\$ 104,232,779.73	\$ 3,738,361.69
DFA US Small Cap I	\$ 8,280,328.27	\$ 554,998.20	\$ (218,721.63)	\$ (407,574.61)	\$ 18,628.99	\$ 103,552,401.49	\$ 10,002,618.37
BlackRock Equity Dividend Instl	\$ 7,329,210.12	\$ 629,487.64	\$ (343,477.33)	\$ (112,908.58)	\$ -	\$ 101,777,442.34	\$ 9,508,710.24
Vanguard FTSE Social Index	\$ 3,056,643.49	\$ 147,400.62	\$ (99,521.85)	\$ (3,838,408.17)	\$ -	\$ 99,771,043.95	\$ -
Vanguard Treasury Money Market Investor	\$ 12,020,431.05	\$ 666,432.51	\$ (1,065,468.04)	\$ 1,093,980.30	\$ 27,943.47	\$ 99,037,158.04	\$ 13,018,529.34
Total	\$ 400,794,675.93	\$ 46,091,854.52	\$ (15,599,456.40)	\$ -	\$ 1,469,014.41	\$ 98,761,947.99	\$ 531,518,036.45

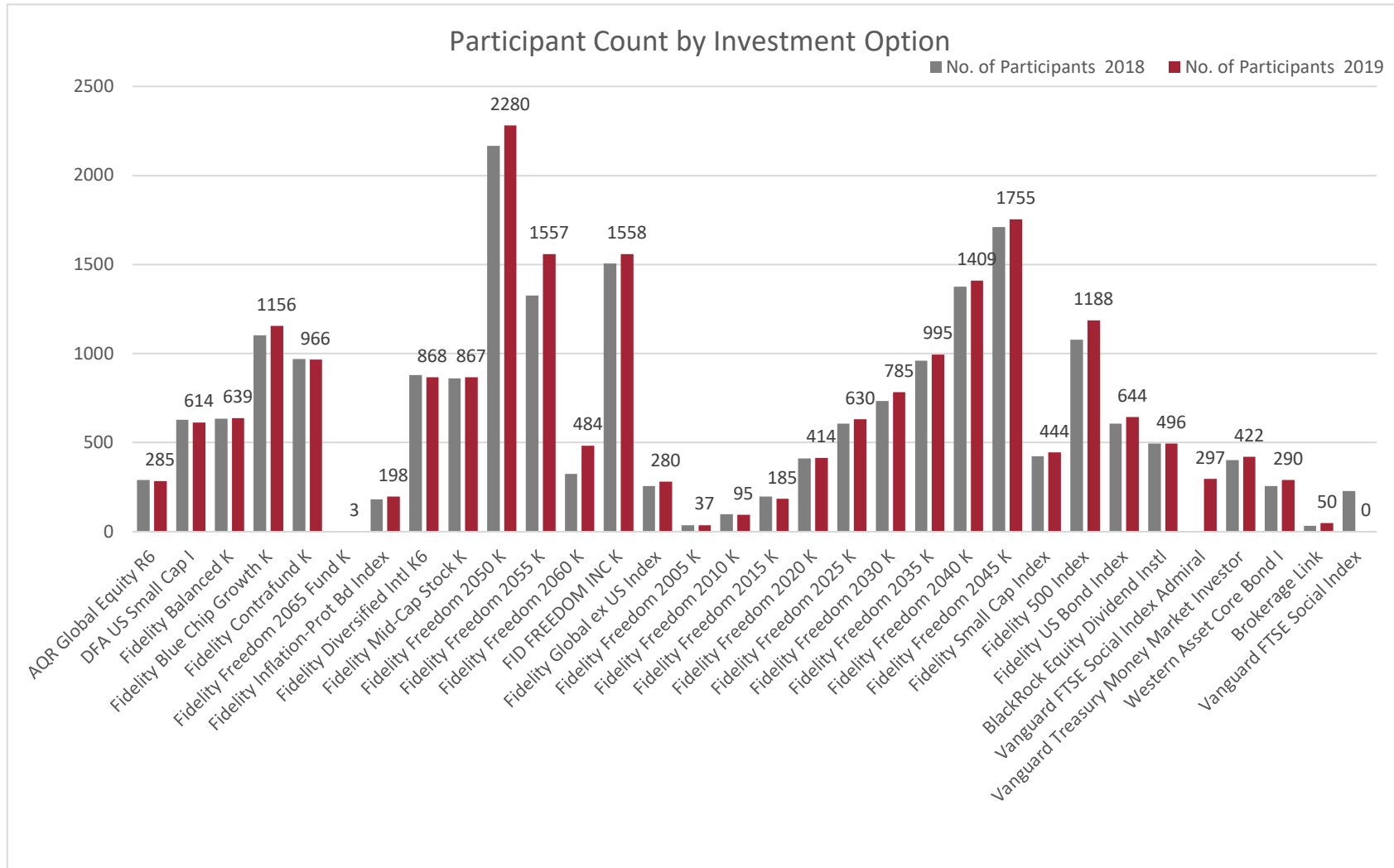
* Includes transfer of assets to Fidelity from another provider

** Includes investment-level dividends, gains/losses, fees, adjustments; realized gains, losses, dividends, forfeitures, etc.

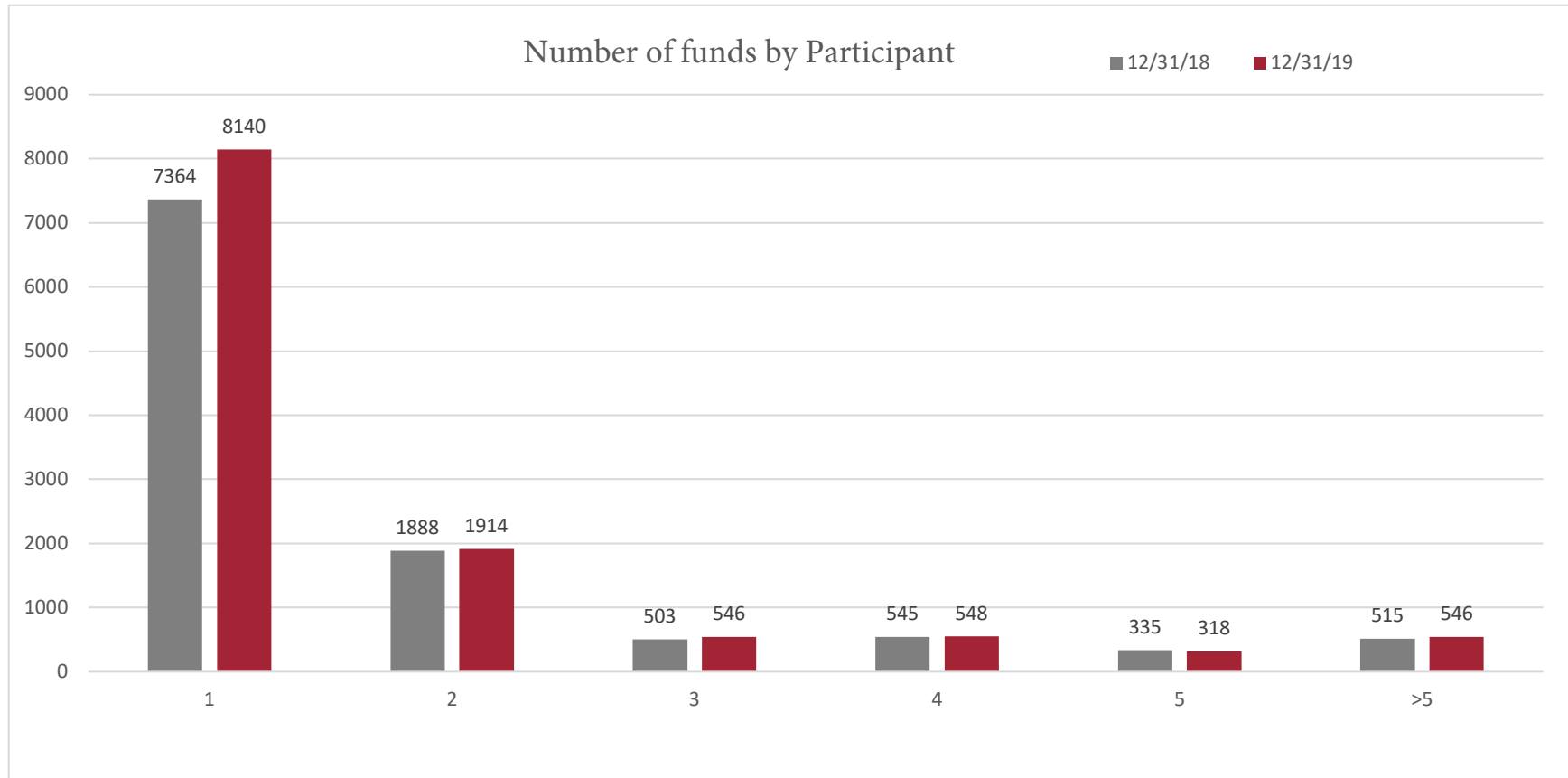
Participant Count by Investment Option - Fidelity

Fidelity Lineup	No. of Participants 2018	No. of One-Funders 2018	No. of Participants 2019	No. of One-Funders 2019
AQR Global Equity R6	291	1	285	0
DFA US Small Cap I	627	6	614	5
Fidelity Balanced K	635	53	639	53
Fidelity Blue Chip Growth K	1102	72	1156	70
Fidelity Contrafund K	971	41	966	40
Fidelity Freedom 2065 Fund K	0	0	3	0
Fidelity Inflation-Prot Bd Index	181	0	198	0
Fidelity Diversified Intl K6	881	12	868	12
Fidelity Mid-Cap Stock K	861	5	867	5
Fidelity Freedom 2050 K	2166	1,663	2280	1,786
Fidelity Freedom 2055 K	1325	1,033	1557	1,261
Fidelity Freedom 2060 K	326	228	484	372
FID FREEDOM INC K	1506	60	1558	59
Fidelity Global ex US Index	257	0	280	1
Fidelity Freedom 2005 K	36	5	37	6
Fidelity Freedom 2010 K	99	34	95	33
Fidelity Freedom 2015 K	198	101	185	94
Fidelity Freedom 2020 K	410	230	414	240
Fidelity Freedom 2025 K	608	376	630	387
Fidelity Freedom 2030 K	733	455	785	493
Fidelity Freedom 2035 K	959	616	995	649
Fidelity Freedom 2040 K	1377	933	1409	965
Fidelity Freedom 2045 K	1710	1,186	1755	1,326
Fidelity Small Cap Index	424	5	444	4
Fidelity 500 Index	1079	147	1188	170
Fidelity US Bond Index	607	12	644	14
BlackRock Equity Dividend Instl	495	10	496	10
Vanguard FTSE Social Index Admiral	0	0	297	19
Vanguard Treasury Money Market Investor	403	61	422	57
Western Asset Core Bond I	255	8	290	9
Brokerage Link	34	0	50	0
Vanguard FTSE Social Index	230	11	0	0

Participant Count by Investment Option - Fidelity



Participant Investment Behavior - Fidelity








Average Participant Account Balance - Fidelity

ORP - Fidelity	as of 12/31/2018	as of 12/31/2019
Total Participant	11395	12237
Total Assets	\$ 400,794,676	\$ 531,518,037
Average Balance	\$ 35,173	\$ 43,435

Cost Analysis - Fidelity

Fidelity Lineup						
Fund Name	Net expense Ratio (%)	Expense Ratio Percentile Rank	No. of funds in peer group	Revenue Sharing (%)	Total Cost (Net exp-Rev share) (%)	Average expense ratio (%)
Vanguard Treasury Money Market Investor	0.09%	1	1159	0.00%	0.09%	0.46%
Fidelity US Bond Index	0.03%	4	404	0.00%	0.03%	0.67%
Western Asset Core Bond I	0.45%	29	404	0.10%	0.35%	0.67%
Fidelity Inflation-Prot Bd Index	0.05%	5	96	0.00%	0.05%	0.74%
Fidelity Balanced K	0.45%	6	463	0.20%	0.25%	0.82%
BlackRock Equity Dividend Instl	0.71%	34	762	0.25%	0.46%	1.00%
Fidelity 500 Index	0.02%	1	1148	0.00%	0.02%	0.94%
Vanguard FTSE Social Index Admiral	0.14%	8	1148	0.00%	0.14%	0.94%
Fidelity Contrafund K	0.73%	24	928	0.20%	0.53%	1.06%
Fidelity Blue Chip Growth K	0.70%	21	928	0.20%	0.50%	1.06%
Fidelity Mid-Cap Stock K	0.62%	31	313	0.20%	0.42%	1.07%
DFA US Small Cap I	0.37%	13	455	0.00%	0.37%	1.12%
Fidelity Small Cap Index	0.03%	2	455	0.00%	0.03%	1.12%
Fidelity Diversified Intl K6	0.60%	12	217	0.00%	0.60%	1.12%
Fidelity Global ex US Index	0.06%	3	486	0.00%	0.06%	0.99%
AQR Global Equity R6	0.71%	22	539	0.00%	0.71%	1.10%
Fidelity Freedom Income K	0.42%	26	79	0.20%	0.22%	0.47%
Fidelity Freedom 2005 K	0.42%	28	81	0.20%	0.22%	0.42%
Fidelity Freedom 2010 K	0.46%	31	81	0.20%	0.26%	0.42%
Fidelity Freedom 2015 K	0.49%	28	79	0.20%	0.29%	0.41%
Fidelity Freedom 2020 K	0.53%	36	97	0.20%	0.33%	0.44%
Fidelity Freedom 2025 K	0.56%	45	87	0.20%	0.36%	0.44%
Fidelity Freedom 2030 K	0.60%	47	92	0.20%	0.40%	0.45%
Fidelity Freedom 2035 K	0.63%	51	83	0.20%	0.43%	0.45%
Fidelity Freedom 2040 K	0.65%	47	92	0.20%	0.45%	0.45%

Cost Analysis - Fidelity

Fidelity Lineup						
Fund Name	Net expense Ratio (%)	Expense Ratio Percentile Rank	No. of funds in peer group	Revenue Sharing (%)	Total Cost (Net exp-Rev share) (%)	Average expense ratio (%)
Fidelity Freedom 2045 K	0.65%	56 	78	0.20%	0.45%	0.45%
Fidelity Freedom 2050 K	0.65%	56 	80	0.20%	0.45%	0.46%
Fidelity Freedom 2055 K	0.65%	54 	76	0.20%	0.45%	0.45%
Fidelity Freedom 2060 K	0.65%	76 	75	0.20%	0.45%	0.48%
Fidelity Freedom 2065 Fund K	0.65%	76 	75	0.20%	0.45%	0.50%

Information is for illustrative purposes only and cannot be guaranteed now or in the future

Data source for Number of funds in peer group is as per Morningstar Category

Fidelity Investment Lineup - Scorecard™

Scorecard™ - Fidelity

Total Plan Assets: \$531,518,036.45 as of 12/31/2019

Core Lineup

Active	Assets	Category	Ticker/ ID	Style			Risk/Return			Peer Group		Qual	Score				
				Style	Style Drift	R ²	Risk/Return	Up/ Down	Info Ratio	Return Rank	Info Ratio Rank		2pt Max	Q4 2019	Q3 2019	Q2 2019	Q1 2019
Western Asset Core Bond I	\$5,878,457.63	CFI	WATFX	1	1	1	1	1	1	1	1	1	2	10	10	10	10
				-46.1/ 42.0	9.6	91.4	3.1/ 4.0	110.5/ 86.0	1.05	14.0	3.0		CFI	CFI	CFI	CFI	
BlackRock Equity Dividend Instl	\$9,508,710.24	LCV	MADVX	1	1	1	1	1	1	1	1	1	2	10	10	10	10
				-76.6/ 94.3	11.7	96.1	11.5/ 9.9	101.3/ 90.1	0.68	8.0	7.0		LCV	LCV	LCV	LCV	
Fidelity Blue Chip Growth K	\$30,515,909.95	LCG	FBGKX	1	1	1	1	0	1	1	1	1	2	9	7	9	10
				100.0/ 92.7	7.1	91.6	14.3/ 14.8	107.0/ 111.6	0.03	7.0	7.0		LCG	LCG	LCG	LCG	
Fidelity Contrafund K	\$31,384,695.22	LCG **	FCNKX	1	1	1	1	0	0	1	1	1	2	8	8	8	8
				98.9/ 98.7	3.2	95.0	12.9/ 13.2	92.3/ 95.9	-0.49	23.0	28.0		LCG	LCG	LCG	LCG	
Fidelity Mid-Cap Stock K	\$17,780,153.83	MCB	FKMCX	1	1	1	1	1	0	1	1	1	2	9	9	9	7
				-10.3/ 7.8	11.2	95.3	11.2/ 9.3	87.8/ 82.0	-0.02	7.0	7.0		MCB	MCB	MCB	MCG	
DFA US Small Cap I	\$10,002,618.37	SCB	DFSTX	0	1	1	1	0	0	1	1	1	2	7	7	7	7
				-51.7/ -92.3	12.9	97.3	15.9/ 7.1	94.6/ 99.1	-0.43	39.0	47.0		SCB	SCB	SCB	SCB	
Fidelity Diversified Intl K6*	\$14,900,710.38	ILCG **	FKIDX	1	0	1	0	0	0	0	0	0	2	4	5	5	5
				74.1/ 25.5	24.3	93.0	12.0/ 6.8	93.3/ 97.9	-0.3	68.0	79.0		ILCG	ILCG	ILCG	ILCG	
AQR Global Equity R6	\$3,738,361.69	GE	AQGRX	1	0	1	0	0	0	0	0	0	2	4	6	6	6
				4.0/ 41.3	28.2	93.0	12.0/ 7.7	92.8/ 96.9	-0.32	59.0	59.0		GE	GE	GE	GE	

⊖ Removal candidates

*Fidelity Diversified International K6 does not have a five-year performance track record; therefore, our system does not provide scoring. Fidelity Diversified International K's scores are inserted above as a proxy so consideration for tracking errors exists between the two funds which are attributed to differences in expense ratios and cash flows.

**Report system default for factsheets use Morningstar categories, which may differ from category and benchmark identified in prospectus.

Scorecard™ - Fidelity Continued...

Passive	Assets	Category	Ticker/ ID	Style				Peer Group				Qual	Score			
				Style	Style Drift	R ²	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Rank		2pt Max	Q4 2019	Q3 2019	Q2 2019
Fidelity US Bond Index	\$10,850,593.55	CFI-P	FXNAX	1	1	1	1	1	1	1	1	2	10	10	10	10
				-17.5/ 39.9	4.2	99.5	0.2	42.0	5.0	20.0	19.0		CFI-P	CFI-P	CFI-P	CFI-P
Fidelity Inflation-Prot Bd Index	\$2,920,957.10	UGT-P	FIPDX	1	1	1	1	1	1	1	1	2	10	10	10	10
				-95.9/ 97.9	3.6	98.8	0.3	48.0	22.0	44.0	46.0		UGT-P	UGT-P	UGT-P	UGT-P
Fidelity 500 Index	\$40,256,177.42	LCB-P	FXAIX	1	1	1	1	1	1	1	1	2	10	10	10	10
				-2.2/ 99.0	1.4	99.8	0.5	28.0	3.0	9.0	9.0		LCB-P	LCB-P	LCB-P	LCB-P
Vanguard FTSE Social Index Admiral	\$4,842,777.82	LCB-P	VFTAX	1	1	1	1	0	1	1	1	2	9	9	9	9
				6.8/ 96.2	2.9	99.4	1.0	85.0	28.0	1.0	1.0		LCB-P	LCB-P	LCB-P	LCB-P
Fidelity Small Cap Index	\$4,342,241.21	SCB-P	FSSNX	1	1	1	1	1	1	1	1	2	10	10	10	10
				2.3/ -98.9	0.2	100.0	0.1	16.0	4.0	14.0	16.0		SCB-P	SCB-P	SCB-P	SCB-P
Fidelity Global ex US Index	\$2,824,951.41	IE-P	FSGGX	1	1	1	1	1	1	1	1	2	10	10	9	9
				11.2/ 49.2	4.3	98.9	1.2	21.0	15.0	20.0	15.0		IE-P	IE-P	IE-P	IE-P
Balanced Fund	Assets	Category	Ticker/ ID	Style			Risk/Return			Peer Group		Qual	Score			
				Risk Level	Style Diversity	R ²	Risk/Return	Up/ Down	Info Ratio	Return Rank	SR Rank		2pt Max	Q4 2019	Q3 2019	Q2 2019
Fidelity Balanced K	\$18,311,924.80	MA	FBAKX	1	0	1	1	0	1	1	1	2	8	6	8	9
				8.7	67.6/ 32.4	98.2	8.7/ 8.5	105.9/ 108.5	0.16	18.0	8.0		MA	MA	MA	MA

Scorecard™ - Fidelity Continued...

Target Date Series

Asset Allocation	Assets	Category	Risk Index	Allocation Score (Series Funds)		Selection Score (Underlying Funds)		Blended Score			
				# of Funds	Avg Score	# of Funds	Avg Score	Q4 2019	Q3 2019	Q2 2019	Q1 2019
Fidelity Freedom Target Date Series K	\$305,588,815.17	AGG	81	14	8.6	28	7.8	8	8	8	8

Allocation (Series Funds)

Asset Allocation	Assets	Category	Ticker/ ID	Style			Risk/Return			Peer Group		Qual	Score Components		Score
				Risk Level	Style Diversity	R ²	Risk/ Return	Up/ Down	Info Ratio	Return Rank	SR Rank	2pt Max	Allocation	Selection	Q4 2019
Fidelity Freedom 2005 K	\$892,648.91	CON	FSNJX	1	0	1	1	1	0	1	1	2	8	7.8	8
				4.3	40.7/ 59.3	93.7	4.3/ 5.0	89.7/ 80.3	-0.07	2.0	9.0				CON
Fidelity Freedom Income K	\$8,100,998.57	CON	FNSHX	1	0	1	1	1	1	1	1	2	9	7.8	8
				3.2	25.0/ 75.0	94.1	3.2/ 4.3	102.5/ 96.6	0.32	36.0	8.0				CON
Fidelity Freedom 2010 K	\$2,630,334.37	MC	FSNKX	1	0	1	1	1	0	1	1	2	8	7.8	8
				5.3	49.5/ 50.5	96.1	5.3/ 5.7	90.3/ 83.2	-0.1	16.0	11.0				MC
Fidelity Freedom 2015 K	\$7,066,060.00	MC	FSNLX	1	0	1	1	1	1	1	1	2	9	7.8	8
				6.2	54.1/ 45.9	97.3	6.2/ 6.3	98.5/ 96.0	0.07	3.0	18.0				MC
Fidelity Freedom 2020 K	\$20,118,845.38	MOD	FSNOX	1	1	1	1	1	0	1	1	2	9	7.8	8
				7.0	62.2/ 37.8	97.9	7.0/ 6.8	96.3/ 93.6	-0.02	26.0	18.0				MOD

Scorecard™ - Fidelity Continued...

Allocation (Series Funds)

Asset Allocation	Assets	Category	Ticker/ ID	Style			Risk/Return			Peer Group		Qual	Score Components		Score
				Risk Level	Style Diversity	R ²	Risk/Return	Up/ Down	Info Ratio	Return Rank	SR Rank	2pt Max	Allocation	Selection	Q4 2019
Fidelity Freedom 2025 K	\$29,321,512.83	MOD	FSNPX	1	0	1	1	1	0	1	1	2	8	7.8	8
				7.8	70.4/ 29.6	97.9	7.8/ 7.2	94.0/ 91.5	-0.13	15.0	26.0				MOD
Fidelity Freedom 2030 K	\$35,955,846.42	MA	FSNQX	1	1	1	1	1	1	1	1	2	10	7.8	9
				9.2	78.3/ 21.7	98.0	9.2/ 8.0	100.1/ 99.2	0.07	20.0	18.0				MA
Fidelity Freedom 2035 K	\$41,198,260.21	AGG	FSNUX	1	0	1	1	1	1	1	1	2	9	7.8	8
				10.5	87.5/ 12.5	98.6	10.5/ 8.6	101.6/ 101.3	0.12	19.0	14.0				AGG
Fidelity Freedom 2040 K	\$60,425,842.43	AGG	FSNVX	1	0	1	1	0	1	1	1	2	8	7.8	8
				10.8	89.5/ 10.5	98.9	10.8/ 8.7	102.2/ 102.8	0.08	16.0	24.0				AGG
Fidelity Freedom 2045 K	\$46,366,682.65	AGG	FSNZX	1	0	1	1	0	1	1	1	2	8	7.8	8
				10.8	90.5/ 9.5	98.9	10.8/ 8.7	100.9/ 101.0	0.05	17.0	24.0				AGG
Fidelity Freedom 2050 K	\$36,943,075.76	AGG	FNSBX	1	0	1	1	1	0	1	1	2	8	7.8	8
				10.8	92.4/ 7.7	98.9	10.8/ 8.7	99.0/ 98.7	-0.02	17.0	24.0				AGG
Fidelity Freedom 2055 K	\$14,290,206.14	AGG	FNSDX	1	0	1	1	1	1	1	1	2	9	7.8	8
				10.8	92.0/ 8.0	98.9	10.8/ 8.7	99.7/ 98.7	0.08	16.0	24.0				AGG
Fidelity Freedom 2060 K	\$2,278,501.50	AGG	FNSFX	1	0	1	1	1	1	1	1	2	9	7.8	8
				10.8	90.6/ 9.4	98.9	10.8/ 8.7	101.2/ 99.8	0.21	20.0	26.0				AGG

Scorecard™ - Fidelity Continued...

Selection (Underlying Funds)

Active	Category	Ticker/ ID	Style			Risk/Return			Peer Group		Qual	Score			
			Style	Style Drift	R ²	Risk/Return	Up/ Down	Info Ratio	Return Rank	Info Ratio Rank		2pt Max	Q4 2019	Q3 2019	Q2 2019
Fidelity Series Stk Selec Lg Cp Val	LCV	FBLEX	1	1	1	1	0	0	0	0	2	6	6	6	6
			-97.9/ 90.8	4.6	98.5	11.9/ 7.2	94.4/ 100.0	-0.76	76.0	90.0		LCV	LCV	LCV	LCV
Fidelity Series Value Discovery	LCV	FNKLX	1	1	1	1	0	0	0	0	1	5	5	5	5
			-85.6/ 87.4	7.6	96.9	11.1/ 7.5	92.5/ 94.7	-0.34	66.0	74.0	T	LCV	LCV	LCV	LCV
Fidelity Series Large Cap Stock	LCB	FGLGX	0	1	1	0	0	0	0	1	2	5	5	5	5
			-59.5/ 78.2	11.0	93.2	13.5/ 9.8	103.0/ 117.9	-0.46	52.0	39.0		LCB	LCB	LCB	LCB
Fidelity Series All-Sector Equity	LCG	FSAEX	0	1	1	1	0	0	0	0	2	5	5	6	6
			19.0/ 90.4	6.6	94.8	12.8/ 10.8	87.3/ 104.4	-1.28	78.0	83.0		LCG	LCG	LCG	LCG
Fidelity Series Blue Chip Growth	LCG	FSBDX	1	1	1	1	1	1	1	1	2	10	9	10	10
			99.8/ 91.7	7.7	89.7	14.2/ 15.5	107.7/ 107.6	0.2	4.0	3.0		LCG	LCG	LCG	LCG
Fidelity Series Growth Company	LCG	FCGSX	1	1	1	1	0	1	1	1	2	9	9	9	9
			100.0/ 57.1	15.1	92.9	15.9/ 16.2	117.4/ 120.0	0.32	3.0	2.0		LCG	LCG	LCG	LCG
Fidelity Series Opportunistic Insights	LCG	FVWSX	1	1	1	0	0	0	1	1	2	7	7	8	7
			99.6/ 97.3	2.7	94.0	13.3/ 13.1	92.3/ 97.1	-0.48	34.0	35.0		LCG	LCG	LCG	LCG
Fidelity Series Intrinsic Opps	MCV	FDMLX	1	0	1	1	1	1	1	1	2	9	7	8	8
			-21.7/ 22.5	27.7	81.0	10.6/ 9.2	83.0/ 65.2	0.28	13.0	17.0		MCV	MCV	MCV	MCV
Fidelity Series Small Cap Discovery	SCB	FJACX	0	1	1	1	0	0	0	0	2	5	6	4	4
			-42.3/ -58.6	19.3	90.9	14.2/ 7.1	80.9/ 82.3	-0.23	75.0	59.0		SCB	SCB	SCB	SCB

Scorecard™ - Fidelity Continued...

Active	Category	Ticker/ ID	Style			Risk/Return			Peer Group		Qual	Score			
			Style	Style Drift	R ²	Risk/ Return	Up/ Down	Info Ratio	Return Rank	Info Ratio Rank		2pt Max	Q4 2019	Q3 2019	Q2 2019
Fidelity Series Small Cap Opps	SCB	FSOPX	0	1	1	1	1	1	1	1	2	9	9	9	8
			36.6/ -63.9	16.7	96.7	14.4/ 9.0	89.1/ 82.9	0.24	38.0	45.0		SCB	SCB	SCB	SCB
Fidelity Series International Value	ILCV	FINVX	1	1	1	1	1	1	0	0	2	8	8	7	6
			-32.9/ 48.0	14.0	91.5	12.0/ 3.7	88.6/ 85.0	0.19	69.0	70.0		ILCV	ILCV	ILCV	ILCV
Fidelity Series International Growth	ILCG	FIGSX	1	1	1	1	1	1	1	1	2	10	10	10	10
			97.2/ 37.2	6.7	94.4	11.8/ 9.6	98.2/ 85.4	0.63	38.0	32.0		ILCG	ILCG	ILCG	ILCG
Fidelity Series International Sm Cap	ISMG	FSTSX	1	1	1	1	1	1	1	1	2	10	10	10	10
			60.5/ -71.0	12.5	92.0	11.3/ 9.9	89.5/ 76.7	0.37	38.0	37.0		ISMG	ISMG	ISMG	ISMG
Fidelity Series Emerging Markets Opps	EME	FEMSX	1	1	1	1	1	1	1	1	2	10	10	10	10
			27.9/ -96.5	6.8	96.8	15.2/ 8.0	103.1/ 92.3	0.84	15.0	4.0		EME	EME	EME	EME
Fidelity Series Investment Grade Bond	CFI	FSIGX	1	1	1	1	1	1	1	1	2	10	10	10	10
			-18.5/ 27.4	12.2	92.2	3.1/ 3.5	105.3/ 92.4	0.57	21.0	8.0		CFI	CFI	CFI	CFI
Fidelity Series High Income	HY	FSHNX	1	1	1	0	0	0	1	1	0	5	7	5	7
			100.0/ -100.0	0.0	96.9	5.7/ 6.1	102.6/ 106.7	-0.04	2.0	1.0	T	HY	HY	HY	HY

Scorecard™ - Fidelity Continued...

Active	Category	Ticker/ ID	Style			Risk/Return			Peer Group		Qual	Score			
			Style	Style Drift	R ²	Risk/Return	Up/ Down	Info Ratio	Return Rank	Info Ratio Rank		2pt Max	Q4 2019	Q3 2019	Q2 2019
Fidelity Series Floating Rate Hi Inc	BL	FFHCX	1	1	1	0	0	0	1	1	2	7	7	7	7
			-73.5/ -96.0	6.0	95.5	3.4/ 4.5	107.2/ 123.3	0	7.0	5.0		BL	BL	BL	BL
Fidelity Series Real Estate Income	REI	FSREX	1	1	0	1	1	1	1	1	2	9	8	8	8
			-14.5/ 16.7	8.4	72.8	3.8/ 6.8	32.6/ 6.5	0.04	17.0	41.0		REI	REI	REI	REI
Fidelity Series Commodity Strategy	CBB	FCSSX	1	1	1	1	0	0	0	0	2	6	6	5	5
			98.0/ 97.7	2.3	99.7	11.4/ -4.4	98.1/ 101.3	-0.76	76.0	98.0		CBB	CBB	CBB	CBB
Passive	Category	Ticker/ ID	Style				Peer Group				Qual	Score			
			Style	Style Drift	R ²	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Rank		2pt Max	Q4 2019	Q3 2019	Q2 2019
Fidelity Series Large Cap Value Index	LCV-P	FIOOX	1	1	1	1	1	1	1	1	2	10	10	10	10
			-99.9/ 99.6	0.3	100.0	0.1	43.0	0.0	45.0	49.0		LCV-P	LCV-P	LCV-P	LCV-P
Fidelity Series Infl-Prct Bd Idx	UGT-P	FSIPX	1	1	0	1	1	1	1	1	2	9	9	9	9
			-59.6/ 59.5	7.1	92.2	1.1	62.0	0.0	62.0	42.0		UGT-P	UGT-P	UGT-P	UGT-P
Fidelity Series Long-Term Trs Bd Idx	LOG-P	FTLTX	1	1	1	1	1	1	0	0	2	8	8	-	-
			100.0/ 100.0	0.0	99.6	0.7	55.0	0.0	85.0	80.0		LOG-P	LOG-P	-	-

Fidelity Investment Lineup - Fund Factsheet

Vanguard Treasury Money Market Investor

Category: Money Market

VUSXX
12/31/2019

Fund Strategy

The investment seeks to provide current income while maintaining liquidity and a stable share price of \$1. The fund invests solely in high-quality, short-term money market securities whose interest and principal payments are backed by the full faith and credit of the U.S. government. At least 80% of the fund's assets will be invested in U.S. Treasury securities; the remainder of the assets may be invested in securities issued by U.S. governmental agencies. The fund maintains a dollar-weighted average maturity of 60 days or less and a dollar-weighted average life of 120 days or less.

Fund Information

Strategy Asset (\$ mm):	30800.00
Share Class Assets (\$ mm):	30800.00
Manager:	-
Manager Tenure:	-

Portfolio Statistics

Alpha*:	-0.12	P/E:	-
Beta*:	0.41	P/B:	-
Std Dev:	0.18	SEC Yield (%):	-
R2*:	59.36	Turnover:	-
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: ICE BofAML US 3M Trsy Bill TR USD
*3-year statistic: ICE BofAML US 3M Trsy Bill TR USD

Top 10 Holdings (%) as of 11/30/2019

United States Treasury Bills 2.16%	6.49
United States Treasury Bills 1.86%	6.43
United States Treasury Bills 1.56%	6.25
United States Treasury Bills 1.89%	6.13
United States Treasury Bills 2.03%	5.57
United States Treasury Bills 2.28%	5.06
United States Treasury Bills 1.96%	4.96
United States Treasury Bills 1.57%	4.48
United States Treasury Bills 2.1%	4.23
United States Treasury Notes 1.79%	4.09
% in Top 10 Holdings	53.70
# of Holdings	39

Scorecard System

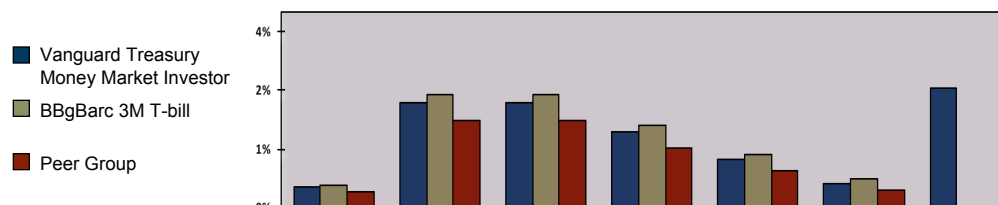
Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Money Market											
Vanguard Treasury Money Market Investor	VUSXX	-	-	-	-	-	-	-	-	-	-

Active Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Vanguard Treasury Money Market Investor	-	-	-	-	-	-	-	-

Cash Equivalents (e.g., money market fund) and some specialty funds are not scored by the Scorecard System.

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Vanguard Treasury Money Market Investor	0.43%	2.14%	2.14%	1.57%	1.00%	0.50%	2.46%
BBgBarc 3M T-bill	0.47%	2.30%	2.30%	1.68%	1.09%	0.60%	-
Peer Group Performance*	0.34%	1.78%	1.78%	1.23%	0.75%	0.38%	-
Peer Group Rank*	-	-	-	-	-	-	-
Peer Group Size (funds)*	-	-	550	512	438	395	-

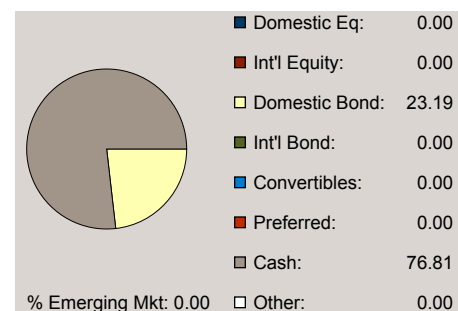
*Morningstar Peer Group: Money Market-Taxable

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Fixed Income Detail as of 11/30/2019

Average Effective Duration*:	-
Effective Maturity:	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.09
Prospectus Gross Exp. Ratio:	0.09
Avg Exp Ratio Morningstar (%):	0.46
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$50000
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	12/14/1992
Share Class Inception:	12/14/1992

Fidelity US Bond Index

Category: Core Fixed Income

FXNAX
12/31/2019

Fund Strategy

The investment seeks to provide investment results that correspond to the aggregate price and interest performance of the debt securities in the Bloomberg Barclays U.S. Aggregate Bond Index. The fund normally invests at least 80% of the fund's assets in bonds included in the Bloomberg Barclays U.S. Aggregate Bond Index. Its manager uses statistical sampling techniques based on duration, maturity, interest rate sensitivity, security structure, and credit quality to attempt to replicate the returns of the Bloomberg Barclays U.S. Aggregate Bond Index using a smaller number of securities. The fund invests in Fidelity's central funds.

Fund Information

Strategy Asset (\$ mm):	46117.00
Share Class Assets (\$ mm):	46117.00
Manager:	Brandon Bettencourt
Manager Tenure:	6 Years

Portfolio Statistics

Alpha*:	-0.11	P/E:	-
Beta*:	1.01	P/B:	-
Std Dev:	2.95	SEC Yield (%):	2.24
R ² :	99.47	Turnover:	35.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: BBgBarc US Agg Bond TR USD
*3-year statistic: BBgBarc US Agg Bond TR USD

Top 10 Holdings (%) as of 11/30/2019

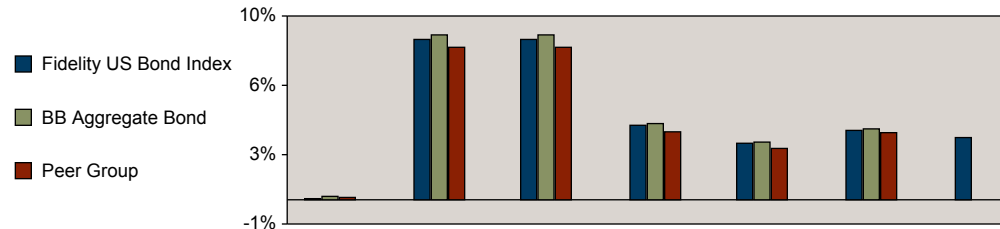
Fannie Mae 3.5% 30 Year	2.72
Ginnie Mae 3.5% 30 Year	2.70
Fannie Mae 4% 30 Year	2.62
Fannie Mae 3% 30 Year	2.53
Freddie Mac 3.5% 30 Year	2.32
Ginnie Mae 3% 30 Year	1.74
Ginnie Mae 4% 30 Year	1.60
United States Treasury Notes 2.25%	1.50
Freddie Mac 3% 30 Year	1.38
Freddie Mac 4% 30 Year	1.21
% in Top 10 Holdings	20.33
# of Holdings	2095

Scorecard System

Passive Strategies	Ticker	Style				Peer Group				Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Ratio Rank		
Core Fixed Income											
Fidelity US Bond Index	FXNAX	1	1	1	1	1	1	1	1	2	10
		-17.49/ 39.88	4.23	99.48	0.21	42.00	5.00	20.00	19.00		CFI-P
Passive Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018			
Fidelity US Bond Index	10	10	10	10	10	10	10	10			
	CFI-P	CFI-P	CFI-P	CFI-P	CFI-P	CFI-P	CFI-P	CFI-P			

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity US Bond Index	0.06%	8.48%	8.48%	3.94%	2.99%	3.67%	3.29%
BB Aggregate Bond	0.18%	8.72%	8.72%	4.03%	3.05%	3.75%	-
Peer Group Performance*	0.12%	8.06%	8.06%	3.59%	2.72%	3.55%	-
Peer Group Rank*	55	49	49	37	35	47	-
Peer Group Size (funds)*	-	-	430	382	327	251	-

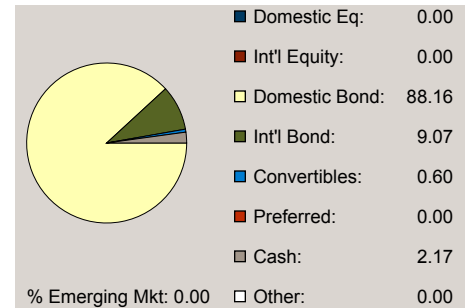
*Morningstar Peer Group: Intermediate Core Bond

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Fixed Income Detail as of 11/30/2019

Average Effective Duration*:	5.66
Effective Maturity:	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.03
Prospectus Gross Exp. Ratio:	0.03
Avg Exp Ratio Morningstar (%):	0.67
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	5/4/2011
Share Class Inception:	5/4/2011

Western Asset Core Bond I

Category: Core Fixed Income

WATFX
12/31/2019

Fund Strategy

The investment seeks to maximize total return, consistent with prudent investment management and liquidity needs. The fund invests in a portfolio of fixed income securities of various maturities and, under normal market conditions, will invest at least 80% of its net assets in debt and fixed income securities. Although the fund may invest in debt and fixed income securities of any maturity, under normal market conditions the target dollar-weighted average effective duration for the fund is expected to range within 20% of the average duration of the domestic bond market as a whole as estimated by the fund's subadviser.

Fund Information

Strategy Asset (\$ mm):	13476.00
Share Class Assets (\$ mm):	8451.00
Manager:	Mark S. Lindbloom
Manager Tenure:	13 Years

Portfolio Statistics

Alpha*:	0.38	P/E:	-
Beta*:	1.08	P/B:	-
Std Dev:	2.90	SEC Yield (%):	2.33
R2*:	97.46	Turnover:	115.00
	as of date 9/30/2019		as of date 12/31/2019

*Best fit index: BBgBarc US Universal TR USD
*3-year statistic: BBgBarc US Universal TR USD

Top 10 Holdings (%)

as of 9/30/2019

Federal National Mortgage Association 3%	2.01
United States Treasury Notes 1.38%	1.83
Government National Mortgage Association 3.5%	1.55
United States Treasury Notes 1.62%	1.51
United States Treasury Bonds 3%	1.32
United States Treasury Bonds 3.12%	1.18
United States Treasury Notes 1.62%	1.11
United States Treasury Bonds 2.88%	0.99
Federal Home Loan Mortgage Corporation 3%	0.99
Federal National Mortgage Association 3.5%	0.97
% in Top 10 Holdings	13.46
# of Holdings	2005

Scorecard System

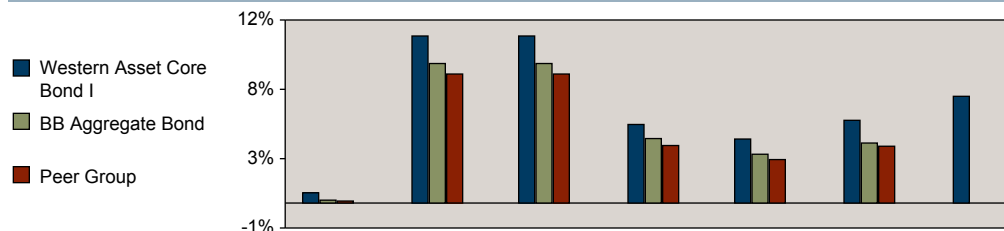
Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Core Fixed Income											
Western Asset Core Bond I	WATFX	1	1	1	1	1	1	1	1	2	10
		-46.08/42.01	9.61	91.43	3.09/4.00	110.50/85.95	1.05	14.00	3.00		CFI

Active Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Western Asset Core Bond I	10	10	10	10	10	10	10	10
	CFI	CFI	CFI	CFI	CFI	CFI	CFI	CFI

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Western Asset Core Bond I	0.64%	10.44%	10.44%	4.91%	4.00%	5.17%	6.67%
BB Aggregate Bond	0.18%	8.72%	8.72%	4.03%	3.05%	3.75%	-
Peer Group Performance*	0.12%	8.06%	8.06%	3.59%	2.72%	3.55%	-
Peer Group Rank*	5	1	1	1	1	1	-
Peer Group Size (funds)*	-	-	430	382	327	251	-

*Morningstar Peer Group: Intermediate Core Bond

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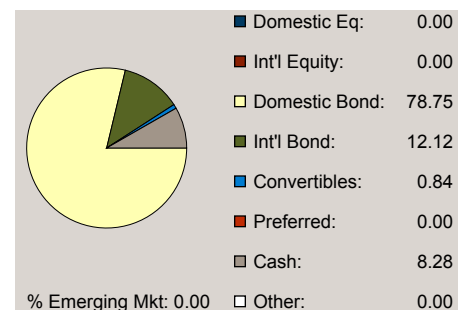
Fixed Income Detail

as of 9/30/2019

Average Effective Duration*:	6.03
Effective Maturity:	11.78

Asset Allocation (%)

as of 9/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.45
Prospectus Gross Exp. Ratio:	0.53
Avg Exp Ratio Morningstar (%):	0.67
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$1000000
Waiver Amt:	0.08
Waiver Exp Date:	12/31/2020
Strategy Inception:	9/4/1990
Share Class Inception:	9/4/1990

Fidelity Inflation-Prot Bd Index

Category: U.S. Government TIPS

FIPDX
12/31/2019

Fund Strategy

The investment seeks to provide investment results that correspond to the total return of the inflation-protected sector of the United States Treasury market. The fund normally invests at least 80% of assets in inflation-protected debt securities included in the Bloomberg Barclays U.S. Treasury Inflation-Protected Securities (TIPS) Index (Series-L). It engages in transactions that have a leveraging effect on the fund, including investments in derivatives - such as swaps (interest rate, total return, and credit default) and futures contracts - and forward-settling securities, to adjust the fund's risk exposure.

Fund Information

Strategy Asset (\$ mm):	7058.00
Share Class Assets (\$ mm):	7058.00
Manager:	Brandon Bettencourt
Manager Tenure:	6 Years

Portfolio Statistics

Alpha*:	-0.06	P/E:	-
Beta*:	0.98	P/B:	-
Std Dev:	2.97	SEC Yield (%):	2.74
R ² *:	98.82	Turnover:	41.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: BBgBarc US Treasury US TIPS TR USD
*3-year statistic: BBgBarc US Treasury US TIPS TR USD

Top 10 Holdings (%) as of 11/30/2019

United States Treasury Notes 0.12%	3.69
United States Treasury Notes 0.12%	3.62
United States Treasury Notes 0.62%	3.61
United States Treasury Notes 0.62%	3.61
United States Treasury Notes 0.38%	3.57
United States Treasury Notes 0.12%	3.55
United States Treasury Notes 0.38%	3.53
United States Treasury Notes 0.12%	3.52
United States Treasury Notes 0.25%	3.49
United States Treasury Notes 0.12%	3.47
% in Top 10 Holdings	35.65
# of Holdings	42

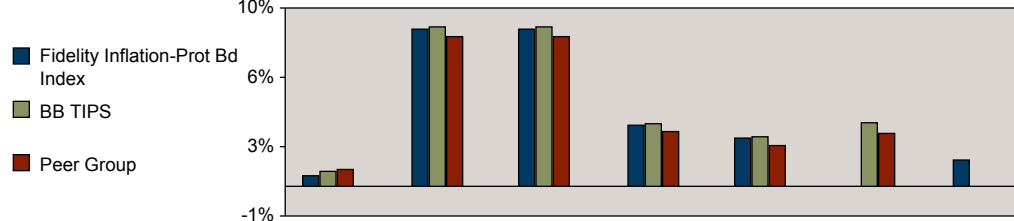
Scorecard System

Passive Strategies	Ticker	Style				Peer Group				Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Ratio Rank		
U.S. Government TIPS											
Fidelity Inflation-Prot Bd Index	FIPDX	1	1	1	1	1	1	1	1	2	10
		-95.89/97.89	3.60	98.84	0.32	48.00	22.00	44.00	46.00		UGT-P

Passive Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Fidelity Inflation-Prot Bd Index	10	10	10	10	10	10	10	10
	UGT-P	UGT-P	UGT-P	UGT-P	UGT-P	UGT-P	UGT-P	UGT-P

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Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Inflation-Prot Bd Index	0.56%	8.31%	8.31%	3.23%	2.55%	-	1.39%
BB TIPS	0.79%	8.43%	8.43%	3.32%	2.62%	3.36%	-
Peer Group Performance*	0.89%	7.92%	7.92%	2.90%	2.15%	2.80%	-
Peer Group Rank*	86	37	37	31	21	-	-
Peer Group Size (funds)*	-	-	221	194	163	104	-

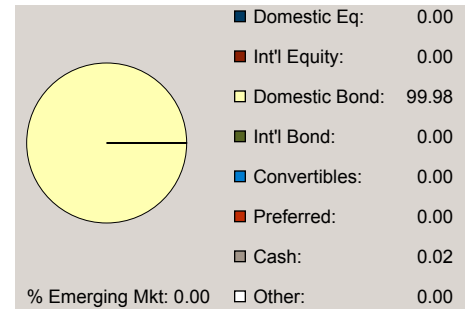
*Morningstar Peer Group: Inflation-Protected Bond

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Fixed Income Detail as of 11/30/2019

Average Effective Duration*:	5.53
Effective Maturity:	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.05
Prospectus Gross Exp. Ratio:	0.05
Avg Exp Ratio Morningstar (%):	0.74
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	5/16/2012
Share Class Inception:	5/16/2012

Fidelity Balanced K

Category: Moderate Aggressive

FBAKX
12/31/2019

Fund Strategy

The investment seeks income and capital growth consistent with reasonable risk. The fund invests approximately 60% of assets in stocks and other equity securities and the remainder in bonds and other debt securities, including lower-quality debt securities (those of less than investment-grade quality, also referred to as high yield debt securities or junk bonds), when its outlook is neutral. It invests at least 25% of total assets in fixed-income senior securities.

Fund Information

Strategy Asset (\$ mm):	35749.00
Share Class Assets (\$ mm):	8652.00
Manager:	Steven Kaye
Manager Tenure:	11 Years

Portfolio Statistics

Alpha*:	0.39	P/E:	19.60
Beta*:	0.72	P/B:	2.90
Std Dev:	8.87	SEC Yield (%):	1.44
R ² :	97.60	Turnover:	60.00
as of date 8/31/2019		as of date 12/31/2019	

*Best fit index: Russell 1000 TR USD
*3-year statistic: Russell 1000 TR USD

Top 10 Holdings (%)

as of 8/31/2019

Microsoft Corp / MSFT	3.31
Apple Inc / AAPL	2.39
Amazon.com Inc / AMZN	1.90
Alphabet Inc Class C / GOOG	1.64
Facebook Inc A / FB	1.50
Ginnie Mae 3.5% 30 Year	1.42
United States Treasury Bonds 3%	1.13
UnitedHealth Group Inc / UNH	1.08
Bank of America Corp / BAC	0.91
Capital One Financial Corp / COF	0.86
% in Top 10 Holdings	16.16
# of Holdings	1969

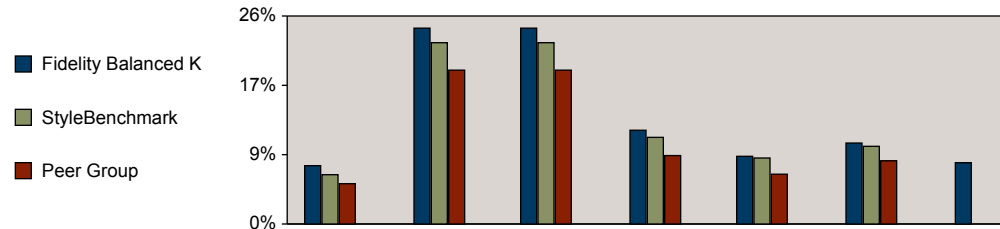
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Moderate Aggressive											
Fidelity Balanced K	FBAKX	1	0	1	1	0	1	1	1	2	8
		8.70	67.60/32.40	98.21	8.70/8.46	105.94/108.52	0.16	18.00	8.00		MA
Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018			
Fidelity Balanced K	8	6	8	9	9	9	10	10			
	MA	MA	MA	MA	MA	MOD	MOD	MOD			

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Balanced K	7.29%	24.48%	24.48%	11.72%	8.46%	10.12%	7.66%
StyleBenchmark*	6.16%	22.66%	22.66%	10.83%	8.25%	9.71%	-
Peer Group Performance**	5.03%	19.23%	19.23%	8.55%	6.22%	7.90%	-
Peer Group Rank**	2	4	4	6	7	7	-
Peer Group Size (funds)**	-	-	697	643	570	420	-

*1.43% Merrill Lynch 3-Month T-Bill, 30.27% BB Aggregate Bond, 62.15% Russell 3000, 6.16% MSCI ACWI Index ex USA ND USD
**Morningstar Peer Group: Allocation -- 50% to 70% Equity

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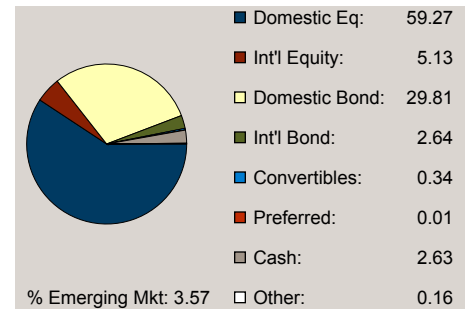
Risk Bucket

as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	8.70
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%)

as of 8/31/2019



Additional Information

Prospectus Net Exp. Ratio:	0.45
Prospectus Gross Exp. Ratio:	0.45
Avg Exp Ratio Morningstar (%):	0.82
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	11/6/1986
Share Class Inception:	5/9/2008

BlackRock Equity Dividend Instl

Category: Large Cap Value

MADVX
12/31/2019

Fund Strategy

The investment seeks long-term total return and current income. The fund seeks to achieve its objective by investing primarily in a diversified portfolio of equity securities. Under normal circumstances, it will invest at least 80% of its assets in equity securities and at least 80% of its assets in dividend paying securities. The fund may invest in securities of companies with any market capitalization, but will generally focus on large cap securities. It may also invest in convertible securities and non-convertible preferred stock. The fund may invest up to 25% of its total assets in securities of foreign issuers.

Fund Information

Strategy Asset (\$ mm):	20002.00
Share Class Assets (\$ mm):	10307.00
Manager:	Tony DeSpirito
Manager Tenure:	5 Years

Portfolio Statistics

Alpha*:	2.11	P/E:	16.48
Beta*:	0.92	P/B:	1.94
Std Dev:	11.33	SEC Yield (%):	2.01
R ² :	95.90	Turnover:	43.00
	as of date 11/30/2019		as of date 12/31/2019

*Best fit index: Russell 1000 Value TR USD
*3-year statistic: Russell 1000 Value TR USD

Top 10 Holdings (%)

as of 11/30/2019

Verizon Communications Inc / VZ	3.97
JPMorgan Chase & Co / JPM	3.93
Wells Fargo & Co / WFC	3.57
Citigroup Inc / C	3.34
Bank of America Corp / BAC	2.89
Medtronic PLC / MDT	2.46
Royal Philips NV / PHIA	2.05
BP PLC / BP.	1.95
Anthem Inc / ANTM	1.91
Altria Group Inc / MO	1.79
% in Top 10 Holdings	27.86
# of Holdings	104

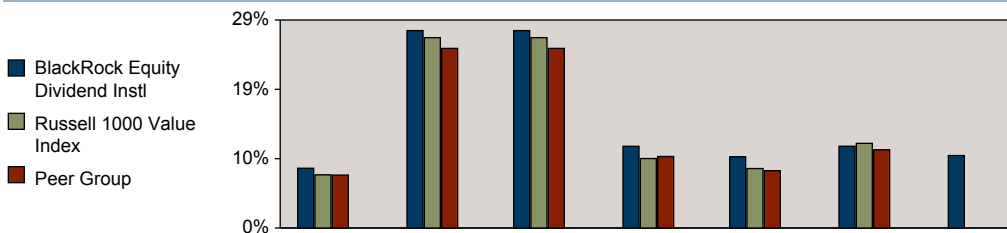
Scorecard System

Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Large Cap Value											
BlackRock Equity Dividend Instl	MADVX	1	1	1	1	1	1	1	1	2	10
		-76.55/94.27	11.70	96.05	11.53/9.92	101.30/90.07	0.68	8.00	7.00		LCV
Active Strategies		Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018		
BlackRock Equity Dividend Instl		10	10	10	10	10	10	10	9		
		LCV	LCV	LCV	LCV	LCV	LCV	LCV	LCV		

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Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
BlackRock Equity Dividend Instl	8.33%	27.52%	27.52%	11.39%	9.92%	11.40%	10.10%
Russell 1000 Value Index	7.41%	26.54%	26.54%	9.68%	8.29%	11.80%	-
Peer Group Performance*	7.38%	25.04%	25.04%	9.97%	7.99%	10.90%	-
Peer Group Rank*	32	26	26	26	10	38	-
Peer Group Size (funds)*	-	-	1209	1091	945	690	-

*Morningstar Peer Group: Large Value

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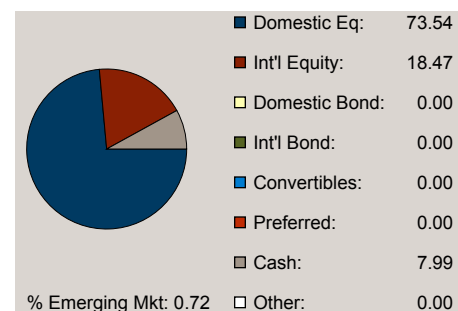
Sector Allocation

as of 11/30/2019

Real Estate:	0.00
Basic Materials:	1.46
Cons Cyclical:	2.55
Utilities:	2.61
Comm:	7.35
Industrials:	8.87
Energy:	9.99
Cons Defensive:	10.20
Technology:	10.61
Healthcare:	18.46
Financial Services:	27.90

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.71
Prospectus Gross Exp. Ratio:	0.71
Avg Exp Ratio Morningstar (%):	1.00
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$200000
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	11/29/1988
Share Class Inception:	11/29/1988

Fidelity 500 Index

Category: Large Cap Blend

FXAIX
12/31/2019

Fund Strategy

The investment seeks to provide investment results that correspond to the total return performance of common stocks publicly traded in the United States. The fund normally invests at least 80% of assets in common stocks included in the S&P 500® Index, which broadly represents the performance of common stocks publicly traded in the United States. It lends securities to earn income.

Fund Information

Strategy Asset (\$ mm):	233482.00
Share Class Assets (\$ mm):	233482.00
Manager:	Louis Bottari
Manager Tenure:	11 Years

Portfolio Statistics

Alpha*:	-0.02	P/E:	21.91
Beta*:	1.00	P/B:	3.29
Std Dev:	12.10	SEC Yield (%):	-
R ² :	100.00	Turnover:	4.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: S&P 500 TR USD
*3-year statistic: S&P 500 TR USD

Top 10 Holdings (%)

as of 11/30/2019

Microsoft Corp / MSFT	4.42
Apple Inc / AAPL	4.34
Amazon.com Inc / AMZN	2.86
Facebook Inc A / FB	1.85
Berkshire Hathaway Inc B / BRK.B	1.65
JPMorgan Chase & Co / JPM	1.61
Alphabet Inc Class C / GOOG	1.51
Alphabet Inc A / GOOGL	1.49
Johnson & Johnson / JNJ	1.39
Visa Inc Class A / V	1.22
% in Top 10 Holdings	22.33
# of Holdings	510

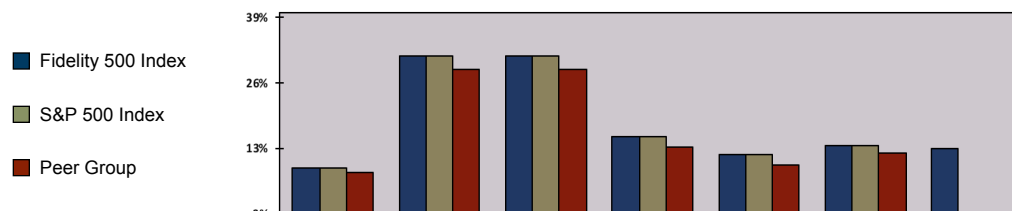
Scorecard System

Passive Strategies	Ticker	Style				Peer Group				Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Ratio Rank		
Large Cap Blend											
Fidelity 500 Index	FXAIX	1	1	1	1	1	1	1	1	2	10
		-2.18/98.95	1.35	99.83	0.51	28.00	3.00	9.00	9.00		LCB-P
Passive Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018			
Fidelity 500 Index	10	10	10	10	10	10	10	10			
	LCB-P	LCB-P	LCB-P	LCB-P	LCB-P	LCB-P	LCB-P	LCB-P			

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Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity 500 Index	9.06%	31.47%	31.47%	15.25%	11.69%	13.54%	12.96%
S&P 500 Index	9.07%	31.49%	31.49%	15.27%	11.70%	13.56%	-
Peer Group Performance*	8.15%	28.78%	28.78%	13.26%	9.78%	12.03%	-
Peer Group Rank*	30	23	23	17	9	8	-
Peer Group Size (funds)*	-	-	1387	1203	1058	808	-

*Morningstar Peer Group: Large Blend

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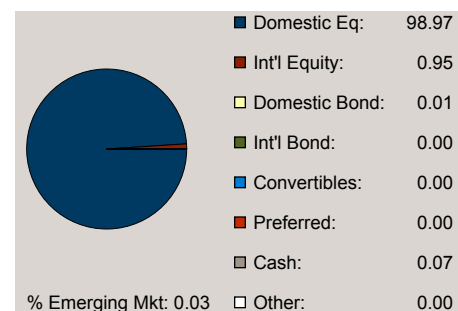
Sector Allocation

as of 11/30/2019

Basic Materials:	2.29	—
Real Estate:	2.98	—
Utilities:	3.30	—
Energy:	4.23	—
Cons Defensive:	7.58	—
Cons Cyclical:	9.61	—
Industrials:	9.81	—
Comm:	10.44	—
Healthcare:	14.25	—
Financial Services:	16.15	—
Technology:	19.36	—

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.02
Prospectus Gross Exp. Ratio:	0.02
Avg Exp Ratio Morningstar (%):	0.94
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	0.01
Waiver Exp Date:	4/30/2017
Strategy Inception:	5/4/2011
Share Class Inception:	5/4/2011

Vanguard FTSE Social Index Admiral

Category: Large Cap Blend

VFTAX
12/31/2019

Fund Strategy

The investment seeks to track the performance of a benchmark index that measures the investment return of large- and mid-capitalization stocks. The fund employs an indexing investment approach designed to track the performance of the FTSE4Good US Select Index. The index is composed of the stocks of companies that have been screened for certain environmental, social, and corporate governance (ESG) criteria by the index sponsor, which is independent of Vanguard. The Advisor attempts to replicate the index by investing all, or substantially all, of its assets in the stocks that make up the index.

Fund Information

Strategy Asset (\$ mm):	7483.00
Share Class Assets (\$ mm):	4246.00
Manager:	William A. Coleman
Manager Tenure:	4 Years

Portfolio Statistics

Alpha*:	-	P/E:	21.47
Beta*:	-	P/B:	3.40
Std Dev:	12.12	SEC Yield (%):	1.59
R2*:	-	Turnover:	11.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index:
*3-year statistic:

Top 10 Holdings (%)

Apple Inc / AAPL	5.87
Microsoft Corp / MSFT	5.56
Facebook Inc A / FB	2.34
JPMorgan Chase & Co / JPM	2.03
Alphabet Inc Class C / GOOG	1.93
Alphabet Inc A / GOOGL	1.90
Johnson & Johnson / JNJ	1.77
Visa Inc Class A / V	1.56
Procter & Gamble Co / PG	1.46
Bank of America Corp / BAC	1.36
% in Top 10 Holdings	25.78
# of Holdings	492

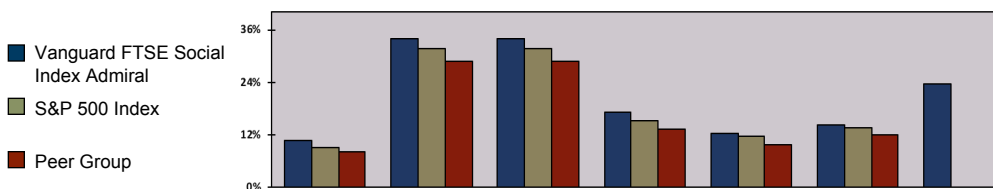
Scorecard System

Passive Strategies	Ticker	Style				Peer Group				Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Ratio Rank		
Large Cap Blend											
Vanguard FTSE Social Index Admiral	VFTAX	1	1	1	1	0	1	1	1	2	9
		6.77/96.19	2.85	99.35	0.99	85.00	28.00	1.00	1.00		LCB-P

Passive Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Vanguard FTSE Social Index Admiral	9	9	9	9	-	-	-	-
	LCB-P	LCB-P	LCB-P	LCB-P				

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Performance Analysis



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Vanguard FTSE Social Index Admiral	10.53%	33.93%	33.93%	17.11%	12.40%	14.35%	23.59%
S&P 500 Index	9.07%	31.49%	31.49%	15.27%	11.70%	13.56%	-
Peer Group Performance*	8.15%	28.78%	28.78%	13.26%	9.78%	12.03%	-
Peer Group Rank*	8	7	7	2	4	2	-
Peer Group Size (funds)*	-	-	1387	1203	1058	808	-

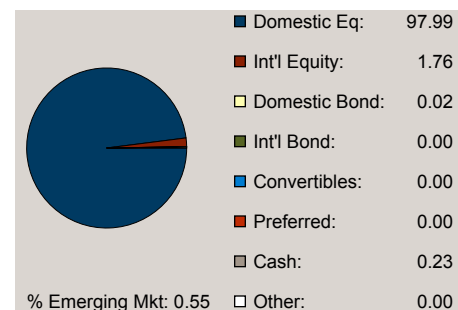
*Morningstar Peer Group: Large Blend

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Sector Allocation

Sector	Allocation	Visual
Utilities:	1.03	-
Basic Materials:	2.31	-
Energy:	2.51	-
Real Estate:	3.99	-
Cons Defensive:	5.40	-
Industrials:	6.25	-
Cons Cyclical:	8.05	-
Comm:	9.21	-
Healthcare:	17.16	-
Financial Services:	18.94	-
Technology:	25.13	-

Asset Allocation (%)



Additional Information

Prospectus Net Exp. Ratio:	0.14
Prospectus Gross Exp. Ratio:	0.14
Avg Exp Ratio Morningstar (%):	0.94
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$3000
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	1/14/2003
Share Class Inception:	2/7/2019

Fidelity Contrafund K

Category: Large Cap Growth¹

FCNKX
12/31/2019

Fund Strategy

The investment seeks capital appreciation. The fund normally invests primarily in common stocks. It invests in securities of companies whose value the advisor believes is not fully recognized by the public. The fund invests in domestic and foreign issuers. It invests in either "growth" stocks or "value" stocks or both. The fund uses fundamental analysis of factors such as each issuer's financial condition and industry position, as well as market and economic conditions to select investments.

