

Kansas Board of Regents Voluntary Retirement Plan

Retirement Plan Committee Meeting
Spring 2023



Prepared as of December 31, 2022



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Market Overview

Overview

OK Boomers and Gen-Xers, it's time to get hip with new music of today. Let us introduce you to this up-and-coming artist by the name of Taylor Swift. While some readers may have never heard of her, she's a big deal among younger generations. Swift's newest hit, *Anti-Hero*, is focused inward, on self-evaluation, something many folks will do as they turn to the new year.

*I have this thing where I get older but just never wiser
Midnights become my afternoons...
I should not be left to my own devices
They come with prices and vices...*

*It's me, hi, I'm the problem, it's me
At tea time, everybody agrees
I'll stare directly at the sun but never in the mirror
It must be exhausting always rooting for the anti-hero*

We've seen it time and time again, investors reacting to recent news with what feels comfortable or safe. These actions are to the detriment of the investor with a result that doesn't align with their long-term objectives. This occurs from the opportunity cost of selling assets after they've lost value and failing to capture the rebound or purchasing assets after they've aggressively risen amid unsustainable valuations (fear of missing out, or FOMO, as the kids call it). Objective introspection allows for changes only after an inward evaluation of our individual (or organization's) long-term goals and objectives. This removes the emotion from the decision-making process which can lead to more successful long-term outcomes.

Despite the large losses across most asset classes in 2022, U.S. equity markets are still 20% higher than three years ago (Since January 2020), leaving most long-term investors in a better position than prior to the pandemic. We've generally seen pension plans improve their funded status throughout 2022 as discount rates increased. While global economies face challenges over the coming year, it's important not to misconstrue market returns with economic growth. Over the long-term, they are certainly related, but over the short-term they can produce diverging results. Heading into 2023, pessimistic investors may wish to consider that, compared to last year, stock valuations are lower and bond yields are higher, which is reason for some optimism. Now if it weren't for this pesky inflation...

Fixed Income Markets

The permeating concern within the bond market throughout 2022 was how the Federal Reserve will react to inflationary pressures. Given their dual mandate for full employment and price stability, a strong labor market allowed the Fed to aggressively increase short-term interest rates to combat inflation. These increased interest rates had an immediate negative impact on bond prices, leading to steep declines across the bond market. Consistent with expectations, shorter bonds fared better than intermediate and longer maturities. With deteriorating economic conditions, perhaps the most interesting aspect of the bond market was that high yield corporate bonds outperformed traditionally less-volatile sectors like U.S. governments, mortgage-backed securities, and investment-grade corporates in 2022.

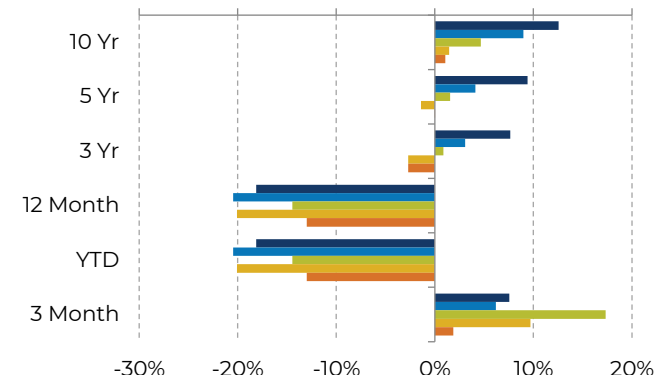
Equity Markets

The U.S. stock market posted a positive return in the 4th quarter, which followed a significant sell-off in the first 9 months of the year. For the calendar year, the S&P 500 declined 18%, the worst annual return since 2008. The stocks that could better pass inflationary cost increases on to consumers fared better during the year. These include sectors like energy, utilities, consumer staples and healthcare. Sectors that lagged over the past year include consumer discretionary, information technology and communication services. These sectors tend to have a growth-oriented style where investors are willing to pay above-average prices for current earnings.

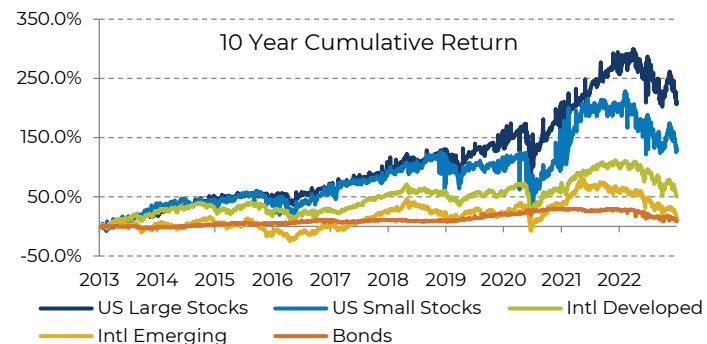
International equities outperformed U.S. equities for the first year since 2017, led by lower valuations heading into the current environment. International stocks outperformed U.S. stocks by 8.5% in local currencies, but a strengthening U.S. dollar dwindled the outperformance for U.S. investors to a mere 2% when converted to U.S. dollars.

Economy

Real gross domestic product (GDP) increased at an annual rate of 3.2% in the 3rd quarter, which follows two consecutive quarters of negative growth. Although consumer prices remain higher than a year ago (+6.5%), month over month inflation has been subdued since July, increasing by +1.0% over the final six months of the year. Food, shelter, and transportation services have had the most persistent price increases in recent months, while energy prices have declined in the second half of the year. The unemployment rate remains at historically low levels of 3.5% as of December 31, 2022. The average hourly earnings for private nonfarm payrolls increased to \$32.82 which is an increase of 4.6% over the past year.



	3 Month	YTD	12 Month	3 Yr	5 Yr	10 Yr
■ US Large Stocks	7.5%	-18.1%	-18.1%	7.6%	9.4%	12.5%
■ US Small Stocks	6.2%	-20.5%	-20.5%	3.1%	4.1%	9.0%
■ Intl Developed	17.3%	-14.5%	-14.5%	0.9%	1.5%	4.7%
■ Intl Emerging	9.7%	-20.1%	-20.1%	-2.7%	-1.4%	1.4%
■ Bonds	1.9%	-13.0%	-13.0%	-2.7%	0.0%	1.1%



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Fixed Income Markets Summary

Fourth Quarter 2022 - All data as of December 31, 2022 unless otherwise noted.

Data Source: Bloomberg

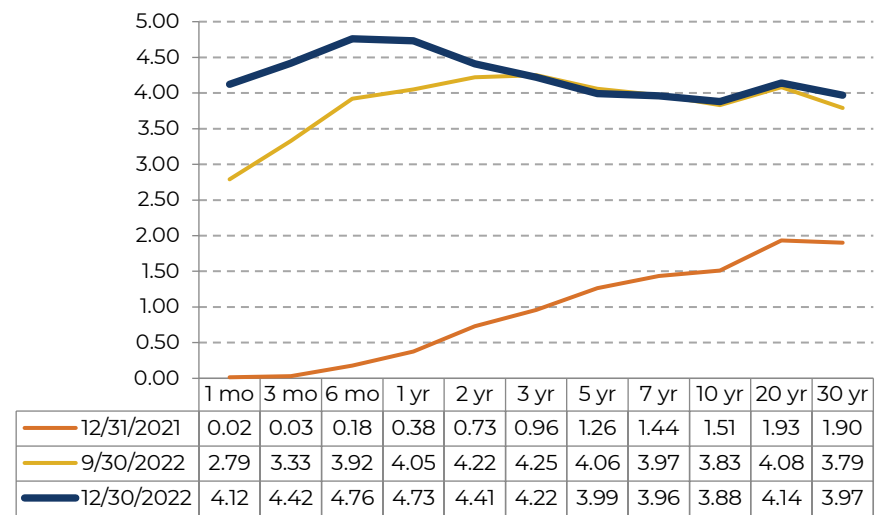
Broad Fixed Income Sectors

	Cumulative Returns				
	Qtr	1 Year	3 Year	5 Year	10 Year
Aggregate Bond Index	1.9	(13.0)	(2.7)	0.0	1.1
Government	0.7	(12.3)	(2.6)	(0.1)	0.6
Mortgage-Backed	2.1	(11.8)	(3.2)	(0.5)	0.7
Corporate	3.4	(15.3)	(2.9)	0.4	1.8
High Yield Corporate	4.2	(11.2)	0.0	2.3	4.0
Global ex US	6.8	(18.7)	(5.9)	(3.1)	(1.6)
EM Debt	6.6	(15.3)	(3.9)	(0.4)	1.7
TIPS	2.0	(11.8)	1.2	2.1	1.1
Municipal	3.7	(6.0)	(0.3)	1.5	2.0
Inflation	0.5	6.5	4.9	3.8	2.6

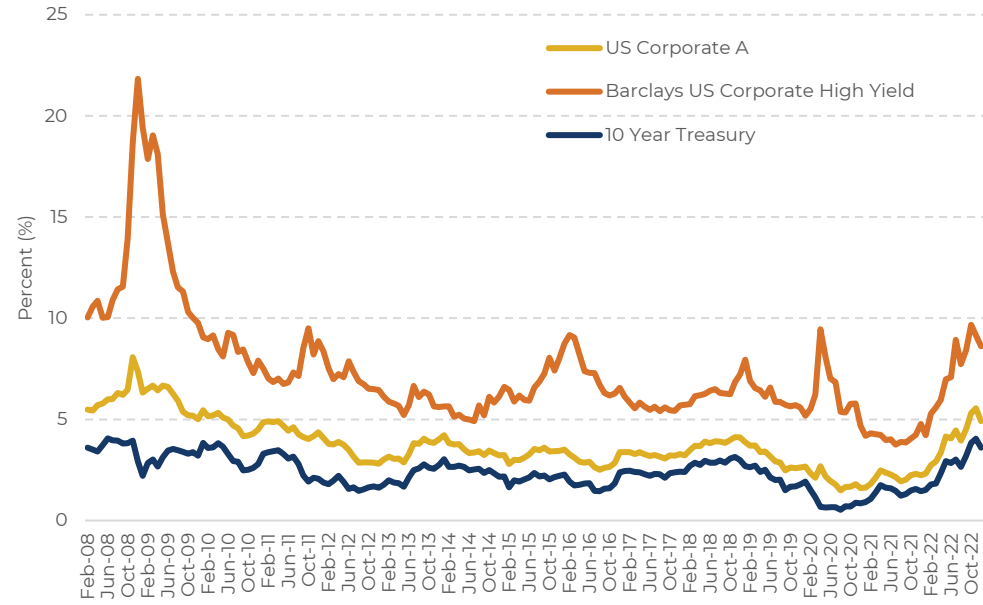
Maturity

1-3 Year US Aggregate	0.9	(3.7)	(0.4)	0.9	0.9
3-5 Year US Aggregate	1.7	(7.8)	(1.5)	0.6	1.1
5-7 Year US Aggregate	2.1	(10.8)	(2.0)	0.4	1.1
7-10 Year US Aggregate	2.2	(14.8)	(2.9)	0.1	1.1
10+ Year US Aggregate	2.5	(27.1)	(6.2)	(1.2)	1.4

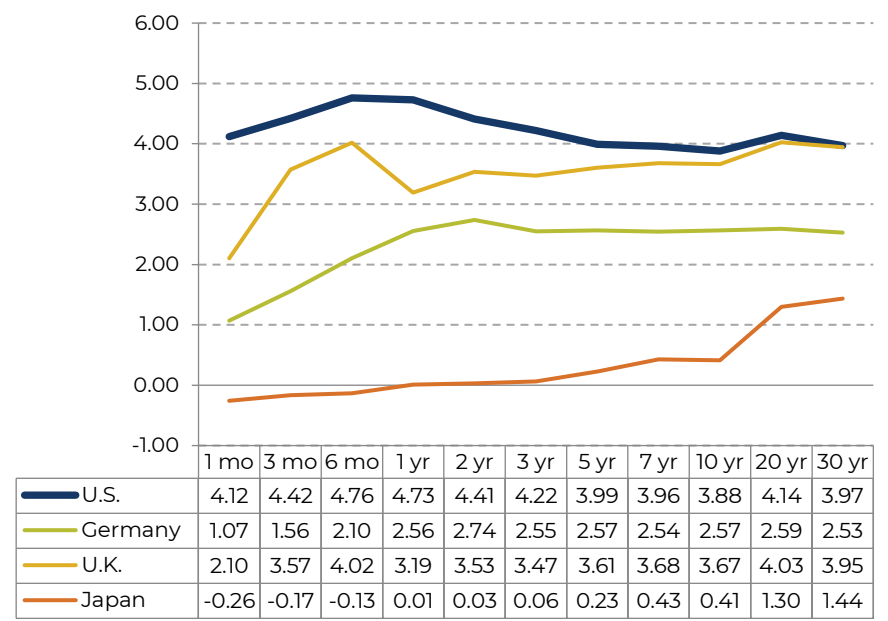
US Treasury Yield Curve



Historical Yields



Global Yield Curve



Information contained in these charts are general in nature and represent cumulative returns in the referenced periods immediately following the period in which this commentary has been prepared. Information contained in these charts should only be used in conjunction with a conversation with your financial advisor as to the applicability of this data to your individual circumstances. These charts should not be used to make decisions regarding your portfolio without the benefit of your advisor's opinion.



Domestic Capital Markets Summary

Fourth Quarter 2022 - All data as of December 31, 2022 unless otherwise noted.

Data Source: Bloomberg

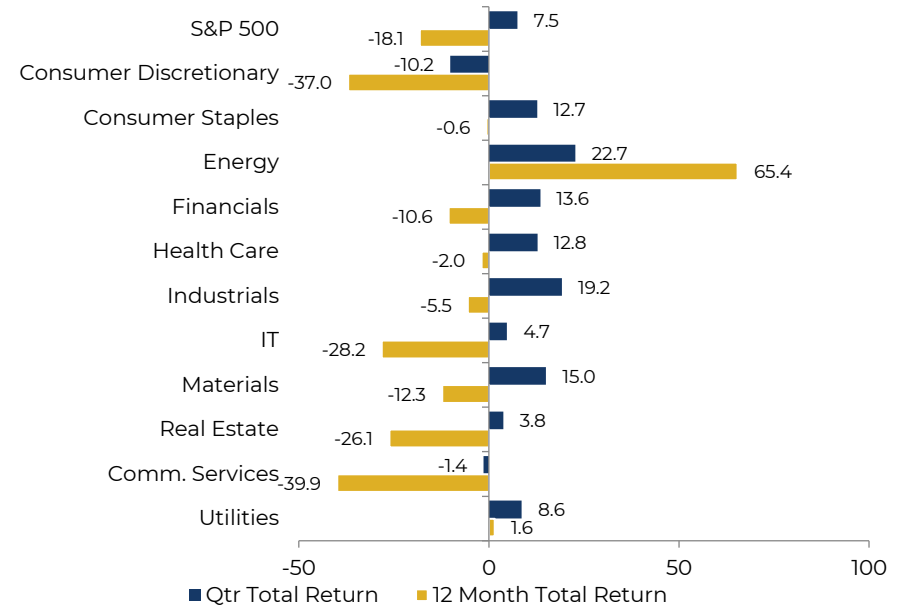
Quarter	Value			Blend			Growth		
	Value	Blend	Growth	Value	Blend	Growth	Value	Blend	Growth
Large	12.4	7.2	2.2	(7.6)	(19.1)	(29.1)	(7.6)	(19.1)	(29.1)
Mid	10.4	9.2	6.9	(12.1)	(17.3)	(26.7)	(12.1)	(17.3)	(26.7)
Small	8.4	6.2	4.1	(14.5)	(20.5)	(26.4)	(14.5)	(20.5)	(26.4)

1 Yr	Value			Blend			Growth		
	Value	Blend	Growth	Value	Blend	Growth	Value	Blend	Growth
Large	(7.6)	(19.1)	(29.1)	(7.6)	(19.1)	(29.1)	5.9	7.3	7.8
Mid	(12.1)	(17.3)	(26.7)	(12.1)	(17.3)	(26.7)	5.8	5.9	3.9
Small	(14.5)	(20.5)	(26.4)	(14.5)	(20.5)	(26.4)	4.7	3.1	0.6

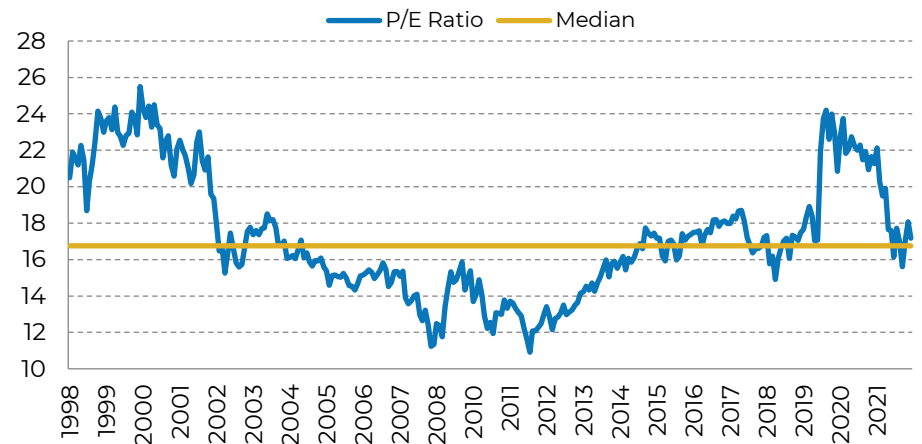
5 Yrs	Value			Blend			Growth		
	Value	Blend	Growth	Value	Blend	Growth	Value	Blend	Growth
Large	6.6	9.1	11.0	6.6	9.1	11.0	10.3	12.4	14.1
Mid	5.7	7.1	7.6	5.7	7.1	7.6	10.1	11.0	11.4
Small	4.1	4.1	3.5	4.1	4.1	3.5	8.5	9.0	9.2

Style box returns represented by Russell Indices.
Source: Bloomberg

S&P 500 Sector Total Returns



S&P 500 P/E Ratio



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International Capital Markets Summary

Fourth Quarter 2022 - All data as of December 31, 2022 unless otherwise noted.

Data Source: Bloomberg

Quarter	Value	Blend	Growth
Large	15.6	14.3	12.9
Mid	16.0	14.3	12.7
Small	14.9	13.3	11.7

YTD	Value	Blend	Growth
Large	(7.7)	(15.3)	(22.5)
Mid	(12.5)	(19.1)	(25.3)
Small	(13.6)	(20.0)	(26.1)

1 Yr	Value	Blend	Growth
Large	(7.7)	(15.3)	(22.5)
Mid	(12.5)	(19.1)	(25.3)
Small	(13.6)	(20.0)	(26.1)

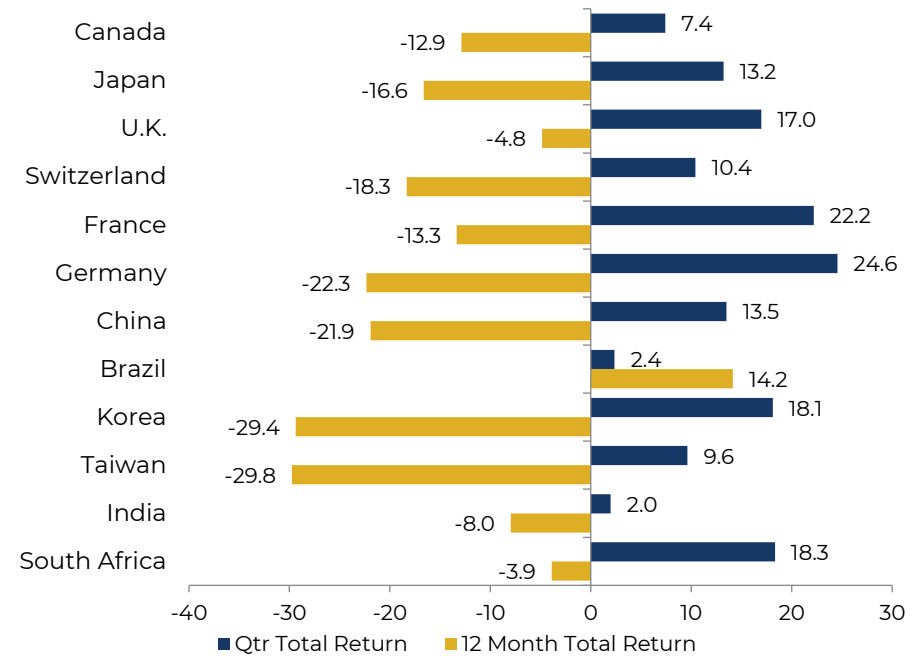
3 Yrs	Value	Blend	Growth
Large	0.4	0.4	0.1
Mid	(1.3)	(1.2)	(2.5)
Small	1.1	1.1	0.6

5 Yrs	Value	Blend	Growth
Large	0.1	1.1	2.1
Mid	(0.8)	(0.2)	(0.7)
Small	0.3	0.7	0.8

10 Yrs	Value	Blend	Growth
Large	2.6	3.8	4.9
Mid	3.4	4.0	4.0
Small	5.0	5.2	5.3

Style box returns represented by MSCI ACWI ex USA Indices.
Source: Bloomberg

Total Return by Country (In US\$)

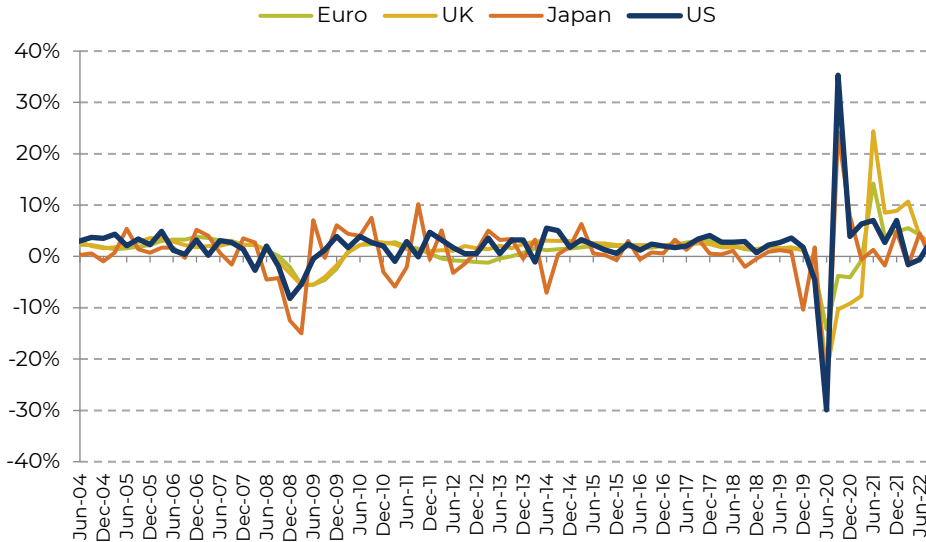


Foreign Currency

	Quarter	1 Year	3 Year	5 Year	10 Year	
Baskets	Global ex-US	6.5	-6.4	-2.6	-2.3	-2.9
	EAFE	8.6	-7.5	-2.8	-2.3	-2.9
	Emerging	3.1	-4.6	-2.8	-2.7	-3.1
Majors	USD/JPY	-9.4	13.9	6.5	3.1	4.2
	USD/EUR	-8.4	6.2	1.6	2.3	2.1
	USD/GBP	-7.6	12.0	3.1	2.3	3.0

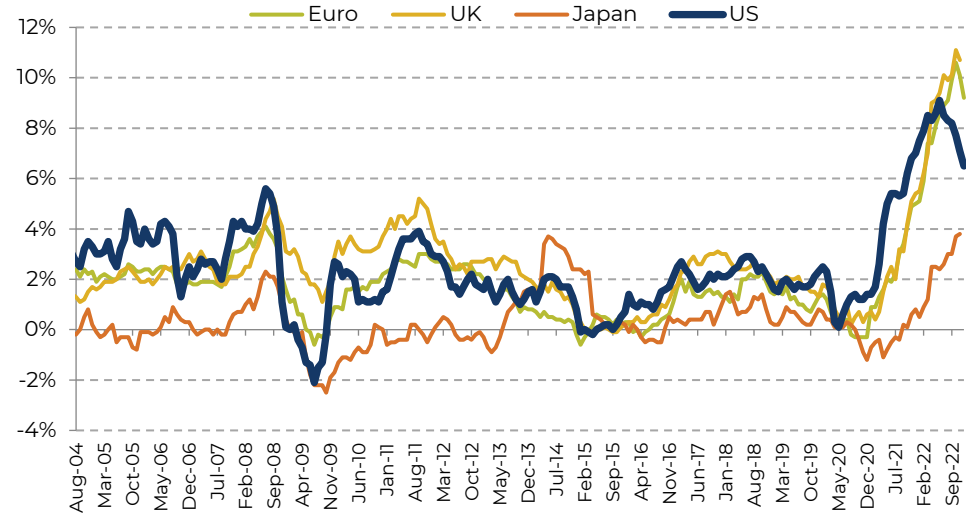
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Gross Domestic Product

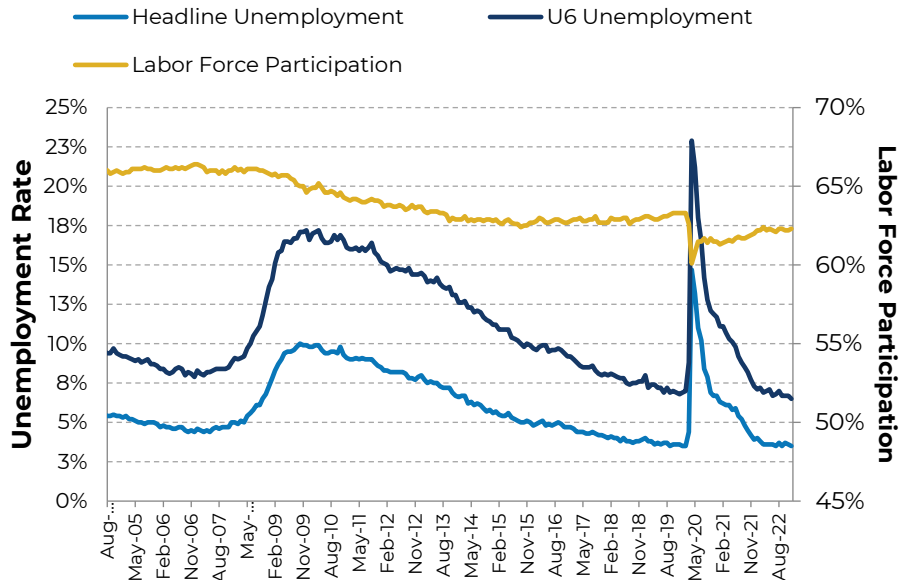


GDP is reported at a lag. The chart reflects the most current published data at the type of production.

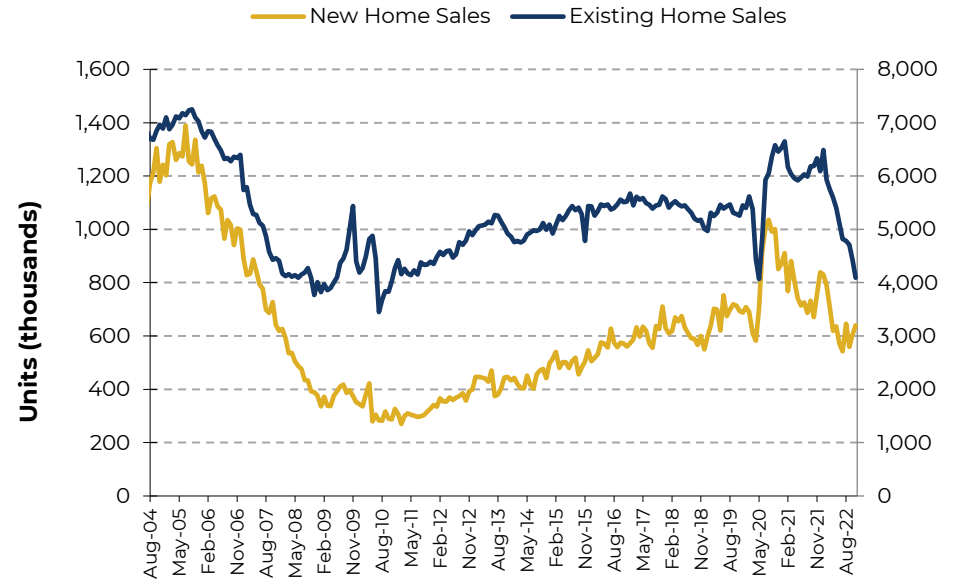
Consumer Prices (Year over Year in Percent)



Employment

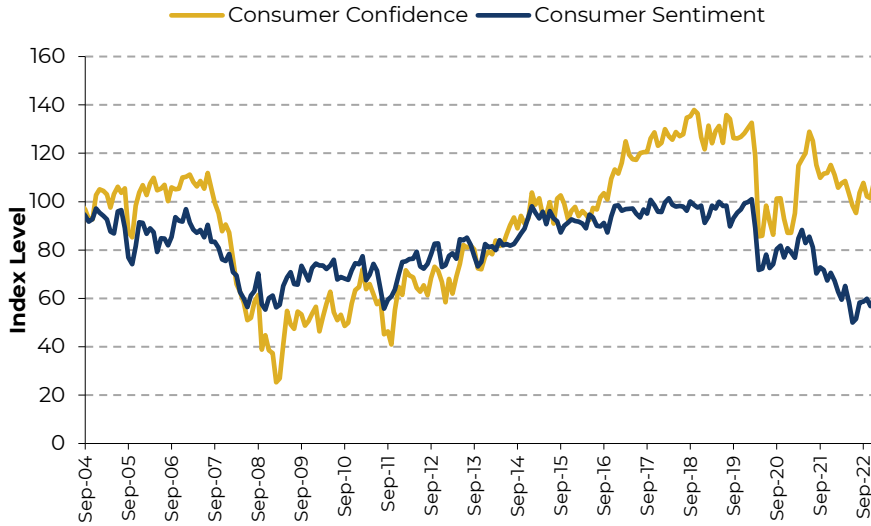


New and Existing Home Sales

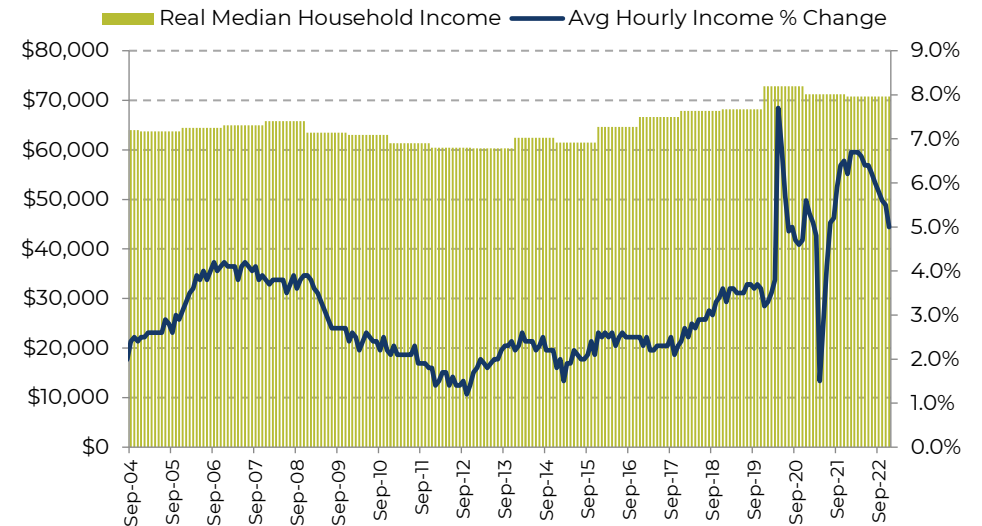


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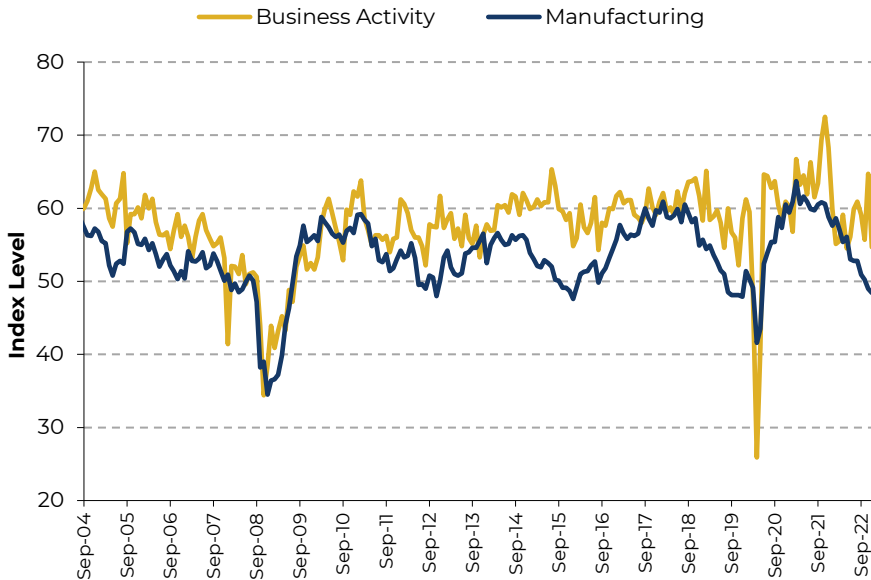
Consumer Confidence