¹ Report system default for factsheets use Morningstar categories, which may differ from category and benchmark identified in prospectus.

Fund Information

Strategy Asset (\$ mm):	120129.00
Share Class Assets (\$ mm):	22890.00
Manager:	William Danoff
Manager Tenure:	29 Years

Portfolio Statistics

Alpha*:	-2.86	P/E:	29.01
Beta*:	1.03	P/B:	4.56
Std Dev:	13.85	SEC Yield (%):	-
R ² :	97.50	Turnover:	32.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Morningstar US Large Growth TR USD
*3-year statistic: Morningstar US Large Growth TR USD

Top 10 Holdings (%)

as of 11/30/2019

Facebook Inc A / FB	7.40
Amazon.com Inc / AMZN	6.56
Berkshire Hathaway Inc A / BRK.A	5.45
Microsoft Corp / MSFT	5.42
Visa Inc Class A / V	3.91
Salesforce.com Inc / CRM	3.81
UnitedHealth Group Inc / UNH	2.97
Alphabet Inc A / GOOGL	2.76
Adobe Inc / ADBE	2.75
Mastercard Inc A / MA	2.57
% in Top 10 Holdings	43.60
# of Holdings	302

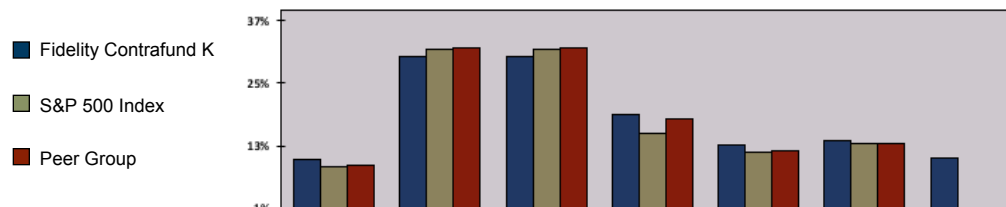
Scorecard System

Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Large Cap Growth											
Fidelity Contrafund K	FCNKX	1	1	1	1	0	0	1	1	2	8
		98.93/98.69	3.18	95.00	12.86/13.22	92.25/95.92	-0.49	23.00	28.00		LCG
Active Strategies		Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018		
Fidelity Contrafund K		8	8	8	8	8	9	8	8		
		LCG	LCG	LCG	LCG	LCG	LCG	LCG	LCG		

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Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Contrafund K	10.29%	30.17%	30.17%	19.04%	13.22%	14.08%	10.53%
S&P 500 Index	9.07%	31.49%	31.49%	15.27%	11.70%	13.56%	-
Peer Group Performance*	9.36%	31.90%	31.90%	18.09%	12.10%	13.40%	-
Peer Group Rank*	31	68	68	42	36	37	-
Peer Group Size (funds)*	-	-	1360	1218	1086	811	-

*Morningstar Peer Group: Large Growth

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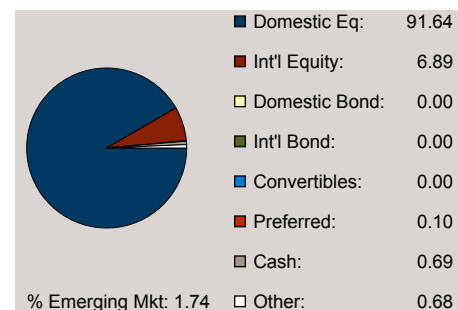
Sector Allocation

as of 11/30/2019

Utilities:	0.20	
Real Estate:	0.85	-
Energy:	1.13	-
Basic Materials:	2.11	-
Industrials:	2.68	-
Cons Defensive:	4.10	-
Cons Cyclical:	11.84	-
Healthcare:	13.46	-
Comm:	18.03	-
Financial Services:	21.53	-
Technology:	24.08	-

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.73
Prospectus Gross Exp. Ratio:	0.73
Avg Exp Ratio Morningstar (%):	1.06
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	5/17/1967
Share Class Inception:	5/9/2008

Fidelity Blue Chip Growth K

Category: Large Cap Growth

FBGKX
12/31/2019

Fund Strategy

The investment seeks growth of capital over the long term. The fund invests primarily in common stocks of well-known and established companies. It normally invests at least 80% of assets in blue chip companies. The fund invests in companies that Fidelity Management & Research Company (FMR) believes have above-average growth potential (stocks of these companies are often called "growth" stocks). It invests in securities of domestic and foreign issuers. The fund uses fundamental analysis of factors such as each issuer's financial condition and industry position, as well as market and economic conditions, to select investments.

Fund Information

Strategy Asset (\$ mm):	29538.00
Share Class Assets (\$ mm):	5473.00
Manager:	Sonu Kalra
Manager Tenure:	11 Years

Portfolio Statistics

Alpha*:	0.75	P/E:	30.77
Beta*:	1.06	P/B:	6.39
Std Dev:	14.62	SEC Yield (%):	-
R ² :	93.05	Turnover:	45.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Russell 1000 Growth TR USD

*3-year statistic: Russell 1000 Growth TR USD

Top 10 Holdings (%) as of 11/30/2019

Alphabet Inc A / GOOGL	7.14
Apple Inc / AAPL	7.08
Amazon.com Inc / AMZN	6.71
Microsoft Corp / MSFT	5.71
Facebook Inc A / FB	4.26
Salesforce.com Inc / CRM	2.75
Visa Inc Class A / V	2.54
Marvell Technology Group Ltd / MRVL	2.42
NVIDIA Corp / NVDA	2.28
Mastercard Inc A / MA	1.93
% in Top 10 Holdings	42.82
# of Holdings	304

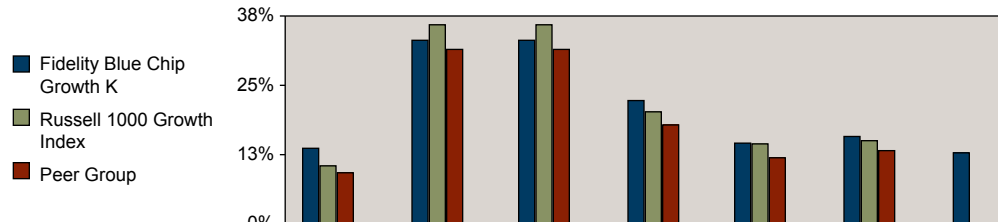
Scorecard System

Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Large Cap Growth											
Fidelity Blue Chip Growth K	FBGKX	1	1	1	1	0	1	1	1	2	9
		100.00/92.74	7.10	91.62	14.29/14.77	106.95/111.64	0.03	7.00	7.00		LCG

Active Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Fidelity Blue Chip Growth K	9	7	9	10	10	9	10	10
	LCG	LCG	LCG	LCG	LCG	LCG	LCG	LCG

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Blue Chip Growth K	13.83%	33.56%	33.56%	22.55%	14.77%	15.99%	13.00%
Russell 1000 Growth Index	10.62%	36.39%	36.39%	20.49%	14.63%	15.22%	-
Peer Group Performance*	9.36%	31.90%	31.90%	18.09%	12.10%	13.40%	-
Peer Group Rank*	4	36	36	10	14	6	-
Peer Group Size (funds)*	-	-	1360	1218	1086	811	-

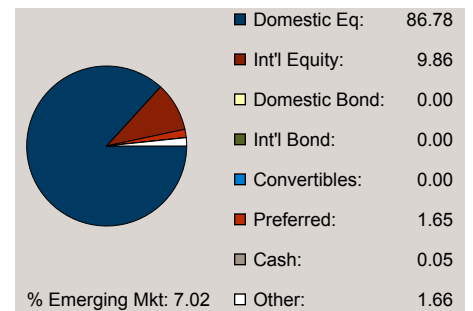
*Morningstar Peer Group: Large Growth

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Sector Allocation as of 11/30/2019

Real Estate:	0.06
Utilities:	0.06
Basic Materials:	0.09
Energy:	0.54
Cons Defensive:	3.19
Industrials:	3.88
Financial Services:	6.88
Healthcare:	12.35
Comm:	17.68
Cons Cyclical:	20.95
Technology:	34.31

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.70
Prospectus Gross Exp. Ratio:	0.70
Avg Exp Ratio Morningstar (%):	1.06
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	12/31/1987
Share Class Inception:	5/9/2008

Fidelity Mid-Cap Stock K

Category: Mid Cap Blend

FKMCX
12/31/2019

Fund Strategy

The investment seeks long-term growth of capital. The fund normally invests at least 80% of assets in common stocks of companies with medium market capitalizations (which, for purposes of this fund, are those companies with market capitalizations similar to companies in the Russell Midcap® Index or the S&P MidCap 400® Index). It potentially invests in companies with smaller or larger market capitalizations. The fund invests in domestic and foreign issuers. It invests in either "growth" stocks or "value" stocks or both.

Fund Information

Strategy Asset (\$ mm):	7355.00
Share Class Assets (\$ mm):	1923.00
Manager:	John D. Roth
Manager Tenure:	9 Years

Portfolio Statistics

Alpha*:	0.86	P/E:	19.33
Beta*:	0.81	P/B:	2.26
Std Dev:	10.91	SEC Yield (%):	-
R2*:	97.32	Turnover:	29.00
	as of date 11/30/2019		as of date 12/31/2019

*Best fit index: Morningstar US Mid Cap TR USD
*3-year statistic: Morningstar US Mid Cap TR USD

Top 10 Holdings (%)

as of 11/30/2019

NVR Inc / NVR	1.99
Amphenol Corp Class A / APH	1.56
Radian Group Inc / RDN	1.51
M&T Bank Corp / MTB	1.40
Huntington Bancshares Inc / HBAN	1.40
WNS (Holdings) Ltd ADR / WNS	1.36
Reinsurance Group of America Inc / RGA	1.31
VICI Properties Inc Ordinary Shares / VICI	1.28
Huntington Ingalls Industries Inc / HII	1.24
OGE Energy Corp / OGE	1.22
% in Top 10 Holdings	14.29
# of Holdings	165

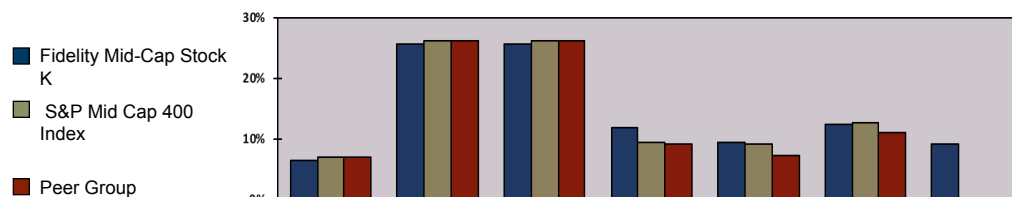
Scorecard System

Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Mid Cap Blend											
Fidelity Mid-Cap Stock K	FKMCX	1	1	1	1	1	0	1	1	2	9
		-10.34/ 7.82	11.19	95.27	11.22/ 9.28	87.81/ 82.02	-0.02	7.00	7.00		MCB
Active Strategies		Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018		
Fidelity Mid-Cap Stock K		9	9	9	7	7	8	8	8		
		MCB	MCB	MCB	MCG	MCG	MCG	MCG	MCG		

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Mid-Cap Stock K	6.44%	25.47%	25.47%	11.75%	9.28%	12.48%	9.00%
S&P Mid Cap 400 Index	7.06%	26.20%	26.20%	9.26%	9.03%	12.72%	-
Peer Group Performance*	7.07%	26.21%	26.21%	9.15%	7.15%	11.09%	-
Peer Group Rank*	67	67	67	18	16	22	-
Peer Group Size (funds)*	-	-	404	361	292	220	-

*Morningstar Peer Group: Mid-Cap Blend

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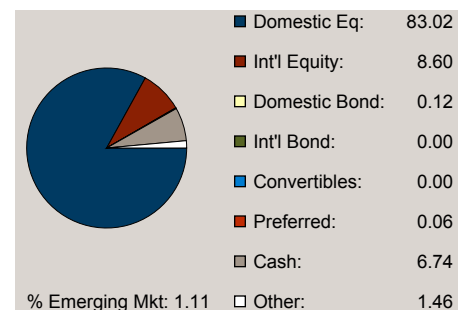
Sector Allocation

as of 11/30/2019

Comm:	1.90	-
Basic Materials:	3.11	-
Energy:	4.68	-
Utilities:	5.24	-
Cons Defensive:	5.81	-
Technology:	8.26	-
Real Estate:	8.46	-
Healthcare:	8.46	-
Industrials:	14.52	-
Cons Cyclical:	15.12	-
Financial Services:	24.45	-

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.62
Prospectus Gross Exp. Ratio:	0.62
Avg Exp Ratio Morningstar (%):	1.07
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	3/29/1994
Share Class Inception:	5/9/2008

DFA US Small Cap I

Category: Small Cap Blend

DFSTX
12/31/2019

Fund Strategy

The investment seeks long-term capital appreciation. The fund, using a market capitalization weighted approach, purchases a broad and diverse group of readily marketable securities of U.S. small cap companies. A company's market capitalization is the number of its shares outstanding times its price per share. In general, the higher the relative market capitalization of the U.S. small cap company, the greater its representation in the Portfolio.

Fund Information

Strategy Asset (\$ mm):	18142.00
Share Class Assets (\$ mm):	18142.00
Manager:	Jed S. Fogdall
Manager Tenure:	8 Years

Portfolio Statistics

Alpha*:	-2.80	P/E:	16.99
Beta*:	1.01	P/B:	1.80
Std Dev:	16.31	SEC Yield (%):	-
R2*:	98.16	Turnover:	13.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Russell 2000 TR USD
*3-year statistic: Russell 2000 TR USD

Top 10 Holdings (%)

as of 11/30/2019

E-mini S&P 500 Futures Dec19 / ESZ9	0.88
Horizon Therapeutics PLC / HZNP	0.39
TCF Financial Corp / TCF	0.34
Amedisys Inc / AMED	0.33
Tetra Tech Inc / TTEK	0.32
Deckers Outdoor Corp / DECK	0.32
Tech Data Corp / TECD	0.32
Generac Holdings Inc / GNRC	0.30
Helen Of Troy Ltd / HELE	0.29
KBR Inc / KBR	0.28
% in Top 10 Holdings	3.78
# of Holdings	2078

Scorecard System

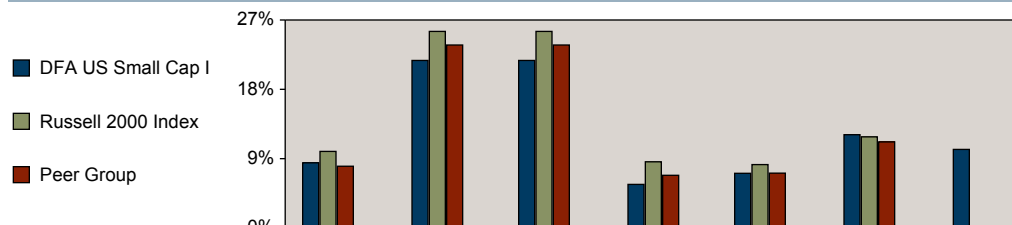
Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Small Cap Blend											
DFA US Small Cap I	DFSTX	0	1	1	1	0	0	1	1	2	7
		-51.73/ -92.34	12.85	97.31	15.88/ 7.10	94.60/ 99.11	-0.43	39.00	47.00		SCB

Active Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
DFA US Small Cap I	7	7	7	7	7	8	8	9
	SCB	SCB	SCB	SCB	SCB	SCB	SCB	SCB

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
DFA US Small Cap I	8.46%	21.75%	21.75%	5.66%	7.10%	12.11%	10.20%
Russell 2000 Index	9.94%	25.52%	25.52%	8.59%	8.23%	11.83%	-
Peer Group Performance*	8.02%	23.75%	23.75%	6.84%	7.12%	11.17%	-
Peer Group Rank*	41	74	74	72	55	26	-
Peer Group Size (funds)*	-	-	702	630	507	367	-

*Morningstar Peer Group: Small Blend

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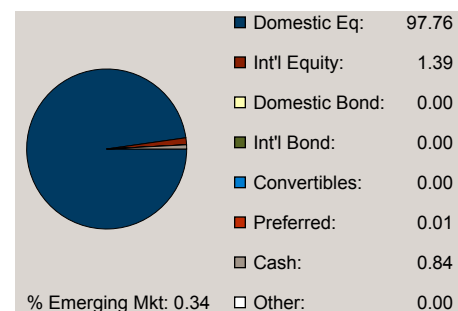
Sector Allocation

as of 11/30/2019

Real Estate:	0.50	
Utilities:	3.44	—
Comm:	3.81	—
Energy:	4.50	—
Basic Materials:	4.72	—
Cons Defensive:	4.92	—
Healthcare:	9.78	—
Technology:	13.43	—
Cons Cyclical:	13.57	—
Financial Services:	20.36	—
Industrials:	20.99	—

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.37
Prospectus Gross Exp. Ratio:	0.37
Avg Exp Ratio Morningstar (%):	1.12
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	3/19/1992
Share Class Inception:	3/19/1992

Fidelity Small Cap Index

Category: Small Cap Blend

FSSNX
12/31/2019

Fund Strategy

The investment seeks to provide investment results that correspond to the total return of stocks of small-capitalization United States companies. The fund invests normally at least 80% of its assets in securities included in the Russell 2000® Index. It lends securities to earn income.

Fund Information

Strategy Asset (\$ mm):	10882.00
Share Class Assets (\$ mm):	10882.00
Manager:	Louis Bottari
Manager Tenure:	8 Years

Portfolio Statistics

Alpha*:	0.16	P/E:	17.15
Beta*:	1.00	P/B:	1.95
Std Dev:	15.92	SEC Yield (%):	-
R2*:	100.00	Turnover:	18.00
as of date 10/31/2019		as of date 12/31/2019	

*Best fit index: Russell 2000 TR USD
*3-year statistic: Russell 2000 TR USD

Top 10 Holdings (%) as of 10/31/2019

E-mini Russell 2000 Index Futures / RTYZ9	0.52
NovoCure Ltd / NVCR	0.31
Haemonetics Corp / HAE	0.31
Generac Holdings Inc / GNRC	0.30
Teladoc Health Inc / TDOC	0.27
First Industrial Realty Trust Inc / FR	0.27
Rexford Industrial Realty Inc / REXR	0.26
Trex Co Inc / TREX	0.26
Radian Group Inc / RDN	0.26
Portland General Electric Co / POR	0.26
% in Top 10 Holdings	3.02
# of Holdings	2004

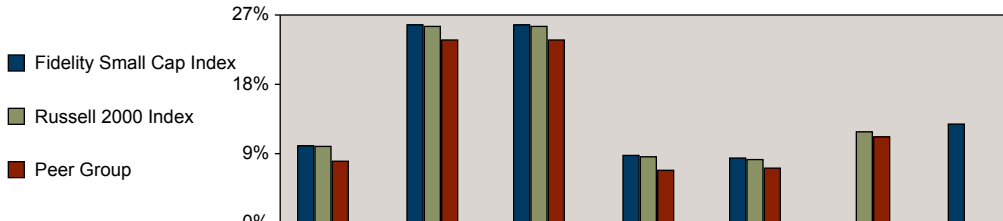
Scorecard System

Passive Strategies	Ticker	Style				Peer Group				Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Ratio Rank		
Small Cap Blend											
Fidelity Small Cap Index	FSSNX	1	1	1	1	1	1	1	1	2	10
		2.25/-98.93	0.20	100.00	0.08	16.00	4.00	14.00	16.00		SCB-P

Passive Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Fidelity Small Cap Index	10	10	10	10	10	10	10	10
	SCB-P	SCB-P	SCB-P	SCB-P	SCB-P	SCB-P	SCB-P	SCB-P

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Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Small Cap Index	10.01%	25.71%	25.71%	8.77%	8.43%	-	12.84%
Russell 2000 Index	9.94%	25.52%	25.52%	8.59%	8.23%	11.83%	-
Peer Group Performance*	8.02%	23.75%	23.75%	6.84%	7.12%	11.17%	-
Peer Group Rank*	15	30	30	20	24	-	-
Peer Group Size (funds)*	-	-	702	630	507	367	-

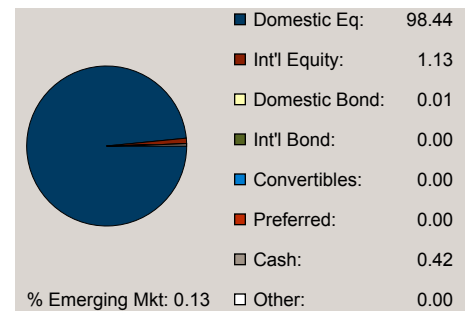
*Morningstar Peer Group: Small Blend

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Sector Allocation as of 10/31/2019

Comm:	2.67	—
Energy:	3.07	—
Basic Materials:	3.54	—
Cons Defensive:	3.63	—
Utilities:	4.00	—
Real Estate:	9.59	—
Cons Cyclical:	9.87	—
Technology:	13.17	—
Healthcare:	16.55	—
Financial Services:	16.88	—
Industrials:	17.04	—

Asset Allocation (%) as of 10/31/2019



Additional Information

Prospectus Net Exp. Ratio:	0.03
Prospectus Gross Exp. Ratio:	0.03
Avg Exp Ratio Morningstar (%):	1.12
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	0.10
Waiver Exp Date:	6/30/2017
Strategy Inception:	9/8/2011
Share Class Inception:	9/8/2011

Fidelity Diversified Intl K6

Category: International Large Cap Growth¹

FKIDX
12/31/2019

Fund Strategy

The investment seeks capital growth. The fund normally invests primarily in non-U.S. securities. It normally invests primarily in common stocks. The advisor allocates investments across different countries and regions.

¹ Report system default for factsheets use Morningstar categories, which may differ from category and benchmark identified in prospectus.

Fund Information

Strategy Asset (\$ mm):	3191.00
Share Class Assets (\$ mm):	3191.00
Manager:	William Bower
Manager Tenure:	3 Years

Portfolio Statistics

Alpha*:	-	P/E:	24.32
Beta*:	-	P/B:	3.15
Std Dev:	-	SEC Yield (%):	-
R ² :	-	Turnover:	48.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index:
*3-year statistic:

Top 10 Holdings (%) as of 11/30/2019

SAP SE / SAP	2.48
Roche Holding AG Dividend Right Cert. / ROG	2.23
ASML Holding NV ADR / ASML	1.98
AIA Group Ltd / 01299	1.79
Hoya Corp / 7741	1.73
AstraZeneca PLC / AZN	1.70
Keyence Corp / 6861	1.57
Unilever NV / UNA	1.51
LVMH Moet Hennessy Louis Vuitton SE / MC	1.37
HDFC Bank Ltd / HDFCBANK	1.22
% in Top 10 Holdings	17.59
# of Holdings	182

Scorecard System

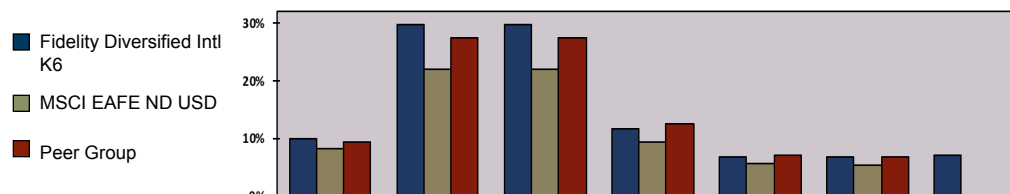
Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
International Large Cap Growth											
Fidelity Diversified Intl K6*	FKIDX	1	0	1	0	0	0	0	0	2	4
		74.13/25.49	24.26	92.99	12.03/6.81	93.27/97.86	-0.32	68.00	79.00		ILCG

Active Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Fidelity Diversified Intl K6*	4	5	5	5	6	9	9	10
	ILCG	ILCG	ILCG	ILCG	ILCG	ILCG	ILCG	ILCG

*Fidelity Diversified International K6 does not have a five-year performance track record; therefore, our system does not provide scoring. Fidelity Diversified International K's scores are inserted above as a proxy so consideration for tracking errors exists between the two funds which are attributed to differences in expense ratios and cash flows.

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Diversified Intl K6	9.98%	29.75%	29.75%	11.79%**	6.81%**	6.73%**	7.09%
MSCI EAFE ND USD	8.17%	22.01%	22.01%	9.56%	5.67%	5.50%	-
Peer Group Performance*	9.37%	27.83%	27.83%	12.69%	7.25%	6.90%	-
Peer Group Rank*	39	36	36	-	-	-	-
Peer Group Size (funds)*	-	-	469	405	338	246	-

*Morningstar Peer Group: Foreign Large Growth

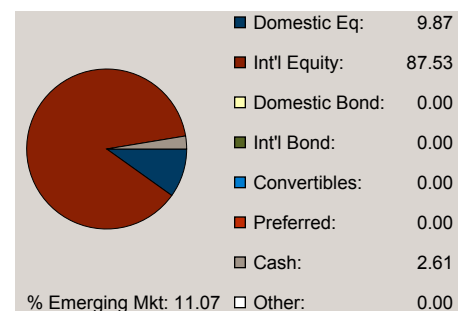
**Longer term annualized performance 3, 5 and 10 year are from Fidelity Diversified Intl K share (FDIKX), a separate higher expense (+.03) fund with the same manager, investment objective and holdings; however, subject to different cash flow, asset value and performance.

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Country Exposure (%) as of 11/30/2019

US:	10.13
Canada:	3.10
Latin America:	0.96
United Kingdom:	13.13
EuroZone:	28.00
Europe ex-EuroZone:	11.46
Europe Emerging:	0.00
Africa:	0.16
Middle East:	0.00
Japan:	17.60
Australasia:	1.57
Asia Developed:	3.93
Asia Emerging:	9.95

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.60
Prospectus Gross Exp. Ratio:	0.60
Avg Exp Ratio Morningstar (%):	1.12
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	5/25/2017
Share Class Inception:	5/25/2017

Fidelity Global ex US Index

Category: International Equity

FSGGX
12/31/2019

Fund Strategy

The investment seeks to provide investment results that correspond to the total return of foreign developed and emerging stock markets. The fund invests at least 80% of assets in securities included in the MSCI ACWI (All Country World Index) ex USA Index and in depository receipts representing securities included in the index. The advisor uses statistical sampling techniques based on such factors as capitalization, industry exposures, dividend yield, price/earnings (P/E) ratio, price/book (P/B) ratio, earnings growth, country weightings, and the effect of foreign taxes to attempt to replicate the returns of the MSCI ACWI (All Country World Index) ex USA Index.

Fund Information

Strategy Asset (\$ mm):	5730.00
Share Class Assets (\$ mm):	5730.00
Manager:	Louis Bottari
Manager Tenure:	8 Years

Portfolio Statistics

Alpha*:	0.15	P/E:	15.78
Beta*:	1.00	P/B:	1.61
Std Dev:	11.52	SEC Yield (%):	-
R ² :	98.91	Turnover:	5.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: MSCI ACWI Ex USA NR USD

*3-year statistic: MSCI ACWI Ex USA NR USD

Top 10 Holdings (%)

as of 11/30/2019

mini MSCI EAFE Index Futures Dec19 / MFSZ9	1.55
Alibaba Group Holding Ltd ADR / BABA	1.50
Nestle SA / NESN	1.37
Tencent Holdings Ltd / 00700	1.07
Taiwan Semiconductor Manufacturing Co Ltd / 2330	1.01
Roche Holding AG Dividend Right Cert. / ROG	0.96
Samsung Electronics Co Ltd / 005930	0.89
Novartis AG / NOVN	0.88
Toyota Motor Corp / 7203	0.70
HSBC Holdings PLC / HSBA	0.66
% in Top 10 Holdings	10.58
# of Holdings	2329

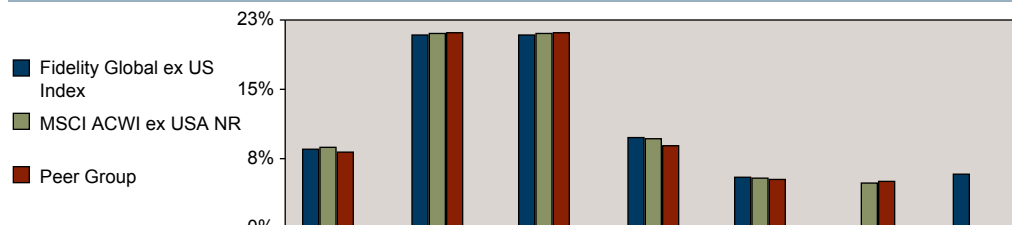
Scorecard System

Passive Strategies	Ticker	Style				Peer Group				Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Ratio Rank		
International Equity											
Fidelity Global ex US Index	FSGGX	1	1	1	1	1	1	1	1	2	10
		11.17/49.17	4.34	98.90	1.21	21.00	15.00	20.00	15.00		IE-P
Passive Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018			
Fidelity Global ex US Index	10	10	9	9	9	10	10	10			
	IE-P	IE-P	IE-P	IE-P	IE-P	IE-P	IE-P	IE-P			

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Global ex US Index	8.71%	21.34%	21.34%	10.00%	5.61%	-	5.95%
MSCI ACWI ex USA NR	8.92%	21.51%	21.51%	9.87%	5.51%	4.97%	-
Peer Group Performance*	8.39%	21.59%	21.59%	9.09%	5.37%	5.15%	-
Peer Group Rank*	43	56	56	27	45	-	-
Peer Group Size (funds)*	-	-	732	628	495	372	-

*Morningstar Peer Group: Foreign Large Blend

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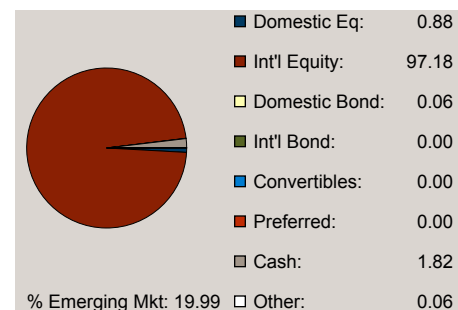
Country Exposure (%)

as of 11/30/2019

US:	0.90	-
Canada:	6.82	—
Latin America:	2.97	—
United Kingdom:	10.26	—
EuroZone:	21.81	—
Europe ex-EuroZone:	9.32	—
Europe Emerging:	1.56	-
Africa:	1.26	-
Middle East:	1.38	-
Japan:	16.14	—
Australasia:	4.64	—
Asia Developed:	9.39	—
Asia Emerging:	13.54	—

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.06
Prospectus Gross Exp. Ratio:	0.06
Avg Exp Ratio Morningstar (%):	0.99
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	0.13
Waiver Exp Date:	12/31/2016
Strategy Inception:	9/8/2011
Share Class Inception:	9/8/2011

AQR Global Equity R6

Category: Global Equity

AQGRX
12/31/2019

Fund Strategy

The investment seeks long-term capital appreciation. The fund seeks to outperform, after expenses, the MSCI World Index while seeking to control its tracking error relative to this benchmark. It invests significantly (at least 40%) in companies (i) organized or located outside the U.S., (ii) whose primary trading market is located outside the U.S. or (iii) doing a substantial amount of business outside the U.S., which the fund's manager considers as a company that derives at least 50% of its revenue from business outside the U.S. or has at least 50% of its assets outside the U.S.

Fund Information

Strategy Asset (\$ mm):	323.00
Share Class Assets (\$ mm):	116.00
Manager:	Clifford S. Asnes
Manager Tenure:	10 Years

Portfolio Statistics

Alpha*:	-3.61	P/E:	14.01
Beta*:	1.12	P/B:	1.92
Std Dev:	12.91	SEC Yield (%):	-
R ² :	96.85	Turnover:	-
as of date 9/30/2019		as of date 12/31/2019	

*Best fit index: MSCI ACWI NR USD
*3-year statistic: MSCI ACWI NR USD

Top 10 Holdings (%)

as of 9/30/2019

Ubs Money Ser	7.53
Cac40 10 Euro Fut Equity Index 18/Oct/2019 Cf	6.91
FTSE Straits Times Index Future Dec19 / STZ9	5.90
FTSE 100 Index Future Dec19 / ZZ9	4.85
AEX Index Future Oct19 / FTI9	3.93
SFE SPI 200 Index Future Dec19 / APZ9	3.70
S&P Canada 60 Index Dec19 / SXFZ9	3.47
E-mini S&P 500 Dec19 / ESZ9	3.33
Dax Index Future Equity Index 20/Dec/2019 Gxz	2.84
Apple Inc / AAPL	2.49
% in Top 10 Holdings	44.94
# of Holdings	439

Scorecard System

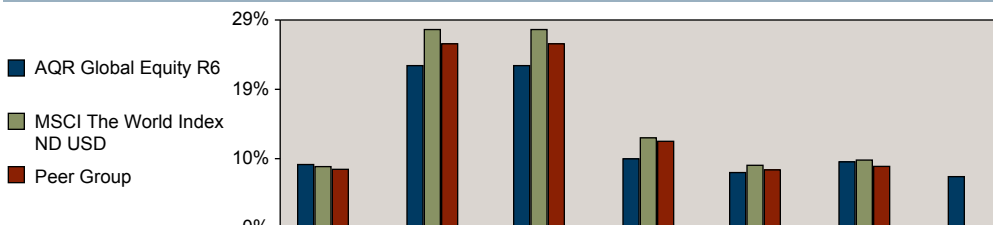
Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Global Equity											
AQR Global Equity R6	AQGRX	1	0	1	0	0	0	0	0	2	4
		4.02/41.34	28.20	92.95	11.98/7.73	92.81/96.88	-0.32	59.00	59.00		GE

Active Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
AQR Global Equity R6	4	6	6	6	8	10	10	10
	GE	GE	GE	GE	GE	GE	GE	GE

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
AQR Global Equity R6	8.85%	22.64%	22.64%	9.64%	7.73%	9.45%	7.16%
MSCI The World Index ND USD	8.56%	27.67%	27.67%	12.57%	8.74%	9.47%	-
Peer Group Performance*	8.18%	25.68%	25.68%	12.09%	8.10%	8.59%	-
Peer Group Rank*	38	71	71	74	53	-	-
Peer Group Size (funds)*	-	-	873	722	605	362	-

*Morningstar Peer Group: World Large Stock

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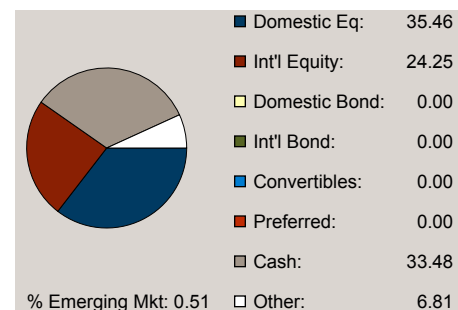
Country Exposure (%)

as of 9/30/2019

US:	59.39
Canada:	2.64
Latin America:	0.01
United Kingdom:	9.66
EuroZone:	11.56
Europe ex-EuroZone:	5.95
Europe Emerging:	0.04
Africa:	0.00
Middle East:	0.00
Japan:	6.94
Australasia:	1.58
Asia Developed:	1.77
Asia Emerging:	0.47

Asset Allocation (%)

as of 9/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.71
Prospectus Gross Exp. Ratio:	0.73
Avg Exp Ratio Morningstar (%):	1.10
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$50000000
Waiver Amt:	0.02
Waiver Exp Date:	1/28/2020
Strategy Inception:	12/31/2009
Share Class Inception:	1/8/2014

Fidelity Freedom Income K

Category: Conservative

FNSHX
12/31/2019

Fund Strategy

The investment seeks high current income and, as a secondary objective, capital appreciation. The fund invests primarily in a combination of Fidelity® domestic equity funds, international equity funds, bond funds, and short-term funds (underlying Fidelity® funds).

Fund Information

Strategy Asset (\$ mm):	3377.00
Share Class Assets (\$ mm):	1157.00
Manager:	Andrew Dierdorf
Manager Tenure:	9 Years

Portfolio Statistics

Alpha*:	-	P/E:	17.67
Beta*:	-	P/B:	2.04
Std Dev:	2.79	SEC Yield (%):	-
R2*:	-	Turnover:	22.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index:
*3-year statistic:

Top 10 Holdings (%) as of 11/30/2019

Fidelity® Series Investment Grade Bond / FSIQX	38.19
Fidelity® Series Intl-Prft Bd Idx / FSIPIX	11.83
Fidelity® Series Short-Term Credit / FYBTX	4.61
Fidelity® Series Emerging Markets Opps / FEMSX	4.14
Fidelity® Series Commodity Strategy / FCSSX	3.36
Fidelity® Series Long-Term Trs Bd Idx / FTLTX	2.50
Fidelity® Series International Growth / FIGSX	2.50
Fidelity® Series International Value / FINVX	2.29
Fidelity® Series Intrinsic Opps / FDM LX	1.21
Fidelity® Series Large Cap Stock / FGLGX	1.07
% in Top 10 Holdings	71.69
# of Holdings	34

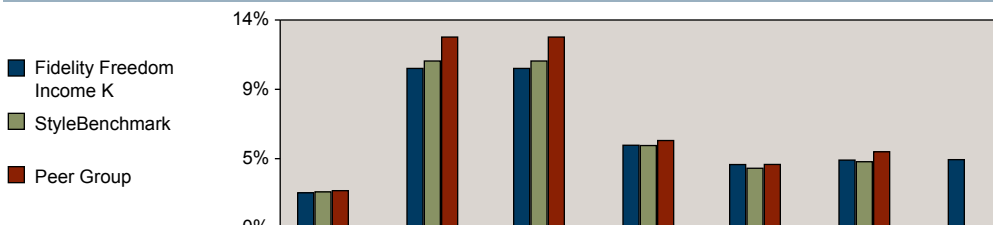
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Conservative											
Fidelity Freedom Income K	FNSHX	1	0	1	1	1	1	1	1	2	8
		3.24	24.98/75.02	94.13	3.24/4.27	102.47/96.56	0.32	36.00	8.00		CON

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Fidelity Freedom Income K	8	8	-	-	-	-	-	-
	CON	CON	CON	CON	CON	CON	CON	CON

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Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Freedom Income K	2.37%	10.74%	10.74%	5.57%	4.27%	4.57%	4.60%
StyleBenchmark*	2.43%	11.24%	11.24%	5.55%	4.02%	4.46%	-
Peer Group Performance**	2.51%	12.85%	12.85%	5.89%	4.28%	5.13%	-
Peer Group Rank**	60	78	78	67	51	77	-
Peer Group Size (funds)**	-	-	183	157	131	88	-

*26.17% Merrill Lynch 3-Month T-Bill, 48.38% BB Aggregate Bond, 14.19% Russell 3000, 11.26% MSCI ACWI Index ex USA ND USD

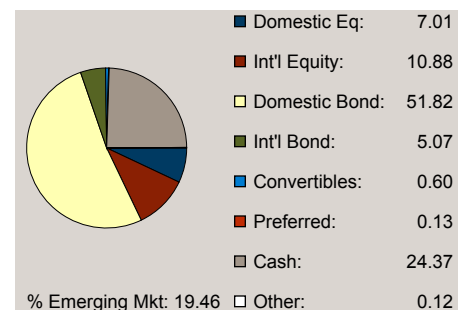
**Morningstar Peer Group: Target-Date Retirement

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	3.24

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.42
Prospectus Gross Exp. Ratio:	0.42
Avg Exp Ratio Morningstar (%):	0.47
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	10/17/1996
Share Class Inception:	7/20/2017

Fidelity Freedom 2005 K

Category: Conservative

FSNJX
12/31/2019

Fund Strategy

The investment seeks high total return until its target retirement date. The fund invests in a combination of Fidelity® domestic equity funds, international equity funds, bond funds, and short-term funds. It allocates its assets according to a neutral asset allocation strategy shown in the glide path below that adjusts over time until it reaches an allocation similar to that of the Fidelity Freedom® Income Fund, approximately 10 to 19 years after the year 2005.

Fund Information

Strategy Asset (\$ mm):	1003.00
Share Class Assets (\$ mm):	356.00
Manager:	Andrew Dierdorf
Manager Tenure:	9 Years

Portfolio Statistics

Alpha*:	-	P/E:	17.83
Beta*:	-	P/B:	2.07
Std Dev:	3.58	SEC Yield (%):	-
R ² :	-	Turnover:	26.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index:
*3-year statistic:

Top 10 Holdings (%) as of 11/30/2019

Fidelity® Series Investment Grade Bond / FSI GX	35.64
Fidelity® Series Intl-Prtct Bd Idx / FSI PX	10.61
Fidelity® Series Emerging Markets Opps / FEMS X	4.73
Fidelity® Series Short-Term Credit / FYBT X	3.93
Fidelity® Series Commodity Strategy / FCSS X	3.35
Fidelity® Series International Growth / FIGS X	3.22
Fidelity® Series International Value / FINV X	2.99
Fidelity® Series Long-Term Trs Bd Idx / FTLT X	2.50
Fidelity® Series Intrinsic Opps / FDM LX	1.94
Fidelity® Series Large Cap Stock / FGLGX	1.72
% in Top 10 Holdings	70.62
# of Holdings	36

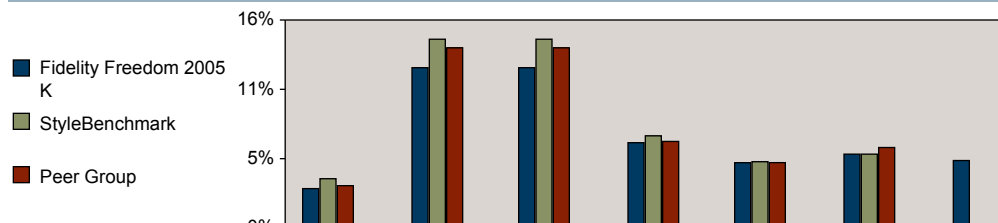
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Conservative											
Fidelity Freedom 2005 K	FSNJX	1	0	1	1	1	0	1	1	2	8
		4.29	40.74/59.26	93.69	4.29/5.02	89.65/80.32	-0.07	2.00	9.00		CON

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Fidelity Freedom 2005 K	8	8	-	-	-	-	-	-
	CON	CON	CON	MC	MC	MC	MC	MC

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Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Freedom 2005 K	3.03%	12.33%	12.33%	6.56%	5.02%	5.68%	5.19%
StyleBenchmark*	3.79%	14.52%	14.52%	7.09%	5.10%	5.68%	-
Peer Group Performance**	3.26%	13.86%	13.86%	6.66%	5.03%	6.19%	-
Peer Group Rank**	65	87	87	60	51	83	-
Peer Group Size (funds)**	-	-	140	102	83	62	-

*21.80% Merrill Lynch 3-Month T-Bill, 38.81% BB Aggregate Bond, 21.68% Russell 3000, 17.71% MSCI ACWI Index ex USA ND USD

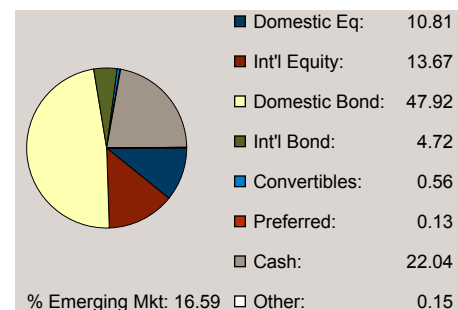
**Morningstar Peer Group: Target-Date 2000-2010

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	4.29

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.42
Prospectus Gross Exp. Ratio:	0.42
Avg Exp Ratio Morningstar (%):	0.42
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	11/6/2003
Share Class Inception:	7/20/2017

Fidelity Freedom 2010 K

Category: Moderate Conservative

FSNKX
12/31/2019

Fund Strategy

The investment seeks high total return until its target retirement date. The fund invests in a combination of Fidelity® domestic equity funds, international equity funds, bond funds, and short-term funds. It allocates its assets according to a neutral asset allocation strategy shown in the glide path below that adjusts over time until it reaches an allocation similar to that of the Fidelity Freedom® Income Fund, approximately 10 to 19 years after the year 2010.

Fund Information

Strategy Asset (\$ mm):	5724.00
Share Class Assets (\$ mm):	1689.00
Manager:	Andrew Dierdorf
Manager Tenure:	9 Years

Portfolio Statistics

Alpha*:	-	P/E:	17.94
Beta*:	-	P/B:	2.09
Std Dev:	4.57	SEC Yield (%):	-
R**:	-	Turnover:	20.00
as of date 11/30/2019		as of date 12/31/2019	
*Best fit index:			
**3-year statistic:			

Top 10 Holdings (%) as of 11/30/2019

Fidelity® Series Investment Grade Bond / FSIQX	32.01
Fidelity® Series Infl-Prtct Bd Idx / FSIPIX	9.11
Fidelity® Series Emerging Markets Opps / FEMSX	5.51
Fidelity® Series International Growth / FIGSX	4.20
Fidelity® Series International Value / FINVX	3.96
Fidelity® Series Commodity Strategy / FCSSX	3.33
Fidelity® Series Short-Term Credit / FYBTX	3.10
Fidelity® Series Intrinsic Opps / FDMXLX	2.93
Fidelity® Series Large Cap Stock / FGLGLX	2.59
Fidelity® Series Growth Company / FCGSXX	2.53
% in Top 10 Holdings	69.28
# of Holdings	35

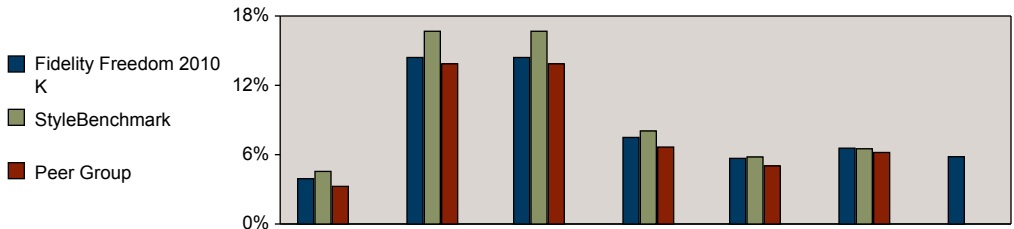
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Moderate Conservative											
Fidelity Freedom 2010 K	FSNKX	1	0	1	1	1	0	1	1	2	8
		5.27	49.54/50.46	96.07	5.27/5.68	90.31/83.15	-0.10	16.00	11.00		MC

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Fidelity Freedom 2010 K	8	8	-	-	-	-	-	-
	MC	MC	MC	MC	MC	MC	MC	MC

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Freedom 2010 K	3.92%	14.41%	14.41%	7.49%	5.68%	6.56%	5.82%
StyleBenchmark*	4.55%	16.68%	16.68%	8.05%	5.80%	6.51%	-
Peer Group Performance**	3.26%	13.86%	13.86%	6.66%	5.03%	6.19%	-
Peer Group Rank**	9	46	46	9	6	43	-
Peer Group Size (funds)**	-	-	140	102	83	62	-

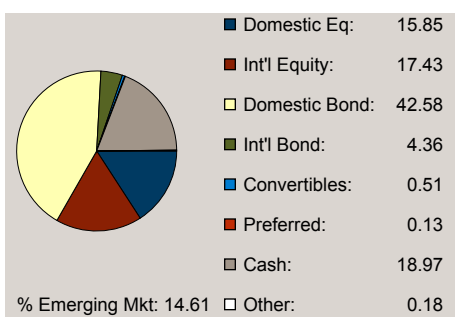
*15% Merrill Lynch 3-Month T-Bill, 36.74% BB Aggregate Bond, 27.36% Russell 3000, 20.90% MSCI ACWI Index ex USA ND USD
**Morningstar Peer Group: Target-Date 2000-2010

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	5.27
Conservative	3.00≤X<4.50	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.46
Prospectus Gross Exp. Ratio:	0.46
Avg Exp Ratio Morningstar (%):	0.42
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	10/17/1996
Share Class Inception:	7/20/2017

Fidelity Freedom 2015 K

Category: Moderate Conservative

FSNLX
12/31/2019

Fund Strategy

The investment seeks high total return until its target retirement date. The fund invests in a combination of Fidelity® domestic equity funds, international equity funds, bond funds, and short-term funds. It allocates its assets according to a neutral asset allocation strategy shown in the glide path below that adjusts over time until it reaches an allocation similar to that of the Fidelity Freedom® Income Fund, approximately 10 to 19 years after the year 2015.

Fund Information

Strategy Asset (\$ mm):	8685.00
Share Class Assets (\$ mm):	3084.00
Manager:	Andrew Dierdorf
Manager Tenure:	9 Years

Portfolio Statistics

Alpha*:	-	P/E:	18.00
Beta*:	-	P/B:	2.10
Std Dev:	5.58	SEC Yield (%):	-
R ² :	-	Turnover:	19.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index:
*3-year statistic:

Top 10 Holdings (%) as of 11/30/2019

Fidelity® Series Investment Grade Bond / FSIQX	28.20
Fidelity® Series Infl-Prtct Bd Idx / FSIPIX	7.86
Fidelity® Series Emerging Markets Opps / FEMSX	6.29
Fidelity® Series International Growth / FIGSX	5.16
Fidelity® Series International Value / FINVX	4.89
Fidelity® Series Intrinsic Opps / FDMIX	3.91
Fidelity® Series Large Cap Stock / FGLGX	3.46
Fidelity® Series Growth Company / FCGSX	3.36
Fidelity® Series Commodity Strategy / FCSSX	3.32
Fidelity® Series Stk Selec Lg Cp Val / FBLEX	2.66
% in Top 10 Holdings	69.12
# of Holdings	36

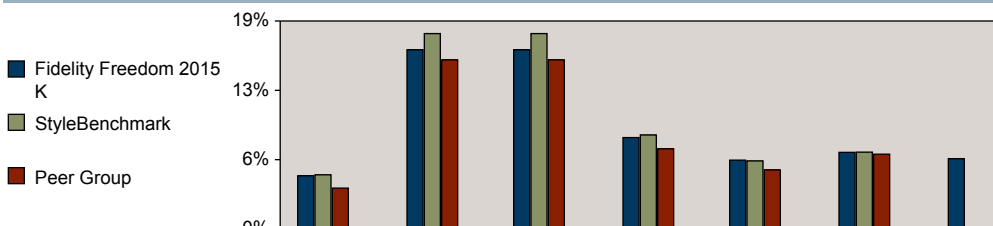
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Moderate Conservative											
Fidelity Freedom 2015 K	FSNLX	1	0	1	1	1	1	1	1	2	8
		6.21	54.13/45.87	97.30	6.21/6.29	98.52/95.95	0.07	3.00	18.00		MC

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Fidelity Freedom 2015 K	8	8	-	-	-	-	-	-
	MC	MC	MOD	MOD	MOD	MOD	MOD	MOD

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Freedom 2015 K	4.86%	16.37%	16.37%	8.35%	6.29%	7.00%	6.42%
StyleBenchmark*	4.95%	17.85%	17.85%	8.59%	6.22%	7.02%	-
Peer Group Performance**	3.73%	15.45%	15.45%	7.33%	5.39%	6.83%	-
Peer Group Rank**	2	33	33	9	6	46	-
Peer Group Size (funds)**	-	-	128	99	73	47	-

*11.47% Merrill Lynch 3-Month T-Bill, 34.92% BB Aggregate Bond, 32.33% Russell 3000, 21.28% MSCI ACWI Index ex USA ND USD

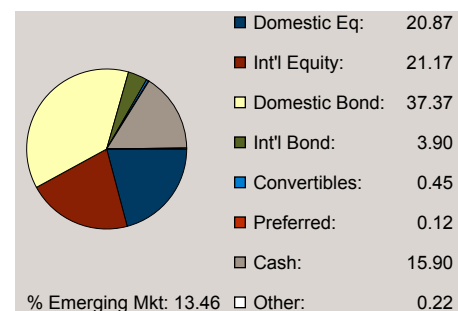
**Morningstar Peer Group: Target-Date 2015

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	6.21
Conservative	3.00≤X<4.50	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.49
Prospectus Gross Exp. Ratio:	0.49
Avg Exp Ratio Morningstar (%):	0.41
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	11/6/2003
Share Class Inception:	7/20/2017

Fidelity Freedom 2020 K

Category: Moderate

FSNOX
12/31/2019

Fund Strategy

The investment seeks high total return until its target retirement date. The fund invests in a combination of Fidelity® domestic equity funds, international equity funds, bond funds, and short-term funds. It allocates its assets according to a neutral asset allocation strategy shown in the glide path below that adjusts over time until it reaches an allocation similar to that of the Fidelity Freedom® Income Fund, approximately 10 to 19 years after the year 2020.

Fund Information

Strategy Asset (\$ mm):	27608.00
Share Class Assets (\$ mm):	12327.00
Manager:	Andrew Dierdorf
Manager Tenure:	9 Years

Portfolio Statistics

Alpha*:	-	P/E:	18.03
Beta*:	-	P/B:	2.11
Std Dev:	6.41	SEC Yield (%):	-
R ² :	-	Turnover:	19.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index:
*3-year statistic:

Top 10 Holdings (%) as of 11/30/2019

Fidelity® Series Investment Grade Bond / FSIQX	24.79
Fidelity® Series Emerging Markets Opps / FEMSX	6.98
Fidelity® Series Infl-Prct Bd Idx / FSIPX	6.69
Fidelity® Series International Growth / FIGSX	6.00
Fidelity® Series International Value / FINVX	5.68
Fidelity® Series Intrinsic Opps / FDMIX	4.79
Fidelity® Series Large Cap Stock / FGLGX	4.23
Fidelity® Series Growth Company / FCGSX	4.10
Fidelity® Series Commodity Strategy / FCSSX	3.30
Fidelity® Series Stk Selec Lg Cp Val / FBLEX	3.26
% in Top 10 Holdings	69.82
# of Holdings	37

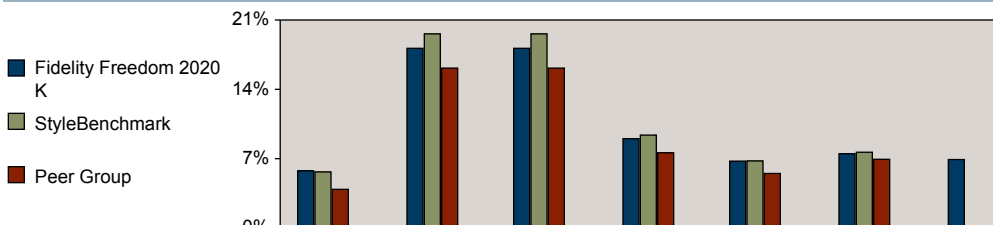
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Moderate											
Fidelity Freedom 2020 K	FSNOX	1	1	1	1	1	0	1	1	2	8
		6.97	62.16/ 37.84	97.91	6.97/ 6.75	96.31/ 93.59	-0.02	26.00	18.00		MOD

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Fidelity Freedom 2020 K	8	8	-	-	-	-	-	-
	MOD	MOD	MOD	MOD	MOD	MOD	MOD	MOD

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Freedom 2020 K	5.77%	18.14%	18.14%	9.04%	6.77%	7.49%	6.91%
StyleBenchmark*	5.66%	19.60%	19.60%	9.38%	6.77%	7.65%	-
Peer Group Performance**	3.90%	16.14%	16.14%	7.59%	5.51%	6.94%	-
Peer Group Rank**	1	16	16	8	4	38	-
Peer Group Size (funds)**	-	-	233	198	156	93	-

*8.14% Merrill Lynch 3-Month T-Bill, 30.39% BB Aggregate Bond, 37.48% Russell 3000, 23.99% MSCI ACWI Index ex USA ND USD
**Morningstar Peer Group: Target-Date 2020

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	6.97
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.53
Prospectus Gross Exp. Ratio:	0.53
Avg Exp Ratio Morningstar (%):	0.44
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	10/17/1996
Share Class Inception:	7/20/2017

Fidelity Freedom 2025 K

Category: Moderate

FSNPX
12/31/2019

Fund Strategy

The investment seeks high total return until its target retirement date. The fund invests in a combination of Fidelity® domestic equity funds, international equity funds, bond funds, and short-term funds. It allocates its assets according to a neutral asset allocation strategy shown in the glide path below that adjusts over time until it reaches an allocation similar to that of the Fidelity Freedom® Income Fund, approximately 10 to 19 years after the year 2025.

Fund Information

Strategy Asset (\$ mm):	29204.00
Share Class Assets (\$ mm):	13974.00
Manager:	Andrew Dierdorf
Manager Tenure:	9 Years

Portfolio Statistics

Alpha*:	-	P/E:	18.06
Beta*:	-	P/B:	2.11
Std Dev:	7.13	SEC Yield (%):	-
R2*:	-	Turnover:	19.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index:
*3-year statistic:

Top 10 Holdings (%) as of 11/30/2019

Fidelity® Series Investment Grade Bond / FSIQX	22.24
Fidelity® Series Emerging Markets Opps / FEMSX	7.53
Fidelity® Series International Growth / FIGSX	6.66
Fidelity® Series International Value / FINVX	6.33
Fidelity® Series Infl-Prtct Bd Idx / FSIPIX	5.95
Fidelity® Series Intrinsic Opps / FDMXLX	5.49
Fidelity® Series Large Cap Stock / FGLGX	4.85
Fidelity® Series Growth Company / FCGSX	4.70
Fidelity® Series Stk Selec Lg Cp Val / FBLEX	3.74
Fidelity® Series Commodity Strategy / FCSSX	3.29
% in Top 10 Holdings	70.77
# of Holdings	37

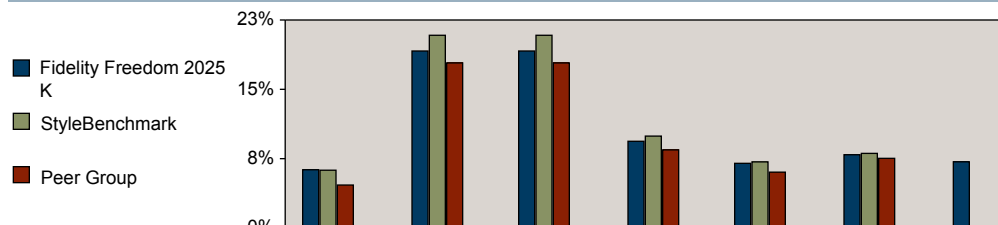
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Moderate											
Fidelity Freedom 2025 K	FSNPX	1	0	1	1	1	0	1	1	2	8
		7.75	70.36/29.64	97.90	7.75/7.15	94.02/91.54	-0.13	15.00	26.00		MOD

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Fidelity Freedom 2025 K	8	8	-	-	-	-	-	-
	MOD	MOD	MOD	MA	MA	MOD	MOD	MOD

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Freedom 2025 K	6.44%	19.57%	19.57%	9.59%	7.15%	8.10%	7.32%
StyleBenchmark*	6.39%	21.31%	21.31%	10.16%	7.31%	8.25%	-
Peer Group Performance**	4.75%	18.25%	18.25%	8.64%	6.17%	7.70%	-
Peer Group Rank**	1	23	23	13	3	33	-
Peer Group Size (funds)**	-	-	232	196	157	83	-

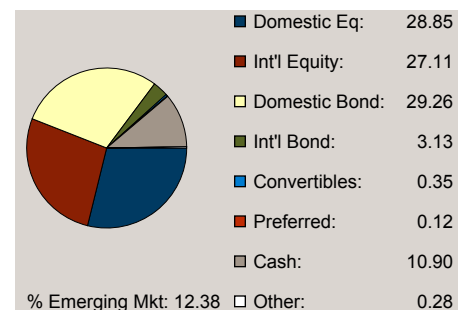
*6.38% Merrill Lynch 3-Month T-Bill, 24.20% BB Aggregate Bond, 42.40% Russell 3000, 27.02% MSCI ACWI Index ex USA ND USD
**Morningstar Peer Group: Target-Date 2025

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	7.75
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.56
Prospectus Gross Exp. Ratio:	0.56
Avg Exp Ratio Morningstar (%):	0.44
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	11/6/2003
Share Class Inception:	7/20/2017

Fidelity Freedom 2030 K

Category: Moderate Aggressive

FSNQX
12/31/2019

Fund Strategy

The investment seeks high total return until its target retirement date. The fund invests in a combination of Fidelity® domestic equity funds, international equity funds, bond funds, and short-term funds. It allocates its assets according to a neutral asset allocation strategy shown in the glide path below that adjusts over time until it reaches an allocation similar to that of the Fidelity Freedom® Income Fund, approximately 10 to 19 years after the year 2030.

Fund Information

Strategy Asset (\$ mm):	34812.00
Share Class Assets (\$ mm):	16826.00
Manager:	Andrew Dierdorf
Manager Tenure:	9 Years

Portfolio Statistics

Alpha*:	-	P/E:	18.09
Beta*:	-	P/B:	2.12
Std Dev:	8.46	SEC Yield (%):	-
R ² :	-	Turnover:	18.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index:
*3-year statistic:

Top 10 Holdings (%) as of 11/30/2019

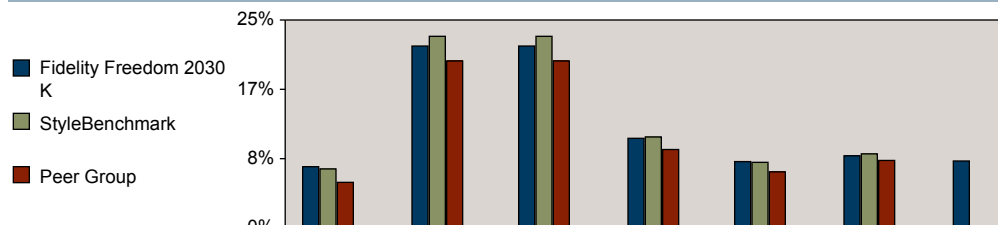
Fidelity® Series Investment Grade Bond / FFIGX	18.30
Fidelity® Series Emerging Markets Opps / FEMSX	8.36
Fidelity® Series International Growth / FIGSX	7.64
Fidelity® Series International Value / FINVX	7.30
Fidelity® Series Intrinsic Opps / FDMXLX	6.55
Fidelity® Series Large Cap Stock / FGLGX	5.78
Fidelity® Series Growth Company / FCGSX	5.60
Fidelity® Series Stk Selec Lg Cp Val / FBLEX	4.47
Fidelity® Series Infl-Prct Bd Idx / FSIPX	4.18
Fidelity® Series Commodity Strategy / FCSSX	3.27
% in Top 10 Holdings	71.44
# of Holdings	35

Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Moderate Aggressive											
Fidelity Freedom 2030 K	FSNQX	1	1	1	1	1	1	1	1	2	9
		9.18	78.29/ 21.71	97.98	9.18/ 7.98	100.06/ 99.17	0.07	20.00	18.00		MA
Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018			
Fidelity Freedom 2030 K	9	9	-	-	-	-	-	-			
	MA	MA	MA	MA	MA	MA	MA	MA			

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Freedom 2030 K	7.37%	21.87%	21.87%	10.78%	7.98%	8.67%	8.05%
StyleBenchmark*	7.10%	23.04%	23.04%	10.94%	7.89%	8.91%	-
Peer Group Performance**	5.49%	20.07%	20.07%	9.43%	6.75%	8.12%	-
Peer Group Rank**	2	19	19	8	2	31	-
Peer Group Size (funds)**	-	-	241	206	164	95	-

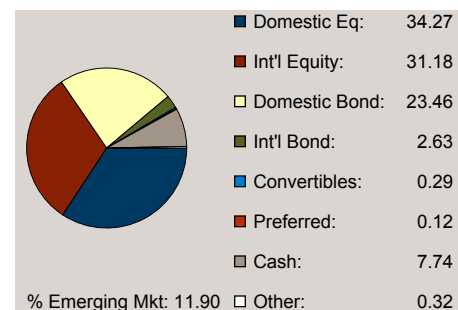
*5.27% Merrill Lynch 3-Month T-Bill, 17.29% BB Aggregate Bond, 49.17% Russell 3000, 28.27% MSCI ACWI Index ex USA ND USD
**Morningstar Peer Group: Target-Date 2030

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	9.18
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.60
Prospectus Gross Exp. Ratio:	0.60
Avg Exp Ratio Morningstar (%):	0.45
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	10/17/1996
Share Class Inception:	7/20/2017

Fidelity Freedom 2035 K

Category: Aggressive

FSNUX
12/31/2019

Fund Strategy

The investment seeks high total return until its target retirement date. The fund invests in a combination of Fidelity® domestic equity funds, international equity funds, bond funds, and short-term funds. It allocates its assets according to a neutral asset allocation strategy shown in the glide path below that adjusts over time until it reaches an allocation similar to that of the Fidelity Freedom® Income Fund, approximately 10 to 19 years after the year 2035.

Fund Information

Strategy Asset (\$ mm):	24601.00
Share Class Assets (\$ mm):	12177.00
Manager:	Andrew Dierdorf
Manager Tenure:	9 Years

Portfolio Statistics

Alpha*:	-	P/E:	18.13
Beta*:	-	P/B:	2.12
Std Dev:	10.03	SEC Yield (%):	-
R ² :	-	Turnover:	18.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index:
*3-year statistic:

Top 10 Holdings (%) as of 11/30/2019

Fidelity® Series Emerging Markets Opps / FEMSX	9.59
Fidelity® Series International Growth / FIGSX	9.00
Fidelity® Series International Value / FINVX	8.65
Fidelity® Series Intrinsic Opps / FDM LX	8.04
Fidelity® Series Large Cap Stock / FGLGX	7.10
Fidelity® Series Growth Company / FCGSX	6.86
Fidelity® Series Investment Grade Bond / FSI GX	6.51
Fidelity® Series Stk Selec Lg Cp Val / FBLEX	5.48
Fidelity® Series Value Discovery / FNK LX	3.91
Fidelity® Series Overseas / FSOSX	3.73
% in Top 10 Holdings	68.88
# of Holdings	35

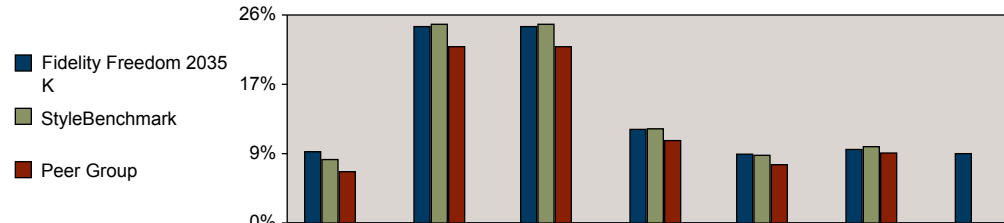
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Aggressive											
Fidelity Freedom 2035 K	FSNUX	1	0	1	1	1	1	1	1	2	8
		10.48	87.48/12.52	98.63	10.48/8.60	101.64/101.33	0.12	19.00	14.00		AGG

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Fidelity Freedom 2035 K	8	7	-	-	-	-	-	-
	AGG	AGG	AGG	AGG	AGG	AGG	AGG	AGG

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Freedom 2035 K	8.90%	24.55%	24.55%	11.70%	8.60%	9.19%	8.67%
StyleBenchmark*	7.93%	24.84%	24.84%	11.77%	8.46%	9.54%	-
Peer Group Performance**	6.41%	22.04%	22.04%	10.30%	7.28%	8.75%	-
Peer Group Rank**	1	9	9	8	5	33	-
Peer Group Size (funds)**	-	-	229	193	154	80	-

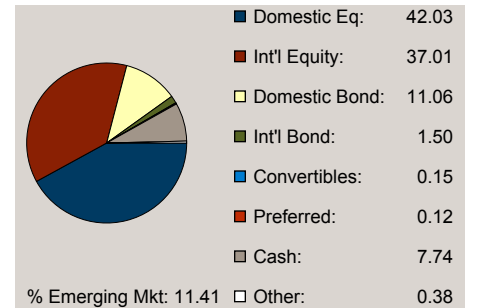
*4.90% Merrill Lynch 3-Month T-Bill, 7.69% BB Aggregate Bond, 56.67% Russell 3000, 30.75% MSCI ACWI Index ex USA ND USD
**Morningstar Peer Group: Target-Date 2035

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	10.48
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.63
Prospectus Gross Exp. Ratio:	0.63
Avg Exp Ratio Morningstar (%):	0.45
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	11/6/2003
Share Class Inception:	7/20/2017

Fidelity Freedom 2040 K

Category: Aggressive

FSNVX
12/31/2019

Fund Strategy

The investment seeks high total return until its target retirement date. The fund invests in a combination of Fidelity® domestic equity funds, international equity funds, bond funds, and short-term funds. It allocates its assets according to a neutral asset allocation strategy shown in the glide path below that adjusts over time until it reaches an allocation similar to that of the Fidelity Freedom® Income Fund, approximately 10 to 19 years after the year 2040.