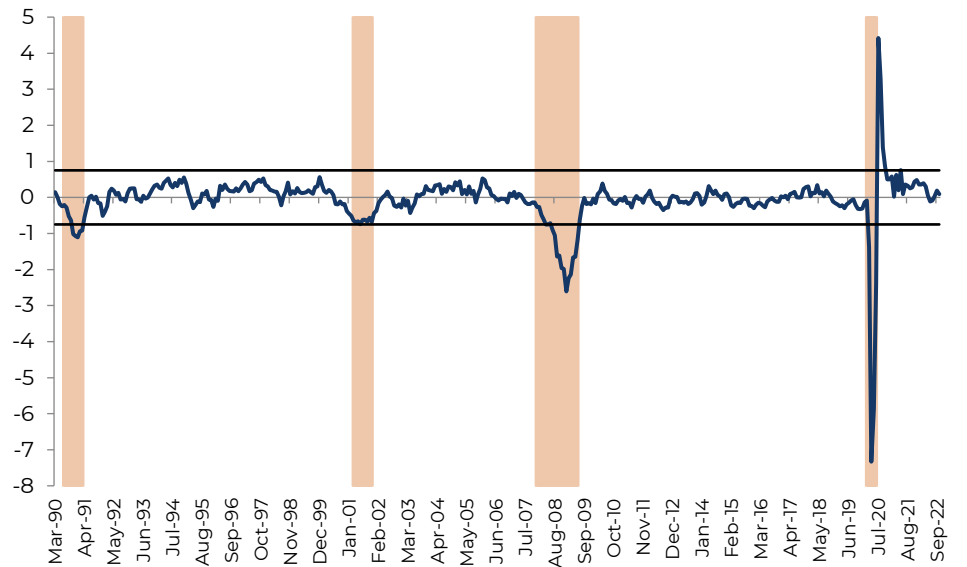
Income and Wages



ISM Business Activity & Manufacturing



CFNAI: (3-Month Moving Average)



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Current Market Performance



As of March 10, 2023

Asset Class	Index	Quarter to Date	3 Months	1 Year	3 Years	5 Years	10 Years
Cash & Fixed Income	Bloomberg US Treasury Bill 1-3 M TR USD	0.81	1.04	2.33	0.84	1.34	0.81
	Bloomberg Global Aggregate TR Hdg USD	0.68	(1.16)	(7.28)	(3.80)	0.68	1.78
	Bloomberg US Agg Bond TR USD	0.29	(1.05)	(8.84)	(4.51)	0.53	1.16
	Bloomberg US Corporate High Yield TR USD	1.87	0.50	(4.46)	2.37	2.77	3.98
	Bloomberg US Treasury US TIPS TR USD	1.32	(0.02)	(10.12)	0.89	2.74	1.39
	JPM GBI Global Ex US TR Hdg USD	0.87	(2.47)	(9.01)	(4.58)	0.21	2.10
Domestic Equity	S&P 500 TR USD	2.40	0.02	(6.84)	14.41	8.95	11.84
	Russell 3000 Growth TR USD	4.49	0.41	(11.38)	11.29	9.82	13.34
	Russell 3000 Value TR USD	(2.23)	(2.88)	(5.52)	11.55	5.71	8.78
	Russell 2000 TR USD	0.89	(0.98)	(10.58)	10.86	3.46	7.96
Equity Sectors	S&P 500 Sec/Commun Services TR USD	8.95	5.76	(22.47)	4.01	3.60	4.31
	S&P 500 Sec/Cons Disc TR USD	8.04	0.64	(17.39)	9.22	6.19	11.44
	S&P 500 Sec/Cons Staples TR USD	(4.09)	(5.13)	0.59	10.13	8.84	9.44
	S&P 500 Sec/Energy TR USD	(4.42)	2.20	16.83	42.28	9.42	4.56
	S&P 500 Sec/Financials TR USD	(1.98)	(2.31)	(7.37)	16.30	4.67	10.74
	S&P 500 Sec/Health Care TR USD	(7.98)	(9.03)	(2.21)	12.63	9.64	12.84
	S&P 500 Sec/Industrials TR USD	2.74	2.33	3.92	17.43	7.19	11.13
	S&P 500 Sec/Information Technology TR USD	11.16	5.86	(6.95)	19.91	15.73	19.08
	S&P 500 Sec/Materials TR USD	2.86	(0.69)	(0.56)	20.56	7.75	9.55
	S&P 500 Sec/Real Estate TR USD	0.97	(1.48)	(16.28)	4.89	7.42	7.41
	S&P 500 Sec/Utilities TR USD	(7.17)	(6.86)	(3.91)	4.39	9.34	9.33
Commodity	Bloomberg Commodity TR USD	(6.48)	(5.34)	(13.99)	15.88	5.02	(1.82)
Foreign Equity	MSCI ACWI Ex USA IMI NR USD	3.86	2.10	(3.19)	7.56	1.48	3.95
	MSCI EAFE NR USD	5.96	4.14	2.72	9.22	2.75	4.73
	MSCI EAFE Small Cap NR USD	4.66	3.96	(5.32)	7.59	0.53	6.01
	MSCI EM NR USD	0.03	(2.02)	(10.88)	2.07	(2.24)	1.31

Bloomberg - Economic Forecasts



Country/Region/World		Contributor		Contributor Composite		Yearly		Quarterly		
United States		Browse		Private		Official				
		Actual / Forecasts				Probability of Recession 60.0%				
Indicator	Q1 22	Q2 22	Q3 22	Q4 22	Q1 23	Q2 23	Q3 23	Q4 23	Q1 24	Q2 24
Economic Activity										
Real GDP (YoY%)	3.7	1.8	1.9	0.9	1.5	1.3	0.5	0.2	0.3	0.8
Real GDP (QoQ% SAAR)	-1.6	-0.6	3.2	2.7	0.6	-0.4	-0.1	0.7	1.3	1.8
Consumer Spending ...	1.3	2.0	2.3	1.4	1.2	0.4	0.0	0.8	1.1	1.5
Government Spendin...	-2.3	-1.6	3.7	3.6	1.9	1.1	1.0	0.8	1.0	0.9
Private Investment ...	5.4	-14.1	-9.6	3.7	-3.2	-2.0	-1.1	1.2	2.2	3.1
Exports (QoQ% SAAR)	-4.6	13.8	14.6	-1.6	-0.8	-0.2	0.8	2.0	2.5	3.0
Imports (QoQ% SAAR)	18.4	2.2	-7.3	-4.2	0.0	-1.2	-0.5	1.2	2.0	2.6
Industrial Production (Yo...	4.9	4.5	3.9	2.1	0.7	-0.8	-1.6	-1.4	-0.5	0.1
Price Indices										
CPI (YoY%)	8.0	8.7	8.3	7.1	5.8	4.1	3.5	3.2	2.8	2.6
PCE Price Index (YoY%)	6.4	6.6	6.3	5.7	4.6	3.6	3.2	3.0	2.6	2.4
Core PCE (yoy%)	5.3	5.0	5.0	4.8	4.3	3.9	3.4	3.0	2.7	2.5

Asset Classes - Annual Returns

Data as of 12/31/2022



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
5%	79%	27%	8%	18%	39%	14%	1%	21%	37%	2%	31%	20%	29%	6%
2%	58%	27%	4%	18%	34%	10%	1%	21%	25%	2%	26%	18%	25%	2%
0%	37%	19%	3%	17%	32%	6%	1%	17%	22%	0%	26%	18%	15%	-11%
-26%	32%	15%	2%	16%	23%	5%	0%	12%	16%	-2%	22%	14%	11%	-13%
-34%	27%	15%	0%	16%	7%	2%	-1%	11%	15%	-4%	18%	8%	7%	-13%
-36%	26%	8%	-2%	16%	2%	1%	-2%	3%	7%	-11%	14%	8%	5%	-14%
-37%	6%	7%	-4%	4%	0%	0%	-4%	2%	4%	-11%	9%	6%	0%	-18%
-43%	3%	1%	-12%	2%	-2%	-2%	-5%	1%	2%	-14%	2%	1%	-2%	-20%
-53%	0%	0%	-18%	0%	-3%	-5%	-15%	0%	1%	-15%	2%	1%	-3%	-20%

US Large Cap Stocks
US Mid Cap Stocks
US Small Cap Stocks
Developed Intl Stocks
Emerging Market Stocks

Intermediate-term Bonds
High Yield Bond
Cash
Inflation



Executive Summary

Kansas Board of Regents Voluntary Retirement Plan

Spring 2023 RPC Meeting

Watch List as of Spring 2023 RPC Meeting

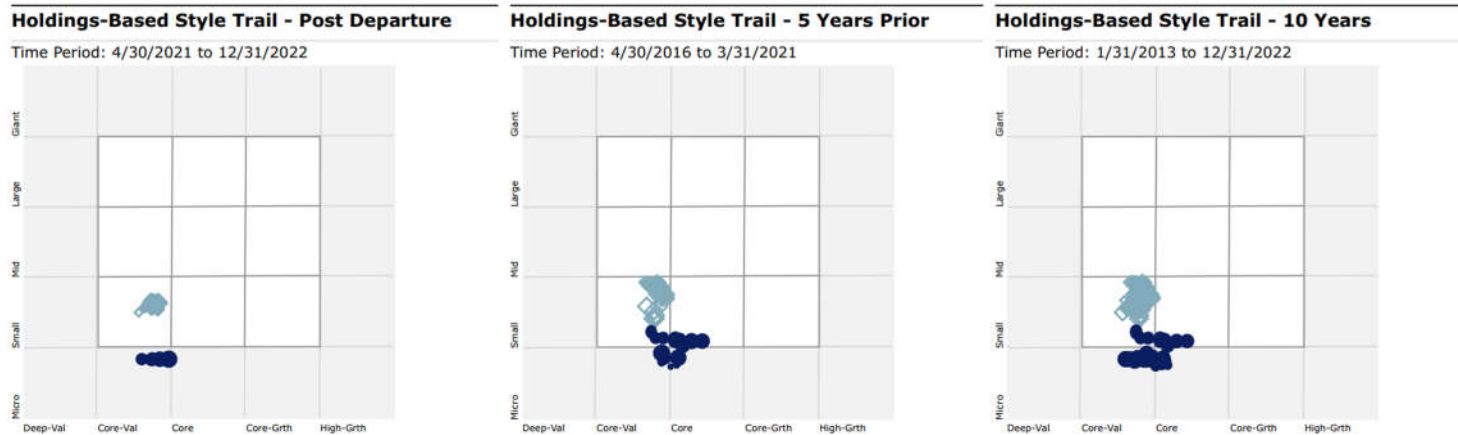
Plan	Fund Name	Reason	RPC Meeting Added
TIAA	Royce Opportunity Instl	Departure of entire management team for competitor firm in April 2021	Fall 2021
	Allspring Growth Inst	Long-term risk-adjusted performance in bottom quartile of peer group	Fall 2022
	TIAA-CREF Mid-Cap Growth Instl	Manager departure, near-term performance and long-term performance relative to peers	Fall 2022
Voya	American Beacon Small Cap Value	Subadvisor and allocation changes	Spring 2022

TIAA Watch List Review

- **Royce Opportunity Institutional (Small Cap Value Option) (Plan assets in fund = \$359K or 0.5% of TIAA Assets and 249 participants)**
 - Rationale for being placed on Watch at Fall 2021 RPC Meeting:
 - Management Change: On April 20, 2021, all three named managers on this strategy as well as the strategy's dedicated research analyst resigned and departed the firm for competitor First Eagle. Royce was forced to recall former lead manager Boniface "Buzz" Zaino to lead the fund on an interim basis. Zaino, who is 78 years old, had managed the fund for 21 years and created the fund strategy that this team had been implementing, but had stepped back from the management team in 2018 in preparation to eventually retire. Supporting Zaino are James Stoeffel and Brendan Hartman, who manage Royce Micro-Cap fund. This strategy has consistently held a significantly lower average market cap than its peers and benchmark, so experience in

microcap names is relevant for managing this fund. Analyst James Harvey, who worked with Zaino on the strategy for a decade, was also named comanager on the fund at this time. While Zaino has previously managed the fund successfully and the stated strategy has remained consistent through previous turnover, the abrupt mass resignation and resulting uncertainty around the makeup of the long-term management team and eventual strategy warrant careful monitoring.

- Updates since the Fall 2022 RPC Meeting:
 - The management team maintains their commitment to the original fund strategy following Zaino’s return to senior advisor status. Average manager tenure as of year-end 2022 is 1.6 years. Style analysis charts for the strategy are shown below. Fund style placement has been similar in past markets. 61% of the portfolio is currently in micro-cap names, while the current category average allocation to microcap is 7%.



➤ **ACG Recommendation: Remain on Watch. The short tenure of the current management team warrants monitoring to ensure the team can execute the strategy successfully over time. Review at the Fall 2023 RPC Meeting.**

- **Allspring Growth Institutional (Large Cap Growth Option) (Plan assets in fund: \$248K or 0.4% of assets and 66 participants)**

- Rationale for being placed on Watch at Fall 2022 RPC Meeting:

➤ **Long-term Performance:** After four years of underperformance relative to the peer group median from 2013 to 2016 and bottom-quintile performance in 2021 through the first half of 2022, this fund's long-term risk-adjusted returns ranked in the bottom quartile of the large cap growth peer group. This fund is an all-cap fund and has held an average allocation to mid-cap and small cap names of 32% and 11%, respectively, over the trailing decade. The fund is also higher growth than its peer median and benchmark and currently ranks in the highest-growth quintile of its peer group, which was a tailwind in growth-led markets in previous years but a sharp headwind year-to-date. While peer performance adjusting for the high-growth investment style looks better than the overall large growth peer numbers (as shown below), ten-year returns currently rank well below median even adjusting for high-growth style. Performance in 2014 ranked in the bottom decile of its peer group due to poor stock selection in information technology, and bottom-quintile performance in 2016 was driven by stock selection in health care and information technology. Year-to-date, a 17% overweight to mid-cap growth relative to the Russell 3000 benchmark detracted 1.7% from relative performance, and stock selection in IT and health care names detracted 2% each from relative performance, respectively. Thomas Ognar, lead manager on the fund, has been on the fund since 2002 and makes all final decisions. Ognar named two comanagers in 2020 to replace the retirement of previous comanagers in 2018 and 2021. Despite the long track record of the management team and strategy, bottom-quintile long-term returns combined with above-average risk metrics warrant monitoring.

▪ Updates since the Fall 2022 RPC Meeting:

➤ As of year-end 2022, ten-year returns remain in the bottom quintile of the group while risk-adjusted returns remain in the bottom quartile of peers. Style continues to be a headwind for the second half of 2022; a 19% underweight to large blend holdings and a 4% underweight to large value holdings both detracted from performance relative to the Russell 3000 Growth index during this period. Only one semi-annual period has passed since the Watch recommendation, and the fund management and style remain consistent. As of this writing, the fund holds 35% of the portfolio in mid-cap names and 7% in small cap. The chart below shows a summary of annual returns and peer group rankings.

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	
Allspring Growth Inst (SGRNX)	-36.89 (81)	7.82 (92)	49.49 (16)	37.65 (12)	0.55 (28)	35.14 (10)	-0.56 (80)	2.94 (63)	4.12 (96)	
+/- Russell 3000 Growth Index	-7.92	-18.03	11.23	1.80	2.67	5.55	-7.95	-2.15	-8.32	
Large Growth Median	-30.75	22.01	34.85	32.80	-1.64	28.63	2.94	4.61	10.66	

➤ **ACG Recommendation: Remain on Watch. Review at the Fall 2023 RPC Meeting.**

- **TIAA-CREF Mid-Cap Growth Instl (Mid-Cap Growth Option) (Plan assets in fund: \$310K or 0.5% of assets and 243 participants)**

- Rationale for being placed on Watch at Fall 2022 RPC Meeting:

- Manager Change: Effective March 31, 2022, comanager Adrian Almanzan left the strategy and firm for another opportunity. Almanzan had been an analyst and senior director at TIAA since May 2017 and had been a named co-PM on the fund since March 2019. This was the second major departure in the trailing three years, as long-time manager George (Ted) Scalise stepped off the management team of the fund and left the firm in May 2020 following the completion of a merger between Nuveen and TIAA’s equity management teams. Terrance Kontos was brought on in January 2020 to replace Scalise. Kontos had joined the firm in 2012 and has 18 years of experience in the industry, including as co-PM of CREF Growth account since 2014. The departure of Almanzan leaves Kontos as a sole manager on the fund. The relatively frequent management changes and relatively short track record of Kontos on this strategy (2.5 years) warrants monitoring.
- Near-term and Long-term Performance: As of June 30, 2022, this fund ranks in or near the bottom decile of the mid-cap growth peer group across all trailing time periods. Near- and medium-term numbers are due largely to bottom-decile performance in 2021 through the first half of 2022, driven by poor stock selection. In 2021, stock selection in consumer discretionary detracted 6.1% from performance relative to the Russell Mid Cap Growth benchmark, while stock selection in information technology (IT) detracted an additional 4.0%. Year-to-date, stock selection in health care and IT detracted 1.0% each from relative performance. Five-year rolling returns over the trailing decade, shown on the following page, have rarely ranked above peer group median due to underperformance in 2016 and 2018, both driven by poor stock selection in industrials. Periods prior to January 2020 occurred under previous management.

- Updates since the Fall 2022 RPC Meeting:

- An above-median 4th quarter boosted near-term returns slightly and the fund no longer ranks in the bottom decile of peers over any trailing period. Near- and long-term returns remain in the bottom quartile of peers. Stock selection continues to drive underperformance, particularly in industrials and consumer discretionary.

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	
TIAA-CREF Mid-Cap Growth Instl (TRPWX)	-33.08 (75)	2.95 (89)	45.33 (30)	33.39 (50)	-8.17 (77)	26.21 (38)	1.95 (77)	-0.63 (56)	7.74 (48)	
+/- Russell Midcap Growth Index	-6.36	-9.78	9.74	-2.08	-3.42	0.94	-5.38	-0.43	-4.16	
Mid-Cap Growth Median	-28.27	12.05	35.78	33.32	-5.55	24.80	5.23	-0.04	7.60	

- **ACG Recommendation: Remain on Watch. Review at the Fall 2023 RPC Meeting.**

Current Investment Lineup Recommendations as of 12/31/2022

- No additional Watch recommendations. Please see Proposed Investment Changes document for share class analysis.

Voya

- **American Beacon Small Cap Value R5 (Small Cap Value Option) (Plan assets in fund = \$405K or 1.3% of Voya Assets and 131 participants)**
- Rationale for being placed on Watch at the Spring 2022 Meeting:
 - Management Changes: American Beacon has made changes to its subadvisor mix and underlying allocations from January to March 2022. This strategy is a multi-managed strategy and is a relatively large fund within the small cap value space at \$5.5 billion. To accommodate the large amount of assets, they previously utilized eight subadvised strategies across six subadvisors. These changes cut the number of subadvisors to five. Previously, they had run into capacity issues within two subadvisors, Hotchkis & Wiley and Barrow Hanley Mewhinney & Strauss. To increase exposure to those strategies, they had utilized diversified, quantitative strategies in addition to the fundamental versions. Early in 2022 they received additional capacity in the original sleeves and are winding down the quantitative versions. American Beacon also eliminated two underperforming subadvisors, Hillcrest Asset Management and Foundry Partners, and added one subadvisor, DePrince, Race, & Zollo (DRZ) on January 31, 2022. Foundry managed 12.8% of the portfolio as of year-end 2021, while Hillcrest managed 10.6%. DRZ is a boutique with \$1 billion in assets currently, so this addition is expected to double DRZ's asset base. American Beacon is in the process of altering the allocation to each underlying sleeve to 20%. These changes are expected to be finalized March 9, 2022. Plan assets as of 12/31/2021 are \$3.55 billion or 0.4% of plan assets and 294 participants.
- Update since the Fall 2022 RPC Meeting
 - Additional Named Manager Change: Brandywine appointed an additional manager on its sleeve of the

subadvised strategy, likely in preparation for a manager retirement. This most recent change is part of a long series of personnel changes since this fund's initial Watch recommendation, including the abrupt departure of former CEO Gene Needles, who helped make decisions on subadvisor retention, in April 2022. Separately from the subadvisor mix change, the Newton and Barrow Hanley sleeves have had manager retirements and replacements within the trailing year. Each of the five subadvisors manages approximately 20% of strategy assets.

- American Beacon has been owned by a private equity consortium, including majority owner Kelso & Company, since 2015. Kelso & Co. are now looking to sell their position and have been looking for a buyer since 2021. While no sale has been announced as of this writing, a sale could result in further changes to offerings or personnel.
- **ACG Recommendation: Replace. Voya has recommended a number of changes to fund lineup options to be presented during the Spring 2023 RPC Meeting, including this fund.**

Current Investment Lineup Recommendations as of 12/31/2022

- **VY® Invesco Global I (Global Stock Option) (Plan assets in fund = \$791K or 2.5% of fund assets and 322 participants)**
 - Rationale for being replaced at Spring 2023 RPC Meeting:
 - Near-Term Performance: The fund underperformed the MSCI World Index by 14.2% in calendar year 2022 and by 7.0% in 2021 and ranks in the bottom decile of its peer group on a trailing one-, three-, and five-year basis. Performance has ranked in the worst possible percentile on one-year basis for two consecutive semi-annual RPC reports. KBOR currently measures this fund against a world large-cap stock blend index and peer group, but the fund has consistently held a growth investment style which was sharply out of favor in 2021 and 2022. Relative to a world large cap growth peer group, however, performance still ranks in the bottom quartile on a trailing one-, three-, and five-year basis while ten-year returns rank in the 71st percentile. Relative to either benchmark, stock selection in U.S. stocks drove the majority of recent underperformance.
 - Strategy Alteration: In 2019, longtime lead manager Rajeev Bhaman retired and his successor John Delano became sole manager. Delano kept the fund's core strategy intact and had worked with Bhaman for several years, alleviating initial concerns over the succession. However, Delano made an adjustment to the investment

process to allow a higher percentage of the portfolio to be dedicated to top holdings and allowing much higher active weights relative to the benchmark. As of this writing, 52% of the fund's allocation is now in the top ten holdings. This adjustment has allowed the scale of recent underperformance relative to benchmark and peers.

- **ACG Recommendation: Replace. While typically funds placed on Watch remain on Watch for multiple quarters before a replacement recommendation, the scale of underperformance warrants evaluation of alternative options.**

- **Please see the Proposed Investment Changes document for full fund lineup analysis.**

Other Fund Items/Notes

- **Vanguard Target Date Series (Voya)**
 - Effective July 8, 2022, the 2015 vintage was retired and mapped into the Income vintage of the series.
 - Vanguard launched a 2070 vintage of the fund series which was added to the Plan on July 10, 2022. This series is expected to be appropriate for 16-21 year-olds entering the work force.

Plan Asset Summary

	12/31/2022			6/30/2022			12/31/2021			6/30/2021		
TOTAL	Assets	% of Plan	Assets	% of Plan	Assets	% of Plan	Assets	% of Plan	Assets	% of Plan		
Money Market/Stable Value	\$ 14,997,929	15.2%	\$ 10,669,898	14.2%	\$ 6,793,761	11.2%	\$ 4,282,002	12.4%				
Fixed Income (Domestic/Foreign)	7,257,245	7.4%	5,684,792	7.6%	4,083,565	6.7%	2,318,609	6.7%				
Balanced	30,587,621	31.0%	23,563,259	31.4%	19,831,927	32.8%	12,187,699	35.4%				
Equity - Domestic	32,509,769	33.0%	25,359,866	33.8%	22,465,354	37.1%	11,575,363	33.6%				
Equity - Foreign	9,224,532	9.4%	6,732,849	9.0%	5,264,479	8.7%	3,158,739	9.2%				
Real Estate	3,998,881	4.1%	3,065,032	4.1%	2,109,020	3.5%	941,671	2.7%				
<i>KBOR Voluntary Plan Totals - Employer Controlled Contracts</i>	<i>\$ 98,575,975</i>	<i>100.0%</i>	<i>\$ 75,075,696</i>	<i>100.0%</i>	<i>\$ 60,548,107</i>	<i>100.0%</i>	<i>\$ 34,464,082</i>	<i>100.0%</i>				
Voya	Assets	% of Provider Assets	% of Plan	Assets	% of Provider Assets	% of Plan	Assets	% of Provider Assets	% of Plan	Assets	% of Provider Assets	% of Plan
Money Market/Stable Value	\$ 4,728,061	14.9%	4.8%	\$ 3,977,247	14.8%	5.3%	\$ 2,650,556	11.0%	4.4%	\$ 1,436,924	10.0%	4.2%
Fixed Income (Domestic/Foreign)	1,931,084	6.1%	2.0%	1,915,094	7.1%	2.6%	1,732,235	7.2%	2.9%	893,726	6.2%	2.6%
Balanced	9,770,542	30.8%	9.9%	8,105,817	30.1%	10.8%	7,337,874	30.6%	12.1%	4,847,514	33.8%	14.1%
Equity - Domestic	12,454,742	39.3%	12.6%	10,418,911	38.7%	13.9%	9,715,525	40.5%	16.0%	5,605,667	39.1%	16.3%
Equity - Foreign	2,496,673	7.9%	2.5%	2,159,527	8.0%	2.9%	2,112,141	8.8%	3.5%	1,413,199	9.9%	4.1%
Real Estate	335,942	1.1%	0.3%	344,849	1.3%	0.5%	441,536	1.8%	0.7%	127,465	0.9%	0.4%
<i>Voya Total</i>	<i>\$ 31,717,044</i>	<i>100.0%</i>	<i>32.2%</i>	<i>\$ 26,921,446</i>	<i>100.0%</i>	<i>35.9%</i>	<i>\$ 23,989,867</i>	<i>100.0%</i>	<i>39.6%</i>	<i>\$ 14,324,495</i>	<i>100.0%</i>	<i>41.6%</i>
TIAA-CREF	Assets	% of Provider Assets	% of Plan	Assets	% of Provider Assets	% of Plan	Assets	% of Provider Assets	% of Plan	Assets	% of Provider Assets	% of Plan
Money Market/Stable Value	\$ 10,269,868	15.4%	10.4%	\$ 6,692,651	13.9%	8.9%	\$ 4,143,205	11.3%	6.8%	\$ 2,845,078	14.1%	8.3%
Fixed Income (Domestic/Foreign)	5,326,161	8.0%	5.4%	3,769,698	7.8%	5.0%	2,351,329	6.4%	3.9%	1,424,884	7.1%	4.1%
Balanced	20,817,079	31.1%	21.1%	15,457,442	32.1%	20.6%	12,494,053	34.2%	20.6%	7,340,185	36.4%	21.3%
Equity - Domestic	20,055,026	30.0%	20.3%	14,940,955	31.0%	19.9%	12,749,829	34.9%	21.1%	5,969,696	29.6%	17.3%
Equity - Foreign	6,727,859	10.1%	6.8%	4,573,321	9.5%	6.1%	3,152,339	8.6%	5.2%	1,745,539	8.7%	5.1%
Real Estate	3,662,938	5.5%	3.7%	2,720,183	5.6%	3.6%	1,667,484	4.6%	2.8%	814,205	4.0%	2.4%
<i>TIAA-CREF Total</i>	<i>\$ 66,858,931</i>	<i>100.0%</i>	<i>67.8%</i>	<i>\$ 48,154,250</i>	<i>100.0%</i>	<i>64.1%</i>	<i>\$ 36,558,240</i>	<i>100.0%</i>	<i>60.4%</i>	<i>\$ 20,139,587</i>	<i>100.0%</i>	<i>58.4%</i>



**Kansas Board of Regents
TIAA Voluntary Plan Summary**



Asset Class Coverage

Domestic Equity			
	Value	Blend	Growth
Large	TIAA-CREF Large-Cap Value TIAA-CREF Large-Cap Value Index	CREF Stock TIAA-CREF Social Choice Equity CREF Equity Index TIAA-CREF S&P 500 Index	Amana Growth CREF Growth Allspring Growth TIAA-CREF Large-Cap Growth Index
Mid	JHancock Disciplined Value Mid Cap TIAA-CREF Mid-Cap Value	Vanguard Mid Cap Index	TIAA-CREF Mid-Cap Growth
Small	Royce Small-Cap Opportunity	TIAA-CREF Small-Cap Blend Index	AB Small Cap Growth
International Equity			
	Value	Blend	Growth
Large	Dodge & Cox International Stock	TIAA-CREF International Equity Index	American Funds EuroPacific Growth
Mid		DFA International Small Company	
Small			
Emerging		DFA Emerging Markets	
Global			CREF Global Equities
Domestic Fixed Income			
	Short	Intermediate	Long
High	TIAA-CREF Money Market TIAA Traditional (Ret. Choice Plus)	TIAA-CREF Bond Index	CREF Inflation-Linked Bond
Medium		CREF Bond Market TIAA-CREF Core Plus Bond	
Low	TIAA-CREF High Yield		
Other			
	Real Estate	Balanced	Foreign Bond
	TIAA Real Estate Account TIAA-CREF Real Estate Securities	CREF Social Choice T. Rowe Price Capital Appreciation TIAA-CREF Lifecycle Ret Income, 2010, 2015, 2020, 2025, 2030, 2035, 2040, 2045, 2050, 2055, 2060, 2065	Amana Participation
	Other Sectors	Absolute Return	Self-Directed Brokerage
			Brokerage

Gold = Passively Managed Index Funds

Navy = Actively Managed Funds

Plan Activity: TIAA-CREF

July 1, 2022 - December 31, 2022

Fund	Beginning Balance 7/1/2022	Contributions	Withdrawals	Exchanges	Inter Vendor Transfers	Loans Issued	Loan Principal Repay	Fees	Plan Servicing Credit	Investment Earnings	Ending Balance 12/31/2022	Difference b/t Beg. and Ending Balances
TIAA Traditional	\$ 6,301,333	\$ 2,565,475	\$ (263,224)	\$ 1,006,083	\$ 2,875	\$ (46,220)	\$ 20,819	\$ (3,456)	\$ 281	\$ 165,315	\$ 9,749,282	\$ 3,447,948
TIAA-CREF Money Market Instl	391,318	129,129	(34,170)	28,007	-	-	112	(229)	414	6,006	520,587	129,269
CREF Core Bond R3	469,587	134,312	(15,811)	67,614	-	(750)	629	(226)	676	(13,033)	642,998	173,410
TIAA-CREF Bond Index Institutional	1,142,145	446,421	(16,524)	38,265	-	(4,268)	4,119	(143)	1,319	(38,279)	1,573,055	430,911
TIAA-CREF Core Plus Bond Instl	797,303	341,007	(19,209)	(64,332)	-	(143)	2,045	(119)	901	(12,997)	1,044,456	247,153
Amana Participation Institutional	6,698	3,620	-	(5,958)	-	-	-	(0)	4	(129)	4,235	(2,464)
CREF Inflation-Linked Bond R3	911,701	381,062	(15,766)	50,099	411	(3,028)	3,321	(197)	1,365	(19,976)	1,308,992	397,291
TIAA-CREF High-Yield Inst	442,264	248,654	(15,036)	56,948	-	(1,741)	1,963	(63)	604	18,832	752,425	310,161
TIAA-CREF Large-Cap Value Instl	336,242	211,454	(6,695)	110,708	-	-	282	(64)	560	38,822	691,309	355,067
TIAA-CREF Large-Cap Value Idx Inst	1,347,405	504,286	(24,580)	75,732	-	(11,554)	5,993	(260)	1,621	91,277	1,989,921	642,516
CREF Stock R3	2,790,503	370,193	(61,870)	(78,279)	-	(884)	9,882	(1,436)	3,438	89,396	3,120,942	330,439
CREF Equity Index R3	789,563	218,902	(6,954)	(151,477)	-	(1,680)	167	(346)	1,064	14,066	863,305	73,742
TIAA-CREF S&P 500 Index Instl	4,327,140	1,162,800	(10,493)	(44,966)	(13,607)	(21,948)	1,923	(828)	4,512	100,199	5,504,731	1,177,591
TIAA-CREF Social Choice Eq Instl	478,564	168,873	(4,492)	(46,602)	-	(837)	958	(126)	530	23,053	619,921	141,357
TIAA-CREF Large-Cap Gr Idx Instl	853,065	260,216	(12,930)	92,258	-	(3,370)	168	(206)	1,017	(33,566)	1,156,653	303,588
Amana Growth Institutional	361,809	338,347	(1,709)	63,492	-	-	223	(65)	811	27,265	790,173	428,364
Allspring Growth Inst	195,716	66,107	(116)	223	-	(4,298)	228	(69)	299	(10,061)	248,030	52,313
CREF Growth R3	767,769	248,175	(10,867)	11,924	-	(1,237)	59	(623)	1,063	(23,065)	993,198	225,429
JHancock Disciplined Value Mid Cap R6	341,369	113,244	(17,102)	28,156	-	-	2,131	(64)	475	31,554	499,763	158,394
Vanguard Mid Cap Index Admiral	713,771	313,931	(9,023)	103,246	-	(179)	153	(125)	961	30,600	1,153,336	439,565
TIAA-CREF Mid-Cap Growth Instl	211,718	70,581	(6,281)	34,894	-	(4,223)	245	(63)	253	3,285	310,410	98,692
Royce Small-Cap Opportunity Instl	238,091	125,276	(6,863)	(16,723)	-	(149)	3,367	(34)	330	15,579	358,873	120,782
TIAA-CREF Small-Cap Blend Idx Inst	788,587	325,569	(7,434)	130,715	(4,520)	(5,335)	611	(169)	1,041	19,259	1,248,325	459,738
AB Small Cap Growth I	399,642	142,366	(3,250)	(24,868)	-	(4,287)	450	(98)	620	(4,439)	506,136	106,494
CREF Global Equities R3	963,974	265,755	(11,906)	(106,649)	-	(18,253)	5,328	(449)	1,251	32,145	1,131,196	167,222
Dodge & Cox International Stock I	257,974	59,926	(9,591)	17,214	-	(1,379)	112	(65)	342	12,198	336,732	78,758
TIAA-CREF International Eq Idx Instl	1,675,469	714,533	(8,365)	243,118	-	(981)	2,683	(325)	2,207	157,378	2,785,717	1,110,248
American Funds Europacific Growth R6	724,448	329,633	(16,824)	(48,312)	-	(3,288)	799	(143)	849	37,698	1,024,861	300,413
DFA International Small Company I	122,435	40,961	(2,236)	(6,681)	-	-	1,765	(22)	135	8,670	165,027	42,592
DFA Emerging Markets I	829,021	373,705	(13,397)	97,983	-	(453)	2,735	(141)	999	(6,127)	1,284,325	455,304
TIAA Real Estate Account	2,032,736	819,091	(19,869)	(26,631)	411	(7,337)	6,420	(570)	3,921	(70,772)	2,737,400	704,664
TIAA-CREF Real Estate Sec Instl	687,447	278,215	(10,755)	25,352	-	(2,871)	2,905	(101)	783	(55,436)	925,539	238,092
T. Rowe Price Capital Appreciation	1,094,720	411,793	(14,674)	198,746	411	(1,925)	5,598	(266)	1,939	22,010	1,718,353	623,633
Cref Social Choice R3	717,989	235,014	(3,608)	205,801	-	-	432	(390)	1,145	15,401	1,171,784	453,794
TIAA-CREF Lifecycle Retire Income Instl	809	309	-	-	-	-	-	(0)	1	6	1,124	315
TIAA-CREF Lifecycle 2010 Institutional	294,066	786,594	(91,943)	36,139	(4,284)	-	-	(101)	871	86	1,021,428	727,363
TIAA-CREF Lifecycle 2015 Institutional	629,737	213,673	(82,155)	(20,928)	-	-	-	(294)	657	5,621	746,310	116,573
TIAA-CREF Lifecycle 2020 Institutional	1,594,544	451,292	(92,212)	(83,082)	94,757	-	502	(635)	1,642	7,139	1,973,948	379,404
TIAA-CREF Lifecycle 2025 Institutional	2,376,247	791,903	(75,508)	(239,068)	-	-	988	(667)	2,355	18,437	2,874,688	498,441
TIAA-CREF Lifecycle 2030 Institutional	1,815,310	592,906	-	(146,617)	-	(62,280)	11,722	(752)	1,871	35,625	2,247,784	432,474
TIAA-CREF Lifecycle 2035 Institutional	1,436,518	535,470	-	(162,002)	-	(21,942)	2,562	(576)	1,438	43,711	1,835,179	398,661
TIAA-CREF Lifecycle 2040 Institutional	1,674,276	637,094	(5,642)	(147,296)	-	(27,471)	4,594	(651)	1,852	51,645	2,188,402	514,126
TIAA-CREF Lifecycle 2045 Institutional	1,553,691	561,729	(19,199)	(14,313)	(2,010)	(20,230)	302	(597)	1,767	44,931	2,106,071	552,380
TIAA-CREF Lifecycle 2050 Institutional	1,028,856	523,427	(26,700)	(42,709)	(791)	-	-	(359)	1,273	38,533	1,521,531	492,675
TIAA-CREF Lifecycle 2055 Institutional	243,250	84,369	-	(4,162)	-	-	-	(133)	278	8,302	331,904	88,654
TIAA-CREF Lifecycle 2060 Institutional	103,142	292,740	-	(206,618)	-	-	-	(72)	158	(3,430)	185,921	82,779
TIAA-CREF Lifecycle 2065 Institutional	-	4,207	-	-	-	-	-	-	3	37	4,246	4,246
Participant Loan Fund	378,473	-	(17,892)	-	-	285,966	(109,296)	-	-	51	537,302	158,829
TIAA-CREF Self Directed Account	515,813	6,541	-	(151,961)	-	-	-	-	-	(19,290)	351,103	(164,710)
Totals	\$ 48,154,250	\$ 17,900,882	\$ (1,092,876)	\$ 882,480	\$ 73,652	\$ 1,425	\$ 0	\$ (16,314)	\$ 51,896	\$ 903,536	\$ 66,858,931	\$ 18,704,681