Fund Information

Strategy Asset (\$ mm):	24704.00
Share Class Assets (\$ mm):	12368.00
Manager:	Andrew Dierdorf
Manager Tenure:	9 Years

Portfolio Statistics

Alpha*:	-	P/E:	18.14
Beta*:	-	P/B:	2.13
Std Dev:	10.63	SEC Yield (%):	-
R ² :	-	Turnover:	17.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index:
*3-year statistic:

Top 10 Holdings (%) as of 11/30/2019

Fidelity® Series Emerging Markets Opps / FEMSX	10.14
Fidelity® Series International Growth / FIGSX	9.67
Fidelity® Series International Value / FINVX	9.25
Fidelity® Series Intrinsic Opps / FDMXLX	8.76
Fidelity® Series Large Cap Stock / FGLGX	7.73
Fidelity® Series Growth Company / FCGSX	7.47
Fidelity® Series Stk Selec Lg Cp Val / FBLEX	5.97
Fidelity® Series Value Discovery / FNKLX	4.26
Fidelity® Series Overseas / FSOSX	4.07
Fidelity® Series Opportunistic Insights / FVWSX	4.04
% in Top 10 Holdings	71.37
# of Holdings	36

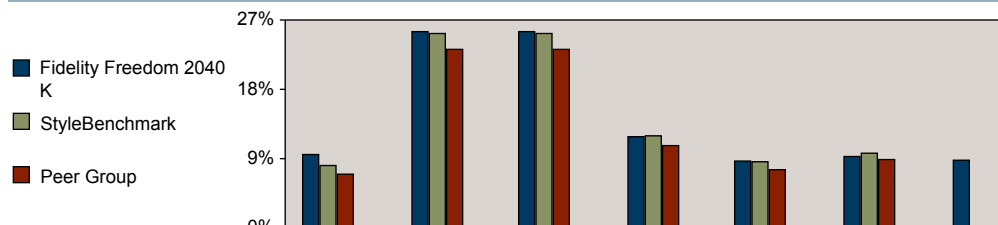
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Aggressive											
Fidelity Freedom 2040 K	FSNVX	1	0	1	1	0	1	1	1	2	8
		10.82	89.46/10.54	98.86	10.82/8.69	102.24/102.75	0.08	16.00	24.00		AGG

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Fidelity Freedom 2040 K	8	7	-	-	-	-	-	-
	AGG	AGG	AGG	AGG	AGG	AGG	AGG	AGG

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Freedom 2040 K	9.54%	25.49%	25.49%	11.85%	8.69%	9.28%	8.80%
StyleBenchmark*	8.11%	25.25%	25.25%	11.96%	8.60%	9.71%	-
Peer Group Performance**	6.99%	23.19%	23.19%	10.70%	7.57%	8.89%	-
Peer Group Rank**	2	10	10	14	8	35	-
Peer Group Size (funds)**	-	-	241	206	164	95	-

*4.33% Merrill Lynch 3-Month T-Bill, 5.52% BB Aggregate Bond, 59.24% Russell 3000, 30.91% MSCI ACWI Index ex USA ND USD

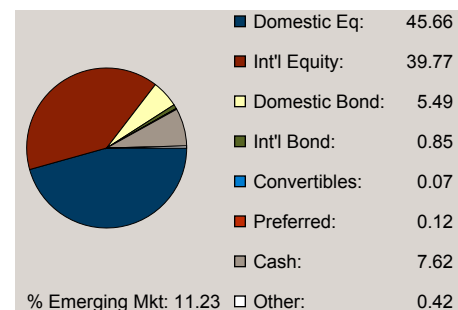
**Morningstar Peer Group: Target-Date 2040

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	10.82
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.65
Prospectus Gross Exp. Ratio:	0.65
Avg Exp Ratio Morningstar (%):	0.45
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	9/6/2000
Share Class Inception:	7/20/2017

Fidelity Freedom 2045 K

Category: Aggressive

FSNZX
12/31/2019

Fund Strategy

The investment seeks high total return until its target retirement date. The fund invests in a combination of Fidelity® domestic equity funds, international equity funds, bond funds, and short-term funds. It allocates its assets according to a neutral asset allocation strategy shown in the glide path below that adjusts over time until it reaches an allocation similar to that of the Fidelity Freedom® Income Fund, approximately 10 to 19 years after the year 2045.

Fund Information

Strategy Asset (\$ mm):	15624.00
Share Class Assets (\$ mm):	8465.00
Manager:	Andrew Dierdorf
Manager Tenure:	9 Years

Portfolio Statistics

Alpha*:	-	P/E:	18.14
Beta*:	-	P/B:	2.13
Std Dev:	10.63	SEC Yield (%):	-
R ² :	-	Turnover:	18.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index:
*3-year statistic:

Top 10 Holdings (%) as of 11/30/2019

Fidelity® Series Emerging Markets Opps / FEMSX	10.14
Fidelity® Series International Growth / FIGSX	9.66
Fidelity® Series International Value / FINVX	9.25
Fidelity® Series Intrinsic Opps / FDM LX	8.76
Fidelity® Series Large Cap Stock / FGLGX	7.73
Fidelity® Series Growth Company / FCGSX	7.47
Fidelity® Series Stk Selec Lg Cp Val / FBLEX	5.97
Fidelity® Series Value Discovery / FNK LX	4.26
Fidelity® Series Overseas / FSOSX	4.07
Fidelity® Series Opportunistic Insights / FVWSX	4.04
% in Top 10 Holdings	71.36
# of Holdings	36

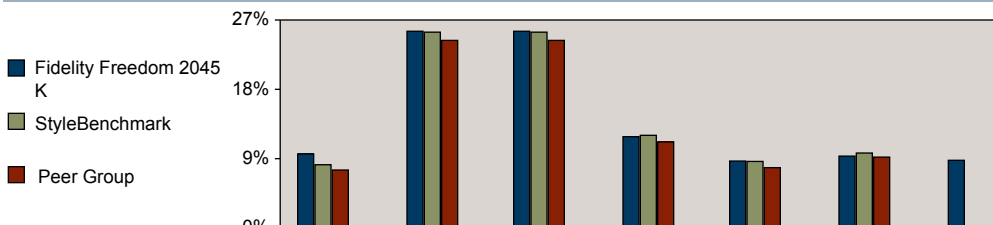
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Aggressive											
Fidelity Freedom 2045 K	FSNZX	1	0	1	1	0	1	1	1	2	8
		10.81	90.50/9.50	98.90	10.81/8.69	100.89/100.95	0.05	17.00	24.00		AGG

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Fidelity Freedom 2045 K	8	7	-	-	-	-	-	-
	AGG	AGG	AGG	AGG	AGG	AGG	AGG	AGG

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Freedom 2045 K	9.61%	25.54%	25.54%	11.85%	8.69%	9.33%	8.79%
StyleBenchmark*	8.21%	25.42%	25.42%	12.03%	8.64%	9.73%	-
Peer Group Performance**	7.53%	24.35%	24.35%	11.17%	7.83%	9.20%	-
Peer Group Rank**	2	21	21	24	12	39	-
Peer Group Size (funds)**	-	-	229	193	154	79	-

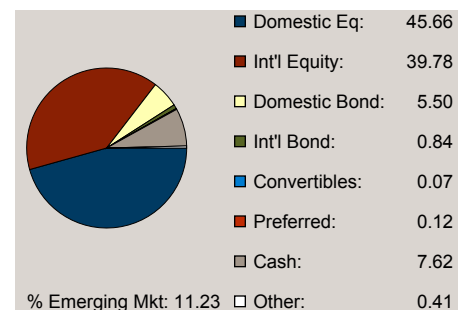
*4.45% Merrill Lynch 3-Month T-Bill, 4.57% BB Aggregate Bond, 59.26% Russell 3000, 31.72% MSCI ACWI Index ex USA ND USD
**Morningstar Peer Group: Target-Date 2045

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	10.81
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.65
Prospectus Gross Exp. Ratio:	0.65
Avg Exp Ratio Morningstar (%):	0.45
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	6/1/2006
Share Class Inception:	7/20/2017

Fidelity Freedom 2050 K

Category: Aggressive

FNSBX
12/31/2019

Fund Strategy

The investment seeks high total return until its target retirement date. The fund invests in a combination of Fidelity® domestic equity funds, international equity funds, bond funds, and short-term funds. It allocates its assets according to a neutral asset allocation strategy shown in the glide path below that adjusts over time until it reaches an allocation similar to that of the Fidelity Freedom® Income Fund, approximately 10 to 19 years after the year 2050.

Fund Information

Strategy Asset (\$ mm):	13543.00
Share Class Assets (\$ mm):	7538.00
Manager:	Andrew Dierdorf
Manager Tenure:	9 Years

Portfolio Statistics

Alpha*:	-	P/E:	18.14
Beta*:	-	P/B:	2.13
Std Dev:	10.62	SEC Yield (%):	-
R ² :	-	Turnover:	18.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index:
*3-year statistic:

Top 10 Holdings (%) as of 11/30/2019

Fidelity® Series Emerging Markets Opps / FEMSX	10.14
Fidelity® Series International Growth / FIGSX	9.66
Fidelity® Series International Value / FINVX	9.25
Fidelity® Series Intrinsic Opps / FDM LX	8.77
Fidelity® Series Large Cap Stock / FGLGX	7.73
Fidelity® Series Growth Company / FCGSX	7.47
Fidelity® Series Stk Selec Lg Cp Val / FBLEX	5.97
Fidelity® Series Value Discovery / FNK LX	4.26
Fidelity® Series Overseas / FSOSX	4.07
Fidelity® Series Opportunistic Insights / FVWSX	4.04
% in Top 10 Holdings	71.36
# of Holdings	36

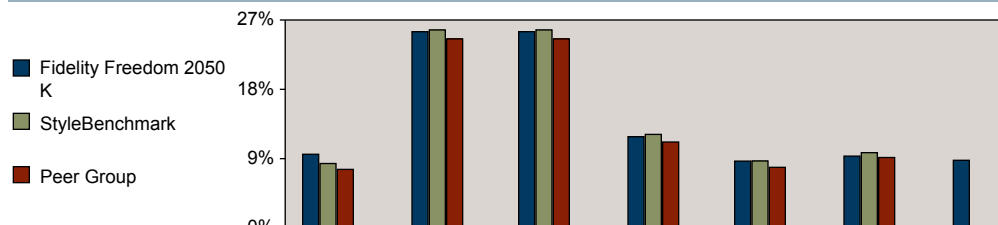
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Aggressive											
Fidelity Freedom 2050 K	FNSBX	1	0	1	1	1	0	1	1	2	8
		10.82	92.35/7.65	98.90	10.82/8.68	99.04/98.66	-0.02	17.00	24.00		AGG

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Fidelity Freedom 2050 K	8	7	-	-	-	-	-	-
	AGG	AGG	AGG	AGG	AGG	AGG	AGG	AGG

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Freedom 2050 K	9.57%	25.48%	25.48%	11.85%	8.68%	9.33%	8.79%
StyleBenchmark*	8.37%	25.71%	25.71%	12.15%	8.70%	9.78%	-
Peer Group Performance**	7.61%	24.54%	24.54%	11.16%	7.88%	9.15%	-
Peer Group Rank**	2	32	32	30	16	51	-
Peer Group Size (funds)**	-	-	241	206	164	77	-

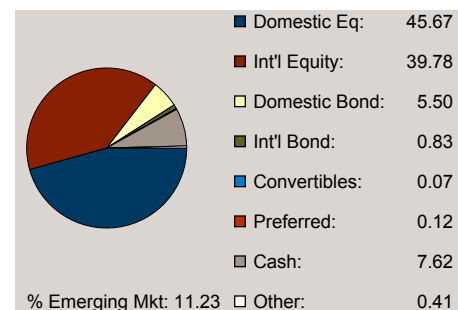
*4.62% Merrill Lynch 3-Month T-Bill, 2.91% BB Aggregate Bond, 59.31% Russell 3000, 33.15% MSCI ACWI Index ex USA ND USD
**Morningstar Peer Group: Target-Date 2050

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	10.82
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.65
Prospectus Gross Exp. Ratio:	0.65
Avg Exp Ratio Morningstar (%):	0.46
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	6/1/2006
Share Class Inception:	7/20/2017

Fidelity Freedom 2055 K

Category: Aggressive

FNSDX
12/31/2019

Fund Strategy

The investment seeks high total return until its target retirement date. The fund invests in a combination of Fidelity® domestic equity funds, international equity funds, bond funds, and short-term funds. It allocates its assets according to a neutral asset allocation strategy shown in the glide path below that adjusts over time until it reaches an allocation similar to that of the Fidelity Freedom® Income Fund, approximately 10 to 19 years after the year 2055.

Fund Information

Strategy Asset (\$ mm):	6356.00
Share Class Assets (\$ mm):	3667.00
Manager:	Andrew Dierdorf
Manager Tenure:	9 Years

Portfolio Statistics

Alpha*:	-	P/E:	18.14
Beta*:	-	P/B:	2.13
Std Dev:	10.64	SEC Yield (%):	-
R ² :	-	Turnover:	18.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index:
*3-year statistic:

Top 10 Holdings (%) as of 11/30/2019

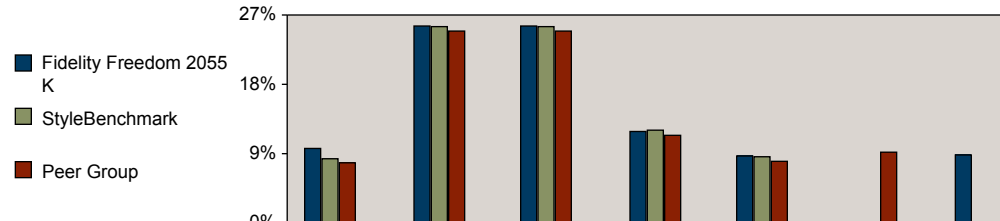
Fidelity® Series Emerging Markets Opps / FEMSX	10.13
Fidelity® Series International Growth / FIGSX	9.64
Fidelity® Series International Value / FINVX	9.26
Fidelity® Series Intrinsic Opps / FDM LX	8.77
Fidelity® Series Large Cap Stock / FGLGX	7.73
Fidelity® Series Growth Company / FCGSX	7.47
Fidelity® Series Stk Selec Lg Cp Val / FBLEX	5.97
Fidelity® Series Value Discovery / FNK LX	4.26
Fidelity® Series Overseas / FSOSX	4.06
Fidelity® Series Opportunistic Insights / FVWSX	4.04
% in Top 10 Holdings	71.34
# of Holdings	36

Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Aggressive											
Fidelity Freedom 2055 K	FNSDX	1	0	1	1	1	1	1	1	2	8
		10.80	91.99/8.01	98.88	10.80/8.70	99.66/98.70	0.08	16.00	24.00		AGG
Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018			
Fidelity Freedom 2055 K	8	7	-	-	-	-	-	-			
	AGG	AGG	AGG	AGG	AGG	AGG	AGG	AGG			

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Freedom 2055 K	9.68%	25.57%	25.57%	11.88%	8.70%	-	8.83%
StyleBenchmark*	8.34%	25.49%	25.49%	12.05%	8.60%	-	-
Peer Group Performance**	7.81%	24.91%	24.91%	11.38%	8.01%	9.19%	-
Peer Group Rank**	1	33	33	29	17	-	-
Peer Group Size (funds)**	-	-	229	191	149	15	-

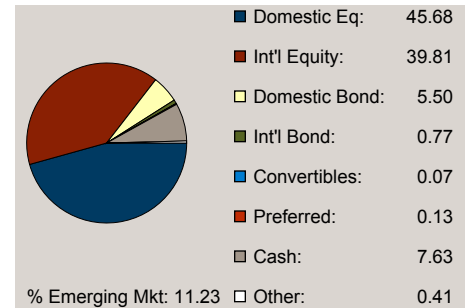
*5.04% Merrill Lynch 3-Month T-Bill, 2.75% BB Aggregate Bond, 58.06% Russell 3000, 34.16% MSCI ACWI Index ex USA ND USD
**Morningstar Peer Group: Target-Date 2055

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	10.80
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.65
Prospectus Gross Exp. Ratio:	0.65
Avg Exp Ratio Morningstar (%):	0.45
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	6/1/2011
Share Class Inception:	7/20/2017

Fidelity Freedom 2060 K

Category: Aggressive

FNSFX
12/31/2019

Fund Strategy

The investment seeks high total return until its target retirement date. The fund invests in a combination of Fidelity® domestic equity funds, international equity funds, bond funds, and short-term funds (underlying Fidelity® funds). It allocates its assets according to a neutral asset allocation strategy shown in the glide path below that adjusts over time until it reaches an allocation similar to that of the Fidelity Freedom® Income Fund, approximately 10 to 19 years after the year 2060.

Fund Information

Strategy Asset (\$ mm):	1849.00
Share Class Assets (\$ mm):	1080.00
Manager:	Andrew Dierdorf
Manager Tenure:	5 Years

Portfolio Statistics

Alpha*:	-	P/E:	18.13
Beta*:	-	P/B:	2.13
Std Dev:	10.60	SEC Yield (%):	-
R ² :	-	Turnover:	16.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index:
*3-year statistic:

Top 10 Holdings (%) as of 11/30/2019

Fidelity® Series Emerging Markets Opps / FEMSX	10.12
Fidelity® Series International Growth / FIGSX	9.61
Fidelity® Series International Value / FINVX	9.25
Fidelity® Series Intrinsic Opps / FDM LX	8.77
Fidelity® Series Large Cap Stock / FGLGX	7.73
Fidelity® Series Growth Company / FCGSX	7.47
Fidelity® Series Stk Selec Lg Cp Val / FBLEX	5.97
Fidelity® Series Value Discovery / FNK LX	4.26
Fidelity® Series Overseas / FSOSX	4.05
Fidelity® Series Opportunistic Insights / FVWSX	4.04
% in Top 10 Holdings	71.28
# of Holdings	36

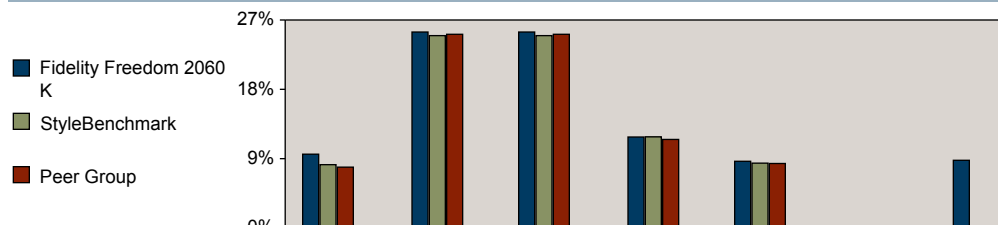
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Aggressive											
Fidelity Freedom 2060 K	FNSFX	1	0	1	1	1	1	1	1	2	8
		10.77	90.59/9.41	98.89	10.77/8.66	101.16/99.79	0.21	20.00	26.00		AGG

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Fidelity Freedom 2060 K	8	8	-	-	-	-	-	-
	AGG	AGG						

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fidelity Freedom 2060 K	9.58%	25.44%	25.44%	11.81%	8.66%	-	8.79%
StyleBenchmark*	8.22%	24.97%	24.97%	11.83%	8.42%	-	-
Peer Group Performance**	7.90%	25.15%	25.15%	11.50%	8.37%	-	-
Peer Group Rank**	3	44	44	43	35	-	-
Peer Group Size (funds)**	-	-	216	147	34	-	-

*5.41% Merrill Lynch 3-Month T-Bill, 3.06% BB Aggregate Bond, 56.29% Russell 3000, 35.25% MSCI ACWI Index ex USA ND USD

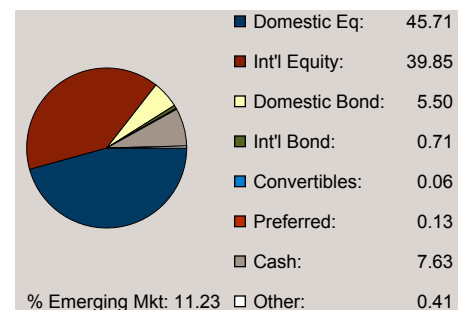
**Morningstar Peer Group: Target-Date 2060+

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	10.77
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Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%) as of 11/30/2019

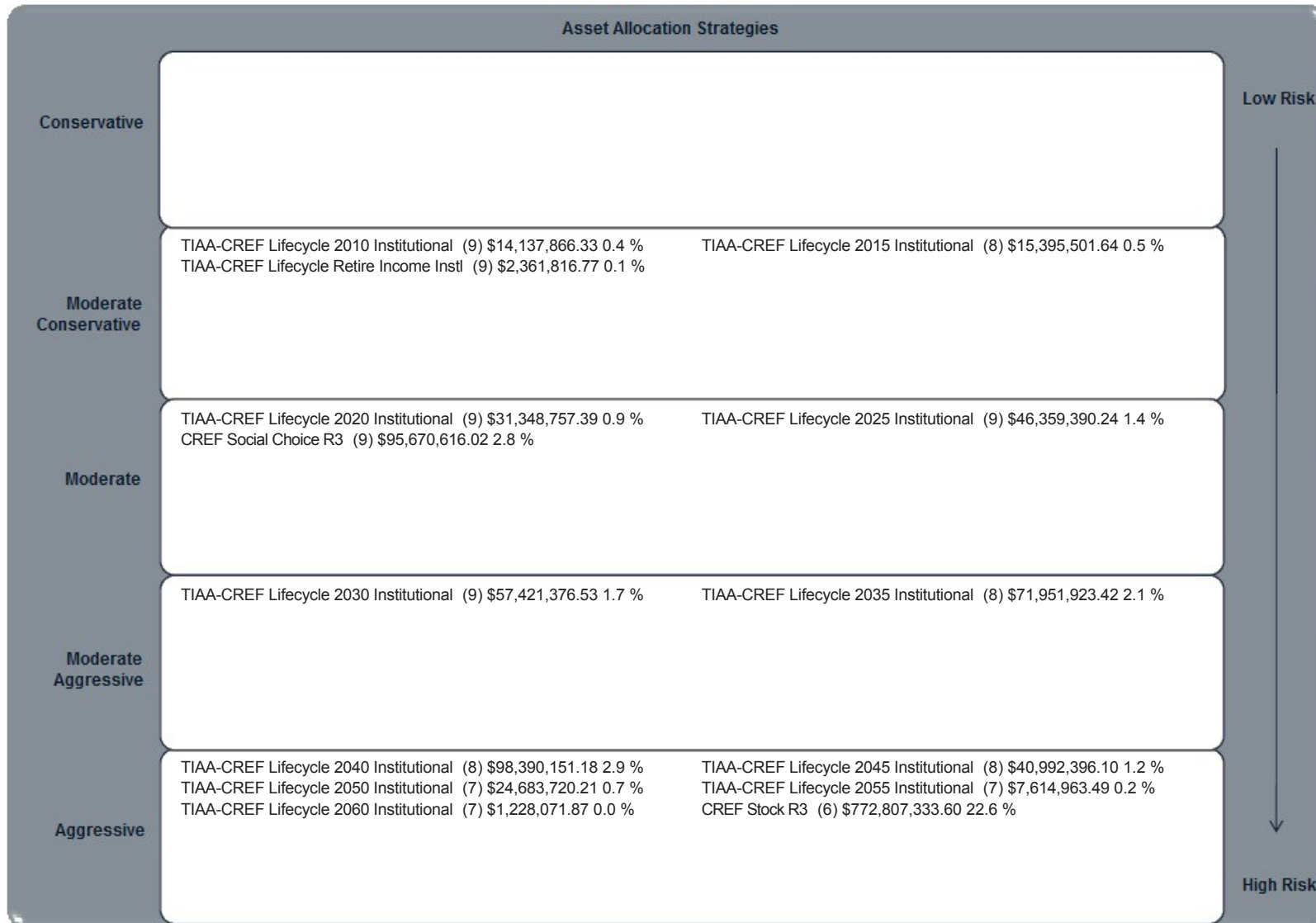


Additional Information

Prospectus Net Exp. Ratio:	0.65
Prospectus Gross Exp. Ratio:	0.65
Avg Exp Ratio Morningstar (%):	0.48
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	8/5/2014
Share Class Inception:	7/20/2017

TIAA Investment Lineup Analysis

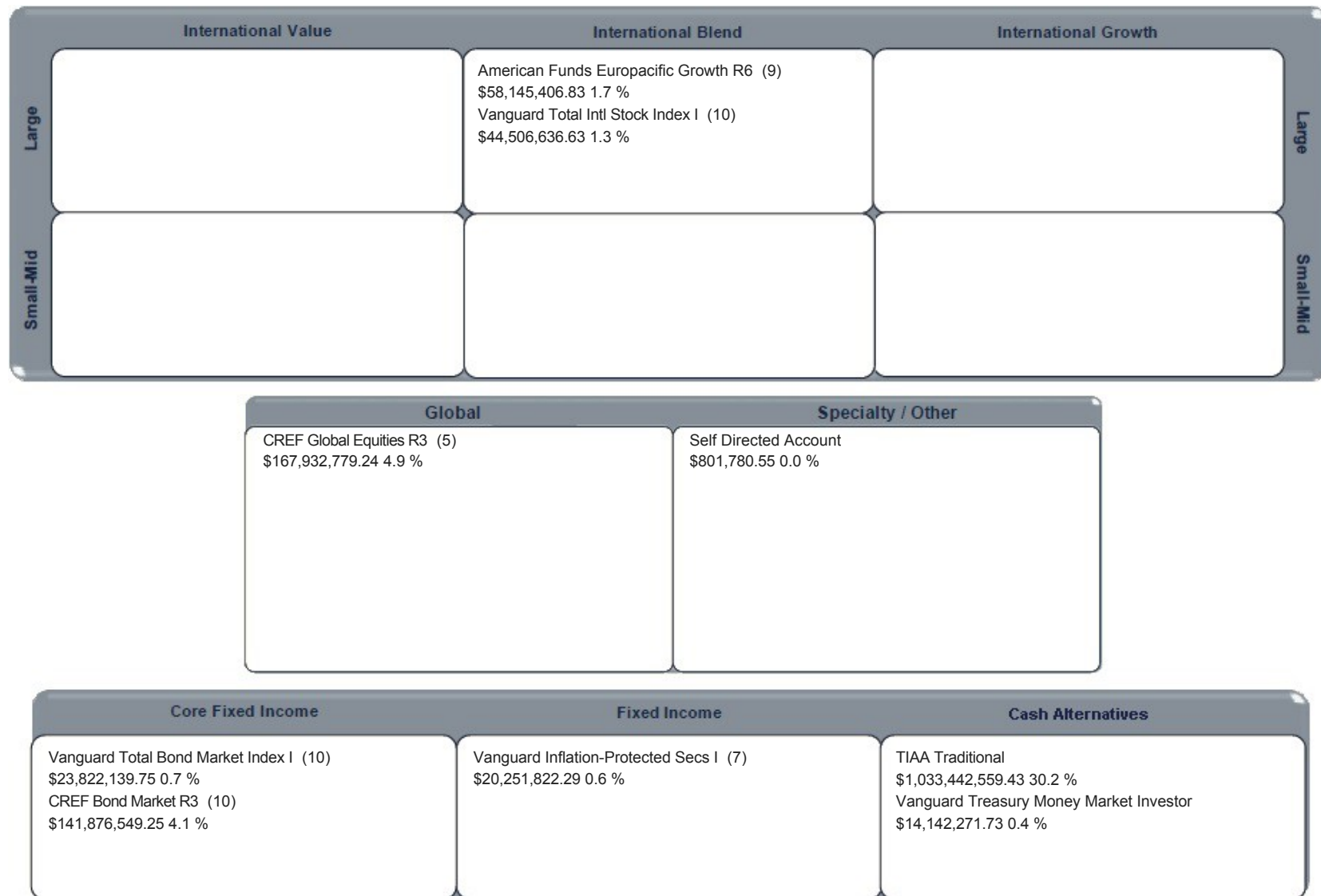
Style Box - TIAA



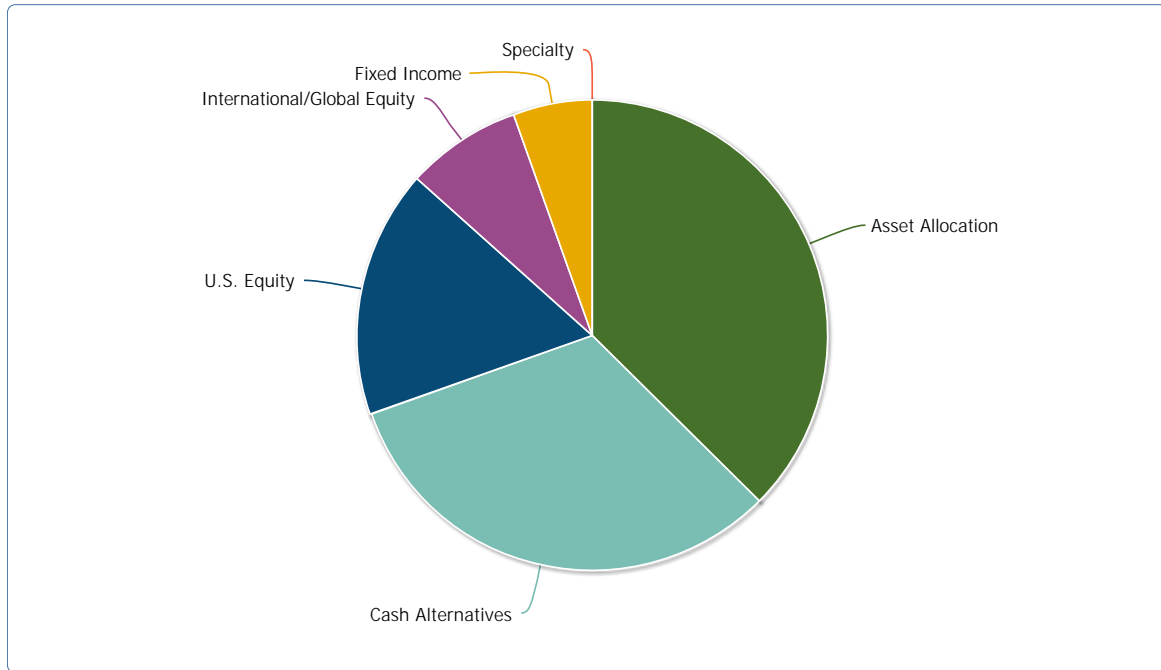
Style Box - TIAA

	Value	Blend	Growth
Large	American Funds Washington Mutual R6 (LCV:10/LCB:8) \$69,689,605.37 2.0%	Vanguard Institutional Index I (10) \$94,050,721.27 2.8 %	CREF Growth R3 (7) \$192,802,141.35 5.6 %
Mid		Vanguard Mid Cap Index InstitutionalPlus (10) \$71,274,395.14 2.1 %	
Small		TIAA-CREF Quant Small-Cap Equity Instl (10) \$22,180,017.69 0.6 % TIAA-CREF Small-Cap Blend Idx Inst (10) \$31,548,582.09 0.9 %	

Style Box - TIAA



Plan Allocation by Investment Type - TIAA



Investment Type	Assets	Percentage
Asset Allocation	\$1,280,363,884.79	37.5%
Money Market/SV	\$1,098,062,063.68	32.1%
U.S. Equity	\$582,961,123.83	17.1%
International/Global Equity	\$270,584,822.70	7.9%
Fixed Income	\$185,950,511.29	5.4%
Brokerage	\$801,780.55	0.0%
Total	\$3,418,724,186.84	100%

as of 12/31/2019

Plan Allocation by Investment Type - TIAA

Investment Name	Asset Class	Amount	Percentage	Score
Money Market/Stable Value		\$1,098,062,064		
Vanguard Treasury Money Market Investor	MM	\$14,142,272	0.40%	N/A*
TIAA Traditional	SV	\$1,033,442,559	30.20%	N/A*
CREF Money Market R3	MM	\$50,477,233	1.5 %	N/A*
Fixed Income		\$185,950,511		
Vanguard Total Bond Market Index I	CFI-P	\$23,822,140	0.7 %	10
CREF Bond Market R3	CFI	\$141,876,549	4.1 %	10
Vanguard Inflation-Protected Secs I	UGT	\$20,251,822	0.6 %	7
U.S. Equity		\$582,961,124		
American Funds Washington Mutual R6	LCV	\$69,689,605	2.0 %	9
Vanguard Institutional Index I	LCB-P	\$94,050,721	2.8 %	10
CREF Equity Index R3	LCB-P	\$101,415,661	3.0 %	10
CREF Stock R3	LCB	\$772,807,334	22.6 %	6
CREF Growth R3	LCG	\$192,802,141	5.60%	7
Vanguard Mid Cap Index InstitutionalPlus	MCB-P	\$71,274,395	2.1 %	10
TIAA-CREF Small-Cap Blend Idx Inst	SCB-P	\$31,548,582	0.9 %	10
TIAA-CREF Quant Small-Cap Equity Instl	SCB	\$22,180,018	0.60%	10
International/Global Equity		\$270,584,823		
Vanguard Total Intl Stock Index I	IE-P	\$44,506,637	1.3 %	10
American Funds Europacific Growth R6	IE	\$58,145,407	1.7 %	9
CREF Global Equities R3	GE	\$167,932,779	4.9 %	5

*Cash Equivalents (e.g., money market fund) and some specialty funds are not scored by the Scorecard System.

Plan Allocation by Investment Type - TIAA

Investment Name	Asset Class	Amount	Percentage	Score
Asset Allocation		\$1,280,363,885		
CREF Social Choice R3	MOD	\$95,670,616	2.8 %	9
TIAA-CREF Lifecycle Retire Income Instl	MC	\$2,361,817	0.1 %	9
TIAA-CREF Lifecycle 2010 Institutional	MC	\$14,137,866	0.4 %	9
TIAA-CREF Lifecycle 2015 Institutional	MC	\$15,395,502	0.5 %	8
TIAA-CREF Lifecycle 2020 Institutional	MOD	\$31,348,757	0.9 %	9
TIAA-CREF Lifecycle 2025 Institutional	MOD	\$46,359,390	1.4 %	9
TIAA-CREF Lifecycle 2030 Institutional	MA	\$57,421,377	1.7 %	9
TIAA-CREF Lifecycle 2035 Institutional	MA	\$71,951,923	2.1 %	8
TIAA-CREF Lifecycle 2040 Institutional	AGG	\$98,390,151	2.9 %	8
TIAA-CREF Lifecycle 2045 Institutional	AGG	\$40,992,396	1.2 %	8
TIAA-CREF Lifecycle 2050 Institutional	AGG	\$24,683,720	0.7 %	7
TIAA-CREF Lifecycle 2055 Institutional	AGG	\$7,614,963	0.2 %	7
TIAA-CREF Lifecycle 2060 Institutional	AGG	\$1,228,072	0.0 %	7
Brokerage		\$801,781		
Self Directed Account	SPC	\$801,781	0.0 %	N/A*
Total		\$3,418,724,187	100.0 %	

*Cash Equivalents (e.g., money market fund) and some specialty funds are not scored by the Scorecard System.

2018 Plan Activity - TIAA

Fund	Beginning Balance 1/1/2018	Contributions	Disbursements	Net Exchange	Other*	Market Action/Other Transactions**	Ending Balance 12/31/2018
American EuroPac Growth R6	\$ 67,229,445.34	\$ 2,139,129.00	\$ (2,967,583.69)	\$ (4,623,495.08)	\$ 41,273.55	\$ (9,545,732.82)	\$ 52,273,036.30
American Washington Mut Inv R6	\$ 55,919,647.65	\$ 1,792,135.91	\$ (3,196,013.87)	\$ 2,109,819.15	\$ 49,801.66	\$ (1,517,097.44)	\$ 55,158,293.06
CREF Bond Market R3	\$ 117,819,801.92	\$ 3,426,151.12	\$ (7,324,988.52)	\$ 10,847,174.23	\$ 89,948.74	\$ (130,938.97)	\$ 124,727,148.52
CREF Equity Index R3	\$ 100,837,623.32	\$ 1,253,625.23	\$ (3,976,953.89)	\$ (6,217,141.30)	\$ 18,874.15	\$ (4,572,629.08)	\$ 87,343,398.43
CREF Global Equities R3	\$ 127,223,603.31	\$ 2,917,766.74	\$ (5,126,802.12)	\$ 21,034,245.58	\$ 135,710.71	\$ (18,164,017.93)	\$ 128,020,506.29
CREF Growth R3	\$ 159,474,637.00	\$ 3,193,109.95	\$ (5,830,669.50)	\$ (296,527.08)	\$ 28,673.61	\$ (3,847,120.51)	\$ 152,722,103.47
CREF Money Market R3	\$ 42,388,621.23	\$ 659,318.39	\$ (6,394,573.03)	\$ 13,655,757.67	\$ 225,649.18	\$ 730,761.50	\$ 51,265,534.94
CREF Social Choice R3	\$ 86,588,082.98	\$ 1,947,079.27	\$ (3,380,456.77)	\$ (4,200,950.56)	\$ 62,617.85	\$ (3,421,929.35)	\$ 77,594,443.42
CREF Stock R3	\$ 778,916,368.38	\$ 9,463,162.40	\$ (41,135,703.32)	\$ (26,814,718.40)	\$ 305,797.24	\$ (69,093,128.81)	\$ 651,641,777.49
TIAA Traditional	\$ 1,000,327,465.50	\$ 10,270,959.79	\$ (55,980,429.88)	\$ 20,352,258.66	\$ 1,237,300.63	\$ 42,402,519.70	\$ 1,018,610,074.40
TIAA-CREF Lfycle Rtmt Inc-Inst	\$ 2,614,897.24	\$ 59,167.44	\$ (80,984.68)	\$ (213,896.26)	\$ (1,488.84)	\$ (94,099.79)	\$ 2,283,595.11
TIAA-CREF Lifecycle 2010-Inst	\$ 14,515,428.81	\$ 752,481.67	\$ (901,223.60)	\$ (1,108,913.82)	\$ 308,754.31	\$ (520,920.80)	\$ 13,045,606.57
TIAA-CREF Lifecycle 2015-Inst	\$ 16,679,754.64	\$ 1,227,574.21	\$ (1,131,566.48)	\$ (1,290,725.18)	\$ (13,362.86)	\$ (653,954.68)	\$ 14,817,719.65
TIAA-CREF Lifecycle 2020-Inst	\$ 29,096,375.92	\$ 2,609,521.42	\$ (1,220,608.38)	\$ (1,585,239.21)	\$ 228,649.84	\$ (1,481,132.84)	\$ 27,647,566.75
TIAA-CREF Lifecycle 2025-Inst	\$ 39,571,527.15	\$ 3,616,103.23	\$ (956,982.31)	\$ (1,045,594.53)	\$ (39,259.02)	\$ (2,506,636.62)	\$ 38,639,157.90
TIAA-CREF Lifecycle 2030-Inst	\$ 49,342,121.57	\$ 3,895,771.59	\$ (572,438.45)	\$ (3,000,434.62)	\$ 29,464.41	\$ (3,626,982.45)	\$ 46,067,502.05
TIAA-CREF Lifecycle 2035-Inst	\$ 58,996,485.92	\$ 5,093,321.01	\$ (1,562,266.77)	\$ (1,859,230.46)	\$ (53,265.93)	\$ (4,824,228.90)	\$ 55,790,814.87
TIAA-CREF Lifecycle 2040-Inst	\$ 80,461,405.95	\$ 6,454,565.55	\$ (2,063,582.17)	\$ (1,298,877.57)	\$ (56,019.32)	\$ (7,488,939.02)	\$ 76,008,553.42
TIAA-CREF Lifecycle 2045-Inst	\$ 30,361,913.76	\$ 4,748,105.41	\$ (978,456.49)	\$ (602,874.17)	\$ (70,985.24)	\$ (3,206,772.92)	\$ 30,250,930.35
TIAA-CREF Lifecycle 2050-Inst	\$ 16,286,717.56	\$ 3,392,016.95	\$ (816,054.71)	\$ (280,886.16)	\$ (64,077.36)	\$ (1,814,707.05)	\$ 16,703,009.23
TIAA-CREF Lifecycle 2055-Inst	\$ 4,149,779.77	\$ 1,422,340.19	\$ (261,525.13)	\$ 306,342.58	\$ (28,069.24)	\$ (546,900.11)	\$ 5,041,968.06
TIAA-CREF Lifecycle 2060-Inst	\$ 603,247.64	\$ 160,912.63	\$ (28,829.11)	\$ 55,784.30	\$ (2,936.82)	\$ (78,269.33)	\$ 709,909.31
TIAA-CREF Qt Sml Cap Eq Inst	\$ 28,003,112.44	\$ 736,570.15	\$ (1,110,644.94)	\$ (4,242,763.84)	\$ (14,671.43)	\$ (2,679,940.71)	\$ 20,691,661.67
TIAA-CREF Self Directed Acct	\$ -	\$ 9,814.03	\$ -	\$ 635,522.09	\$ -	\$ (43,896.63)	\$ 601,439.49
TIAA-CREF Sm-Cap Bl Idx-Inst	\$ 25,573,872.71	\$ 902,551.65	\$ (1,472,381.38)	\$ 1,141,873.82	\$ 31,586.72	\$ (2,840,887.45)	\$ 23,336,616.07
Vanguard Infl Protect Sec Adm	\$ 20,507,845.96	\$ 308,926.10	\$ (958,616.07)	\$ (19,731,761.23)	\$ 4,398.27	\$ (130,793.03)	\$ -
Vanguard Infl Protect Sec Inst	\$ -	\$ 212,876.61	\$ (157,707.36)	\$ 18,608,277.75	\$ 1,397.09	\$ (152,179.63)	\$ 18,512,664.46
Vanguard Inst Idx Inst	\$ 76,765,595.99	\$ 3,574,562.96	\$ (3,827,308.66)	\$ (6,319,360.91)	\$ (78,102.20)	\$ (2,891,322.82)	\$ 67,224,064.36
Vanguard MCap Idx Instit Plus	\$ 78,449,470.69	\$ 2,122,556.78	\$ (3,434,114.86)	\$ (11,579,244.92)	\$ (45,199.33)	\$ (5,752,607.84)	\$ 59,760,860.52
Vanguard Treasury MoneyMkt Inv	\$ 5,512,274.29	\$ 547,857.27	\$ (1,249,943.85)	\$ 8,270,034.26	\$ 45,100.57	\$ 151,909.26	\$ 13,277,231.80
Vanguard Ttl Bd Mkt Idx Inst	\$ 15,210,426.51	\$ 631,743.10	\$ (524,535.45)	\$ 1,329,900.48	\$ 25,954.59	\$ 30,738.10	\$ 16,704,227.33
Vanguard Ttl Intl Stk Idx Inst	\$ 38,122,508.67	\$ 1,231,412.55	\$ (1,934,562.25)	\$ (2,137,451.52)	\$ (13,339.27)	\$ (4,784,989.07)	\$ 30,483,579.11
Total	\$ 3,167,550,059.82	\$ 80,773,190.30	\$ (160,558,507.69)	\$ (103,096.25)	\$ 2,390,176.26	\$ (113,096,828.04)	\$ 2,976,954,994.40

*Includes Transfer Payout Annuity (TPA) Re-Investments, QDRO Splits, Minimum Distribution Transfers, GRA Withdrawal charges, Transfers from RA/GRA to TPA contracts.

** Includes dividends, investment gain/loss

2019 Plan Activity - TIAA

Fund	Beginning Balance 1/1/2019	Contributions	Disbursements	Net Exchange	Other*	Market Action/Other Transactions**	Ending Balance 12/31/2019
American EuroPac Growth R6	\$ 52,273,036.30	\$ 2,073,120.23	\$ (2,605,429.66)	\$ (6,912,624.94)	\$ (25,777.13)	\$ 13,343,082.03	\$ 58,145,406.83
American Washington Mut Inv R6	\$ 55,158,293.06	\$ 2,538,654.61	\$ (3,185,614.86)	\$ 766,050.01	\$ (36,729.13)	\$ 14,448,951.68	\$ 69,689,605.37
CREF Bond Market R3	\$ 124,727,148.52	\$ 3,472,107.44	\$ (7,669,349.32)	\$ 9,847,423.67	\$ 120,864.71	\$ 11,378,354.23	\$ 141,876,549.25
CREF Equity Index R3***	\$ 87,343,398.43	\$ -	\$ (3,877,027.32)	\$ (7,679,908.48)	\$ 78,228.10	\$ 25,550,970.19	\$ 101,415,660.92
CREF Global Equities R3	\$ 128,020,506.29	\$ 2,780,558.03	\$ (6,573,433.53)	\$ 7,044,399.32	\$ 117,740.64	\$ 36,543,008.49	\$ 167,932,779.24
CREF Growth R3	\$ 152,722,103.47	\$ 3,092,617.58	\$ (5,584,143.08)	\$ (5,169,469.65)	\$ (3,068.94)	\$ 47,744,101.97	\$ 192,802,141.35
CREF Money Market R3***	\$ 51,265,534.94	\$ -	\$ (5,938,311.20)	\$ 4,122,904.82	\$ 9,443.15	\$ 1,017,660.81	\$ 50,477,232.52
CREF Social Choice R3	\$ 77,594,443.42	\$ 1,959,677.34	\$ (3,394,881.20)	\$ 3,336,662.95	\$ 64,134.71	\$ 16,110,578.80	\$ 95,670,616.02
CREF Stock R3	\$ 651,641,777.49	\$ 9,007,053.87	\$ (42,559,752.82)	\$ (18,961,775.60)	\$ 35,561.24	\$ 173,644,469.42	\$ 772,807,333.60
TIAA Traditional	\$ 1,018,610,074.40	\$ 10,392,642.89	\$ (55,262,104.62)	\$ 17,160,299.54	\$ 1,177,051.60	\$ 41,364,595.62	\$ 1,033,442,559.43
TIAA-CREF Lfyle Rtmt Inc-Inst	\$ 2,283,595.11	\$ 54,124.72	\$ (342,160.89)	\$ 33,257.03	\$ (1,327.88)	\$ 334,328.68	\$ 2,361,816.77
TIAA-CREF Lifecycle 2010-Inst	\$ 13,045,606.57	\$ 651,312.33	\$ (649,914.53)	\$ (949,633.49)	\$ 81,509.38	\$ 1,958,986.07	\$ 14,137,866.33
TIAA-CREF Lifecycle 2015-Inst	\$ 14,817,719.65	\$ 1,788,820.43	\$ (2,104,726.96)	\$ (2,076,991.79)	\$ 612,223.80	\$ 2,358,456.51	\$ 15,395,501.64
TIAA-CREF Lifecycle 2020-Inst	\$ 27,647,566.75	\$ 2,162,227.84	\$ (1,195,606.08)	\$ (2,050,568.68)	\$ (24,057.12)	\$ 4,809,194.68	\$ 31,348,757.39
TIAA-CREF Lifecycle 2025-Inst	\$ 38,639,157.90	\$ 4,933,731.37	\$ (2,369,185.85)	\$ (2,320,706.74)	\$ (38,391.84)	\$ 7,514,785.40	\$ 46,359,390.24
TIAA-CREF Lifecycle 2030-Inst	\$ 46,067,502.05	\$ 4,168,424.40	\$ (1,702,335.97)	\$ (994,839.58)	\$ (23,309.87)	\$ 9,905,935.50	\$ 57,421,376.53
TIAA-CREF Lifecycle 2035-Inst	\$ 55,790,814.87	\$ 5,299,508.47	\$ (1,157,981.81)	\$ (1,009,480.24)	\$ (68,862.41)	\$ 13,097,924.54	\$ 71,951,923.42
TIAA-CREF Lifecycle 2040-Inst	\$ 76,008,553.42	\$ 6,654,327.53	\$ (1,522,980.70)	\$ (1,613,383.78)	\$ (121,127.22)	\$ 18,984,761.93	\$ 98,390,151.18
TIAA-CREF Lifecycle 2045-Inst	\$ 30,250,930.35	\$ 4,984,981.76	\$ (1,447,794.38)	\$ (635,187.24)	\$ (209,477.40)	\$ 8,048,943.01	\$ 40,992,396.10
TIAA-CREF Lifecycle 2050-Inst	\$ 16,703,009.23	\$ 4,182,992.94	\$ (688,233.62)	\$ (162,215.70)	\$ (51,379.27)	\$ 4,699,546.63	\$ 24,683,720.21
TIAA-CREF Lifecycle 2055-Inst	\$ 5,041,968.06	\$ 1,806,155.76	\$ (392,117.65)	\$ (239,188.73)	\$ (34,881.52)	\$ 1,433,027.57	\$ 7,614,963.49
TIAA-CREF Lifecycle 2060-Inst	\$ 709,909.31	\$ 321,708.00	\$ (76,179.07)	\$ 64,155.23	\$ (5,657.26)	\$ 214,135.66	\$ 1,228,071.87
TIAA-CREF Qt Sml Cap Eq Inst	\$ 20,691,661.67	\$ 648,246.39	\$ (1,026,860.16)	\$ (2,847,174.12)	\$ (3,506.74)	\$ 4,717,650.65	\$ 22,180,017.69
TIAA-CREF Self Directed Acct	\$ 601,439.49	\$ 9,744.13	\$ -	\$ 106,165.31	\$ -	\$ 84,431.62	\$ 801,780.55
TIAA-CREF Sm-Cap Bl Idx-Inst	\$ 23,336,616.07	\$ 1,371,449.76	\$ (1,087,019.38)	\$ 1,804,454.16	\$ (7,077.77)	\$ 6,130,159.25	\$ 31,548,582.09
Vanguard Infl Protect Sec Inst	\$ 18,512,664.46	\$ 705,370.88	\$ (1,402,584.19)	\$ 882,182.48	\$ 616.97	\$ 1,553,571.69	\$ 20,251,822.29
Vanguard Inst Idx Inst	\$ 67,224,064.36	\$ 5,147,491.36	\$ (3,013,859.62)	\$ 2,976,161.82	\$ (83,603.77)	\$ 21,800,467.12	\$ 94,050,721.27
Vanguard MCap Idx Instit Plus	\$ 59,760,860.52	\$ 2,219,793.84	\$ (2,980,245.83)	\$ (5,379,241.42)	\$ (259,028.09)	\$ 17,912,256.12	\$ 71,274,395.14
Vanguard Treasury MoneyMkt Inv	\$ 13,277,231.80	\$ 3,436,835.02	\$ (2,052,332.81)	\$ (1,369,777.92)	\$ 570,232.33	\$ 280,083.31	\$ 14,142,271.73
Vanguard Ttl Bd Mkt Idx Inst	\$ 16,704,227.33	\$ 888,835.64	\$ (1,299,195.78)	\$ 5,875,527.60	\$ (39,654.43)	\$ 1,692,399.39	\$ 23,822,139.75
Vanguard Ttl Intl Stk Idx Inst	\$ 30,483,579.11	\$ 2,067,900.00	\$ (1,564,796.87)	\$ 6,351,656.98	\$ (18,347.32)	\$ 7,186,644.73	\$ 44,506,636.63
Total	\$ 2,976,954,994.40	\$ 88,820,414.56	\$ (164,726,159.76)	\$ (867.18)	\$ 1,812,341.52	\$ 515,863,463.30	\$ 3,418,724,186.84

*Includes Transfer Payout Annuity (TPA) Re-Investments, QDRO Splits, Minimum Distribution Transfers, GRA Withdrawal charges, Transfers from RA/GRA to TPA contracts.

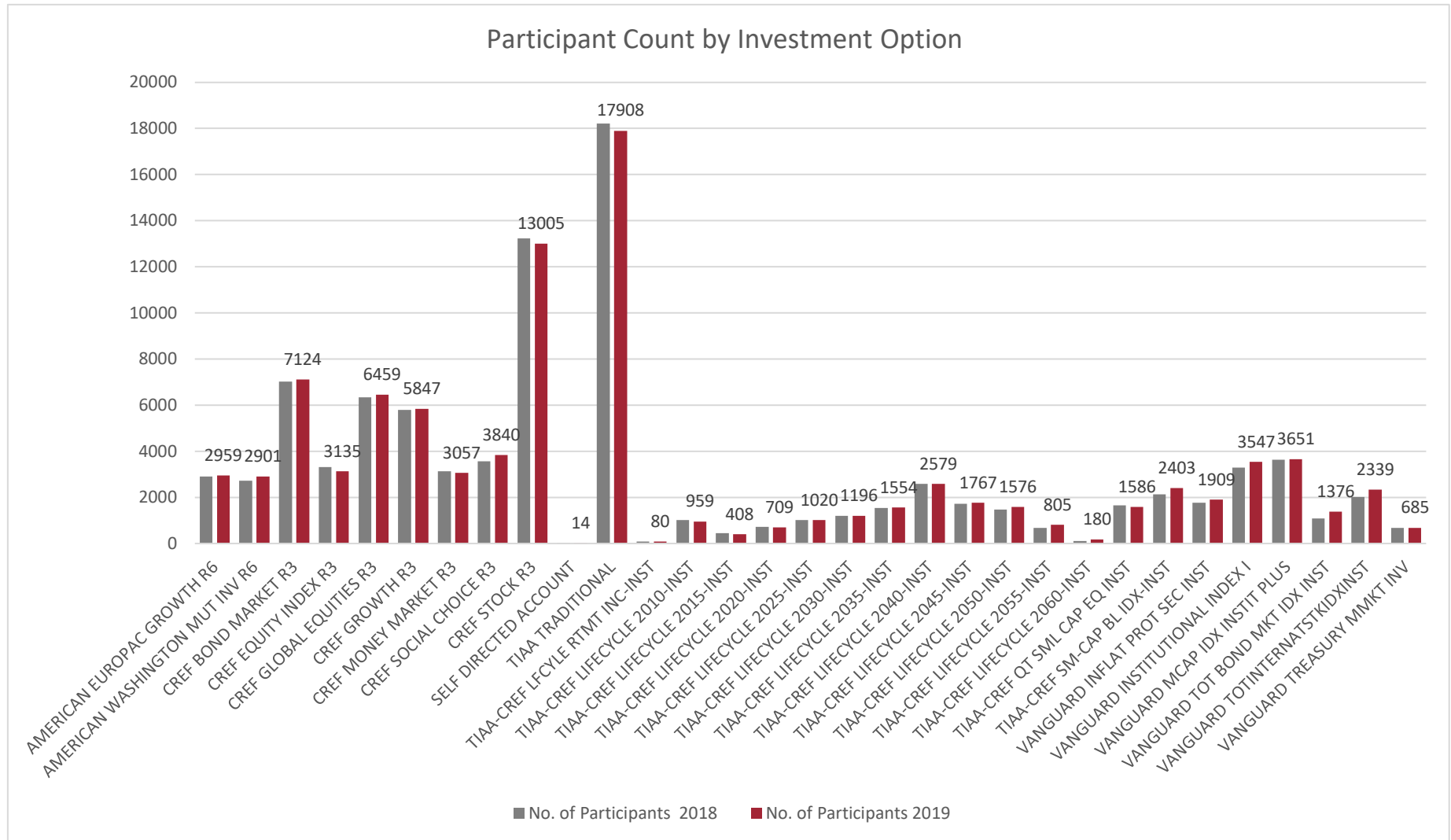
** Includes dividends, investment gain/loss

*** The Fund is restricted for future contributions in RC contract.

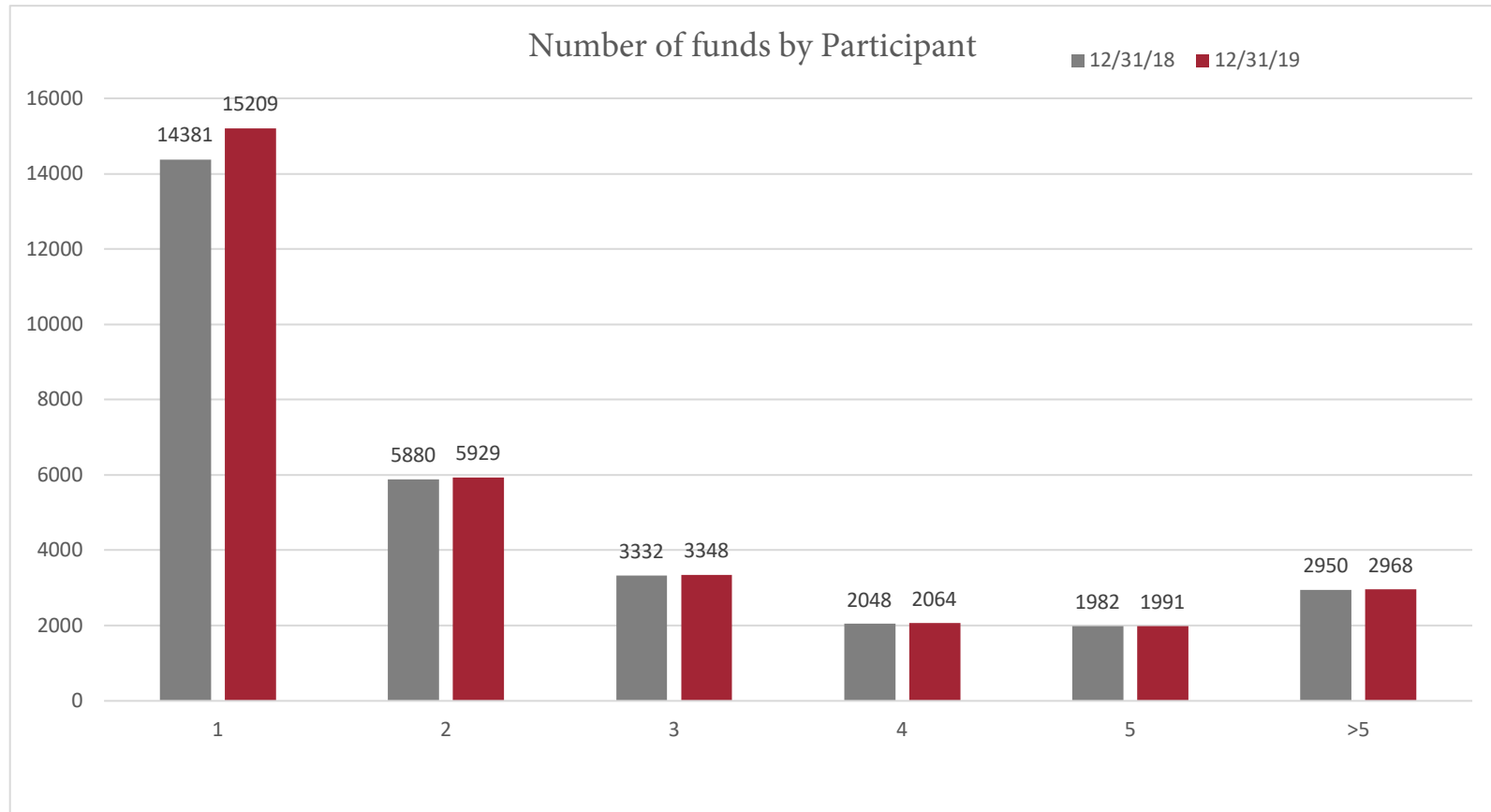
Participant Count by Investment Option - TIAA

Lineup	No. of Participants 2018	No. of One-Funders 2018	No. of Participants 2019	No. of One-Funders 2019
AMERICAN EUROPAC GROWTH R6	2917	79	2959	36
AMERICAN WASHINGTON MUT INV R6	2720	81	2901	47
CREF BOND MARKET R3	7015	139	7124	97
CREF EQUITY INDEX R3	3325	128	3135	98
CREF GLOBAL EQUITIES R3	6345	161	6459	108
CREF GROWTH R3	5791	254	5847	219
CREF MONEY MARKET R3	3145	300	3057	267
CREF SOCIAL CHOICE R3	3572	218	3840	197
CREF STOCK R3	13230	801	13005	664
SELF DIRECTED ACCOUNT	12	1	14	1
TIAA TRADITIONAL	18216	4603	17908	4608
TIAA-CREF LFCYLE RTMT INC-INST	76	6	80	5
TIAA-CREF LIFECYCLE 2010-INST	1023	234	959	213
TIAA-CREF LIFECYCLE 2015-INST	452	219	408	217
TIAA-CREF LIFECYCLE 2020-INST	734	377	709	391
TIAA-CREF LIFECYCLE 2025-INST	1028	614	1020	650
TIAA-CREF LIFECYCLE 2030-INST	1198	740	1196	786
TIAA-CREF LIFECYCLE 2035-INST	1540	1049	1554	1097
TIAA-CREF LIFECYCLE 2040-INST	2584	1842	2579	1919
TIAA-CREF LIFECYCLE 2045-INST	1731	1363	1767	1488
TIAA-CREF LIFECYCLE 2050-INST	1468	1214	1576	1393
TIAA-CREF LIFECYCLE 2055-INST	687	556	805	708
TIAA-CREF LIFECYCLE 2060-INST	116	80	180	144
TIAA-CREF QT SML CAP EQ INST	1655	39	1586	13
TIAA-CREF SM-CAP BL IDX-INST	2131	48	2403	23
VANGUARD INFLAT PROT SEC INST	1767	55	1909	29
VANGUARD INSTITUTIONAL INDEX I	3288	140	3547	124
VANGUARD MCAP IDX INSTIT PLUS	3627	113	3651	67
VANGUARD TOT BOND MKT IDX INST	1097	20	1376	16
VANGUARD TOTINTERNATSTKIDXINST	2016	46	2339	24
VANGUARD TREASURY MMKT INV	683	46	685	37

Participant Count by Investment Option - TIAA

























Participant Investment Behavior - TIAA







Average Participant Account Balance - TIAA

ORP - TIAA	as of 12/31/2018	as of 12/31/2019
Total Participants	33145	33039
Total Assets	\$ 2,976,954,994	\$ 3,418,724,187
Average Balance	\$ 89,816	\$ 103,475

Cost Analysis - TIAA

TIAA Lineup						
Fund Name	Net expense Ratio (%)	Expense Ratio Percentile Rank	No. of funds in peer group	Revenue Sharing (%)	Total Cost (Net exp-Rev share) (%)	Average expense ratio (%)
Vanguard Treasury Money Market Investor	0.09%	1 	1159	0.00%	0.09%	0.46%
TIAA Traditional		N/A	N/A	0.15%	N/A	N/A
Vanguard Total Bond Market Index I	0.04%	6 	404	0.00%	0.04%	0.67%
CREF Bond Market R3	0.27%	4 	244	0.10%	0.17%	0.62%
Vanguard Inflation-Protected Secs I	0.07%	11 	96	0.00%	0.07%	0.74%
CREF Social Choice R3	0.24%	3 	584	0.10%	0.14%	0.57%
American Funds Washington Mutual R6	0.27%	17 	1148	0.00%	0.27%	0.94%
Vanguard Institutional Index I	0.04%	3 	1157	0.00%	0.04%	0.94%
CREF Stock R3	0.30%	1 	68	0.10%	0.20%	0.44%
CREF Growth R3	0.24%	1 	617	0.10%	0.14%	0.81%
Vanguard Mid Cap Index InstitutionalPlus	0.03%	1 	313	0.00%	0.03%	1.07%
TIAA-CREF Small-Cap Blend Idx Inst	0.06%	3 	455	0.00%	0.06%	1.12%
TIAA-CREF Quant Small-Cap Equity Instl	0.41%	16 	455	0.00%	0.41%	1.12%
Vanguard Total Intl Stock Index I	0.08%	6 	486	0.00%	0.08%	0.99%
American Funds Europacific Growth R6	0.49%	8 	217	0.00%	0.49%	1.12%
CREF Global Equities R3	0.27%	1 	210	0.10%	0.17%	0.87%
TIAA-CREF Lifecycle Retire Income Instl	0.37%	4 	306	0.00%	0.37%	0.80%
TIAA-CREF Lifecycle 2010 Institutional	0.37%	19 	81	0.00%	0.37%	0.42%
TIAA-CREF Lifecycle 2015 Institutional	0.38%	19 	79	0.00%	0.38%	0.41%
TIAA-CREF Lifecycle 2020 Institutional	0.39%	21 	97	0.00%	0.39%	0.44%
TIAA-CREF Lifecycle 2025 Institutional	0.41%	27 	87	0.00%	0.41%	0.44%
TIAA-CREF Lifecycle 2030 Institutional	0.42%	27 	92	0.00%	0.42%	0.45%
TIAA-CREF Lifecycle 2035 Institutional	0.43%	30 	83	0.00%	0.43%	0.45%
TIAA-CREF Lifecycle 2040 Institutional	0.44%	27 	92	0.00%	0.44%	0.45%

Cost Analysis - TIAA

TIAA Lineup						
Fund Name	Net expense Ratio (%)	Expense Ratio Percentile Rank	No. of funds in peer group	Revenue Sharing (%)	Total Cost (Net exp-Rev share) (%)	Average expense ratio (%)
TIAA-CREF Lifecycle 2045 Institutional	0.45%	32 	78	0.00%	0.45%	0.45%
TIAA-CREF Lifecycle 2050 Institutional	0.45%	32 	80	0.00%	0.45%	0.46%
TIAA-CREF Lifecycle 2055 Institutional	0.45%	30 	76	0.00%	0.45%	0.45%
TIAA-CREF Lifecycle 2060 Institutional	0.45%	44 	75	0.00%	0.45%	0.48%

Information is for illustrative purposes only and cannot be guaranteed now or in the future



Data source for Number of funds in peer group is as per Morningstar Category

TIAA Investment Lineup - Scorecard™

Scorecard™ - TIAA

Total Plan Assets: \$3,418,724,186.84 as of 12/31/2019


Core Lineup

Active	Assets	Category	Ticker/ ID	Style			Risk/Return			Peer Group		Qual	Score			
				Style	Style Drift	R ²	Risk/Return	Up/ Down	Info Ratio	Return Rank	Info Ratio Rank	2pt Max	Q4 2019	Q3 2019	Q2 2019	Q1 2019
CREF Bond Market R3	\$141,876,549.25	CFI	F00000VAW1	1	1	1	1	1	1	1	1	2	10	10	10	10
				-13.7/ 46.9	5.9	98.3	2.9/ 3.3	100.1/ 89.2	0.69	29.0	7.0		CFI	CFI	CFI	CFI
Vanguard Inflation- Protected Secs I	\$20,251,822.29	UGT	VIPIX	1	1	1	0	0	0	1	1	2	7	7	7	7
				-95.4/ 95.7	3.5	98.3	3.5/ 2.5	100.0/ 103.9	-0.31	12.0	18.0		UGT	UGT	UGT	UGT
American Funds Washington Mutual R6	\$69,689,605.37	LCB*	RWMGX	0	1	1	1	1	0	1	1	2	8	8	8	8
				-38.4/ 87.2	6.6	95.5	10.7/ 11.0	89.9/ 86.8	-0.19	15.0	15.0		LCB	LCB	LCB	LCB
CREF Growth R3 	\$192,802,141.35	LCG	F00000VAVV	1	1	1	0	0	0	1	1	2	7	7	7	7
				100.0/ 96.6	2.6	98.6	13.4/ 13.2	98.8/ 108.6	-0.89	33.0	39.0		LCG	LCG	LCG	LCG
TIAA-CREF Quant Small- Cap Equity Instl	\$22,180,017.69	SCB	TISEX	1	1	1	1	1	1	1	1	2	10	6	7	8
				5.5/ -85.9	10.0	98.1	15.7/ 8.5	95.9/ 93.6	0.14	20.0	16.0		SCB	SCG	SCG	SCG
American Funds Europacific Growth R6	\$58,145,406.83	IE	REGX	0	1	1	1	1	1	1	1	2	9	9	9	9
				63.1/ 32.8	12.1	92.2	12.2/ 7.4	97.7/ 86.1	0.54	12.0	11.0		IE	IE	IE	IE
CREF Global Equities R3 	\$167,932,779.24	GE	F00000VAVS	1	1	1	0	0	0	0	0	2	5	6	5	5
				17.9/ 50.8	21.1	98.3	12.2/ 8.0	101.1/ 107.0	-0.44	51.0	62.0		GE	GE	GE	GE

 Removal candidates

*Report system default for factsheets use Morningstar categories, which may differ from category and benchmark identified in prospectus.