Performance: TIAA-CREF

July 1, 2022 - December 31, 2022

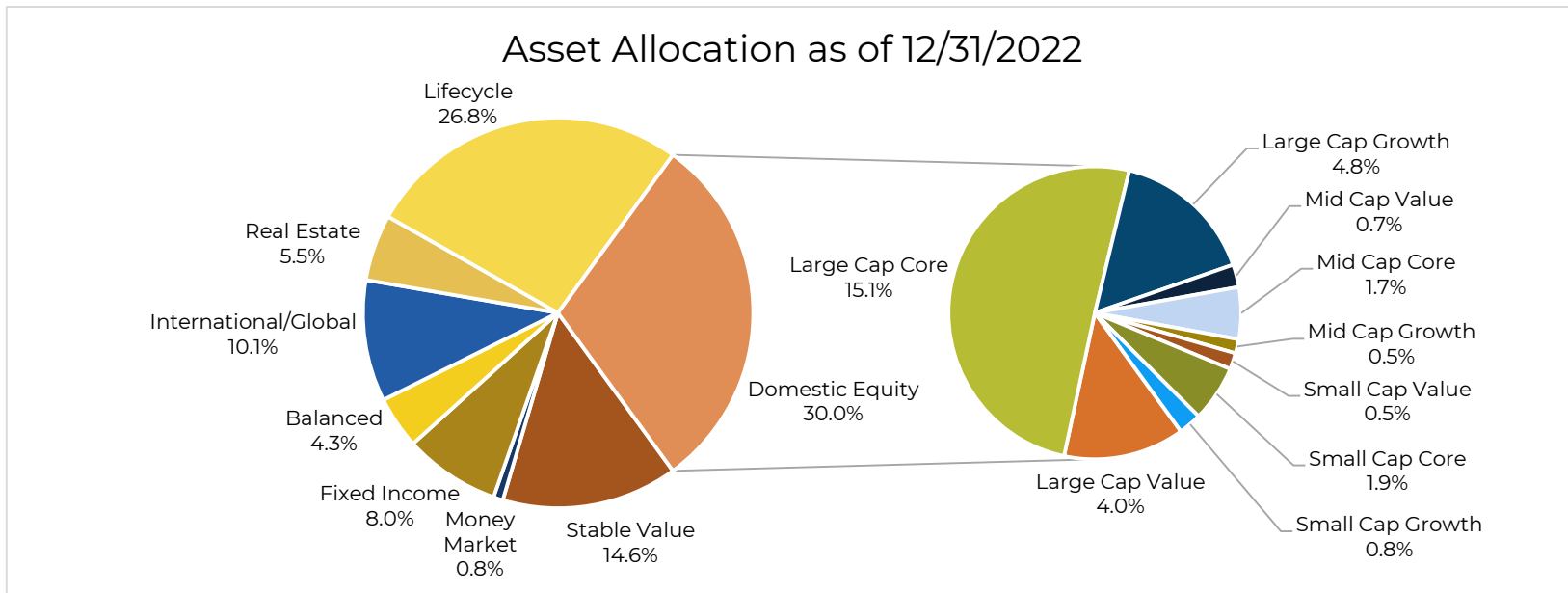
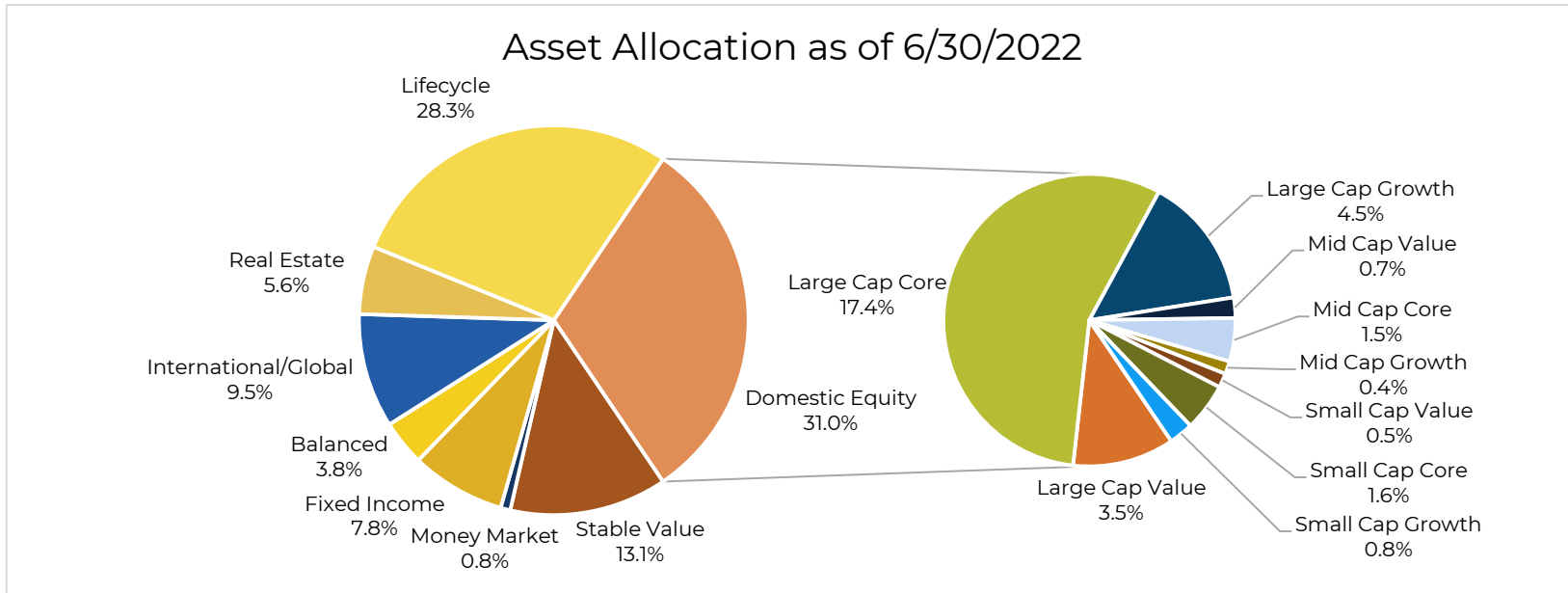
Fund	Beginning Balance: 7/1/2022	Ending Balance: 12/31/2022	Six Month Return
TIAA Traditional	\$ 6,301,333	\$ 9,749,282	1.79%
TIAA-CREF Money Market Instl	391,318	520,587	1.33%
CREF Core Bond R3	469,587	642,998	-2.38%
TIAA-CREF Bond Index Institutional	1,142,145	1,573,055	-3.25%
TIAA-CREF Core Plus Bond Instl	797,303	1,044,456	-1.93%
Amana Participation Institutional	6,698	4,235	-0.34%
CREF Inflation-Linked Bond R3	911,701	1,308,992	-1.96%
TIAA-CREF High-Yield Inst	442,264	752,425	4.04%
TIAA-CREF Large-Cap Value Instl	336,242	691,309	8.91%
TIAA-CREF Large-Cap Value Idx Inst	1,347,405	1,989,921	6.06%
CREF Stock R3	2,790,503	3,120,942	2.96%
CREF Equity Index R3	789,563	863,305	2.35%
TIAA-CREF S&P 500 Index Instl	4,327,140	5,504,731	2.28%
TIAA-CREF Social Choice Eq Instl	478,564	619,921	4.83%
TIAA-CREF Large-Cap Gr Idx Instl	853,065	1,156,653	-1.49%
Amana Growth Institutional	361,809	790,173	5.50%
Allspring Growth Inst	195,716	248,030	-3.49%
CREF Growth R3	767,769	993,198	-1.83%
JHancock Disciplined Value Mid Cap R6	341,369	499,763	8.27%
Vanguard Mid Cap Index Admiral	713,771	1,153,336	4.50%
TIAA-CREF Mid-Cap Growth Instl	211,718	310,410	3.55%
Royce Small-Cap Opportunity Instl	238,091	358,873	6.52%
TIAA-CREF Small-Cap Blend Idx Inst	788,587	1,248,325	4.06%
AB Small Cap Growth I	399,642	506,136	-0.13%
CREF Global Equities R3	963,974	1,131,196	2.98%
Dodge & Cox International Stock I	257,974	336,732	3.60%
TIAA-CREF International Eq Idx Instl	1,675,469	2,785,717	5.95%
American Funds Europacific Growth R6	724,448	1,024,861	3.17%
DFA International Small Company I	122,435	165,027	5.31%
DFA Emerging Markets I	829,021	1,284,325	-2.65%
TIAA Real Estate Account	2,032,736	2,737,400	-2.38%
TIAA-CREF Real Estate Sec Instl	687,447	925,539	-7.10%
T. Rowe Price Capital Appreciation	1,094,720	1,718,353	2.77%
Cref Social Choice R3	717,989	1,171,784	1.53%
TIAA-CREF Lifecycle Retire Income Instl	809	1,124	0.42%
TIAA-CREF Lifecycle 2010 Institutional	294,066	1,021,428	0.50%
TIAA-CREF Lifecycle 2015 Institutional	629,737	746,310	0.69%
TIAA-CREF Lifecycle 2020 Institutional	1,594,544	1,973,948	0.78%
TIAA-CREF Lifecycle 2025 Institutional	2,376,247	2,874,688	1.24%
TIAA-CREF Lifecycle 2030 Institutional	1,815,310	2,247,784	1.69%
TIAA-CREF Lifecycle 2035 Institutional	1,436,518	1,835,179	2.24%
TIAA-CREF Lifecycle 2040 Institutional	1,674,276	2,188,402	2.68%
TIAA-CREF Lifecycle 2045 Institutional	1,553,691	2,106,071	3.03%
TIAA-CREF Lifecycle 2050 Institutional	1,028,856	1,521,531	3.13%
TIAA-CREF Lifecycle 2055 Institutional	243,250	331,904	3.16%
TIAA-CREF Lifecycle 2060 Institutional	103,142	185,921	3.23%
TIAA-CREF Lifecycle 2065 Institutional	-	4,246	3.19%
Participant Loan Fund	378,473	537,302	N/A
TIAA-CREF Self Directed Account	515,813	351,103	N/A
Totals/Weighted Average Return	\$ 48,154,250	\$ 66,858,931	1.81%
Weighted Average Variable Funds Return			1.81%
Weighted Average Fixed Income Return			1.79%

Fee Analysis: TIAA-CREF

July 1, 2022 - December 31, 2022

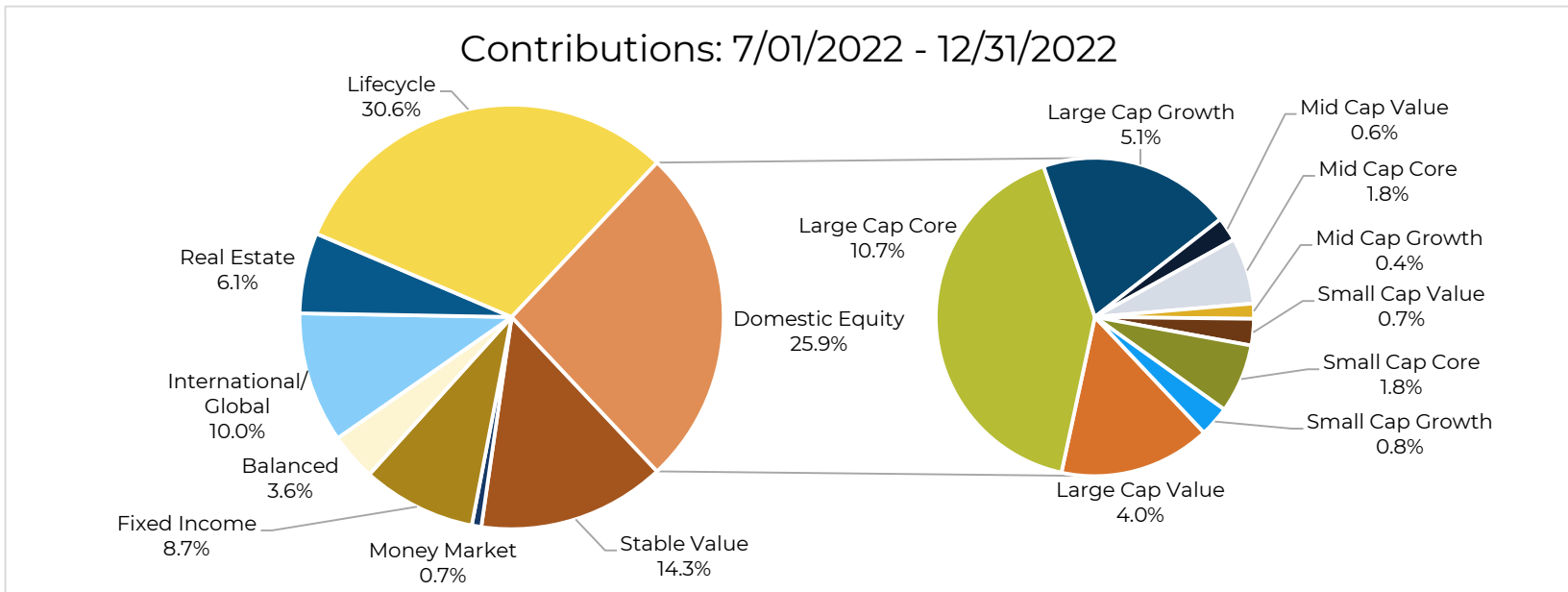
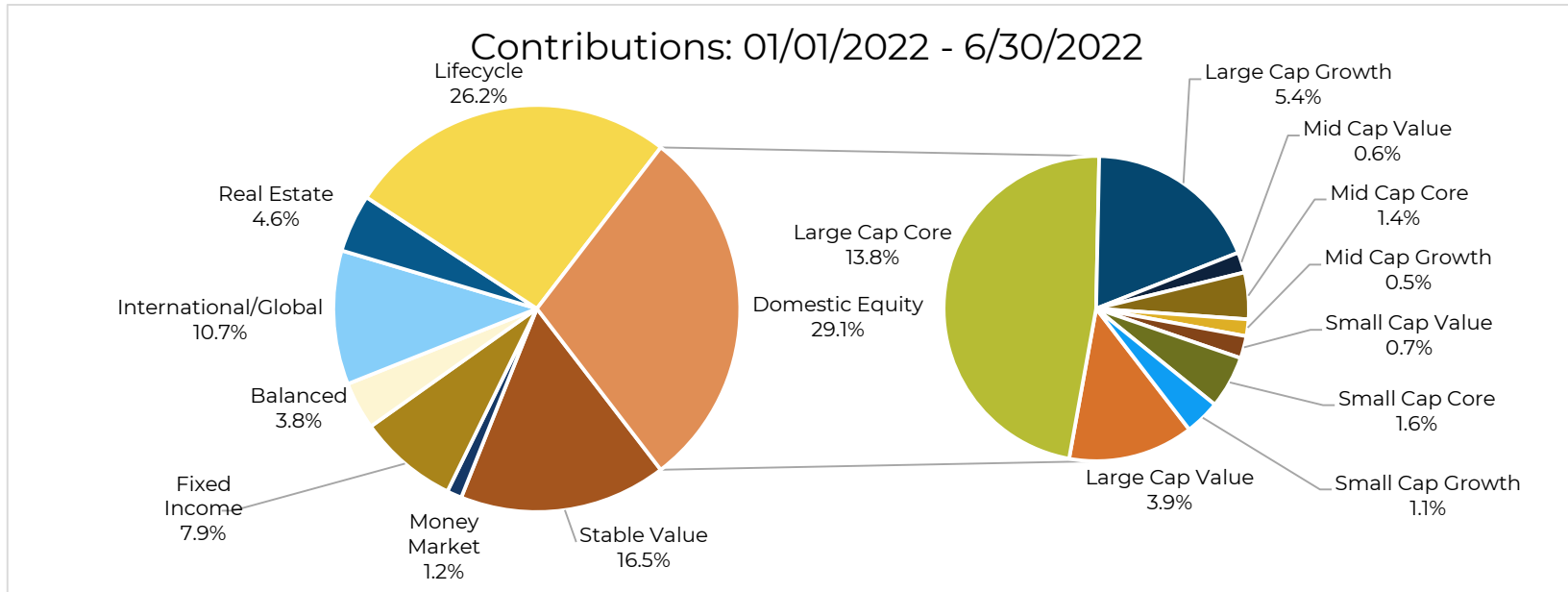
Fund	Ticker	Percent of Balance	Expense Ratio
TIAA Traditional	-	14.6%	0.45%
TIAA-CREF Money Market Instl	-	0.8%	0.13%
CREF Core Bond R3	QCBMIX	1.0%	0.22%
TIAA-CREF Bond Index Institutional	TBIIX	2.4%	0.07%
TIAA-CREF Core Plus Bond Instl	TIBFX	1.6%	0.30%
Amana Participation Institutional	AMIPX	0.0%	0.56%
CREF Inflation-Linked Bond R3	QCILIX	2.0%	0.17%
TIAA-CREF High-Yield Inst	TIHYX	1.1%	0.36%
TIAA-CREF Large-Cap Value Instl	TRLIX	1.0%	0.41%
TIAA-CREF Large-Cap Value Idx Inst	TILVX	3.0%	0.05%
CREF Stock R3	QCSTIX	4.7%	0.23%
CREF Equity Index R3	QCEQIX	1.3%	0.16%
TIAA-CREF S&P 500 Index Instl	TISPX	8.2%	0.05%
TIAA-CREF Social Choice Eq Instl	TISCX	0.9%	0.17%
TIAA-CREF Large-Cap Gr Idx Instl	TILIX	1.7%	0.05%
Amana Growth Institutional	AMIGX	1.2%	0.64%
Allspring Growth Inst	SGRNX	0.4%	0.75%
CREF Growth R3	QCGRIX	1.5%	0.21%
JHancock Disciplined Value Mid Cap R6	JVMRX	0.7%	0.75%
Vanguard Mid Cap Index Admiral	VIMAX	1.7%	0.05%
TIAA-CREF Mid-Cap Growth Instl	TRPWX	0.5%	0.46%
Royce Small-Cap Opportunity Instl	ROFIX	0.5%	1.08%
TIAA-CREF Small-Cap Blend Idx Inst	TISBX	1.9%	0.05%
AB Small Cap Growth I	QUAIX	0.8%	0.84%
CREF Global Equities R3	QCGLIX	1.7%	0.22%
Dodge & Cox International Stock I	DODFX	0.5%	0.62%
TIAA-CREF International Eq Idx Instl	TCIEX	4.2%	0.05%
American Funds Europacific Growth R6	RERGX	1.5%	0.46%
DFA International Small Company I	DFISX	0.2%	0.39%
DFA Emerging Markets I	DFEMX	1.9%	0.36%
TIAA Real Estate Account	QREARX	4.1%	0.77%
TIAA-CREF Real Estate Sec Instl	TIREX	1.4%	0.47%
T. Rowe Price Capital Appreciation	PRWCX	2.6%	0.68%
Cref Social Choice R3	QCSCIX	1.8%	0.19%
TIAA-CREF Lifecycle Retire Income Instl	TLRIX	0.0%	0.37%
TIAA-CREF Lifecycle 2010 Institutional	TCTIX	1.5%	0.37%
TIAA-CREF Lifecycle 2015 Institutional	TCNIX	1.1%	0.38%
TIAA-CREF Lifecycle 2020 Institutional	TCWIX	3.0%	0.39%
TIAA-CREF Lifecycle 2025 Institutional	TCYIX	4.3%	0.41%
TIAA-CREF Lifecycle 2030 Institutional	TCRIX	3.4%	0.42%
TIAA-CREF Lifecycle 2035 Institutional	TCIIX	2.7%	0.43%
TIAA-CREF Lifecycle 2040 Institutional	TCOIX	3.3%	0.44%
TIAA-CREF Lifecycle 2045 Institutional	TTFIX	3.2%	0.45%
TIAA-CREF Lifecycle 2050 Institutional	TFTIX	2.3%	0.45%
TIAA-CREF Lifecycle 2055 Institutional	TTRIX	0.5%	0.45%
TIAA-CREF Lifecycle 2060 Institutional	TLXNX	0.3%	0.45%
TIAA-CREF Lifecycle 2065 Institutional	TSFTX	0.0%	0.45%
Participant Loan Fund	-	0.8%	N/A
TIAA-CREF Self Directed Account	-	0.5%	N/A
Totals/Weighted Average Expense Ratio		100%	0.33%
Weighted Average Expense Ratio ex- TIAA Traditional			0.32%

Asset Allocation: TIAA-CREF



*Note: CREF Stock is included in the large cap core allocation, but this strategy has the ability to invest in both domestic and international stocks.

Contributions: TIAA-CREF



*Note: CREF Stock is included in the large cap core allocation, but this strategy has the ability to invest in both domestic and international stocks.

Number of Participants: TIAA-CREF

July 1, 2022 - December 31, 2022

Fund	Number of Participants
TIAA Traditional	846
TIAA-CREF Money Market Instl	56
CREF Core Bond R3	206
TIAA-CREF Bond Index Institutional	516
TIAA-CREF Core Plus Bond Instl	338
Amana Participation Institutional	4
CREF Inflation-Linked Bond R3	541
TIAA-CREF High-Yield Inst	390
TIAA-CREF Large-Cap Value Instl	299
TIAA-CREF Large-Cap Value Idx Inst	665
CREF Stock R3	278
CREF Equity Index R3	107
TIAA-CREF S&P 500 Index Instl	632
TIAA-CREF Social Choice Eq Instl	223
TIAA-CREF Large-Cap Gr Idx Instl	190
Amana Growth Institutional	216
Allspring Growth Inst	66
CREF Growth R3	189
JHancock Disciplined Value Mid Cap R6	244
Vanguard Mid Cap Index Admiral	446
TIAA-CREF Mid-Cap Growth Instl	243
Royce Small-Cap Opportunity Instl	249
TIAA-CREF Small-Cap Blend Idx Inst	583
AB Small Cap Growth I	357
CREF Global Equities R3	387
Dodge & Cox International Stock I	237
TIAA-CREF International Eq Idx Instl	694
American Funds Europacific Growth R6	454
DFA International Small Company I	133
DFA Emerging Markets I	636
TIAA Real Estate Account	836
TIAA-CREF Real Estate Sec Instl	688
T. Rowe Price Capital Appreciation	391
Cref Social Choice R3	286
TIAA-CREF Lifecycle Retire Income Instl	2
TIAA-CREF Lifecycle 2010 Institutional	16
TIAA-CREF Lifecycle 2015 Institutional	43
TIAA-CREF Lifecycle 2020 Institutional	114
TIAA-CREF Lifecycle 2025 Institutional	140
TIAA-CREF Lifecycle 2030 Institutional	126
TIAA-CREF Lifecycle 2035 Institutional	144
TIAA-CREF Lifecycle 2040 Institutional	167
TIAA-CREF Lifecycle 2045 Institutional	138
TIAA-CREF Lifecycle 2050 Institutional	148
TIAA-CREF Lifecycle 2055 Institutional	57
TIAA-CREF Lifecycle 2060 Institutional	36
TIAA-CREF Lifecycle 2065 Institutional	5
Participant Loan Fund	39
TIAA-CREF Self Directed Account	12
Total Unique Participants	2,684



Fiduciary Scorecard

Fund Name	Mgmt.	Operations	Style	Near-Term Result	Long-Term Return	Long-Term Alpha	Long-Term Up Mkt.	Long-Term Down Mkt.	Long-Term Sharpe	Overall Long-Term Result
TIAA Traditional Retirement Choice Plus	Pass	Pass	Pass	✓	✓					✓
TIAA-CREF Money Market Instl (TCIXX)	Pass	Pass	Pass	✓	✓	✓	✓		✓	✓
TIAA-CREF Bond Index Institutional (TBIIX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
CREF Bond Market R3 (QCBMIX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
TIAA-CREF Core Plus Bond Instl (TIBFX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
CREF Inflation-Linked Bond R3 (QCILIX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
TIAA-CREF High-Yield Inst (TIHYX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Amana Participation Institutional (AMIPX)	Pass	Pass	Pass	✓	✓					✓
TIAA-CREF Large-Cap Value Instl (TRLIX)	Pass	Pass	Pass	✓	✓	✗	✓	✗	✗	✗
TIAA-CREF Large-Cap Value Idx Inst (TILVX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
TIAA-CREF S&P 500 Index Instl (TISPX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
CREF Equity Index R3 (QCEQIX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
TIAA-CREF Social Choice Eq Instl (TISCX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
CREF Growth R3 (QCGRIX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
TIAA-CREF Large-Cap Gr Idx Instl (TILIX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Allspring Growth Inst (SGRNX)	Pass	Pass	Pass	✓	✗	✗	✓	✗	✗	✗
Amana Growth Institutional (AMIGX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
JHancock Disciplined Value Mid Cap R6 (JVMRX)	Note	Pass	Note	✓	✓	✓	✓	✓	✓	✓
TIAA-CREF Mid-Cap Value Instl (TIMVX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Vanguard Mid Cap Index Admiral (VIMAX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
TIAA-CREF Mid-Cap Growth Instl (TRPWX)	Pass	Pass	Pass	✓	✗	✗	✓	✗	✗	✗
Royce Small-Cap Opportunity Instl (ROFIX)	Pass	Pass	Pass	✓	✓	✓	✓	✗	✓	✓
TIAA-CREF Small-Cap Blend Idx Inst (TISBX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
AB Small Cap Growth I (QUAIX)	Pass	Pass	Pass	✓	✓	✓	✓	✗	✓	✓
CREF Global Equities R3 (QCGLIX)	Pass	Pass	Pass	✓	✓	✓	✓	✗	✓	✓
Dodge & Cox International Stock (DODFX)	Note	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
TIAA-CREF International Eq Idx Instl (TCIEX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
American Funds Europacific Growth R6 (RERGX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
DFA International Small Company I (DFISX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
DFA Emerging Markets I (DFEMX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
TIAA-CREF Real Estate Sec Instl (TIREX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
TIAA Real Estate Account (QREARX)	Pass	Pass	Pass	✓	✓					✓
CREF Social Choice R3 (QCSCIX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
T. Rowe Price Capital Appreciation (PRWCX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
CREF Stock R3 (QCSTIX)	Note	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
TIAA-CREF Lifecycle Target Date Series Instl	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓



Fiduciary Scorecard

- ✓ Indicates the fund passes IPS criteria.
- ✗ Indicates the fund fails the IPS criteria.

Scorecard Definitions

Qualitative Factors

Management: An evaluation of an investment's organization and/or personnel. A fund is flagged if manager tenure is less than 3 months during the trailing three months as of current quarter-end.

Operations: An evaluation of an investment's asset size and change. A fund is flagged if there are very large increases or decreases in asset size during the trailing three months as of current quarter-end.

Style: An evaluation of an investment's style, philosophy and/or consistency. A fund is flagged if its current style does not match its designated style and/or has exhibited traits of style inconsistency with historical metrics.

Near-Term Result : An evaluation of relative performance to the investment's designated peer group. A three-year period or a time period that more appropriately represents the Designated Investment Alternative's investment style is typically used. A fund is flagged if it falls in the bottom decile for the trailing three-year period as of the current quarter-end.

Long-Term Performance : A ten-year period of the performance measures will typically be used. A fund is flagged if it falls in the bottom quartile during the trailing ten-year period as of current quarter-end.

Return: An evaluation of relative performance to the investment's designated peer group.

Alpha: An evaluation of risk-adjusted return relative to the investment's designated peer group.

Up Market: An evaluation of return relative to the investment's designated peer group in positive market periods.

Down Market: An evaluation of return relative to the investment's designated peer group in negative market periods.

Sharpe Ratio: An evaluation of the Sharpe ratio (return per unit of risk) relative to the investment's designated peer group.

Overall Long-Term Result : Aggregate evaluation of relative performance to the investment's designated peer group across factors including return, alpha, up market capture, down market capture and Sharpe ratio. A fund is flagged if it falls in the bottom quartile during the trailing ten-year period as of current quarter-end

TIAA-CREF High Yield

The fund posted a strong 2022 relative to the peer group following weak relative performance in 2020 and the early part of 2021. The team has implemented a bottom-up approach that benefited from its overweight to BB and B credits with a material underweight to CCC credits. This higher quality bias helped the fund's relative performance in 2022 as economic conditions worsened and the Federal Reserve continued its tightening strategy to slow inflation. With higher interest rates, company-specific fundamentals will become increasingly impactful on performance, particularly when below-investment-grade companies need to reissue debt. *4Q 2022*

Advisor Recommendation: No Action

TIAA-CREF Large-Cap Value

Weak performance during the 2022 bear market is impacting near- and long-term rankings relative to peers. While the fund outperformed the Russell 1000 Value index during the year, it held a slightly higher allocation to communication services and IT relative to peers and those overweights combined with stock selection detracted from performance relative to the peer group during the year. Lead manager Charlie Carr took over the strategy in November 2018 when longtime manager Tom Kolefas retired. Former lead PM Rich Cutler remained on the fund as a co-manager until the beginning of 2020 when he left the firm as part of a management team consolidation between TIAA and Nuveen. When Carr took over the fund, he lowered non-U.S. stock exposure and implemented a "pragmatic value" strategy which is expected to invest in low-quality, deeper value names early in the business cycle and favor high-quality names later in the cycle. As of November 30, 2022 (the most recent portfolio date as of this writing), quality metrics are higher than category average. Before this strategy change, the portfolio was comprised of deeper value names that management believed could turn around in the next 1.5-2 years. Over Kolefas' tenure, the fund had often failed to distinguish itself from the benchmark, and management's deep value stock selection underperformed in a relative value-led market during the 2010's. The fund has beaten the Russell 1000 Value benchmark in each of the four calendar years under Carr's tenure. As of year-end 2022, the fund under Carr's tenure has outperformed the peer group average by 72 bps annualized. *4Q 2022*

Recommendation: No Action

JHancock Disciplined Value Mid Cap

Effective January 1, 2023, Tim Collard was added to the management team of this fund as assistant portfolio manager. He joins lead manager Steven Pollack, who has managed the fund since 2001, in preparation to take over when Pollack retires. Collard joined the firm in 2018 as an equity analyst covering aerospace, transportation, autos, and housing. His company bio lists 17 years of experience in the industry as of this writing. Pollack is currently 64 years old and plans to train Collard in for at least four years, after which he plans to step back as lead and comanager until retirement.

This fund's management looks for positive momentum and strong fundamentals as well as attractive relative valuations. This strategy results in a portfolio that is typically more blend-leaning than the peer group and benchmark. As the most recent portfolio date as of this writing (October 31, 2022), the fund's average holding falls into the mid cap blend style box in Morningstar, but the strategy has not changed. *4Q 2022*

Advisor Recommendation: No Action

Dodge & Cox International

The investment team for this fund has a strong structure, with a six-member investment committee leading the decision-making process. The committee fosters healthy dialogue, consistency of execution, and stability, and is supported by a deep bench of equity and fixed-income analysts who have been developed by Dodge & Cox from the start of their careers. The team was led by Diana Strandberg, who retired at the end of 2022. Strandberg handed over administrative duties to Ray Mertens in July of 2022, who has worked with Strandberg in the global equity group and joined the team in 2018. *4Q 2022*

Advisor Recommendation: No Action

CREF Stock

On November 8, 2022, TIAA-CREF announced that the head of Target Date Multi-Asset Solutions, Hans Erickson, will leave the team of this asset allocation fund to pursue another opportunity in March 2023. Comanager John Cunniff was added to the strategy at this time and Erickson has stepped down as PM, although he will remain at the firm until March to assist in the transition on this and other strategies. Cunniff has been at the firm since 2006 and has named comanager experience on the TIAA-CREF Lifecycle and Lifecycle Index series. Two other named managers remain on the fund, including Saira Malik, who serves as CIO and Head of Nuveen Global Equities. The company expects to backfill the departure with another manager hire in 2023. This departure, while notable, is not expected to impact the overall fund series strategy. *4Q 2022*

Advisor Recommendation: No Action

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Performance Summary - Trailing Returns

	Allocation		Performance (%) as of 12/31/2022					Net Expense Ratio
	Market Value (\$000)	%	1 Quarter	1 Year	3 Years	5 Years	10 Years	
Total Plan -- TIAA Voluntary	66,859	100.0	-	-	-	-	-	0.27
TIAA Traditional Retirement Choice Plus	9,749	14.6	0.89	3.42	3.15	3.22	3.37	-
+/- Blmbg. U.S. Treasury: 7-10 Year			-0.08	18.31	6.34	3.36	2.68	-
TIAA-CREF Money Market Instl (TCIXX)	521	0.8	0.86 (21)	1.48 (19)	0.64 (12)	1.15 (8)	0.68 (6)	0.13
+/- Blmbg. U.S. Treasury Bills: 1-3 Months			-0.03	-0.04	-0.06	-0.07	-0.05	-
Money Market-Taxable Median			0.81	1.34	0.54	0.99	0.54	0.37
TIAA-CREF Bond Index Institutional (TBIIX)	1,573	2.4	1.59 (56)	-13.24 (38)	-2.89 (61)	-0.16 (54)	0.88 (55)	0.07
+/- Blmbg. U.S. Aggregate Index			-0.28	-0.23	-0.18	-0.18	-0.18	-
Intermediate Core Bond Median			1.64	-13.44	-2.78	-0.12	0.94	0.55
CREF Bond Market R3 (QCBMIX)	643	1.0	1.79 (34)	-13.14 (33)	-2.54 (36)	0.15 (24)	1.21 (25)	0.22
+/- Blmbg. U.S. Aggregate Index			-0.08	-0.13	0.17	0.13	0.15	-
Intermediate Core Bond Median			1.64	-13.44	-2.78	-0.12	0.94	0.55
TIAA-CREF Core Plus Bond Instl (TIBFX)	1,044	1.6	2.12 (27)	-13.32 (36)	-2.29 (37)	0.37 (30)	1.68 (19)	0.30
+/- Blmbg. U.S. Aggregate Index			0.25	-0.31	0.42	0.35	0.62	-
Intermediate Core-Plus Bond Median			1.81	-13.84	-2.57	0.05	1.24	0.64
CREF Inflation-Linked Bond R3 (QCILIX)	1,309	2.0	1.50 (76)	-6.34 (24)	2.13 (17)	2.46 (15)	1.03 (39)	0.17
+/- Blmbg. U.S. TIPS 1-10 Year			-0.14	1.00	0.12	-0.04	-0.26	-
Inflation-Protected Bond Median			1.97	-11.65	1.22	1.91	0.89	0.56
TIAA-CREF High-Yield Inst (TIHYX)	752	1.1	4.54 (22)	-9.83 (32)	-1.15 (75)	1.79 (45)	3.48 (37)	0.36
+/- ICE BofAM US High Yield Cash Pay BB-B Rated Idx			0.23	0.81	-1.00	-0.55	-0.46	-
High Yield Bond Median			3.97	-10.82	-0.48	1.68	3.24	0.83
Amana Participation Institutional (AMIPX)	4	0.0	1.34	-4.64	0.44	1.64	-	0.56
+/- FTSE Sukuk			-1.13	3.55	0.12	-0.68	-	-
TIAA-CREF Large-Cap Value Instl (TRLIX)	691	1.0	14.39 (18)	-6.99 (63)	6.96 (50)	6.25 (72)	9.71 (70)	0.41
+/- Russell 1000 Value Index			1.97	0.55	1.00	-0.42	-0.58	-
Large Value Median			12.76	-5.53	6.96	7.10	10.21	0.86
TIAA-CREF Large-Cap Value Idx Inst (TILVX)	1,990	3.0	12.41 (59)	-7.54 (68)	5.96 (71)	6.63 (63)	10.24 (50)	0.05
+/- Russell 1000 Value Index			-0.01	0.00	0.00	-0.04	-0.05	-
Large Value Median			12.76	-5.53	6.96	7.10	10.21	0.86

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Performance Summary - Trailing Returns

	Allocation		Performance (%) as of 12/31/2022					Net Expense Ratio
	Market Value (\$000)	%	1 Quarter	1 Year	3 Years	5 Years	10 Years	
TIAA-CREF S&P 500 Index Instl (TISPX)	5,505	8.2	7.54 (59)	-18.12 (50)	7.62 (33)	9.37 (22)	12.50 (14)	0.05
+/- S&P 500 Index			-0.02	-0.01	-0.04	-0.05	-0.06	-
Large Blend Median			7.96	-18.12	7.11	8.57	11.62	0.75
CREF Equity Index R3 (QCEQIX)	863	1.3	7.16 (73)	-19.25 (72)	6.93 (57)	8.63 (49)	11.88 (42)	0.16
+/- Russell 3000 Index			-0.02	-0.04	-0.14	-0.16	-0.25	-
Large Blend Median			7.96	-18.12	7.11	8.57	11.62	0.75
TIAA-CREF Social Choice Eq Instl (TISCX)	620	0.9	9.76 (29)	-17.77 (47)	7.77 (28)	9.23 (28)	12.02 (35)	0.17
+/- Russell 3000 Index			2.58	1.44	0.70	0.44	-0.11	-
Large Blend Median			7.96	-18.12	7.11	8.57	11.62	0.75
CREF Growth R3 (QCGRIX)	993	1.5	3.68 (45)	-32.34 (64)	4.68 (55)	8.05 (57)	12.56 (34)	0.21
+/- Russell 1000 Growth Index			1.48	-3.20	-3.11	-2.91	-1.54	-
Large Growth Median			2.98	-30.75	5.07	8.41	11.93	0.92
TIAA-CREF Large-Cap Gr Idx Instl (TILIX)	1,157	1.7	2.20 (60)	-29.17 (39)	7.73 (17)	10.90 (13)	14.03 (9)	0.05
+/- Russell 1000 Growth Index			0.00	-0.03	-0.06	-0.06	-0.07	-
Large Growth Median			2.98	-30.75	5.07	8.41	11.93	0.92
Allspring Growth Inst (SGRNX)	248	0.4	1.66 (66)	-36.89 (81)	0.57 (89)	7.08 (74)	10.49 (84)	0.75
+/- Russell 3000 Growth Index			-0.65	-7.92	-6.75	-3.37	-3.26	-
Large Growth Median			2.98	-30.75	5.07	8.41	11.93	0.92
Amana Growth Institutional (AMIGX)	790	1.2	11.49 (2)	-19.22 (7)	12.35 (1)	14.20 (1)	14.28 (7)	0.64
+/- S&P 500 Index			3.93	-1.11	4.69	4.78	1.72	-
Large Growth Median			2.98	-30.75	5.07	8.41	11.93	0.92
JHancock Disciplined Value Mid Cap R6 (JVMRX)	500	0.7	13.32 (24)	-6.96 (39)	7.81 (32)	6.87 (30)	11.65 (5)	0.75
+/- Russell Midcap Value Index			2.87	5.07	1.99	1.15	1.54	-
Mid-Cap Value Median			11.95	-8.12	6.50	5.84	9.52	0.95
TIAA-CREF Mid-Cap Value Instl (TIMVX)	310	0.5	10.17 (84)	-10.34 (75)	4.33 (83)	4.37 (78)	8.63 (75)	0.45
+/- Russell Midcap Value Index			-0.28	1.69	-1.49	-1.35	-1.48	-
Mid-Cap Value Median			11.95	-8.12	6.50	5.84	9.52	0.95
Vanguard Mid Cap Index Admiral (VIMAX)	1,153	1.7	9.02 (59)	-18.71 (81)	6.17 (50)	7.32 (26)	11.10 (13)	0.05
+/- CRSP U.S. Mid Cap TR Index			-0.01	-0.03	-0.02	-0.02	-0.03	-
Mid-Cap Blend Median			9.48	-14.77	6.14	6.23	9.95	0.92

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Performance Summary - Trailing Returns

	Allocation		Performance (%) as of 12/31/2022					Net Expense Ratio
	Market Value (\$000)	%	1 Quarter	1 Year	3 Years	5 Years	10 Years	
TIAA-CREF Mid-Cap Growth Instl (TRPWX)	-	0.0	5.95 (44)	-33.08 (75)	0.04 (85)	4.17 (88)	8.74 (87)	0.46
+/- Russell Midcap Growth Index			-0.95	-6.36	-3.81	-3.47	-2.67	-
Mid-Cap Growth Median			5.43	-28.27	3.88	7.26	10.63	1.03
Royce Small-Cap Opportunity Instl (ROFIX)	359	0.5	12.39 (30)	-16.94 (94)	11.27 (9)	7.23 (13)	10.78 (9)	1.08
+/- Russell 2000 Value Index			3.97	-2.46	6.57	3.10	2.30	-
Small Value Median			11.31	-11.58	6.63	4.74	8.75	1.11
TIAA-CREF Small-Cap Blend Idx Inst (TISBX)	1,248	1.9	6.34 (89)	-20.29 (81)	3.24 (72)	4.25 (62)	9.19 (49)	0.05
+/- Russell 2000 Index			0.11	0.15	0.14	0.12	0.18	-
Small Blend Median			8.97	-16.63	5.05	4.89	9.12	1.02
AB Small Cap Growth I (QUAIX)	506	0.8	3.09 (70)	-38.88 (95)	1.04 (74)	6.88 (44)	11.08 (26)	0.84
+/- Russell 2000 Growth Index			-1.04	-12.52	0.39	3.37	1.88	-
Small Growth Median			4.40	-28.16	3.06	6.33	10.11	1.15
CREF Global Equities R3 (QCGLIX)	1,131	1.7	10.73 (57)	-18.49 (65)	4.99 (33)	5.40 (41)	8.47 (36)	0.22
+/- MSCI World Index			0.84	-0.76	-0.46	-1.29	-0.97	-
World Large-Stock Blend Median			11.03	-17.47	3.93	5.09	8.03	0.91
Dodge & Cox International Stock (DODFX)	337	0.5	16.01 (83)	-6.78 (26)	1.85 (33)	1.25 (25)	4.81 (14)	0.62
+/- MSCI EAFE (Net) Index			-1.33	7.67	0.98	-0.29	0.14	-
Foreign Large Value Median			18.65	-9.72	0.82	0.39	3.67	0.95
TIAA-CREF International Eq Idx Instl (TCIEX)	2,786	4.2	18.12 (18)	-14.20 (26)	1.08 (37)	1.76 (30)	4.73 (28)	0.05
+/- MSCI EAFE (Net) Index			0.78	0.25	0.21	0.22	0.06	-
Foreign Large Blend Median			16.75	-15.79	0.62	1.20	4.23	0.91
American Funds Europacific Growth R6 (RERGX)	1,025	1.5	13.78 (50)	-22.72 (32)	-0.15 (55)	1.54 (58)	5.30 (37)	0.46
+/- MSCI AC World ex USA (Net)			-0.50	-6.72	-0.22	0.66	1.50	-
Foreign Large Growth Median			13.77	-24.90	0.14	1.81	4.93	0.99
DFA International Small Company I (DFISX)	165	0.2	17.61 (14)	-17.12 (17)	1.14 (23)	0.70 (35)	6.08 (31)	0.39
+/- MSCI AC World ex USA Small Cap (Net)			4.30	2.85	0.07	0.03	0.84	-
Foreign Small/Mid Blend Median			16.32	-20.07	0.06	0.06	5.40	1.17
DFA Emerging Markets I (DFEMX)	1,284	1.9	10.07 (48)	-16.88 (16)	-0.99 (26)	-0.55 (29)	1.79 (39)	0.36
+/- MSCI Emerging Markets (Net) Index			0.37	3.21	1.70	0.85	0.35	-
Diversified Emerging Mkts Median			9.94	-22.47	-3.28	-1.77	1.41	1.16

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Performance Summary - Trailing Returns

	Allocation		Performance (%) as of 12/31/2022					Net Expense Ratio
	Market Value (\$000)	%	1 Quarter	1 Year	3 Years	5 Years	10 Years	
TIAA-CREF Real Estate Sec Instl (TIREX)	926	1.4	3.88 (51)	-28.73 (88)	0.22 (40)	4.84 (16)	7.30 (10)	0.47
+/- FTSE NAREIT All Equity REITs			-0.26	-3.78	0.02	0.41	0.20	-
Real Estate Median			3.89	-26.20	-0.14	3.72	6.21	1.00
TIAA Real Estate Account (QREARX)	2,737	4.1	-3.49	8.19	8.14	6.93	7.41	0.77
+/- NCREIF Fund Index-ODCE (VW) (Net)			1.64	1.60	-0.84	-0.79	-1.70	-
CREF Social Choice R3 (QCSCIX)	1,172	1.8	7.47 (22)	-15.47 (57)	2.63 (58)	4.56 (40)	6.60 (44)	0.19
+/- 40% BBg US Agg 42% R3000 18% MSCI EAFE + Can			0.74	0.09	0.14	0.20	0.08	-
Allocation--50% to 70% Equity Median			6.48	-14.97	2.92	4.08	6.29	0.99
T. Rowe Price Capital Appreciation (PRWCX)	1,718	2.6	5.50 (73)	-11.94 (24)	7.24 (2)	9.11 (1)	10.83 (1)	0.68
+/- 40% BBg US Agg 60% SP500			0.11	3.85	3.41	3.15	2.75	-
Allocation--50% to 70% Equity Median			6.48	-14.97	2.92	4.08	6.29	0.99
CREF Stock R3 (QCSTIX)	3,121	4.7	10.17 (13)	-18.45 (37)	4.57 (21)	5.65 (23)	9.12 (24)	0.23
+/- 65% R3000 35% ACWI ex US			0.44	-0.49	-0.10	-0.40	-0.11	-
Allocation--85%+ Equity Median			8.66	-19.16	3.64	4.95	8.33	1.12
TIAA-CREF Lifecycle Retire Income Instl (TLRIX)	1	0.0	4.62 (30)	-12.51 (47)	1.35 (6)	2.91 (6)	4.67 (2)	0.37
+/- CREF Lifecycle Composite Income			-0.29	0.89	0.27	-0.10	0.11	-
Target-Date Retirement Median			3.97	-12.74	0.01	1.87	3.34	0.68
TIAA-CREF Lifecycle 2010 Institutional (TCTIX)	1,021	1.5	4.54 (46)	-12.40 (45)	1.36 (24)	2.93 (31)	4.98 (13)	0.37
+/- CREF Lifecycle Composite 2010			-0.17	0.76	0.26	-0.66	-0.21	-
Target-Date 2000-2010 Median			4.42	-12.61	0.66	2.64	4.51	0.56
TIAA-CREF Lifecycle 2015 Institutional (TCNIX)	746	1.1	4.89 (68)	-12.85 (28)	1.63 (27)	3.17 (22)	5.44 (17)	0.38
+/- CREF Lifecycle Composite 2015			-0.25	0.92	0.39	-0.06	0.09	-
Target-Date 2015 Median			5.16	-13.63	1.12	2.86	5.13	0.60
TIAA-CREF Lifecycle 2020 Institutional (TCWIX)	1,974	3.0	5.21 (63)	-13.52 (28)	1.77 (28)	3.32 (27)	5.94 (15)	0.39
+/- CREF Lifecycle Composite 2020			-0.35	0.80	0.39	-0.11	0.05	-
Target-Date 2020 Median			5.54	-14.43	1.25	3.08	5.45	0.67
TIAA-CREF Lifecycle 2025 Institutional (TCYIX)	2,875	4.3	5.90 (45)	-14.32 (33)	2.21 (20)	3.68 (25)	6.57 (13)	0.41
+/- CREF Lifecycle Composite 2025			-0.20	0.66	0.52	-0.09	0.03	-
Target-Date 2025 Median			5.77	-15.49	1.33	3.25	5.68	0.64

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Performance Summary - Trailing Returns

	Allocation		Performance (%) as of 12/31/2022					Net Expense Ratio
	Market Value (\$000)	%	1 Quarter	1 Year	3 Years	5 Years	10 Years	
TIAA-CREF Lifecycle 2030 Institutional (TCRIX)	2,248	3.4	6.71 (48)	-15.16 (27)	2.63 (20)	4.02 (34)	7.17 (17)	0.42
+/- CREF Lifecycle Composite 2030			-0.04	0.53	0.64	-0.07	0.01	-
Target-Date 2030 Median			6.64	-16.35	1.98	3.76	6.43	0.68
TIAA-CREF Lifecycle 2035 Institutional (TCIIX)	1,835	2.7	7.60 (52)	-15.98 (23)	3.03 (30)	4.35 (42)	7.75 (20)	0.43
+/- CREF Lifecycle Composite 2035			0.04	0.31	0.72	-0.08	-0.02	-
Target-Date 2035 Median			7.64	-17.13	2.69	4.20	7.01	0.65
TIAA-CREF Lifecycle 2040 Institutional (TCOIX)	2,188	3.3	8.33 (56)	-16.67 (25)	3.52 (30)	4.71 (42)	8.23 (18)	0.44
+/- CREF Lifecycle Composite 2040			0.00	0.06	0.81	-0.07	-0.05	-
Target-Date 2040 Median			8.43	-17.85	3.14	4.56	7.50	0.71
TIAA-CREF Lifecycle 2045 Institutional (TTFIX)	2,106	3.2	8.94 (49)	-17.32 (30)	3.99 (19)	5.06 (32)	8.50 (14)	0.45
+/- CREF Lifecycle Composite 2045			0.16	0.00	0.92	-0.04	-0.05	-
Target-Date 2045 Median			8.93	-18.19	3.44	4.83	7.71	0.65
TIAA-CREF Lifecycle 2050 Institutional (TFTIX)	1,522	2.3	9.21 (45)	-17.65 (34)	4.05 (17)	5.09 (34)	8.56 (14)	0.45
+/- CREF Lifecycle Composite 2050			0.25	-0.02	0.94	-0.04	-0.05	-
Target-Date 2050 Median			9.15	-18.33	3.55	4.90	7.83	0.70
TIAA-CREF Lifecycle 2055 Institutional (TTRIX)	332	0.5	9.28 (43)	-17.73 (33)	4.09 (16)	5.13 (34)	8.61 (15)	0.45
+/- CREF Lifecycle Composite 2055			0.22	-0.03	0.93	-0.05	-0.07	-
Target-Date 2055 Median			9.21	-18.38	3.58	4.91	7.96	0.66
TIAA-CREF Lifecycle 2060 Institutional (TLXNX)	186	0.3	9.30 (42)	-17.79 (31)	4.18 (15)	5.20 (31)	-	0.45
+/- CREF Lifecycle Composite 2060			0.14	-0.02	0.96	-0.03	-	-
Target-Date 2060 Median			9.26	-18.43	3.61	4.93	-	0.67
TIAA-CREF Lifecycle 2065 Institutional (TSFTX)	4	0.0	9.29 (45)	-17.70 (21)	-	-	-	0.45
+/- CREF Lifecycle Composite 2065			0.04	0.15	-	-	-	-
Target-Date 2065+ Median			9.25	-18.60	-	-	-	0.64

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Performance Summary - Calendar Year

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	
TIAA Traditional Retirement Choice Plus	3.42	2.80	3.25	3.26	3.37	3.31	3.64	3.48	3.63	
+/- Blmbg. U.S. Treasury: 7-10 Year	18.31	5.87	-6.73	-5.24	2.47	0.76	2.59	1.85	-5.37	
TIAA-CREF Money Market Instl (TCIXX)	1.48 (19)	0.00 (89)	0.44 (4)	2.11 (8)	1.72 (11)	0.75 (10)	0.29 (4)	0.02 (17)	0.00 (79)	
+/- Blmbg. U.S. Treasury Bills: 1-3 Months	-0.04	-0.04	-0.10	-0.10	-0.10	-0.07	0.03	-0.01	-0.02	
Money Market-Taxable Median	1.34	0.01	0.28	1.83	1.47	0.46	0.03	0.01	0.01	
TIAA-CREF Bond Index Institutional (TBIIX)	-13.24 (38)	-1.81 (65)	7.49 (63)	8.38 (53)	-0.02 (29)	3.42 (49)	2.38 (63)	0.53 (27)	5.87 (34)	
+/- Blmbg. U.S. Aggregate Index	-0.23	-0.26	-0.02	-0.34	-0.03	-0.12	-0.27	-0.02	-0.10	
Intermediate Core Bond Median	-13.44	-1.59	7.83	8.46	-0.43	3.39	2.57	0.21	5.54	
CREF Bond Market R3 (QCBMIX)	-13.14 (33)	-1.23 (33)	7.92 (49)	9.03 (26)	-0.19 (38)	4.12 (18)	3.47 (18)	0.51 (30)	5.52 (53)	
+/- Blmbg. U.S. Aggregate Index	-0.13	0.32	0.41	0.31	-0.20	0.58	0.82	-0.04	-0.45	
Intermediate Core Bond Median	-13.44	-1.59	7.83	8.46	-0.43	3.39	2.57	0.21	5.54	
TIAA-CREF Core Plus Bond Instl (TIBFX)	-13.32 (36)	-0.33 (30)	7.98 (58)	9.47 (43)	-0.25 (27)	4.81 (31)	4.66 (26)	0.63 (15)	5.80 (42)	
+/- Blmbg. U.S. Aggregate Index	-0.31	1.22	0.47	0.75	-0.26	1.27	2.01	0.08	-0.17	
Intermediate Core-Plus Bond Median	-13.84	-0.81	8.32	9.24	-0.80	4.23	3.79	-0.29	5.60	
CREF Inflation-Linked Bond R3 (QCILIX)	-6.34 (24)	5.28 (51)	8.03 (72)	6.53 (70)	-0.49 (15)	1.85 (71)	4.23 (51)	-1.68 (39)	3.32 (24)	
+/- Blmbg. U.S. TIPS 1-10 Year	1.00	-0.41	-0.36	-0.32	-0.24	-0.05	0.22	-1.16	2.41	
Inflation-Protected Bond Median	-11.65	5.30	9.70	7.50	-1.59	2.59	4.24	-1.96	2.53	
TIAA-CREF High-Yield Inst (TIHYX)	-9.83 (32)	4.79 (51)	2.23 (91)	16.21 (6)	-2.66 (41)	5.65 (80)	16.45 (12)	-3.72 (49)	2.48 (25)	
+/- ICE BofAM US High Yield Cash Pay BB-B Rated Index	0.81	0.17	-4.26	1.12	-0.64	-1.32	1.66	-0.83	-0.98	
High Yield Bond Median	-10.82	4.80	5.24	13.50	-2.90	6.68	13.62	-3.80	1.64	
Amana Participation Institutional (AMIPX)	-4.64	0.64	5.59	6.95	0.11	2.68	2.56	-	-	
+/- FTSE Sukuk	3.55	-0.45	-3.20	-3.85	-0.16	-1.63	-1.45	-	-	
TIAA-CREF Large-Cap Value Instl (TRLIX)	-6.99 (63)	27.01 (40)	3.59 (43)	28.81 (17)	-14.10 (94)	12.52 (87)	18.60 (14)	-4.69 (73)	9.16 (79)	
+/- Russell 1000 Value Index	0.55	1.85	0.79	2.27	-5.83	-1.14	1.26	-0.86	-4.29	
Large Value Median	-5.53	26.04	2.79	25.56	-8.80	16.25	14.30	-3.34	11.06	
TIAA-CREF Large-Cap Value Idx Inst (TILVX)	-7.54 (68)	25.02 (65)	2.90 (49)	26.39 (39)	-8.31 (43)	13.62 (79)	17.23 (23)	-3.81 (59)	13.37 (17)	
+/- Russell 1000 Value Index	0.00	-0.14	0.10	-0.15	-0.04	-0.04	-0.11	0.02	-0.08	
Large Value Median	-5.53	26.04	2.79	25.56	-8.80	16.25	14.30	-3.34	11.06	
TIAA-CREF S&P 500 Index Instl (TISPX)	-18.12 (50)	28.64 (23)	18.34 (38)	31.42 (25)	-4.45 (26)	21.77 (34)	11.87 (28)	1.35 (26)	13.60 (20)	
+/- S&P 500 Index	-0.01	-0.07	-0.06	-0.07	-0.07	-0.06	-0.09	-0.03	-0.09	
Large Blend Median	-18.12	26.73	17.17	29.84	-5.61	21.14	10.50	0.10	12.02	

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Performance Summary - Calendar Year

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	
CREF Equity Index R3 (QCEQIX)	-19.25 (72)	25.52 (65)	20.63 (22)	30.73 (40)	-5.37 (46)	20.84 (57)	12.49 (22)	0.24 (49)	12.17 (49)	
+/- Russell 3000 Index	-0.04	-0.14	-0.26	-0.29	-0.13	-0.29	-0.25	-0.24	-0.39	
Large Blend Median	-18.12	26.73	17.17	29.84	-5.61	21.14	10.50	0.10	12.02	
TIAA-CREF Social Choice Eq Instl (TISCX)	-17.77 (47)	26.46 (53)	20.34 (24)	31.49 (23)	-5.53 (49)	20.93 (55)	13.51 (13)	-2.39 (80)	11.25 (60)	
+/- Russell 3000 Index	1.44	0.80	-0.55	0.47	-0.29	-0.20	0.77	-2.87	-1.31	
Large Blend Median	-18.12	26.73	17.17	29.84	-5.61	21.14	10.50	0.10	12.02	
CREF Growth R3 (QCGRIX)	-32.34 (64)	20.43 (60)	40.76 (31)	31.66 (61)	-2.46 (57)	31.83 (26)	2.92 (51)	6.46 (33)	13.66 (18)	
+/- Russell 1000 Growth Index	-3.20	-7.17	2.27	-4.73	-0.95	1.62	-4.16	0.79	0.61	
Large Growth Median	-30.75	22.01	34.85	32.80	-1.64	28.63	2.94	4.61	10.66	
TIAA-CREF Large-Cap Gr Idx Instl (TILIX)	-29.17 (39)	27.52 (16)	38.43 (37)	36.27 (22)	-1.55 (49)	30.07 (38)	7.05 (22)	5.61 (42)	12.98 (25)	
+/- Russell 1000 Growth Index	-0.03	-0.08	-0.06	-0.12	-0.04	-0.14	-0.03	-0.06	-0.07	
Large Growth Median	-30.75	22.01	34.85	32.80	-1.64	28.63	2.94	4.61	10.66	
Allspring Growth Inst (SGRNX)	-36.89 (81)	7.82 (92)	49.49 (16)	37.65 (12)	0.55 (28)	35.14 (10)	-0.56 (80)	2.94 (63)	4.12 (96)	
+/- Russell 3000 Growth Index	-7.92	-18.03	11.23	1.80	2.67	5.55	-7.95	-2.15	-8.32	
Large Growth Median	-30.75	22.01	34.85	32.80	-1.64	28.63	2.94	4.61	10.66	
Amana Growth Institutional (AMIGX)	-19.22 (7)	31.82 (3)	33.19 (59)	33.41 (44)	2.67 (13)	29.29 (45)	7.85 (17)	-0.21 (86)	14.29 (12)	
+/- S&P 500 Index	-1.11	3.11	14.79	1.92	7.05	7.46	-4.11	-1.59	0.60	
Large Growth Median	-30.75	22.01	34.85	32.80	-1.64	28.63	2.94	4.61	10.66	
JHancock Disciplined Value Mid Cap R6 (JVMRX)	-6.96 (39)	27.05 (67)	6.01 (25)	30.28 (18)	-14.59 (66)	15.69 (25)	15.35 (71)	2.16 (2)	13.44 (19)	
+/- Russell Midcap Value Index	5.07	-1.29	1.05	3.22	-2.30	2.35	-4.65	6.94	-1.31	
Mid-Cap Value Median	-8.12	28.69	2.69	26.69	-13.48	13.51	17.62	-4.34	10.16	
TIAA-CREF Mid-Cap Value Instl (TIMVX)	-10.34 (75)	32.18 (21)	-4.19 (93)	27.05 (45)	-14.15 (59)	11.13 (79)	17.40 (52)	-5.35 (59)	12.85 (23)	
+/- Russell Midcap Value Index	1.69	3.84	-9.15	-0.01	-1.86	-2.21	-2.60	-0.57	-1.90	
Mid-Cap Value Median	-8.12	28.69	2.69	26.69	-13.48	13.51	17.62	-4.34	10.16	
Vanguard Mid Cap Index Admiral (VIMAX)	-18.71 (81)	24.51 (44)	18.24 (21)	31.03 (20)	-9.23 (29)	19.25 (21)	11.22 (73)	-1.34 (23)	13.76 (10)	
+/- CRSP U.S. Mid Cap TR Index	-0.03	-0.01	0.00	-0.06	-0.01	-0.05	-0.03	-0.06	-0.07	
Mid-Cap Blend Median	-14.77	24.14	12.93	26.85	-11.23	15.92	14.94	-3.17	9.25	
TIAA-CREF Mid-Cap Growth Instl (TRPWX)	-33.08 (75)	2.95 (89)	45.33 (30)	33.39 (50)	-8.17 (77)	26.21 (38)	1.95 (77)	-0.63 (56)	7.74 (48)	
+/- Russell Midcap Growth Index	-6.36	-9.78	9.74	-2.08	-3.42	0.94	-5.38	-0.43	-4.16	
Mid-Cap Growth Median	-28.27	12.05	35.78	33.32	-5.55	24.80	5.23	-0.04	7.60	

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Performance Summary - Calendar Year

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	
Royce Small-Cap Opportunity Instl (ROFIX)	-16.94 (94)	30.89 (52)	26.72 (1)	28.36 (10)	-19.83 (91)	22.02 (1)	29.94 (19)	-13.46 (93)	-0.41 (90)	
+/- Russell 2000 Value Index	-2.46	2.62	22.09	5.97	-6.97	14.18	-1.80	-5.99	-4.63	
Small Value Median	-11.58	31.15	3.45	21.94	-15.27	9.32	25.32	-5.92	4.31	
TIAA-CREF Small-Cap Blend Idx Instl (TISBX)	-20.29 (81)	14.89 (89)	20.15 (11)	25.53 (37)	-10.84 (34)	14.83 (26)	21.58 (42)	-4.14 (47)	5.15 (50)	
+/- Russell 2000 Index	0.15	0.07	0.19	0.00	0.17	0.18	0.27	0.27	0.26	
Small Blend Median	-16.63	23.20	12.14	24.45	-12.12	13.05	20.66	-4.36	5.10	
AB Small Cap Growth I (QUAIX)	-38.88 (95)	9.60 (51)	53.97 (23)	36.11 (18)	-0.67 (22)	34.91 (8)	6.80 (76)	-0.91 (33)	-1.41 (85)	
+/- Russell 2000 Growth Index	-12.52	6.77	19.34	7.63	8.64	12.74	-4.52	0.47	-7.01	
Small Growth Median	-28.16	9.60	37.56	28.34	-5.13	22.05	10.16	-2.19	3.02	
CREF Global Equities R3 (QCGLIX)	-18.49 (65)	15.65 (73)	22.75 (10)	28.28 (27)	-12.36 (79)	24.81 (27)	5.11 (70)	-0.34 (38)	4.17 (43)	
+/- MSCI World Index	-0.76	-6.70	6.25	-0.12	-4.16	1.74	-3.04	-0.02	-1.33	
World Large-Stock Blend Median	-17.47	18.20	14.34	26.12	-9.95	23.17	6.46	-1.01	3.91	
Dodge & Cox International Stock (DODFX)	-6.78 (26)	11.03 (57)	2.10 (53)	22.78 (12)	-17.98 (77)	23.94 (40)	8.26 (17)	-11.35 (91)	0.08 (7)	
+/- MSCI EAFE (Net) Index	7.67	-0.23	-5.72	0.77	-4.19	-1.09	7.26	-10.54	4.98	
Foreign Large Value Median	-9.72	11.75	2.48	18.26	-16.25	22.88	2.37	-3.37	-5.41	
TIAA-CREF International Eq Idx Instl (TCIEX)	-14.20 (26)	11.30 (35)	8.14 (62)	21.79 (54)	-13.25 (19)	25.32 (53)	1.22 (43)	-0.49 (42)	-5.51 (56)	
+/- MSCI EAFE (Net) Index	0.25	0.04	0.32	-0.22	0.54	0.29	0.22	0.32	-0.61	
Foreign Large Blend Median	-15.79	10.21	9.45	22.04	-15.09	25.50	0.77	-0.90	-5.23	
American Funds Europacific Growth R6 (RERGX)	-22.72 (32)	2.84 (78)	25.27 (35)	27.40 (63)	-14.91 (55)	31.17 (47)	1.01 (23)	-0.48 (66)	-2.29 (30)	
+/- MSCI AC World ex USA (Net)	-6.72	-4.98	14.62	5.89	-0.71	3.98	-3.49	5.18	1.58	
Foreign Large Growth Median	-24.90	8.69	22.17	27.95	-14.44	30.84	-2.29	0.58	-3.70	
DFA International Small Company I (DFISX)	-17.12 (17)	14.24 (22)	9.26 (65)	24.20 (28)	-19.42 (48)	30.24 (80)	5.80 (20)	5.91 (56)	-6.30 (71)	
+/- MSCI AC World ex USA Small Cap (Net)	2.85	1.31	-4.98	1.78	-1.22	-1.41	1.89	3.31	-2.27	
Foreign Small/Mid Blend Median	-20.07	12.87	10.48	22.22	-19.65	33.02	0.81	6.37	-5.91	
DFA Emerging Markets I (DFEMX)	-16.88 (16)	2.53 (29)	13.89 (71)	16.03 (80)	-13.62 (22)	36.57 (46)	12.09 (23)	-15.81 (70)	-1.71 (40)	
+/- MSCI Emerging Markets (Net) Index	3.21	5.07	-4.42	-2.39	0.95	-0.71	0.90	-0.89	0.48	
Diversified Emerging Mkts Median	-22.47	-1.36	17.77	20.41	-16.40	35.49	8.50	-13.65	-2.73	
TIAA-CREF Real Estate Sec Instl (TIREX)	-28.73 (88)	39.41 (72)	1.33 (7)	31.09 (16)	-4.04 (16)	12.29 (6)	4.38 (86)	4.62 (12)	28.13 (75)	
+/- FTSE NAREIT All Equity REITs	-3.78	-1.89	6.45	2.43	0.00	3.62	-4.25	1.79	0.10	
Real Estate Median	-26.20	41.35	-4.67	27.74	-5.74	5.39	6.19	2.95	29.75	
TIAA Real Estate Account (QREARX)	8.19	17.87	-0.84	5.51	4.79	4.37	5.20	8.16	12.22	
+/- NCREIF Fund Index-ODCE (VW) (Net)	1.60	-3.15	-1.18	1.12	-2.57	-2.29	-2.59	-5.79	0.76	