Scorecard™ - TIAA Continued...

Passive	Assets	Category	Ticker/ ID	Style				Peer Group				Qual	Score			
				Style	Style Drift	R ²	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Rank		2pt Max	Q4 2019	Q3 2019	Q2 2019
Vanguard Total Bond Market Index I	\$23,822,139.75	CFI-P	VBTIX	1	1	1	1	1	1	1	1	2	10	10	10	10
				5.4/64.6	3.1	99.2	0.3	67.0	9.0	12.0	11.0		CFI-P	CFI-P	CFI-P	CFI-P
Vanguard Institutional Index I	\$94,050,721.27	LCB-P	VINIX	1	1	1	1	1	1	1	1	2	10	10	10	10
				-2.3/99.0	1.4	99.8	0.5	36.0	8.0	10.0	10.0		LCB-P	LCB-P	LCB-P	LCB-P
Vanguard Mid Cap Index InstitutionalPlus	\$71,274,395.14	MCB-P	VMCPX	1	1	1	1	1	1	1	1	2	10	10	9	9
				-22.2/7.7	2.9	99.5	1.0	7.0	2.0	0.0	1.0		MCB-P	MCB-P	MCB-P	MCB-P
TIAA-CREF Small-Cap Blend Idx Inst	\$31,548,582.09	SCB-P	TISBX	1	1	1	1	1	1	1	1	2	10	10	10	10
				3.4/-99.6	0.2	100.0	0.1	16.0	19.0	16.0	17.0		SCB-P	SCB-P	SCB-P	SCB-P
Vanguard Total Intl Stock Index I	\$44,506,636.63	IE-P	VTSNX	1	1	1	1	1	1	1	1	2	10	10	10	10
				18.8/47.8	4.6	98.9	1.2	27.0	21.0	28.0	28.0		IE-P	IE-P	IE-P	IE-P
Asset Allocation	Assets	Category	Ticker/ ID	Style			Risk/Return			Peer Group		Qual	Score			
				Risk Level	Style Diversity	R ²	Risk/Return	Up/ Down	Info Ratio	Return Rank	SR Rank		2pt Max	Q4 2019	Q3 2019	Q2 2019
CREF Social Choice R3	\$95,670,616.02	MOD	F00000VAW7	1	1	1	1	1	0	1	1	2	9	8	8	8
				6.8	58.2/41.8	99.1	6.8/7.1	99.4/99.2	-0.03	25.0	13.0		MOD	MOD	MOD	MOD
CREF Stock R3 	\$772,807,333.60	AGG	F00000VAVP	1	0	1	0	0	0	1	1	2	6	6	6	5
				12.0	100.0/0.0	99.6	12.0/9.0	98.5/102.1	-0.81	4.0	37.0		AGG	AGG	AGG	AGG

 Removal candidates

Scorecard™ - TIAA Continued...

Target Date Series

Asset Allocation	Assets	Category	Risk Index	Allocation Score (Series Funds)		Selection Score (Underlying Funds)		Blended Score			
				# of Funds	Avg Score	# of Funds	Avg Score	Q4 2019	Q3 2019	Q2 2019	Q1 2019
TIAA-CREF Lifecycle Target Date Series Instl	\$411,885,935.17	AGG	77	12	7.9	20	8.0	8	8	8	8

Allocation (Series Funds)

Asset Allocation	Assets	Category	Ticker/ ID	Style			Risk/Return			Peer Group			Qual	Score Components		Score
				Risk Level	Style Diversity	R ²	Risk/Return	Up/Down	Info Ratio	Return Rank	SR Rank	2pt Max		Allocation	Selection	
TIAA-CREF Lifecycle 2010 Institutional	\$14,137,866.33	MC	TCTIX	1	1	1	1	1	0	1	1	2	9	8.0	9	
				5.4	49.9/50.1	98.1	5.4/5.9	92.4/87.7	-0.18	14.0	10.0	MC				
TIAA-CREF Lifecycle 2015 Institutional	\$15,395,501.64	MC	TCNIX	1	0	1	1	1	0	1	1	2	8	8.0	8	
				5.9	56.4/43.6	98.4	5.9/6.3	90.0/85.3	-0.28	5.0	13.5	MC				
TIAA-CREF Lifecycle Retire Income Instl	\$2,361,816.77	MC	TLRIX	1	1	1	1	1	1	1	1	2	10	8.0	9	
				5.1	43.3/56.7	98.3	5.1/5.7	98.4/96.2	0.02	22.0	12.0	MC				
TIAA-CREF Lifecycle 2020 Institutional	\$31,348,757.39	MOD	TCWIX	1	1	1	1	1	0	1	1	2	9	8.0	9	
				6.7	63.7/36.3	98.0	6.7/6.7	90.2/86.9	-0.29	30.0	14.0	MOD				
TIAA-CREF Lifecycle 2025 Institutional	\$46,359,390.24	MOD	TCYIX	1	1	1	1	1	0	1	1	2	9	8.0	9	
				7.7	72.4/27.7	98.4	7.7/7.2	90.3/88.5	-0.37	13.0	18.0	MOD				

Scorecard™ - TIAA Continued...

Allocation (Series Funds)

Asset Allocation	Assets	Category	Ticker/ ID	Style			Risk/Return			Peer Group		Qual	Score Components		Score
				Risk Level	Style Diversity	R ²	Risk/Return	Up/Down	Info Ratio	Return Rank	SR Rank	2pt Max	Allocation	Selection	Q4 2019
TIAA-CREF Lifecycle 2030 Institutional	\$57,421,376.53	MA	TCRIX	1	1	1	1	1	0	1	1	2	9	8.0	9
				8.8	80.7/ 19.3	98.5	8.8/ 7.7	90.8/ 90.2	-0.42	38.0	14.0	MA			
TIAA-CREF Lifecycle 2035 Institutional	\$71,951,923.42	MA	TCIIX	1	1	1	1	0	0	1	1	2	8	8.0	8
				9.7	88.9/ 11.2	98.6	9.7/ 8.1	91.8/ 92.7	-0.47	14.0	21.0	MA			
TIAA-CREF Lifecycle 2040 Institutional	\$98,390,151.18	AGG	TCOIX	1	1	1	1	0	0	1	1	2	8	8.0	8
				10.7	93.2/ 6.8	98.6	10.7/ 8.5	95.6/ 98.1	-0.46	17.0	20.0	AGG			
TIAA-CREF Lifecycle 2045 Institutional	\$40,992,396.10	AGG	TTFIX	1	1	1	0	0	0	1	1	2	7	8.0	8
				11.2	94.9/ 5.1	98.7	11.2/ 8.8	98.1/ 101.1	-0.4	9.0	28.0	AGG			
TIAA-CREF Lifecycle 2050 Institutional	\$24,683,720.21	AGG	TFTIX	1	0	1	0	0	0	1	1	2	6	8.0	7
				11.4	95.3/ 4.7	98.7	11.4/ 8.9	98.5/ 101.4	-0.36	7.0	30.0	AGG			
TIAA-CREF Lifecycle 2055 Institutional	\$7,614,963.49	AGG	TTRIX	1	0	1	0	0	0	1	1	2	6	8.0	7
				11.4	96.4/ 3.6	98.6	11.4/ 8.9	98.4/ 100.8	-0.31	6.0	30.0	AGG			
TIAA-CREF Lifecycle 2060 Institutional	\$1,228,071.87	AGG	TLXNX	1	0	1	0	0	0	1	1	2	6	8.0	7
				11.6	96.9/ 3.1	98.6	11.6/ 9.0	98.8/ 100.7	-0.23	5.0	32.0	AGG			

Scorecard™ - TIAA Continued...

Selection (Underlying Funds)

Active	Category	Ticker/ ID	Style			Risk/Return			Peer Group		Qual	Score			
			Style	Style Drift	R ²	Risk/ Return	Up/ Down	Info Ratio	Return Rank	Info Ratio Rank	2pt Max	Q4 2019	Q3 2019	Q2 2019	Q1 2019
Nuveen Dividend Value R6	LCV	FFEFX	1	1	1	1	1	1	1	1	2	10	10	7	6
			-70.0/ 87.1	10.1	96.2	12.6/ 8.9	102.9/ 100.0	0.23	17.0	9.0		LCV	LCV	LCV	LCV
TIAA-CREF Large-Cap Value W	LCV	TRLWX	1	1	1	0	0	0	0	0	2	5	5	5	5
			-65.7/ 68.1	14.3	96.6	13.3/ 7.0	102.9/ 113.5	-0.49	81.0	83.0		LCV	LCV	LCV	LCV
TIAA-CREF Quant Large-Cap Value W	LCV	TELWX	1	1	1	0	0	0	0	0	2	5	5	4	4
			-94.4/ 90.8	2.6	99.2	12.2/ 7.2	97.7/ 104.4	-0.97	70.0	97.0		LCV	LCV	LCV	LCV
TIAA-CREF Growth & Income W	LCG	TGIWX	1	1	1	1	0	0	0	0	2	6	6	6	6
			50.2/ 85.9	3.4	96.3	12.8/ 11.1	89.7/ 107.0	-1.41	77.0	89.0		LCG	LCG	LCG	LCG
TIAA-CREF Large-Cap Growth W	LCG	TILWX	1	1	1	0	0	0	1	1	2	7	7	9	9
			99.9/ 98.0	2.2	94.8	13.7/ 13.9	102.5/ 110.1	-0.24	18.0	18.0		LCG	LCG	LCG	LCG
TIAA-CREF Quant Large-Cap Growth W	LCG	TECWX	1	1	1	0	0	0	1	1	2	7	7	7	8
			89.6/ 90.5	1.4	99.3	13.0/ 14.0	97.4/ 99.8	-0.6	17.0	41.0		LCG	LCG	LCG	LCG
TIAA-CREF Quant Small-Cap Equity W	SCB	TSCWX	1	1	1	1	1	1	1	1	2	10	6	7	8
			5.4/ -85.8	10.0	98.1	15.7/ 8.7	96.2/ 93.4	0.19	18.0	13.0		SCB	SCG	SCG	SCG
TIAA-CREF International Opps W	IE	TIOVX	0	1	1	1	1	1	1	1	2	9	9	9	9
			82.0/ 61.4	18.7	82.1	13.3/ 8.1	99.3/ 83.9	0.46	6.0	8.0		IE	IE	IE	IE

Scorecard™ - TIAA Continued...

Active	Category	Ticker/ ID	Style			Risk/Return			Peer Group		Qual	Score			
			Style	Style Drift	R ²	Risk/ Return	Up/ Down	Info Ratio	Return Rank	Info Ratio Rank	2pt Max	Q4 2019	Q3 2019	Q2 2019	Q1 2019
TIAA-CREF International Eq W	ILCB	TIEWX	0	1	1	0	0	0	0	1	2	5	6	6	6
			8.6/ -19.5	16.5	90.5	14.3/ 4.6	109.8/ 117.5	-0.23	60.0	45.0		ILCB	ILCB	ILCB	ILCB
TIAA-CREF Quant Intl Eq W	ILCB	TEIWX	1	1	1	1	0	0	1	1	2	8	8	8	8
			3.1/ 40.4	19.9	95.8	12.0/ 5.2	96.0/ 98.4	-0.2	35.0	41.0		ILCB	ILCB	ILCB	ILCB
TIAA-CREF Emerging Markets Eq W	EME	TEMVX	1	1	1	1	1	1	1	1	2	10	10	7	7
			70.1/ -98.1	7.7	91.4	16.2/ 7.4	102.4/ 94.1	0.38	20.0	21.0		EME	EME	EME	EME
TIAA-CREF Bond Plus W	CFI	TCBWX	1	1	1	1	1	1	1	1	2	10	10	10	10
			-25.1/ 20.2	6.8	89.7	2.8/ 3.9	102.4/ 73.3	0.85	14.0	5.0		CFI	CFI	CFI	CFI
TIAA-CREF Bond W	CFI	TBBWX	1	1	1	1	1	1	1	1	2	10	10	10	10
			1.4/ 53.3	6.4	96.2	3.0/ 3.7	104.8/ 85.4	1.08	18.0	3.0		CFI	CFI	CFI	CFI
TIAA-CREF Inflation Link Bd W	UGT	TIIWX	1	1	1	1	0	0	1	1	2	8	8	8	8
			-67.0/ 66.8	7.6	92.6	2.9/ 2.0	78.7/ 81.5	-0.61	37.0	29.0		UGT	UGT	UGT	UGT
TIAA-CREF Short-Term Bond W	STB	TCTWX	1	1	1	1	1	1	1	1	2	10	10	10	10
			-29.8/ 15.8	10.3	84.4	0.8/ 2.2	111.7/ 40.5	1.45	29.0	3.0		STB	STB	STB	STB
TIAA-CREF High Yield W	HY	TIHWX	1	1	1	0	1	0	1	1	2	8	7	7	7
			98.6/ -98.6	2.8	97.6	5.6/ 6.1	99.5/ 99.3	-0.01	14.0	28.0		HY	HY	HY	HY

TIAA Investment Lineup - Fund Fact Sheet

Vanguard Treasury Money Market Investor

Category: Money Market

VUSXX
12/31/2019

Fund Strategy

The investment seeks to provide current income while maintaining liquidity and a stable share price of \$1. The fund invests solely in high-quality, short-term money market securities whose interest and principal payments are backed by the full faith and credit of the U.S. government. At least 80% of the fund's assets will be invested in U.S. Treasury securities; the remainder of the assets may be invested in securities issued by U.S. governmental agencies. The fund maintains a dollar-weighted average maturity of 60 days or less and a dollar-weighted average life of 120 days or less.

Fund Information

Strategy Asset (\$ mm):	30800.00
Share Class Assets (\$ mm):	30800.00
Manager:	-
Manager Tenure:	-

Portfolio Statistics

Alpha*:	-0.12	P/E:	-
Beta*:	0.41	P/B:	-
Std Dev:	0.18	SEC Yield (%):	-
R2*:	59.36	Turnover:	-
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: ICE BofAML US 3M Trsy Bill TR USD
*3-year statistic: ICE BofAML US 3M Trsy Bill TR USD

Top 10 Holdings (%)

as of 11/30/2019

United States Treasury Bills 2.16%	6.49
United States Treasury Bills 1.86%	6.43
United States Treasury Bills 1.56%	6.25
United States Treasury Bills 1.89%	6.13
United States Treasury Bills 2.03%	5.57
United States Treasury Bills 2.28%	5.06
United States Treasury Bills 1.96%	4.96
United States Treasury Bills 1.57%	4.48
United States Treasury Bills 2.1%	4.23
United States Treasury Notes 1.79%	4.09
% in Top 10 Holdings	53.70
# of Holdings	39

Scorecard System

Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Money Market											
Vanguard Treasury Money Market Investor	VUSXX	-	-	-	-	-	-	-	-	-	-

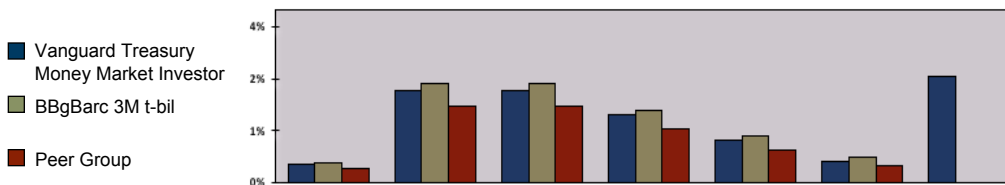
Active Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Vanguard Treasury Money Market Investor	-	-	-	-	-	-	-	-

Cash Equivalents (e.g., money market fund) and some specialty funds are not scored by the Scorecard System.

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Vanguard Treasury Money Market Investor	0.43%	2.14%	2.14%	1.57%	1.00%	0.50%	2.46%
BBgBarc 3M t-bill	0.47%	2.30%	1.68%	1.09%	0.60%	-	-
Peer Group Performance*	0.34%	1.78%	1.78%	1.23%	0.75%	0.38%	-
Peer Group Rank*	-	-	-	-	-	-	-
Peer Group Size (funds)*	-	-	550	512	438	395	-

*Morningstar Peer Group: Money Market-Taxable

The performance analysis displayed is reflective of past performance. Past performance does not guarantee future results. The investment return and principal value of an investment will fluctuate over time. Current performance may differ from the performance displayed. Investing includes risk, including potential loss of principal. Carefully consider any and all investment objectives, risk factors and charges and expenses before investing. Contact your financial advisor or consultant for fund's current performance and a copy of the most recent prospectus. Contact (800) 959-0071 for most recent month end performance.

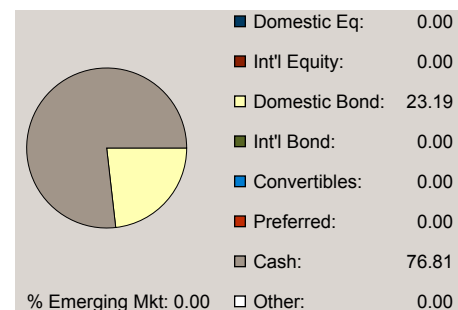
Fixed Income Detail

as of 11/30/2019

Average Effective Duration*:	-
Effective Maturity:	-

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.09
Prospectus Gross Exp. Ratio:	0.09
Avg Exp Ratio Morningstar (%):	0.46
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$50000
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	12/14/1992
Share Class Inception:	12/14/1992

TIAA Traditional

Group Retirement Annuity (GRA)

Guaranteed

As of 12/31/2019

Account Description

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

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

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

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

AAA
Fitch Ratings
(as of 5/19)

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

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

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

Learn More

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

Performance

	Total Return		Average Annual Total Return				Since Inception
	3 Months	YTD	1 Year	3 Years	5 Years	10 Years	
Group Retirement Annuity (GRA)	0.92%	3.75%	3.75%	3.80%	3.89%	3.99%	-

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

Group Retirement Annuity contract form Series G1000.4, G1000.5, G1000.6, G1000.7

Account Overview

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

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

For Group Retirement Annuity (GRA) contracts, TIAA Traditional guarantees your principal and a 3% minimum annual interest rate for all premiums. The account also offers the opportunity for additional amounts in excess of the guaranteed rate. When declared, additional amounts remain in effect for the twelve-month period that begins each March 1.

Participant Transfers, Withdrawals and Income Options

TIAA Traditional is designed primarily to help meet your long-term retirement income needs; it is not a short-term savings vehicle. Therefore, some contracts require that benefits are paid in installments over time and/or may impose surrender charges on certain withdrawals. TIAA has rewarded participants who save in contracts where benefits are paid in installments over time instead of in an immediate lump-sum by crediting higher interest rates, typically 0.50% to 0.75% higher. Higher rates will lead to higher account balances and more retirement income for you.

For Group Retirement Annuity (GRA) contracts, and subject to the terms of your employer's plan, lump-sum withdrawals are available from the TIAA Traditional account only within 120 days after termination of employment and are subject to a 2.5% surrender charge. All other withdrawals and transfers from the account must be paid in ten annual installments.

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



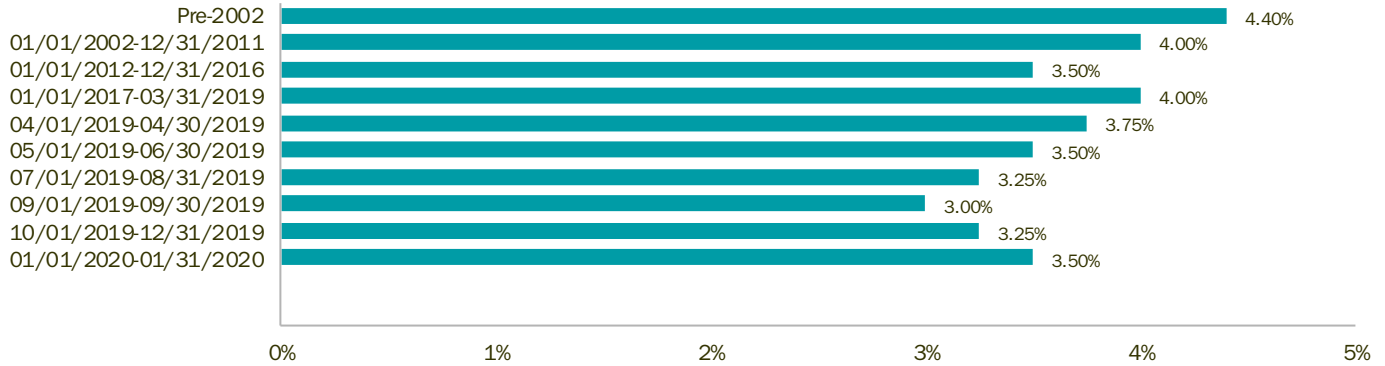
TIAA Retirement Annuity Accounts TIAA Traditional

Guaranteed

As of 12/31/2019

Group Retirement Annuity (GRA)

Accumulating Stage Total Rate (Guaranteed Plus Additional Amounts)



Rates for premiums applied during the dates above.²

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

Important Information

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

² Interest on accumulations credited to TIAA Traditional in the accumulating stage includes a guaranteed amount (3% for current premiums in GRA contracts), plus additional amounts that may be declared on a year-by-year basis and are not guaranteed for future years. For information about current rates on additional amounts, visit our website at TIAA.org. Guarantees under TIAA Traditional are backed by TIAA’s claims-paying ability.

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

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

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

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

TIAA Traditional Retirement Annuity (RA)

Guaranteed

As of 12/31/2019

Account Description

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

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

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

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

AAA
Fitch Ratings
(as of 5/19)

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

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

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

Learn More

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

Performance

	Total Return		Average Annual Total Return				Since Inception
	3 Months	YTD	1 Year	3 Years	5 Years	10 Years	
Retirement Annuity (RA)	0.92%	3.75%	3.75%	3.80%	3.89%	3.99%	-

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

Retirement Annuity contract form Series 1000.24

Account Overview

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

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

For Retirement Annuity (RA) contracts, TIAA Traditional guarantees your principal and a 3% minimum annual interest rate for all premiums remitted since 1979. The account also offers the opportunity for additional amounts in excess of the guaranteed rate. When declared, additional amounts remain in effect for the twelve-month period that begins each March 1.

Participant Transfers, Withdrawals and Income Options

TIAA Traditional is designed primarily to help meet your long-term retirement income needs; it is not a short-term savings vehicle. Therefore, some contracts require that benefits are paid in installments over time and/or may impose surrender charges on certain withdrawals. TIAA has rewarded participants who save in contracts where benefits are paid in installments over time instead of in an immediate lump-sum by crediting higher interest rates, typically 0.50% to 0.75% higher. Higher rates will lead to higher account balances and more retirement income for you.

For Retirement Annuity (RA) contracts lump-sum withdrawals are not available from the TIAA Traditional account. Subject to the terms of your employer's plan, all withdrawals and transfers from the account must be paid in ten annual installments.

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



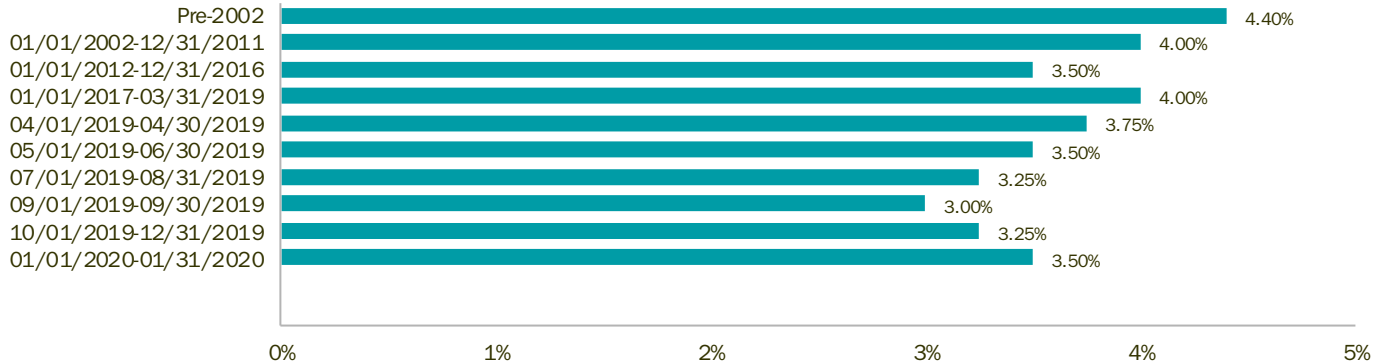
TIAA Retirement Annuity Accounts TIAA Traditional

Guaranteed

As of 12/31/2019

Retirement Annuity (RA)

Accumulating Stage Total Rate (Guaranteed Plus Additional Amounts)



Rates for premiums applied during the dates above.²

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

Important Information

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² Interest on accumulations credited to TIAA Traditional in the accumulating stage includes a guaranteed amount (3% for current premiums in RA contracts), plus additional amounts that may be declared on a year-by-year basis and are not guaranteed for future years. For information about current rates on additional amounts, visit our website at TIAA.org. Guarantees under TIAA Traditional are backed by TIAA’s claims-paying ability.

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

TIAA Traditional

Retirement Choice Annuity (RC)

Guaranteed

As of 12/31/2019

Account Description

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AAA
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(as of 5/19)

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

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

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Learn More

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Weekdays, 8 a.m. to 10 p.m. (ET),
Saturdays, 9 a.m. to 6 p.m. (ET),
or visit TIAA.org

Performance

	Total Return		Average Annual Total Return				Since Inception
	3 Months	YTD	1 Year	3 Years	5 Years	10 Years	
Retirement Choice Annuity (RC)	0.98%	4.01%	4.01%	4.06%	4.18%	4.24%	4.44%
Inception Date: 08/01/05							

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

Retirement Choice (RC) TIAA Contract form Series - IGRS-01-84-ACC and IGRS-02-ACC / TIAA Certificate Series - IGRS-CERT2-84-ACC and IGRS-CERT3-ACC.

Account Overview

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

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

For Retirement Choice (RC) Contracts, a guaranteed rate is set each calendar year for amounts remitted in that calendar year. The floating guaranteed rate will be between 1%–3%, inclusive (based on the 5-year Constant Maturity Treasury Rate less 125 bps). The guaranteed rate for each calendar year remittance will be maintained for at least 10 years. The current guaranteed rate is 1.00% for amounts remitted effective January 1, 2020. The account also offers the opportunity for additional amounts in excess of the guaranteed rate. When declared, additional amounts remain in effect for the twelve-month period that begins each March 1.

Participant Transfers, Withdrawals and Income Options

TIAA Traditional is designed primarily to help meet your long-term retirement income needs; it is not a short-term savings vehicle. Therefore, some contracts require that benefits are paid in installments over time and/or may impose surrender charges on certain withdrawals. TIAA has rewarded participants who save in contracts where benefits are paid in installments over time instead of in an immediate lump-sum by crediting higher interest rates, typically 0.50% to 0.75% higher. Higher rates will lead to higher account balances and more retirement income for you.

For Retirement Choice (RC) contracts, and subject to the terms of your employer's plan, lump-sum withdrawals are available from the TIAA Traditional account only within 120 days after termination of employment and are subject to a 2.5% surrender charge. All other withdrawals and transfers from the account must be paid in 84 monthly installments (7 years).

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



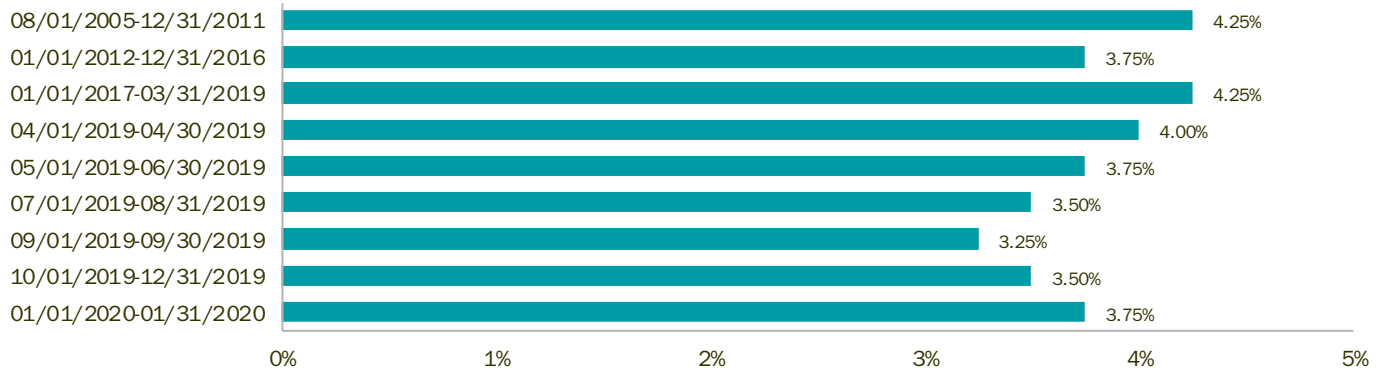
TIAA Retirement Annuity Accounts TIAA Traditional

Guaranteed

As of 12/31/2019

Retirement Choice Annuity (RC)

Accumulating Stage Total Rate (Guaranteed Plus Additional Amounts)



Rates for premiums applied during the dates above.²

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

Contractholder Withdrawals

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

Important Information

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

² Interest on accumulations credited to TIAA Traditional in the accumulating stage includes a guaranteed amount (1.70% for current premiums in RC contracts), plus additional amounts that may be declared on a year-by-year basis and are not guaranteed for future years. For information about current rates on additional amounts, visit our website at TIAA.org. Guarantees under TIAA Traditional are backed by TIAA's claims-paying ability.

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

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

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

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

Vanguard Total Bond Market Index I

Category: Core Fixed Income

VBTIX
12/31/2019

Fund Strategy

The investment seeks the performance of Bloomberg Barclays U.S. Aggregate Float Adjusted Index. Bloomberg Barclays U.S. Aggregate Float Adjusted 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 its investments will be selected through the sampling process, and at least 80% of its assets will be invested in bonds held in the index.

Fund Information

Strategy Asset (\$ mm):	248595.00
Share Class Assets (\$ mm):	47477.00
Manager:	Joshua C. Barrickman
Manager Tenure:	7 Years

Portfolio Statistics

Alpha*:	-0.01	P/E:	-
Beta*:	1.01	P/B:	-
Std Dev:	2.94	SEC Yield (%):	2.27
R ² :	99.18	Turnover:	54.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: BBgBarc US Agg Bond TR USD
*3-year statistic: BBgBarc US Agg Bond TR USD

Top 10 Holdings (%)

as of 11/30/2019

Federal National Mortgage Association 3%	0.62
United States Treasury Notes 2%	0.44
United States Treasury Notes 2.88%	0.40
United States Treasury Notes 1.62%	0.40
United States Treasury Notes 2.12%	0.39
United States Treasury Notes 1.5%	0.39
United States Treasury Notes 1.75%	0.39
United States Treasury Notes 2.12%	0.39
United States Treasury Notes 1.75%	0.38
United States Treasury Notes 3.12%	0.38
% in Top 10 Holdings	4.18
# of Holdings	17559

Scorecard System

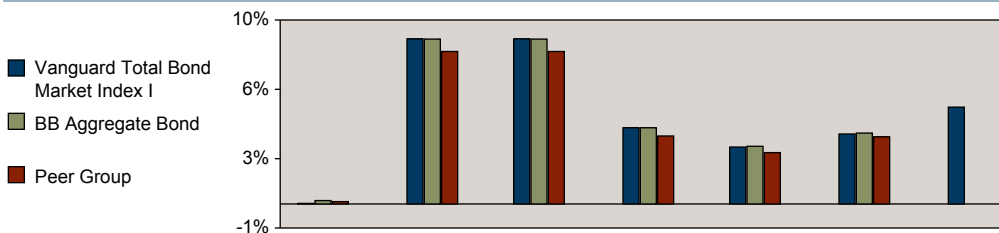
Passive Strategies	Ticker	Style				Peer Group				Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Ratio Rank		
Core Fixed Income											
Vanguard Total Bond Market Index I	VBTIX	1	1	1	1	1	1	1	1	2	10
		5.40/64.58	3.12	99.20	0.26	67.00	9.00	12.00	11.00		CFI-P

Passive Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Vanguard Total Bond Market Index I	10	10	10	10	9	10	9	10
	CFI-P	CFI-P	CFI-P	CFI-P	CFI-P	CFI-P	CFI-P	CFI-P

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Vanguard Total Bond Market Index I	0.03%	8.73%	8.73%	4.03%	3.01%	3.70%	5.12%
BB Aggregate Bond	0.18%	8.72%	8.72%	4.03%	3.05%	3.75%	-
Peer Group Performance*	0.12%	8.06%	8.06%	3.59%	2.72%	3.55%	-
Peer Group Rank*	62	33	33	28	31	46	-
Peer Group Size (funds)*	-	-	430	382	327	251	-

*Morningstar Peer Group: Intermediate Core Bond

The performance analysis displayed is reflective of past performance. Past performance does not guarantee future results. The investment return and principal value of an investment will fluctuate over time. Current performance may differ from the performance displayed. Investing includes risk, including potential loss of principal. Carefully consider any and all investment objectives, risk factors and charges and expenses before investing. Contact your financial advisor or consultant for fund's current performance and a copy of the most recent prospectus. Contact (800) 959-0071 for most recent month end performance.

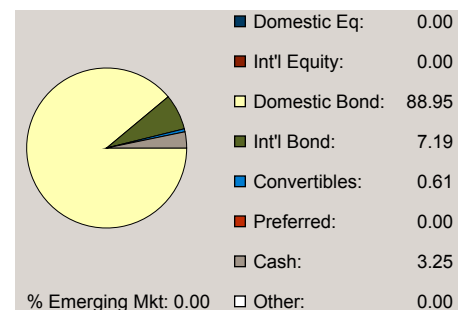
Fixed Income Detail

as of 11/30/2019

Average Effective Duration*:	6.26
Effective Maturity:	8.20

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.04
Prospectus Gross Exp. Ratio:	0.04
Avg Exp Ratio Morningstar (%):	0.67
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$500000
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	12/11/1986
Share Class Inception:	9/18/1995

CREF Bond Market R3

Category: Core Fixed Income

F00000VAW1
12/31/2019

Fund Strategy

The investment seeks long-term rate of return, primarily through high current income consistent with preserving capital. The fund invests at least 80% of its assets in a broad range of fixed-income securities. The majority of the account's assets are invested in U.S. Treasury and other governmental agency securities, corporate bonds and mortgage-backed or other asset-backed securities. The fund can also invest in below-investment-grade securities.

Fund Information

Strategy Asset (\$ mm):	14192.11
Share Class Assets (\$ mm):	-
Manager:	John Michael Cerra
Manager Tenure:	16 Years

Portfolio Statistics

Alpha*:	-0.07	P/E:	-
Beta*:	1.01	P/B:	-
Std Dev:	2.70	SEC Yield (%):	2.58
R ² :	98.80	Turnover:	106.00
	as of date 11/30/2019		as of date 12/31/2019

*Best fit index: BBgBarc US Universal TR USD

*3-year statistic: BBgBarc US Universal TR USD

Top 10 Holdings (%)

as of 11/30/2019

Federal National Mortgage Association 4%	1.17
Federal National Mortgage Association 3.5%	1.10
Federal National Mortgage Association 3%	1.06
Federal National Mortgage Association 3%	0.86
United States Treasury Bonds 3.38%	0.84
Federal Home Loan Mortgage Corporation 3%	0.82
United States Treasury Bonds 2.5%	0.77
United States Treasury Bonds 3%	0.71
Federal National Mortgage Association 3.5%	0.67
United States Treasury Bonds 2.88%	0.65
% in Top 10 Holdings	8.64
# of Holdings	1871

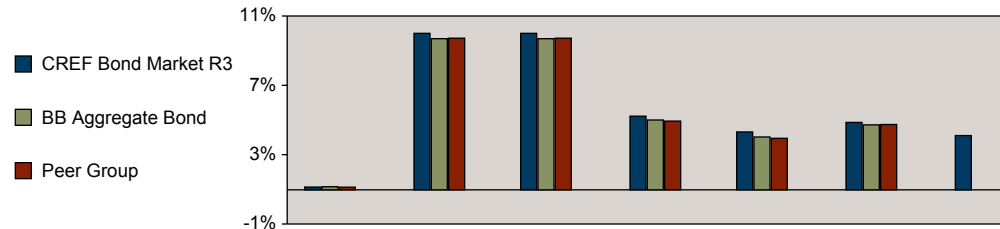
Scorecard System

Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Core Fixed Income											
CREF Bond Market R3	F00000V AW1	1	1	1	1	1	1	1	1	2	10
		-13.70/ 46.88	5.91	98.30	2.91/ 3.34	100.09/ 89.22	0.69	29.00	7.00		CFI
Active Strategies		Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018		
CREF Bond Market R3		10	10	10	10	10	10	10	10		10
		CFI	CFI	CFI	CFI	CFI	CFI	CFI	CFI		CFI

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
CREF Bond Market R3	0.16%	9.03%	9.03%	4.25%	3.34%	3.89%	3.13%
BB Aggregate Bond	0.18%	8.72%	8.72%	4.03%	3.05%	3.75%	-
Peer Group Performance*	0.15%	8.75%	8.75%	3.97%	2.97%	3.77%	-
Peer Group Rank*	41	25	25	13	12	32	-
Peer Group Size (funds)*	-	-	430	382	327	251	-

*Morningstar Peer Group: Intermediate Core Bond

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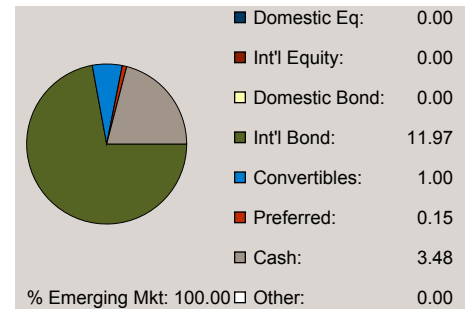
Fixed Income Detail

as of 11/30/2019

Average Effective Duration*:	5.62
Effective Maturity:	7.85

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.27
Prospectus Gross Exp. Ratio:	0.27
Avg Exp Ratio Morningstar (%):	0.62
12b-1 fees (%):	0.05
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	4/24/2015
Share Class Inception:	4/24/2015

Vanguard Inflation-Protected Secs I

Category: U.S. Government TIPS

VIPIX
12/31/2019

Fund Strategy

The investment seeks to provide inflation protection and income consistent with investment in inflation-indexed securities. The fund invests at least 80% of its assets in inflation-indexed bonds issued by the U.S. government, its agencies and instrumentalities, and corporations. It may invest in bonds of any maturity; however, its dollar-weighted average maturity is expected to be in the range of 7 to 20 years. At a minimum, all bonds purchased by the fund will be rated investment-grade or, if unrated, will be considered by the advisor to be investment-grade.

Fund Information

Strategy Asset (\$ mm):	27962.00
Share Class Assets (\$ mm):	10250.00
Manager:	Gemma Wright-Casparius
Manager Tenure:	8 Years

Portfolio Statistics

Alpha*:	-0.10	P/E:	-
Beta*:	0.98	P/B:	-
Std Dev:	2.95	SEC Yield (%):	0.27
R ² :	98.38	Turnover:	27.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: BBgBarc US Treasury US TIPS TR USD
*3-year statistic: BBgBarc US Treasury US TIPS TR USD

Top 10 Holdings (%) as of 11/30/2019

United States Treasury Notes 0.62%	3.56
United States Treasury Notes 0.12%	3.51
United States Treasury Notes 0.38%	3.48
United States Treasury Notes 0.62%	3.47
United States Treasury Notes 0.25%	3.46
United States Treasury Notes 0.12%	3.43
United States Treasury Notes 0.12%	3.38
United States Treasury Notes 0.12%	3.32
United States Treasury Notes 0.38%	3.28
United States Treasury Notes 0.12%	3.14
% in Top 10 Holdings	34.03
# of Holdings	48

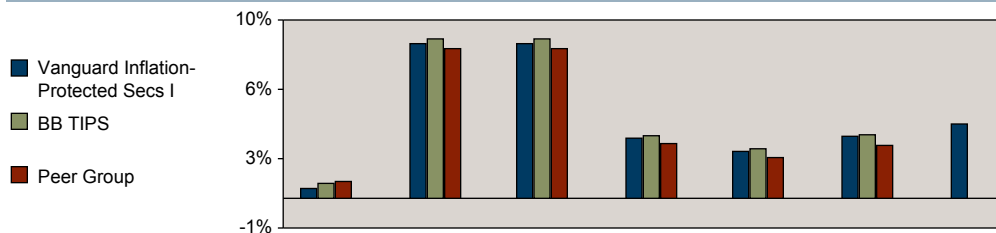
Scorecard System

Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
U.S. Government TIPS											
Vanguard Inflation-Protected Secs I	VIPIX	1	1	1	0	0	0	1	1	2	7
		-95.38/95.74	3.50	98.32	3.53/2.48	99.99/103.89	-0.31	12.00	18.00		UGT

Active Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Vanguard Inflation-Protected Secs I	7	7	7	7	7	7	7	7
	UGT	UGT	UGT	UGT	UGT	UGT	UGT	UGT

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Vanguard Inflation-Protected Secs I	0.52%	8.18%	8.18%	3.18%	2.48%	3.28%	3.93%
BB TIPS	0.79%	8.43%	8.43%	3.32%	2.62%	3.36%	-
Peer Group Performance*	0.89%	7.92%	7.92%	2.90%	2.15%	2.80%	-
Peer Group Rank*	88	43	43	34	29	19	-
Peer Group Size (funds)*	-	-	221	194	163	104	-

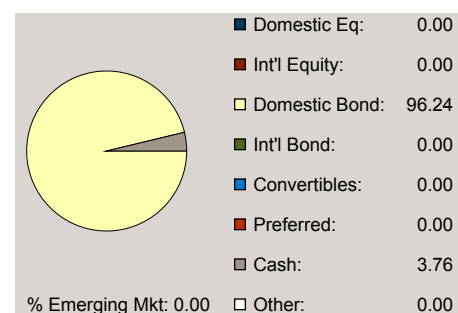
*Morningstar Peer Group: Inflation-Protected Bond

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Fixed Income Detail as of 11/30/2019

Average Effective Duration*:	7.38
Effective Maturity:	8.30

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.07
Prospectus Gross Exp. Ratio:	0.07
Avg Exp Ratio Morningstar (%):	0.74
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$500000
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	6/29/2000
Share Class Inception:	12/12/2003

CREF Social Choice R3

Category: Moderate

F00000VAW7
12/31/2019

Fund Strategy

The investment seeks long-term rate of return. The fund invests in a diversified set of domestic and foreign stocks and other equity securities, bonds and other fixed-income securities, as well as money market instruments and other short-term debt instruments. It invests in companies that are suitable from a financial perspective and whose activities are consistent with certain environmental, social and governance ("ESG") criteria. The fund is balanced, with assets divided between foreign and domestic stocks and other equity securities (about 60%) and bonds and other fixed-income securities, including money market instruments (about 40%).

Fund Information

Strategy Asset (\$ mm):	15154.85
Share Class Assets (\$ mm):	-
Manager:	Stephen M. Liberatore
Manager Tenure:	15 Years

Portfolio Statistics

Alpha*:	0.69	P/E:	-
Beta*:	0.88	P/B:	-
Std Dev:	6.75	SEC Yield (%):	-
R ² :	98.92	Turnover:	52.00
	as of date 11/30/2019		as of date 12/31/2019

*Best fit index: Morningstar Lifetime Mod 2030 TR USD
*3-year statistic: Morningstar Lifetime Mod 2030 TR USD

Top 10 Holdings (%) as of 11/30/2019

Microsoft Corp / MSFT	1.77
Apple Inc / AAPL	1.76
Amazon.com Inc / AMZN	1.00
Alphabet Inc Class C / GOOG	0.65
Alphabet Inc A / GOOGL	0.64
Procter & Gamble Co / PG	0.60
Intel Corp / INTC	0.56
Verizon Communications Inc / VZ	0.54
United States Treasury Bonds 2.25%	0.53
Merck & Co Inc / MRK	0.51
% in Top 10 Holdings	8.56
# of Holdings	1933

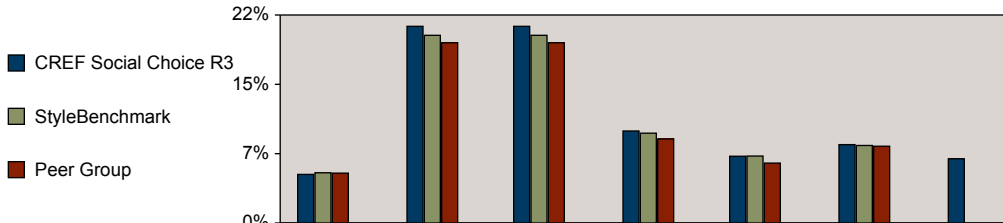
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Moderate											
CREF Social Choice R3	F00000V AW7	1	1	1	1	1	0	1	1	2	9
		6.84	58.21/ 41.79	99.09	6.84/ 7.06	99.43/ 99.21	-0.03	25.00	13.00		MOD

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
CREF Social Choice R3	9	8	8	8	8	8	7	7
	MOD	MOD	MOD	MOD	MOD	MOD	MOD	MOD

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Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
CREF Social Choice R3	5.14%	20.80%	20.80%	9.73%	7.06%	8.29%	8.35%
StyleBenchmark*	5.31%	19.85%	19.85%	9.50%	7.08%	8.20%	-
Peer Group Performance**	5.27%	19.06%	19.06%	8.89%	6.33%	8.12%	-
Peer Group Rank**	55	27	27	27	29	38	-
Peer Group Size (funds)**	-	-	-	-	-	-	-

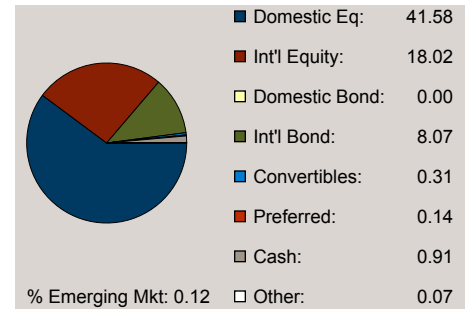
*0.25% Merrill Lynch 3-Month T-Bill, 40% BB Aggregate Bond, 46.11% Russell 3000, 13.65% MSCI ACWI Index ex USA ND USD
**Morningstar Peer Group: Allocation--50% to 70% Equity

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	6.84
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.24
Prospectus Gross Exp. Ratio:	0.24
Avg Exp Ratio Morningstar (%):	0.57
12b-1 fees (%):	0.05
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	4/24/2015
Share Class Inception:	4/24/2015

American Funds Washington Mutual R6

Category: Large Cap Blend¹

RWMGX
12/31/2019

Fund Strategy

The investment seeks to produce income and to provide an opportunity for growth of principal consistent with sound common stock investing. The fund invests primarily in common stocks of established companies that are listed on, or meet the financial listing requirements of, the New York Stock Exchange and have a strong record of earnings and dividends. Its advisor strives to maintain a fully invested, diversified portfolio, consisting primarily of high-quality common stocks.

¹ Report system default for factsheets use Morningstar categories, which may differ from category and benchmark identified in prospectus.

Fund Information

Strategy Asset (\$ mm):	128657.00
Share Class Assets (\$ mm):	25061.00
Manager:	Alan N. Berro
Manager Tenure:	23 Years

Portfolio Statistics

Alpha*:	0.79	P/E:	19.38
Beta*:	0.83	P/B:	2.92
Std Dev:	10.28	SEC Yield (%):	1.99
R ² :	96.35	Turnover:	25.00
	as of date 9/30/2019		as of date 12/31/2019

*Best fit index: S&P 500 TR USD
*3-year statistic: S&P 500 TR USD

Top 10 Holdings (%)

as of 9/30/2019

Microsoft Corp / MSFT	5.90
Boeing Co / BA	3.09
Broadcom Inc / AVGO	2.82
Comcast Corp Class A / CMCSA	2.75
The Home Depot Inc / HD	2.70
Intel Corp / INTC	2.62
Merck & Co Inc / MRK	2.52
CME Group Inc Class A / CME	2.50
Northrop Grumman Corp / NOC	2.44
Marsh & McLennan Companies Inc / MMC	2.00
% in Top 10 Holdings	29.36
# of Holdings	163

Scorecard System

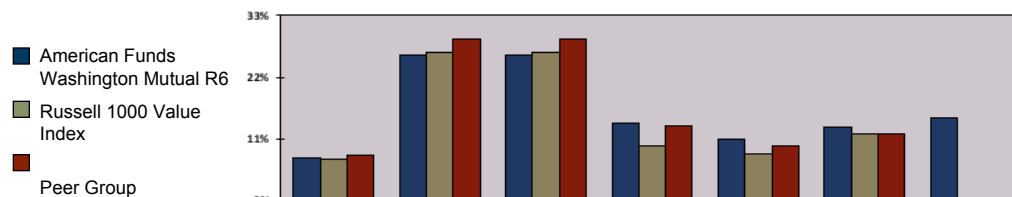
Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Large Cap Blend											
American Funds Washington Mutual R6	RWMGX	0	1	1	1	1	0	1	1	2	8
		-38.36/87.20	6.58	95.51	10.74/10.96	89.92/86.78	-0.19	15.00	15.00		LCB

Active Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
American Funds Washington Mutual R6	8	8	8	8	9	10	10	10
	LCB	LCB	LCB	LCB	LCB	LCV	LCV	LCV

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
American Funds Washington Mutual R6	7.67%	25.93%	25.93%	13.90%	10.97%	13.09%	14.74%
Russell 1000 Value Index	7.41%	26.54%	26.54%	9.68%	8.29%	11.80%	-
Peer Group Performance*	8.15%	28.78%	28.78%	13.26%	9.78%	12.03%	-
Peer Group Rank*	68	82	82	49	35	28	-
Peer Group Size (funds)*	-	-	1387	1203	1058	808	-

*Morningstar Peer Group: Large Blend

The performance analysis displayed is reflective of past performance. Past performance does not guarantee future results. The investment return and principal value of an investment will fluctuate over time. Current performance may differ from the performance displayed. Investing includes risk, including potential loss of principal. Carefully consider any and all investment objectives, risk factors and charges and expenses before investing. Contact your financial advisor or consultant for fund's current performance and a copy of the most recent prospectus. Contact (800) 959-0071 for most recent month end performance.

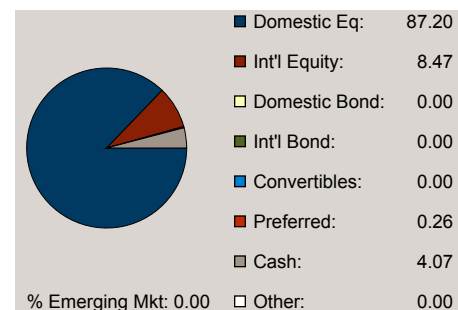
Sector Allocation

as of 9/30/2019

Real Estate:	1.27	-
Utilities:	3.05	-
Basic Materials:	3.61	-
Comm:	4.56	-
Cons Defensive:	6.72	-
Cons Cyclical:	6.90	-
Energy:	7.88	-
Healthcare:	14.17	-
Industrials:	14.92	-
Financial Services:	18.45	-
Technology:	18.47	-

Asset Allocation (%)

as of 9/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.27
Prospectus Gross Exp. Ratio:	0.27
Avg Exp Ratio Morningstar (%):	0.94
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$250
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	7/31/1952
Share Class Inception:	5/1/2009

Vanguard Institutional Index I

Category: Large Cap Blend

VINIX
12/31/2019

Fund Strategy

The investment seeks to track the performance of a benchmark index that measures the investment return of large-capitalization stocks. The fund employs an indexing investment approach designed to track the performance of the Standard & Poor's 500 Index, a widely recognized benchmark of U.S. stock market performance that is dominated by the stocks of large U.S. companies. The advisor attempts to replicate the target index by investing all, or substantially all, of its assets in the stocks that make up the index, holding each stock in approximately the same proportion as its weighting in the index.

Fund Information

Strategy Asset (\$ mm):	242173.00
Share Class Assets (\$ mm):	116814.00
Manager:	Donald M. Butler
Manager Tenure:	19 Years

Portfolio Statistics

Alpha*:	-0.03	P/E:	21.99
Beta*:	1.00	P/B:	3.29
Std Dev:	12.10	SEC Yield (%):	1.85
R ² :	100.00	Turnover:	6.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: S&P 500 TR USD
*3-year statistic: S&P 500 TR USD

Top 10 Holdings (%)

as of 11/30/2019

Microsoft Corp / MSFT	4.41
Apple Inc / AAPL	4.33
Amazon.com Inc / AMZN	2.86
Facebook Inc A / FB	1.85
Berkshire Hathaway Inc B / BRK.B	1.65
JPMorgan Chase & Co / JPM	1.59
Alphabet Inc Class C / GOOG	1.50
Alphabet Inc A / GOOGL	1.49
Johnson & Johnson / JNJ	1.38
Visa Inc Class A / V	1.22
% in Top 10 Holdings	22.28
# of Holdings	512

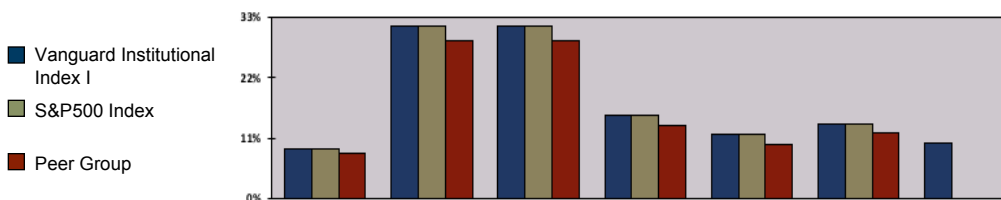
Scorecard System

Passive Strategies	Ticker	Style				Peer Group				Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Ratio Rank		
Large Cap Blend											
Vanguard Institutional Index I	VINIX	1	1	1	1	1	1	1	1	2	10
		-2.31/98.96	1.35	99.83	0.51	36.00	8.00	10.00	10.00		LCB-P
Passive Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018			
Vanguard Institutional Index I	10	10	10	10	10	10	10	10			
	LCB-P	LCB-P	LCB-P	LCB-P	LCB-P	LCB-P	LCB-P	LCB-P			

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Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Vanguard Institutional Index I	9.06%	31.46%	31.46%	15.24%	11.67%	13.53%	10.07%
S&P500 Index	9.07%	31.49%	31.49%	15.27%	11.70%	13.56%	-
Peer Group Performance*	8.15%	28.78%	28.78%	13.26%	9.78%	12.03%	-
Peer Group Rank*	30	24	24	17	10	8	-
Peer Group Size (funds)*	-	-	1387	1203	1058	808	-

*Morningstar Peer Group: Large Blend

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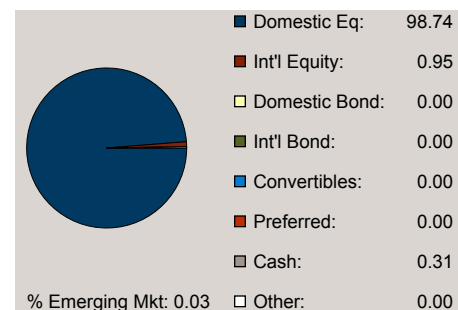
Sector Allocation

as of 11/30/2019

Basic Materials:	2.30	—
Real Estate:	2.99	—
Utilities:	3.30	—
Energy:	4.23	—
Cons Defensive:	7.59	—
Cons Cyclical:	9.62	—
Industrials:	9.82	—
Comm:	10.40	—
Healthcare:	14.40	—
Financial Services:	15.98	—
Technology:	19.38	—

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.04
Prospectus Gross Exp. Ratio:	0.04
Avg Exp Ratio Morningstar (%):	0.94
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$500000
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	7/31/1990
Share Class Inception:	7/31/1990

CREF Stock R3

Category: Aggressive

F00000VAVP
12/31/2019

Fund Strategy

The investment seeks a favorable long-term rate of return through capital appreciation and investment income. The fund invests at least 80% of its assets in a broadly diversified portfolio of common stocks. The investment adviser typically uses a combination of three different investment strategies to manage the Account-active management, quantitative and indexing-and invests in both domestic and foreign securities to achieve the account's investment objective. The investment adviser manages the Account in segments, each of which may use one of these different investment strategies.

Fund Information

Strategy Asset (\$ mm):	119470.26
Share Class Assets (\$ mm):	-
Manager:	Hans L. Erickson
Manager Tenure:	24 Years

Portfolio Statistics

Alpha*:	-0.66	P/E:	-
Beta*:	1.10	P/B:	-
Std Dev:	12.01	SEC Yield (%):	-
R ² :	99.26	Turnover:	55.00
as of date 10/31/2019		as of date 12/31/2019	

*Best fit index: Morningstar Agg Tgt Risk TR USD

**3-year statistic: Morningstar Agg Tgt Risk TR USD

Top 10 Holdings (%)

as of 10/31/2019

Apple Inc / AAPL	2.46
Microsoft Corp / MSFT	2.12
Amazon.com Inc / AMZN	1.73
Facebook Inc A / FB	1.13
Alphabet Inc Class C / GOOG	1.03
Berkshire Hathaway Inc B / BRK.B	0.79
Visa Inc Class A / V	0.73
Procter & Gamble Co / PG	0.73
Alphabet Inc A / GOOGL	0.72
JPMorgan Chase & Co / JPM	0.72
% in Top 10 Holdings	12.17
# of Holdings	9669

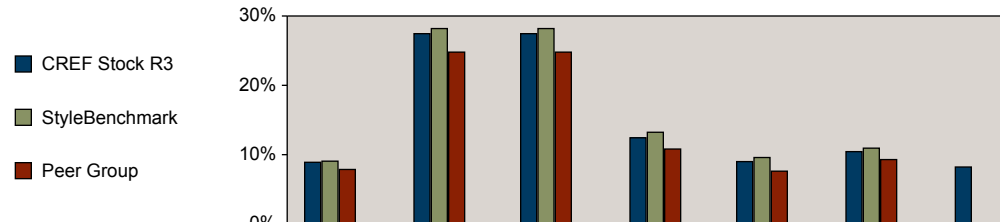
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Aggressive											
CREF Stock R3	F00000VAVP	1	0	1	0	0	0	1	1	2	6
		11.96	100.00/0.00	99.63	11.96/9.00	98.45/102.06	-0.81	4.00	37.00		AGG
Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018			
CREF Stock R3	6	6	6	5	6	7	6	6			
	AGG	AGG	AGG	AGG	AGG	AGG	AGG	AGG			

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Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
CREF Stock R3	8.90%	27.45%	27.45%	12.43%	9.00%	10.44%	9.85%
StyleBenchmark*	9.06%	28.19%	28.19%	13.23%	9.59%	10.94%	-
Peer Group Performance**	7.86%	24.79%	24.79%	10.81%	7.62%	9.29%	-
Peer Group Rank**	7	11	11	11	7	8	-
Peer Group Size (funds)**	-	-	176	161	142	99	-

*70.65% Russell 3000, 29.35% MSCI ACWI Index ex USA ND USD

**Morningstar Peer Group: Allocation-85% Equity

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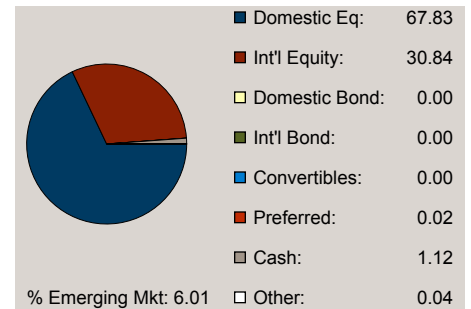
Risk Bucket

as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	11.96
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%)

as of 10/31/2019



Additional Information

Prospectus Net Exp. Ratio:	0.30
Prospectus Gross Exp. Ratio:	0.30
Avg Exp Ratio Morningstar (%):	0.44
12b-1 fees (%):	0.05
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	4/24/2015
Share Class Inception:	4/24/2015

CREF Growth R3

Category: Large Cap Growth

F00000VAVV
12/31/2019

Fund Strategy

The investment seeks a favorable long-term rate of return, mainly through capital appreciation. The fund invests at least 80% of its assets in common stocks and other equity securities. It invests primarily in large, well-known, established companies. The fund may also invest in smaller, less seasoned companies with growth potential as well as companies in new and emerging areas of the economy. It may also invest in companies in order to benefit from prospective acquisitions, reorganizations, corporate restructurings or other special situations.