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Performance Summary - Calendar Year

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	
CREF Social Choice R3 (QCSCIX)	-15.47 (57)	12.64 (55)	13.52 (38)	20.80 (26)	-4.29 (27)	14.27 (44)	7.40 (41)	-0.87 (41)	6.83 (39)	
+/- 40% BBg US Agg 42% R3000 18% MSCI EAFE + Can	0.09	0.68	-0.37	0.34	0.27	-0.07	0.38	-0.99	0.01	
Allocation--50% to 70% Equity Median	-14.97	13.11	12.35	19.28	-5.88	13.94	6.87	-1.25	5.94	
T. Rowe Price Capital Appreciation (PRWCX)	-11.94 (24)	18.53 (4)	18.16 (9)	24.61 (2)	0.62 (2)	15.38 (24)	8.22 (30)	5.42 (1)	12.25 (2)	
+/- 40% BBg US Agg 60% SP500	3.85	2.67	3.43	2.43	2.97	1.17	-0.09	4.14	1.63	
Allocation--50% to 70% Equity Median	-14.97	13.11	12.35	19.28	-5.88	13.94	6.87	-1.25	5.94	
CREF Stock R3 (QCSTIX)	-18.45 (37)	18.92 (39)	17.91 (45)	27.45 (20)	-9.65 (57)	23.43 (20)	9.17 (20)	-0.84 (36)	6.41 (28)	
+/- 65% R3000 35% ACWI ex US	-0.49	-0.28	0.63	-0.20	-1.27	0.17	-0.70	0.81	-0.17	
Allocation--85%+ Equity Median	-19.16	18.50	16.60	25.79	-9.29	21.05	7.32	-1.39	5.33	
TIAA-CREF Lifecycle Retire Income Instl (TLRIX)	-12.51 (47)	7.08 (21)	11.10 (12)	15.30 (14)	-3.84 (66)	12.10 (2)	6.04 (17)	0.25 (1)	4.53 (36)	
+/- CREF Lifecycle Composite Income	0.89	0.68	-0.98	-0.40	-0.90	1.55	0.23	0.43	-1.33	
Target-Date Retirement Median	-12.74	5.82	9.06	12.92	-3.38	8.56	5.04	-1.23	4.11	
TIAA-CREF Lifecycle 2010 Institutional (TCTIX)	-12.40 (45)	6.88 (40)	11.24 (15)	15.43 (11)	-3.92 (74)	12.76 (1)	6.20 (51)	0.38 (2)	4.59 (55)	
+/- CREF Lifecycle Composite 2010	0.76	0.60	-0.71	-0.51	-3.48	1.57	0.11	0.61	-1.54	
Target-Date 2000-2010 Median	-12.61	5.65	10.30	13.90	-3.38	10.26	6.20	-0.92	4.64	
TIAA-CREF Lifecycle 2015 Institutional (TCNIX)	-12.85 (28)	7.74 (53)	11.80 (30)	16.51 (24)	-4.41 (70)	13.85 (5)	6.40 (54)	0.42 (1)	4.78 (56)	
+/- CREF Lifecycle Composite 2015	0.92	0.83	-0.77	-0.54	-0.93	1.60	-0.07	0.70	-1.58	
Target-Date 2015 Median	-13.63	7.86	11.14	15.26	-3.89	11.50	6.47	-1.05	4.89	
TIAA-CREF Lifecycle 2020 Institutional (TCWIX)	-13.52 (28)	8.46 (56)	12.38 (29)	17.79 (22)	-5.18 (69)	15.58 (3)	6.66 (43)	0.42 (1)	4.86 (56)	
+/- CREF Lifecycle Composite 2020	0.80	0.95	-0.75	-0.51	-1.21	1.90	-0.35	0.82	-1.77	
Target-Date 2020 Median	-14.43	8.63	10.96	16.19	-4.54	12.86	6.49	-1.22	5.08	
TIAA-CREF Lifecycle 2025 Institutional (TCYIX)	-14.32 (33)	9.85 (47)	13.44 (28)	19.44 (23)	-6.05 (73)	17.40 (1)	7.00 (48)	0.36 (1)	4.87 (68)	
+/- CREF Lifecycle Composite 2025	0.66	1.34	-0.54	-0.56	-1.39	2.04	-0.61	0.89	-2.02	
Target-Date 2025 Median	-15.49	9.75	12.46	18.33	-5.38	15.00	6.95	-1.20	5.43	
TIAA-CREF Lifecycle 2030 Institutional (TCRIX)	-15.16 (27)	11.23 (61)	14.54 (23)	21.27 (28)	-7.09 (71)	19.21 (4)	7.33 (52)	0.38 (3)	4.71 (75)	
+/- CREF Lifecycle Composite 2030	0.53	1.65	-0.29	-0.44	-1.74	2.15	-0.88	1.05	-2.41	
Target-Date 2030 Median	-16.35	11.54	13.10	20.37	-6.49	17.01	7.35	-1.36	5.56	
TIAA-CREF Lifecycle 2035 Institutional (TCIIX)	-15.98 (23)	12.70 (82)	15.48 (28)	23.04 (29)	-8.04 (78)	21.11 (4)	7.52 (60)	0.24 (3)	4.67 (75)	
+/- CREF Lifecycle Composite 2035	0.31	2.05	-0.15	-0.36	-2.01	2.38	-1.27	1.10	-2.55	
Target-Date 2035 Median	-17.13	13.87	14.04	22.30	-7.35	18.72	7.83	-1.46	5.61	

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Performance Summary - Calendar Year

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	
TIAA-CREF Lifecycle 2040 Institutional (TCOIX)	-16.67 (25)	14.33 (84)	16.44 (27)	24.56 (23)	-8.92 (82)	22.91 (1)	7.78 (58)	0.09 (6)	4.63 (77)	
+/- CREF Lifecycle Composite 2040	0.06	2.45	0.13	-0.41	-2.20	2.54	-1.59	1.16	-2.67	
Target-Date 2040 Median	-17.85	15.78	14.73	23.63	-8.02	19.82	8.02	-1.50	5.78	
TIAA-CREF Lifecycle 2045 Institutional (TTFIX)	-17.32 (30)	15.94 (71)	17.31 (23)	25.87 (16)	-9.59 (89)	23.62 (1)	8.06 (53)	0.13 (6)	4.61 (76)	
+/- CREF Lifecycle Composite 2045	0.00	2.81	0.23	-0.38	-2.32	2.44	-1.66	1.21	-2.69	
Target-Date 2045 Median	-18.19	16.73	15.35	24.58	-8.33	20.68	8.20	-1.54	5.79	
TIAA-CREF Lifecycle 2050 Institutional (TFTIX)	-17.65 (34)	16.48 (67)	17.44 (23)	26.19 (14)	-9.82 (87)	24.04 (2)	8.10 (54)	0.18 (5)	4.59 (78)	
+/- CREF Lifecycle Composite 2050	-0.02	3.00	0.19	-0.31	-2.44	2.60	-1.81	1.26	-2.71	
Target-Date 2050 Median	-18.33	17.00	15.57	24.69	-8.62	20.80	8.26	-1.43	5.88	
TIAA-CREF Lifecycle 2055 Institutional (TTRIX)	-17.73 (33)	16.65 (67)	17.52 (25)	26.36 (15)	-9.86 (88)	24.23 (1)	8.27 (49)	0.13 (6)	4.58 (76)	
+/- CREF Lifecycle Composite 2055	-0.03	2.97	0.17	-0.38	-2.38	2.53	-1.84	1.21	-2.72	
Target-Date 2055 Median	-18.38	17.19	15.69	24.82	-8.60	21.11	8.25	-1.53	5.89	
TIAA-CREF Lifecycle 2060 Institutional (TLXNX)	-17.79 (31)	16.80 (68)	17.75 (24)	26.70 (9)	-10.06 (87)	24.40 (1)	8.39 (38)	0.19 (4)	-	
+/- CREF Lifecycle Composite 2060	-0.02	2.92	0.31	-0.29	-2.47	2.44	-1.92	1.27	-	
Target-Date 2060 Median	-18.43	17.35	15.74	25.05	-8.66	21.25	7.96	-0.87	-	
TIAA-CREF Lifecycle 2065 Institutional (TSFTX)	-17.70 (21)	17.15 (54)	-	-	-	-	-	-	-	
+/- CREF Lifecycle Composite 2065	0.15	3.08	-	-	-	-	-	-	-	
Target-Date 2065+ Median	-18.60	17.30	-	-	-	-	-	-	-	

	Beta			Alpha			Up Market			Down Market			Standard Deviation		
	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs
TIAA Traditional Retirement Choice Plus	0.00	0.00	0.00	3.15	3.22	3.37	30.75	27.84	34.64				0.15	0.13	0.13
Blmbg. U.S. Treasury: 7-10 Year													8.83	7.63	6.48
TIAA-CREF Money Market Instl (TCIXX)	0.94	0.95	0.94	-0.02	-0.01	-0.01	91.27	93.72	93.47				0.51	0.51	0.44
Money Market-Taxable Median	0.87	0.86	0.84	-0.06	-0.07	-0.07	77.12	80.93	74.36				0.48	0.47	0.40
Blmbg. U.S. Treasury Bills: 1-3 Months													0.54	0.54	0.47
TIAA-CREF Bond Index Institutional (TBIIX)	0.99	1.00	1.01	-0.20	-0.18	-0.18	95.32	96.17	97.49	100.19	100.41	102.47	6.09	5.38	4.42
Intermediate Core Bond Median	1.00	1.00	1.00	-0.03	-0.13	-0.09	99.57	97.65	97.05	100.95	101.60	100.79	6.35	5.48	4.45
Blmbg. U.S. Aggregate Index													6.12	5.39	4.39
CREF Bond Market R3 (QCBMIX)	0.97	0.98	0.98	0.12	0.14	0.18	102.46	101.92	102.61	98.34	98.69	98.05	6.35	5.55	4.50
Intermediate Core Bond Median	1.00	1.00	1.00	-0.03	-0.13	-0.09	99.57	97.65	97.05	100.95	101.60	100.79	6.35	5.48	4.45
Blmbg. U.S. Aggregate Index													6.12	5.39	4.39
TIAA-CREF Core Plus Bond Instl (TIBFX)	0.95	0.96	0.96	0.38	0.39	0.68	109.63	106.18	109.52	97.77	97.05	90.77	7.06	6.03	4.80
Intermediate Core-Plus Bond Median	1.00	1.00	0.99	0.23	0.06	0.24	110.42	104.66	102.20	101.83	102.28	96.15	7.08	6.11	4.86
Blmbg. U.S. Aggregate Index													6.12	5.39	4.39
CREF Inflation-Linked Bond R3 (QCILIX)	0.91	0.92	1.06	0.29	0.16	-0.32	94.28	94.71	99.93	87.06	90.45	110.21	4.17	3.52	4.16
Inflation-Protected Bond Median	1.41	1.37	1.29	-1.53	-1.48	-0.72	111.42	111.73	112.61	155.51	163.41	144.02	6.75	5.65	5.19
Blmbg. U.S. TIPS 1-10 Year													4.59	3.83	3.83
TIAA-CREF High-Yield Inst (TIHYX)	1.05	1.07	1.07	-0.93	-0.64	-0.67	96.59	102.14	101.39	106.61	110.21	112.49	12.45	10.81	8.41
High Yield Bond Median	1.03	1.03	1.04	-0.26	-0.65	-0.72	102.85	98.93	97.69	104.37	107.06	111.09	12.27	10.45	8.28
ICE BofAM US High Yield Cash Pay BB-B Rated Index													11.83	10.03	7.81
Amana Participation Institutional (AMIPX)													4.65	3.93	
FTSE Sukuk															
TIAA-CREF Large-Cap Value Instl (TRLIX)	1.03	1.06	1.05	0.87	-0.61	-0.97	105.74	104.37	101.19	101.66	108.46	108.31	24.61	21.60	16.56
Large Value Median	1.00	1.00	0.99	1.14	0.50	0.08	101.67	100.95	98.52	96.54	98.23	96.95	23.87	20.44	15.67
Russell 1000 Value Index													23.84	20.31	15.54
TIAA-CREF Large-Cap Value Idx Inst (TILVX)	1.00	1.00	1.00	0.00	-0.02	-0.02	99.76	99.65	99.61	99.77	99.81	99.82	23.77	20.25	15.49
Large Value Median	1.00	1.00	0.99	1.14	0.50	0.08	101.67	100.95	98.52	96.54	98.23	96.95	23.87	20.44	15.67
Russell 1000 Value Index													23.84	20.31	15.54
TIAA-CREF S&P 500 Index Instl (TISPX)	1.00	1.00	1.00	-0.03	-0.04	-0.05	99.80	99.79	99.69	99.96	100.04	100.02	22.72	20.06	15.13
Large Blend Median	1.00	1.00	1.00	-0.46	-0.71	-0.80	98.91	97.18	96.62	100.96	101.35	102.36	22.78	20.08	15.18
S&P 500 Index													22.74	20.08	15.14

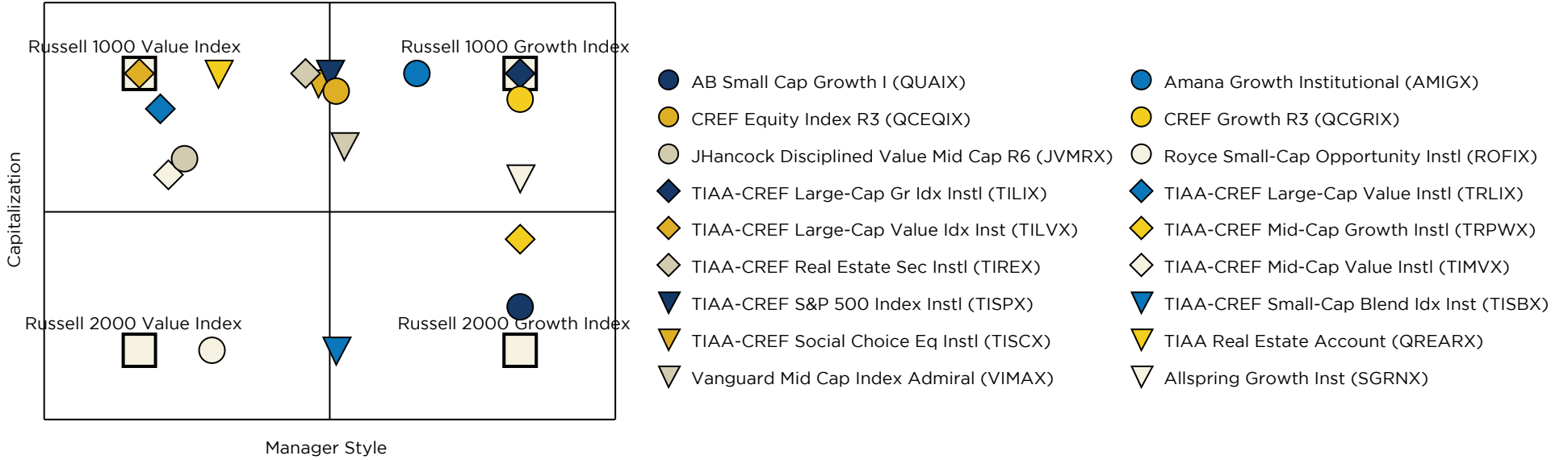
	Beta			Alpha			Up Market			Down Market			Standard Deviation		
	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs
CREF Equity Index R3 (QCEQIX)	1.00	1.00	1.00	-0.12	-0.13	-0.19	99.45	99.34	98.86	100.04	100.09	100.14	23.89	20.99	15.81
Large Blend Median	0.94	0.95	0.95	0.34	0.19	0.07	96.78	96.36	96.04	95.60	96.13	96.56	22.78	20.08	15.18
Russell 3000 Index													23.96	21.06	15.87
TIAA-CREF Social Choice Eq Instl (TISCX)	1.00	0.99	1.00	0.67	0.47	-0.05	103.27	101.18	99.21	101.13	99.22	99.29	24.00	20.94	15.87
Large Blend Median	0.94	0.95	0.95	0.34	0.19	0.07	96.78	96.36	96.04	95.60	96.13	96.56	22.78	20.08	15.18
Russell 3000 Index													23.96	21.06	15.87
CREF Growth R3 (QCGRIX)	1.03	1.03	1.04	-2.99	-2.85	-1.80	95.99	94.78	97.43	110.50	109.28	110.09	26.75	23.78	17.99
Large Growth Median	0.98	0.99	1.00	-2.36	-2.12	-1.72	94.04	93.54	93.23	105.88	104.80	106.03	25.83	23.02	17.46
Russell 1000 Growth Index													25.86	23.00	17.17
TIAA-CREF Large-Cap Gr Idx Instl (TILIX)	1.00	1.00	1.00	-0.05	-0.05	-0.05	99.83	99.78	99.73	100.04	100.02	100.11	25.85	22.99	17.16
Large Growth Median	0.98	0.99	1.00	-2.36	-2.12	-1.72	94.04	93.54	93.23	105.88	104.80	106.03	25.83	23.02	17.46
Russell 1000 Growth Index													25.86	23.00	17.17
Allspring Growth Inst (SGRNX)	1.14	1.13	1.14	-6.64	-3.80	-4.32	93.69	100.82	95.71	122.62	118.71	120.58	30.78	27.18	20.71
Large Growth Median	0.98	0.98	0.99	-1.92	-1.65	-1.36	94.73	94.32	93.70	104.47	103.04	103.43	25.83	23.02	17.46
Russell 3000 Growth Index													26.00	23.18	17.33
Amana Growth Institutional (AMIGX)	0.99	1.01	0.98	4.54	4.44	1.82	115.88	115.51	105.07	97.25	92.22	90.89	23.38	21.01	15.72
Large Growth Median	1.07	1.08	1.08	-2.45	-1.31	-1.10	100.02	102.69	101.21	111.69	107.40	106.39	25.83	23.02	17.46
S&P 500 Index													22.74	20.08	15.14
JHancock Disciplined Value Mid Cap R6 (JVMRX)	0.97	0.98	0.97	1.93	1.18	1.76	101.00	100.53	102.85	92.72	93.97	90.67	27.59	23.76	17.86
Mid-Cap Value Median	1.00	1.01	1.01	0.74	0.27	-0.57	100.50	100.53	98.45	97.06	98.75	99.98	28.77	24.50	18.54
Russell Midcap Value Index													28.36	24.08	18.17
TIAA-CREF Mid-Cap Value Instl (TIMVX)	1.01	1.02	1.01	-1.24	-1.20	-1.38	96.88	97.09	94.75	101.66	102.58	102.60	28.81	24.76	18.54
Russell Midcap Value Index													28.36	24.08	18.17
Mid-Cap Value Median	1.00	1.01	1.01	0.74	0.27	-0.57	100.50	100.53	98.45	97.06	98.75	99.98	28.77	24.50	18.54
Vanguard Mid Cap Index Admiral (VIMAX)	1.00	1.00	1.00	-0.01	-0.02	-0.03	99.93	99.90	99.82	99.99	99.99	100.02	27.07	23.50	17.62
Mid-Cap Blend Median	0.98	0.99	1.00	0.18	-0.85	-1.07	98.31	95.65	95.59	98.82	100.01	104.55	27.22	23.50	18.06
CRSP U.S. Mid Cap TR Index													27.08	23.51	17.63
TIAA-CREF Mid-Cap Growth Instl (TRPWX)	1.11	1.11	1.11	-3.51	-3.64	-3.37	101.10	101.96	97.94	116.18	120.51	119.14	32.31	28.52	21.27
Mid-Cap Growth Median	0.99	0.99	0.99	0.27	-0.09	-0.56	95.60	98.31	96.85	94.35	99.70	99.61	29.01	25.66	19.48
Russell Midcap Growth Index													28.88	25.36	18.92

	Beta			Alpha			Up Market			Down Market			Standard Deviation		
	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs
Royce Small-Cap Opportunity Instl (ROFIX)	1.17	1.18	1.16	6.81	3.25	1.42	137.76	129.68	120.81	116.03	116.25	112.02	40.54	34.44	26.21
Small Value Median	0.99	0.99	0.99	2.17	0.77	0.60	104.30	100.69	99.33	98.75	98.64	95.89	34.20	28.86	22.06
Russell 2000 Value Index													34.10	28.74	22.01
TIAA-CREF Small-Cap Blend Idx Inst (TISBX)	1.00	1.00	1.00	0.13	0.12	0.17	100.23	100.24	100.54	99.72	99.68	99.57	32.31	27.94	21.40
Small Blend Median	0.97	0.96	0.96	2.11	0.98	0.60	102.22	99.17	96.06	96.68	95.93	92.41	31.65	27.50	20.98
Russell 2000 Index													32.34	27.97	21.42
AB Small Cap Growth I (QUAIX)	1.03	1.06	1.05	0.79	3.58	1.63	103.21	118.53	113.51	99.61	104.06	107.80	34.24	31.19	24.02
Small Growth Median	0.97	0.97	0.96	2.66	3.09	1.21	102.24	105.83	99.70	91.32	93.61	93.61	31.98	28.57	21.88
Russell 2000 Growth Index													32.25	28.57	22.06
CREF Global Equities R3 (QCGLIX)	1.07	1.07	1.07	-0.61	-1.52	-1.40	103.04	99.27	98.99	105.06	106.07	107.64	24.79	21.69	16.39
World Large-Stock Blend Median	0.99	0.98	0.99	-1.30	-1.35	-1.19	94.52	91.22	92.15	102.02	99.66	100.18	23.17	20.02	15.56
MSCI World Index													23.10	20.09	15.26
Dodge & Cox International Stock (DODFX)	1.13	1.12	1.11	1.76	0.10	0.01	112.83	110.40	106.34	102.92	109.31	103.44	28.08	23.56	18.70
Foreign Large Value Median	1.08	1.06	1.06	0.39	-0.93	-1.05	107.82	102.43	98.48	102.83	107.31	105.13	26.33	22.00	17.40
MSCI EAFE (Net) Index													23.75	20.15	16.00
TIAA-CREF International Eq Idx Instl (TCIEX)	1.01	1.01	1.01	0.24	0.22	0.04	103.16	102.13	100.71	102.19	100.87	100.43	24.14	20.38	16.11
Foreign Large Blend Median	1.02	1.02	1.01	-0.07	-0.27	-0.44	104.38	102.84	100.49	105.94	106.71	104.58	24.53	20.95	16.59
MSCI EAFE (Net) Index													23.75	20.15	16.00
American Funds Europacific Growth R6 (RERGX)	1.11	1.11	1.08	0.19	0.87	1.34	111.05	112.05	112.19	110.07	106.20	100.97	27.08	23.02	17.86
Foreign Large Growth Median	1.03	1.04	1.03	0.40	1.30	1.17	107.15	110.25	110.59	107.67	104.07	101.70	25.61	22.13	17.39
MSCI AC World ex USA (Net)													23.82	20.18	16.04
DFA International Small Company I (DFISX)	1.00	1.02	1.01	0.18	0.14	0.81	102.50	103.79	104.60	102.20	103.41	99.34	28.97	24.72	19.39
Foreign Small/Mid Blend Median	0.98	0.99	0.99	-0.94	-0.56	0.21	98.31	98.51	102.29	103.42	105.37	101.68	28.44	24.18	19.20
MSCI AC World ex USA Small Cap (Net)													28.66	24.15	18.92
DFA Emerging Markets I (DFEMX)	1.05	1.03	1.01	2.15	1.04	0.40	106.08	102.02	100.58	95.94	95.78	97.18	26.27	21.92	18.14
Diversified Emerging Mkts Median	1.05	1.04	1.01	-0.14	-0.10	0.11	106.12	105.81	103.53	105.08	106.20	103.40	26.63	22.69	18.64
MSCI Emerging Markets (Net) Index													24.96	21.20	17.75
TIAA-CREF Real Estate Sec Instl (TIREX)	0.97	0.97	0.96	-0.02	0.48	0.44	100.10	100.36	98.88	100.68	98.36	96.46	22.99	20.11	15.85
Real Estate Median	0.99	1.00	1.00	-0.29	-0.61	-0.79	100.56	98.20	97.65	103.59	103.79	104.12	23.54	20.67	16.52
FTSE NAREIT All Equity REITs													23.37	20.51	16.24

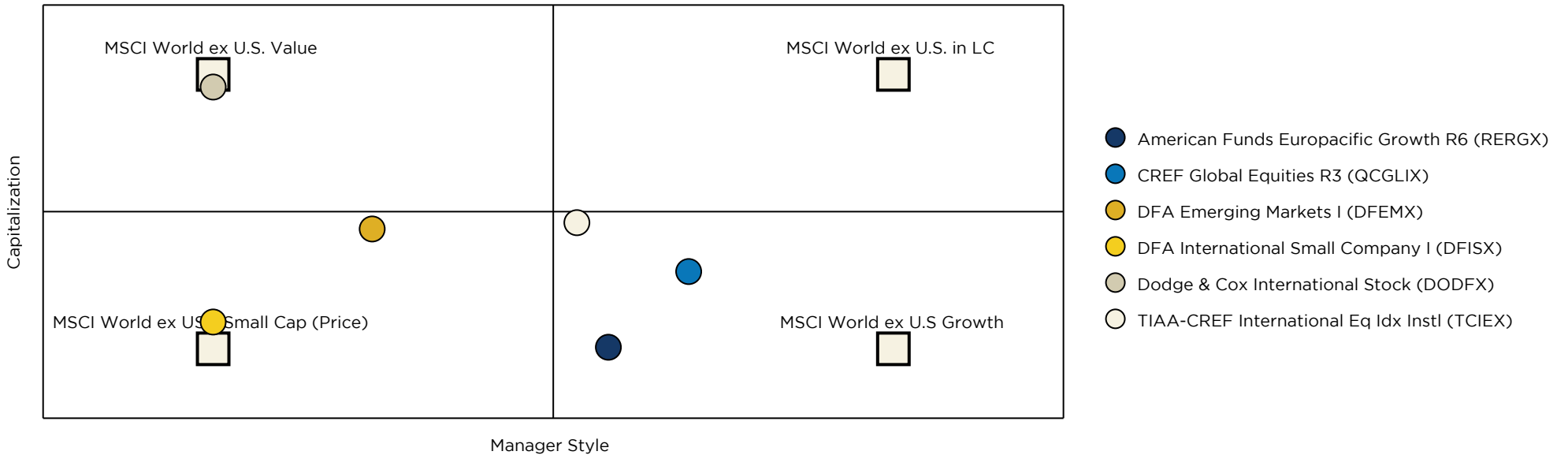
	Beta			Alpha			Up Market			Down Market			Standard Deviation		
	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs
TIAA Real Estate Account (QREARX)	0.78	0.77	0.76	1.11	0.94	0.48	86.38	86.80	80.95	72.01	72.01	72.01	5.80	4.57	3.46
NCREIF Fund Index-ODCE (VW) (Net)													7.29	5.73	4.22
CREF Social Choice R3 (QCSCIX)	1.05	1.03	1.03	0.08	0.10	-0.08	104.92	102.78	101.77	104.34	101.57	102.12	16.08	13.69	10.29
Allocation--50% to 70% Equity Median	1.02	1.03	1.04	0.44	-0.26	-0.46	105.47	102.26	102.37	102.40	103.10	105.00	16.03	13.85	10.62
40% BBg US Agg 42% R3000 18% MSCI EAFE + Can													15.36	13.27	9.98
T. Rowe Price Capital Appreciation (PRWCX)	1.02	1.02	1.02	3.29	2.93	2.49	114.89	112.79	114.61	90.39	85.93	83.56	15.46	13.52	10.11
Allocation--50% to 70% Equity Median	1.05	1.05	1.06	-0.92	-1.84	-2.05	101.53	94.95	93.67	108.77	109.23	113.18	16.03	13.85	10.62
40% BBg US Agg 60% SP500													14.85	12.99	9.71
CREF Stock R3 (QCSTIX)	1.03	1.04	1.03	-0.15	-0.50	-0.33	102.84	101.53	101.20	103.65	104.20	103.16	24.35	21.21	16.03
Allocation--85%+ Equity Median	0.99	0.99	0.99	-0.89	-1.03	-0.68	97.16	95.27	94.41	102.17	101.79	101.32	23.76	20.68	15.76
65% R3000 35% ACWI ex US													23.62	20.47	15.54
TIAA-CREF Lifecycle Retire Income Instl (TLRIX)	1.01	1.01	1.02	0.31	-0.09	0.04	94.07	94.15	99.21	89.47	91.98	94.84	11.83	10.11	7.69
Target-Date Retirement Median	0.85	0.88	0.84	-0.93	-0.67	-0.66	78.07	80.46	80.12	79.31	82.56	87.75	10.03	8.89	6.35
CREF Lifecycle Composite Income													11.33	9.72	7.33
TIAA-CREF Lifecycle 2010 Institutional (TCTIX)	1.02	1.03	1.04	0.30	-0.71	-0.38	94.98	94.47	99.30	90.38	100.30	102.35	11.80	10.13	7.81
Target-Date 2000-2010 Median	0.92	0.95	0.96	-0.38	-0.84	-0.45	84.12	85.85	89.82	87.40	96.16	95.53	10.57	9.33	7.18
CREF Lifecycle Composite 2010													11.22	9.44	7.23
TIAA-CREF Lifecycle 2015 Institutional (TCNIX)	1.01	1.01	1.02	0.43	-0.05	0.00	94.29	94.01	98.96	88.61	91.09	94.79	12.78	11.02	8.50
Target-Date 2015 Median	0.98	0.94	0.97	-0.06	-0.24	-0.21	88.35	87.93	93.61	89.00	88.75	92.52	12.45	10.50	8.12
CREF Lifecycle Composite 2015													12.27	10.61	8.10
TIAA-CREF Lifecycle 2020 Institutional (TCWIX)	1.01	1.01	1.02	0.44	-0.11	-0.06	93.99	94.00	98.32	88.43	91.64	94.27	13.87	12.03	9.32
Target-Date 2020 Median	0.94	0.93	0.96	-0.09	-0.30	-0.45	87.27	85.54	91.68	87.92	87.38	94.27	13.10	11.10	8.76
CREF Lifecycle Composite 2020													13.34	11.57	8.88
TIAA-CREF Lifecycle 2025 Institutional (TCYIX)	1.01	1.02	1.03	0.58	-0.08	-0.09	94.79	94.58	98.14	88.30	91.79	93.77	15.60	13.56	10.49
Target-Date 2025 Median	0.95	0.95	0.96	-0.23	-0.33	-0.52	87.24	87.48	90.26	86.55	88.61	92.34	14.77	12.76	9.86
CREF Lifecycle Composite 2025													14.94	12.98	9.97
TIAA-CREF Lifecycle 2030 Institutional (TCRIX)	1.01	1.02	1.03	0.72	-0.07	-0.15	95.27	94.94	98.07	88.06	91.83	93.93	17.40	15.18	11.73
Target-Date 2030 Median	0.98	0.98	0.99	0.11	-0.25	-0.59	90.11	91.13	93.23	87.12	89.65	93.93	16.91	14.53	11.22
CREF Lifecycle Composite 2030													16.62	14.46	11.09

	Beta			Alpha			Up Market			Down Market			Standard Deviation		
	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs
TIAA-CREF Lifecycle 2035 Institutional (TCIIX)	1.02	1.03	1.03	0.81	-0.08	-0.20	95.64	95.46	98.02	88.19	92.38	94.15	19.20	16.79	12.94
Target-Date 2035 Median	1.00	1.00	1.02	0.51	-0.17	-0.67	93.76	92.95	94.22	88.46	90.63	94.83	19.14	16.40	12.83
CREF Lifecycle Composite 2035													18.33	15.95	12.24
TIAA-CREF Lifecycle 2040 Institutional (TCOIX)	1.01	1.02	1.03	0.92	-0.05	-0.20	95.30	95.10	98.05	87.36	91.66	94.55	20.89	18.30	14.07
Target-Date 2040 Median	1.00	0.99	1.00	0.64	-0.10	-0.64	93.49	92.91	92.91	87.36	89.73	92.40	20.76	17.83	13.75
CREF Lifecycle Composite 2040													20.03	17.44	13.35
TIAA-CREF Lifecycle 2045 Institutional (TTFIX)	1.01	1.02	1.03	1.05	0.00	-0.18	95.22	95.26	97.95	86.88	91.50	94.33	22.43	19.65	14.96
Target-Date 2045 Median	0.97	0.97	0.98	0.58	-0.06	-0.53	91.14	90.85	91.83	84.96	87.66	90.61	21.77	18.86	14.30
CREF Lifecycle Composite 2045													21.63	18.78	14.24
TIAA-CREF Lifecycle 2050 Institutional (TFTIX)	1.00	1.02	1.02	1.09	0.02	-0.16	95.09	95.14	97.82	86.66	91.32	94.03	22.78	19.95	15.15
Target-Date 2050 Median	0.97	0.96	0.98	0.64	-0.03	-0.50	91.09	90.74	91.97	85.01	87.15	90.34	22.16	19.01	14.60
CREF Lifecycle Composite 2050													22.00	19.09	14.44
TIAA-CREF Lifecycle 2055 Institutional (TTRIX)	1.00	1.02	1.02	1.07	0.01	-0.16	94.88	94.93	97.61	86.58	91.11	93.88	22.99	20.14	15.28
Target-Date 2055 Median	0.97	0.96	0.97	0.64	-0.06	-0.38	91.11	90.26	91.77	84.49	86.88	89.47	22.43	19.24	14.52
CREF Lifecycle Composite 2055													22.26	19.32	14.60
TIAA-CREF Lifecycle 2060 Institutional (TLXNX)	1.00	1.01		1.11	0.04		94.56	94.79		86.07	90.80		23.20	20.34	
Target-Date 2060 Median	0.97	0.96		0.61	-0.10		90.97	89.76		84.37	86.28		22.76	19.34	
CREF Lifecycle Composite 2060													22.52	19.55	
TIAA-CREF Lifecycle 2065 Institutional (TSFTX)															
Target-Date 2065+ Median													22.83	20.03	
CREF Lifecycle Composite 2065															

Domestic Equity Style Analysis | Time Period: 5 Years



International Equity Style Analysis | Time Period: 5 Years





**Kansas Board of Regents
Voya Voluntary Plan Summary**



Asset Class Coverage

Domestic Equity			
	Value	Blend	Growth
Large	BlackRock Equity Dividend JPMorgan Equity Income	American Fds Fundamental Inv. Parnassus Core Equity Vanguard Institutional Index	Amana Growth Voya Large Cap Growth
Mid	American Century Mid Cap Value	Vanguard Mid Cap Index	Champlain Mid Cap
Small	American Beacon Small Cap Value	Vanguard Small Cap Index	Loomis Sayles Small Cap Growth
International Equity			
	Value	Blend	Growth
Large		Vanguard Total Intl Stock Idx.	American Fds EuroPacific Growth
Mid			
Small		Fidelity Adv. International Small Cap	
Emerging			Invesco Developing Markets
Global			VY Invesco Global
Domestic Fixed Income			
	Short	Intermediate	Long
High	Vanguard Treasury Money Market Voya Fixed Plus III	Fidelity U.S. Bond Index	American Funds Inflation Linked Bds
Medium		PIMCO Total Return	
Low	PGIM High Yield		
Other			
	Real Estate	Balanced	Foreign Bond
	Vanguard Real Estate Index	VY T. Rowe Price Cap. App. Vanguard Target Retirement Income, 2020 through 2070	Amana Participation Vanguard Total International Bd Idx.
	Other Sectors	Absolute Return	Self-Directed Brokerage

Gold = Passively Managed Index Funds

Navy = Actively Managed Funds

Plan Activity: Voya

July 1, 2022 - December 31, 2022

Fund	Beginning				Inter			Loan Issue	Loan Repay Principal	Loan Repay Interest	Investment Earnings	Ending Balance 12/31/2022	Diff b/t Beg. and Ending Bal
	Balance 7/1/2022	Contributions	Withdrawals	Exchanges	Vendor Transfers	Fees	Misc.						
Voya Fixed Plus Fund 4020	\$ 3,449,940	\$ 598,184	\$ (430,852)	\$ 347,011	\$ 171,326	\$ (531)	\$ -	\$ -	\$ 1,264	\$ 215	\$ 29,412	\$ 4,165,969	\$ 716,028
Vanguard Treasury Money Market Investor	527,307	47,277	(30,023)	15,849	5,088	(74)	(10,797)	-	-	-	7,464	562,092	34,785
Amana Participation Institutional	10,361	3,371	-	(1,817)	1	(1)	-	-	-	-	(86)	11,829	1,468
PIMCO Total Return Instl	436,023	59,460	(43,236)	(57,424)	65	(60)	117	-	102	30	(13,039)	382,038	(53,985)
Fidelity® US Bond Index	310,417	49,458	(34,667)	47,091	887	(40)	-	(64,752)	122	35	(9,417)	299,132	(11,284)
American Funds Inflation Linked Bd R6	455,074	60,936	(45,255)	(38,224)	83	(74)	-	-	177	52	(15,367)	417,402	(37,672)
PGIM High Yield R6	550,269	55,044	(42,825)	(5,599)	74,340	(85)	-	-	16	6	14,796	645,962	95,693
Vanguard Total Intl Bd Idx Admiral™	152,950	30,497	(273)	(2,841)	28	(21)	-	-	-	-	(5,618)	174,721	21,771
Blackrock Equity Dividend Instl	611,916	50,076	(926)	(1,853)	177	(87)	-	-	-	-	32,640	691,943	80,027
JPMorgan Equity Income R5	843,314	140,694	(130,625)	51,776	35,011	(159)	-	-	278	80	71,144	1,011,514	168,200
American Funds Fundamental Invs R6	605,023	150,398	(24,607)	(3,217)	57,123	(103)	-	-	573	67	37,740	822,997	217,974
Vanguard Institutional Index I	1,844,509	347,995	(30,325)	28,990	194,240	(300)	(108)	-	1,662	316	51,104	2,438,082	593,573
Parnassus Core Equity Institutional	661,920	137,068	(122,394)	(44,001)	2,382	(125)	2	-	607	156	13,912	649,526	(12,395)
Amana Growth Institutional	444,308	106,801	(97,491)	7,616	4,816	(92)	-	-	297	85	27,282	493,622	49,314
Voya Large Cap Growth Port I	1,723,963	394,403	(42,307)	(130,043)	62,624	(270)	205	-	564	125	(38,884)	1,970,380	246,417
American Century Mid Cap Value I	482,890	51,890	(3,752)	(11,171)	3,522	(69)	(121)	-	-	-	37,631	560,820	77,930
Vanguard Mid Cap Index Institutional	609,165	119,681	(12,638)	20,150	2,731	(105)	(52)	-	282	62	27,316	766,592	157,427
Champlain Mid Cap Institutional	927,491	180,157	(88,937)	(69,451)	51,696	(162)	-	-	841	181	24,494	1,026,309	98,818
American Beacon Small Cp Val R5	313,507	57,073	(8,399)	11,590	3,048	(51)	(88)	-	-	-	28,618	405,299	91,792
Vanguard Small Cap Index I	791,159	146,519	(8,061)	(37,405)	29,533	(120)	(14)	-	191	22	39,817	961,642	170,483
Loomis Sayles Small Cap Growth Instl	559,746	114,178	(41,376)	(41,009)	17,822	(109)	-	-	560	133	46,073	656,017	96,271
VY® Invesco Global I	729,699	142,229	(75,000)	(53,981)	47,750	(129)	-	-	914	179	(708)	790,953	61,254
Vanguard Total Intl Stock Index Admiral	601,444	82,601	(963)	7,698	3,085	(88)	37	-	-	-	20,269	714,083	112,639
American Funds Europacific Growth R6	359,990	89,842	(3,992)	11,151	72	(58)	93	-	-	-	16,204	473,303	113,313
Fidelity Advisor® Intl Small Cap Z	194,823	22,941	(2,166)	(16,096)	617	(25)	-	-	-	-	6,152	206,245	11,422
Invesco Developing Markets R6	273,572	61,442	(27,014)	(1,487)	1,709	(45)	-	-	90	26	3,797	312,090	38,518
Vanguard Real Estate Index Institutional	344,849	62,174	(48,406)	1,798	66	(51)	208	-	94	27	(24,816)	335,942	(8,907)
VY® T. Rowe Price Capital Apprec I	4,291,876	720,340	(200,250)	(149,972)	417,631	(703)	(482)	-	1,372	260	120,962	5,201,034	909,158
Vanguard Target Retirement Income Fund	7,438	3,715	-	1,035	1	(1)	-	-	-	-	(116)	12,072	4,634
Vanguard Target Retirement 2015 Fund	1,031	-	-	(1,035)	-	-	-	-	-	-	4	-	(1,031)
Vanguard Target Retirement 2020 Fund	103,245	16,976	-	(144)	15	(15)	-	-	-	-	(403)	119,675	16,429
Vanguard Target Retirement 2025 Fund	404,159	104,216	(995)	97,693	24	(68)	-	-	-	-	93	605,121	200,962
Vanguard Target Retirement 2030 Fund	99,628	50,406	(2,279)	4,908	5	(17)	-	-	-	-	228	152,878	53,251
Vanguard Target Retirement 2035 Fund	1,106,952	173,086	(247,767)	22,214	1,385	(130)	-	-	-	-	(1,027)	1,054,713	(52,239)
Vanguard Target Retirement 2040 Fund	193,902	14,724	(883)	-	0	(27)	-	-	-	-	2,750	210,468	16,566
Vanguard Target Retirement 2045 Fund	1,348,787	202,578	-	(3,313)	2	(196)	-	-	6,859	25	26,374	1,581,116	232,329
Vanguard Target Retirement 2050 Fund	219,401	135,299	-	(6,177)	2	(138)	-	-	126	51	3,683	352,248	132,846
Vanguard Target Retirement 2055 Fund	146,746	90,219	-	(510)	504	(28)	-	-	-	-	2,070	239,000	92,254
Vanguard Target Retirement 2060 Fund	16,676	4,313	(7,745)	-	0	(2)	-	-	-	-	689	13,932	(2,743)
Vanguard Target Retirement 2065 Fund	165,975	59,403	(893)	198	4	(27)	-	-	-	-	3,624	228,285	62,309
Totals	\$ 26,921,446	\$ 4,937,663	\$ (1,857,320)	\$ 0	\$ 1,189,413	\$ (4,387)	\$ (11,001)	\$ (64,752)	\$ 16,987	\$ 2,133	\$ 586,862	\$ 31,717,044	\$ 4,795,598

*Note: The Vanguard Target Retirement Inv series underwent a share class change in July 2021 to the Institutional share class. Effective February 11, 2022, those share classes were consolidated into one share class.

Performance: Voya

July 1, 2022 - December 31, 2022

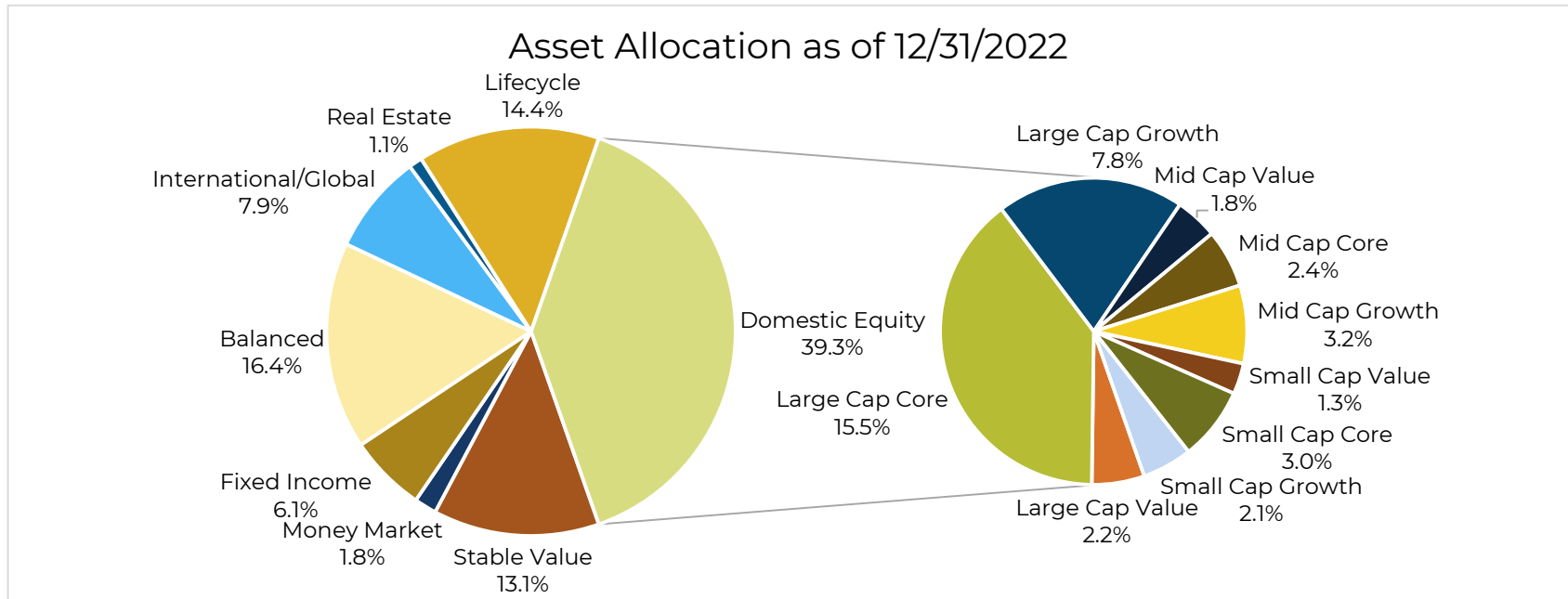
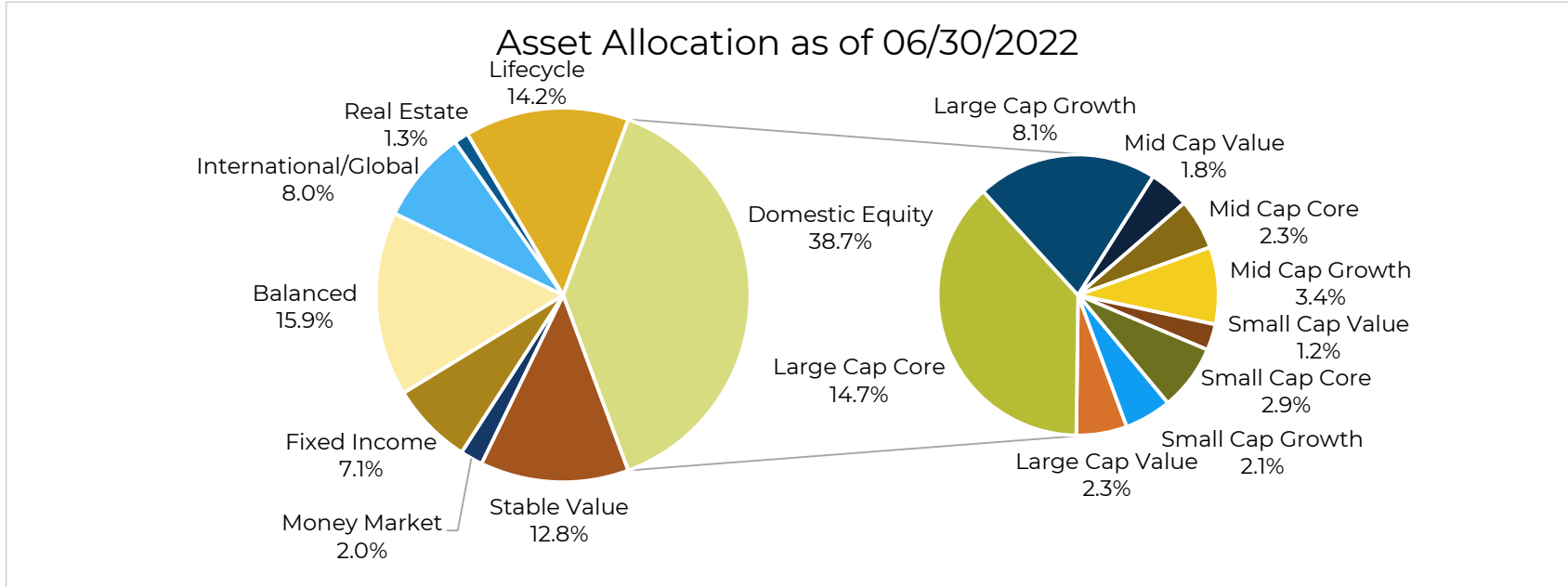
Fund	Beginning Balance: 7/1/2022	Ending Balance: 12/31/2022	Six Month Return
Voya Fixed Plus Fund 4020	\$ 3,449,940	\$ 4,165,969	0.72%
Vanguard Treasury Money Market Investor	\$ 527,307	\$ 562,092	1.34%
Amana Participation Institutional	\$ 10,361	\$ 11,829	-0.34%
PIMCO Total Return Instl	\$ 436,023	\$ 382,038	-3.14%
Fidelity® US Bond Index	\$ 310,417	\$ 299,132	-3.09%
American Funds Inflation Linked Bd R6	\$ 455,074	\$ 417,402	-3.46%
PGIM High Yield R6	\$ 550,269	\$ 645,962	2.24%
Vanguard Total Intl Bd Idx Admiral™	\$ 152,950	\$ 174,721	-3.32%
Blackrock Equity Dividend Instl	\$ 611,916	\$ 691,943	5.06%
JPMorgan Equity Income R5	\$ 843,314	\$ 1,011,514	7.68%
American Funds Fundamental Invs R6	\$ 605,023	\$ 822,997	5.21%
Vanguard Institutional Index I	\$ 1,844,509	\$ 2,438,082	2.29%
Parnassus Core Equity Institutional	\$ 661,920	\$ 649,526	2.09%
Amana Growth Institutional	\$ 444,308	\$ 493,622	5.50%
Voya Large Cap Growth Port I	\$ 1,723,963	\$ 1,970,380	-1.68%
American Century Mid Cap Value I	\$ 482,890	\$ 560,820	7.37%
Vanguard Mid Cap Index Institutional	\$ 609,165	\$ 766,592	4.50%
Champlain Mid Cap Institutional	\$ 927,491	\$ 1,026,309	2.71%
American Beacon Small Cp Val R5	\$ 313,507	\$ 405,299	8.89%
Vanguard Small Cap Index I	\$ 791,159	\$ 961,642	5.16%
Loomis Sayles Small Cap Growth Instl	\$ 559,746	\$ 656,017	8.33%
VY® Invesco Global I	\$ 729,699	\$ 790,953	-0.10%
Vanguard Total Intl Stock Index Admiral	\$ 601,444	\$ 714,083	2.62%
American Funds Europacific Growth R6	\$ 359,990	\$ 473,303	3.17%
Fidelity Advisor® Intl Small Cap Z	\$ 194,823	\$ 206,245	2.55%
Invesco Developing Markets R6	\$ 273,572	\$ 312,090	0.54%
Vanguard Real Estate Index Institutional	\$ 344,849	\$ 335,942	-7.13%
VY® T. Rowe Price Capital Apprec I	\$ 4,291,876	\$ 5,201,034	2.72%
Vanguard Target Retirement Income Fund	\$ 7,438	\$ 12,072	-1.08%
Vanguard Target Retirement 2020 Fund	\$ 103,245	\$ 119,675	-0.41%
Vanguard Target Retirement 2025 Fund	\$ 404,159	\$ 605,121	0.10%
Vanguard Target Retirement 2030 Fund	\$ 99,628	\$ 152,878	0.47%
Vanguard Target Retirement 2035 Fund	\$ 1,106,952	\$ 1,054,713	0.90%
Vanguard Target Retirement 2040 Fund	\$ 193,902	\$ 210,468	1.35%
Vanguard Target Retirement 2045 Fund	\$ 1,348,787	\$ 1,581,116	1.80%
Vanguard Target Retirement 2050 Fund	\$ 219,401	\$ 352,248	1.98%
Vanguard Target Retirement 2055 Fund	\$ 146,746	\$ 239,000	2.00%
Vanguard Target Retirement 2060 Fund	\$ 16,676	\$ 13,932	1.99%
Vanguard Target Retirement 2065 Fund	\$ 165,975	\$ 228,285	2.03%
Totals/Weighted Average Return	\$ 26,921,446	\$ 31,717,044	2.17%
Weighted Average Variable Funds Return			2.39%
Weighted Average Fixed Income Return			0.72%

Fee Analysis: Voya

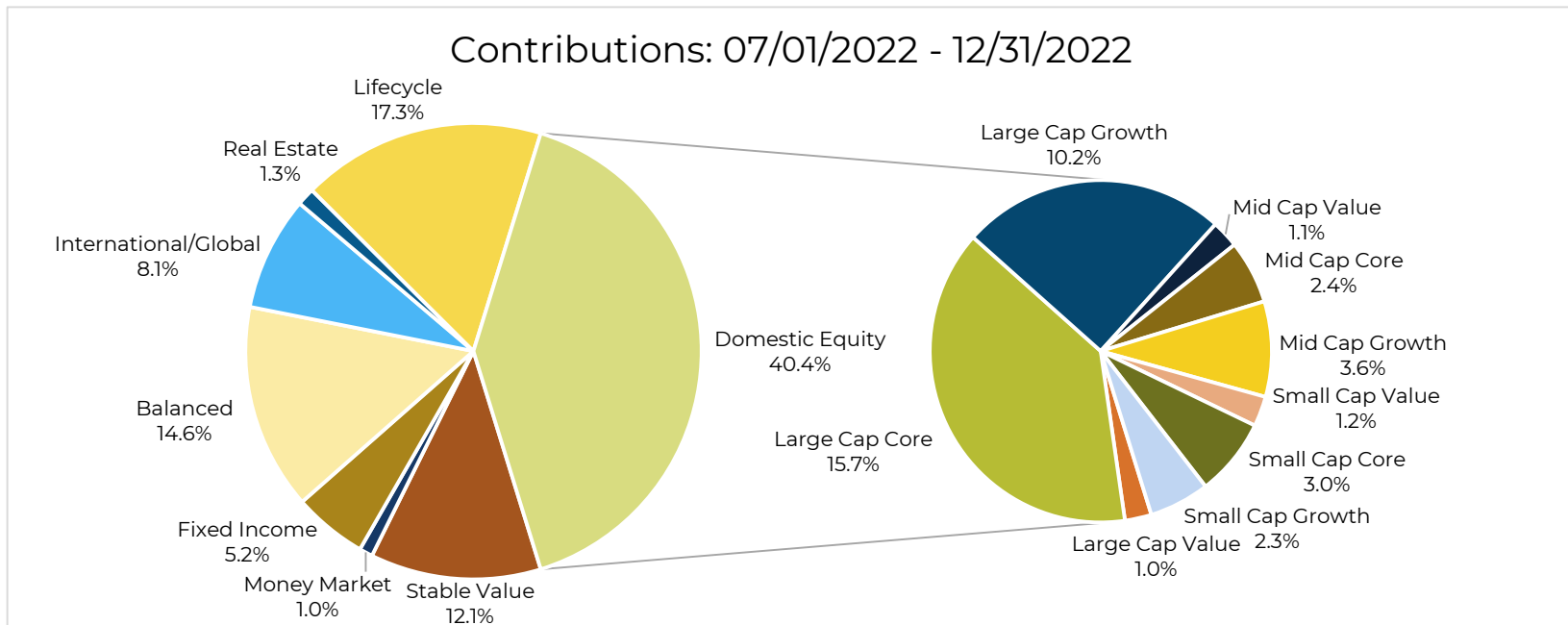
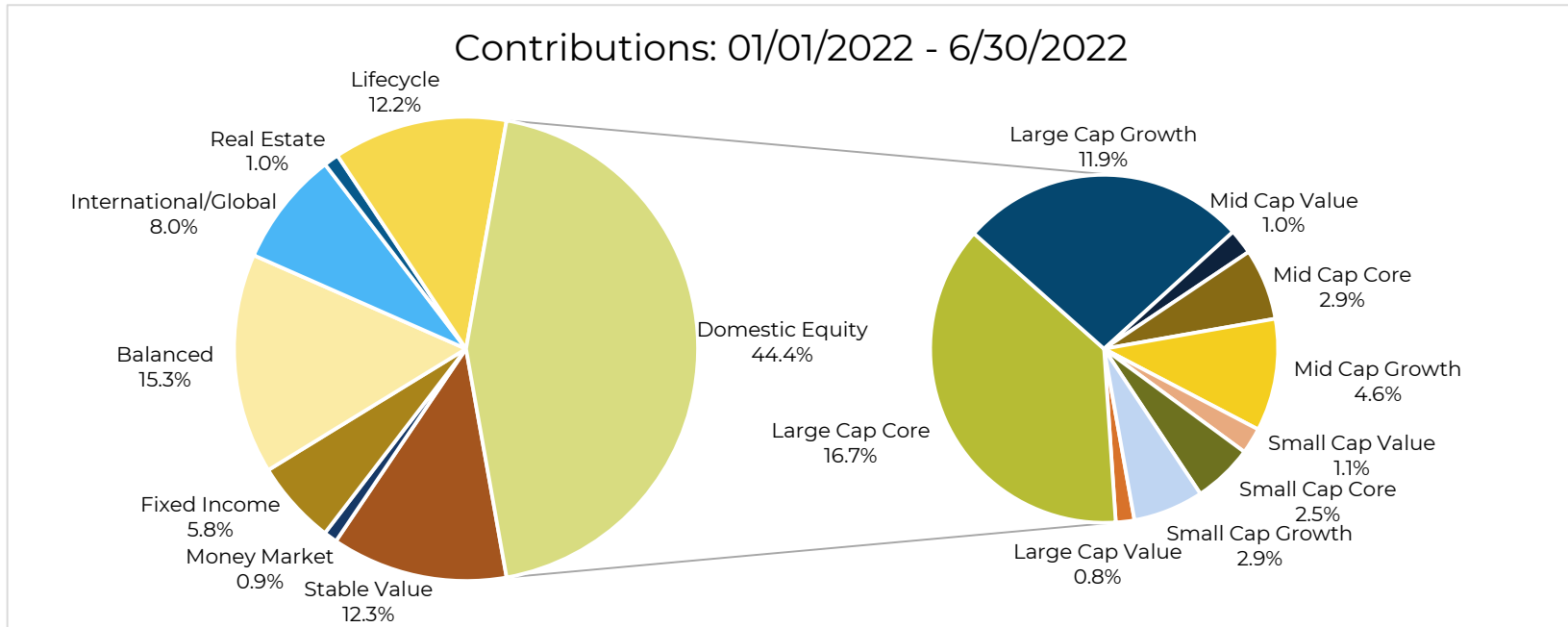
July 1, 2022 - December 31, 2022

Fund	Ticker	Percent of Balance	Expense Ratio
Voya Fixed Plus Fund 4020	-	13.1%	0.29%
Vanguard Treasury Money Market Investor	VUSXX	1.8%	0.09%
Amana Participation Institutional	AMIPX	0.0%	0.56%
PIMCO Total Return Instl	PTTRX	1.2%	0.46%
Fidelity® US Bond Index	FXNAX	0.9%	0.03%
American Funds Inflation Linked Bd R6	RILFX	1.3%	0.30%
PGIM High Yield R6	PHYQX	2.0%	0.38%
Vanguard Total Intl Bd Idx Admiral™	VTABX	0.6%	0.11%
Blackrock Equity Dividend Instl	MADVX	2.2%	0.68%
JPMorgan Equity Income R5	OIERX	3.2%	0.55%
American Funds Fundamental Invs R6	RFNGX	2.6%	0.28%
Vanguard Institutional Index I	VINIX	7.7%	0.04%
Parnassus Core Equity Institutional	PRILX	2.0%	0.61%
Amana Growth Institutional	AMIGX	1.6%	0.64%
Voya Large Cap Growth Port I	IEOHX	6.2%	0.67%
American Century Mid Cap Value I	AVUAX	1.8%	0.77%
Vanguard Mid Cap Index Institutional	VMCIX	2.4%	0.04%
Champlain Mid Cap Institutional	CIPIX	3.2%	0.84%
American Beacon Small Cp Val R5	AVFIX	1.3%	0.81%
Vanguard Small Cap Index I	VSCIX	3.0%	0.04%
Loomis Sayles Small Cap Growth Instl	LSSIX	2.1%	0.92%
VY® Invesco Global I	IGMIX	2.5%	0.80%
Vanguard Total Intl Stock Index Admiral	VTIAX	2.3%	0.11%
American Funds Europacific Growth R6	RERGX	1.5%	0.46%
Fidelity Advisor® Intl Small Cap Z	FIQIX	0.7%	0.89%
Invesco Developing Markets R6	ODVIX	1.0%	0.81%
Vanguard Real Estate Index Institutional	VGSNX	1.1%	0.10%
VY® T. Rowe Price Capital Apprec I	ITRIX	16.4%	0.64%
Vanguard Target Retirement Income Fund	VTINX	0.0%	0.08%
Vanguard Target Retirement 2020 Fund	VTWNX	0.4%	0.08%
Vanguard Target Retirement 2025 Fund	VTTVX	1.9%	0.08%
Vanguard Target Retirement 2030 Fund	VTHRX	0.5%	0.08%
Vanguard Target Retirement 2035 Fund	VTTHX	3.3%	0.08%
Vanguard Target Retirement 2040 Fund	VFORX	0.7%	0.08%
Vanguard Target Retirement 2045 Fund	VTIVX	5.0%	0.08%
Vanguard Target Retirement 2050 Fund	VFIFX	1.1%	0.08%
Vanguard Target Retirement 2055 Fund	VFFVX	0.8%	0.08%
Vanguard Target Retirement 2060 Fund	VTTSX	0.0%	0.08%
Vanguard Target Retirement 2065 Fund	VLXVX	0.7%	0.08%
Totals/Weighted Average Expense Ratio		100%	0.397%
Weighted Average Expense Ratio ex- Voya Fixed Account			0.414%

Asset Allocation: Voya



Contributions by Asset Class: Voya



Number of Participants: Voya

July 1, 2022 - December 31, 2022

Fund	Number of Participants
Voya Fixed Plus Fund 4020	339
Vanguard Treasury Money Market Investor	22
Amana Participation Institutional	4
PIMCO Total Return Instl	100
Fidelity® US Bond Index	74
American Funds Inflation Linked Bd R6	86
PGIM High Yield R6	120
Vanguard Total Intl Bd Idx Admiral™	59
Blackrock Equity Dividend Instl	63
JPMorgan Equity Income R5	243
American Funds Fundamental Invs R6	177
Vanguard Institutional Index I	350
Parnassus Core Equity Institutional	178
Amana Growth Institutional	122
Voya Large Cap Growth Port I	499
American Century Mid Cap Value I	113
Vanguard Mid Cap Index Institutional	243
Champlain Mid Cap Institutional	402
American Beacon Small Cp Val R5	131
Vanguard Small Cap Index I	282
Loomis Sayles Small Cap Growth Instl	274
VY® Invesco Global I	322
Vanguard Total Intl Stock Index Admiral	155
American Funds Europacific Growth R6	202
Fidelity Advisor® Intl Small Cap Z	70
Invesco Developing Markets R6	201
Vanguard Real Estate Index Institutional	204
VY® T. Rowe Price Capital Apprec I	683
Vanguard Target Retirement Income Fund	3
Vanguard Target Retirement 2020 Fund	5
Vanguard Target Retirement 2025 Fund	26
Vanguard Target Retirement 2030 Fund	12
Vanguard Target Retirement 2035 Fund	54
Vanguard Target Retirement 2040 Fund	8
Vanguard Target Retirement 2045 Fund	74
Vanguard Target Retirement 2050 Fund	23
Vanguard Target Retirement 2055 Fund	21
Vanguard Target Retirement 2060 Fund	6
Vanguard Target Retirement 2065 Fund	14

Total Unique Participants

1,265



Fiduciary Scorecard

Fund Name	Mgmt.	Operations	Style	Near-Term Result	Long-Term Return	Long-Term Alpha	Long-Term Up Mkt.	Long-Term Down Mkt.	Long-Term Sharpe	Overall Long-Term Result
Vanguard Treasury Money Market Inv (VUSXX)	Pass	Pass	Pass	✓	✓	✓	✓		✓	✓
Voya Fixed Plus Account III	Pass	Pass	Pass	✓	✓					✓
Fidelity US Bond Index (FXNAX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
PIMCO Total Return Instl (PTTRX)	Note	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
American Funds Inflation Linked Bond R6 (RILFX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
PGIM High Yield R6 (PHYQX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Vanguard Total Intl Bd Idx Adm (VTABX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Amana Participation Institutional (AMIPX)	Pass	Pass	Pass	✓	✓					✓
BlackRock Equity Dividend Instl (MADVX)	Pass	Pass	Pass	✓	✓	✓	✗	✓	✓	✓
JPMorgan Equity Income R5 (OIERX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
American Funds Fundamental Invs R6 (RFNGX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Parnassus Core Equity Institutional (PRILX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Vanguard Institutional Index I (VINIX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Amana Growth Institutional (AMIGX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Voya Large Cap Growth Port I (IEOHX)	Note	Pass	Pass	✓	✓	✓	✗	✓	✓	✓
American Century Mid Cap Value I (AVUAX)	Note	Pass	Pass	✓	✓	✓	✗	✓	✓	✓
Vanguard Mid Cap Index Institutional (VMCIX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Champlain Mid Cap Institutional (CIPIX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
American Beacon Small Cp Val Inst (AVFIX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Vanguard Small Cap Index I (VSCIX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Loomis Sayles Small Cap Growth Instl (LSSIX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
VY Invesco Global I (IGMIX)	Pass	Pass	Pass	✗	✓	✗	✓	✗	✗	✗
Vanguard Total Intl Stock Idx Adml (VTIAX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
American Funds Europacific Growth R6 (RERGX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Fidelity Advisor Intl Small Cap Z (FIQIX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Invesco Developing Markets R6 (ODVIX)	Pass	Pass	Pass	✗	✓	✓	✓	✓	✓	✓
VY T. Rowe Price Capital Apprec I (ITRIX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Vanguard Real Estate Index Inst (VGSNX)	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓
Vanguard Target Retirement Fund Series	Pass	Pass	Pass	✓	✓	✓	✓	✓	✓	✓



Fiduciary Scorecard

- ✓ Indicates the fund passes IPS criteria.
- ✗ Indicates the fund fails the IPS criteria.

Scorecard Definitions

Qualitative Factors

Management: An evaluation of an investment's organization and/or personnel. A fund is flagged if manager tenure is less than 3 months during the trailing three months as of current quarter-end.

Operations: An evaluation of an investment's asset size and change. A fund is flagged if there are very large increases or decreases in asset size during the trailing three months as of current quarter-end.

Style: An evaluation of an investment's style, philosophy and/or consistency. A fund is flagged if its current style does not match its designated style and/or has exhibited traits of style inconsistency with historical metrics.

Near-Term Result : An evaluation of relative performance to the investment's designated peer group. A three-year period or a time period that more appropriately represents the Designated Investment Alternative's investment style is typically used. A fund is flagged if it falls in the bottom decile for the trailing three-year period as of the current quarter-end.

Long-Term Performance : A ten-year period of the performance measures will typically be used. A fund is flagged if it falls in the bottom quartile during the trailing ten-year period as of current quarter-end.

Return: An evaluation of relative performance to the investment's designated peer group.

Alpha: An evaluation of risk-adjusted return relative to the investment's designated peer group.