Fund Information

Strategy Asset (\$ mm):	27929.35
Share Class Assets (\$ mm):	-
Manager:	Susan Hirsch
Manager Tenure:	14 Years

Portfolio Statistics

Alpha*:	-1.37	P/E:	-
Beta*:	1.02	P/B:	-
Std Dev:	13.56	SEC Yield (%):	-
R2*:	98.85	Turnover:	62.00
	as of date 10/31/2019		as of date 12/31/2019

*Best fit index: Russell 1000 Growth TR USD

*3-year statistic: Russell 1000 Growth TR USD

Top 10 Holdings (%)

as of 10/31/2019

Microsoft Corp / MSFT	6.20
Amazon.com Inc / AMZN	5.73
Apple Inc / AAPL	4.43
Facebook Inc A / FB	4.33
Alphabet Inc Class C / GOOG	3.96
Visa Inc Class A / V	3.21
Salesforce.com Inc / CRM	2.76
PayPal Holdings Inc / PYPL	2.25
Intuit Inc / INTU	2.11
Mastercard Inc A / MA	1.75
% in Top 10 Holdings	36.72
# of Holdings	582

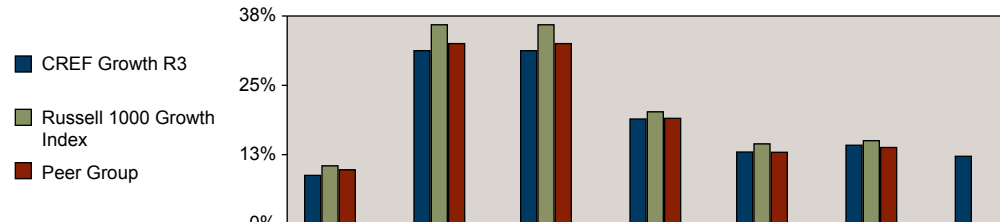
Scorecard System

Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Large Cap Growth											
CREF Growth R3	F00000VAVV	1	1	1	0	0	0	1	1	2	7
		100.00/96.60	2.60	98.56	13.40/13.15	98.79/108.63	-0.89	33.00	39.00		LCG
Active Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018			
CREF Growth R3	7	7	7	7	7	7	9	9			
	LCG	LCG	LCG	LCG	LCG	LCG	LCG	LCG			

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Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
CREF Growth R3	8.88%	31.66%	31.66%	19.18%	13.15%	14.39%	9.18%
Russell 1000 Growth Index	10.62%	36.39%	36.39%	20.49%	14.63%	15.22%	-
Peer Group Performance*	9.88%	32.96%	32.96%	19.30%	13.10%	13.98%	-
Peer Group Rank*	61	56	56	40	37	29	-
Peer Group Size (funds)*	-	-	1360	1218	1086	811	-

*Morningstar Peer Group: Large Growth

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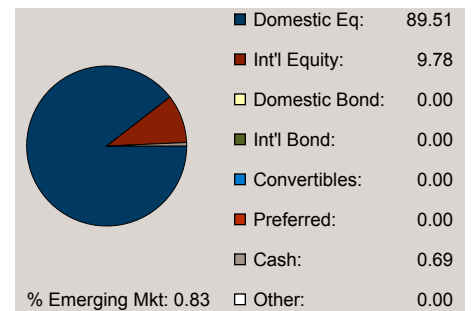
Sector Allocation

as of 10/31/2019

Utilities:	0.00
Energy:	0.22
Real Estate:	0.58
Basic Materials:	2.57
Cons Defensive:	5.28
Industrials:	8.17
Financial Services:	10.72
Healthcare:	14.03
Cons Cyclical:	15.08
Comm:	15.34
Technology:	28.03

Asset Allocation (%)

as of 10/31/2019



Additional Information

Prospectus Net Exp. Ratio:	0.24
Prospectus Gross Exp. Ratio:	0.24
Avg Exp Ratio Morningstar (%):	0.81
12b-1 fees (%):	0.05
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	4/24/2015
Share Class Inception:	4/24/2015

Vanguard Mid Cap Index InstitutionalPlus

Category: Mid Cap Blend

VMCPX
12/31/2019

Fund Strategy

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

Fund Information

Strategy Asset (\$ mm):	111567.00
Share Class Assets (\$ mm):	13612.00
Manager:	Donald M. Butler
Manager Tenure:	22 Years

Portfolio Statistics

Alpha*:	-0.20	P/E:	21.91
Beta*:	0.98	P/B:	2.73
Std Dev:	13.00	SEC Yield (%):	1.56
R2*:	99.53	Turnover:	16.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Morningstar US Mid Cap TR USD
*3-year statistic: Morningstar US Mid Cap TR USD

Top 10 Holdings (%)

as of 11/30/2019

Advanced Micro Devices Inc / AMD	0.97
Newmont Goldcorp Corp / NEM	0.72
Amphenol Corp Class A / APH	0.70
ONEOK Inc / OKE	0.67
TransDigm Group Inc / TDG	0.65
WEC Energy Group Inc / WEC	0.64
Motorola Solutions Inc / MSI	0.63
IHS Markit Ltd / INFO	0.63
Eversource Energy / ES	0.61
SBA Communications Corp / SBAC	0.61
% in Top 10 Holdings	6.81
# of Holdings	385

Scorecard System

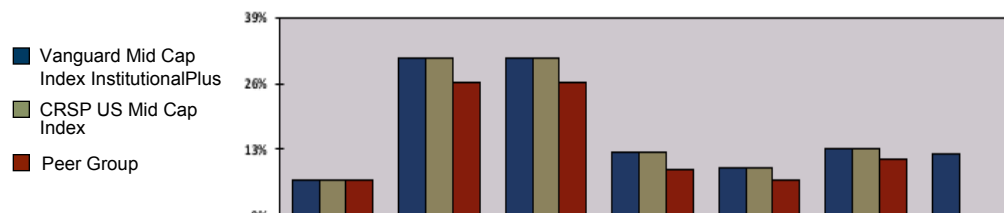
Passive Strategies	Ticker	Style				Peer Group				Qual. (2pt max)	Score 12/31/2019	
		Style	Style Drift	R ²	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Ratio Rank			
Mid Cap Blend												
Vanguard Mid Cap Index InstitutionalPlus	VMCPX	1	1	1	1	1	1	1	1	1	2	10
		-22.19/ 7.67	2.93	99.46	0.97	7.00	2.00	0.00	1.00			MCB-P

Passive Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Vanguard Mid Cap Index InstitutionalPlus	10	10	9	9	9	9	9	9
	MCB-P	MCB-P	MCB-P	MCB-P	MCB-P	MCB-P	MCB-P	MCB-P

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Vanguard Mid Cap Index InstitutionalPlus	6.88%	31.06%	31.06%	12.38%	9.28%	13.11%	12.00%
CRSP US Mid Cap Index	6.88%	31.09%	31.09%	12.39%	9.29%	13.25%	-
Peer Group Performance*	7.07%	26.21%	26.21%	9.15%	7.15%	11.09%	-
Peer Group Rank*	55	12	12	11	16	7	-
Peer Group Size (funds)*	-	-	404	361	292	220	-

*Morningstar Peer Group: Mid-Cap Blend

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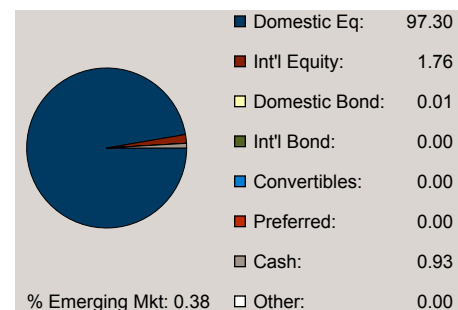
Sector Allocation

as of 11/30/2019

Energy:	3.98	—
Cons Defensive:	4.00	—
Basic Materials:	4.29	—
Comm:	5.36	—
Utilities:	6.56	—
Real Estate:	9.45	—
Healthcare:	11.43	—
Industrials:	12.46	—
Financial Services:	12.53	—
Cons Cyclical:	12.55	—
Technology:	17.39	—

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.03
Prospectus Gross Exp. Ratio:	0.03
Avg Exp Ratio Morningstar (%):	1.07
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$10000000
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	5/21/1998
Share Class Inception:	12/15/2010

TIAA-CREF Small-Cap Blend Idx Inst

Category: Small Cap Blend

TISBX
12/31/2019

Fund Strategy

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

Fund Information

Strategy Asset (\$ mm):	3339.00
Share Class Assets (\$ mm):	2471.00
Manager:	Philip James(Jim) Campagna
Manager Tenure:	14 Years

Portfolio Statistics

Alpha*:	0.13	P/E:	17.15
Beta*:	1.00	P/B:	1.95
Std Dev:	15.91	SEC Yield (%):	-
R ² :	100.00	Turnover:	32.00
	as of date 10/31/2019		as of date 12/31/2019

*Best fit index: Russell 2000 TR USD
*3-year statistic: Russell 2000 TR USD

Top 10 Holdings (%) as of 10/31/2019

iShares Russell 2000 ETF / IWMM	0.85
NovoCure Ltd / NVCR	0.31
Haemonetics Corp / HAE	0.31
Generac Holdings Inc / GNRC	0.30
Teladoc Health Inc / TDOC	0.28
First Industrial Realty Trust Inc / FR	0.27
Rexford Industrial Realty Inc / REXR	0.26
Trex Co Inc / TREX	0.26
Radian Group Inc / RDN	0.26
Aaron's Inc / AAN	0.26
% in Top 10 Holdings	3.35
# of Holdings	1988

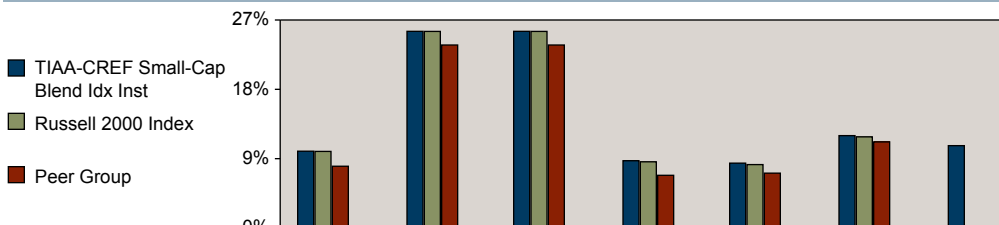
Scorecard System

Passive Strategies	Ticker	Style				Peer Group				Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Ratio Rank		
Small Cap Blend											
TIAA-CREF Small-Cap Blend Idx Inst	TISBX	1	1	1	1	1	1	1	1	2	10
		3.39/-99.63	0.19	100.00	0.09	16.00	19.00	16.00	17.00		SCB-P

Passive Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
TIAA-CREF Small-Cap Blend Idx Inst	10	10	10	10	10	10	10	10
	SCB-P	SCB-P	SCB-P	SCB-P	SCB-P	SCB-P	SCB-P	SCB-P

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
TIAA-CREF Small-Cap Blend Idx Inst	9.97%	25.53%	25.53%	8.73%	8.42%	11.99%	10.69%
Russell 2000 Index	9.94%	25.52%	25.52%	8.59%	8.23%	11.83%	-
Peer Group Performance*	8.02%	23.75%	23.75%	6.84%	7.12%	11.17%	-
Peer Group Rank*	15	34	34	20	24	30	-
Peer Group Size (funds)*	-	-	702	630	507	367	-

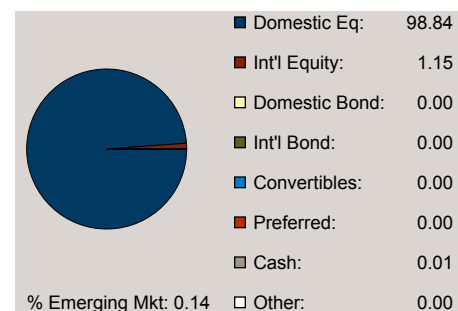
*Morningstar Peer Group: Small Blend

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Sector Allocation as of 10/31/2019

Comm:	2.69	—
Energy:	3.07	—
Basic Materials:	3.55	—
Cons Defensive:	3.64	—
Utilities:	4.01	—
Real Estate:	9.62	—
Cons Cyclical:	9.90	—
Technology:	13.16	—
Healthcare:	16.58	—
Financial Services:	16.73	—
Industrials:	17.05	—

Asset Allocation (%) as of 10/31/2019



Additional Information

Prospectus Net Exp. Ratio:	0.06
Prospectus Gross Exp. Ratio:	0.06
Avg Exp Ratio Morningstar (%):	1.12
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$1000000
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	10/1/2002
Share Class Inception:	10/1/2002

TIAA-CREF Quant Small-Cap Equity Instl

Category: Small Cap Blend

TISEX
12/31/2019

Fund Strategy

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

Fund Information

Strategy Asset (\$ mm):	2841.00
Share Class Assets (\$ mm):	1488.00
Manager:	Adam Cao
Manager Tenure:	13 Years

Portfolio Statistics

Alpha*:	-0.46	P/E:	16.43
Beta*:	0.96	P/B:	1.92
Std Dev:	15.39	SEC Yield (%):	-
R2*:	98.27	Turnover:	98.00
as of date 10/31/2019		as of date 12/31/2019	

*Best fit index: Russell 2000 TR USD
*3-year statistic: Russell 2000 TR USD

Top 10 Holdings (%)

as of 10/31/2019

EastGroup Properties Inc / EGP	0.97
Portland General Electric Co / POR	0.97
Essent Group Ltd / ESNT	0.92
PS Business Parks Inc / PSB	0.90
Radian Group Inc / RDN	0.85
Tetra Tech Inc / TTEK	0.84
Tech Data Corp / TECD	0.80
Walker & Dunlop Inc / WD	0.79
Comfort Systems USA Inc / FIX	0.77
Boston Beer Co Inc Class A / SAM	0.77
% in Top 10 Holdings	8.57
# of Holdings	421

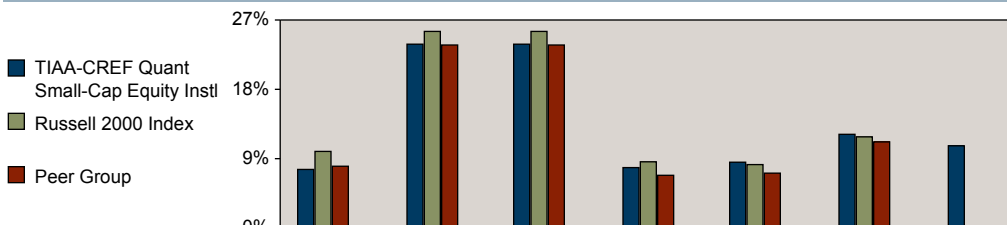
Scorecard System

Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Small Cap Blend											
TIAA-CREF Quant Small-Cap Equity Instl	TISEX	1	1	1	1	1	1	1	1	2	10
		5.53/-85.91	10.04	98.05	15.68/8.54	95.87/93.57	0.14	20.00	16.00		SCB
Active Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018			
TIAA-CREF Quant Small-Cap Equity Instl	10	6	7	8	9	8	8	8			
	SCB	SCG	SCG	SCG	SCG	SCG	SCG	SCG			

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Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
TIAA-CREF Quant Small-Cap Equity Instl	7.60%	23.86%	23.86%	7.84%	8.54%	12.16%	10.67%
Russell 2000 Index	9.94%	25.52%	25.52%	8.59%	8.23%	11.83%	-
Peer Group Performance*	8.02%	23.75%	23.75%	6.84%	7.12%	11.17%	-
Peer Group Rank*	61	50	50	37	22	23	-
Peer Group Size (funds)*	-	-	702	630	507	367	-

*Morningstar Peer Group: Small Blend

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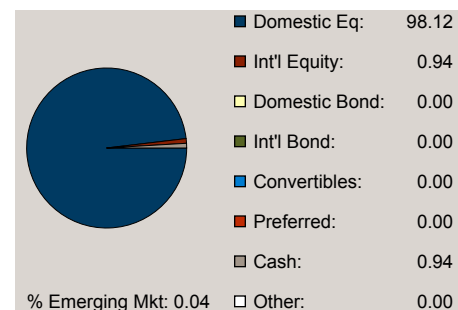
Sector Allocation

as of 10/31/2019

Comm:	2.75	—
Utilities:	3.27	—
Energy:	3.52	—
Basic Materials:	5.48	—
Cons Defensive:	5.54	—
Cons Cyclical:	6.68	—
Real Estate:	9.31	—
Technology:	14.10	—
Healthcare:	15.97	—
Financial Services:	16.00	—
Industrials:	17.40	—

Asset Allocation (%)

as of 10/31/2019



Additional Information

Prospectus Net Exp. Ratio:	0.41
Prospectus Gross Exp. Ratio:	0.41
Avg Exp Ratio Morningstar (%):	1.12
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$200000
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	10/1/2002
Share Class Inception:	10/1/2002

Vanguard Total Intl Stock Index I

Category: International Equity

VTSNX
12/31/2019

Fund Strategy

The investment seeks to track the performance of a benchmark index that measures the investment return of stocks issued by companies located in developed and emerging markets, excluding the United States. The fund employs an indexing investment approach designed to track the performance of the FTSE Global All Cap ex US Index, a float-adjusted market-capitalization-weighted index designed to measure equity market performance of companies located in developed and emerging markets, excluding the United States. It invests all, or substantially all, of its assets in the common stocks included in its target index.

Fund Information

Strategy Asset (\$ mm):	420632.00
Share Class Assets (\$ mm):	35108.00
Manager:	Michael Perre
Manager Tenure:	11 Years

Portfolio Statistics

Alpha*:	-0.70	P/E:	15.50
Beta*:	1.02	P/B:	1.56
Std Dev:	11.58	SEC Yield (%):	-
R ² :	98.91	Turnover:	4.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Morningstar Gbl Mkts xUS GR USD

*3-year statistic: Morningstar Gbl Mkts xUS GR USD

Top 10 Holdings (%)

as of 11/30/2019

Nestle SA / NESN	1.19
Alibaba Group Holding Ltd ADR / BABA	1.15
Taiwan Semiconductor Manufacturing Co Ltd / 2330	0.96
Tencent Holdings Ltd / 00700	0.96
Roche Holding AG Dividend Right Cert. / ROG	0.85
Samsung Electronics Co Ltd / 005930	0.80
Novartis AG / NOVN	0.79
Toyota Motor Corp / 7203	0.69
HSBC Holdings PLC / HSBA	0.60
SAP SE / SAP	0.52
% in Top 10 Holdings	8.51
# of Holdings	7390

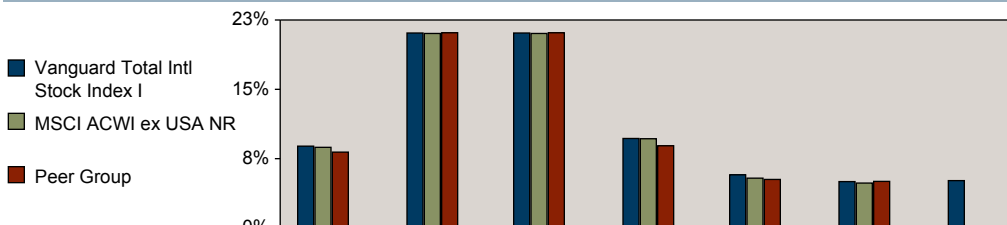
Scorecard System

Passive Strategies	Ticker	Style				Peer Group				Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Ratio Rank		
International Equity											
Vanguard Total Intl Stock Index I	VTSNX	1	1	1	1	1	1	1	1	2	10
		18.75/47.80	4.62	98.89	1.22	27.00	21.00	28.00	28.00		IE-P
Passive Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018			
Vanguard Total Intl Stock Index I	10	10	10	10	10	10	10	10			
	IE-P	IE-P	IE-P	IE-P	IE-P	IE-P	IE-P	IE-P			

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Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Vanguard Total Intl Stock Index I	9.05%	21.56%	21.56%	9.90%	5.88%	5.13%	5.24%
MSCI ACWI ex USA NR	8.92%	21.51%	21.51%	9.87%	5.51%	4.97%	-
Peer Group Performance*	8.39%	21.59%	21.59%	9.09%	5.37%	5.15%	-
Peer Group Rank*	33	51	51	30	29	53	-
Peer Group Size (funds)*	-	-	732	628	495	372	-

*Morningstar Peer Group: Foreign Large Blend

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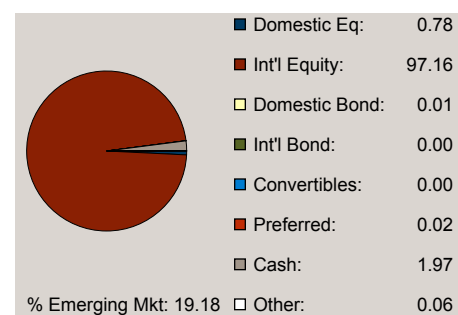
Country Exposure (%)

as of 11/30/2019

US:	0.80	-
Canada:	6.82	—
Latin America:	2.86	—
United Kingdom:	10.73	—
EuroZone:	20.16	—
Europe ex-EuroZone:	9.59	—
Europe Emerging:	1.76	—
Africa:	1.27	—
Middle East:	1.51	—
Japan:	17.34	—
Australasia:	4.80	—
Asia Developed:	9.59	—
Asia Emerging:	12.77	—

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.08
Prospectus Gross Exp. Ratio:	0.08
Avg Exp Ratio Morningstar (%):	0.99
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$500000
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	4/29/1996
Share Class Inception:	11/29/2010

American Funds Europacific Growth R6

Category: International Equity

REGX
12/31/2019

Fund Strategy

The investment seeks long-term growth of capital. The fund invests primarily in common stocks of issuers in Europe and the Pacific Basin that the investment adviser believes have the potential for growth. Growth stocks are stocks that the investment adviser believes have the potential for above-average capital appreciation. It normally will invest at least 80% of its net assets in securities of issuers in Europe and the Pacific Basin. The fund may invest a portion of its assets in common stocks and other securities of companies in emerging markets.

Fund Information

Strategy Asset (\$ mm):	171878.00
Share Class Assets (\$ mm):	77770.00
Manager:	Carl M. Kawaja
Manager Tenure:	19 Years

Portfolio Statistics

Alpha*:	-0.71	P/E:	18.06
Beta*:	1.04	P/B:	2.28
Std Dev:	12.25	SEC Yield (%):	1.03
R ² :	97.07	Turnover:	35.00
as of date 9/30/2019		as of date 12/31/2019	

*Best fit index: MSCI ACWI Ex USA Growth NR USD
*3-year statistic: MSCI ACWI Ex USA Growth NR USD

Top 10 Holdings (%) as of 9/30/2019

Airbus SE / AIR	2.61
AIA Group Ltd / 01299	2.56
Nintendo Co Ltd / 7974	2.41
Reliance Industries Ltd / RELIANCE	2.38
HDFC Bank Ltd / HDFCBANK	2.32
Alibaba Group Holding Ltd ADR / BABA	2.12
ASML Holding NV / ASML	1.95
Samsung Electronics Co Ltd / 005930	1.61
Daiichi Sankyo Co Ltd / 4568	1.56
Kotak Mahindra Bank Ltd / KOTAKBANK	1.39
% in Top 10 Holdings	20.92
# of Holdings	322

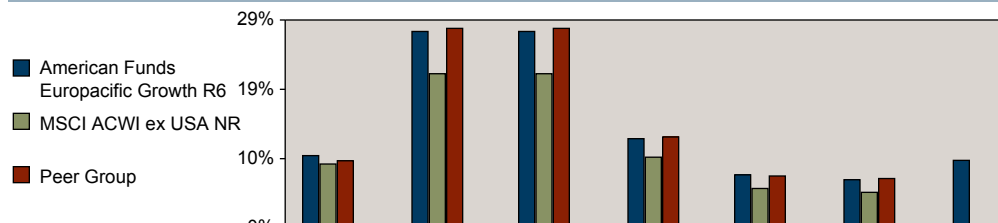
Scorecard System

Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
International Equity											
American Funds Europacific Growth R6	REGX	0	1	1	1	1	1	1	1	2	9
		63.11/32.76	12.13	92.22	12.16/7.41	97.72/86.09	0.54	12.00	11.00		IE

Active Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
American Funds Europacific Growth R6	9	9	9	9	9	9	9	9
	IE	IE	IE	IE	IE	IE	IE	IE

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
American Funds Europacific Growth R6	10.09%	27.40%	27.40%	12.45%	7.41%	6.73%	9.43%
MSCI ACWI ex USA NR	8.92%	21.51%	21.51%	9.87%	5.51%	4.97%	-
Peer Group Performance*	9.37%	27.83%	27.83%	12.69%	7.25%	6.90%	-
Peer Group Rank*	34	59	59	47	44	55	-
Peer Group Size (funds)*	-	-	469	405	338	246	-

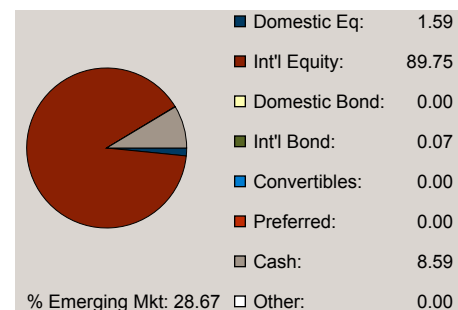
*Morningstar Peer Group: Foreign Large Growth

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Country Exposure (%) as of 9/30/2019

US:	1.74	-
Canada:	3.58	-
Latin America:	6.73	-
United Kingdom:	9.02	-
EuroZone:	21.74	-
Europe ex-EuroZone:	6.93	-
Europe Emerging:	0.77	-
Africa:	0.56	-
Middle East:	0.42	-
Japan:	15.35	-
Australasia:	1.20	-
Asia Developed:	11.37	-
Asia Emerging:	20.60	-

Asset Allocation (%) as of 9/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.49
Prospectus Gross Exp. Ratio:	0.49
Avg Exp Ratio Morningstar (%):	1.12
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$250
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	4/16/1984
Share Class Inception:	5/1/2009

CREF Global Equities R3

Category: Global Equity

F00000VAVS
12/31/2019

Fund Strategy

The investment seeks a favorable long-term rate of return through capital appreciation and income. Under normal circumstances, the fund invests at least 80% of its assets in equity securities of foreign and domestic companies. Typically, approximately 50% of the Account is invested in foreign securities (including foreign emerging market issuers), and approximately 50% in domestic securities, as TCIM deems appropriate. Normally, the fund will be invested in at least three different countries, one of which will be the United States, although it will usually be more diversified.

Fund Information

Strategy Asset (\$ mm):	21327.03
Share Class Assets (\$ mm):	-
Manager:	John N. Tribolet
Manager Tenure:	14 Years

Portfolio Statistics

Alpha*:	-1.21	P/E:	-
Beta*:	1.08	P/B:	-
Std Dev:	12.39	SEC Yield (%):	-
R ² :	98.96	Turnover:	77.00
as of date 10/31/2019		as of date 12/31/2019	

*Best fit index: MSCI ACWI NR USD
*3-year statistic: MSCI ACWI NR USD

Top 10 Holdings (%)

as of 10/31/2019

Apple Inc / AAPL	3.26
Microsoft Corp / MSFT	2.60
Amazon.com Inc / AMZN	1.71
Boeing Co / BA	1.23
Coca-Cola Co / KO	1.17
Facebook Inc A / FB	1.11
Alphabet Inc Class C / GOOG	1.08
Taiwan Semiconductor Manufacturing Co Ltd / 2330	1.03
Linde PLC / LIN	1.02
The Home Depot Inc / HD	1.00
% in Top 10 Holdings	15.21
# of Holdings	3022

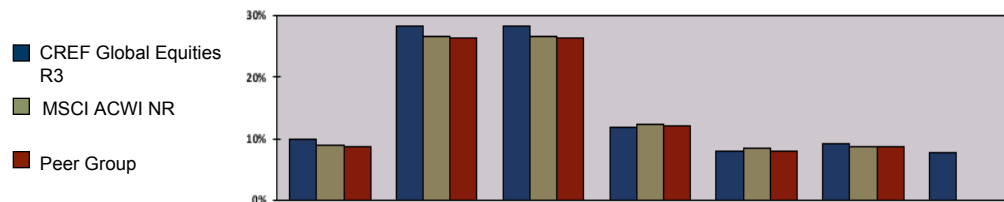
Scorecard System

Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Global Equity											
CREF Global Equities R3	F00000VAVS	1	1	1	0	0	0	0	0	2	5
		17.91/50.80	21.05	98.30	12.23/8.01	101.07/106.96	-0.44	51.00	62.00		GE
Active Strategies		Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018		
CREF Global Equities R3		5	6	5	5	6	6	6	9		
		GE	GE	GE	GE	GE	GE	GE	GE		

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
CREF Global Equities R3	9.86%	28.28%	28.28%	11.95%	8.01%	9.10%	7.75%
MSCIACWINR	8.95%	26.60%	26.60%	12.44%	8.41%	8.79%	-
Peer Group Performance*	8.69%	26.43%	26.43%	12.16%	7.88%	8.65%	-
Peer Group Rank*	20	34	34	45	48	43	-
Peer Group Size (funds)*	-	-	873	722	605	362	-

*Morningstar Peer Group: World Large Stock

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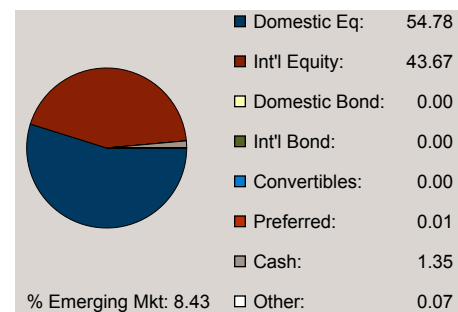
Country Exposure (%)

as of 10/31/2019

US:	55.64	
Canada:	2.37	-
Latin America:	2.29	-
United Kingdom:	5.80	-
EuroZone:	9.75	-
Europe ex-EuroZone:	5.62	-
Europe Emerging:	0.70	-
Africa:	0.25	-
Middle East:	0.15	-
Japan:	7.00	-
Australasia:	1.45	-
Asia Developed:	3.86	-
Asia Emerging:	5.13	-

Asset Allocation (%)

as of 10/31/2019



Additional Information

Prospectus Net Exp. Ratio:	0.27
Prospectus Gross Exp. Ratio:	0.27
Avg Exp Ratio Morningstar (%):	0.87
12b-1 fees (%):	0.05
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	4/24/2015
Share Class Inception:	4/24/2015

TIAA-CREF Lifecycle Retire Income Instl

Category: Moderate Conservative

TLRIX
12/31/2019

Fund Strategy

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 Class W shares of other funds of the Trust and in other investment pools or investment products. It invests in underlying funds according to a relatively stable asset allocation strategy that will not gradually adjust over time and is designed for investors who are already in retirement and may have begun taking systematic withdrawals upon retirement. Target allocations may be changed and actual allocations may vary up to ten percentage points from the targets.

Fund Information

Strategy Asset (\$ mm):	571.00
Share Class Assets (\$ mm):	224.00
Manager:	John Cunniff
Manager Tenure:	12 Years

Portfolio Statistics

Alpha*:	0.19	P/E:	19.31
Beta*:	0.84	P/B:	2.54
Std Dev:	4.84	SEC Yield (%):	2.39
R ² :	97.72	Turnover:	25.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Morningstar Lifetime Mod 2020 TR USD
*3-year statistic: Morningstar Lifetime Mod 2020 TR USD

Top 10 Holdings (%)

as of 11/30/2019

TIAA-CREF Bond W / TBBWX	21.10
TIAA-CREF Bond Plus W / TCBWX	12.88
TIAA-CREF Short-Term Bond W / TCTWX	10.09
TIAA-CREF Inflation Link Bd W / TIWIX	9.99
TIAA-CREF Growth & Income W / TGIWX	5.37
TIAA-CREF Large-Cap Growth W / TILWX	4.81
TIAA-CREF Large-Cap Value W / TRLWX	4.52
Tiaa Cref Real Property Fnd Lp	4.29
TIAA-CREF Quant Large-Cap Growth W / TECWX	4.23
TIAA-CREF Quant Intl Eq W / TEIWX	3.20
% in Top 10 Holdings	80.48
# of Holdings	22

Scorecard System

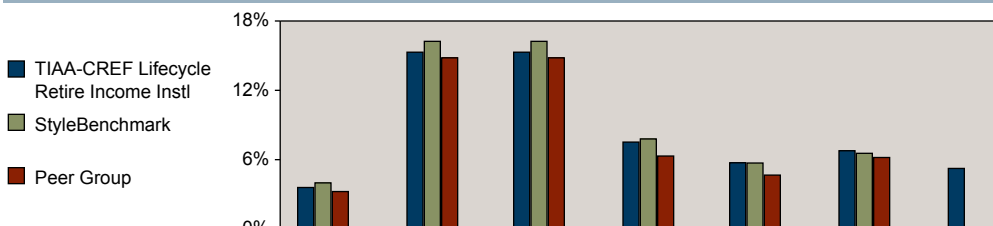
Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Moderate Conservative											
TIAA-CREF Lifecycle Retire Income Instl	TLRIX	1	1	1	1	1	1	1	1	2	9
		5.07	43.33/56.67	98.27	5.07/5.73	98.36/96.17	0.02	22.00	12.00		MC

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
TIAA-CREF Lifecycle Retire Income Instl	9	8	-	-	-	-	-	-
	MC	MC	MC	MC	MC	MC	MC	MC

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Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
TIAA-CREF Lifecycle Retire Income Instl	3.59%	15.30%	15.30%	7.52%	5.73%	6.77%	5.24%
StyleBenchmark*	3.99%	16.24%	16.24%	7.79%	5.71%	6.55%	-
Peer Group Performance**	3.24%	14.81%	14.81%	6.31%	4.66%	6.19%	-
Peer Group Rank**	38	44	44	18	15	24	-
Peer Group Size (funds)**	-	-	562	506	419	270	-

*3.40% Merrill Lynch 3-Month T-Bill, 51.94% BB Aggregate Bond, 29.00% Russell 3000, 15.67% MSCI ACWI Index ex USA ND USD
**Morningstar Peer Group: Allocation-30% to 50% Equity

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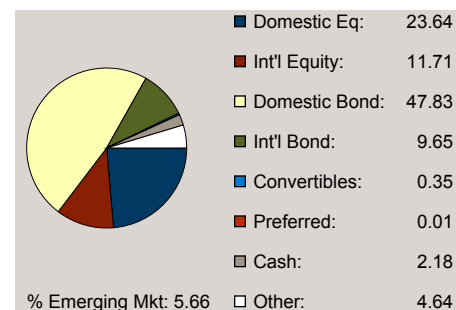
Risk Bucket

as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	5.07
Conservative	3.00≤X<4.50	-

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.37
Prospectus Gross Exp. Ratio:	0.53
Avg Exp Ratio Morningstar (%):	0.80
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$2000000
Waiver Amt:	0.16
Waiver Exp Date:	9/30/2022
Strategy Inception:	11/30/2007
Share Class Inception:	11/30/2007

TIAA-CREF Lifecycle 2010 Institutional

Category: Moderate Conservative

TCTIX
12/31/2019

Fund Strategy

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 Class W shares of other funds of the Trust and in other investment pools or investment products. Advisors currently expects to allocate approximately 35.00% of the fund's assets to equity underlying funds, 60.00% of its assets to fixed-income underlying funds and 5.00% of its assets to direct real estate underlying funds. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

Fund Information

Strategy Asset (\$ mm):	1219.00
Share Class Assets (\$ mm):	757.00
Manager:	John Cunniff
Manager Tenure:	14 Years

Portfolio Statistics

Alpha*:	0.38	P/E:	19.30
Beta*:	0.76	P/B:	2.54
Std Dev:	4.99	SEC Yield (%):	-
R2*:	97.64	Turnover:	22.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Morningstar Lifetime Mod 2025 TR USD
*3-year statistic: Morningstar Lifetime Mod 2025 TR USD

Top 10 Holdings (%)

as of 11/30/2019

TIAA-CREF Bond W / TBBWX	21.04
TIAA-CREF Bond Plus W / TCBWX	12.78
TIAA-CREF Short-Term Bond W / TCTWX	9.84
TIAA-CREF Inflation Link Bd W / TIWIX	9.76
TIAA-CREF Growth & Income W / TGIWX	5.47
TIAA-CREF Large-Cap Growth W / TILWX	4.87
TIAA-CREF Large-Cap Value W / TRLWX	4.60
Tiaa Cref Real Property Fnd Lp	4.29
TIAA-CREF Quant Large-Cap Growth W / TECWX	4.29
TIAA-CREF Quant Intl Eq W / TEIWX	3.25
% in Top 10 Holdings	80.20
# of Holdings	22

Scorecard System

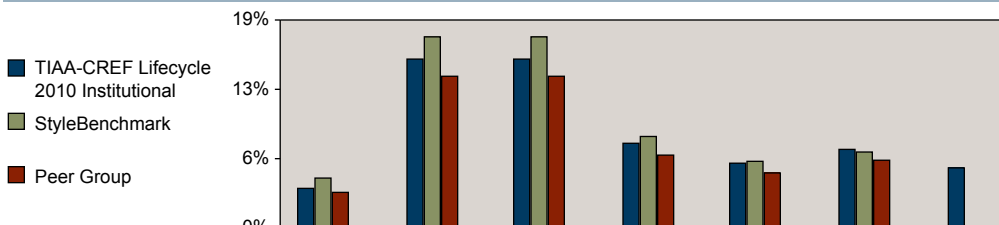
Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Moderate Conservative											
TIAA-CREF Lifecycle 2010 Institutional	TCTIX	1	1	1	1	1	0	1	1	2	9
		5.36	49.88/50.12	98.11	5.36/5.92	92.43/87.72	-0.18	14.00	10.00		MC

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
TIAA-CREF Lifecycle 2010 Institutional	9	8	-	-	-	-	-	-
	MC	MC	MC	MC	MC	MC	MC	MC

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Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
TIAA-CREF Lifecycle 2010 Institutional	3.62%	15.43%	15.43%	7.74%	5.92%	7.18%	5.49%
StyleBenchmark*	4.56%	17.46%	17.46%	8.36%	6.09%	6.94%	-
Peer Group Performance**	3.26%	13.86%	13.86%	6.66%	5.03%	6.19%	-
Peer Group Rank**	36	13	13	2	1	1	-
Peer Group Size (funds)**	-	-	140	102	83	62	-

*3.92% Merrill Lynch 3-Month T-Bill, 46.06% BB Aggregate Bond, 31.06% Russell 3000, 18.96% MSCI ACWI Index ex USA ND USD

**Morningstar Peer Group: Allocation~30% to 50% Equity

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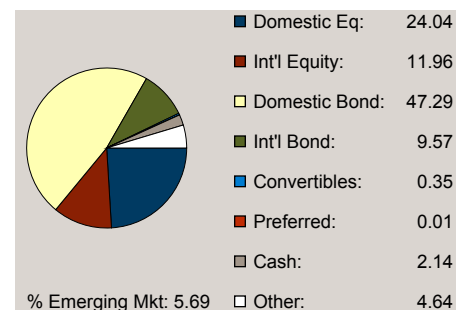
Risk Bucket

as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	5.36
Conservative	3.00≤X<4.50	-

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.37
Prospectus Gross Exp. Ratio:	0.50
Avg Exp Ratio Morningstar (%):	0.42
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$2000000
Waiver Amt:	0.13
Waiver Exp Date:	9/30/2022
Strategy Inception:	10/15/2004
Share Class Inception:	1/17/2007

TIAA-CREF Lifecycle 2015 Institutional

Category: Moderate Conservative

TCNIX
12/31/2019

Fund Strategy

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 Class W shares of other funds of the Trust and in other investment pools or investment products. Advisors currently expects to allocate approximately 40.00% of the fund's assets to equity underlying funds, 55.00% of its assets to fixed-income underlying funds and 5.00% of its assets to direct real estate underlying funds. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

Fund Information

Strategy Asset (\$ mm):	1832.00
Share Class Assets (\$ mm):	1156.00
Manager:	John Cunniff
Manager Tenure:	14 Years

Portfolio Statistics

Alpha*:	0.17	P/E:	19.32
Beta*:	0.85	P/B:	2.54
Std Dev:	5.62	SEC Yield (%):	-
R ² :	98.04	Turnover:	21.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Morningstar Lifetime Mod 2025 TR USD
**3-year statistic: Morningstar Lifetime Mod 2025 TR USD

Top 10 Holdings (%)

as of 11/30/2019

TIAA-CREF Bond W / TBBWX	20.52
TIAA-CREF Bond Plus W / TCBWX	12.43
TIAA-CREF Short-Term Bond W / TCTWX	7.89
TIAA-CREF Inflation Link Bd W / TIWIX	7.76
TIAA-CREF Growth & Income W / TGIWX	6.22
TIAA-CREF Large-Cap Growth W / TILWX	5.55
TIAA-CREF Large-Cap Value W / TRLWX	5.24
TIAA-CREF Quant Large-Cap Growth W / TECWX	4.93
Tiaa Cref Real Property Fnd Lp	4.29
TIAA-CREF Quant Intl Eq W / TEIWX	3.64
% in Top 10 Holdings	78.46
# of Holdings	22

Scorecard System

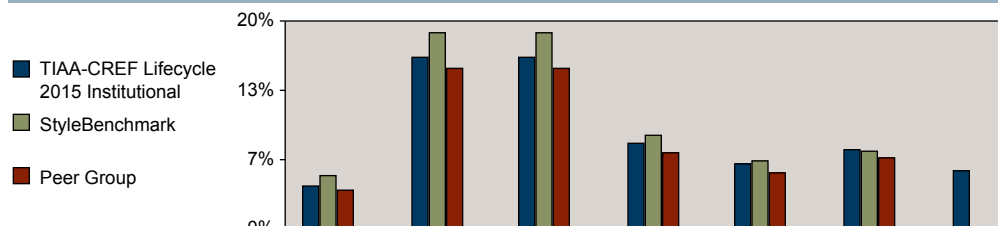
Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Moderate Conservative											
TIAA-CREF Lifecycle 2015 Institutional	TCNIX	1	0	1	1	1	0	1	1	2	8
		5.94	56.40/43.60	98.36	5.94/6.26	90.01/85.30	-0.28	5.00	13.50		MC

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
TIAA-CREF Lifecycle 2015 Institutional	8	8	-	-	-	-	-	-
	MC	MC	MC	MOD	MOD	MOD	MC	MC

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Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
TIAA-CREF Lifecycle 2015 Institutional	4.13%	16.51%	16.51%	8.24%	6.26%	7.62%	5.60%
StyleBenchmark*	5.13%	18.87%	18.87%	9.01%	6.55%	7.48%	-
Peer Group Performance**	3.73%	15.45%	15.45%	7.33%	5.39%	6.83%	-
Peer Group Rank**	31	26	26	16	7	2	-
Peer Group Size (funds)**	-	-	128	99	73	47	-

*2.50% Merrill Lynch 3-Month T-Bill, 41.36% BB Aggregate Bond, 35.38% Russell 3000, 20.76% MSCI ACWI Index ex USA ND USD

**Morningstar Peer Group: Allocation~30% to 50% Equity

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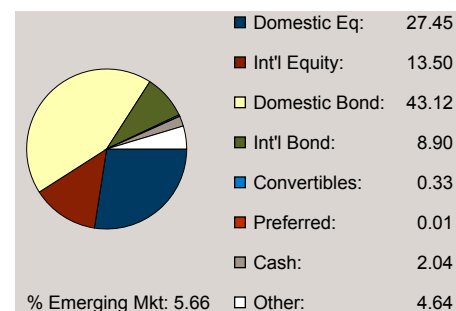
Risk Bucket

as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	5.94
Conservative	3.00≤X<4.50	-

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.38
Prospectus Gross Exp. Ratio:	0.50
Avg Exp Ratio Morningstar (%):	0.41
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$2000000
Waiver Amt:	0.12
Waiver Exp Date:	9/30/2022
Strategy Inception:	10/15/2004
Share Class Inception:	1/17/2007

TIAA-CREF Lifecycle 2020 Institutional

Category: Moderate

TCWIX
12/31/2019

Fund Strategy

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 Class W shares of other funds of the Trust and in other investment pools or investment products. Advisors currently expects to allocate approximately 45.00% of the fund's assets to equity underlying funds, 50.00% of its assets to fixed-income underlying funds and 5.00% of its assets to direct real estate underlying funds. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

Fund Information

Strategy Asset (\$ mm):	3866.00
Share Class Assets (\$ mm):	2520.00
Manager:	John Cunniff
Manager Tenure:	14 Years

Portfolio Statistics

Alpha*:	0.37	P/E:	19.32
Beta*:	0.82	P/B:	2.54
Std Dev:	6.30	SEC Yield (%):	-
R2*:	97.88	Turnover:	23.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Morningstar Lifetime Mod 2030 TR USD
*3-year statistic: Morningstar Lifetime Mod 2030 TR USD

Top 10 Holdings (%) as of 11/30/2019

TIAA-CREF Bond W / TBBWX	19.77
TIAA-CREF Bond Plus W / TCBWX	11.97
TIAA-CREF Growth & Income W / TGIWX	7.01
TIAA-CREF Large-Cap Growth W / TILWX	6.30
TIAA-CREF Large-Cap Value W / TRLWX	5.93
TIAA-CREF Short-Term Bond W / TCTWX	5.89
TIAA-CREF Inflation Link Bd W / TIWX	5.76
TIAA-CREF Quant Large-Cap Growth W / TECWX	5.53
Tiaa Cref Real Property Fnd Lp	4.29
TIAA-CREF Quant Intl Eq W / TEIWX	4.06
% in Top 10 Holdings	76.53
# of Holdings	22

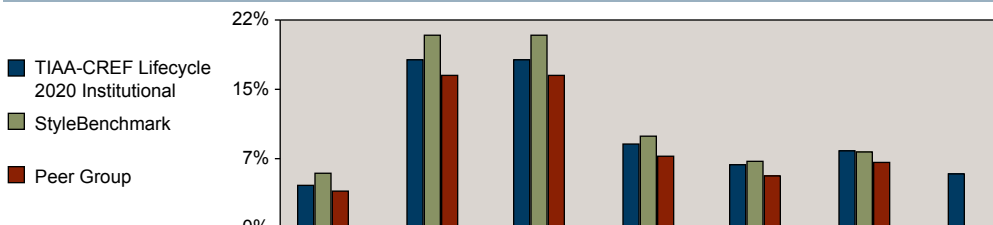
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Moderate											
TIAA-CREF Lifecycle 2020 Institutional	TCWIX	1	1	1	1	1	0	1	1	2	9
		6.70	63.73/36.27	98.02	6.70/6.69	90.23/86.91	-0.29	30.00	14.00		MOD

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
TIAA-CREF Lifecycle 2020 Institutional	9	8	-	-	-	-	-	-
	MOD	MOD	MOD	MOD	MOD	MOD	MOD	MOD

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
TIAA-CREF Lifecycle 2020 Institutional	4.51%	17.79%	17.79%	8.88%	6.69%	8.16%	5.72%
StyleBenchmark*	5.79%	20.39%	20.39%	9.71%	7.05%	8.04%	-
Peer Group Performance**	3.90%	16.14%	16.14%	7.59%	5.51%	6.94%	-
Peer Group Rank**	29	24	24	11	5	4	-
Peer Group Size (funds)**	-	-	233	198	156	93	-

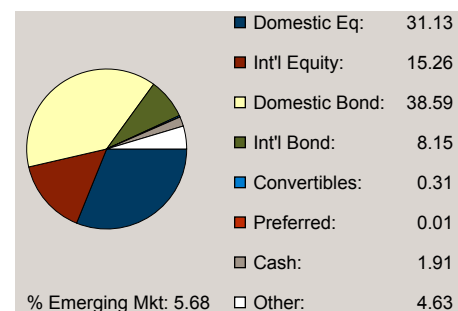
*2.00% Merrill Lynch 3-Month T-Bill, 34.91% BB Aggregate Bond, 40.28% Russell 3000, 22.81% MSCI ACWI Index ex USA ND USD
**Morningstar Peer Group: Allocation~30% to 50% Equity

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	6.70
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.39
Prospectus Gross Exp. Ratio:	0.51
Avg Exp Ratio Morningstar (%):	0.44
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$2000000
Waiver Amt:	0.12
Waiver Exp Date:	9/30/2022
Strategy Inception:	10/15/2004
Share Class Inception:	1/17/2007

TIAA-CREF Lifecycle 2025 Institutional

Category: Moderate

TCYIX
12/31/2019

Fund Strategy

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 Class W shares of other funds of the Trust and in other investment pools or investment products. Advisors currently expects to allocate approximately 54.00% of the fund's assets to equity underlying funds, 41.00% of its assets to fixed-income underlying funds and 5.00% of its assets to direct real estate underlying funds. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

Fund Information

Strategy Asset (\$ mm):	4859.00
Share Class Assets (\$ mm):	3302.00
Manager:	John Cuniff
Manager Tenure:	14 Years

Portfolio Statistics

Alpha*:	0.04	P/E:	19.33
Beta*:	0.95	P/B:	2.55
Std Dev:	7.32	SEC Yield (%):	-
R ² :	98.12	Turnover:	20.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Morningstar Lifetime Mod 2030 TR USD
*3-year statistic: Morningstar Lifetime Mod 2030 TR USD

Top 10 Holdings (%) as of 11/30/2019

TIAA-CREF Bond W / TBBWX	17.21
TIAA-CREF Bond Plus W / TCBWX	10.46
TIAA-CREF Growth & Income W / TGIWX	8.26
TIAA-CREF Large-Cap Growth W / TILWX	7.53
TIAA-CREF Large-Cap Value W / TRLWX	7.07
TIAA-CREF Quant Large-Cap Growth W / TECWX	6.56
TIAA-CREF Quant Intl Eq W / TEIWX	4.74
TIAA-CREF Quant Large-Cap Value W / TELWX	4.38
Tiaa Cref Real Property Fnd Lp	4.29
TIAA-CREF Short-Term Bond W / TCTWX	3.90
% in Top 10 Holdings	74.41
# of Holdings	22

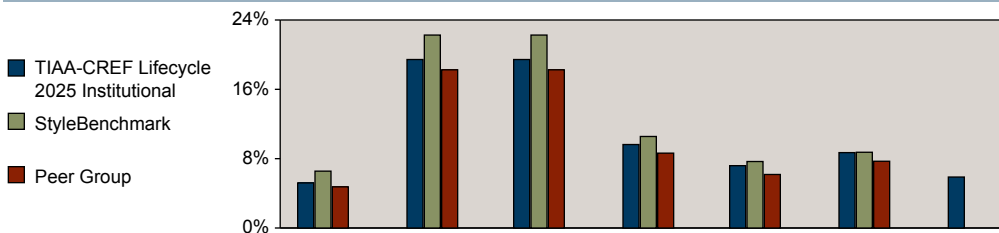
Scorecard System

Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Moderate											
TIAA-CREF Lifecycle 2025 Institutional	TCYIX	1	1	1	1	1	0	1	1	2	9
		7.70	72.35/27.65	98.36	7.70/7.19	90.25/88.47	-0.37	13.00	18.00		MOD

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
TIAA-CREF Lifecycle 2025 Institutional	9	8	-	-	-	-	-	-
	MOD	MOD	MOD	MA	MOD	MOD	MOD	MOD

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
TIAA-CREF Lifecycle 2025 Institutional	5.20%	19.44%	19.44%	9.63%	7.19%	8.70%	5.88%
StyleBenchmark*	6.56%	22.26%	22.26%	10.56%	7.67%	8.74%	-
Peer Group Performance**	4.75%	18.25%	18.25%	8.64%	6.17%	7.70%	-
Peer Group Rank**	32	26	26	11	2	5	-
Peer Group Size (funds)**	-	-	232	196	157	83	-

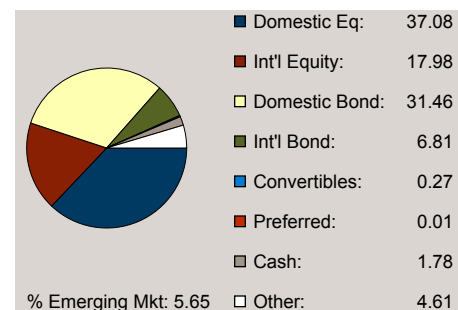
*0.85% Merrill Lynch 3-Month T-Bill, 27.69% BB Aggregate Bond, 46.65% Russell 3000, 24.82% MSCI ACWI Index ex USA ND USD
**Morningstar Peer Group: Allocation~30% to 50% Equity

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Risk Bucket as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	7.70
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%) as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.41
Prospectus Gross Exp. Ratio:	0.52
Avg Exp Ratio Morningstar (%):	0.44
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$200000
Waiver Amt:	0.11
Waiver Exp Date:	9/30/2022
Strategy Inception:	10/15/2004
Share Class Inception:	1/17/2007

TIAA-CREF Lifecycle 2030 Institutional

Category: Moderate Aggressive

TCRIX
12/31/2019

Fund Strategy

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 Class W shares of other funds of the Trust and in other investment pools or investment products. Advisors currently expects to allocate approximately 63.00% of the fund's assets to equity underlying funds, 32.00% of its assets to fixed-income underlying funds and 5.00% of its assets to direct real estate underlying funds. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

Fund Information

Strategy Asset (\$ mm):	4899.00
Share Class Assets (\$ mm):	3370.00
Manager:	John Cuniff
Manager Tenure:	14 Years

Portfolio Statistics

Alpha*:	0.12	P/E:	19.34
Beta*:	0.94	P/B:	2.55
Std Dev:	8.38	SEC Yield (%):	-
R ² :	98.34	Turnover:	20.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Morningstar Lifetime Mod 2035 TR USD
*3-year statistic: Morningstar Lifetime Mod 2035 TR USD

Top 10 Holdings (%)

as of 11/30/2019

TIAA-CREF Bond W / TBBWX	14.66
TIAA-CREF Growth & Income W / TGIWX	9.48
TIAA-CREF Bond Plus W / TCBWX	8.95
TIAA-CREF Large-Cap Growth W / TILWX	8.75
TIAA-CREF Large-Cap Value W / TRLWX	8.25
TIAA-CREF Quant Large-Cap Growth W / TECWX	7.57
TIAA-CREF Quant Intl Eq W / TEIWX	5.41
TIAA-CREF Quant Large-Cap Value W / TELWX	5.08
Tiaa Cref Real Property Fnd Lp	4.29
TIAA-CREF International Opps W / TIOVX	4.19
% in Top 10 Holdings	76.64
# of Holdings	22

Scorecard System

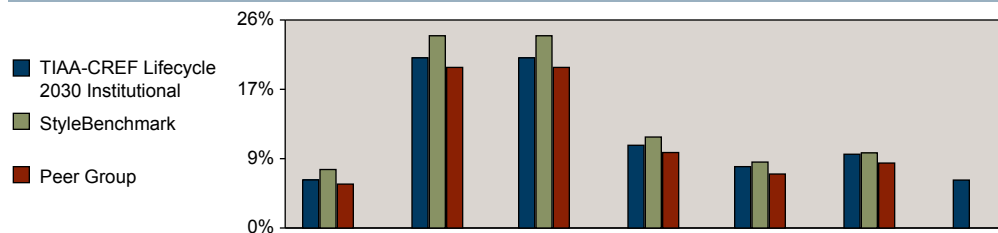
Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Moderate Aggressive											
TIAA-CREF Lifecycle 2030 Institutional	TCRIX	1	1	1	1	1	0	1	1	2	9
		8.75	80.73/19.27	98.51	8.75/7.67	90.78/90.16	-0.42	38.00	14.00		MA

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
TIAA-CREF Lifecycle 2030 Institutional	9	8	-	-	-	-	-	-
	MA	MA	MA	MA	MA	MA	MA	MA

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
TIAA-CREF Lifecycle 2030 Institutional	6.01%	21.27%	21.27%	10.34%	7.67%	9.22%	5.99%
StyleBenchmark*	7.31%	24.03%	24.03%	11.37%	8.24%	9.39%	-
Peer Group Performance**	5.49%	20.07%	20.07%	9.43%	6.75%	8.12%	-
Peer Group Rank**	26	25	25	17	11	8	-
Peer Group Size (funds)**	-	-	241	206	164	95	-

*0.52% Merrill Lynch 3-Month T-Bill, 19.80% BB Aggregate Bond, 52.93% Russell 3000, 26.75% MSCI ACWI Index ex USA ND USD

**Morningstar Peer Group: Allocation~30% to 50% Equity

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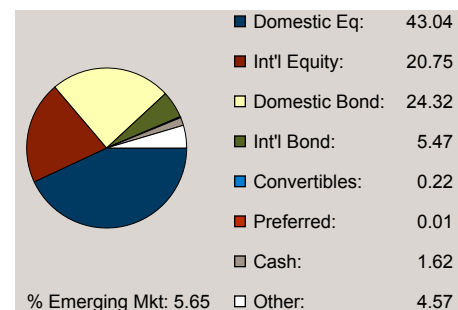
Risk Bucket

as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	8.75
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.42
Prospectus Gross Exp. Ratio:	0.53
Avg Exp Ratio Morningstar (%):	0.45
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$2000000
Waiver Amt:	0.11
Waiver Exp Date:	9/30/2022
Strategy Inception:	10/15/2004
Share Class Inception:	1/17/2007

TIAA-CREF Lifecycle 2035 Institutional

Category: Moderate Aggressive

TCIIX
12/31/2019

Fund Strategy

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 Class W shares of other funds of the Trust and in other investment pools or investment products. Advisors currently expects to allocate approximately 72.00% of the fund's assets to equity underlying funds, 23.00% of its assets to fixed-income underlying funds and 5.00% of its assets to direct real estate underlying funds. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

Fund Information

Strategy Asset (\$ mm):	5011.00
Share Class Assets (\$ mm):	3518.00
Manager:	John Cunniff
Manager Tenure:	14 Years

Portfolio Statistics

Alpha*:	-0.14	P/E:	19.35
Beta*:	1.05	P/B:	2.55
Std Dev:	9.41	SEC Yield (%):	-
R ² :	98.24	Turnover:	17.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Morningstar Lifetime Mod 2035 TR USD
*3-year statistic: Morningstar Lifetime Mod 2035 TR USD

Top 10 Holdings (%)

as of 11/30/2019

TIAA-CREF Bond W / TBBWX	11.77
TIAA-CREF Growth & Income W / TGIWX	10.76
TIAA-CREF Large-Cap Growth W / TILWX	9.95
TIAA-CREF Large-Cap Value W / TRLWX	9.40
TIAA-CREF Quant Large-Cap Growth W / TECWX	8.59
TIAA-CREF Bond Plus W / TCBWX	7.25
TIAA-CREF Quant Intl Eq W / TEIWX	6.10
TIAA-CREF Quant Large-Cap Value W / TELWX	5.78
TIAA-CREF International Opps W / TIOVX	4.75
TIAA-CREF International Eq W / TIEWX	4.74
% in Top 10 Holdings	79.08
# of Holdings	20

Scorecard System

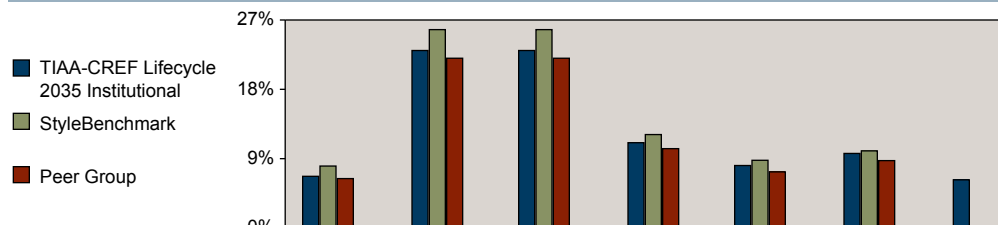
Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Moderate Aggressive											
TIAA-CREF Lifecycle 2035 Institutional	TCIIX	1	1	1	1	0	0	1	1	2	8
		9.74	88.85/11.15	98.55	9.74/8.11	91.80/92.69	-0.47	14.00	21.00		MA

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
TIAA-CREF Lifecycle 2035 Institutional	8	8	-	-	-	-	-	-
	MA	MA	MA	AGG	AGG	MA	MA	MA

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Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
TIAA-CREF Lifecycle 2035 Institutional	6.71%	23.04%	23.04%	11.07%	8.11%	9.68%	6.25%
StyleBenchmark*	8.04%	25.75%	25.75%	12.13%	8.79%	10.01%	-
Peer Group Performance**	6.41%	22.04%	22.04%	10.30%	7.28%	8.75%	-
Peer Group Rank**	33	27	27	20	13	8	-
Peer Group Size (funds)**	-	-	229	193	154	80	-

*0.00% Merrill Lynch 3-Month T-Bill, 12.35% BB Aggregate Bond, 59.16% Russell 3000, 28.48% MSCI ACWI Index ex USA ND USD

**Morningstar Peer Group: Allocation~30% to 50% Equity

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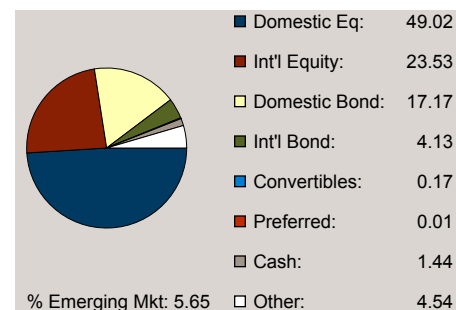
Risk Bucket

as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	-
Moderate Aggressive	8.25≤X<10.25	9.74
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.43
Prospectus Gross Exp. Ratio:	0.54
Avg Exp Ratio Morningstar (%):	0.45
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$2000000
Waiver Amt:	0.11
Waiver Exp Date:	9/30/2022
Strategy Inception:	10/15/2004
Share Class Inception:	1/17/2007

TIAA-CREF Lifecycle 2040 Institutional

Category: Aggressive

TCOIX
12/31/2019

Fund Strategy

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 Class W shares of other funds of the Trust and in other investment pools or investment products. Advisors currently expects to allocate approximately 81.00% of the fund's assets to equity underlying funds, 14.00% of its assets to fixed-income underlying funds and 5.00% of its assets to direct real estate underlying funds. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

Fund Information

Strategy Asset (\$ mm):	5931.00
Share Class Assets (\$ mm):	4133.00
Manager:	John Cunniff
Manager Tenure:	14 Years

Portfolio Statistics

Alpha*:	-0.05	P/E:	19.35
Beta*:	1.06	P/B:	2.55
Std Dev:	10.46	SEC Yield (%):	-
R ² :	98.29	Turnover:	18.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Morningstar Lifetime Mod 2040 TR USD
*3-year statistic: Morningstar Lifetime Mod 2040 TR USD

Top 10 Holdings (%)

as of 11/30/2019

TIAA-CREF Growth & Income W / TGIWX	12.07
TIAA-CREF Large-Cap Growth W / TILWX	11.12
TIAA-CREF Large-Cap Value W / TRLWX	10.52
TIAA-CREF Quant Large-Cap Growth W / TECWX9.65	
TIAA-CREF Bond W / TBBWX	7.12
TIAA-CREF Quant Intl Eq W / TEIWX	6.78
TIAA-CREF Quant Large-Cap Value W / TELWX	6.48
TIAA-CREF International Opps W / TIOVX	5.32
TIAA-CREF International Eq W / TIEWX	5.31
TIAA-CREF Bond Plus W / TCBWX	4.37
% in Top 10 Holdings	78.74
# of Holdings	20

Scorecard System

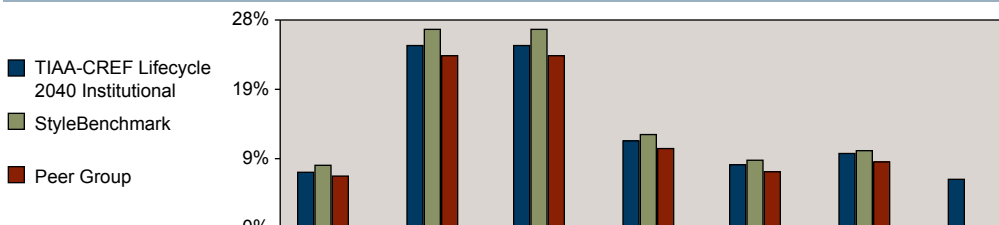
Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Aggressive											
TIAA-CREF Lifecycle 2040 Institutional	TCOIX	1	1	1	1	0	0	1	1	2	8
		10.74	93.17/6.83	98.55	10.74/8.51	95.58/98.10	-0.46	17.00	20.00		AGG

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
TIAA-CREF Lifecycle 2040 Institutional	8	8	-	-	-	-	-	-
	AGG	AGG	AGG	AGG	AGG	AGG	AGG	AGG

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Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
TIAA-CREF Lifecycle 2040 Institutional	7.50%	24.56%	24.56%	11.72%	8.51%	10.03%	6.55%
StyleBenchmark*	8.44%	26.74%	26.74%	12.58%	9.12%	10.41%	-
Peer Group Performance**	6.99%	23.19%	23.19%	10.70%	7.57%	8.89%	-
Peer Group Rank**	24	24	24	18	12	8	-
Peer Group Size (funds)**	-	-	241	206	164	95	-

*0.13% Merrill Lynch 3-Month T-Bill, 7.36% BB Aggregate Bond, 63.89% Russell 3000, 28.61% MSCI ACWI Index ex USA ND USD

**Morningstar Peer Group: Allocation~30% to 50% Equity

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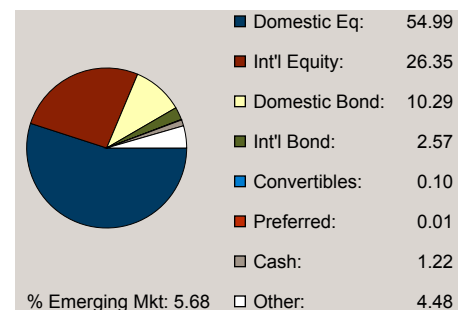
Risk Bucket

as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	10.74
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.44
Prospectus Gross Exp. Ratio:	0.55
Avg Exp Ratio Morningstar (%):	0.45
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$2000000
Waiver Amt:	0.11
Waiver Exp Date:	9/30/2022
Strategy Inception:	10/15/2004
Share Class Inception:	1/17/2007

TIAA-CREF Lifecycle 2045 Institutional

Category: Aggressive

TTFIX
12/31/2019

Fund Strategy

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 Class W shares of other funds of the Trust and in other investment pools or investment products. Advisors currently expects to allocate approximately 90.00% of the fund's assets to equity underlying funds, 5.00% of its assets to fixed-income underlying funds and 5.00% of its assets to direct real estate underlying funds. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

Fund Information

Strategy Asset (\$ mm):	3511.00
Share Class Assets (\$ mm):	2511.00
Manager:	John Cunniff
Manager Tenure:	12 Years

Portfolio Statistics

Alpha*:	-0.42	P/E:	19.34
Beta*:	1.14	P/B:	2.55
Std Dev:	11.23	SEC Yield (%):	-
R ² :	98.36	Turnover:	13.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Morningstar Lifetime Mod 2040 TR USD
*3-year statistic: Morningstar Lifetime Mod 2040 TR USD

Top 10 Holdings (%)

as of 11/30/2019

TIAA-CREF Growth & Income W / TGIWX	13.29
TIAA-CREF Large-Cap Growth W / TILWX	12.13
TIAA-CREF Large-Cap Value W / TRLWX	11.46
TIAA-CREF Quant Large-Cap Growth W / TECWX	10.56
TIAA-CREF Quant Intl Eq W / TEIWX	7.39
TIAA-CREF Quant Large-Cap Value W / TELWX	7.11
TIAA-CREF International Opps W / TIOVX	5.80
TIAA-CREF International Eq W / TIEWX	5.78
TIAA-CREF Emerging Markets Eq W / TEMVX	4.68
Tiaa Cref Real Property Fnd Lp	4.30
% in Top 10 Holdings	82.50
# of Holdings	20

Scorecard System

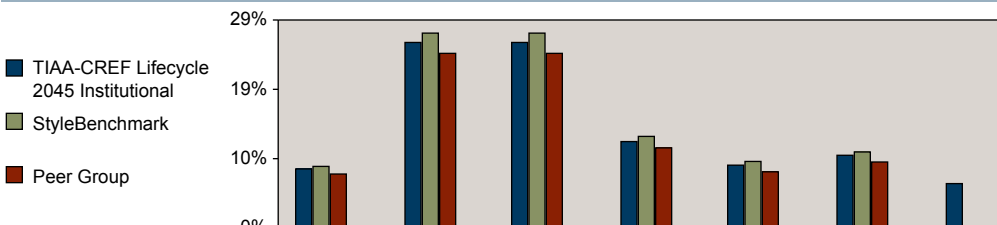
Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Aggressive											
TIAA-CREF Lifecycle 2045 Institutional	TTFIX	1	1	1	0	0	0	1	1	2	8
		11.24	94.89/5.11	98.69	11.24/8.76	98.07/101.10	-0.40	9.00	28.00		AGG

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
TIAA-CREF Lifecycle 2045 Institutional	8	7	-	-	-	-	-	-
	AGG	AGG	AGG	AGG	AGG	AGG	AGG	AGG

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
TIAA-CREF Lifecycle 2045 Institutional	8.23%	25.87%	25.87%	12.05%	8.76%	10.14%	6.19%
StyleBenchmark*	8.59%	27.17%	27.17%	12.77%	9.28%	10.60%	-
Peer Group Performance**	7.53%	24.35%	24.35%	11.17%	7.83%	9.20%	-
Peer Group Rank**	18	15	15	16	7	9	-
Peer Group Size (funds)**	-	-	229	193	154	79	-

*0.00% Merrill Lynch 3-Month T-Bill, 5.07% BB Aggregate Bond, 66.54% Russell 3000, 28.39% MSCI ACWI Index ex USA ND USD

**Morningstar Peer Group: Allocation~30% to 50% Equity

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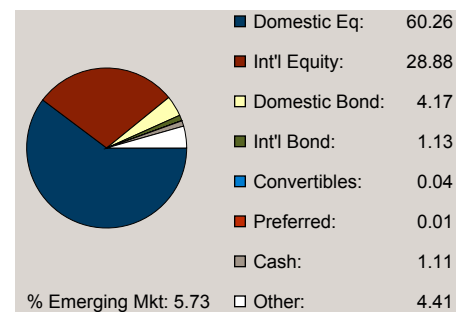
Risk Bucket

as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	11.24
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.45
Prospectus Gross Exp. Ratio:	0.56
Avg Exp Ratio Morningstar (%):	0.45
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$2000000
Waiver Amt:	0.11
Waiver Exp Date:	9/30/2022
Strategy Inception:	11/30/2007
Share Class Inception:	11/30/2007

TIAA-CREF Lifecycle 2050 Institutional

Category: Aggressive

TFTIX
12/31/2019

Fund Strategy

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 Class W shares of other funds of the Trust and in other investment pools or investment products. Advisors currently expects to allocate approximately 91.25% of the fund's assets to equity underlying funds, 3.75% of its assets to fixed-income underlying funds and 5.00% of its assets to direct real estate underlying funds. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

Fund Information

Strategy Asset (\$ mm):	2410.00
Share Class Assets (\$ mm):	1733.00
Manager:	John Cunniff
Manager Tenure:	12 Years

Portfolio Statistics

Alpha*:	-0.48	P/E:	19.33
Beta*:	1.16	P/B:	2.55
Std Dev:	11.43	SEC Yield (%):	-
R ² :	98.45	Turnover:	12.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Morningstar Lifetime Mod 2040 TR USD
*3-year statistic: Morningstar Lifetime Mod 2040 TR USD

Top 10 Holdings (%)

as of 11/30/2019

TIAA-CREF Growth & Income W / TGIWX	13.46
TIAA-CREF Large-Cap Growth W / TILWX	12.28
TIAA-CREF Large-Cap Value W / TRLWX	11.61
TIAA-CREF Quant Large-Cap Growth W / TECWX	10.71
TIAA-CREF Quant Intl Eq W / TEIWX	7.51
TIAA-CREF Quant Large-Cap Value W / TELWX	7.20
TIAA-CREF International Opps W / TIOVX	5.88
TIAA-CREF International Eq W / TIEWX	5.85
TIAA-CREF Emerging Markets Eq W / TEMVX	4.74
Tiaa Cref Real Property Fnd Lp	4.30
% in Top 10 Holdings	83.55
# of Holdings	20

Scorecard System

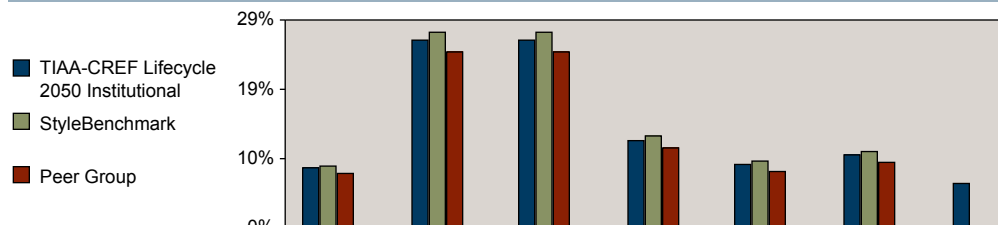
Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Aggressive											
TIAA-CREF Lifecycle 2050 Institutional	TFTIX	1	0	1	0	0	0	1	1	2	7
		11.35	95.31/4.69	98.65	11.35/8.86	98.49/101.39	-0.36	7.00	30.00		AGG

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
TIAA-CREF Lifecycle 2050 Institutional	7	7	-	-	-	-	-	-
	AGG	AGG	AGG	AGG	AGG	AGG	AGG	AGG

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
TIAA-CREF Lifecycle 2050 Institutional	8.39%	26.19%	26.19%	12.18%	8.86%	10.19%	6.21%
StyleBenchmark*	8.63%	27.29%	27.29%	12.83%	9.33%	10.66%	-
Peer Group Performance**	7.61%	24.54%	24.54%	11.16%	7.88%	9.15%	-
Peer Group Rank**	18	12	12	16	6	9	-
Peer Group Size (funds)**	-	-	241	206	164	77	-

*0.00% Merrill Lynch 3-Month T-Bill, 4.59% BB Aggregate Bond, 67.34% Russell 3000, 28.06% MSCI ACWI Index ex USA ND USD

**Morningstar Peer Group: Allocation~30% to 50% Equity

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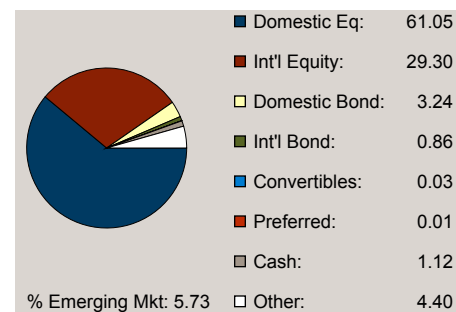
Risk Bucket

as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	11.35
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.45
Prospectus Gross Exp. Ratio:	0.57
Avg Exp Ratio Morningstar (%):	0.46
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$2000000
Waiver Amt:	0.12
Waiver Exp Date:	9/30/2022
Strategy Inception:	11/30/2007
Share Class Inception:	11/30/2007

TIAA-CREF Lifecycle 2055 Institutional

Category: Aggressive

TTRIX
12/31/2019

Fund Strategy

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 Class W shares of other funds of the Trust and in other investment pools or investment products. Advisors currently expects to allocate approximately 92.50% of the fund's assets to equity underlying funds, 2.50% of its assets to fixed-income underlying funds and 5.00% of its assets to direct real estate underlying funds. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

Fund Information

Strategy Asset (\$ mm):	898.00
Share Class Assets (\$ mm):	620.00
Manager:	John Cunniff
Manager Tenure:	9 Years

Portfolio Statistics

Alpha*:	-0.36	P/E:	19.33
Beta*:	1.05	P/B:	2.54
Std Dev:	11.53	SEC Yield (%):	-
R2*:	98.36	Turnover:	10.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Morningstar Agg Tgt Risk TR USD
*3-year statistic: Morningstar Agg Tgt Risk TR USD

Top 10 Holdings (%)

as of 11/30/2019

TIAA-CREF Growth & Income W / TGIWX	13.59
TIAA-CREF Large-Cap Growth W / TILWX	12.42
TIAA-CREF Large-Cap Value W / TRLWX	11.73
TIAA-CREF Quant Large-Cap Growth W / TECWX	10.85
TIAA-CREF Quant Intl Eq W / TEIWX	7.65
TIAA-CREF Quant Large-Cap Value W / TELWX	7.29
TIAA-CREF International Opps W / TIOVX	5.99
TIAA-CREF International Eq W / TIEWX	5.93
TIAA-CREF Emerging Markets Eq W / TEMVX	4.80
Tiaa Cref Real Property Fnd Lp	4.29
% in Top 10 Holdings	84.54
# of Holdings	20

Scorecard System

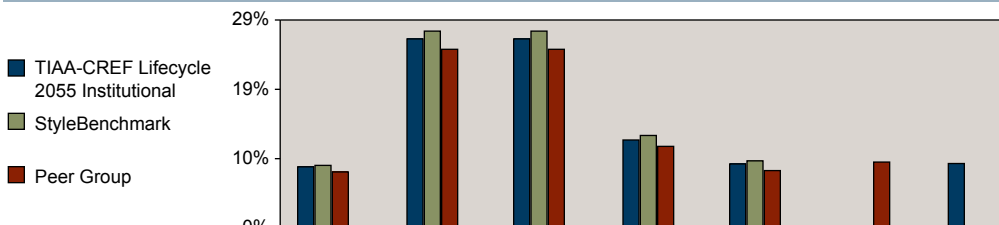
Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Aggressive											
TIAA-CREF Lifecycle 2055 Institutional	TTRIX	1	0	1	0	0	0	1	1	2	7
		11.44	96.40/3.60	98.60	11.44/8.93	98.37/100.83	-0.31	6.00	30.00		AGG

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
TIAA-CREF Lifecycle 2055 Institutional	7	7	-	-	-	-	-	-
	AGG	AGG	AGG	AGG	AGG	AGG	AGG	AGG

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
TIAA-CREF Lifecycle 2055 Institutional	8.53%	26.36%	26.36%	12.27%	8.93%	-	8.99%
StyleBenchmark*	8.73%	27.45%	27.45%	12.90%	9.36%	-	-
Peer Group Performance**	7.81%	24.91%	24.91%	11.38%	8.01%	9.19%	-
Peer Group Rank**	16	14	14	14	6	-	-
Peer Group Size (funds)**	-	-	229	191	149	15	-

*0.00% Merrill Lynch 3-Month T-Bill, 3.59% BB Aggregate Bond, 67.47% Russell 3000, 28.95% MSCI ACWI Index ex USA ND USD
**Morningstar Peer Group: Allocation~30% to 50% Equity

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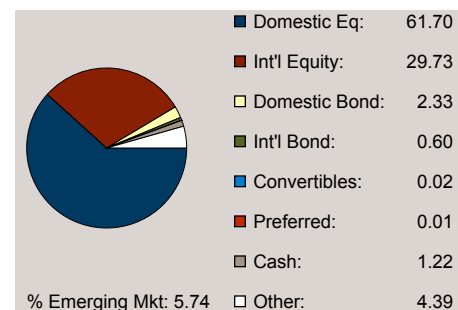
Risk Bucket

as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	11.44
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.45
Prospectus Gross Exp. Ratio:	0.59
Avg Exp Ratio Morningstar (%):	0.45
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$2000000
Waiver Amt:	0.14
Waiver Exp Date:	9/30/2022
Strategy Inception:	4/29/2011
Share Class Inception:	4/29/2011

TIAA-CREF Lifecycle 2060 Institutional

Category: Aggressive

TLXNX
12/31/2019

Fund Strategy

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 in other investment pools or investment products. Advisors currently expects to allocate approximately 93.75% of the fund's assets to equity underlying funds, 1.25% of its assets to fixed-income underlying funds and 5.00% of its assets to direct real estate underlying funds. Target allocations will change over time and actual allocations may vary up to ten percentage points from the targets.

Fund Information

Strategy Asset (\$ mm):	187.00
Share Class Assets (\$ mm):	135.00
Manager:	John Cunniff
Manager Tenure:	5 Years

Portfolio Statistics

Alpha*:	-0.46	P/E:	19.33
Beta*:	1.07	P/B:	2.54
Std Dev:	11.72	SEC Yield (%):	-
R ² :	98.38	Turnover:	36.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: Morningstar Agg Tgt Risk TR USD
*3-year statistic: Morningstar Agg Tgt Risk TR USD

Top 10 Holdings (%)

as of 11/30/2019

TIAA-CREF Growth & Income W / TGIWX	13.74
TIAA-CREF Large-Cap Growth W / TILWX	12.55
TIAA-CREF Large-Cap Value W / TRLWX	11.85
TIAA-CREF Quant Large-Cap Growth W / TECWX	10.97
TIAA-CREF Quant Intl Eq W / TEIWX	7.73
TIAA-CREF Quant Large-Cap Value W / TELWX	7.37
TIAA-CREF International Opps W / TIOVX	6.05
TIAA-CREF International Eq W / TIEWX	6.00
TIAA-CREF Emerging Markets Eq W / TEMVX	4.86
Tiaa Cref Real Property Fnd Lp	4.28
% in Top 10 Holdings	85.41
# of Holdings	20

Scorecard System

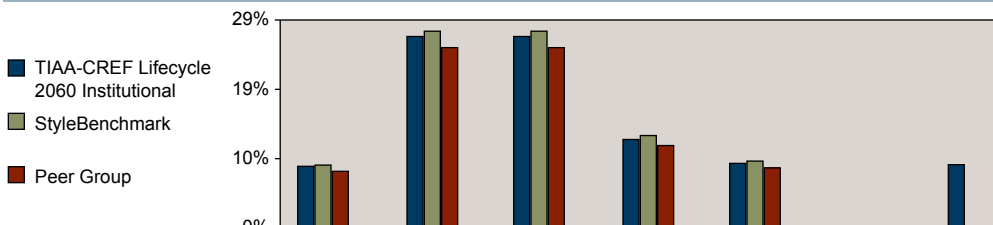
Asset Allocation Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Allocation Score 12/31/2019
		Risk Level	Style Diversity	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	SR Ratio Rank		
Aggressive											
TIAA-CREF Lifecycle 2060 Institutional	TLXNX	1	0	1	0	0	0	1	1	2	7
		11.55	96.87/3.13	98.55	11.55/9.01	98.84/100.68	-0.23	5.00	32.00		AGG

Asset Allocation Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
TIAA-CREF Lifecycle 2060 Institutional	7	7	-	-	-	-	-	-
	AGG	AGG						

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
TIAA-CREF Lifecycle 2060 Institutional	8.60%	26.70%	26.70%	12.34%	9.01%	-	8.83%
StyleBenchmark*	8.77%	27.44%	27.44%	12.89%	9.33%	-	-
Peer Group Performance**	7.90%	25.15%	25.15%	11.50%	8.37%	-	-
Peer Group Rank**	15	11	11	14	8	-	-
Peer Group Size (funds)**	-	-	216	147	34	-	-

*0.00% Merrill Lynch 3-Month T-Bill, 2.99% BB Aggregate Bond, 66.57% Russell 3000, 30.44% MSCI ACWI Index ex USA ND USD

**Morningstar Peer Group: Allocation~30% to 50% Equity

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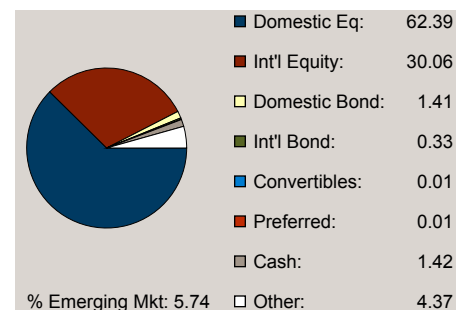
Risk Bucket

as of 12/31/2019

Risk Bucket	Risk Range	Risk (X)
Aggressive	10.25≤X<12.25	11.55
Moderate Aggressive	8.25≤X<10.25	-
Moderate	6.25≤X<8.25	-
Moderate Conservative	4.50≤X<6.25	-
Conservative	3.00≤X<4.50	-

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.45
Prospectus Gross Exp. Ratio:	0.71
Avg Exp Ratio Morningstar (%):	0.48
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$2000000
Waiver Amt:	0.26
Waiver Exp Date:	9/30/2022
Strategy Inception:	9/26/2014
Share Class Inception:	9/26/2014

Vendor Survey

Maryland ORP Vendor Survey

As part of the biennial ORP review, Financial Integrity Resources Management, LLC. conducted a survey of the two recordkeepers, Fidelity and TIAA. The survey was constructed to gather feedback on the Plan's design and current vendors service. Survey respondents were asked whether they were "Unsatisfied", "Satisfied" or "Very Satisfied" with certain aspects of the Plan and were given space to provide commentary.

Survey topics included:

- General issues
- Communication and Education Services
- Administrative services
- Investment options
- Technology customer service

A total of ten (10) benefit coordinators responded to the survey.

Maryland ORP Vendor Survey Continued...

General Issues

Plan Administrators were happy with the overall structure of the ORP as 100% responded that they were satisfied or very satisfied.

TIAA

Feedback was positive and indicating respondents are "Satisfied" with TIAA's issue resolution process.

- Respondents were "Satisfied" with TIAA's issue resolution, as **55.6%** responded "Very Satisfied" and **44.4%** responded "Satisfied".
- Issue resolution for plan sponsors was also satisfactory, with comments stating that there is always a representative available who is very knowledgeable about the ORP program. **100%** responded that they were "Satisfied" or "Very Satisfied".

Fidelity

Feedback was positive but less favorable than TIAA. It appears to be due to Fidelity's cumbersome processes and slower response.

- While **77.7%** of respondents expressed "Satisfaction" with Fidelity's participant issue resolution, **22.3%** felt it was "Unsatisfactory". Areas for improvement were Fidelity's slow response time, which makes it difficult to get information back to participants, and the cumbersome process of Plan Sponsor Webstation (PSW).
- Like participant issue resolution, **77.7%** of respondents found Fidelity's plan sponsor issue resolution to be "Satisfactory". However, **22.3%** found it "Unsatisfactory" commenting that PSW is "a bear to navigate" and covers all applicable plans with one entry when entering termination data and disclosing slow response problem.

Maryland ORP Vendor Survey Continued...

Communication and Education Services

Respondents were largely satisfied with the communication and education services provided by both record-keepers.

TIAA

Feedback was positive indicating respondents are "Satisfied" with TIAA's overall communication and education services.

- **88.8%** of respondents were "Satisfied" with the level of education provided on retirement readiness.
- **100%** of the respondents were "Satisfied" with the level of field representative support available, with comments expecting more campus attendance.

Fidelity

Feedback was positive but less favorable than TIAA on communication and education services, as **66.6%** responded that they were "Satisfied" or "Very Satisfied".

- **88.8%** of respondents were "Satisfied" with the level of education provided on retirement readiness.
- **66.7%** of respondents were "Satisfied" with the number of field support representative available and **77.8%** of responses were "Satisfied" or "Very Satisfied" with the frequency of on-site meetings and support. Some comments stated more field offices, more campus attendance and additional field representatives available to have onsite consulting were expected.

Maryland ORP Vendor Survey Continued...

Administration Services

Respondents were overall satisfied with the administrative services provided.

TIAA

100% respondents are "Satisfied" with TIAA's overall administration service.

- **100%** of respondents were "Satisfied" with the provider's responsiveness and the timeliness of reports and services.
- **100%** of the respondents were "Satisfied" with the usefulness and ease of understanding the reports. There was also positive feedback on the website being administrator-friendly.

Fidelity

Feedback was positive but less favorable than TIAA on overall administration service due to slower responsiveness and difficulty processing transactions.

- **80%** of respondents were "Satisfied" with the provider's responsiveness and **77.8%** of respondents were satisfied with the timeliness of services. Response time to questions is expected to be quicker.
- **88.8%** of the respondents were "Satisfied" with the usefulness and ease of understanding the reports. And **77.8%** of the respondents were "Satisfied" with the ease of use of the administrative services. More education for admins on how to onboard and offboard employees is expected.

Maryland ORP Vendor Survey Continued...

Investment Options

Respondents were "Satisfied" with the investment options offered by both record keepers. With the introduction of the self-directed brokerage window in 2018, participants now have the flexibility to purchase any mutual fund available in the window. All respondents were satisfied with the array of investment options and brokerage window offered by TIAA and Fidelity.

Technology Customer Services

Respondents were overall "Satisfied" with the tools provided to help participants with their retirement preparation and readiness but also expected improvements.

TIAA

100% of respondents were "Satisfied" with the PlanFocus online portal.

- **100%** of respondents were "Satisfied" with the overall technology customer service and call center customer service.
- **88.9%** of respondents agreed the portal is user-friendly and easy to navigate and **87.5%** of respondents were "Satisfied" with the mobile apps provided.

Fidelity

78.8% of respondents were "Satisfied" with the Plan Sponsor Webstation (PSW) online portal.

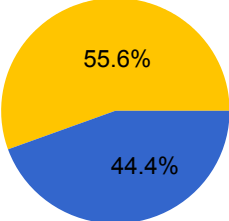
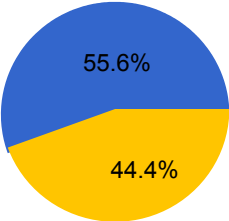
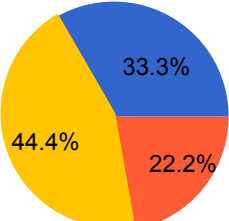
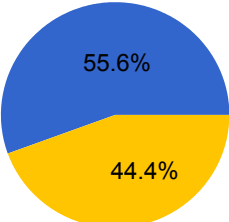
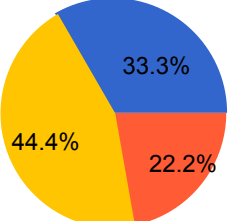
- **70%** of respondents were "Satisfied" with the overall technology customer service and **77.7%** of respondents were "Satisfied" with call center customer service.
- **80%** of respondents agreed the portal is user-friendly and easy to navigate and **77.8%** of respondents were "Satisfied" with the mobile apps provided.

Maryland ORP Vendor Survey Continued...

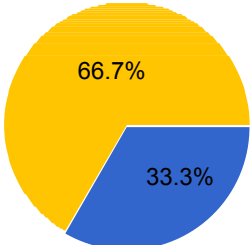
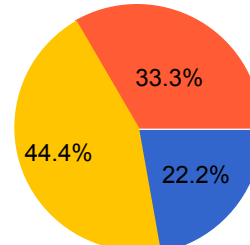
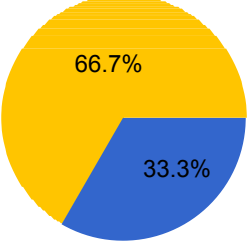
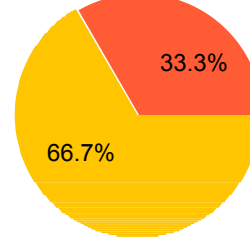
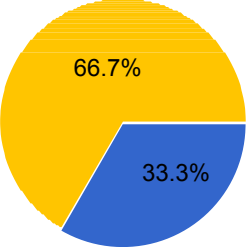
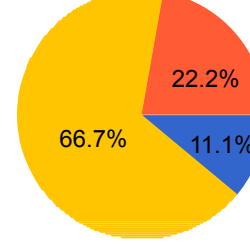
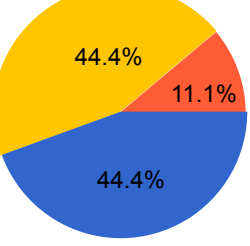
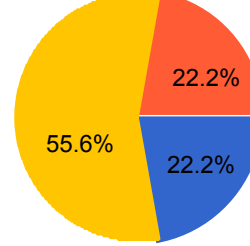
Conclusion

- The respondents were generally "Satisfied" with the Plan's service providers. Several respondents listed items they felt would enhance the program such as campus attendance and more user-friendly portal, which were the most consistent.
- For **TIAA**, respondents stated that participation rates for eligible employees range from as little as 25% to as much as 80%. Respondents were overall satisfied with the plan but expected improvement with online enrollment.
- For **Fidelity**, respondents stated that participation rates for eligible employees range from as little as 15% to as much as 50%. Consistent with prior surveys, respondents had several issues they would like to see addressed: less cumbersome plan sponsor website and transaction processing and quicker responsiveness. Respondents also indicated expectations on more onsite consulting representatives and/or more field offices and would like even more outreach for education programs. Updating the Plan Sponsor Webstation to be easier to navigate as well as better communication was mentioned as a suggested improvement for efficiency for the plan administrators.

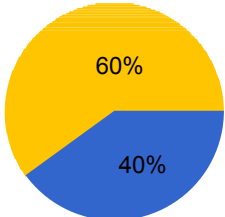
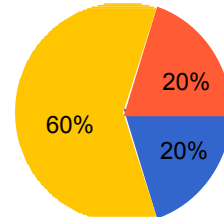
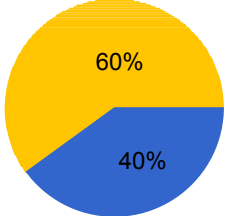
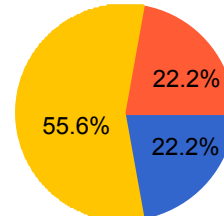
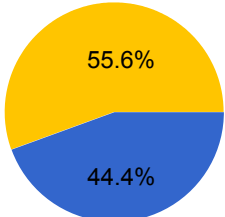
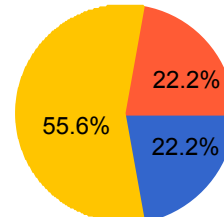
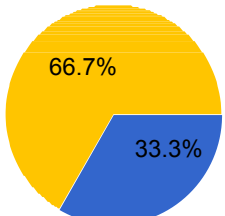
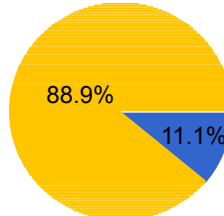
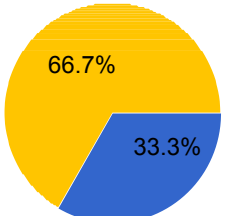
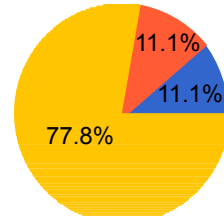
General Issues

<p>1. How satisfied are you with the overall structure of the Optional Retirement Plan?</p>	 <p>55.6%</p> <p>44.4%</p> <ul style="list-style-type: none"> Very satisfied Satisfied Unsatisfied
<p>2. How satisfied are you with TIAA's resolution of participant issues?</p>	 <p>55.6%</p> <p>44.4%</p> <ul style="list-style-type: none"> Very satisfied Satisfied Unsatisfied
<p>3. How satisfied are you with Fidelity's resolution of participant issues?</p>	 <p>33.3%</p> <p>44.4%</p> <p>22.2%</p> <ul style="list-style-type: none"> Very satisfied Satisfied Unsatisfied
<p>4. How satisfied are you with TIAA's resolution of your issues, as a Benefits Coordinator?</p>	 <p>55.6%</p> <p>44.4%</p> <ul style="list-style-type: none"> Very satisfied Satisfied Unsatisfied
<p>5. How satisfied are you with Fidelity's resolution of your issues, as a Benefits Coordinator?</p>	 <p>33.3%</p> <p>44.4%</p> <p>22.2%</p> <ul style="list-style-type: none"> Very satisfied Satisfied Unsatisfied

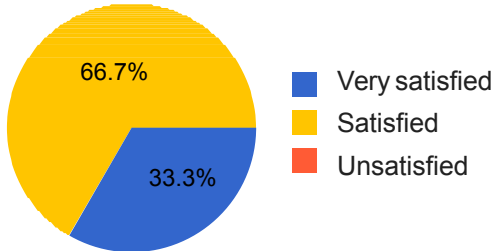
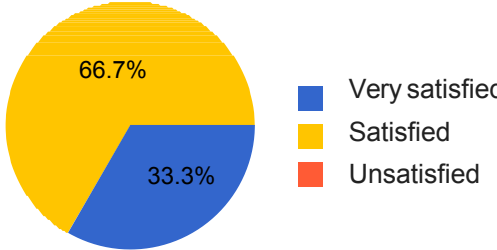
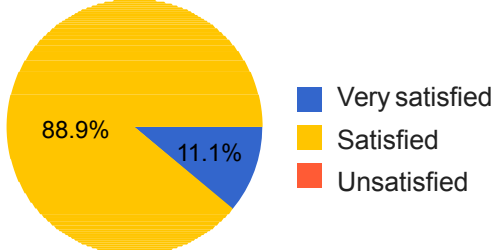
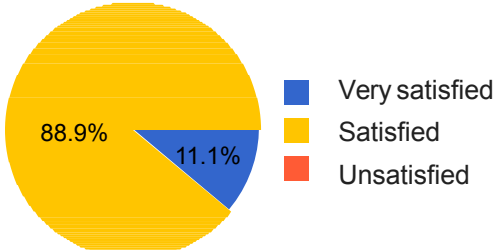
Communication and Education Services

Questions	TIAA	Fidelity
1. How satisfied are you with the overall communication/education services and programs?	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied 	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied
2. How satisfied are you with the number of field support representatives available?	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied 	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied
3. How satisfied are you with the frequency of on-site meetings and support?	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied 	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied
4. How satisfied are you with the content quality of education provided on retirement readiness?	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied 	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied

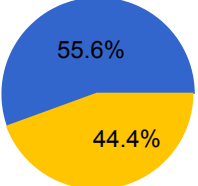
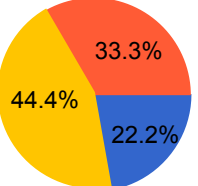
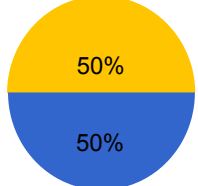
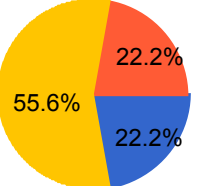
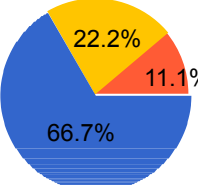
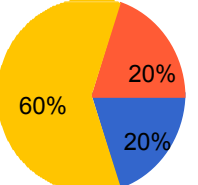
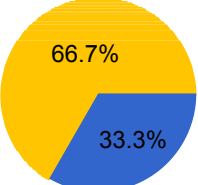
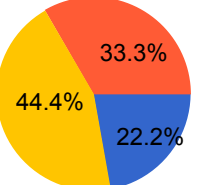
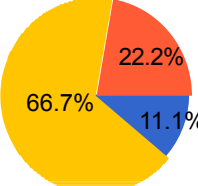
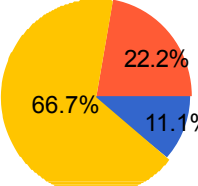
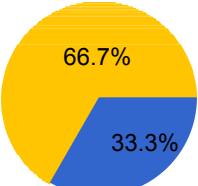
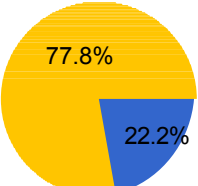
Administrative Services

Questions	TIAA	Fidelity
1. How satisfied are you with the provider's responsiveness?	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied 	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied
2. How satisfied are you with the ease of use of the administrative services (i.e. transaction processing)?	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied 	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied
3. How satisfied are you with the timeliness of the services?	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied 	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied
4. How satisfied are you with the timeliness of reports?	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied 	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied
5. How satisfied are you with the usefulness and ease of understanding the reports?	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied 	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied

Investment Option

Questions	TIAA	Fidelity
1. How satisfied are you with the array of investment options offered?	 <p>66.7% 33.3%</p> <ul style="list-style-type: none"> Very satisfied Satisfied Unsatisfied 	 <p>66.7% 33.3%</p> <ul style="list-style-type: none"> Very satisfied Satisfied Unsatisfied
2. How satisfied are you with the brokerage window	 <p>88.9% 11.1%</p> <ul style="list-style-type: none"> Very satisfied Satisfied Unsatisfied 	 <p>88.9% 11.1%</p> <ul style="list-style-type: none"> Very satisfied Satisfied Unsatisfied

Technology Customer Services

Questions	TIAA	Fidelity
1. How satisfied are your participants with overall technology and customer service?	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied 	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied
2. How satisfied are you with the online portal?	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied 	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied
3. Is it user friendly and easy to navigate?	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied 	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied
4. How satisfied are your participants with call center customer service?	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied 	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied
5. How satisfied are you with the mobile apps provided?	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied 	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied
6. Are the tools provided satisfactory to help participants with their retirement preparation?	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied 	 <ul style="list-style-type: none"> ■ Very satisfied ■ Satisfied ■ Unsatisfied

Appendix A - ORP Recommendation Details

Scorecard Factors

	Ticker	StyleX	StyleY	R ²	Risk	Return	Up Cap	Down Cap	Info Ratio
Victory RS Global R6	RGGRX	40.37	26.88	96.35	10.76	11.48	100.97	78.76	1.29
T. Rowe Price Global Growth Stock I	RGGIX	45.86	-1.84	92.10	13.00	11.26	111.29	95.33	0.77
MFS Global Equity R6	MWEMX	40.38	4.54	94.21	11.60	9.22	99.33	93.02	0.29
AQR Global Equity R6	AQGRX	42.73	-3.41	93.55	11.98	7.73	93.59	95.71	-0.22
CREF Global Equities R1*	N/A	58.67	17.49	97.71	12.23	7.69	100.25	105.62	-0.38
MSCI ACWI NR USD		47.15	0.81	100.00	11.78	8.41	100.00	100.00	NA

*The strategy and the manager of CREF Global Equities R3 and CREF Global Equities R1 are the same; however, the R3 share class in the ORP lineup has a lower expense ratio of (0.50) as compared to R1 share class (0.27).

Notes

1. Time period: Jan-15 - Dec-19
2. Style analytics reflect the parameters on a returns-based style map (on a scale of 100 to -100 for each axis.)
3. Risk is measured as the fund's standard deviation of returns.
4. R-squared measures the percentage of the fund's movement that is explained by the fund's benchmark (market).
5. Up/Down capture statistics measure the percentage of performance the fund/strategy is capturing versus the benchmark (market).
6. Information Ratio is a risk adjusted performance statistic measuring relative return over relative risk.

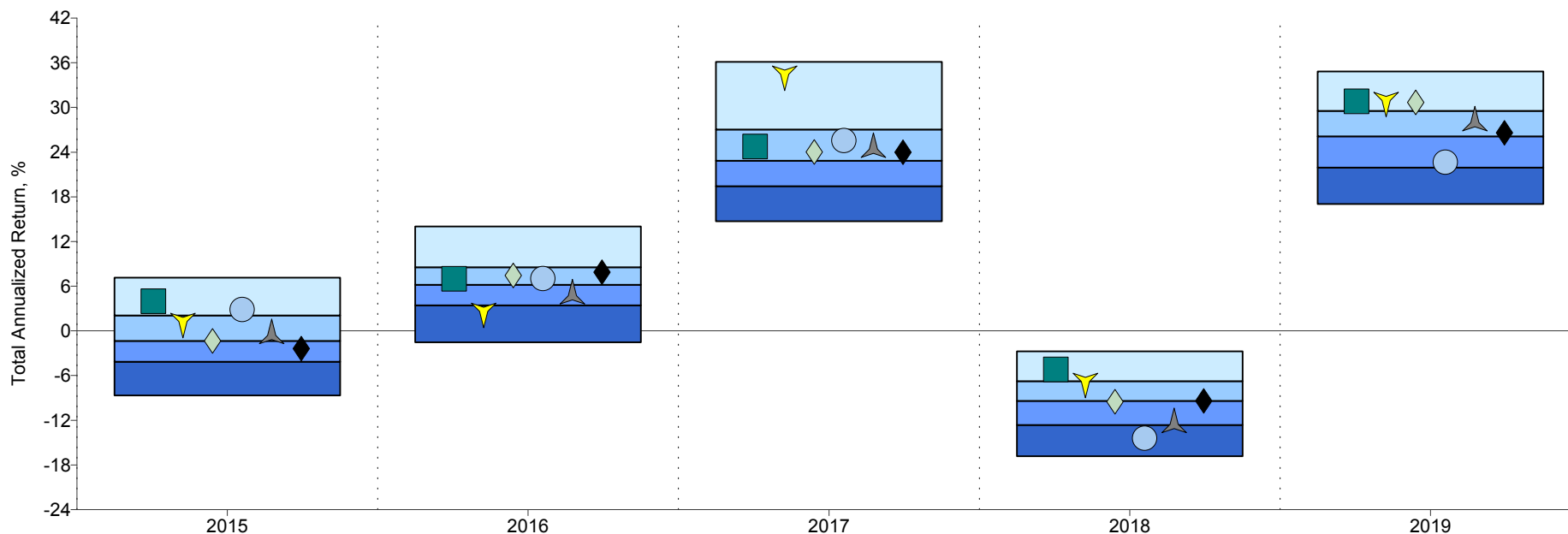
Summary

	QTR	YTD	1 Yr	3 Yr Ann.	5 Yr Ann.	Since Inception	Manager Name	Manager Tenure (Years)	Fund Inception	Expense Ratio
Victory RS Global R6	10.26	30.83	30.83	15.67	11.48	-8.49	U-Wen Kok	6.75	05/16/2011	0.55
T. Rowe Price Global Growth Stock I	9.20	30.92	30.92	17.95	11.26	7.97	R. Scott Berg	11.43	10/27/2008	0.69
MFS Global Equity R6	7.36	30.66	30.66	13.61	9.22	9.06	Roger M. Morley	10.5	12/29/1986	0.82
AQR Global Equity R6	8.85	22.64	22.64	9.64	7.73	2.25	Clifford S. Asness	10.25	12/31/2009	0.71
CREF Global Equities R1	9.79	27.96	27.96	11.65	7.69	6.68	John N. Tribolet	13.93	05/01/1992	0.50
MSCI ACWI NR USD	8.95	26.60	26.60	12.44	8.41	NA				
<i>World Stock Average</i>	8.29	25.97	25.97	12.21	8.18	3.09				1.05

Notes

1. Performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data quoted.
2. The performance data quoted may not reflect the deduction of additional fees, if applicable. Additional fees would reduce the performance quoted.
3. Performance data is subject to change without prior notice.
4. Contact Retirement Plan Advisory Group for the most recent month-end performance at (800) 959-0071.

Floating Peer Group Bar Chart

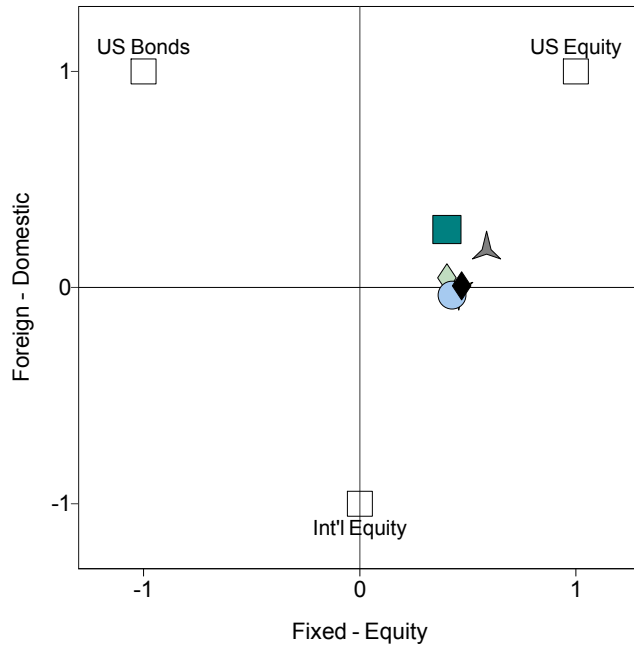


Performance Table

	2015	2016	2017	2018	YTD
■ Victory RS Global R6	3.96	7.01	24.75	-5.17	30.83
▼ T. Rowe Price Global Growth Stock I	1.26	2.61	34.45	-6.79	30.92
◇ MFS Global Equity R6	-1.34	7.43	24.04	-9.51	30.66
● AQR Global Equity R6	2.86	7.03	25.57	-14.41	22.64
▲ CREF Global Equities R1	-0.60	4.72	24.38	-12.56	27.96
◆ MSCI ACWI NR USD	-2.36	7.86	23.97	-9.41	26.60
<i>World Stock Average</i>	<i>-1.15</i>	<i>6.22</i>	<i>23.81</i>	<i>-9.74</i>	<i>25.97</i>

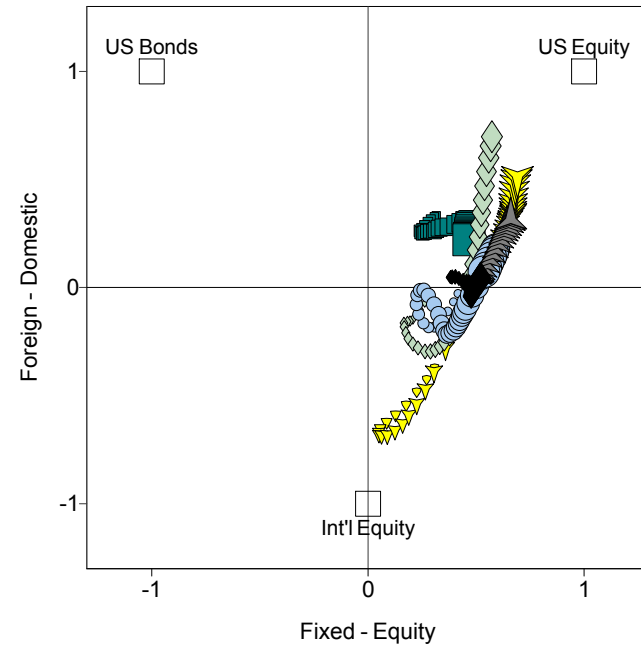
Average Style

Jan 15 - Dec 19



Style Drift

36 Month rolling windows, Jan 15 - Dec 19



Exposures

Jan 15 - Dec 19

	Asset Allocation: Global Map				Style	
	Cash	US Bonds	US Equity	Int'l Equity	StyleX	StyleY
■ Victory RS Global R6	0.00	11.54	51.91	36.56	40.37	26.88
▼ T. Rowe Price Global Growth Stock I	0.00	1.61	47.47	50.92	45.86	-1.84
◆ MFS Global Equity R6	0.00	5.94	46.33	47.73	40.38	4.54
● AQR Global Equity R6	2.11	2.26	44.98	50.65	42.73	-3.41
▲ CREF Global Equities R1	0.14	0.00	58.67	41.19	58.67	17.49
◆ MSCI ACWI NR USD	0.30	1.55	48.70	49.44	47.15	0.81

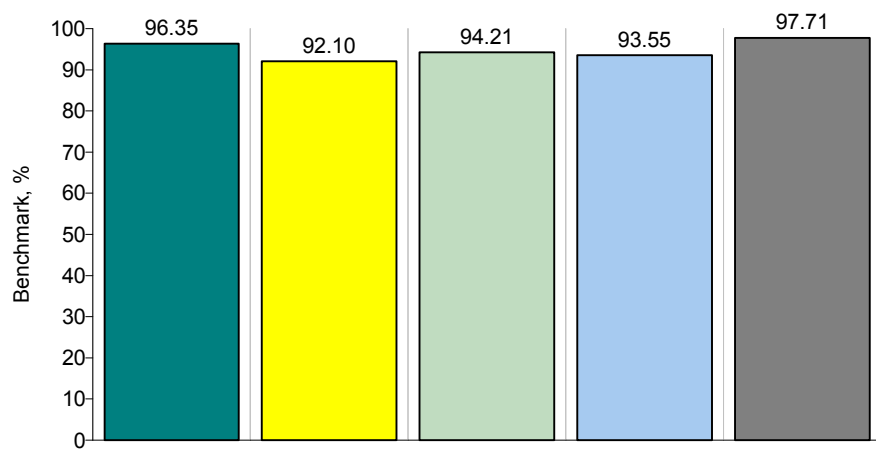
Summary

Jan 15 - Dec 19

	Standard Deviation	Downside Deviation	Excess Return	Tracking Error	Significance Level	Alpha	Beta	R ²
■ Victory RS Global R6	10.76	6.45	3.07	2.39	99.43	3.50	0.90	96.35
▼ T. Rowe Price Global Growth Stock I	13.00	7.84	2.85	3.72	94.14	2.31	1.06	92.10
◆ MFS Global Equity R6	11.60	7.17	0.81	2.84	72.21	1.07	0.96	94.21
● AQR Global Equity R6	11.98	8.00	-0.68	3.05	67.60	-0.49	0.99	93.55
▲ CREF Global Equities R1	12.23	8.12	-0.71	1.88	78.28	-0.81	1.03	97.71
MSCI ACWI NR USD	11.78	7.53	0.00	0.00	NA	0.00	1.00	100.00

R-Squared

Jan-15 - Dec-19



Definitions

Standard Deviation- The volatility of the fund's returns.

Downside Deviation- The volatility of the funds negative returns.

Excess Return- The fund's return above the benchmark.

Tracking Error- The volatility of the fund's excess returns.

Significance Level- Measures the confidence of the fund's out/under performance.

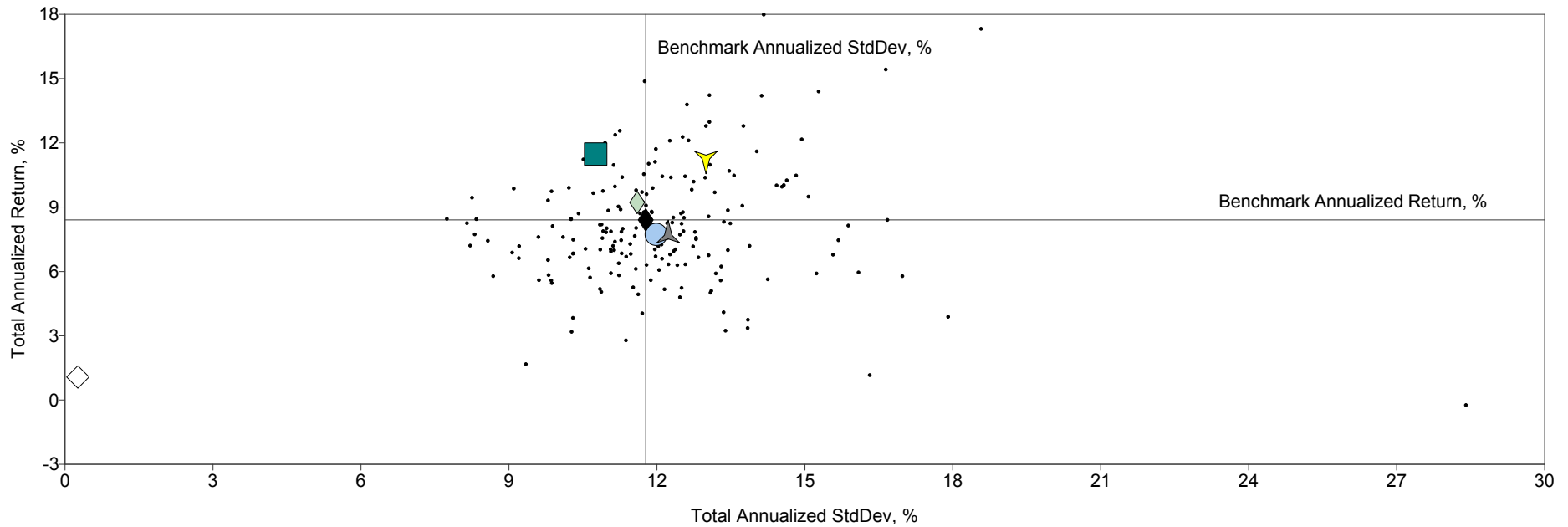
Alpha- The fund's risk adjusted excess return.

Beta- The fund's market risk/sensitivity to the market (benchmark).

R-Squared- The percentage of the fund's movement that is explained by the market (benchmark)

Risk / Return

Single Computation, Jan 15 - Dec 19



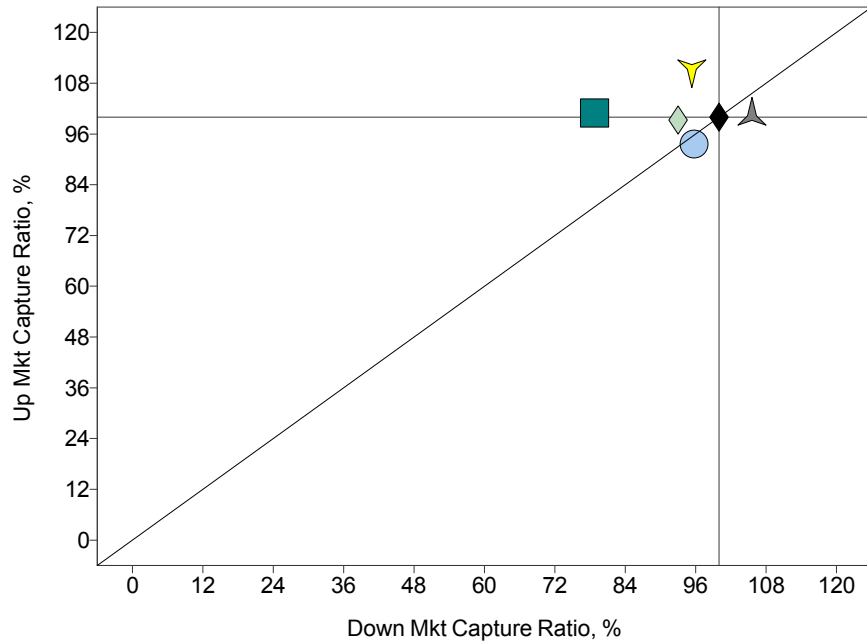
Summary Statistics

Jan 15 - Dec 19

	Return (%)	Std Dev (%)	Sharpe Ratio
■ Victory RS Global R6	11.48	10.76	0.97
▼ T. Rowe Price Global Growth Stock I	11.26	13.00	0.78
◇ MFS Global Equity R6	9.22	11.60	0.70
● AQR Global Equity R6	7.73	11.98	0.56
▲ CREF Global Equities R1	7.69	12.23	0.54
◇ Cash	1.07	0.26	0.00
◆ MSCI ACWI NR USD	8.41	11.78	0.62

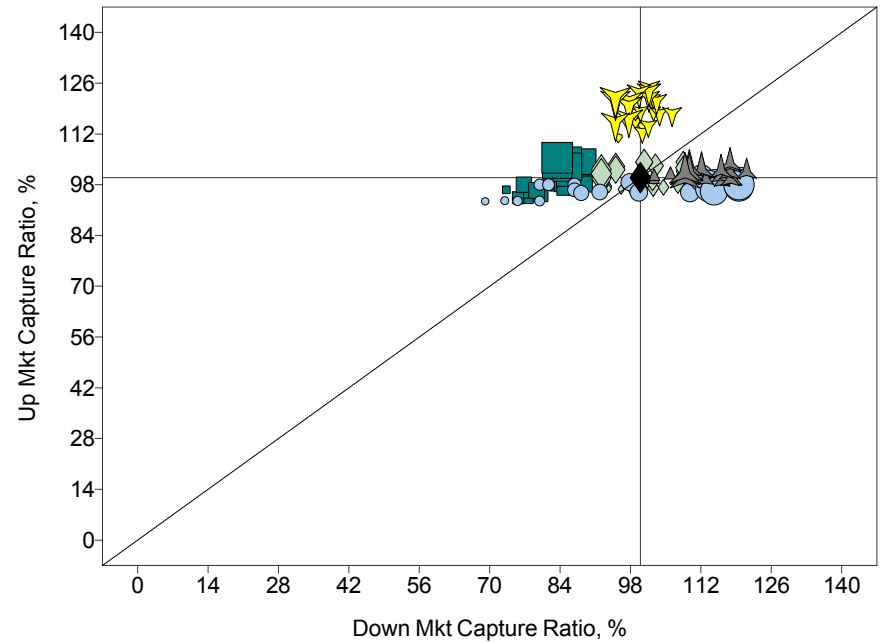
Up/Down Capture

Jan 15 - Dec 19



Rolling Up/Down Capture

36 Month rolling windows, Jan 17 - Dec 19



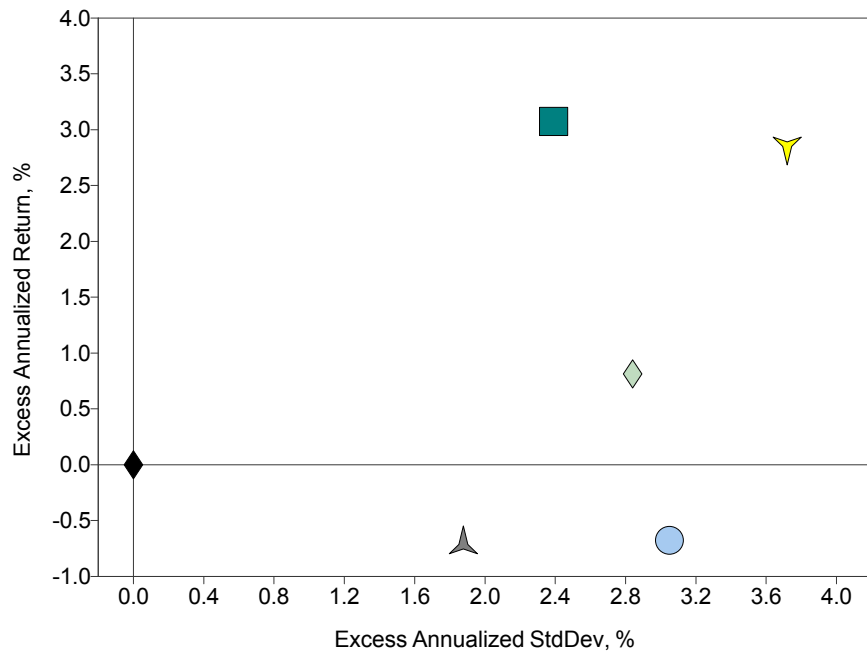
Summary Statistics

Jan 15 - Dec 19

	Up Months	Down Months	Up Market Avg. Return	Down Market Avg. Return	Up Market Capture, %	Down Market Capture, %	R ²
■ Victory RS Global R6	41	19	2.47	-2.38	100.97	78.76	96.35
▼ T. Rowe Price Global Growth Stock I	40	20	2.70	-2.91	111.29	95.33	92.10
◇ MFS Global Equity R6	37	23	2.44	-2.83	99.33	93.02	94.21
● AQR Global Equity R6	40	18	2.31	-2.92	93.59	95.71	93.55
▲ CREF Global Equities R1	42	18	2.46	-3.23	100.25	105.62	97.71
◆ MSCI ACWI NR USD	41	19	2.45	-3.05	100.00	100.00	100.00

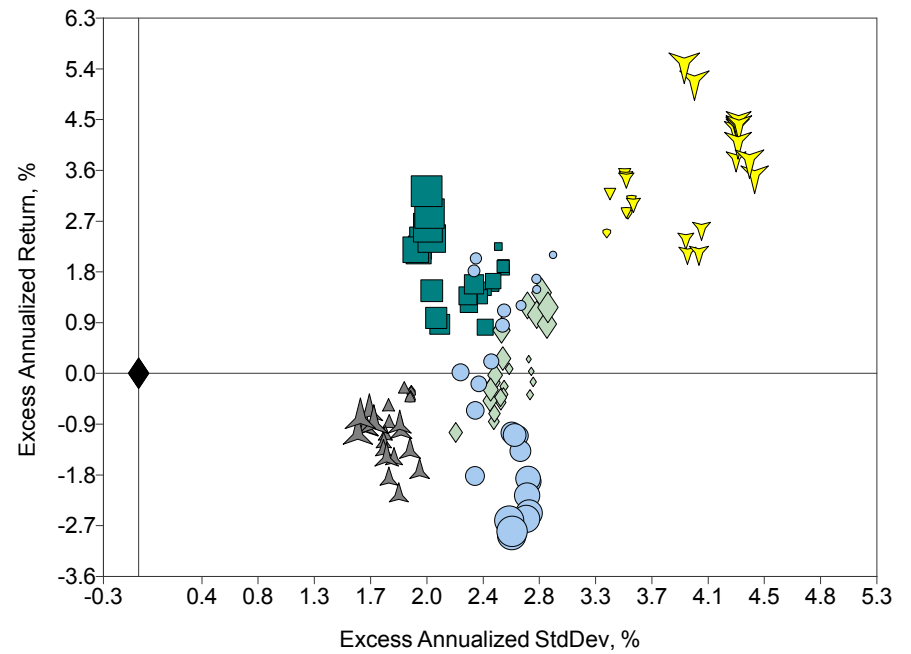
Relative Risk Return

Jan 15 - Dec 19



Rolling Relative Risk Return

36 Month rolling windows, Jan 17 - Dec 19



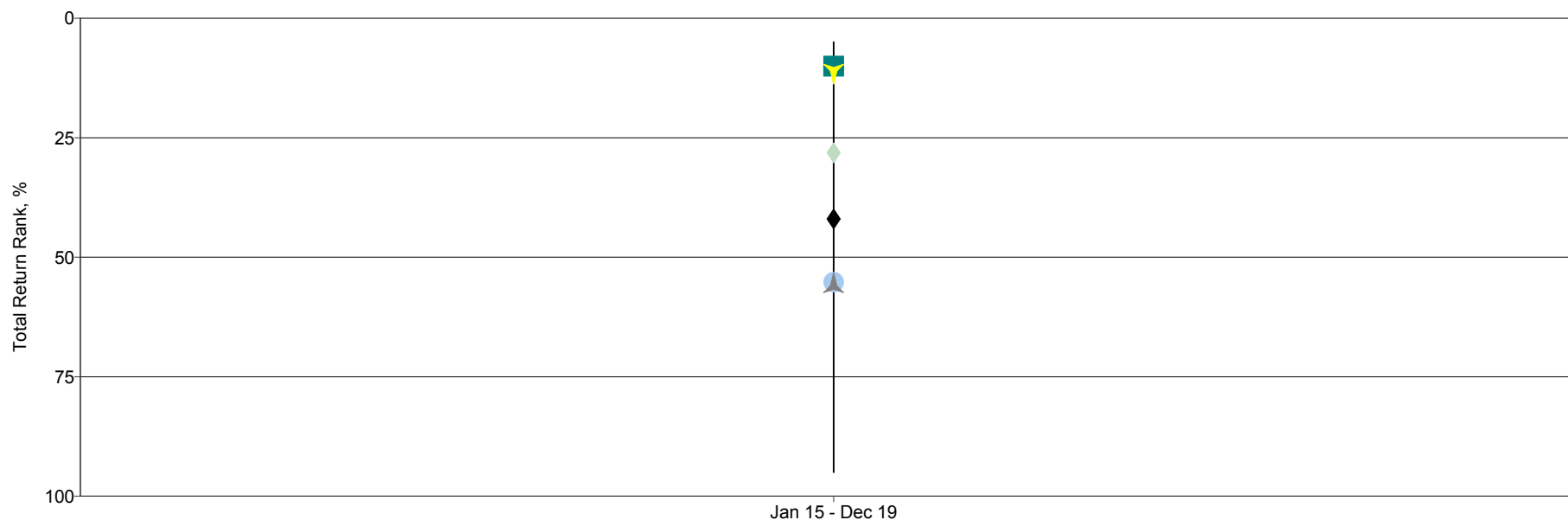
Summary Statistics

Jan 15 - Dec 19

	Annualized Excess Return, %	Annualized Excess StdDev, %	Information Ratio	Significance Level, %	R ²
■ Victory RS Global R6	3.07	2.39	1.29	99.43	96.35
▼ T. Rowe Price Global Growth Stock I	2.85	3.72	0.77	94.14	92.10
◇ MFS Global Equity R6	0.81	2.84	0.29	72.21	94.21
● AQR Global Equity R6	-0.68	3.05	-0.22	67.60	93.55
▲ CREF Global Equities R1	-0.71	1.88	-0.38	78.28	97.71

Rolling 5 Year Return Rank

20 quarter rolling windows, Jan 15 - Dec 19

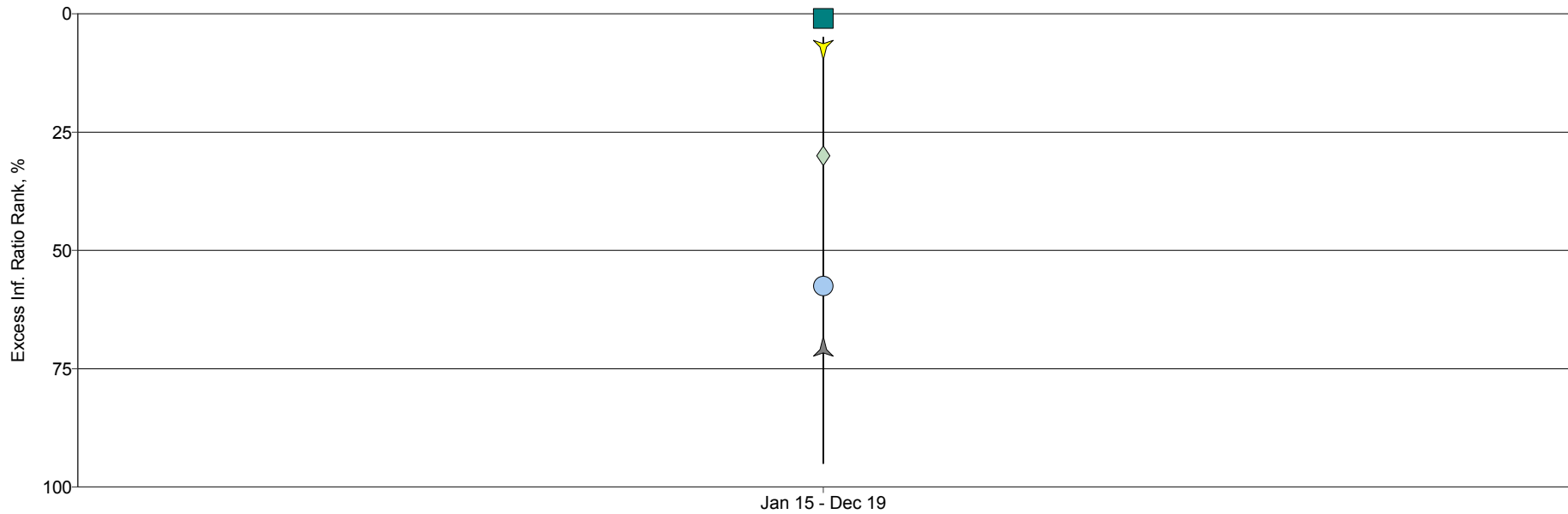


Return Rank

	QTR	YTD	1 Yr	3 Yr	5 Yr
■ Victory RS Global R6	17	17	17	20	10
▼ T. Rowe Price Global Growth Stock I	33	17	17	10	11
◇ MFS Global Equity R6	73	18	18	32	28
● AQR Global Equity R6	40	72	72	74	55
▲ CREF Global Equities R1	22	37	37	50	56
◆ MSCI ACWI NR USD	39	46	46	41	42
World Stock Average	54	51	51	42	43
World Stock Size	299	285	285	241	205

Rolling 5 Year Information Ratio Rank

20 quarter rolling windows, Jan 15 - Dec 19



Information Ratio Rank

	QTR	YTD	1 Yr	3 Yr	5 Yr
■ Victory RS Global R6	8	3	3	4	1
▼ T. Rowe Price Global Growth Stock I	32	17	17	6	7
◇ MFS Global Equity R6	60	17	17	32	30
● AQR Global Equity R6	39	78	78	85	58
▲ CREF Global Equities R1	23	27	27	60	71
World Stock Average	57	50	50	45	47
World Stock Size	299	285	285	241	205

Asset Class Definition

The large cap blend asset class represents some of the largest publically traded companies in the U.S. The asset class includes both growth and value securities with market capitalizations typically over \$10 billion. The Russell 1000 Index is used as the benchmark for the large cap blend asset class and represents approximately 90% of the U.S. equity market.

Investment Rank

Top Ranked:

1. Hartford Core Equity R6
2. AQR Large Cap Defensive Style R6
3. Hartford Disciplined Equity HLS IA

Scorecard System

Scorecard - Active	Ticker	Style			Risk / Return			Peer Group		Qual. (2pt max)	Total Score
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Hartford Core Equity R6	HAITX	1	1	1	1	1	1	1	1	2	10
AQR Large Cap Defensive Style R6	QUERX	1	1	1	1	1	1	1	1	2	10
Hartford Disciplined Equity HLS IA	HIAGX	1	1	1	1	1	1	1	1	2	10
Pear Tree Quality Institutional	QGIAX	0	1	1	1	1	1	1	1	2	9
American Century Sustainable Equity I	AFEIX	1	1	1	1	0	0	1	1	2	8

Scorecard Factors

	Style: Val/Gr	Style: Sml/Lrg	Style Drift	R ²	Risk	Return	Up Cap	Down Cap	Info Ratio	Return Rank	IR Rank	Qual. Detail	Qual. Score
Hartford Core Equity R6	9.32	91.26	15.62	95.87	11.08	12.73	95.77	83.27	0.49	13.00	13.00		2
AQR Large Cap Defensive Style R6	14.14	79.36	7.27	89.28	9.84	13.50	87.16	62.12	0.47	1.00	2.00		2
Hartford Disciplined Equity HLS IA	8.37	93.01	16.26	95.85	11.31	12.61	96.45	85.35	0.45	18.00	18.00		2
Pear Tree Quality Institutional	54.74	85.10	17.31	87.13	11.33	13.22	100.69	87.96	0.40	2.00	4.00		2
American Century Sustainable Equity I	15.92	95.68	8.61	97.72	12.40	11.48	101.52	102.52	0.00	7.00	7.00		2
Russell 1000 Index	0.74	99.64		100.00	12.07	11.48	100.00	100.00	NA				

Notes

1. All statistics calculated over a five year time period.
2. Style analytics reflect the parameters on a returns-based style map (on a scale of 100 to -100 for each axis.) Fund passes if it plots out in the appropriate section of the style map, representing the fund's stated style.
3. Style drift is measured by the style drift score, which is a statistic measuring the rolling style-based analysis for a fund.
4. Risk is measured as the fund's standard deviation of returns.
5. R-squared measures the percentage of the fund's movement that is explained by the fund's benchmark (market).
6. Up/Down capture statistics measure the percentage of performance the fund/strategy is capturing versus the benchmark (market).
7. Information Ratio is a risk adjusted performance statistic measuring relative return over relative risk.
8. Peer group ranking statistics measure the funds median rank versus the applicable peer group universe.
9. Qualitative Detail: T = Tenure (qualitative score impacted negatively due to low manager tenure); E = Expenses (qualitative score impacted negatively due to higher than average expense ratio); and S = Statistics (qualitative score impacted negatively due to weak/poor strength of statistics).

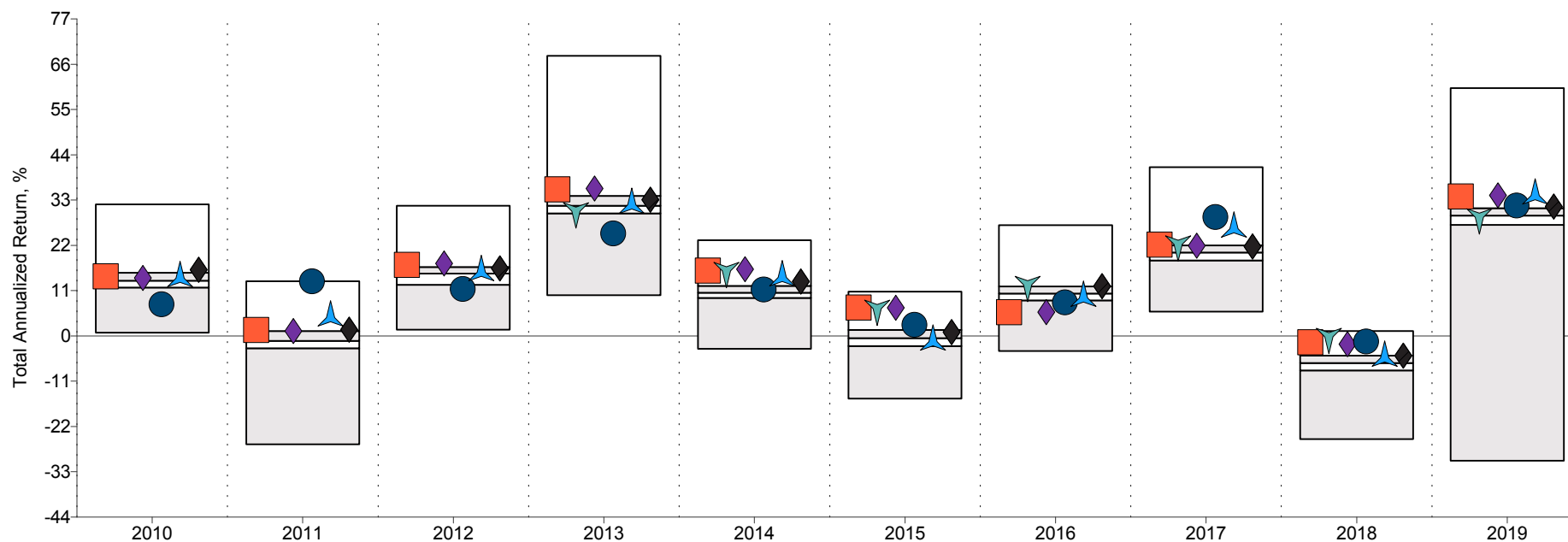
Summary

	QTR	YTD	1 Yr	3 Yr Ann.	5 Yr Ann.	10 Yr Ann.	Since Inception	Manager Name	Manager Tenure (Years)	Fund Inception	Net Exp. Ratio	Gross Exp. Ratio
Hartford Core Equity R6	9.06	33.89	33.89	17.21	12.73	14.58	12.62	Mammen Chally	21.68	04/30/1998	0.39	0.39
AQR Large Cap Defensive Style R6	5.43	28.81	28.81	16.26	13.50	NA	14.14	Andrea Frazzini	7.48	07/09/2012	0.30	0.30
Hartford Disciplined Equity HLS IA	9.20	34.12	34.12	17.02	12.61	14.51	7.99	Mammen Chally	21.61	05/29/1998	0.73	0.73
Pear Tree Quality Institutional	9.73	31.66	31.66	18.74	13.22	13.39	8.84	Mark D. Tindall	8.01	05/06/1985	0.88	1.29
American Century Sustainable Equity I	9.71	34.04	34.04	16.96	11.48	13.56	10.37	Justin M. Brown	11.56	11/30/2004	0.59	0.64
<i>Russell 1000 Index</i>	<i>9.04</i>	<i>31.43</i>	<i>31.43</i>	<i>15.05</i>	<i>11.48</i>	<i>13.54</i>						
<i>Large Cap Blend Average</i>	<i>8.34</i>	<i>28.78</i>	<i>28.78</i>	<i>12.89</i>	<i>9.52</i>	<i>11.50</i>					<i>0.97</i>	<i>1.03</i>

Notes

1. Performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data quoted.
2. The performance data quoted may not reflect the deduction of additional fees, if applicable. Additional fees would reduce the performance quoted.
3. Performance data is subject to change without prior notice.