Up Market: An evaluation of return relative to the investment's designated peer group in positive market periods.

Down Market: An evaluation of return relative to the investment's designated peer group in negative market periods.

Sharpe Ratio: An evaluation of the Sharpe ratio (return per unit of risk) relative to the investment's designated peer group.

Overall Long-Term Result : Aggregate evaluation of relative performance to the investment's designated peer group across factors including return, alpha, up market capture, down market capture and Sharpe ratio. A fund is flagged if it falls in the bottom quartile during the trailing ten-year period as of current quarter-end

PIMCO Total Return

As reported last quarter, co-manager Scott Mather took a leave of absence and was removed as a portfolio manager of the fund, leaving two senior co-portfolio managers on the strategy. Further bolstering the team was the coinciding additions of PIMCO's Group Chief Investment Officer Dan Ivascyn and CIO of Portfolio Implementation Qi Wang. Despite recent changes to the portfolio management team, PIMCO Total Return's strategy and objectives are not expected to change. PIMCO's flagship fund provides investors with risk-aware exposure to core, diversified fixed income driven by the firm's macroeconomic viewpoints. Over the past 10 years, the fund has performed in line with the Bloomberg Aggregate Index on a net-of-fee basis, but its underweight exposure to U.S. corporate credit was a source of detractor relative to the intermediate core-plus bond peer group. *4Q 2022*

Advisor Recommendation: No Action

American Funds Fundamental Invs

American Funds Fundamental Investors is a flexible growth-and-income fund that has a Morningstar Analyst Rating of Silver for its cheapest share classes and Bronze for its pricier shares. The fund's management team has experienced several changes recently, but it is expected to be stable going forward due to the experience of the managers and American's track record of finding the right talent mix. The fund has the flexibility to invest up to 35% of its assets in non-U.S. stocks and its income target is focused on matching the yield of the S&P 500, allowing it to own non-dividend-paying stocks. The fund's managers have a flexible mandate and invest without regard to the index, which can lead to differentiated performance. The fund has the ability to invest abroad, which has been a headwind recently but could become a tailwind in the future. The fund has a good chance to rebound from its recent slump and build on its 20-year record due to its flexible mandate and Capital Group's multimanager approach, which allows the managers to play to their strengths and invest in their best ideas. The fund has a wide-ranging portfolio and a good track record of outperforming its peers over the long term. *4Q 2022*

Advisor Recommendation: No Action

Voya Large Cap Growth Port

American Century Mid Cap Value

As previously announced, Phil Davidson stepped off the management team of this fund at the end of the year and will retire in March 2023. Davidson was formerly head of the value team at American Century and had been a manager on the fund since its inception in 2004. He has been handing off duties to successor Kevin Toney for several years, including the lead manager role in 2018. This change was well-telegraphed, and the average manager tenure on the fund following Davidson's departure remains well over a decade. *4Q 2022*

Advisor Recommendation: No Action

Invesco Developing Markets

The strategy's manager, Justin Leverenz, has admitted that he underestimated the likelihood of Russia's invasion of Ukraine and will give more consideration to concentration risk in the future. Leverenz's style involves heavily overweighting individual stocks and countries, which can lead to strong performance but also cause problems. Despite the recent setbacks, Leverenz has a long record of success, and the strategy has outperformed both its benchmark and the Morningstar category average over the past 15 years. The fund's process sets it apart from other emerging markets funds thanks to its unconventional, forward-thinking, growth-oriented approach. *4Q 2022*

Advisor Recommendation: Watch

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This information reflects subjective judgments and assumptions, and unexpected events may occur. Therefore, there is no assurance that developments will transpire as forecasted. We do not suggest that any strategy described herein is applicable to every client of or portfolio managed by ACG. In preparing this material, ACG has not considered the investment objectives, financial situation or needs of any person. Before making an investment decision, you should discuss this material with your advisor. Past performance is not indicative of future results.



Performance Summary - Trailing Returns

	Allocation		Performance (%) as of 12/31/2022					Net Expense Ratio
	Market Value (\$000)	%	1 Quarter	1 Year	3 Years	5 Years	10 Years	
Total Plan -- Voya Voluntary	31,717	100.0	-	-	-	-	-	0.36
Vanguard Treasury Money Market Inv (VUSXX)	562	1.8	0.86 (18)	1.50 (14)	0.66 (5)	1.18 (3)	0.70 (2)	0.09
+/- Blmbg. U.S. Treasury Bills: 1-3 Months			-0.03	-0.02	-0.04	-0.04	-0.03	-
Money Market-Taxable Median			0.81	1.34	0.54	0.99	0.54	0.37
Voya Fixed Plus Account III	4,166	13.1	0.35	1.41	1.62	1.84	2.17	-
+/- Ryan 3 Yr GIC Master Index			-0.07	-0.05	-0.23	-0.14	0.56	-
Fidelity US Bond Index (FXNAX)	299	0.9	1.68 (45)	-13.03 (29)	-2.72 (45)	-0.02 (38)	1.01 (42)	0.03
+/- Blmbg. U.S. Aggregate Index			-0.19	-0.02	-0.01	-0.04	-0.05	-
Intermediate Core Bond Median			1.64	-13.44	-2.78	-0.12	0.94	0.55
PIMCO Total Return Instl (PTTRX)	382	1.2	1.77 (54)	-14.09 (59)	-2.48 (46)	0.03 (52)	1.11 (61)	0.46
+/- Blmbg. U.S. Aggregate Index			-0.10	-1.08	0.23	0.01	0.05	-
Intermediate Core-Plus Bond Median			1.81	-13.84	-2.57	0.05	1.24	0.64
American Funds Inflation Linked Bond R6 (RILFX)	417	1.3	2.22 (30)	-11.63 (49)	1.91 (24)	2.42 (17)	1.54 (4)	0.30
+/- Bloomberg U.S. TIPS Index			0.18	0.22	0.70	0.31	0.42	-
Inflation-Protected Bond Median			1.97	-11.65	1.22	1.91	0.89	0.56
PGIM High Yield R6 (PHYQX)	646	2.0	3.67 (73)	-11.55 (69)	-0.15 (40)	2.72 (12)	4.34 (7)	0.38
+/- Blmbg U.S. High Yield 1% Issuer Cap Index			-0.50	-0.44	-0.03	0.55	0.38	-
High Yield Bond Median			3.97	-10.82	-0.48	1.68	3.24	0.83
Vanguard Total Intl Bd Idx Adm (VTABX)	175	0.6	-0.01 (90)	-12.92 (65)	-3.81 (80)	-0.23 (59)	-	0.11
+/- Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)			-0.09	-0.20	-0.18	-0.19	-	-
World Bond-USD Hedged Median			1.13	-12.35	-3.11	-0.14	-	0.66
Amana Participation Institutional (AMIPX)	12	0.0	1.34	-4.64	0.44	1.64	-	0.56
+/- FTSE Sukuk			-1.13	3.55	0.12	-0.68	-	-
BlackRock Equity Dividend Instl (MADVX)	692	2.2	12.03 (68)	-3.98 (34)	6.30 (64)	7.29 (45)	10.14 (53)	0.68
+/- Russell 1000 Value Index			-0.39	3.56	0.34	0.62	-0.15	-
Large Value Median			12.76	-5.53	6.96	7.10	10.21	0.86
JPMorgan Equity Income R5 (OIERX)	1,012	3.2	12.96 (46)	-1.74 (17)	8.51 (21)	9.11 (9)	11.92 (9)	0.55
+/- Russell 1000 Value Index			0.54	5.80	2.55	2.44	1.63	-
Large Value Median			12.76	-5.53	6.96	7.10	10.21	0.86

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Performance Summary - Trailing Returns

	Allocation		Performance (%) as of 12/31/2022					Net Expense Ratio
	Market Value (\$000)	%	1 Quarter	1 Year	3 Years	5 Years	10 Years	
American Funds Fundamental Invs R6 (RFNGX)	823	2.6	10.91 (17)	-16.40 (36)	5.81 (79)	7.27 (76)	11.49 (55)	0.28
+/- S&P 500 Index			3.35	1.71	-1.85	-2.15	-1.07	-
Large Blend Median			7.96	-18.12	7.11	8.57	11.62	0.75
Parnassus Core Equity Institutional (PRILX)	650	2.0	9.64 (31)	-18.45 (58)	8.19 (20)	10.66 (4)	12.64 (10)	0.61
+/- S&P 500 Index			2.08	-0.34	0.53	1.24	0.08	-
Large Blend Median			7.96	-18.12	7.11	8.57	11.62	0.75
Vanguard Institutional Index I (VINIX)	2,438	7.7	7.55 (59)	-18.14 (51)	7.64 (32)	9.40 (21)	12.53 (12)	0.04
+/- S&P 500 Index			-0.01	-0.03	-0.02	-0.02	-0.03	-
Large Blend Median			7.96	-18.12	7.11	8.57	11.62	0.75
Amana Growth Institutional (AMIGX)	494	1.6	11.49 (2)	-19.22 (7)	12.35 (1)	14.20 (1)	14.28 (7)	0.64
+/- S&P 500 Index			3.93	-1.11	4.69	4.78	1.72	-
Large Growth Median			2.98	-30.75	5.07	8.41	11.93	0.92
Voya Large Cap Growth Port I (IEOHX)	1,970	6.2	0.92 (72)	-30.50 (48)	2.83 (73)	7.30 (69)	11.75 (57)	0.67
+/- Russell 1000 Growth Index			-1.28	-1.36	-4.96	-3.66	-2.35	-
Large Growth Median			2.98	-30.75	5.07	8.41	11.93	0.92
American Century Mid Cap Value I (AVUAX)	561	1.8	13.68 (17)	-1.22 (7)	7.46 (38)	6.91 (29)	11.15 (8)	0.77
+/- Russell Midcap Value Index			3.23	10.81	1.64	1.19	1.04	-
Mid-Cap Value Median			11.95	-8.12	6.50	5.84	9.52	0.95
Vanguard Mid Cap Index Institutional (VMCIX)	767	2.4	9.01 (59)	-18.70 (81)	6.18 (49)	7.32 (26)	11.11 (12)	0.04
+/- CRSP U.S. Mid Cap TR Index			-0.02	-0.02	-0.01	-0.02	-0.02	-
Mid-Cap Blend Median			9.48	-14.77	6.14	6.23	9.95	0.92
Champlain Mid Cap Institutional (CIPIX)	1,026	3.2	7.28 (30)	-26.30 (36)	6.00 (22)	9.36 (16)	12.82 (11)	0.84
+/- Russell Midcap Growth Index			0.38	0.42	2.15	1.72	1.41	-
Mid-Cap Growth Median			5.43	-28.27	3.88	7.26	10.63	1.03
American Beacon Small Cp Val Inst (AVFIX)	405	1.3	13.71 (14)	-7.78 (22)	7.13 (38)	5.08 (43)	9.41 (33)	0.81
+/- Russell 2000 Value Index			5.29	6.70	2.43	0.95	0.93	-
Small Value Median			11.31	-11.58	6.63	4.74	8.75	1.11
Vanguard Small Cap Index I (VSCIX)	962	3.0	7.96 (71)	-17.60 (61)	4.94 (52)	5.95 (22)	10.12 (23)	0.04
+/- CRSP U.S. Small Cap TR Index			0.01	0.04	0.04	0.03	-0.03	-
Small Blend Median			8.97	-16.63	5.05	4.89	9.12	1.02

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Performance Summary - Trailing Returns

	Allocation		Performance (%) as of 12/31/2022					Net Expense Ratio
	Market Value (\$000)	%	1 Quarter	1 Year	3 Years	5 Years	10 Years	
Loomis Sayles Small Cap Growth Instl (LSSIX)	656	2.1	7.90 (12)	-22.92 (17)	4.40 (34)	7.65 (31)	11.34 (22)	0.92
+/- Russell 2000 Growth Index			3.77	3.44	3.75	4.14	2.14	-
Small Growth Median			4.40	-28.16	3.06	6.33	10.11	1.15
VY Invesco Global I (IGMIX)	791	2.5	10.07 (72)	-31.93 (100)	0.12 (99)	2.80 (92)	7.84 (57)	0.80
+/- MSCI World Index			0.18	-14.20	-5.33	-3.89	-1.60	-
World Large-Stock Blend Median			11.03	-17.47	3.93	5.09	8.03	0.91
Vanguard Total Intl Stock Idx Adml (VTIAX)	714	2.3	14.67 (80)	-16.01 (54)	0.51 (54)	1.09 (55)	4.06 (60)	0.11
+/- FTSE Global ex USA All Cap Index (Net)			0.53	0.09	-0.01	-0.01	-0.12	-
Foreign Large Blend Median			16.75	-15.79	0.62	1.20	4.23	0.91
American Funds Europacific Growth R6 (REGRX)	473	1.5	13.78 (50)	-22.72 (32)	-0.15 (55)	1.54 (58)	5.30 (37)	0.46
+/- MSCI AC World ex USA (Net)			-0.50	-6.72	-0.22	0.66	1.50	-
Foreign Large Growth Median			13.77	-24.90	0.14	1.81	4.93	0.99
Fidelity Advisor Intl Small Cap Z (FIQIX)	206	0.7	16.87 (21)	-16.53 (8)	1.44 (14)	1.29 (21)	7.62 (1)	0.89
+/- MSCI AC World ex USA Small Cap (Net)			3.56	3.44	0.37	0.62	2.38	-
Foreign Small/Mid Blend Median			16.32	-20.07	0.06	0.06	5.40	1.17
Invesco Developing Markets R6 (ODVIX)	312	1.0	11.42 (24)	-24.85 (69)	-6.36 (90)	-2.04 (58)	1.65 (42)	0.81
+/- MSCI Emerging Markets (Net) Index			1.72	-4.76	-3.67	-0.64	0.21	-
Diversified Emerging Mkts Median			9.94	-22.47	-3.28	-1.77	1.41	1.16
VY T. Rowe Price Capital Apprec I (ITRIX)	5,201	16.4	5.46 (74)	-11.96 (24)	7.31 (2)	9.19 (1)	10.92 (1)	0.64
+/- 40% BBg US Agg 60% SP500			0.07	3.83	3.48	3.23	2.84	-
Allocation--50% to 70% Equity Median			6.48	-14.97	2.92	4.08	6.29	0.99
Vanguard Real Estate Index Inst (VGSNX)	336	1.1	4.36 (27)	-26.17 (50)	-0.39 (59)	3.71 (52)	6.45 (38)	0.10
+/- Spliced Index			0.01	-0.05	-0.10	-0.07	-0.07	-
Real Estate Median			3.89	-26.20	-0.14	3.72	6.21	1.00
Vanguard Target Retirement Income (VTINX)	12	0.0	3.74 (63)	-12.74 (50)	0.34 (31)	2.30 (31)	3.62 (30)	0.08
+/- Vanguard Target Income Composite Index			-0.21	-0.30	-0.39	-0.29	-0.24	-
Target-Date Retirement Median			3.97	-12.74	0.01	1.87	3.34	0.68
Vanguard Target Retirement 2020 (VTWNX)	120	0.4	4.97 (70)	-14.15 (41)	1.33 (48)	3.22 (37)	5.83 (25)	0.08
+/- Vanguard Target 2020 Composite Index			-0.16	-0.39	-0.48	-0.36	-0.31	-
Target-Date 2020 Median			5.54	-14.43	1.25	3.08	5.45	0.67

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Performance Summary - Trailing Returns

	Allocation		Performance (%) as of 12/31/2022					Net Expense Ratio
	Market Value (\$000)	%	1 Quarter	1 Year	3 Years	5 Years	10 Years	
Vanguard Target Retirement 2025 (VTTVX)	605	1.9	6.03 (40)	-15.55 (53)	1.66 (40)	3.58 (31)	6.43 (17)	0.08
+/- Vanguard Target 2025 Composite Index			-0.14	-0.54	-0.57	-0.43	-0.35	-
Target-Date 2025 Median			5.77	-15.49	1.33	3.25	5.68	0.64
Vanguard Target Retirement 2030 (VTHRX)	153	0.5	6.81 (40)	-16.27 (47)	2.09 (45)	3.94 (40)	6.99 (26)	0.08
+/- Vanguard Target 2030 Composite Index			-0.12	-0.57	-0.58	-0.42	-0.35	-
Target-Date 2030 Median			6.64	-16.35	1.98	3.76	6.43	0.68
Vanguard Target Retirement 2035 (VTTHX)	1,055	3.3	7.45 (62)	-16.62 (39)	2.64 (53)	4.34 (42)	7.57 (30)	0.08
+/- Vanguard Target 2035 Composite Index			-0.13	-0.52	-0.56	-0.42	-0.36	-
Target-Date 2035 Median			7.64	-17.13	2.69	4.20	7.01	0.65
Vanguard Target Retirement 2040 (VFORX)	210	0.7	8.20 (64)	-16.98 (34)	3.17 (50)	4.74 (40)	8.06 (24)	0.08
+/- Vanguard Target 2040 Composite Index			-0.03	-0.48	-0.53	-0.40	-0.36	-
Target-Date 2040 Median			8.43	-17.85	3.14	4.56	7.50	0.71
Vanguard Target Retirement 2045 (VTIVX)	1,581	5.0	8.89 (54)	-17.36 (31)	3.74 (32)	5.14 (27)	8.34 (19)	0.08
+/- Vanguard Target 2045 Composite Index			0.00	-0.44	-0.48	-0.39	-0.36	-
Target-Date 2045 Median			8.93	-18.19	3.44	4.83	7.71	0.65
Vanguard Target Retirement 2050 (VFIFX)	352	1.1	9.23 (43)	-17.46 (29)	3.80 (32)	5.18 (27)	8.36 (20)	0.08
+/- Vanguard Target 2050 Composite Index			0.05	-0.39	-0.50	-0.40	-0.36	-
Target-Date 2050 Median			9.15	-18.33	3.55	4.90	7.83	0.70
Vanguard Target Retirement 2055 (VFFVX)	239	0.8	9.23 (47)	-17.46 (25)	3.79 (36)	5.18 (29)	8.34 (25)	0.08
+/- Vanguard Target 2055 Composite Index			0.05	-0.39	-0.51	-0.40	-0.38	-
Target-Date 2055 Median			9.21	-18.38	3.58	4.91	7.96	0.66
Vanguard Target Retirement 2060 (VTTSX)	14	0.0	9.23 (52)	-17.46 (24)	3.79 (38)	5.18 (33)	8.34 (-)	0.08
+/- Vanguard Target 2060 Composite Index			0.05	-0.39	-0.51	-0.40	-0.38	-
Target-Date 2060 Median			9.26	-18.43	3.61	4.93	-	0.67
Vanguard Target Retirement 2065 (VLXVX)	228	0.7	9.24 (51)	-17.39 (18)	3.78 (33)	5.15 (22)	-	0.08
+/- Vanguard Target 2065 Composite Index (Net)			0.06	-0.32	-0.52	-0.43	-	-
Target-Date 2065+ Median			9.25	-18.60	3.58	4.75	-	0.64
Vanguard Target Retirement 2070 (VSVNX)	-	0.0	9.21 (54)	-	-	-	-	0.08
+/- Vanguard Target 2070 Composite Index (Net)			0.03	-	-	-	-	-
Target-Date 2065+ Median			9.25	-	-	-	-	0.64

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Performance Summary - Calendar Year

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	
Vanguard Treasury Money Market Inv (VUSXX)	1.50 (14)	0.01 (34)	0.47 (3)	2.14 (4)	1.80 (2)	0.79 (4)	0.25 (8)	0.02 (18)	0.01 (52)	
+/- Blmbg. U.S. Treasury Bills: 1-3 Months	-0.02	-0.03	-0.07	-0.07	-0.02	-0.03	-0.01	-0.01	-0.01	
Money Market-Taxable Median	1.34	0.01	0.28	1.83	1.47	0.46	0.03	0.01	0.01	
Voya Fixed Plus Account III	1.41	1.60	1.85	2.15	2.20	2.20	2.50	2.55	2.55	
+/- Ryan 3 Yr GIC Master Index	-0.05	-0.15	-0.49	-0.23	0.24	0.60	1.11	1.39	1.52	
Fidelity US Bond Index (FXNAX)	-13.03 (29)	-1.79 (64)	7.80 (51)	8.48 (50)	0.01 (26)	3.50 (43)	2.52 (55)	0.63 (22)	5.99 (27)	
+/- Blmbg. U.S. Aggregate Index	-0.02	-0.24	0.29	-0.24	0.00	-0.04	-0.13	0.08	0.02	
Intermediate Core Bond Median	-13.44	-1.59	7.83	8.46	-0.43	3.39	2.57	0.21	5.54	
PIMCO Total Return Instl (PTTRX)	-14.09 (59)	-0.84 (51)	8.88 (36)	8.26 (76)	-0.26 (28)	5.13 (20)	2.60 (82)	0.73 (11)	4.69 (76)	
+/- Blmbg. U.S. Aggregate Index	-1.08	0.71	1.37	-0.46	-0.27	1.59	-0.05	0.18	-1.28	
Intermediate Core-Plus Bond Median	-13.84	-0.81	8.32	9.24	-0.80	4.23	3.79	-0.29	5.60	
American Funds Inflation Linked Bond R6 (RILFX)	-11.63 (49)	4.18 (85)	14.97 (3)	7.06 (57)	-0.57 (16)	2.88 (36)	4.88 (24)	-0.96 (17)	4.94 (7)	
+/- Bloomberg U.S. TIPS Index	0.22	-1.78	3.98	-1.37	0.69	-0.13	0.20	0.48	1.30	
Inflation-Protected Bond Median	-11.65	5.30	9.70	7.50	-1.59	2.59	4.24	-1.96	2.53	
PGIM High Yield R6 (PHYQX)	-11.55 (69)	6.47 (16)	5.72 (39)	16.26 (6)	-1.18 (15)	7.70 (21)	15.61 (22)	-2.68 (35)	2.95 (18)	
+/- Blmbg U.S. High Yield 1% Issuer Cap Index	-0.44	1.31	-0.87	1.99	1.03	0.20	-1.60	1.82	0.53	
High Yield Bond Median	-10.82	4.80	5.24	13.50	-2.90	6.68	13.62	-3.80	1.64	
Vanguard Total Intl Bd Idx Adm (VTABX)	-12.92 (65)	-2.22 (66)	4.54 (85)	7.88 (70)	2.93 (5)	2.39 (87)	4.66 (44)	1.06 (16)	8.82 (21)	
+/- Blmbg. Gbl Agg ex-USD Flt Adj RIC Cpd (H)	-0.20	-0.12	-0.21	-0.18	-0.23	-0.18	-0.24	-0.28	-0.32	
World Bond-USD Hedged Median	-12.35	-1.75	6.36	8.60	0.08	4.05	4.29	-0.01	6.38	
Amana Participation Institutional (AMIPX)	-4.64	0.64	5.59	6.95	0.11	2.68	2.56	-	-	
+/- FTSE Sukuk	3.55	-0.45	-3.20	-3.85	-0.16	-1.63	-1.45	-	-	
BlackRock Equity Dividend Instl (MADVX)	-3.98 (34)	20.35 (92)	3.93 (40)	27.52 (28)	-7.17 (30)	16.76 (43)	16.21 (30)	-0.10 (11)	9.35 (77)	
+/- Russell 1000 Value Index	3.56	-4.81	1.13	0.98	1.10	3.10	-1.13	3.73	-4.10	
Large Value Median	-5.53	26.04	2.79	25.56	-8.80	16.25	14.30	-3.34	11.06	
JPMorgan Equity Income R5 (OIERX)	-1.74 (17)	25.29 (60)	3.77 (42)	26.52 (38)	-4.33 (10)	17.73 (32)	15.06 (41)	-2.05 (29)	13.97 (11)	
+/- Russell 1000 Value Index	5.80	0.13	0.97	-0.02	3.94	4.07	-2.28	1.78	0.52	
Large Value Median	-5.53	26.04	2.79	25.56	-8.80	16.25	14.30	-3.34	11.06	
American Funds Fundamental Invs R6 (RFNGX)	-16.40 (36)	22.88 (86)	15.30 (61)	28.02 (70)	-6.33 (60)	23.72 (15)	12.88 (17)	3.71 (9)	9.27 (82)	
+/- S&P 500 Index	1.71	-5.83	-3.10	-3.47	-1.95	1.89	0.92	2.33	-4.42	
Large Blend Median	-18.12	26.73	17.17	29.84	-5.61	21.14	10.50	0.10	12.02	

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Performance Summary - Calendar Year

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	
Parnassus Core Equity Institutional (PRILX)	-18.45 (58)	27.82 (36)	21.47 (15)	30.96 (35)	0.05 (2)	16.81 (88)	10.60 (49)	-0.33 (57)	14.70 (10)	
+/- S&P 500 Index	-0.34	-0.89	3.07	-0.53	4.43	-5.02	-1.36	-1.71	1.01	
Large Blend Median	-18.12	26.73	17.17	29.84	-5.61	21.14	10.50	0.10	12.02	
Vanguard Institutional Index I (VINIX)	-18.14 (51)	28.67 (22)	18.39 (37)	31.46 (23)	-4.42 (25)	21.79 (33)	11.93 (27)	1.37 (25)	13.65 (19)	
+/- S&P 500 Index	-0.03	-0.04	-0.01	-0.03	-0.04	-0.04	-0.03	-0.01	-0.04	
Large Blend Median	-18.12	26.73	17.17	29.84	-5.61	21.14	10.50	0.10	12.02	
Amana Growth Institutional (AMIGX)	-19.22 (7)	31.82 (3)	33.19 (59)	33.41 (44)	2.67 (13)	29.29 (45)	7.85 (17)	-0.21 (86)	14.29 (12)	
+/- S&P 500 Index	-1.11	3.11	14.79	1.92	7.05	7.46	-4.11	-1.59	0.60	
Large Growth Median	-30.75	22.01	34.85	32.80	-1.64	28.63	2.94	4.61	10.66	
Voya Large Cap Growth Port I (IEOHX)	-30.50 (48)	19.55 (65)	30.88 (68)	32.76 (51)	-1.48 (48)	29.74 (41)	3.96 (44)	6.38 (34)	13.62 (19)	
+/- Russell 1000 Growth Index	-1.36	-8.05	-7.61	-3.63	0.03	-0.47	-3.12	0.71	0.57	
Large Growth Median	-30.75	22.01	34.85	32.80	-1.64	28.63	2.94	4.61	10.66	
American Century Mid Cap Value I (AVUAX)	-1.22 (7)	23.30 (89)	1.88 (57)	29.12 (29)	-12.84 (41)	11.79 (72)	23.07 (12)	-1.36 (15)	16.55 (3)	
+/- Russell Midcap Value Index	10.81	-5.04	-3.08	2.06	-0.55	-1.55	3.07	3.42	1.80	
Mid-Cap Value Median	-8.12	28.69	2.69	26.69	-13.48	13.51	17.62	-4.34	10.16	
Vanguard Mid Cap Index Institutional (VMCIX)	-18.70 (81)	24.53 (44)	18.26 (20)	31.04 (20)	-9.24 (29)	19.29 (21)	11.23 (73)	-1.33 (23)	13.78 (10)	
+/- CRSP U.S. Mid Cap TR Index	-0.02	0.01	0.02	-0.05	-0.02	-0.01	-0.02	-0.05	-0.05	
Mid-Cap Blend Median	-14.77	24.14	12.93	26.85	-11.23	15.92	14.94	-3.17	9.25	
Champlain Mid Cap Institutional (CIPIX)	-26.30 (36)	24.90 (7)	29.38 (77)	26.55 (94)	3.76 (5)	19.50 (89)	18.68 (2)	1.41 (36)	7.98 (44)	
+/- Russell Midcap Growth Index	0.42	12.17	-6.21	-8.92	8.51	-5.77	11.35	1.61	-3.92	
Mid-Cap Growth Median	-28.27	12.05	35.78	33.32	-5.55	24.80	5.23	-0.04	7.60	
American Beacon Small Cp Val Inst (AVFIX)	-7.78 (22)	28.15 (65)	4.05 (43)	23.51 (33)	-15.63 (54)	8.67 (57)	26.77 (36)	-5.04 (44)	4.70 (45)	
+/- Russell 2000 Value Index	6.70	-0.12	-0.58	1.12	-2.77	0.83	-4.97	2.43	0.48	
Small Value Median	-11.58	31.15	3.45	21.94	-15.27	9.32	25.32	-5.92	4.31	
Vanguard Small Cap Index I (VSCIX)	-17.60 (61)	17.73 (81)	19.12 (20)	27.40 (19)	-9.32 (20)	16.25 (15)	18.32 (71)	-3.63 (40)	7.53 (21)	
+/- CRSP U.S. Small Cap TR Index	0.04	0.02	0.05	0.05	0.01	0.01	0.06	0.05	-0.01	
Small Blend Median	-16.63	23.20	12.14	24.45	-12.12	13.05	20.66	-4.36	5.10	
Loomis Sayles Small Cap Growth Instl (LSSIX)	-22.92 (17)	10.07 (49)	34.11 (60)	26.51 (60)	0.45 (17)	26.86 (24)	5.72 (83)	1.11 (17)	1.06 (71)	
+/- Russell 2000 Growth Index	3.44	7.24	-0.52	-1.97	9.76	4.69	-5.60	2.49	-4.54	
Small Growth Median	-28.16	9.60	37.56	28.34	-5.13	22.05	10.16	-2.19	3.02	

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Performance Summary - Calendar Year

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	
VY Invesco Global I (IGMIX)	-31.93 (100)	15.37 (74)	27.78 (5)	31.80 (4)	-13.19 (82)	36.49 (1)	0.22 (100)	4.13 (9)	2.32 (78)	
+/- MSCI World Index	-14.20	-6.98	11.28	3.40	-4.99	13.42	-7.93	4.45	-3.18	
World Large-Stock Blend Median	-17.47	18.20	14.34	26.12	-9.95	23.17	6.46	-1.01	3.91	
Vanguard Total Intl Stock Idx Adml (VTIAX)	-16.01 (54)	8.62 (66)	11.28 (39)	21.51 (60)	-14.43 (41)	27.55 (28)	4.67 (13)	-4.26 (82)	-4.17 (33)	
+/- FTSE Global ex USA All Cap Index (Net)	0.09	-0.22	0.04	-0.29	0.18	0.14	-0.05	0.03	-0.78	
Foreign Large Blend Median	-15.79	10.21	9.45	22.04	-15.09	25.50	0.77	-0.90	-5.23	
American Funds Europacific Growth R6 (RERGX)	-22.72 (32)	2.84 (78)	25.27 (35)	27.40 (63)	-14.91 (55)	31.17 (47)	1.01 (23)	-0.48 (66)	-2.29 (30)	
+/- MSCI AC World ex USA (Net)	-6.72	-4.98	14.62	5.89	-0.71	3.98	-3.49	5.18	1.58	
Foreign Large Growth Median	-24.90	8.69	22.17	27.95	-14.44	30.84	-2.29	0.58	-3.70	
Fidelity Advisor Intl Small Cap Z (FIQIX)	-16.53 (8)	13.58 (31)	10.11 (54)	21.59 (56)	-16.01 (8)	32.90 (53)	8.18 (5)	6.37 (50)	-5.40 (35)	
+/- MSCI AC World ex USA Small Cap (Net)	3.44	0.65	-4.13	-0.83	2.19	1.25	4.27	3.77	-1.37	
Foreign Small/Mid Blend Median	-20.07	12.87	10.48	22.22	-19.65	33.02	0.81	6.37	-5.91	
Invesco Developing Markets R6 (ODVIX)	-24.85 (69)	-7.13 (82)	17.66 (51)	24.53 (25)	-11.79 (9)	35.33 (52)	7.38 (57)	-13.67 (51)	-4.39 (71)	
+/- MSCI Emerging Markets (Net) Index	-4.76	-4.59	-0.65	6.11	2.78	-1.95	-3.81	1.25	-2.20	
Diversified Emerging Mkts Median	-22.47	-1.36	17.77	20.41	-16.40	35.49	8.50	-13.65	-2.73	
VY T. Rowe Price Capital Apprec I (ITRIX)	-11.96 (24)	18.67 (4)	18.28 (8)	24.71 (2)	0.74 (1)	15.39 (24)	8.31 (29)	5.47 (1)	12.47 (2)	
+/- 40% BBg US Agg 60% SP500	3.83	2.81	3.55	2.53	3.09	1.18	0.00	4.19	1.85	
Allocation--50% to 70% Equity Median	-14.97	13.11	12.35	19.28	-5.88	13.94	6.87	-1.25	5.94	
Vanguard Real Estate Index Inst (VGSNX)	-26.17 (50)	40.41 (62)	-4.67 (50)	29.02 (35)	-5.93 (53)	4.93 (60)	8.51 (18)	2.45 (63)	30.28 (36)	
+/- Spliced Index	-0.05	-0.15	-0.12	-0.01	-0.05	-0.14	-0.09	-0.07	-0.10	
Real Estate Median	-26.20	41.35	-4.67	27.74	-5.74	5.39	6.19	2.95	29.75	
Vanguard Target Retirement Income (VTINX)	-12.74 (50)	5.25 (64)	10.02 (27)	13.16 (47)	-1.99 (14)	8.47 (53)	5.25 (37)	-0.17 (8)	5.54 (12)	
+/- Vanguard Target Income Composite Index	-0.30	-0.19	-0.68	-0.25	-0.02	-0.21	-0.10	-0.30	-0.22	
Target-Date Retirement Median	-12.74	5.82	9.06	12.92	-3.38	8.56	5.04	-1.23	4.11	
Vanguard Target Retirement 2020 (VTWNX)	-14.15 (41)	8.17 (63)	12.04 (38)	17.63 (24)	-4.24 (40)	14.08 (15)	6.95 (33)	-0.68 (32)	7.11 (1)	
+/- Vanguard Target 2020 Composite Index	-0.39	-0.26	-0.81	-0.24	-0.11	-0.14	-0.22	-0.28	-0.26	
Target-Date 2020 Median	-14.43	8.63	10.96	16.19	-4.54	12.86	6.49	-1.22	5.08	
Vanguard Target Retirement 2025 (VTTVX)	-15.55 (53)	9.80 (49)	13.30 (34)	19.63 (19)	-5.15 (43)	15.94 (22)	7.48 (26)	-0.85 (35)	7.17 (7)	
+/- Vanguard Target 2025 Composite Index	-0.54	-0.29	-0.89	-0.30	-0.15	-0.14	-0.19	-0.27	-0.28	
Target-Date 2025 Median	-15.49	9.75	12.46	18.33	-5.38	15.00	6.95	-1.20	5.43	