Floating Peer Group Bar Chart

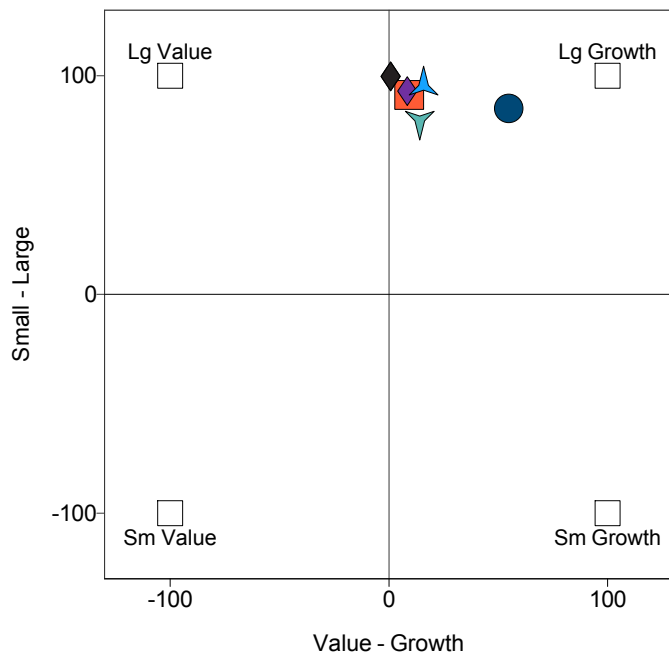


Performance Table

	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD
■ Hartford Core Equity R6	14.49	1.47	17.29	35.63	15.89	6.90	5.75	22.17	-1.55	33.89
▼ AQR Large Cap Defensive Style R6	NA	NA	NA	30.28	15.79	6.64	12.40	22.23	-0.19	28.81
◆ Hartford Disciplined Equity HLS IA	14.04	1.15	17.62	35.82	16.18	6.83	5.76	21.92	-1.99	34.12
● Pear Tree Quality Institutional	7.70	13.25	11.41	24.93	11.28	2.70	8.18	28.90	-1.35	31.66
▲ American Century Sustainable Equity I	14.04	4.47	15.46	31.84	14.23	-1.43	9.19	26.05	-5.30	34.04
◆ Russell 1000 Index	16.10	1.50	16.42	33.11	13.24	0.92	12.05	21.69	-4.78	31.43
<i>Large Cap Blend Average</i>	<i>13.75</i>	<i>-1.13</i>	<i>14.81</i>	<i>31.91</i>	<i>10.54</i>	<i>-0.68</i>	<i>10.35</i>	<i>20.06</i>	<i>-6.87</i>	<i>28.78</i>

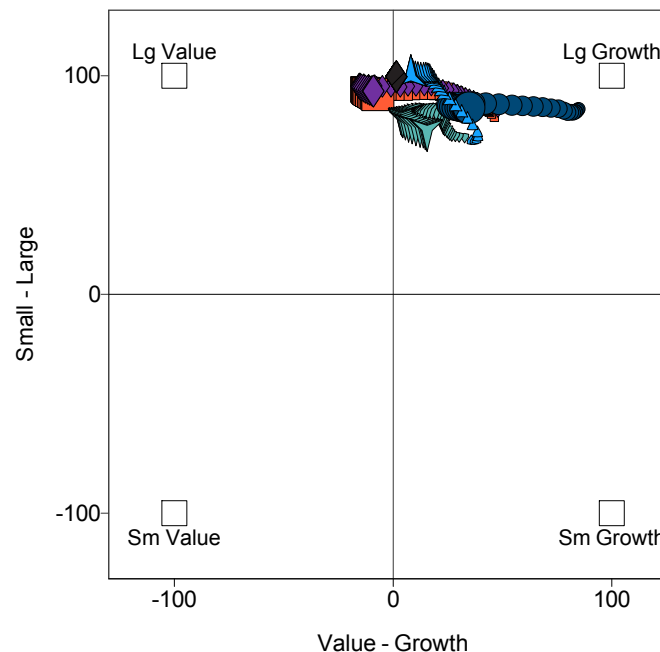
Average Style

Jan 15 - Dec 19



Style Drift

36 Month rolling windows, Jan 15 - Dec 19



Exposures

Jan 15 - Dec 19

	Asset Allocation: Russell 4 Map					Style				
	Cash	Sm Growth	Sm Value	Lg Growth	Lg Value	Drift	Style: Val/Gr	Style: Sml/Lrg	Style Score	Style Drift Score
■ Hartford Core Equity R6	8.74	0.00	0.00	50.29	40.97	15.62	9.32	91.26	1	1
▼ AQR Large Cap Defensive Style R6	20.54	0.05	0.00	46.75	32.66	7.27	14.14	79.36	1	1
◆ Hartford Disciplined Equity HLS IA	6.99	0.00	0.00	50.69	42.32	16.26	8.37	93.01	1	1
● Pear Tree Quality Institutional	14.90	0.00	0.00	69.92	15.18	17.31	54.74	85.10	0	1
▲ American Century Sustainable Equity I	0.24	1.21	0.83	56.63	41.09	8.61	15.92	95.68	1	1
◆ Russell 1000 Index	0.04	0.04	0.12	50.31	49.49		0.74	99.64		

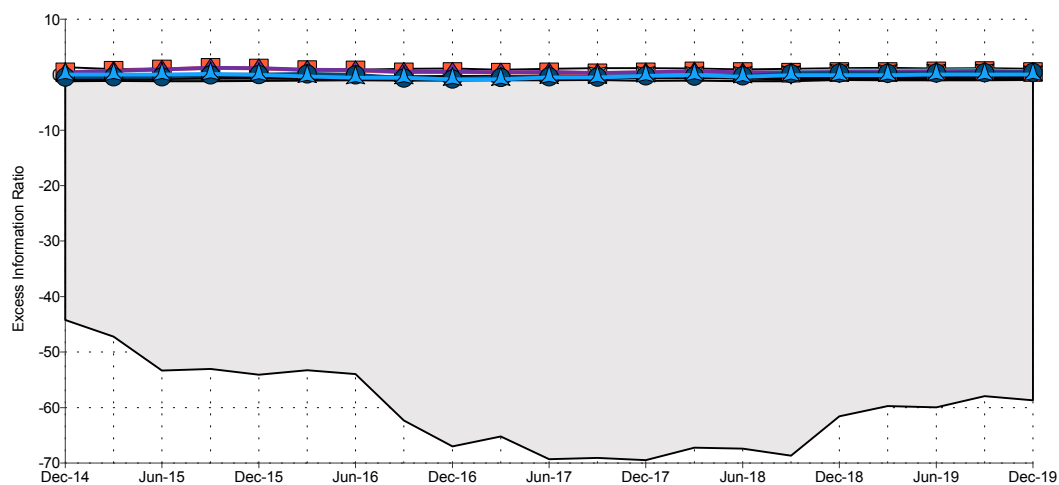
Summary

Jan 15 - Dec 19

	Standard Deviation	Downside Deviation	Excess Return	Tracking Error	Significance Level	Alpha	Beta	R ²	R ² Score
■ Hartford Core Equity R6	11.08	6.55	1.25	2.56	83.47	2.08	0.90	95.87	1
▼ AQR Large Cap Defensive Style R6	9.84	5.64	2.02	4.25	82.63	4.00	0.77	89.28	1
◆ Hartford Disciplined Equity HLS IA	11.31	6.72	1.13	2.51	81.56	1.81	0.92	95.85	1
● Pear Tree Quality Institutional	11.33	6.75	1.73	4.33	78.77	2.78	0.88	87.13	1
▲ American Century Sustainable Equity I	12.40	7.79	0.00	1.88	50.10	-0.11	1.01	97.72	1
◆ Russell 1000 Index	12.07	7.59	0.00	0.00	NA	0.00	1.00	100.00	

Rolling 5 Yr Information Ratio

20 quarter rolling windows, Jan 10 - Dec 19



Definitions

Standard Deviation- The volatility of the fund's returns.

Downside Deviation- The volatility of the funds negative returns.

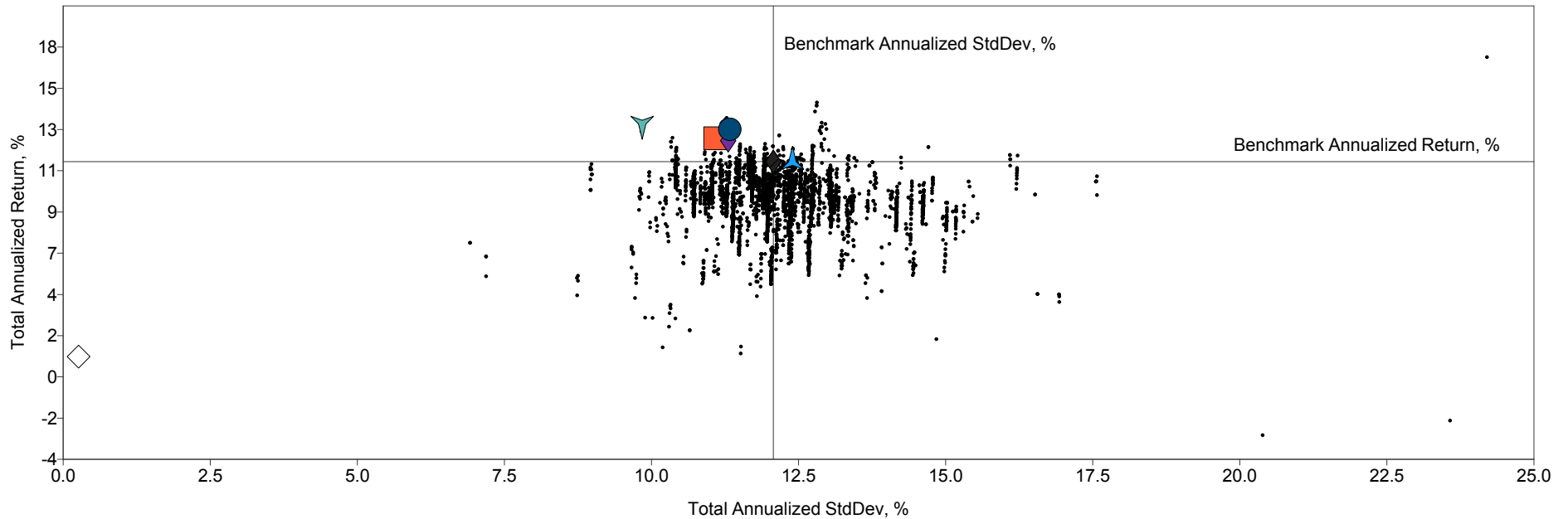
Excess Return- The fund's return above the benchmark.

Tracking Error- The volatility of the fund's excess returns.

Significance Level- Measures the confidence of the fund's out/under performance.

Alpha- The fund's risk adjusted excess return.

Beta- The fund's market risk/sensitivity to the market (benchmark).



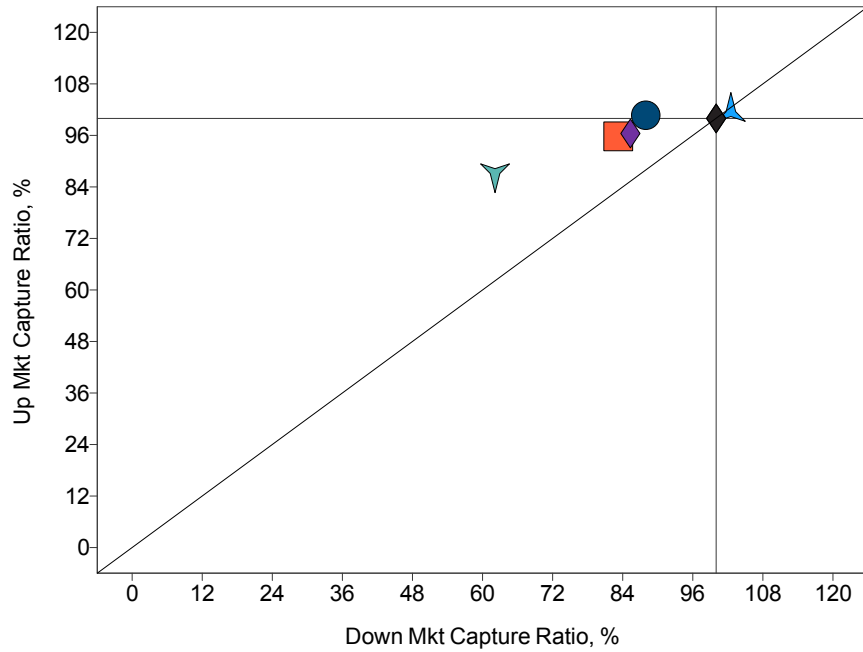
Summary Statistics

Jan 15 - Dec 19

	Return (%)	Std Dev (%)	Sharpe Ratio	Risk/Return Score
■ Hartford Core Equity R6	12.73	11.08	1.05	1
▼ AQR Large Cap Defensive Style R6	13.50	9.84	1.26	1
◆ Hartford Disciplined Equity HLS IA	12.61	11.31	1.02	1
● Pear Tree Quality Institutional	13.22	11.33	1.07	1
▲ American Century Sustainable Equity I	11.48	12.40	0.84	1
◇ Cash	1.07	0.26	NA	NA
◆ Russell 1000 Index	11.48	12.07	0.86	

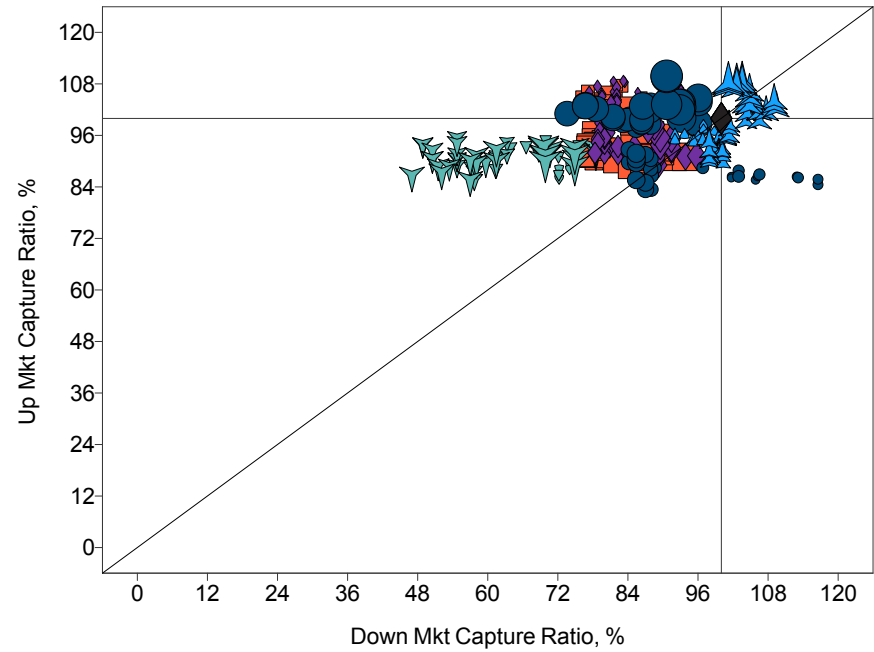
Up/Down Capture

Jan 15 - Dec 19



Rolling Up/Down Capture

36 Month rolling windows, Jan 15 - Dec 19



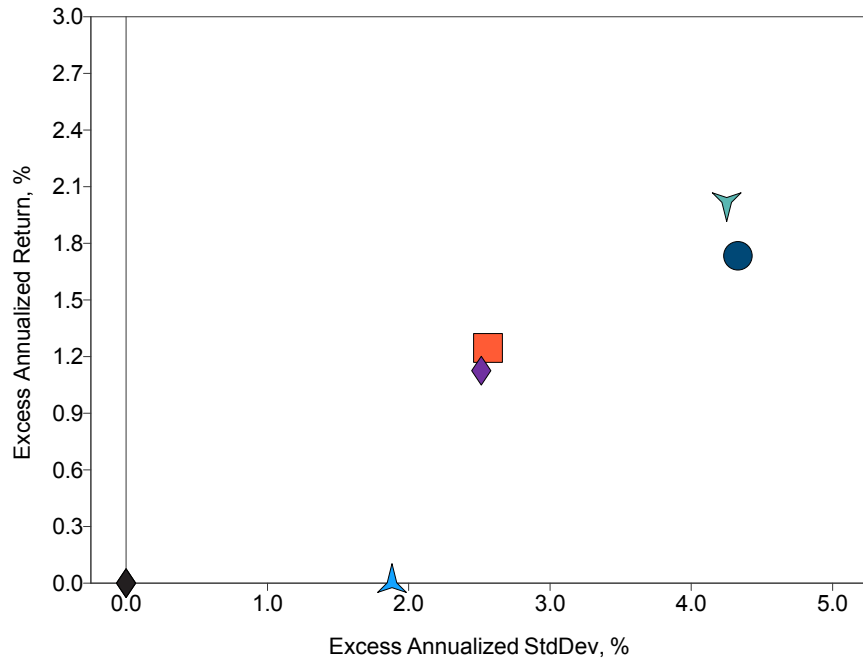
Summary Statistics

Jan 15 - Dec 19

	Up Months	Down Months	Up Market Avg. Return	Down Market Avg. Return	Up Market Capture, %	Down Market Capture, %	R ²	Up/Down Score
■ Hartford Core Equity R6	40	20	2.38	-3.01	95.77	83.27	95.87	1
▼ AQR Large Cap Defensive Style R6	41	19	2.18	-2.23	87.16	62.12	89.28	1
◆ Hartford Disciplined Equity HLS IA	40	20	2.39	-3.09	96.45	85.35	95.85	1
● Pear Tree Quality Institutional	42	18	2.49	-3.19	100.69	87.96	87.13	1
▲ American Century Sustainable Equity I	40	18	2.51	-3.74	101.52	102.52	97.72	0
◆ Russell 1000 Index	45	15	2.47	-3.64	100.00	100.00	100.00	

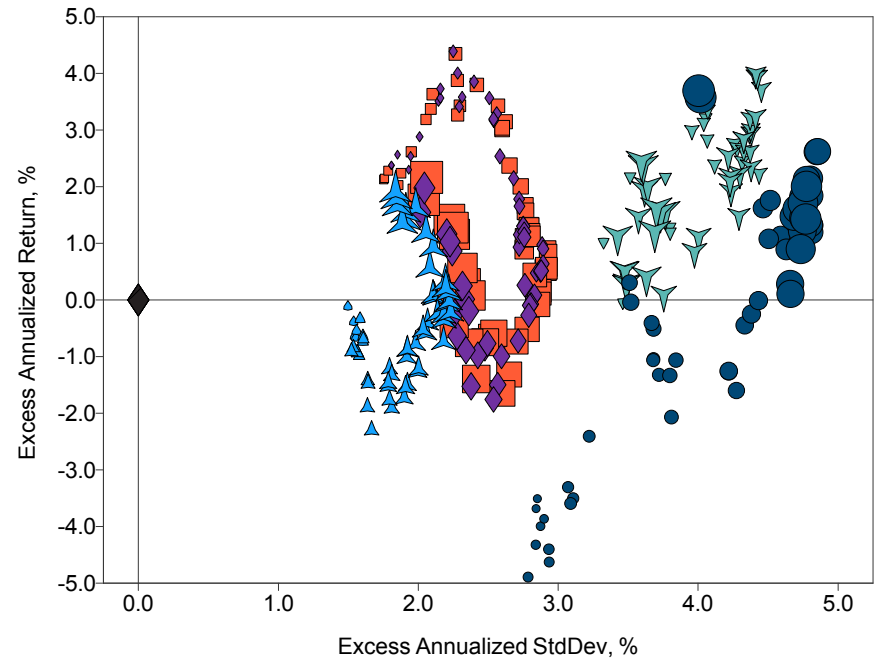
Relative Risk Return

Jan 15 - Dec 19



Rolling Relative Risk Return

36 Month rolling windows, Jan 15 - Dec 19



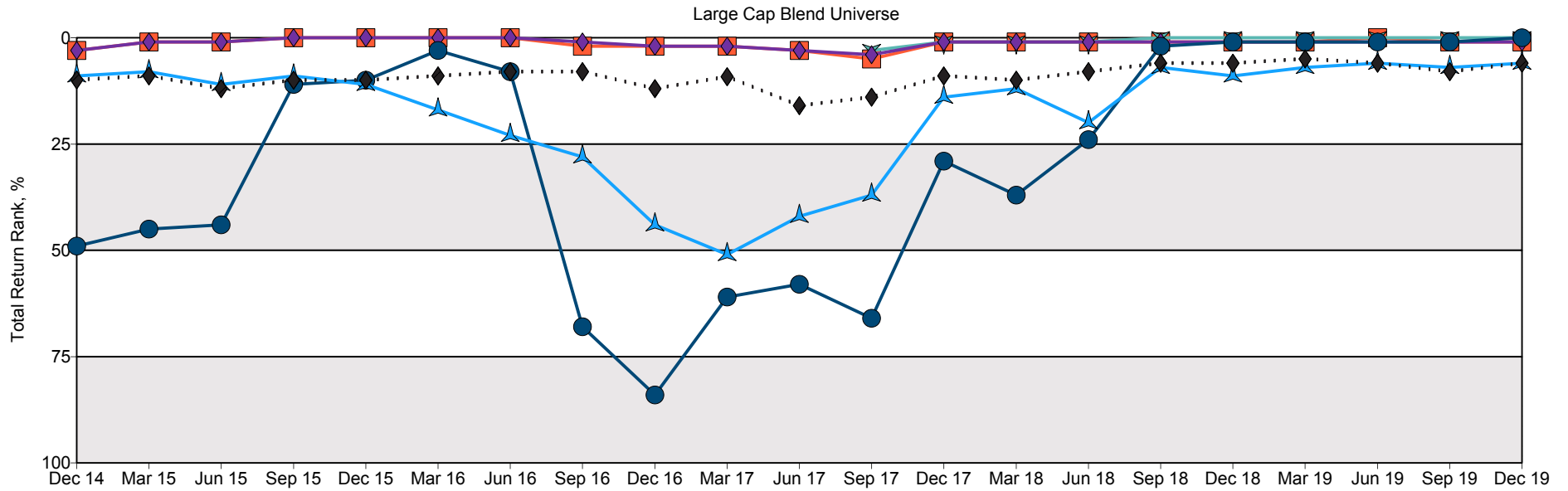
Summary Statistics

Jan 15 - Dec 19

	Annualized Excess Return, %	Annualized Excess StdDev, %	Information Ratio	Significance Level, %	R ²	Info Ratio Score
■ Hartford Core Equity R6	1.25	2.56	0.49	83.47	95.87	1
▼ AQR Large Cap Defensive Style R6	2.02	4.25	0.47	82.63	89.28	1
◆ Hartford Disciplined Equity HLS IA	1.13	2.51	0.45	81.56	95.85	1
● Pear Tree Quality Institutional	1.73	4.33	0.40	78.77	87.13	1
▲ American Century Sustainable Equity I	0.00	1.88	0.00	50.10	97.72	0

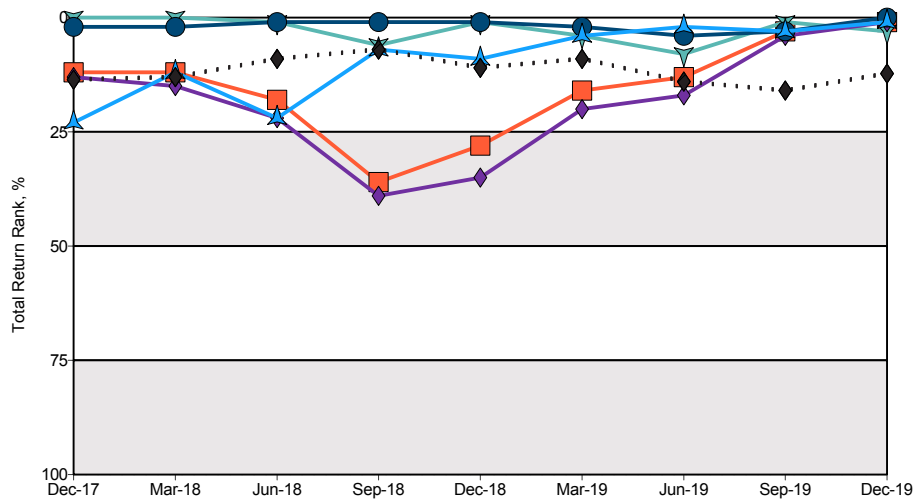
Rolling 5 Year Return Rank

20 quarter rolling windows, Jan 10 - Dec 19



Median Return Rank (5Yr Universe Size: 4765)

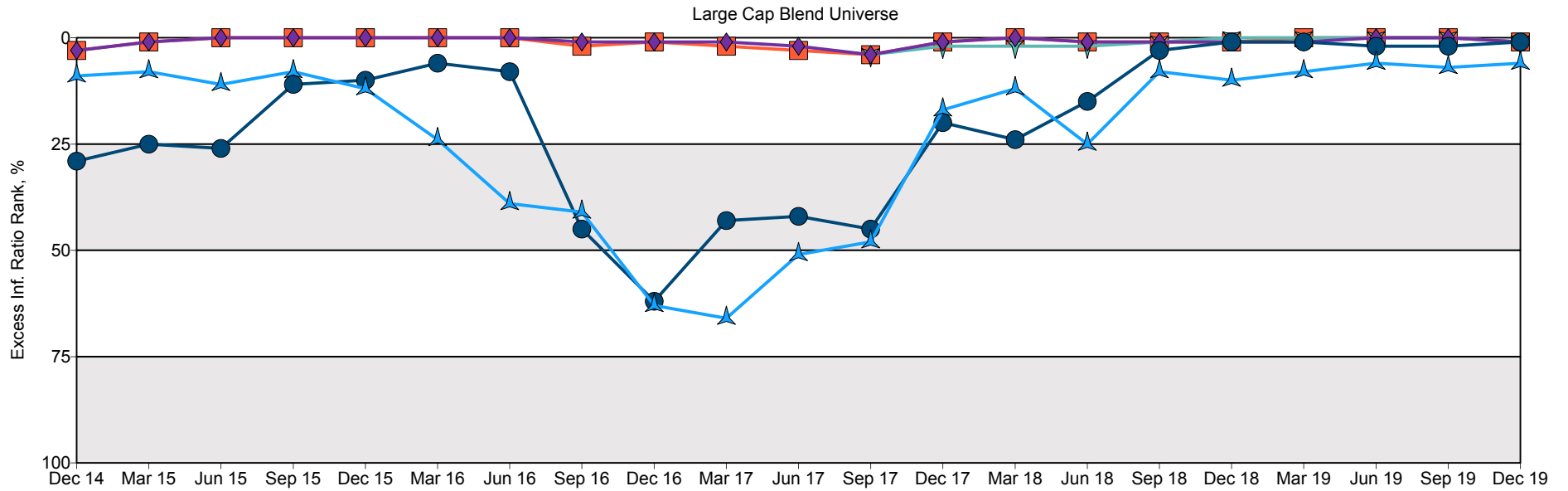
36 Month rolling windows, Jan 15 - Dec 19



	Median Rank	Volatility of Rank	Return Rank Score
■ Hartford Core Equity R6	13.0	5.0	1
▼ AQR Large Cap Defensive Style R6	1.0	1.0	1
◆ Hartford Disciplined Equity HLS IA	18.0	5.0	1
● Pear Tree Quality Institutional	2.0	1.0	1
▲ American Century Sustainable Equity I	7.0	5.0	1
◆ Russell 1000 Index	NA	NA	NA

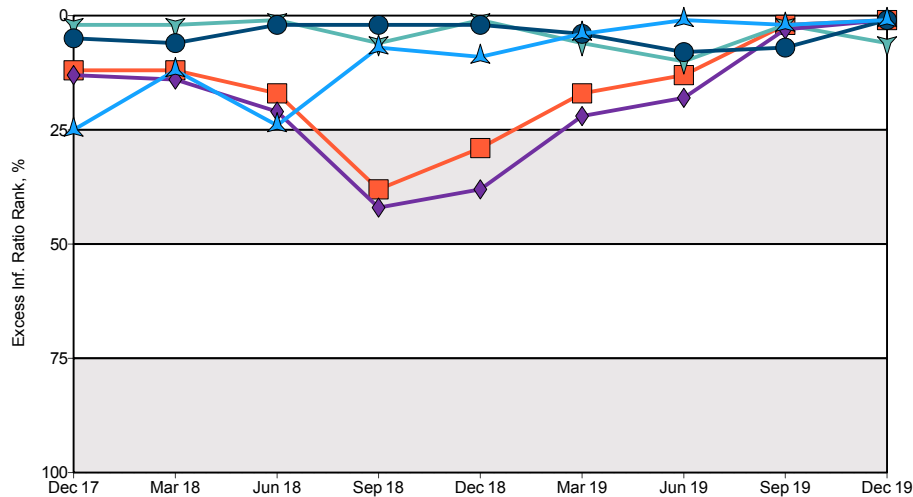
Rolling 5 Year Information Ratio Rank

20 quarter rolling windows, Jan 10 - Dec 19



Median Information Ratio Rank (5Yr Universe Size: 4765)

36 Month rolling windows, Jan 15 - Dec 19



	Median Rank	Volatility of Rank	IR Rank Score
Hartford Core Equity R6	13.0	4.0	1
AQR Large Cap Defensive Style R6	2.0	1.0	1
Hartford Disciplined Equity HLS IA	18.0	5.0	1
Pear Tree Quality Institutional	4.0	2.0	1
American Century Sustainable Equity I	7.0	5.0	1

Asset Class Definition

The large cap growth asset class is a sub-set of the large blend asset class and represents growth oriented companies with market capitalizations (typically) over \$10 billion. Large cap growth securities have relatively high price to book values and higher forecasted long term growth rates. The Russell 1000 Growth Index is the benchmark used to represent this asset class and contains over 630 securities, all of which are also included in the Russell 1000.

Investment Rank

- Top Ranked:
1. AB Large Cap Growth Z
 2. T. Rowe Price Blue Chip Growth I
 3. T. Rowe Price Instl Large Cap Growth

Scorecard System

Scorecard - Active	Ticker	Style			Risk / Return			Peer Group		Qual. (2pt max)	Total Score
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
AB Large Cap Growth Z	APGZX	1	1	1	1	1	1	1	1	2	10
T. Rowe Price Blue Chip Growth I	TBCIX	1	1	1	1	1	1	1	1	2	10
T. Rowe Price Instl Large Cap Growth	TRLGX	1	1	1	1	1	1	1	1	1	9
ClearBridge Large Cap Growth IS	LSITX	1	1	1	1	1	0	1	1	2	9
CREF Growth R3	N/A	1	1	1	0	0	0	1	1	2	7

Scorecard Factors

	Style: Val/Gr	Style: Sml/Lrg	Style Drift	R ²	Risk	Return	Up Cap	Down Cap	Info Ratio	Return Rank	IR Rank	Qual. Detail	Qual. Score
AB Large Cap Growth Z	78.84	85.76	14.54	94.38	11.86	15.62	95.63	84.43	0.32	14.00	12.00		2
T. Rowe Price Blue Chip Growth I	99.08	93.12	7.37	91.14	14.17	15.36	103.25	100.68	0.17	4.00	4.00		2
T. Rowe Price Instl Large Cap Growth	94.59	90.84	10.37	89.89	13.90	15.90	105.92	101.59	0.29	2.00	1.00	T	1
ClearBridge Large Cap Growth IS	46.32	89.34	15.29	94.07	12.63	14.30	96.63	96.15	-0.10	28.00	29.00		2
CREF Growth R3	100.00	96.60	2.60	98.56	13.40	13.15	98.79	108.63	-0.89	33.00	39.00		2
Russell 1000 Growth Index	100.00	100.00		100.00	12.92	14.63	100.00	100.00	NA				

Notes

1. All statistics calculated over a five year time period.
2. Style analytics reflect the parameters on a returns-based style map (on a scale of 100 to -100 for each axis.) Fund passes if it plots out in the appropriate section of the style map, representing the fund's stated style.
3. Style drift is measured by the style drift score, which is a statistic measuring the rolling style-based analysis for a fund.
4. Risk is measured as the fund's standard deviation of returns.
5. R-squared measures the percentage of the fund's movement that is explained by the fund's benchmark (market).
6. Up/Down capture statistics measure the percentage of performance the fund/strategy is capturing versus the benchmark (market).
7. Information Ratio is a risk adjusted performance statistic measuring relative return over relative risk.
8. Peer group ranking statistics measure the funds median rank versus the applicable peer group universe.
9. Qualitative Detail: T = Tenure (qualitative score impacted negatively due to low manager tenure); E = Expenses (qualitative score impacted negatively due to higher than average expense ratio); and S = Statistics (qualitative score impacted negatively due to weak/poor strength of statistics).

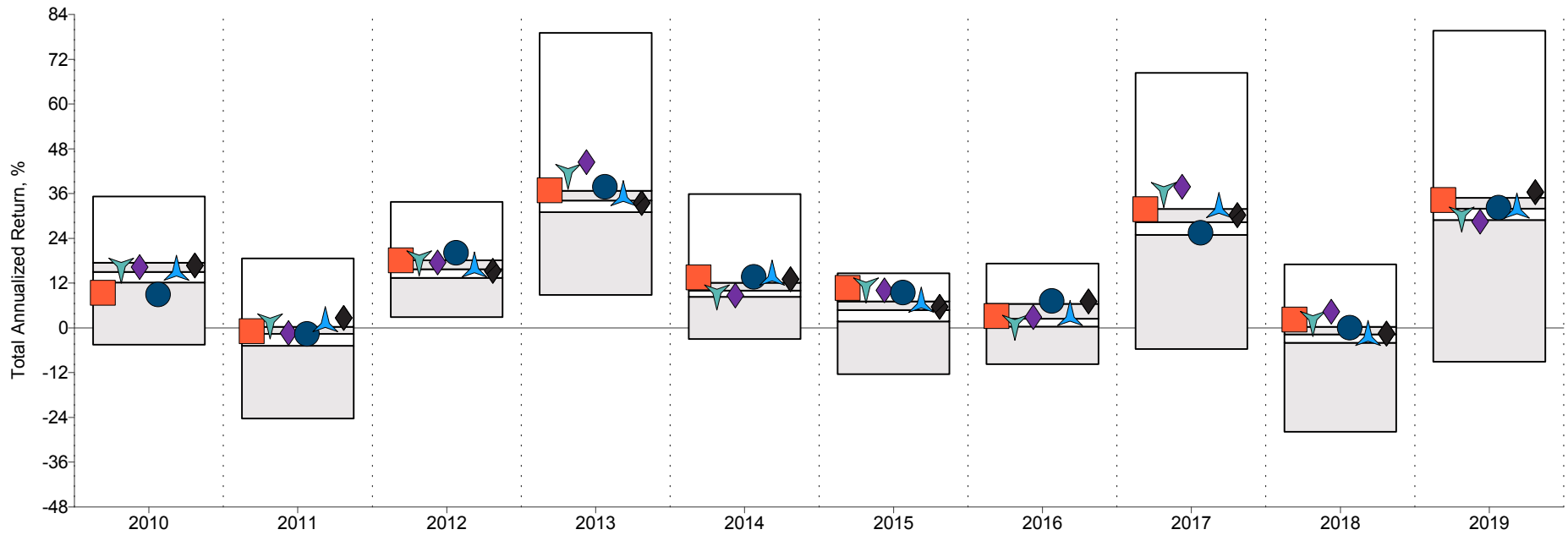
Summary

	QTR	YTD	1 Yr	3 Yr Ann.	5 Yr Ann.	10 Yr Ann.	Since Inception	Manager Name	Manager Tenure (Years)	Fund Inception	Net Exp. Ratio	Gross Exp. Ratio
AB Large Cap Growth Z	10.18	34.24	34.24	21.86	15.62	15.19	15.62	Frank V. Caruso	7.88	09/28/1992	0.55	0.56
T. Rowe Price Blue Chip Growth I	9.36	30.13	30.13	22.03	15.36	16.03	16.25	Larry J. Puglia	26.52	06/30/1993	0.57	0.57
T. Rowe Price Instl Large Cap Growth	10.00	28.49	28.49	22.70	15.90	16.04	10.93	Taymour R. Tamaddon	3.00	10/31/2001	0.56	0.56
ClearBridge Large Cap Growth IS	9.04	32.22	32.22	18.42	14.30	14.69	16.18	Peter Bourbeau	10.47	08/29/1997	0.66	0.66
CREF Growth R3	8.88	31.66	31.66	19.18	13.15	14.39	12.37	Susan Hirsch	14.01	04/24/2015	0.23	0.23
<i>Russell 1000 Growth Index</i>	<i>10.62</i>	<i>36.39</i>	<i>36.39</i>	<i>20.49</i>	<i>14.63</i>	<i>15.22</i>						
<i>Large Cap Growth Average</i>	<i>9.54</i>	<i>31.77</i>	<i>31.77</i>	<i>18.29</i>	<i>12.22</i>	<i>13.18</i>					<i>1.00</i>	<i>1.08</i>

Notes

1. Performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data quoted.
2. The performance data quoted may not reflect the deduction of additional fees, if applicable. Additional fees would reduce the performance quoted.
3. Performance data is subject to change without prior notice.

Floating Peer Group Bar Chart

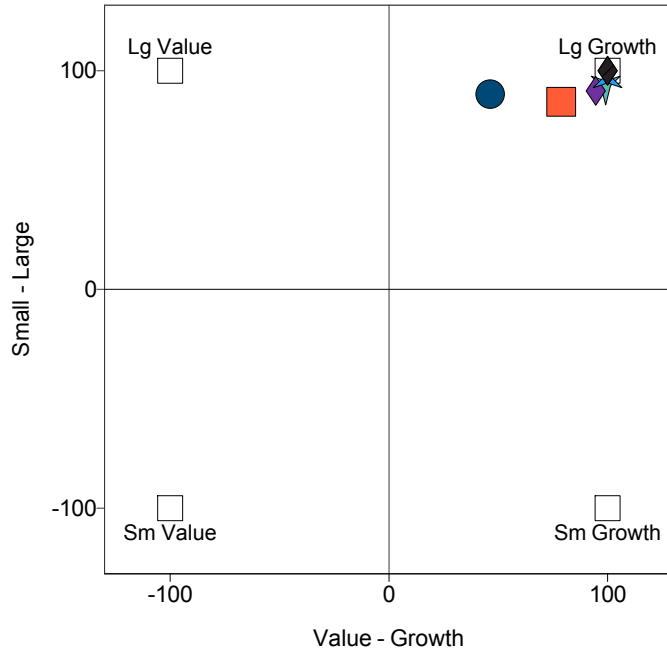


Performance Table

	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD
■ AB Large Cap Growth Z	9.41	-0.89	18.09	36.91	13.56	10.68	3.18	31.80	2.27	34.24
▼ T. Rowe Price Blue Chip Growth I	16.42	1.50	18.41	41.57	9.28	11.15	1.14	36.71	2.14	30.13
◆ T. Rowe Price Instl Large Cap Growth	16.29	-1.40	17.55	44.44	8.72	10.08	2.85	37.82	4.32	28.49
● ClearBridge Large Cap Growth IS	8.98	-1.61	20.17	37.83	13.66	9.52	7.27	25.53	0.05	32.22
▲ CREF Growth R3	14.98	1.19	15.87	35.00	13.66	6.46	2.92	31.83	-2.46	31.66
◆ Russell 1000 Growth Index	16.71	2.64	15.26	33.48	13.05	5.67	7.08	30.21	-1.51	36.39
<i>Large Cap Growth Average</i>	<i>15.10</i>	<i>-2.13</i>	<i>16.00</i>	<i>34.23</i>	<i>10.02</i>	<i>4.49</i>	<i>3.12</i>	<i>28.17</i>	<i>-1.91</i>	<i>31.77</i>

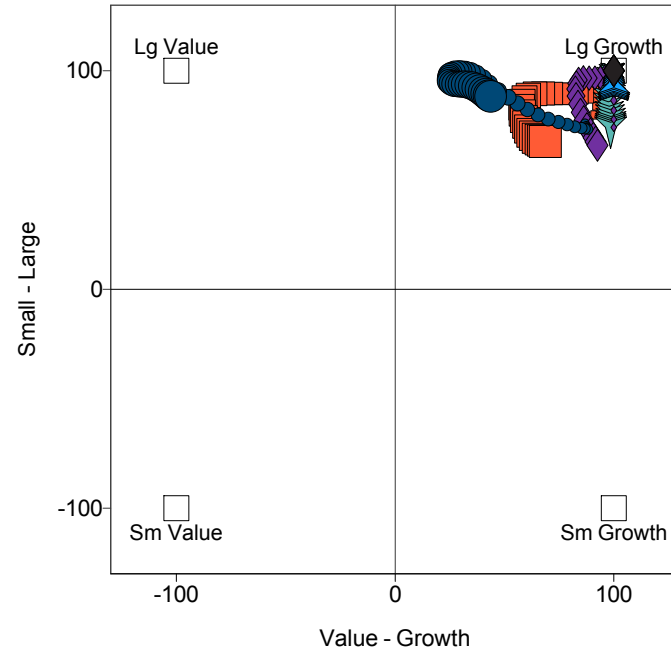
Average Style

Jan 15 - Dec 19



Style Drift

36 Month rolling windows, Jan 15 - Dec 19



Exposures

Jan 15 - Dec 19

	Asset Allocation: Russell 4 Map					Style				
	Cash	Sm Growth	Sm Value	Lg Growth	Lg Value	Drift	Style: Val/Gr	Style: Sml/Lrg	Style Score	Style Drift Score
■ AB Large Cap Growth Z	8.87	2.69	0.00	82.30	6.15	14.54	78.84	85.76	1	1
▼ T. Rowe Price Blue Chip Growth I	0.31	3.29	0.00	96.10	0.31	7.37	99.08	93.12	1	1
◆ T. Rowe Price Instl Large Cap Growth	2.29	3.38	0.05	92.77	1.51	10.37	94.59	90.84	1	1
● ClearBridge Large Cap Growth IS	3.18	3.74	0.00	67.83	25.25	15.29	46.32	89.34	1	1
▲ CREF Growth R3	0.00	1.70	0.00	98.30	0.00	2.60	100.00	96.60	1	1
◆ Russell 1000 Growth Index	0.00	0.00	0.00	100.00	0.00		100.00	100.00		

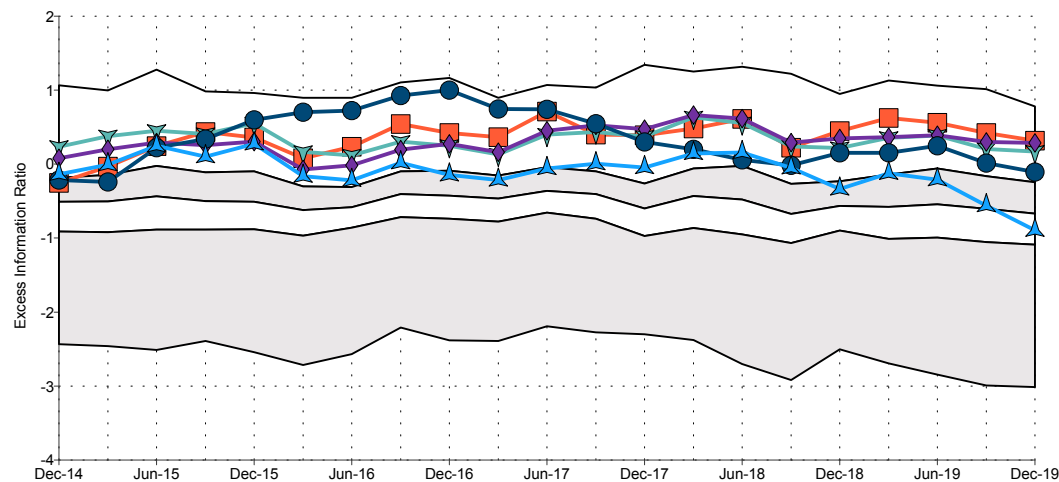
Summary

Jan 15 - Dec 19

	Standard Deviation	Downside Deviation	Excess Return	Tracking Error	Significance Level	Alpha	Beta	R ²	R ² Score
■ AB Large Cap Growth Z	11.86	6.71	1.00	3.14	73.02	2.20	0.89	94.38	1
▼ T. Rowe Price Blue Chip Growth I	14.17	8.29	0.73	4.26	63.17	0.16	1.05	91.14	1
◆ T. Rowe Price Instl Large Cap Growth	13.90	8.20	1.28	4.43	71.13	0.97	1.02	89.89	1
● ClearBridge Large Cap Growth IS	12.63	7.48	-0.33	3.15	58.16	0.37	0.95	94.07	1
▲ CREF Growth R3	13.40	8.30	-1.48	1.65	95.67	-1.65	1.03	98.56	1
◆ Russell 1000 Growth Index	12.92	7.73	0.00	0.00	NA	0.00	1.00	100.00	

Rolling 5 Yr Information Ratio

20 quarter rolling windows, Jan 10 - Dec 19



Definitions

Standard Deviation- The volatility of the fund's returns.

Downside Deviation- The volatility of the funds negative returns.

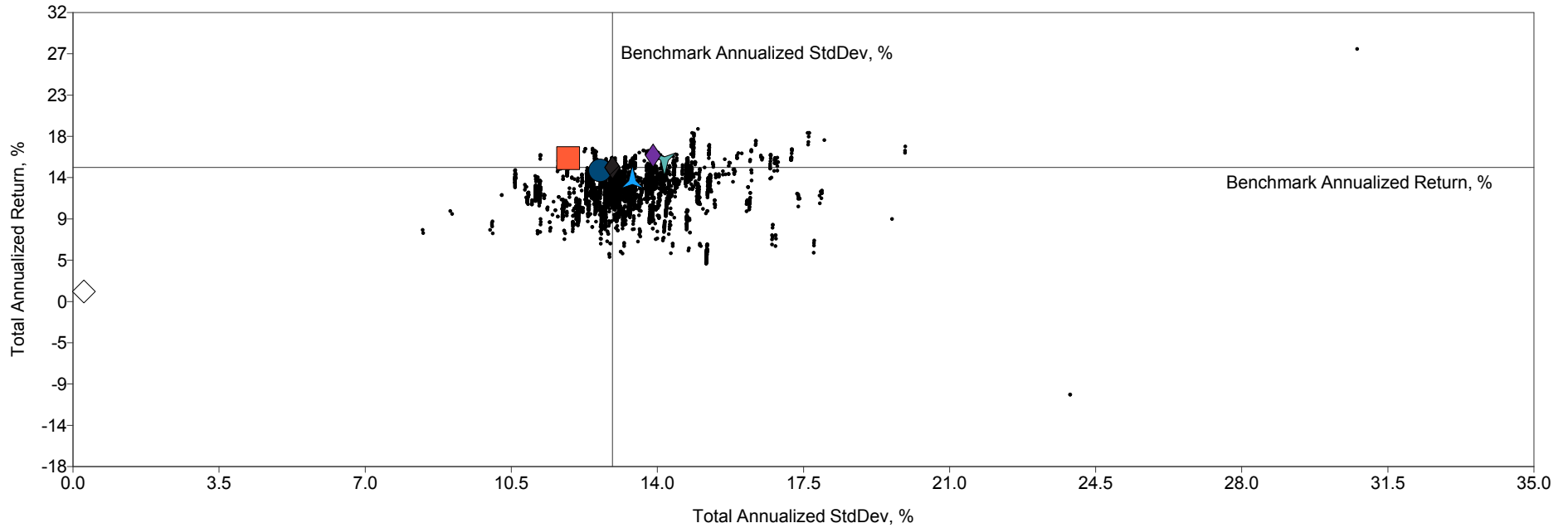
Excess Return- The fund's return above the benchmark.

Tracking Error- The volatility of the fund's excess returns.

Significance Level- Measures the confidence of the fund's out/under performance.

Alpha- The fund's risk adjusted excess return.

Beta- The fund's market risk/sensitivity to the market (benchmark).



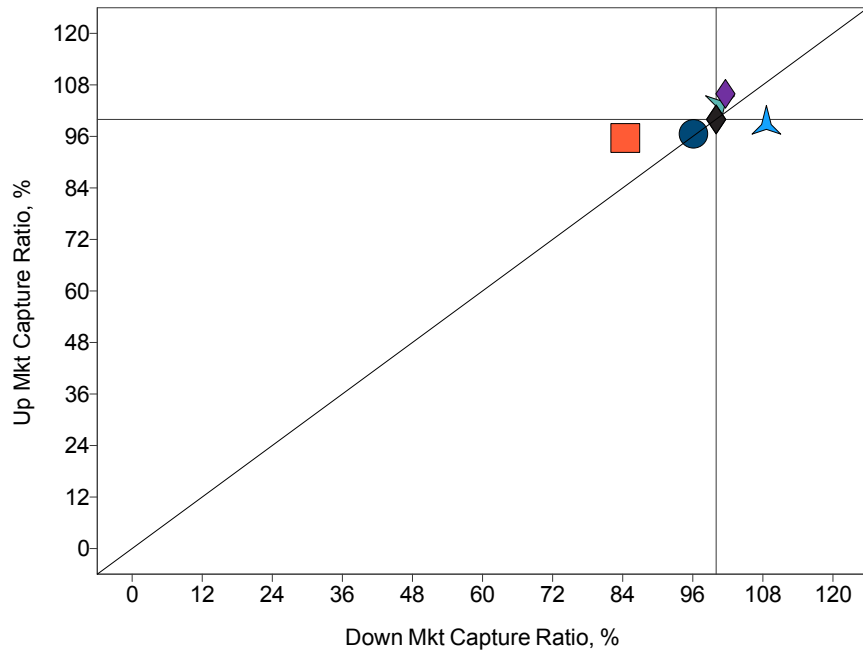
Summary Statistics

Jan 15 - Dec 19

	Return (%)	Std Dev (%)	Sharpe Ratio	Risk/Return Score
■ AB Large Cap Growth Z	15.62	11.86	1.23	1
▼ T. Rowe Price Blue Chip Growth I	15.36	14.17	1.01	1
◆ T. Rowe Price Instl Large Cap Growth	15.90	13.90	1.07	1
● ClearBridge Large Cap Growth IS	14.30	12.63	1.05	1
▲ CREF Growth R3	13.15	13.40	0.90	0
◇ Cash	1.07	0.26	NA	NA
◆ Russell 1000 Growth Index	14.63	12.92	1.05	

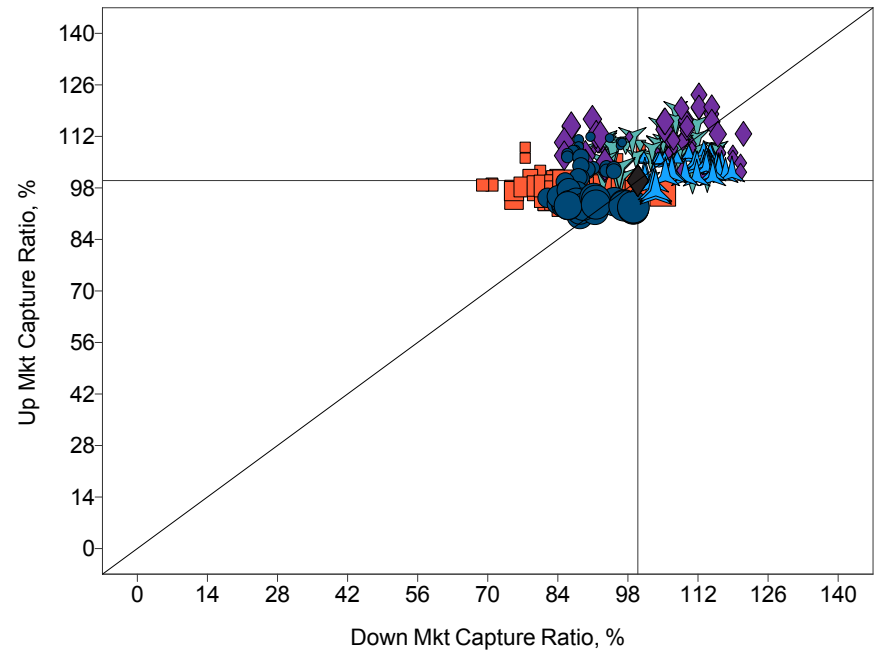
Up/Down Capture

Jan 15 - Dec 19



Rolling Up/Down Capture

36 Month rolling windows, Jan 15 - Dec 19



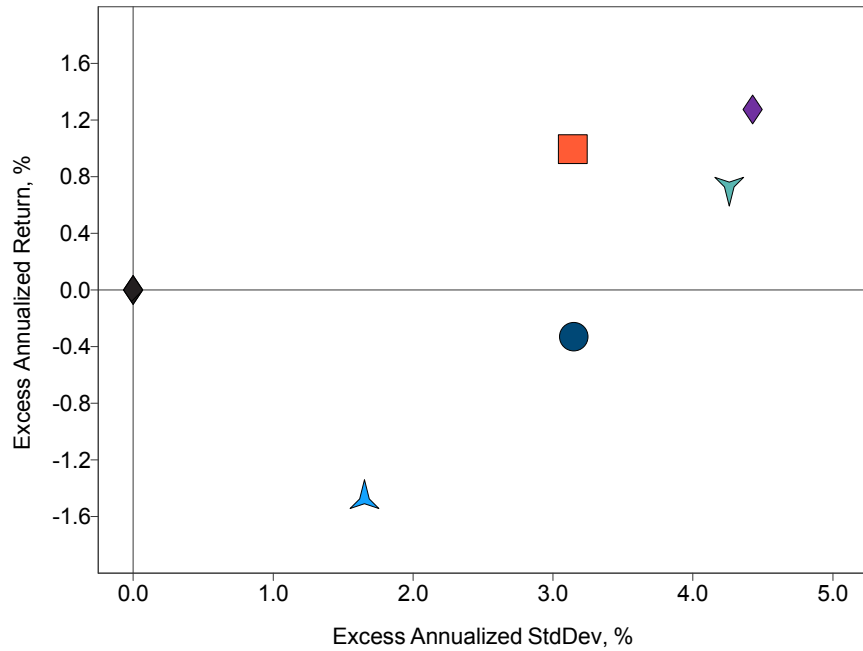
Summary Statistics

Jan 15 - Dec 19

	Up Months	Down Months	Up Market Avg. Return	Down Market Avg. Return	Up Market Capture, %	Down Market Capture, %	R ²	Up/Down Score
■ AB Large Cap Growth Z	41	19	2.96	-2.44	95.63	84.43	94.38	1
▼ T. Rowe Price Blue Chip Growth I	42	18	3.17	-2.93	103.25	100.68	91.14	1
◆ T. Rowe Price Instl Large Cap Growth	41	19	3.24	-2.95	105.92	101.59	89.89	1
● ClearBridge Large Cap Growth IS	42	18	2.98	-2.79	96.63	96.15	94.07	1
▲ CREF Growth R3	40	20	3.04	-3.17	98.79	108.63	98.56	0
◆ Russell 1000 Growth Index	41	19	3.08	-2.91	100.00	100.00	100.00	

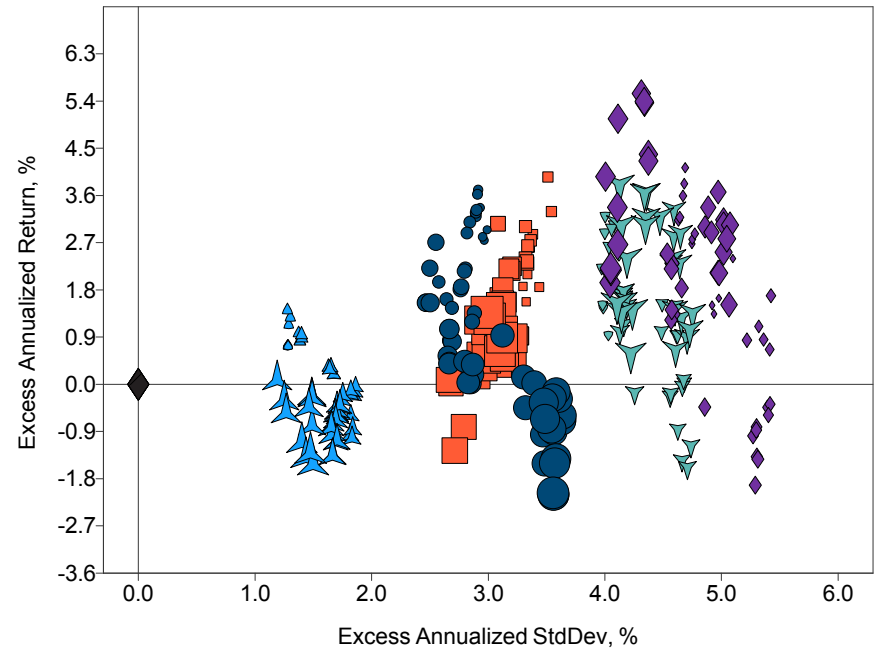
Relative Risk Return

Jan 15 - Dec 19



Rolling Relative Risk Return

36 Month rolling windows, Jan 15 - Dec 19



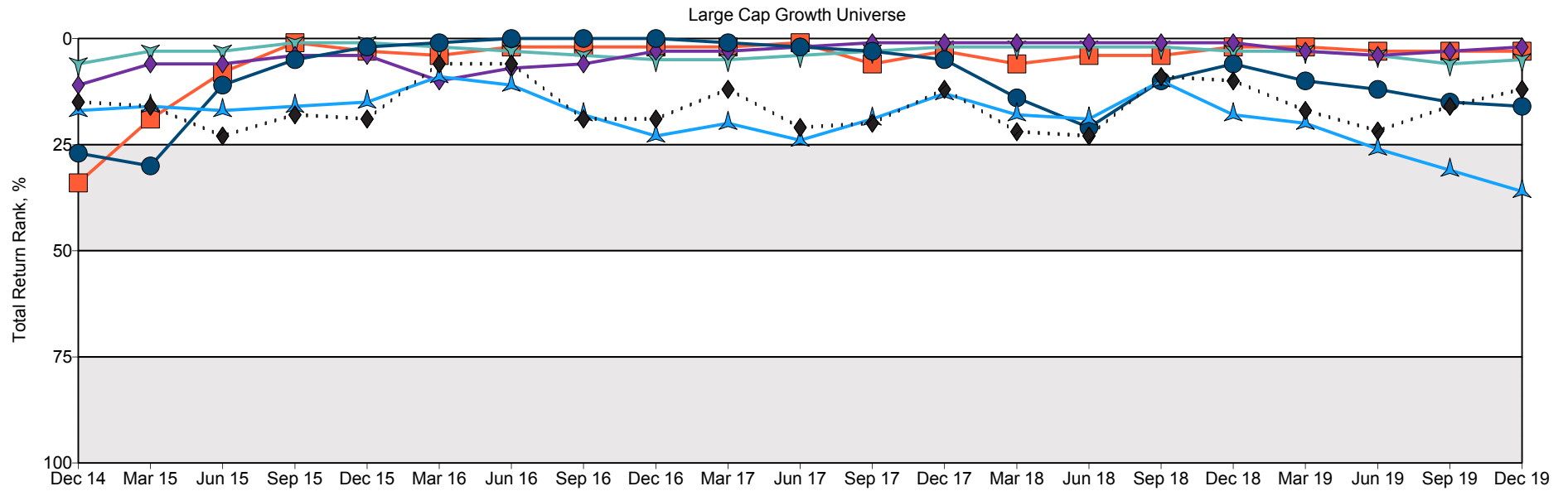
Summary Statistics

Jan 15 - Dec 19

	Annualized Excess Return, %	Annualized Excess StdDev, %	Information Ratio	Significance Level, %	R ²	Info Ratio Score
■ AB Large Cap Growth Z	1.00	3.14	0.32	73.02	94.38	1
▼ T. Rowe Price Blue Chip Growth I	0.73	4.26	0.17	63.17	91.14	1
◆ T. Rowe Price Instl Large Cap Growth	1.28	4.43	0.29	71.13	89.89	1
● ClearBridge Large Cap Growth IS	-0.33	3.15	-0.10	58.16	94.07	0
▲ CREF Growth R3	-1.48	1.65	-0.89	95.67	98.56	0

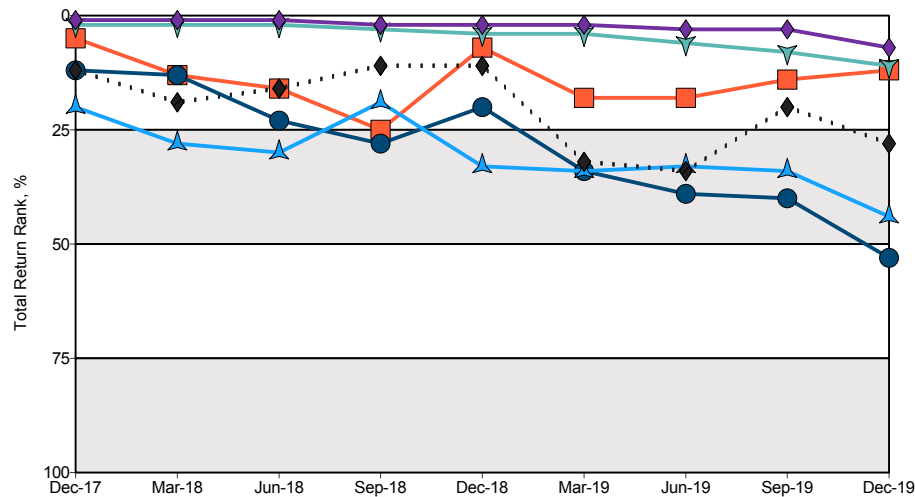
Rolling 5 Year Return Rank

20 quarter rolling windows, Jan 10 - Dec 19



Median Return Rank (5Yr Universe Size: 6159)

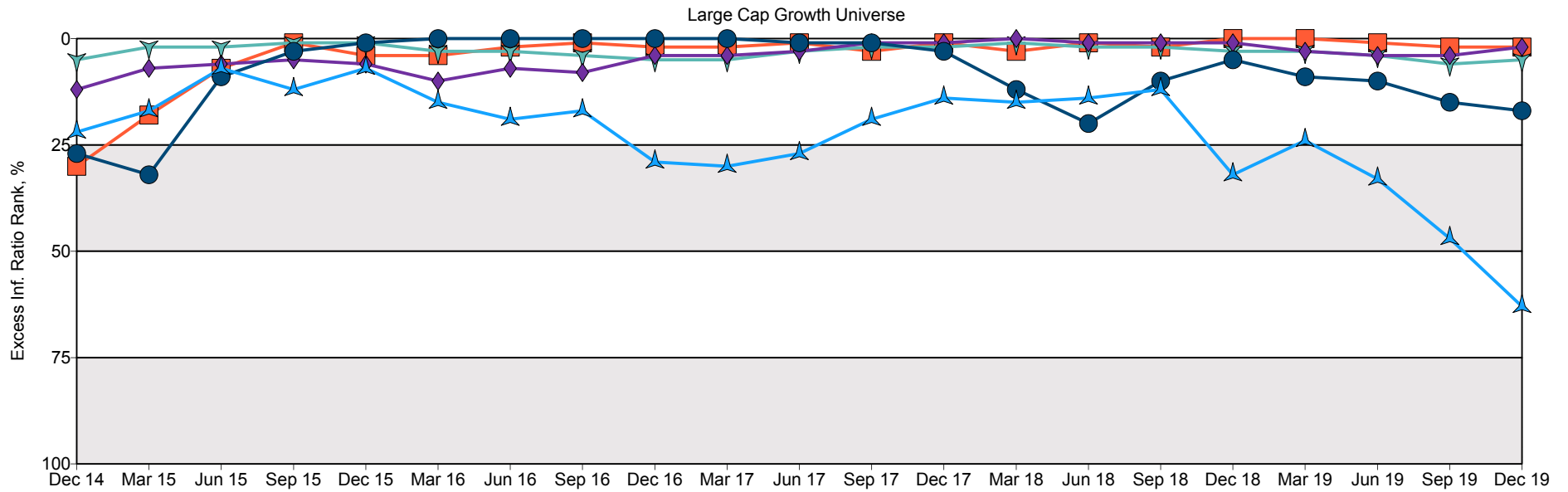
36 Month rolling windows, Jan 15 - Dec 19



	Median Rank	Volatility of Rank	Return Rank Score
AB Large Cap Growth Z	14.0	4.0	1
T. Rowe Price Blue Chip Growth I	4.0	2.0	1
T. Rowe Price Instl Large Cap Growth	2.0	1.0	1
ClearBridge Large Cap Growth IS	28.0	11.0	1
CREF Growth R3	33.0	3.0	1
Russell 1000 Growth Index	NA	NA	NA

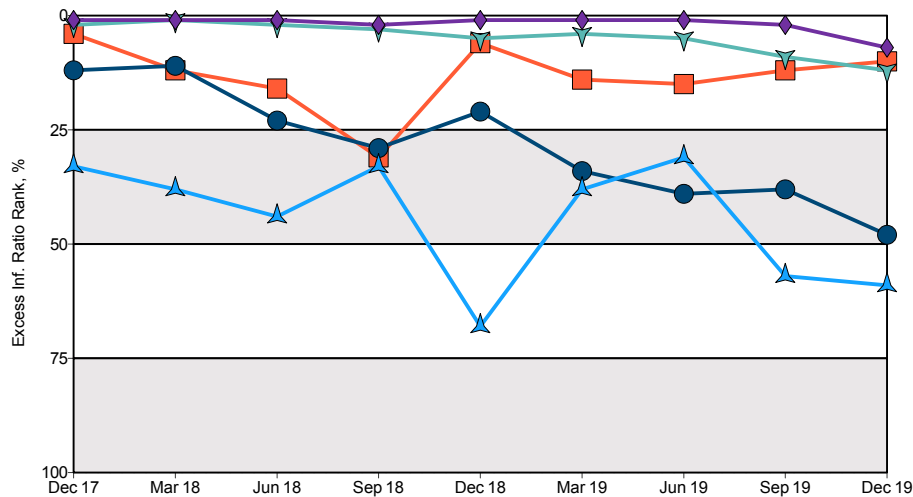
Rolling 5 Year Information Ratio Rank

20 quarter rolling windows, Jan 10 - Dec 19



Median Information Ratio Rank (5Yr Universe Size: 6159)

36 Month rolling windows, Jan 15 - Dec 19



	Median Rank	Volatility of Rank	IR Rank Score
AB Large Cap Growth Z	12.0	3.0	1
T. Rowe Price Blue Chip Growth I	4.0	2.0	1
T. Rowe Price Instl Large Cap Growth	1.0	0.0	1
ClearBridge Large Cap Growth IS	29.0	10.0	1
CREF Growth R3	39.0	6.0	1

Victory RS Global R6

Category: Global Equity

RGGRX
12/31/2019

Fund Strategy

The investment seeks to provide long-term capital appreciation. The fund normally invests at least 80% of the value of its net assets in common stocks, preferred stocks, and other securities convertible into common or preferred stock of publicly traded companies wherever they may be in the world. Under normal circumstances, the fund will invest in companies located in at least three different countries including the United States. It will normally invest 40% or more of its total assets in securities of non-U.S. companies.

Fund Information

Strategy Asset (\$ mm):	85.00
Share Class Assets (\$ mm):	0.00
Manager:	U-Wen Kok
Manager Tenure:	7 Years

Portfolio Statistics

Alpha*:	-	P/E:	16.68
Beta*:	-	P/B:	2.73
Std Dev:	10.77	SEC Yield (%):	1.61
R ² :	-	Turnover:	58.00
	as of date 9/30/2019		as of date 12/31/2019

*Best fit index:
*3-year statistic:

Top 10 Holdings (%)

as of 9/30/2019

Microsoft Corp / MSFT	3.68
Apple Inc / AAPL	2.80
JPMorgan Chase & Co / JPM	2.42
Mastercard Inc A / MA	2.17
PepsiCo Inc / PEP	2.04
Honeywell International Inc / HON	2.03
Alphabet Inc Class C / GOOG	1.92
Amazon.com Inc / AMZN	1.91
Verizon Communications Inc / VZ	1.91
Roche Holding AG Dividend Right Cert. / ROG	1.90
% in Top 10 Holdings	22.80
# of Holdings	94

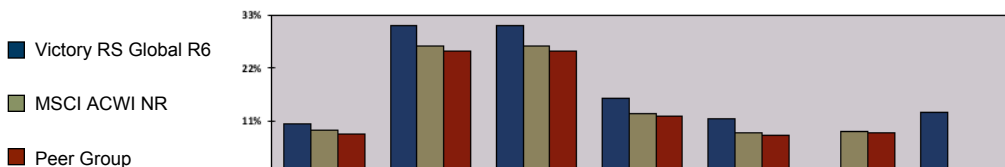
Scorecard System

Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Global Equity											
Victory RS Global R6	RGGRX	1	1	1	1	1	1	1	1	2	10
		22.09/62.65	15.42	95.98	10.76/11.48	100.28/80.16	1.12	17.00	3.00		GE
Active Strategies		Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018		
Victory RS Global R6		10	10	10	-	-	-	-	-		
		GE	GE	GE							

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Victory RS Global R6	10.26%	30.83%	30.83%	15.67%	11.48%	-	12.80%
MSCIACWINR	8.95%	26.60%	26.60%	12.44%	8.41%	8.79%	-
Peer Group Performance*	8.18%	25.68%	25.68%	12.09%	8.10%	8.59%	-
Peer Group Rank*	16	16	16	19	10	-	-
Peer Group Size (funds)*	-	-	873	722	605	362	-

*Morningstar Peer Group: World Large Stock

The performance analysis displayed is reflective of past performance. Past performance does not guarantee future results. The investment return and principal value of an investment will fluctuate over time. Current performance may differ from the performance displayed. Investing includes risk, including potential loss of principal. Carefully consider any and all investment objectives, risk factors and charges and expenses before investing. Contact your financial advisor or consultant for fund's current performance and a copy of the most recent prospectus. Contact (800) 959-0071 for most recent month end performance.

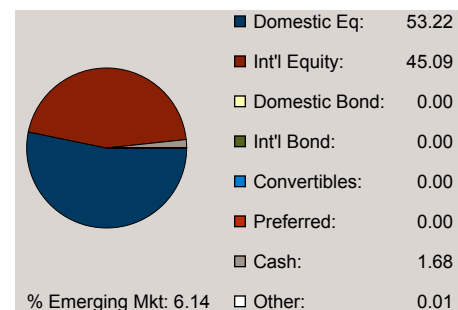
Country Exposure (%)

as of 9/30/2019

US:	54.14	
Canada:	2.43	-
Latin America:	1.05	.
United Kingdom:	5.93	-
EuroZone:	10.73	-
Europe ex-EuroZone:	6.15	-
Europe Emerging:	0.00	
Africa:	0.00	
Middle East:	0.00	
Japan:	8.11	-
Australasia:	2.24	-
Asia Developed:	4.12	-
Asia Emerging:	5.08	-

Asset Allocation (%)

as of 9/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.55
Prospectus Gross Exp. Ratio:	1.40
Avg Exp Ratio Morningstar (%):	1.10
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	5/16/2011
Share Class Inception:	5/2/2019

Hartford Core Equity R6

Category: Large Cap Blend

HAITX
12/31/2019

Fund Strategy

The investment seeks growth of capital. Under normal circumstances, the fund invests at least 80% of its assets in common stocks. Its portfolio seeks to be broadly diversified by industry and company. The fund may invest in a broad range of market capitalizations, but the advisor tends to focus on large capitalization companies with market capitalizations similar to those of companies in the S&P 500 Index.

Fund Information

Strategy Asset (\$ mm):	6323.00
Share Class Assets (\$ mm):	301.00
Manager:	Mammen Chally
Manager Tenure:	22 Years

Portfolio Statistics

Alpha*:	2.42	P/E:	22.57
Beta*:	0.94	P/B:	3.24
Std Dev:	11.52	SEC Yield (%):	-
R ² :	97.61	Turnover:	22.00
as of date 11/30/2019		as of date 12/31/2019	

*Best fit index: S&P 500 TR USD
*3-year statistic: S&P 500 TR USD

Top 10 Holdings (%)

as of 11/30/2019

Apple Inc / AAPL	3.18
E-mini S&P 500 Futures Dec19 / ESZ9	3.00
Microsoft Corp / MSFT	2.99
JPMorgan Chase & Co / JPM	2.57
Alphabet Inc A / GOOGL	2.47
Bank of America Corp / BAC	2.39
Procter & Gamble Co / PG	2.28
Mastercard Inc A / MA	1.87
NextEra Energy Inc / NEE	1.80
The Walt Disney Co / DIS	1.79
% in Top 10 Holdings	24.33
# of Holdings	77

Scorecard System

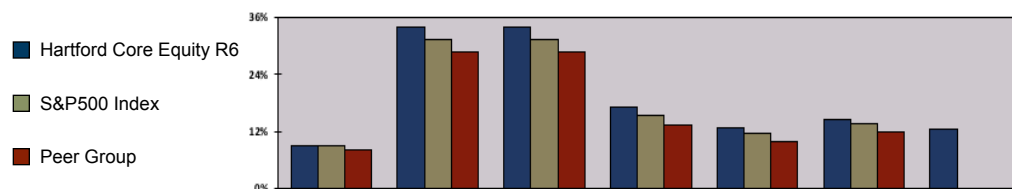
Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Large Cap Blend											
Hartford Core Equity R6	HAITX	1	1	1	1	1	1	1	1	2	10
		9.32/91.26	15.62	95.87	11.08/12.73	95.77/83.27	0.49	13.00	13.00		LCB

Active Strategies	Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018
Hartford Core Equity R6	10	10	10	10	10	9	9	9
	LCB	LCB	LCB	LCB	LCB	LCB	LCG	LCG

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Hartford Core Equity R6	9.06%	33.89%	33.89%	17.21%	12.73%	14.58%	12.62%
S&P500 Index	9.07%	31.49%	31.49%	15.27%	11.70%	13.56%	-
Peer Group Performance*	8.15%	28.78%	28.78%	13.26%	9.78%	12.03%	-
Peer Group Rank*	30	7	7	2	2	1	-
Peer Group Size (funds)*	-	-	1387	1203	1058	808	-

*Morningstar Peer Group: Large Blend

The performance analysis displayed is reflective of past performance. Past performance does not guarantee future results. The investment return and principal value of an investment will fluctuate over time. Current performance may differ from the performance displayed. Investing includes risk, including potential loss of principal. Carefully consider any and all investment objectives, risk factors and charges and expenses before investing. Contact your financial advisor or consultant for fund's current performance and a copy of the most recent prospectus. Contact (800) 959-0071 for most recent month end performance.

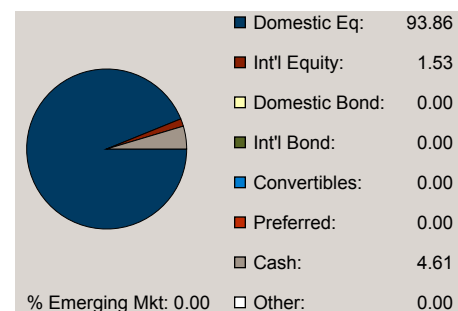
Sector Allocation

as of 11/30/2019

Energy:	1.43	-
Basic Materials:	1.91	-
Real Estate:	2.45	-
Utilities:	4.57	—
Comm:	7.57	—
Industrials:	10.14	—
Cons Cyclical:	10.54	—
Cons Defensive:	10.78	—
Financial Services:	15.70	—
Healthcare:	17.03	—
Technology:	17.87	—

Asset Allocation (%)

as of 11/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.39
Prospectus Gross Exp. Ratio:	0.39
Avg Exp Ratio Morningstar (%):	0.94
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$0
Waiver Amt:	0.06
Waiver Exp Date:	2/28/2017
Strategy Inception:	4/30/1998
Share Class Inception:	3/31/2015

T. Rowe Price Instl Large Cap Growth

Category: Large Cap Growth

TRLGX
12/31/2019

Fund Strategy

The investment seeks to provide long-term capital appreciation through investments in common stocks of growth companies. In taking a growth approach to stock selection, the fund will normally invest at least 80% of its net assets (including any borrowings for investment purposes) in the common stocks of large-cap companies. The advisor defines a large-cap company as one whose market capitalization is larger than the median market capitalization of companies in the Russell 1000® Growth Index, a widely used benchmark of the largest U.S. growth stocks. The fund is non-diversified.

Fund Information

Strategy Asset (\$ mm):	16602.00
Share Class Assets (\$ mm):	16602.00
Manager:	Taymour R. Tamaddon
Manager Tenure:	3 Years

Portfolio Statistics

Alpha*:	0.65	P/E:	28.17
Beta*:	1.01	P/B:	5.89
Std Dev:	13.64	SEC Yield (%):	0.00
R ² :	95.62	Turnover:	33.40
	as of date 9/30/2019		as of date 12/31/2019

*Best fit index: Morningstar US Large Growth TR USD
*3-year statistic: Morningstar US Large Growth TR USD

Top 10 Holdings (%)

as of 9/30/2019

Amazon.com Inc / AMZN	8.02
Microsoft Corp / MSFT	7.45
Boeing Co / BA	6.17
Facebook Inc A / FB	6.03
Alphabet Inc A / GOOGL	5.95
Visa Inc Class A / V	5.21
Global Payments Inc / GPN	2.44
Stryker Corp / SYK	2.44
Alphabet Inc Class C / GOOG	2.35
Alibaba Group Holding Ltd ADR / BABA	2.34
% in Top 10 Holdings	48.41
# of Holdings	64

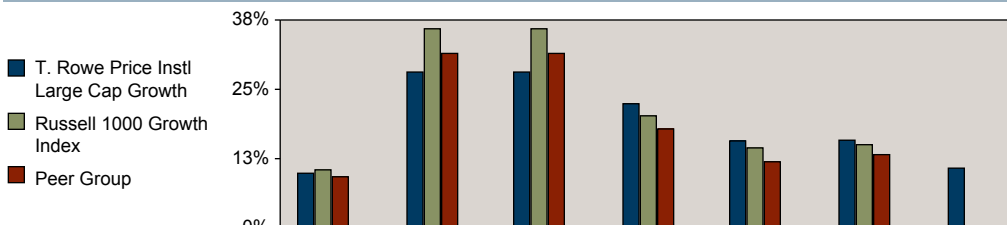
Scorecard System

Active Strategies	Ticker	Style			Risk/Return			Peer Group		Qual. (2pt max)	Score 12/31/2019
		Style	Style Drift	R ²	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank		
Large Cap Growth											
T. Rowe Price Instl Large Cap Growth	TRLGX	1	1	1	1	1	1	1	1	1	9
		94.59/90.84	10.37	89.89	13.90/15.90	105.92/101.59	0.29	2.00	1.00	T	LCG
Active Strategies		Score 12/31/2019	Score 9/30/2019	Score 6/30/2019	Score 3/31/2019	Score 12/31/2018	Score 9/30/2018	Score 6/30/2018	Score 3/31/2018		
T. Rowe Price Instl Large Cap Growth		9	9	9	9	9	9	8	8		
		LCG	LCG	LCG	LCG	LCG	LCG	LCG	LCG		

The Scorecard System methodology incorporates both quantitative and qualitative factors into evaluating fund managers and their investment strategies. To be scored, there is a fund history requirement (5 years for active strategies and 3 years for passive strategies). The scoring system is built around pass/fail criteria, on a scale of 0-10 (with 10 being the best). 80% of the score is quantitative and 20% is qualitative. For Active and Asset Allocation Strategies, the scorecard factors are weighted 30% to style, 30% to risk/return, 20% to peer group rankings and 20% to qualitative factors (manager tenure, expense ratio relative to category average and strength of statistics). For Passive Strategies the scorecard factors are weighted 40% to style, 40% to peer group rankings and 20% to qualitative factors (expense ratio relative to category average, strength of statistics). For active, asset allocation and passive strategies, other significant factors may be considered into a fund's qualitative score. For further explanation of the Scorecard System, please refer to the Scorecard Tutorial.

Performance Analysis

as of 12/31/2019



	Qtr	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
T. Rowe Price Instl Large Cap Growth	10.00%	28.49%	28.49%	22.70%	15.90%	16.04%	10.93%
Russell 1000 Growth Index	10.62%	36.39%	36.39%	20.49%	14.63%	15.22%	-
Peer Group Performance*	9.36%	31.90%	31.90%	18.09%	12.10%	13.40%	-
Peer Group Rank*	38	80	80	9	5	5	-
Peer Group Size (funds)*	-	-	1360	1218	1086	811	-

*Morningstar Peer Group: Large Growth

The performance analysis displayed is reflective of past performance. Past performance does not guarantee future results. The investment return and principal value of an investment will fluctuate over time. Current performance may differ from the performance displayed. Investing includes risk, including potential loss of principal. Carefully consider any and all investment objectives, risk factors and charges and expenses before investing. Contact your financial advisor or consultant for fund's current performance and a copy of the most recent prospectus. Contact (800) 959-0071 for most recent month end performance.

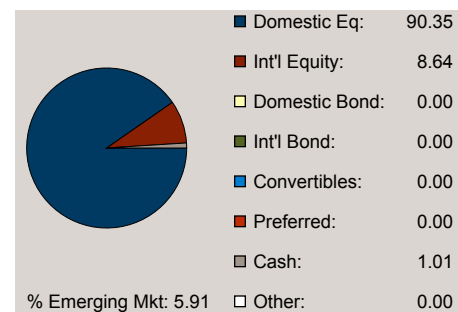
Sector Allocation

as of 9/30/2019

Real Estate:	0.00
Comm:	0.02
Energy:	0.48
Basic Materials:	0.53
Cons Defensive:	2.08
Utilities:	2.10
Financial Services:	9.73
Industrials:	12.04
Healthcare:	13.91
Cons Cyclical:	19.18
Technology:	39.93

Asset Allocation (%)

as of 9/30/2019



Additional Information

Prospectus Net Exp. Ratio:	0.56
Prospectus Gross Exp. Ratio:	0.56
Avg Exp Ratio Morningstar (%):	1.06
12b-1 fees (%):	-
Closed - New Inv:	-
Closed - All Inv:	-
Min Investment:	\$100000
Waiver Amt:	-
Waiver Exp Date:	-
Strategy Inception:	10/31/2001
Share Class Inception:	10/31/2001

Appendix B - Active TDFs Evaluation

Glidepath Data

A TDFs equity exposure and the rate of change in its equity exposure as participants approach retirement are used to categorize TDFs into three different risk postures in correspondence to the risk index.

Conservative
<54

Moderate
55 - 69

Aggressive
>70

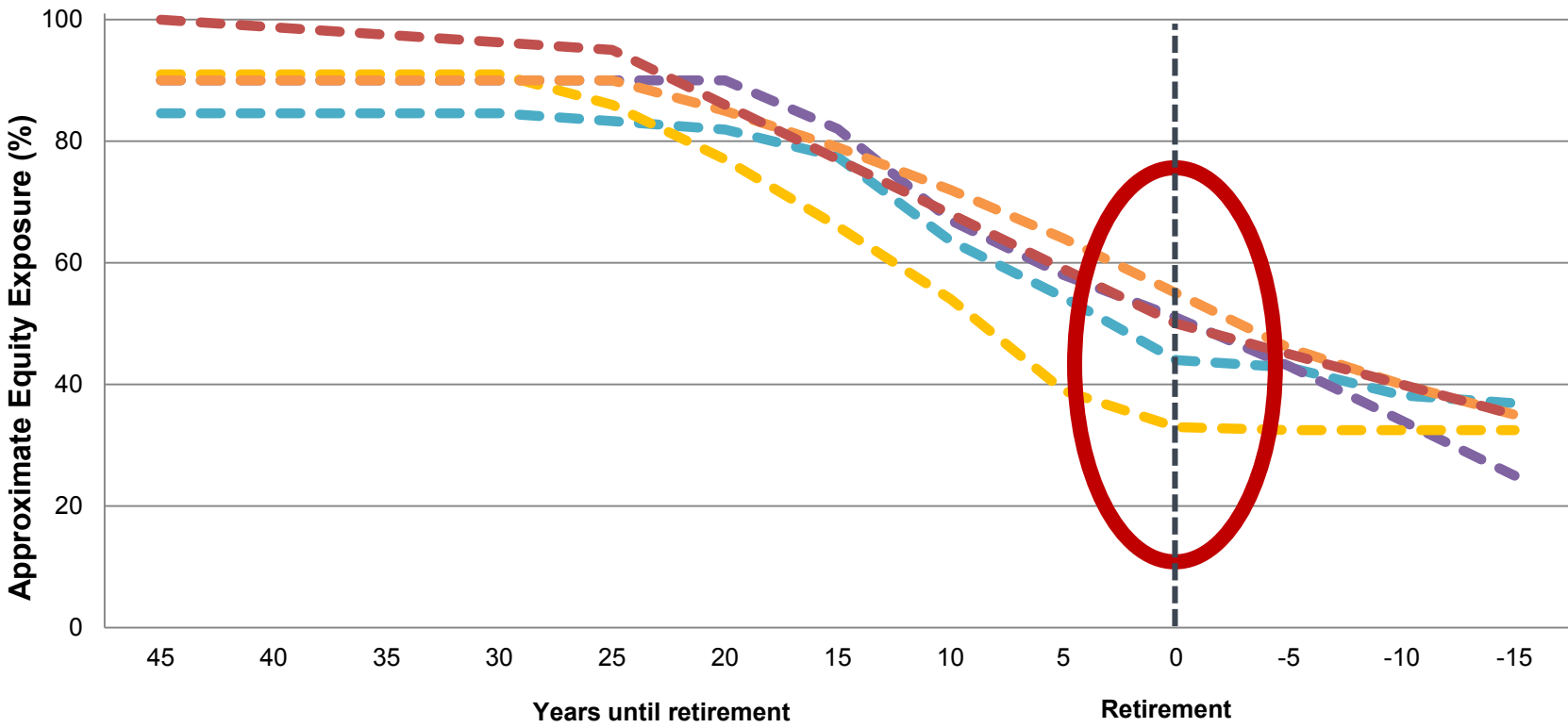
Product Name	TDF Design Analysis	Risk Index	Equity (Approx.)		Approx. Equity Exposure at age 65	Glidepath Slope	Tactical %	Management Style	Investment Approach
			Starting Eq	Ending Eq					
Fidelity Freedom	Aggressive	81	90%	19%	51%	1.6	10%	Active	Proprietary Funds
TIAA-CREF Lifecycle	Aggressive	77	100%	20%	50%	1.4	10%	Active	Proprietary Funds
T. Rowe Price Retirement	Aggressive	85	90%	20%	55%	1.6	5%	Active	Proprietary Funds
American Funds Target Date Retirement	Moderate	69	85%	27%	44%	1.2	10%	Active	Proprietary Funds
JPMorgan SmartRetirement	Moderate	55	91%	33%	33%	1.0	15%	Active	Proprietary Funds

Proprietary Funds means only funds that are managed by a TDF investment manager are used.

Multi-manager means both proprietary and non-proprietary funds are used, but proprietary funds are the primary underlying investment vehicles.

Open-architecture means no proprietary funds are required to be used.

TDF Considerations Glidepaths



- American Funds Target Date Retirement
- Fidelity Freedom
- JPMorgan SmartRetirement
- T. Rowe Price Retirement
- TIAA-CREF Lifecycle

Asset Class Coverage

	Traditional TDF				
	Aggressive			Moderate	
	Fidelity Freedom	TIAA-CREF Lifecycle	T. Rowe Price Retirement	American Funds Target Date Retirement	JPMorgan SmartRetirement
U.S. Large Cap Equity	X	X	X	X	X
U.S. Mid Cap Equity	X	X	X	X	X
U.S. Small Cap Equity	X	X	X	X	X
International Equity	X	X	X	X	X
Emerging Market Equity	X	X	X	X	X
U.S. Fixed Income	X	X	X	X	X
U.S. TIPS	X	X	X	X	X
High Yield Fixed Income	X	X	X	X	X
International Fixed Income	X	X	X	X	
Emerging Market Debt	X	X	X	X	X
REITs	X		X		X
Commodities	X		X		

Fees

	Traditional TDF				
	Aggressive			Moderate	
	Fidelity Freedom K	TIAA-CREF Lifecycle Instl	T. Rowe Price Retirement I	American Funds Target Date Retirement R6	JPMorgan SmartRetirement R6
Investment Philosophy	Active	Active	Active	Active	Active
Average Investment Expense	0.57%	0.42%	0.52%	0.36%	0.46%
Revenue Sharing	0.20%	0.00%	0.00%	0.00%	0.00%
Net Investment Management Expense	0.37%	0.42%	0.52%	0.36%	0.46%

Summary Comparison

	Traditional TDF				
	Aggressive			Moderate	
	Fidelity Freedom	TIAA-CREF Lifecycle	T. Rowe Price Retirement	American Funds Target Date Retirement	JPMorgan SmartRetirement
TDF Risk Index	81	77	85	69	55
Management Style	Active	Active	Active	Active	Active
# of Asset Classes	12	10	12	10	10
# Underlying Fund Managers	1	2	1	1	2
# Underlying Funds on Watchlist	8	6	5	6	7
Average Underlying Fund Score	7.8	8.0	8.1	8.1	7.8
ERISA 3(38)	No	No	No	No	No
Glidepath Manager	Fidelity	TIAA	T. Rowe Price	American Funds	JPMorgan
Trustee/ Custodian	Fidelity	TIAA	T. Rowe Price	American Funds	JPMorgan
Net Expense Ratio	0.37%	0.42%	0.52%	0.36%	0.46%

Active TDFs Return Analysis (Page 1 of 2)

Group/Investment	QTR			1-Year			3-Year			5-Year			10-Year			
	10/1/2019 12/31/2019			1/1/2019 12/31/2019			1/1/2017 12/31/2019			1/1/2015 12/31/2019			1/1/2010 12/31/2019			
	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev	
Target Date Retirement																
American Funds 2015 Trgt Date Retire R6	4.22	0.24	0.23	14.94	0.69	1.45	7.53	1.17	4.86	5.85	0.90	5.24	7.51	1.06	6.48	
Fidelity Freedom® 2015	4.89	0.28	0.24	16.28	0.69	1.59	8.30	1.14	5.60	6.26	0.83	6.22	6.99	0.91	7.04	
JPMorgan SmartRetirement® Income R6	2.77	0.20	0.18	14.32	0.78	1.23	6.71	1.06	4.61	4.85	0.79	4.79	5.97	0.99	5.44	
T. Rowe Price Retirement 2015	4.53	0.24	0.26	17.40	0.67	1.77	8.44	1.14	5.72	6.35	0.84	6.25	7.86	0.90	8.18	
TIAA-CREF Lifecycle 2015 Institutional	4.13	0.24	0.23	16.51	0.66	1.68	8.24	1.13	5.62	6.26	0.87	5.94	7.62	0.96	7.30	
Target Date 2025																
American Funds 2025 Trgt Date Retire R6	5.65	0.26	0.30	17.85	0.63	1.95	9.47	1.17	6.45	7.12	0.88	6.86	9.15	0.96	9.00	
Fidelity Freedom® 2025	6.37	0.28	0.32	19.45	0.63	2.12	9.52	1.07	7.11	7.10	0.79	7.74	8.08	0.83	9.16	
JPMorgan SmartRetirement® 2025 R6	4.36	0.22	0.27	18.66	0.67	1.92	8.92	1.03	6.84	6.34	0.74	7.23	8.42	0.85	9.39	
T. Rowe Price Retirement 2025	5.80	0.23	0.36	20.95	0.60	2.43	10.34	1.09	7.70	7.60	0.80	8.17	9.23	0.86	10.19	
TIAA-CREF Lifecycle 2025 Institutional	5.20	0.22	0.33	19.44	0.60	2.22	9.63	1.06	7.32	7.19	0.80	7.70	8.70	0.88	9.38	
Target Date 2035																
American Funds 2035 Trgt Date Retire R6	8.00	0.25	0.45	23.29	0.57	2.82	12.28	1.13	9.14	8.99	0.85	9.39	10.34	0.93	10.60	
Fidelity Freedom® 2035	8.89	0.27	0.46	24.49	0.55	3.13	11.63	0.98	10.05	8.56	0.73	10.49	9.17	0.78	11.41	
JPMorgan SmartRetirement® 2035 R6	6.63	0.23	0.40	22.64	0.59	2.68	10.53	0.96	9.08	7.22	0.68	9.37	9.39	0.79	11.53	
T. Rowe Price Retirement 2035	6.82	0.22	0.45	23.70	0.56	2.96	11.67	1.05	9.27	8.46	0.78	9.68	10.13	0.84	11.66	
TIAA-CREF Lifecycle 2035 Institutional	6.71	0.23	0.42	23.04	0.55	2.94	11.07	0.98	9.41	8.11	0.74	9.74	9.68	0.81	11.55	

Active TDFs Return Analysis (Page 2 of 2)

Group/Investment	QTR			1-Year			3-Year			5-Year			10-Year		
	10/1/2019 12/31/2019			1/1/2019 12/31/2019			1/1/2017 12/31/2019			1/1/2015 12/31/2019			1/1/2010 12/31/2019		
	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev	Return	Sharpe Ratio	Std Dev
Target Date 2045															
American Funds 2045 Trgt Date Retire R6	8.66	0.25	0.49	24.68	0.56	3.09	12.96	1.11	9.89	9.45	0.85	10.01	10.62	0.92	10.97
Fidelity Freedom® 2045	9.63	0.27	0.51	25.40	0.52	3.41	11.76	0.94	10.68	8.64	0.72	10.84	9.31	0.76	11.82
JPMorgan SmartRetirement® 2045 R6	7.91	0.23	0.50	25.02	0.54	3.21	11.33	0.92	10.37	7.73	0.66	10.42	9.74	0.79	12.01
T. Rowe Price Retirement 2045	7.53	0.21	0.50	25.39	0.54	3.31	12.37	1.02	10.25	8.88	0.76	10.48	10.46	0.84	12.12
TIAA-CREF Lifecycle 2045 Institutional	8.23	0.22	0.53	25.87	0.51	3.57	12.05	0.92	11.23	8.76	0.71	11.24	10.14	0.80	12.32
Target Date 2055															
American Funds 2055 Trgt Date Retire R6	8.87	0.25	0.50	25.09	0.56	3.14	13.11	1.11	10.05	9.54	0.85	10.12	-	-	-
Fidelity Freedom® 2055	9.60	0.27	0.51	25.34	0.52	3.39	11.76	0.94	10.60	8.63	0.72	10.78	-	-	-
JPMorgan SmartRetirement® 2055 R6	7.92	0.23	0.49	25.06	0.55	3.20	11.33	0.93	10.34	7.76	0.67	10.38	-	-	-
T. Rowe Price Retirement 2055	7.52	0.21	0.51	25.38	0.54	3.31	12.32	1.02	10.25	8.86	0.76	10.50	10.46	0.84	12.09
TIAA-CREF Lifecycle 2055 Institutional	8.53	0.22	0.54	26.36	0.50	3.67	12.27	0.91	11.53	8.93	0.71	11.44	-	-	-
Simple Average															
American Funds Trgt Date Retire R6	7.08	0.25	0.40	21.17	0.60	2.49	11.07	1.14	8.08	8.19	0.86	8.32	-	-	-
Fidelity Freedom®	7.88	0.27	0.41	22.19	0.58	2.73	10.59	1.01	8.81	7.84	0.76	9.21	-	-	-
JPMorgan SmartRetirement® R6	5.92	0.22	0.37	21.14	0.62	2.45	9.76	0.98	8.25	6.78	0.71	8.44	-	-	-
T. Rowe Price Retirement	6.44	0.22	0.42	22.56	0.58	2.76	11.03	1.07	8.64	8.03	0.79	9.02	9.63	0.85	10.85
TIAA-CREF Lifecycle Institutional	6.56	0.23	0.41	22.24	0.56	2.82	10.65	1.00	9.02	7.85	0.76	9.21	-	-	-

Appendix C - TDFs Underlying Funds Analysis

Fidelity Freedom – Underlying Funds

Average Score	Number of Managers	Number of Funds on Watchlist
7.8	1	8

Asset Class	Fund	Score
Large Cap Value	Fidelity Series Stk Selec Lg Cp Val	6
Large Cap Value	Fidelity Series Value Discovery	5
Large Cap Value	Fidelity Series Large Cap Value Index	10
Large Cap Blend	Fidelity Series Large Cap Stock	5
Large Cap Growth	Fidelity Series All-Sector Equity	5
Large Cap Growth	Fidelity Series Blue Chip Growth	10
Large Cap Growth	Fidelity Series Growth Company	9
Large Cap Growth	Fidelity Series Opportunistic Insights	7
Mid Cap Value	Fidelity Series Intrinsic Opps	9
Small Cap Blend	Fidelity Series Small Cap Discovery	5
Small Cap Blend	Fidelity Series Small Cap Opps	9
International Large Cap Value	Fidelity Series International Value	8
International Large Cap Growth	Fidelity Series International Growth	10
International Small-Mid Growth	Fidelity Series International Sm Cap	10
Emerging Market Equity	Fidelity Series Emerging Markets	-
Emerging Market Equity	Fidelity Series Emerging Markets Opps	10
Core Fixed Income	Fidelity Series Investment Grade Bond	10
Short Term Bond	Fidelity Series Short-Term Credit	-
High Yield	Fidelity Series High Income	5
U.S. Government TIPS	Fidelity Series Infl-Prtct Bd Idx	9
Long Government	Fidelity Series Long-Term Trs Bd Idx	8
Bank Loan	Fidelity Series Floating Rate Hi Inc	7
Global Fixed Income	Fidelity Series International Credit	-
Specialty Fixed Income	Fidelity Series Emerging Markets Debt	-
Money Market	Fidelity Series Government Money Mkt	-
REIT	Fidelity Series Real Estate Income	9
Specialty	Fidelity Series Canada	-
Commodities Broad Basket	Fidelity Series Commodity Strategy	6

Scores as of 12/31/2019. See Disclosures for a description of Scores.

TIAA-CREF Lifecycle – Underlying Funds

Average Score	Number of Managers	Number of Funds on Watchlist
8.0	2	6

Asset Class	Fund	Score
Large Cap Value	Nuveen Dividend Value R6	10
Large Cap Value	TIAA-CREF Large-Cap Value W	5
Large Cap Value	TIAA-CREF Quant Large-Cap Value W	5
Large Cap Growth	TIAA-CREF Large-Cap Growth W	7
Large Cap Growth	TIAA-CREF Quant Large-Cap Growth W	7
Large Cap Growth	TIAA-CREF Growth & Income W	6
Small Cap Blend	TIAA-CREF Quant Sm/Md-Cp Eq W	10
Small Cap Growth	TIAA-CREF Quant Small-Cap Equity W	-
International Equity	TIAA-CREF International Opps W	9
International Large Cap Blend	TIAA-CREF Quant Intl Eq W	8
International Large Cap Blend	TIAA-CREF International Eq W	5
International Small-Mid Cap Value	TIAA-CREF Quant Intl Sm-Cp Eq W	-
Emerging Market Equity	TIAA-CREF Emerging Markets Eq W	10
Core Fixed Income	TIAA-CREF Bond W	10
Core Fixed Income	TIAA-CREF Bond Plus W	10
U.S. Government TIPS	TIAA-CREF Inflation Link Bd W	8
Short-Term Bond	TIAA-CREF Short-Term Bond W	10
High Yield	TIAA-CREF High Yield W	8
Global Fixed Income	TIAA-CREF International Bond W	-
Specialty Fixed Income	TIAA-CREF Emerging Markets Debt W	-

T. Rowe Price Retirement – Underlying Funds

Average Score	Number of Managers	Number of Funds on Watchlist
8.1	1	5

Asset Class	Fund	Score
Aggressive	T. Rowe Price Real Assets	-
Large Cap Value	T. Rowe Price Value	9
Large Cap Blend	T. Rowe Price Equity Index 500	10
Large Cap Growth	T. Rowe Price Growth Stock	7
Mid Cap Value	T. Rowe Price Mid-Cap Value	9
Mid Cap Growth	T. Rowe Price Mid-Cap Growth	10
Mid Cap Growth	T. Rowe Price New Horizons	8
Small Cap Blend	T. Rowe Price Small-Cap Value	9
Small Cap Growth	T. Rowe Price Small-Cap Stock	9
International Equity	T. Rowe Price International Stock	9
International Large Cap Value	T. Rowe Price International Value Eq	5
International Large Cap Blend	T. Rowe Price Overseas Stock	10
Emerging Market Equity	T. Rowe Price Emerging Markets Stock	10
Core Fixed Income	T. Rowe Price New Income	8
U.S. Government TIPS	T. Rowe Price Ltd Dur Infl Focus Bd	5
High Yield	T. Rowe Price High Yield	7
Bank Loan	T. Rowe Price Floating Rate	7
Global Fixed Income	T. Rowe Price Intl Bd (USD Hdgd)	-
Specialty Fixed Income	T. Rowe Price Emerging Markets Bond	-
Multisector Bond	T. Rowe Price Dynamic Global Bond Inv	-
Long Government	T. Rowe Price US Treasury Long-Term I	6
Money Market	T. Rowe Price US Treasury Money	-

American Funds Target Date Retirement – Underlying Funds

Average Score	Number of Managers	Number of Funds on Watchlist
8.1	1	6

Asset Class	Fund	Score
Moderate	American Funds American Balanced R6	9
Moderate	American Funds Income Fund of Amer R6	9
Moderate	American Funds Global Balanced R6	4
Moderate	American Funds Capital Income Bldr R6	3
Large Cap Value	American Funds American Mutual R6	10
Large Cap Blend	American Funds Fundamental Invs R6	10
Large Cap Blend	American Funds Washington Mutual R6	8
Large Cap Blend	American Funds Invmt Co of Amer R6	8
Large Cap Growth	American Funds Growth Fund of Amer R6	8
Large Cap Growth	American Funds New Economy R6	7
Large Cap Growth	American Funds AMCAP R6	6
International Equity	American Funds Europacific Growth R6	9
International Equity	American Funds Intl Gr and Inc R6	9
Emerging Market Equity	American Funds New World R6	10
Global Equity	American Funds New Perspective R6	9
Global Equity	American Funds SMALLCAP World R6	9
Global Equity	American Funds Capital World Gr&Inc R6	8
Core Fixed Income	American Funds Bond Fund of Amer R6	10
Intermediate Government	American Funds Mortgage R6	10
Intermediate Government	American Funds US Government Sec R6	9
U.S. Government TIPS	American Funds Inflation Linked Bd R6	9
Short-Term Bond	American Funds Interm Bd Fd of Amer R6	7
Short-Term Bond	American Funds ST Bd Fd of Amer R6	5
High Yield	American Funds American High-Inc R6	7
Global Fixed Income	American Funds Capital World Bond R6	10

JPMorgan SmartRetirement – Underlying Funds

Average Score	Number of Managers	Number of Funds on Watchlist
7.8	2	7

Asset Class	Fund	Score
Large Cap Value	JPMorgan Value Advantage R6	7
Large Cap Blend	JPMorgan Intrepid America R6	-
Large Cap Blend	JPMorgan US Equity R6	7
Large Cap Blend	JPMorgan US Research Enhanced Equity R6	6
Large Cap Growth	JPMorgan Growth Advantage R6	9
Mid Cap Growth	JPMorgan Mid Cap Equity R6	6
Small Cap Value	JPMorgan Small Cap Value R6	5
Small Cap Blend	JPMorgan Small Cap Equity R6	10
Small Cap Growth	JPMorgan Small Cap Growth R6	10
International Large Cap Blend	JPMorgan International Advantage R6	6
International Large Cap Blend	JPMorgan International Equity R6	10
International Large Cap Blend	JPMorgan International Rsrch Enh Eq R6	10
Emerging Market Equity	JPMorgan Emerging Economies R6	-
Emerging Market Equity	JPMorgan Emerging Markets Equity R6	10
Core Fixed Income	JPMorgan Core Bond R6	10
Core Fixed Income	JPMorgan Core Plus Bond R6	10
U.S. Government TIPS	JPMorgan Inflation Managed Bond R6	6
U.S. Government TIPS	iShares TIPS Bond ETF	9
High Yield	JPMorgan High Yield R6	7
Bank Loan	JPMorgan Floating Rate Income R6	5
Specialty Fixed Income	JPMorgan Emerging Markets Debt R6	-
Specialty Fixed Income	JPMorgan Emerging Markets Strat Dbt R6	-
Money Market	JPMorgan US Government MMkt IM	-
REIT	JPMorgan Realty Income R6	6

Fidelity Freedom Index – Underlying Funds

Average Score	Number of Managers	Number of Funds on Watchlist
9.0	1	0

Asset Class	Fund	Score
Large Cap Blend	Fidelity Series Total Market Index	-
International Equity	Fidelity Series Global ex US Index	10
Core Fixed Income	Fidelity Series Bond Index	-
U.S. Government TIPS	Fidelity Series Infl-Prtct Bd Idx	9
Specialty Fixed Income	Fidelity Series Treasury Bill Index	-
Long Government	Fidelity Series Long-Term Trs Bd Idx	8

State Street Target Retirement – Underlying Funds

Average Score	Number of Managers	Number of Funds on Watchlist
8.4	1	2

Asset Class	Fund	Score
Large Cap Blend	State Street Equity 500 Index K	10
Small Cap Blend	State Street Small/Mid Cap Equity Index	3
International Equity	State Street Global Equity ex-US Index	9
Core Fixed Income	State Street Aggregate Bond Idx	10
U.S. Government TIPS	SPDR Blmbg Barclays 1-10 Year TIPS ETF	9
U.S. Government TIPS	SPDR Blmbg Barclays TIPS ETF	-
Short-Term Bond	SPDR Portfolio Short Term Corp Bd ETF	9
High Yield	SPDR Blmbg Barclays High Yield Bd ETF	9
Long Government	SPDR Portfolio Long Term Treasury ETF	10
Short Government	SPDR Portfolio Short Term Treasury ETF	9
Global Real Estate	SPDR Dow Jones Global Real Estate ETF	6

TIAA-CREF Lifecycle Index – Underlying Funds

Average Score	Number of Managers	Number of Funds on Watchlist
9.5	1	0

Asset Class	Fund	Score
Large Cap Blend	TIAA-CREF Equity Index W	10
International Large Cap Blend	TIAA-CREF International Eq Idx W	10
Emerging Market Equity	TIAA-CREF Emerging Markets Eq Idx W	10
Core Fixed Income	TIAA-CREF Bond Index W	10
U.S. Government TIPS	TIAA-CREF Inflation Link Bd W	8
Short-Term Bond	TIAA-CREF Short-Term Bond Index W	9

Vanguard Target Retirement – Underlying Funds

Average Score	Number of Managers	Number of Funds on Watchlist
8.8	1	0

Asset Class	Fund	Score
Large Cap Blend	Vanguard Total Stock Mkt Idx Inv	10
International Equity	Vanguard Total Intl Stock Index Inv	10
Core Fixed Income	Vanguard Total Bond Market II Idx Inv	9
U.S. Government TIPS	Vanguard Shrt-Term Infl-Prot Sec Idx Inv	7
Global Fixed Income	Vanguard Total Intl Bd Idx Investor	8

BlackRock LifePath Index – Underlying Funds

Average Score	Number of Managers	Number of Funds on Watchlist
9.5	1	0

Asset Class	Fund	Score
Large Cap Blend	iShares Russell 1000 Large-Cap Idx K	10
Small Cap Blend	iShares Russell 2000 Small-Cap Idx K	10
International Large Cap Blend	iShares Core MSCI Total Intl Stk ETF	9
Core Fixed Income	iShares US Aggregate Bond Index K	10
U.S. Government TIPS	iShares TIPS Bond ETF	9
Global Real Estate	iShares Developed Real Estate Idx K	9

Schwab Target Index – Underlying Funds

Average Score		Number of Managers	Number of Funds on Watchlist
9.9		1	0

Asset Class	Fund	Score
Large Cap Blend	Schwab US Large-Cap ETF	10
Small Cap Blend	Schwab US Small-Cap ETF	9
International Large Cap Blend	Schwab International Equity ETF	10
Emerging Market Equity	Schwab Emerging Markets Equity ETF	10
Core Fixed Income	Schwab US Aggregate Bond ETF	10
U.S. Government TIPS	Schwab US TIPS ETF	10
Short Government	Schwab Short-Term US Treasury ETF	10
Money Market	Schwab Variable Share Price Money Ultra	-
REIT	Schwab US REIT ETF	10

Appendix D - Scorecard System Methodology™

Scorecard System Methodology™

The **Scorecard System Methodology** incorporates both quantitative and qualitative factors in evaluating fund managers and their investment strategies. The **Scorecard System** is built around pass/fail criteria, on a scale of 0 to 10 (with 10 being the best) and has the ability to measure active, passive and asset allocation investing strategies. Active and asset allocation strategies are evaluated over a five-year time period, and passive strategies are evaluated over a three-year time period.

Eighty percent of the fund's score is quantitative (made up of eight unique factors), incorporating modern portfolio theory statistics, quadratic optimization analysis, and peer group rankings (among a few of the quantitative factors). The other 20 percent of the score is qualitative, taking into account things such as manager tenure, the fund's expense ratio relative to the average fund expense ratio in that asset class category, and the fund's strength of statistics (statistical significance). Other criteria that may be considered in the qualitative score includes the viability of the firm managing the assets, management or personnel issues at the firm, and/or whether there has been a change in direction of the fund's stated investment strategy. The following pages detail the specific factors for each type of investing strategies.

Combined, these factors are a way of measuring the relative performance, characteristics, behavior and overall appropriateness of a fund for inclusion into a plan as an investment option. General fund guidelines are shown in the "Scorecard Point System" table below. The Scorecard Point System is meant to be used in conjunction with our sample Investment Policy Statement, in order to help identify what strategies need to be discussed as a "watch-list" or removal candidate; what strategies continue to meet some minimum standards and continue to be appropriate; and/or identify new top-ranked strategies for inclusion into a plan.

Scorecard Point System	
Good:	9-10 Points
Acceptable:	7-8 Points
Watch:	5-6 Points
Poor:	0-4 Points

Scorecard System Methodology™

Target Date Fund Strategies

Target Date Fund strategies are investment strategies that invest in a broad array of asset classes that may include U.S. equity, international equity, emerging markets, real estate, fixed income, high yield bonds and cash (to name a few asset classes). These strategies are managed to a retirement date or life expectancy date, typically growing more conservative as that date is approached). For this type of investment strategy, the **Scorecard System** is focused on how well these managers can add value from asset allocation. Asset allocation is measured using our **Asset allocation strategies methodology** and manager selection is measured using either our **Active and/or Passive strategies methodologies**, depending on the underlying fund options utilized within the Target Date Fund strategy.

Risk-based strategies follow the same evaluation criteria and are evaluated on both their asset allocation and security selection.

Weightings	Target Date Fund Strategies	Maximum Points
Asset Allocation Score (Average) 50%	The individual funds in this Score average require five years of time history to be included. See Asset Allocation strategies methodology for a detailed breakdown of the Scoring criteria. Funds without the required time history are not included in the Score average.	5
	The Funds included in this average are from the Conservative, Moderate Conservative, Moderate, Moderate Aggressive and Aggressive categories, where Funds (also referred to as “vintages.”) are individually Scored according to their standard deviation or risk bucket.	
Selection Score (Average) 50%	Active strategies: The individual active funds in this Score average require five years of time history to be Scored. See Active strategies methodology for a detailed breakdown of the Scoring criteria. Funds without the required time history are not included in the Score average.	5
	Passive strategies: The individual passive funds in this Score average require three years of time history to be Scored. See Passive strategies methodology for a detailed breakdown of the Scoring criteria. Funds without the required time history are not included in the Score average.	
	Total	10

Scorecard System Methodology™

Asset Allocation Strategies

Asset allocation strategies are investment strategies that invest in a broad array of asset classes that may include U.S. equity, international equity, emerging markets, real estate, fixed income, high yield bonds and cash (to name a few asset classes). These strategies are typically structured in either a risk-based format (the strategies are managed to a level of risk, e.g., conservative or aggressive) or, in an age-based format (these strategies are managed to a retirement date or life expectancy date, typically growing more conservative as that date is approached). For this type of investment strategy, the **Scorecard System** is focused on how well these managers can add value, with asset allocation being the primary driver of investment returns and the resulting Score. *Multisector Bond (MSB) asset class* follows the same evaluation criteria with some slightly different tolerance levels where noted. These managers are also evaluated on both their asset allocation and security selection.

Weightings	Asset Allocation Strategies	Maximum Points
Style Factors 30%	Risk Level: The fund's standard deviation is measured against the category it is being analyzed in. The fund passes if it falls within the range for that category.	1
	Style Diversity: Fund passes if it reflects appropriate style diversity (returns-based) among the four major asset classes (Cash, Fixed Income, U.S. & International Equity) for the given category. <i>MSB</i> funds pass if reflect some level of diversity among fixed income asset classes (Cash, U.S. Fixed Income, Non-U.S. Fixed Income and High Yield/Emerging Markets).	1
	R-Squared: Measures the percentage of a fund's returns that are explained by the benchmark. Fund passes with an R-squared greater than 90 percent. This statistic measures whether the benchmark used in the analysis is appropriate.	1
Risk/Return Factors 30%	Risk/Return: Fund passes if its risk is less than the benchmark or its return is greater than the benchmark. Favorable risk/return characteristics are desired.	1
	Up/Down Capture Analysis: Measures the behavior of a fund in up and down markets. Fund passes with an up capture greater than its down capture. This analysis measures the relative value by the manager in up and down markets.	1
	Information Ratio: Measures a fund's relative risk and return. Fund passes if ratio is greater than 0. This statistic measures the value added above the benchmark, adjusted for risk.	1
Peer Group Rankings 20%	Returns Peer Group Ranking: Fund passes if its median rank is above the 50 th percentile.	1
	Sharpe Ratio Peer Group Ranking: Fund passes if its median rank is above the 50 th percentile. This ranking ranks risk-adjusted excess return.	1
Qualitative Factors 20%	Two points may be awarded based on qualitative characteristics of the fund. Primary considerations are given to manager tenure, fund expenses and strength of statistics, however, other significant factors may be considered. It is important to take into account nonquantitative factors, which may impact future performance.	2
	Total	10

Scorecard System Methodology™

Active Strategies

Active strategies are investment strategies where the fund manager is trying to add value and outperform the market averages (for that style of investing). Typically, these investment strategies have higher associated fees due to the active involvement in the portfolio management process by the fund manager(s). For this type of investment strategy, the **Scorecard System** is trying to identify those managers who can add value on a consistent basis within their own style of investing.

Weightings	Active Strategies	Maximum Points
Style Factors 30%	Style Analysis: Returns-based analysis to determine the style characteristics of a fund over a period of time. Fund passes if it reflects the appropriate style characteristics. Style analysis helps ensure proper diversification in the Plan.	1
	Style Drift: Returns-based analysis to determine the behavior of the fund/manager over multiple (rolling) time periods. Fund passes if the fund exhibits a consistent style pattern. Style consistency is desired so that funds can be effectively monitored within their designated asset class.	1
	R-Squared: Measures the percentage of a fund's returns that are explained by the benchmark. Fund passes with an R-squared greater than 80 percent. This statistic measures whether the benchmark used in the analysis is appropriate.	1
Risk/Return Factors 30%	Risk/Return: Fund passes if its risk is less than the benchmark or its return is greater than the benchmark. Favorable risk/return characteristics are desired.	1
	Up/Down Capture Analysis: Measures the behavior of a fund in up and down markets. Fund passes with an up capture greater than its down capture. This analysis measures the relative value by the manager in up and down markets.	1
	Information Ratio: Measures a fund's relative risk and return. Fund passes if ratio is greater than 0. This statistic measures the value added above the benchmark, adjusted for risk.	1
Peer Group Rankings 20%	Returns Peer Group Ranking: Fund passes if its median rank is above the 50 th percentile.	1
	Information Ratio Peer Group Ranking: Fund passes if its median rank is above the 50 th percentile. This ranking ranks risk-adjusted excess return.	1
Qualitative Factors 20%	Two points may be awarded based on qualitative characteristics of the fund. Primary considerations are given to manager tenure, fund expenses and strength of statistics, however, other significant factors may be considered. It is important to take into account nonquantitative factors, which may impact future performance.	2
	Total	10

Scorecard System Methodology™

Passive Strategies

Passive strategies are investment strategies where the fund manager is trying to track or replicate some area of the market. These types of strategies may be broad-based in nature (e.g., the fund manager is trying to track/replicate the entire U.S. equity market like the S&P 500) or may be more specific to a particular area of the market (e.g., the fund manager may be trying to track/replicate the technology sector). These investment strategies typically have lower fees than active investment strategies due to their passive nature of investing and are commonly referred to as index funds. For this type of investment strategy, the **Scorecard System** is focused on how well these managers track and/or replicate a particular area of the market with an emphasis on how they compare against their peers.

Weightings	Passive Strategies	Maximum Points
Style & Tracking Factors 40%	Style Analysis: Returns-based analysis to determine the style characteristics of a fund over a period of time. Fund passes if it reflects the appropriate style characteristics. Style analysis helps ensure proper diversification in the Plan.	1
	Style Drift: Returns-based analysis to determine the behavior of the fund/manager over multiple (rolling) time periods. Fund passes if the fund exhibits a consistent style pattern. Style consistency is desired so that funds can be effectively monitored within their designated asset class.	1
	R-Squared: Measures the percentage of a fund's returns that are explained by the benchmark. Fund passes with an R-squared greater than 95 percent. This statistic measures whether the benchmark used in the analysis is appropriate.	1
	Tracking Error: Measures the percentage of a fund's excess return volatility relative to the benchmark. Fund passes with a tracking error less than 4. This statistic measures how well the fund tracks the benchmark.	1
Peer Group Rankings 40%	Tracking Error Peer Group Ranking: Fund passes if its median rank is above the 75 th percentile.	1
	Expense Ratio Peer Group Ranking: Fund passes if its median rank is above the 75 th percentile.	1
	Returns Peer Group Ranking: Fund passes if its median rank is above the 75 th percentile.	1
	Sharpe Ratio Peer Group Ranking: Fund passes if its median rank is above the 75 th percentile.	1
Qualitative Factors 20%	Two points may be awarded based on qualitative characteristics of the fund. Primary considerations are given to fund expenses and strength of statistics, however, other significant factors may be considered. It is important to take into account nonquantitative factors, which may impact future performance.	2
	Total	10

Manager Research Methodology

Beyond the Scorecard

The **Scorecard System™** uses an institutional approach which is comprehensive, independent, and utilizes a process and methodology that strives to create successful outcomes for plan sponsors and participants. The **Scorecard** helps direct the additional research the Investment team conducts with fund managers throughout the year. Three of the primary factors that go into the fund manager research are people, process and philosophy.

PEOPLE

Key Factors:

- Fund manager and team experience
- Deep institutional expertise
- Organizational structure
- Ability to drive the process and performance

PROCESS

Key Factors:

- Clearly defined
- Consistent application
- Sound and established
- Clearly communicated
- Successfully executed process

PHILOSOPHY

Key Factors:

- Research and ideas must be coherent and persuasive
- Strong rationale
- Logical and compelling
- Focus on identifying skillful managers

Disclosures

Q4 2019 Disclosures

Performance of indexes reflects the unmanaged result for the market segment the selected stocks represent. Indexes are unmanaged and not available for direct investment.
Citigroup Corporate Bond is an index which serves as a benchmark for corporate bond performance. You cannot invest directly in an index.

Citigroup Mortgage Master is an index which serves as a benchmark for U.S. mortgage-backed securities performance.

Citigroup WGBI Index is an index which serves as a benchmark for global bond performance, including 22 different government bond markets.

Credit Suisse High Yield Index is an unmanaged, trader priced index constructed to mirror the characteristics of the high yield bond market.

BC (Barclays Capital) U.S. Aggregate Bond Index represents securities that are U. S., domestic, taxable, and dollar denominated. The index covers the U. S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities. These major sectors are subdivided into more specific indices that are calculated and reported on a regular basis.

BC Credit Bond Index includes publicly issued U.S. corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and quality requirements. To qualify, bonds must be SEC-registered.

BC U.S. Corporate Investment Grade represents investment grade corporate securities that are U. S., domestic, taxable, and dollar denominated.

BC High Yield Corporate Bond represents below investment grade corporate securities that are U. S., domestic, taxable, and dollar denominated.

BC TIPS Index includes publicly issued U.S. government treasury inflation protected securities that meet the specified maturity, liquidity and other requirements.

BC Mortgage Backed Securities covers agency mortgage-backed pass-through securities (both fixed-rate and hybrid ARMs) issued by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC).

BC Government Index includes publicly issued U.S. government securities that meet the specified maturity, liquidity and other requirements.

BarCap U.S. Aggregate 1-3 Yr. TR USD Index represents securities in the BC U.S. Aggregate Index that have maturity dates over the next 1 to 3 years.

BarCap U.S. Aggregate 3-5 Yr. TR USD Index represents securities in the BC U.S. Aggregate Index that have maturity dates over the next 3 to 5 years.

BarCap U.S. Aggregate 5-7 Yr. TR USD Index represents securities in the BC U.S. Aggregate Index that have maturity dates over the next 5-7 years.

BarCap U.S. Aggregate 7-10 Yr. TR USD Index represents securities in the BC U.S. Aggregate Index that have maturity dates over the next 7 to 10 years.

BarCap U.S. Aggregate 10+ Yr. TR USD Index represents securities in the BC U.S. Aggregate Index that have maturity dates over 10 years.

DJW 5000 (Full Cap) Index measures the performance of all U.S. common equity securities, and serves as an index of all stock trades in the United States.

MSCI FI Emerging Markets is a rules-based index which serves as a benchmark for emerging country fixed income performance.

MSCI FI EAFE International is a rules-based index which serves as a benchmark for developed international country fixed income performance.

MSCI EAFE Index is listed for foreign stock funds (EAFE refers to Europe, Australia, and Far East). Widely accepted as a benchmark for international stock performance, it is an aggregate of 21 individual country indexes.

MSCI EAFE Large Value represents the large cap value stocks within the MSCI EAFE Index.

MSCI EAFE Large Growth represents the large cap growth stocks within the MSCI EAFE Index.

MSCI EM (Emerging Markets) Index serves as a benchmark for each emerging country. The average size of these companies is (U.S.) \$400 million, as compared with \$300 billion for those companies in the World index.

MSCI World Index is a rules-based index that serves as a benchmark for the developed global equity markets.

MSCI Europe ex UK Index is a rules-based index that serves as a benchmark for the Europe's equity markets, excluding the United Kingdom.

MSCI Pacific ex Japan Index is a rules-based index that serves as a benchmark for Asia Pacific's equity markets, excluding Japan.

MSCI United Kingdom Index is a rules-based index that serves as a benchmark for the United Kingdom's equity markets. MSCI Japan is a rules-based index that serves as a benchmark for Japan's equity markets.

Nareit All Reit Index includes all tax-qualified REITs with common shares that trade on the New York Stock Exchange, the American Stock Exchange or the NASDAQ National Market List.

3-Month T-bills (90 Day T-Bill Index) are government-backed short-term investments considered to be risk-free and as good as cash because the maturity is only three months.

Russell 1000 Growth Index is a market-capitalization weighted index of those firms in the Russell 1000 with higher price-to-book ratios and higher forecasted growth values.

Russell 1000 Value Index is a market-capitalization weighted index of those firms in the Russell 1000 with lower price-to-book ratios and lower forecasted growth values.

Russell Top 200 Growth Index is a market-capitalization weighted index of those firms in the Russell Top 200 with higher price-to-book ratios and higher forecasted growth values.

Russell Top 200 Value Index is a market-capitalization weighted index of those firms in the Russell Top 200 with lower price-to-book ratios and lower forecasted growth values.

Russell 2000 Growth Index is a market-weighted total return index that measures the performance of companies within the Russell 2000 Index having higher price-to-book ratio and higher forecasted growth values.

Russell 2000 Index consists of the smallest 2000 companies in the Russell 3000 Index, representing approximately 7% of the Russell 3000 total market capitalization.

Russell 2000 Value Index is a market-weighted total return index that measures the performance of companies within the Russell 2000 Index having lower price-to-book ratios and lower forecasted growth values.

Russell MidCap Growth Index is a market-weighted total return index that measures the performance of companies within the Russell MidCap Index having higher price-to-book ratios and higher forecasted growth values.

Russell Mid-Cap Index includes firms 201 through 1000, based on market capitalization, from the Russell 3000 Index.

Russell MidCap Value Index is a market-weighted total return index that measures the performance of companies within the Russell MidCap index having lower price-to-book ratios and lower forecasted growth values.

Russell Top 200 Index consists of the 200 largest securities in the Russell 3000 Index.

Russell 3000 Index is a market-capitalization weighted index, consisting of 3,000 U.S. common equity securities, reflective of the broad U.S. equity market.

Salomon 1-10 Yr. Governments is an index which serves as a benchmark for U.S. Government bonds with maturities ranging from 1 to 10 years.

S&P 500 Index measures the performance of the largest 500 U.S. common equity securities, and serves as an index of large cap stocks traded in the United States.

S&P 1500 Energy Index measures the performance of the energy sector in the S&P 1500 Index.

S&P 1500 Industrials measures the performance of the industrial sector in the S&P 1500 Index.

S&P 1500 Financials measures the performance of the financials sector in the S&P 1500 Index.

S&P 1500 Utilities measures the performance of the utilities sector in the S&P 1500 Index.

S&P 1500 Consumer Discretionary Index measures the performance of the consumer discretionary sector in the S&P 1500 Index.

S&P 1500 Consumer Staples Index measures the performance of the consumer staples sector in the S&P 1500 Index.

S&P 1500 Information Technology measures the performance of the information technology sector in the S&P 1500 Index.

S&P 1500 Materials measures the performance of the materials sector in the S&P 1500 Index.

S&P 1500 Health Care measures the performance of the health care sector in the S&P 1500 Index.

S&P 1500 Telecommunications Services Index measures the performance of the telecommunications services sector in the S&P 1500 Index.

Q4 2019 Disclosures

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Market indexes are included in this report only as context reflecting general market results during the period. Your advisor may provide research on funds that are not represented by such market indexes. Accordingly, no representations are made that the performance or volatility of any fund where your advisor provides research will track or reflect any particular index. Market index performance calculations are gross of management fees.

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Scorecard System Disclosures

Investment objectives and strategies vary among fund, and may not be similar for funds included in the same asset class.

All definitions are typical category representations. The specific share classes or accounts identified above may not be available or chosen by the Plan. Share class and account availability is unique to the client's specific circumstances. There may be multiple share classes or accounts available to the client from which to choose. All recommendations are subject to vendor/provider approval before implementation into the Plan. The performance data quoted may not reflect the deduction of additional fees, if applicable. If reflected, additional fees would reduce the performance quoted.

Performance data is subject to change without prior notice.

Performance of indexes reflects the unmanaged result for the market segment the selected stocks represent. Indexes are unmanaged and not available for direct investment.

The information used in the analysis has been taken from sources deemed to be reliable, including, third-party providers such as *Markov Processes International*, *Morningstar*, firms who manage the investments, and/or the retirement plan providers who offer the funds.

Every reasonable effort has been made to ensure completeness and accuracy; however, the final accuracy of the numbers and information is the responsibility of the investment manager(s) of each fund and/or the retirement plan providers offering these funds. Discrepancies between the figures reported in this analysis, and those reported by the actual investment managers and/or retirement plan providers, may be caused by a variety of factors, including: Inaccurate reporting by the manager/provider; Changes in reporting by the manager/provider from the time this report was prepared to a subsequent retro-active audit and corrected reporting; Differences in fees and share-classes impacting net investment return; and, Scriveners error by your advisor in preparing this report.

The enclosed Investment Due Diligence report, including the **Scorecard System**, is intended for plan sponsor and/or institutional use only. The materials are not intended for participant use.

The purpose of this report is to assist fiduciaries in selecting and monitoring investment options. A fund's score is meant to be used by the Plan sponsor and/or fiduciaries as a tool for selecting the most appropriate fund.

Fund scores will change as the performance of the funds change and as certain factors measured in the qualitative category change (e.g., manager tenure). Fund scores are not expected to change dramatically from each measured period, however, there is no guarantee this will be the case. Scores will change depending on the changes in the underlying pre-specified Scorecard™ factors.

Neither past performance nor statistics calculated using past performance are guarantees of a fund's future performance. Likewise, a fund's score using the **Scorecard System™** does not guarantee the future performance or style consistency of a fund.

This report was prepared with the belief that this information is relevant to the Plan sponsor as the Plan sponsor makes investment selections.

Fund selection is at the discretion of the investment fiduciaries, which are either the Plan sponsor or the Committee appointed to perform that function.

Cash Equivalents (e.g., money market fund) and some specialty funds are not scored by the **Scorecard System**.

The enclosed Investment Due Diligence report and Scorecard™ is not an offer to sell mutual funds. An offer to sell may be made only after the client has received and read the appropriate prospectus.

For the most current month-end performance, please contact your advisor.

The Strategy Review notes section is for informational purposes only. The views expressed here are those of your advisor and do not constitute an offer to sell an investment. An offer to sell may be made only after the client has received and read the appropriate prospectus.

Carefully consider the investment objectives, risk factors and charges and expenses of the investment company before investing. This and other information can be found in the fund's prospectus, which may be obtained by contacting your Investment Advisor/Consultant or Vendor/Provider. Read the prospectus carefully before investing.

For a copy of the most recent prospectus, please contact your Investment Advisor/Consultant or Vendor/Provider.

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Investment objectives and strategies vary among fund, and may not be similar for funds included in the same asset class. All definitions are typical category representations. Please note that all investments are subject to market and other risk factors, which could result in loss of principal. Fixed income securities carry interest rate risk. As interest rates rise, bond prices usually fall, and vice versa. The specific share classes or accounts identified above may not be available or chosen by the plan. Share class and account availability is unique to the client's specific circumstances. There may be multiple share classes or accounts available to the client from which to choose. All recommendations are subject to vendor/provider approval before implementation into the plan. The performance data quoted may not reflect the deduction of additional fees, if applicable. If reflected, additional fees would reduce the performance quoted. Performance data is subject to change without prior notice.

Performance of indexes reflects the unmanaged result for the market segment the selected stocks represent. Indexes are unmanaged and not available for direct investment. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index. The information used in the analysis has been taken from sources deemed to be reliable, including, third-party providers such as Markov Processes International, Morningstar, firms who manage the investments, and/or the retirement plan providers who offer the funds. Every reasonable effort has been made to ensure completeness and accuracy; however, the final accuracy of the numbers and information is the responsibility of the investment manager(s) of each fund and/or the retirement plan providers offering these funds. Discrepancies between the figures reported in this analysis, and those reported by the actual investment managers and/or retirement plan providers, may be caused by a variety of factors, including: Inaccurate reporting by the manager/provider; Changes in reporting by the manager/provider from the time this report was prepared to a subsequent retro-active audit and corrected reporting; Differences in fees and share-classes impacting net investment return; and, Scriveners error by your advisor in preparing this report.

The enclosed Investment Due Diligence report, including the Scorecard System, is intended for plan sponsor and/or institutional use only. The materials are not intended for participant use. The purpose of this report is to assist fiduciaries in selecting and monitoring investment options. A fund's score is meant to be used by the plan sponsor and/or fiduciaries as a tool for selecting the most appropriate fund. Fund scores will change as the performance of the funds change and as certain factors measured in the qualitative category change (e.g., manager tenure). Fund scores are not expected to change dramatically from each measured period, however, there is no guarantee this will be the case. Scores will change depending on the changes in the underlying pre-specified Scorecard factors.

Performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data quoted. Likewise, a fund's score using the Scorecard System does not guarantee the future performance or style consistency of a fund. This report was prepared with the belief that this information is relevant to the plan sponsor as the plan sponsor makes investment selections. Fund selection is at the discretion of the investment fiduciaries, which are either the plan sponsor or the committee appointed to perform that function. Cash Equivalents (e.g., money market fund) and some specialty funds are not scored by the Scorecard System. The enclosed Investment Due Diligence report and Scorecard is not an offer to sell mutual funds. An offer to sell may be made only after the client has received and read the appropriate prospectus. For the most current month-end performance, please contact your advisor. The Strategy Review notes section is for informational purposes only. The views expressed here are those of your advisor and do not constitute an offer to sell an investment. An offer to sell may be made only after the client has received and read the appropriate prospectus.

Mutual funds are sold by prospectus only. Before investing, investors should carefully consider the investment objectives, risks, charges and expenses of a mutual fund. The fund prospectus provides this and other important information. Please contact your Investment Advisor/Consultant or Vendor/Provider to obtain a prospectus. Please read the prospectus carefully before investing or sending money.

For a copy of the most recent prospectus, please contact your Investment Advisor/Consultant or Vendor/Provider.

Notes

1. All statistics calculated over a five year time period.
2. Style analytics reflect the parameters on a returns-based style map (on a scale of 100 to -100 for each axis.) Fund passes if it plots out in the appropriate section of the style map, representing the fund's stated style.
3. Style drift is measured by the style drift score, which is a statistic measuring the rolling style-based analysis for a fund.
4. Risk is measured as the fund's standard deviation of returns.
5. R-squared measures the percentage of the fund's movement that is explained by the fund's benchmark (market).
6. Up/Down capture statistics measure the percentage of performance the fund/strategy is capturing versus the benchmark (market).
7. Information Ratio is a risk adjusted performance statistic measuring relative return over relative risk.
8. Peer group ranking statistics measure the funds median rank versus the applicable peer group universe.
9. Qualitative Detail: T = Tenure (qualitative score impacted negatively due to low manager tenure); E = Expenses (qualitative score impacted negatively due to higher than average expense ratio); and S = Statistics (qualitative score impacted negatively due to weak/poor strength of statistics).

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