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Performance Summary - Calendar Year

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	
Vanguard Target Retirement 2030 (VTHRX)	-16.27 (47)	11.38 (54)	14.10 (34)	21.07 (33)	-5.86 (34)	17.52 (35)	7.85 (35)	-1.03 (38)	7.17 (11)	
+/- Vanguard Target 2030 Composite Index	-0.57	-0.28	-0.88	-0.27	-0.14	-0.14	-0.26	-0.24	-0.34	
Target-Date 2030 Median	-16.35	11.54	13.10	20.37	-6.49	17.01	7.35	-1.36	5.56	
Vanguard Target Retirement 2035 (VTTHX)	-16.62 (39)	12.96 (78)	14.79 (39)	22.44 (46)	-6.58 (29)	19.12 (41)	8.26 (37)	-1.26 (45)	7.24 (12)	
+/- Vanguard Target 2035 Composite Index	-0.52	-0.28	-0.88	-0.32	-0.12	-0.13	-0.29	-0.24	-0.33	
Target-Date 2035 Median	-17.13	13.87	14.04	22.30	-7.35	18.72	7.83	-1.46	5.61	
Vanguard Target Retirement 2040 (VFORX)	-16.98 (34)	14.56 (81)	15.47 (38)	23.86 (44)	-7.32 (30)	20.71 (27)	8.73 (27)	-1.59 (53)	7.15 (16)	
+/- Vanguard Target 2040 Composite Index	-0.48	-0.28	-0.84	-0.33	-0.10	-0.15	-0.25	-0.34	-0.46	
Target-Date 2040 Median	-17.85	15.78	14.73	23.63	-8.02	19.82	8.02	-1.50	5.78	
Vanguard Target Retirement 2045 (VTIVX)	-17.36 (31)	16.16 (66)	16.30 (34)	24.94 (38)	-7.90 (38)	21.42 (26)	8.87 (28)	-1.57 (53)	7.16 (14)	
+/- Vanguard Target 2045 Composite Index	-0.44	-0.29	-0.72	-0.43	-0.13	-0.13	-0.26	-0.32	-0.45	
Target-Date 2045 Median	-18.19	16.73	15.35	24.58	-8.33	20.68	8.20	-1.54	5.79	
Vanguard Target Retirement 2050 (VFIFX)	-17.46 (29)	16.41 (70)	16.39 (34)	24.98 (41)	-7.90 (33)	21.39 (33)	8.85 (32)	-1.58 (55)	7.18 (20)	
+/- Vanguard Target 2050 Composite Index	-0.39	-0.34	-0.78	-0.39	-0.13	-0.16	-0.28	-0.33	-0.43	
Target-Date 2050 Median	-18.33	17.00	15.57	24.69	-8.62	20.80	8.26	-1.43	5.88	
Vanguard Target Retirement 2055 (VFFVX)	-17.46 (25)	16.44 (75)	16.32 (40)	24.98 (44)	-7.89 (33)	21.38 (41)	8.88 (28)	-1.72 (59)	7.19 (18)	
+/- Vanguard Target 2055 Composite Index	-0.39	-0.31	-0.85	-0.39	-0.12	-0.17	-0.25	-0.47	-0.42	
Target-Date 2055 Median	-18.38	17.19	15.69	24.82	-8.60	21.11	8.25	-1.53	5.89	
Vanguard Target Retirement 2060 (VTTSX)	-17.46 (24)	16.44 (78)	16.32 (40)	24.96 (55)	-7.87 (30)	21.36 (45)	8.84 (24)	-1.68 (78)	7.16 (1)	
+/- Vanguard Target 2060 Composite Index	-0.39	-0.31	-0.85	-0.41	-0.10	-0.19	-0.29	-0.43	-0.45	
Target-Date 2060 Median	-18.43	17.35	15.74	25.05	-8.66	21.25	7.96	-0.87	5.66	
Vanguard Target Retirement 2065 (VLXVX)	-17.39 (18)	16.46 (69)	16.17 (56)	24.96 (61)	-7.95 (7)	-	-	-	-	
+/- Vanguard Target 2065 Composite Index (Net)	-0.32	-0.29	-1.00	-0.41	-0.18	-	-	-	-	
Target-Date 2065+ Median	-18.60	17.30	16.30	25.71	-9.37	-	-	-	-	
Vanguard Target Retirement 2070 (VSVNX)	-	-	-	-	-	-	-	-	-	
+/- Vanguard Target 2070 Composite Index (Net)	-	-	-	-	-	-	-	-	-	
Target-Date 2065+ Median	-	-	-	-	-	-	-	-	-	

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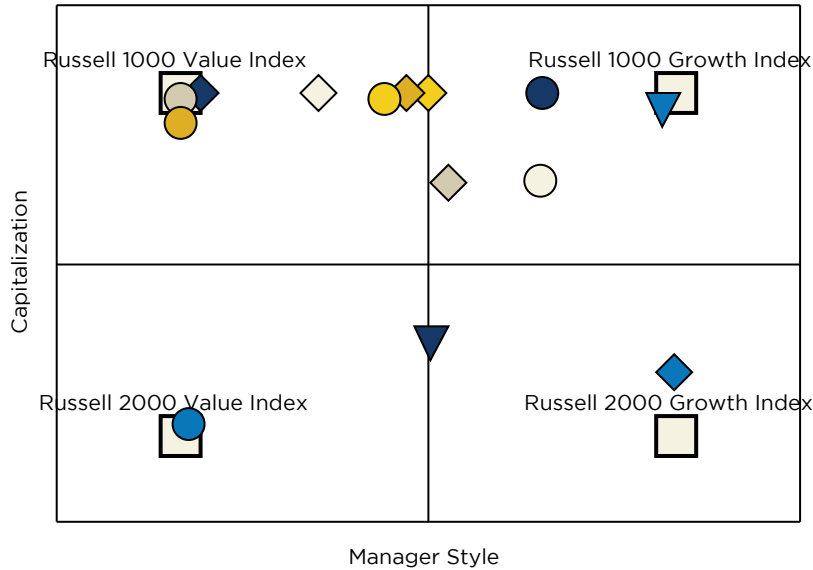
	Beta			Alpha			Up Market			Down Market			Standard Deviation		
	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs
Vanguard Treasury Money Market Inv (VUSXX)	0.94	0.96	0.96	0.00	0.01	0.00	94.31	96.43	95.81				0.51	0.52	0.45
Money Market-Taxable Median	0.87	0.86	0.84	-0.06	-0.07	-0.07	77.12	80.93	74.36				0.48	0.47	0.40
Blmbg. U.S. Treasury Bills: 1-3 Months													0.54	0.54	0.47
Voya Fixed Plus Account III	0.41	0.56	-0.42	0.85	0.73	2.86	87.56	93.10	134.22				0.09	0.15	0.20
Ryan 3 Yr GIC Master Index													0.20	0.19	0.24
Fidelity US Bond Index (FXNAX)	1.00	1.00	1.01	0.01	-0.04	-0.05	99.57	99.28	100.34	99.74	100.31	102.03	6.15	5.41	4.44
Intermediate Core Bond Median	1.00	1.00	1.00	-0.03	-0.13	-0.09	99.57	97.65	97.05	100.95	101.60	100.79	6.35	5.48	4.45
Blmbg. U.S. Aggregate Index													6.12	5.39	4.39
PIMCO Total Return Instl (PTTRX)	1.05	1.03	1.01	0.40	0.01	0.06	114.47	104.70	101.53	104.29	104.40	99.77	6.53	5.64	4.59
Intermediate Core-Plus Bond Median	1.00	1.00	0.99	0.23	0.06	0.24	110.42	104.66	102.20	101.83	102.28	96.15	7.08	6.11	4.86
Blmbg. U.S. Aggregate Index													6.12	5.39	4.39
American Funds Inflation Linked Bond R6 (RILFX)	1.05	1.02	1.00	0.66	0.27	0.43	112.76	104.57	105.00	102.30	98.44	94.43	7.08	5.74	5.28
Inflation-Protected Bond Median	0.98	0.99	0.99	0.04	-0.12	-0.18	90.34	91.18	91.39	99.47	100.93	102.20	6.75	5.65	5.19
Bloomberg U.S. TIPS Index													6.57	5.43	5.15
PGIM High Yield R6 (PHYQX)	1.02	1.02	0.99	0.00	0.53	0.41	103.85	106.59	102.01	103.93	100.81	95.86	13.02	10.92	8.38
High Yield Bond Median	0.96	0.97	0.97	-0.36	-0.40	-0.49	95.79	95.45	92.06	98.26	100.30	100.40	12.27	10.45	8.28
Blmbg U.S. High Yield 1% Issuer Cap Index													12.71	10.70	8.42
Vanguard Total Intl Bd Idx Adm (VTABX)	0.99	1.00		-0.20	-0.19		93.99	96.63		101.60	102.15		4.65	4.66	
World Bond-USD Hedged Median	1.17	1.05	0.98	1.52	-0.06	-0.49	177.82	102.67	86.99	108.08	101.96	105.55	6.15	5.54	4.37
Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)													4.67	4.67	4.05
Amana Participation Institutional (AMIPX)													4.65	3.93	
FTSE Sukuk															
BlackRock Equity Dividend Instl (MADVX)	0.93	0.94	0.92	0.53	0.87	0.55	91.39	96.21	93.86	87.01	90.63	88.39	22.40	19.29	14.61
Large Value Median	1.00	1.00	0.99	1.14	0.50	0.08	101.67	100.95	98.52	96.54	98.23	96.95	23.87	20.44	15.67
Russell 1000 Value Index													23.84	20.31	15.54
JPMorgan Equity Income R5 (OIERX)	0.89	0.89	0.88	2.80	2.86	2.57	96.79	98.68	99.20	83.35	82.58	80.35	21.29	18.09	13.84
Large Value Median	1.00	1.00	0.99	1.14	0.50	0.08	101.67	100.95	98.52	96.54	98.23	96.95	23.87	20.44	15.67
Russell 1000 Value Index													23.84	20.31	15.54
American Funds Fundamental Invs R6 (RFNGX)	1.01	0.99	0.99	-1.72	-1.86	-0.80	96.35	91.90	95.77	104.96	101.37	102.15	23.10	20.04	15.17
Large Blend Median	1.00	1.00	1.00	-0.46	-0.71	-0.80	98.91	97.18	96.62	100.96	101.35	102.36	22.78	20.08	15.18
S&P 500 Index													22.74	20.08	15.14

	Beta			Alpha			Up Market			Down Market			Standard Deviation		
	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs
Parnassus Core Equity Institutional (PRILX)	0.94	0.91	0.92	0.81	1.81	1.00	100.28	99.27	95.76	98.92	91.56	88.53	21.67	18.60	14.24
Large Blend Median	1.00	1.00	1.00	-0.46	-0.71	-0.80	98.91	97.18	96.62	100.96	101.35	102.36	22.78	20.08	15.18
S&P 500 Index													22.74	20.08	15.14
Vanguard Institutional Index I (VINIX)	1.00	1.00	1.00	-0.02	-0.03	-0.03	99.94	99.92	99.89	100.05	100.07	100.07	22.74	20.08	15.14
Large Blend Median	1.00	1.00	1.00	-0.46	-0.71	-0.80	98.91	97.18	96.62	100.96	101.35	102.36	22.78	20.08	15.18
S&P 500 Index													22.74	20.08	15.14
Amana Growth Institutional (AMIGX)	0.99	1.01	0.98	4.54	4.44	1.82	115.88	115.51	105.07	97.25	92.22	90.89	23.38	21.01	15.72
Large Growth Median	1.07	1.08	1.08	-2.45	-1.31	-1.10	100.02	102.69	101.21	111.69	107.40	106.39	25.83	23.02	17.46
S&P 500 Index													22.74	20.08	15.14
Voya Large Cap Growth Port I (IEOHX)	0.93	0.93	0.95	-4.27	-2.76	-1.45	81.80	85.06	89.46	101.15	98.65	99.27	24.42	21.62	16.46
Large Growth Median	0.98	0.99	1.00	-2.36	-2.12	-1.72	94.04	93.54	93.23	105.88	104.80	106.03	25.83	23.02	17.46
Russell 1000 Growth Index													25.86	23.00	17.17
American Century Mid Cap Value I (AVUAX)	0.84	0.86	0.86	1.95	1.59	2.18	86.08	90.34	93.74	76.55	81.89	78.95	24.18	21.06	15.84
Mid-Cap Value Median	1.00	1.01	1.01	0.74	0.27	-0.57	100.50	100.53	98.45	97.06	98.75	99.98	28.77	24.50	18.54
Russell Midcap Value Index													28.36	24.08	18.17
Vanguard Mid Cap Index Institutional (VMCIX)	1.00	1.00	1.00	0.00	-0.01	-0.02	99.94	99.92	99.85	99.95	99.97	99.96	27.06	23.50	17.62
Mid-Cap Blend Median	0.98	0.99	1.00	0.18	-0.85	-1.07	98.31	95.65	95.59	98.82	100.01	104.55	27.22	23.50	18.06
CRSP U.S. Mid Cap TR Index													27.08	23.51	17.63
Champlain Mid Cap Institutional (CIPIX)	0.91	0.88	0.89	2.25	2.30	2.46	95.04	93.74	98.42	84.88	82.33	83.64	26.58	22.66	17.30
Mid-Cap Growth Median	0.99	0.99	0.99	0.27	-0.09	-0.56	95.60	98.31	96.85	94.35	99.70	99.61	29.01	25.66	19.48
Russell Midcap Growth Index													28.88	25.36	18.92
American Beacon Small Cp Val Inst (AVFIX)	1.04	1.05	1.03	2.69	1.12	0.81	109.24	107.12	103.73	98.77	101.59	96.57	35.80	30.31	22.92
Small Value Median	0.99	0.99	0.99	2.17	0.77	0.60	104.30	100.69	99.33	98.75	98.64	95.89	34.20	28.86	22.06
Russell 2000 Value Index													34.10	28.74	22.01
Vanguard Small Cap Index I (VSCIX)	1.00	1.00	1.00	0.03	0.03	-0.02	100.07	100.08	99.82	99.92	99.92	99.91	30.87	26.66	20.11
Small Blend Median	1.02	1.01	1.02	0.40	-0.77	-0.85	102.12	98.93	97.98	103.25	104.07	103.85	31.65	27.50	20.98
CRSP U.S. Small Cap TR Index													30.86	26.66	20.14
Loomis Sayles Small Cap Growth Instl (LSSIX)	0.93	0.93	0.93	3.59	4.14	2.59	104.88	108.46	103.72	91.32	92.26	92.21	30.34	26.83	20.84
Small Growth Median	0.97	0.97	0.96	2.66	3.09	1.21	102.24	105.83	99.70	91.32	93.61	93.61	31.98	28.57	21.88
Russell 2000 Growth Index													32.25	28.57	22.06

	Beta			Alpha			3 Yrs	Up Market 5 Yrs	10 Yrs	3 Yrs	Down Market 5 Yrs	10 Yrs	3 Yrs	Standard Deviation	
	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs								5 Yrs	10 Yrs
VY Invesco Global I (IGMIX)	1.21	1.22	1.23	-5.32	-4.36	-3.03	109.41	106.35	111.95	137.63	131.31	138.88	28.86	25.36	19.65
World Large-Stock Blend Median	0.99	0.98	0.99	-1.30	-1.35	-1.19	94.52	91.22	92.15	102.02	99.66	100.18	23.17	20.02	15.56
MSCI World Index													23.10	20.09	15.26
Vanguard Total Intl Stock Idx Adml (VTIAX)	1.01	1.01	1.01	0.01	-0.01	-0.14	102.07	101.20	100.18	102.15	101.31	101.28	24.65	20.80	16.43
Foreign Large Blend Median	1.00	1.01	1.00	0.20	0.14	0.09	101.33	101.00	100.90	101.17	101.89	100.81	24.53	20.95	16.59
FTSE Global ex USA All Cap Index (Net)													24.32	20.58	16.29
Fidelity Advisor Intl Small Cap Z (FIQIX)	0.94	0.94	0.94	0.33	0.57	2.58	97.66	98.55	103.47	96.92	96.17	86.49	27.60	23.08	18.31
Foreign Small/Mid Blend Median	0.98	0.99	0.99	-0.94	-0.56	0.21	98.31	98.51	102.29	103.42	105.37	101.68	28.44	24.18	19.20
MSCI AC World ex USA Small Cap (Net)													28.66	24.15	18.92
American Funds Europacific Growth R6 (RERGX)	1.11	1.11	1.08	0.19	0.87	1.34	111.05	112.05	112.19	110.07	106.20	100.97	27.08	23.02	17.86
Foreign Large Growth Median	1.03	1.04	1.03	0.40	1.30	1.17	107.15	110.25	110.59	107.67	104.07	101.70	25.61	22.13	17.39
MSCI AC World ex USA (Net)													23.82	20.18	16.04
Invesco Developing Markets R6 (ODVIX)	1.02	1.01	1.00	-3.52	-0.48	0.32	98.67	106.32	105.53	115.61	109.43	104.43	25.89	22.06	18.27
Diversified Emerging Mkts Median	1.05	1.04	1.01	-0.14	-0.10	0.11	106.12	105.81	103.53	105.08	106.20	103.40	26.63	22.69	18.64
MSCI Emerging Markets (Net) Index													24.96	21.20	17.75
VY T. Rowe Price Capital Apprec I (ITRIX)	1.02	1.02	1.02	3.36	3.02	2.58	115.18	113.24	115.12	90.22	85.77	83.27	15.44	13.50	10.09
Allocation--50% to 70% Equity Median	1.05	1.05	1.06	-0.92	-1.84	-2.05	101.53	94.95	93.67	108.77	109.23	113.18	16.03	13.85	10.62
40% BBg US Agg 60% SP500													14.85	12.99	9.71
Vanguard Real Estate Index Inst (VGSNX)	1.00	1.00	1.00	-0.10	-0.07	-0.07	99.70	99.75	99.67	100.16	100.15	100.17	23.76	20.96	16.79
Real Estate Median	0.98	0.97	0.97	0.10	0.04	-0.08	98.89	96.86	96.65	99.52	97.93	97.18	23.54	20.67	16.52
Spliced Index													23.76	20.96	16.79
Vanguard Target Retirement Income (VTINX)	1.00	1.00	1.00	-0.38	-0.28	-0.23	97.86	97.86	97.82	102.69	102.05	102.43	9.30	7.90	6.01
Target-Date Retirement Median	1.06	1.10	1.05	-0.73	-0.81	-0.84	107.16	106.67	100.33	108.64	115.54	114.53	10.03	8.89	6.35
Vanguard Target Income Composite Index													9.29	7.91	6.01
Vanguard Target Retirement 2020 (VTWNX)	1.01	1.01	1.00	-0.48	-0.37	-0.31	98.74	98.52	98.29	103.02	102.29	102.49	13.08	11.31	8.75
Target-Date 2020 Median	1.00	0.98	1.00	-0.56	-0.65	-0.94	100.97	96.36	95.84	105.33	103.05	106.42	13.10	11.10	8.76
Vanguard Target 2020 Composite Index													12.97	11.24	8.71
Vanguard Target Retirement 2025 (VTTVX)	1.01	1.01	1.00	-0.57	-0.44	-0.36	98.91	98.55	98.22	103.32	102.52	102.17	15.30	13.19	10.13
Target-Date 2025 Median	0.97	0.97	0.97	-0.86	-0.65	-0.83	95.85	93.89	92.60	102.08	102.17	103.08	14.77	12.76	9.86
Vanguard Target 2025 Composite Index													15.15	13.09	10.07

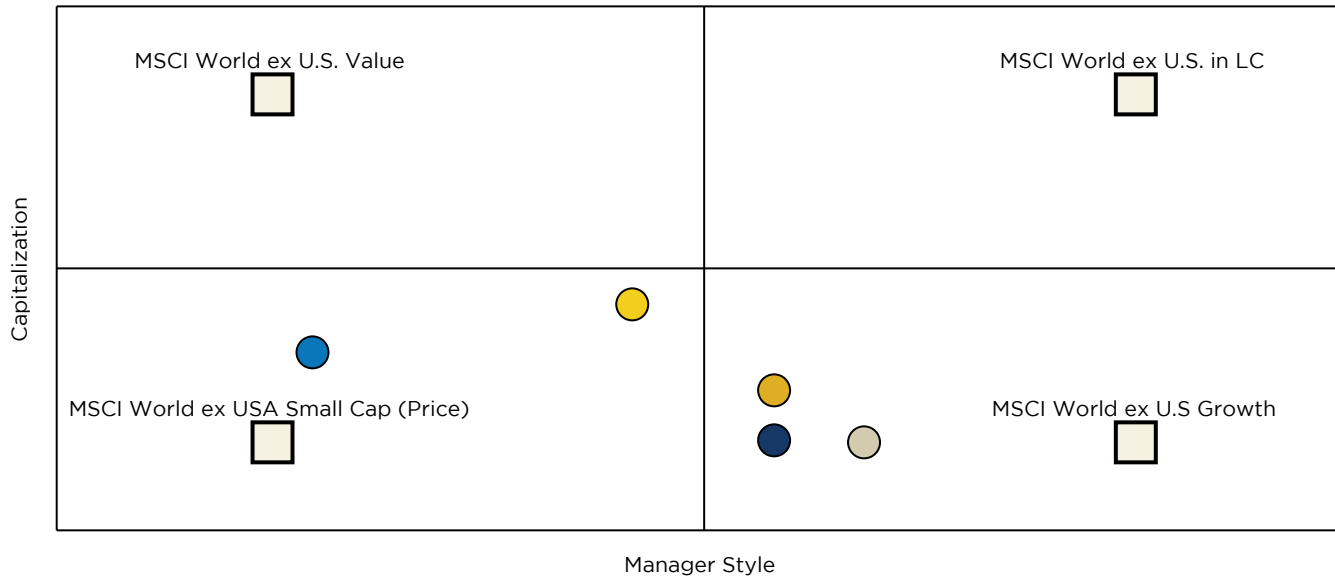
	Beta			Alpha			Up Market			Down Market			Standard Deviation		
	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs
Vanguard Target Retirement 2030 (VTHR)	1.01	1.01	1.01	-0.57	-0.44	-0.37	99.25	98.89	98.42	103.24	102.44	102.14	16.98	14.64	11.22
Target-Date 2030 Median	1.00	1.00	1.01	-0.63	-0.64	-0.88	98.30	97.86	96.59	102.61	103.33	104.89	16.91	14.53	11.22
Vanguard Target 2030 Composite Index													16.80	14.52	11.16
Vanguard Target Retirement 2035 (VTTHX)	1.01	1.01	1.00	-0.56	-0.43	-0.36	99.29	98.91	98.47	102.87	102.11	101.84	18.51	15.98	12.26
Target-Date 2035 Median	1.04	1.03	1.05	-0.51	-0.67	-1.05	102.94	100.95	98.43	105.26	105.39	107.13	19.14	16.40	12.83
Vanguard Target 2035 Composite Index													18.36	15.88	12.21
Vanguard Target Retirement 2040 (VFORX)	1.01	1.01	1.00	-0.53	-0.41	-0.37	99.56	99.11	98.56	102.73	101.93	101.74	20.09	17.36	13.30
Target-Date 2040 Median	1.04	1.03	1.03	-0.51	-0.67	-1.07	102.95	101.36	97.76	105.72	105.34	106.05	20.76	17.83	13.75
Vanguard Target 2040 Composite Index													19.93	17.26	13.25
Vanguard Target Retirement 2045 (VTIVX)	1.01	1.01	1.00	-0.48	-0.40	-0.36	99.77	99.22	98.62	102.48	101.82	101.55	21.65	18.66	14.15
Target-Date 2045 Median	1.01	1.01	1.01	-0.71	-0.70	-0.97	100.12	99.11	97.00	104.36	103.35	104.36	21.77	18.86	14.30
Vanguard Target 2045 Composite Index													21.48	18.55	14.09
Vanguard Target Retirement 2050 (VFIFX)	1.01	1.00	1.00	-0.49	-0.40	-0.36	99.66	99.18	98.58	102.42	101.75	101.51	21.80	18.76	14.21
Target-Date 2050 Median	1.02	1.02	1.03	-0.74	-0.73	-0.98	100.81	99.48	97.67	105.75	104.41	105.62	22.16	19.01	14.60
Vanguard Target 2050 Composite Index													21.65	18.66	14.17
Vanguard Target Retirement 2055 (VFFVX)	1.01	1.00	1.00	-0.50	-0.40	-0.38	99.65	99.15	98.53	102.48	101.76	101.63	21.79	18.75	14.21
Target-Date 2055 Median	1.03	1.03	1.02	-0.73	-0.74	-0.89	102.19	100.19	98.32	106.21	105.60	105.24	22.43	19.24	14.52
Vanguard Target 2055 Composite Index													21.65	18.66	14.17
Vanguard Target Retirement 2060 (VTTSX)	1.01	1.00	1.00	-0.50	-0.40	-0.38	99.61	99.09	98.47	102.44	101.67	101.54	21.77	18.74	14.20
Target-Date 2060 Median	1.05	1.03		-0.68	-0.77		103.13	100.75		107.06	105.89		22.76	19.34	
Vanguard Target 2060 Composite Index													21.65	18.66	14.17
Vanguard Target Retirement 2065 (VLXVX)	1.01	1.00		-0.51	-0.42		99.52	99.03		102.39	101.77		21.77	18.74	
Target-Date 2065+ Median	1.05	1.07		-0.76	-1.10		104.47	104.57		108.33	110.45		22.83	20.03	
Vanguard Target 2065 Composite Index (Net)													21.65	18.66	
Vanguard Target Retirement 2070 (VSVNX)															
Target-Date 2065+ Median													22.83	20.03	
Vanguard Target 2070 Composite Index (Net)															

Domestic Equity Style Analysis | Time Period: 5 Years



- Amana Growth Institutional (AMIGX)
- American Century Mid Cap Value I (AVUAX)
- BlackRock Equity Dividend Instl (MADVX)
- ◆ JPMorgan Equity Income R5 (OIERX)
- ◆ Parnassus Core Equity Institutional (PRILX)
- ◆ Vanguard Mid Cap Index Institutional (VMCIX)
- ▼ Vanguard Small Cap Index I (VSCIX)
- American Beacon Small Cp Val Inst (AVFIX)
- American Funds Fundamental Invs R6 (RFNGX)
- Champlain Mid Cap Institutional (CIPIX)
- ◆ Loomis Sayles Small Cap Growth Instl (LSSIX)
- ◆ Vanguard Institutional Index I (VINIX)
- ◇ Vanguard Real Estate Index Inst (VGSNX)
- ▼ Voya Large Cap Growth Port I (IEOHX)

International Equity Style Analysis -- Vol Voya | Time Period: 5 Years



- American Funds Europacific Growth R6 (RERGX)
- Fidelity Advisor Intl Small Cap Z (FIQIX)
- Invesco Developing Markets R6 (ODVIX)
- Vanguard Total Intl Stock Idx Adml (VTIAX)
- VY Invesco Oppenheimer Global I (IGMIX)



Detailed Analysis: TIAA Voluntary Plan



TIAA Traditional Retirement Choice Plus

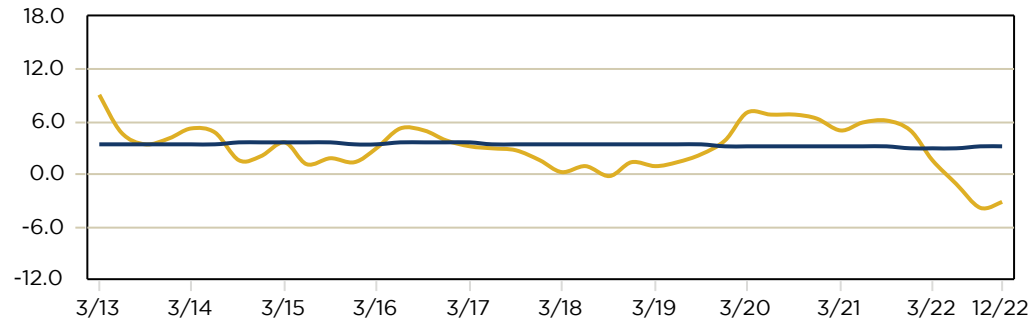
Index: Blmbg. U.S. Treasury: 7-10 Year

As of: 12/31/2022

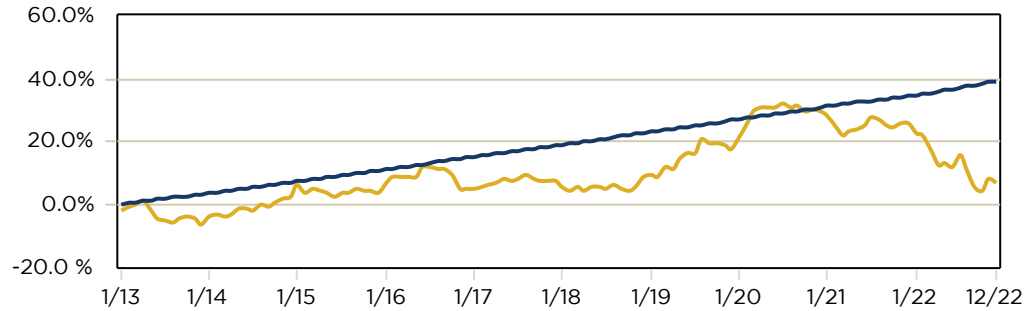
Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	0.89	3.42	3.42	3.15	3.22	3.37	2.80	3.25	3.26	3.37
Benchmark	0.97	-14.89	-14.89	-3.19	-0.14	0.69	-3.07	9.98	8.50	0.90

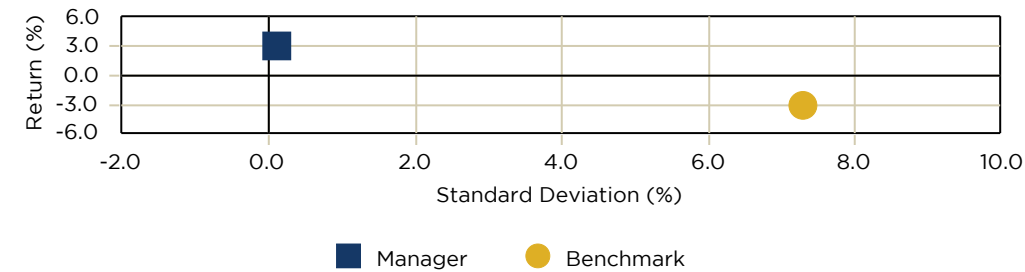
Return (Rolling 36 Months)



Growth of a Dollar



Risk-Reward



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	0.86 (21)	1.48 (19)	1.48 (19)	0.64 (12)	1.15 (8)	0.68 (6)	0.00 (89)	0.44 (4)	2.11 (8)	1.72 (11)
Benchmark	0.89	1.52	1.52	0.70	1.22	0.73	0.04	0.54	2.21	1.82
Peer Group	0.81	1.34	1.34	0.54	0.99	0.54	0.01	0.28	1.83	1.47
Population	590	579	579	532	498	385	572	581	575	591

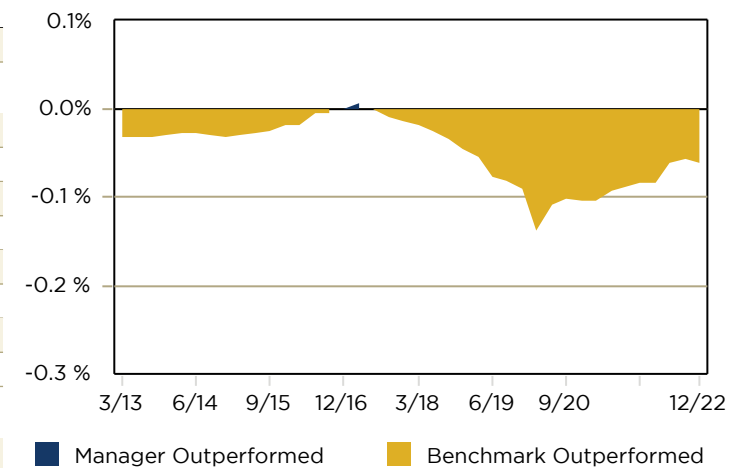
Fund Information

Fund Inception	07/01/1999
Fund Assets	1,630 Million
Portfolio Assets	1,001 Million
# of Holdings	127
% in Top 10	39.92 %
PM	Hurst,A/Kemper,C
PM Tenure	
Turnover	-
Gross Exp. (%)	0.13 %
Net Exp. (%)	0.13 %
New Investors	Open

Fund Statistics

Standard Deviation	3 Years 0.30	10 Years 0.26
vs. Blmbg. U.S. Treasury Bills: 1-3 Months		
Beta	0.90	0.93
Alpha	0.01	0.01
Information Ratio	-0.71	-0.92
Tracking Error	0.09	0.05
R-Squared	0.93	0.97
Up Market Capture	91.19	93.33
Down Market Capture	0.00	-82.24
Consistency	19.44	21.67

3 Years Rolling Excess Performance



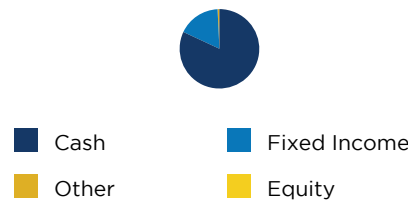
Fixed Income Characteristics

Avg. Effective Duration	-
Avg. Effective Maturity	-
Avg. Credit Quality	
Avg. Weighted Coupon	-
Yield To Maturity	-

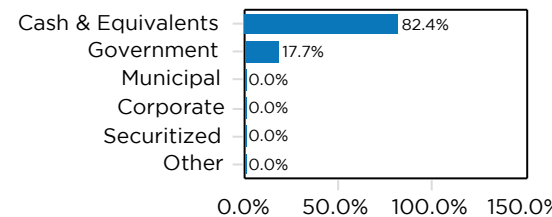
vs. Risk Free

Sharpe Ratio	3 Years -0.56	10 Years -0.79
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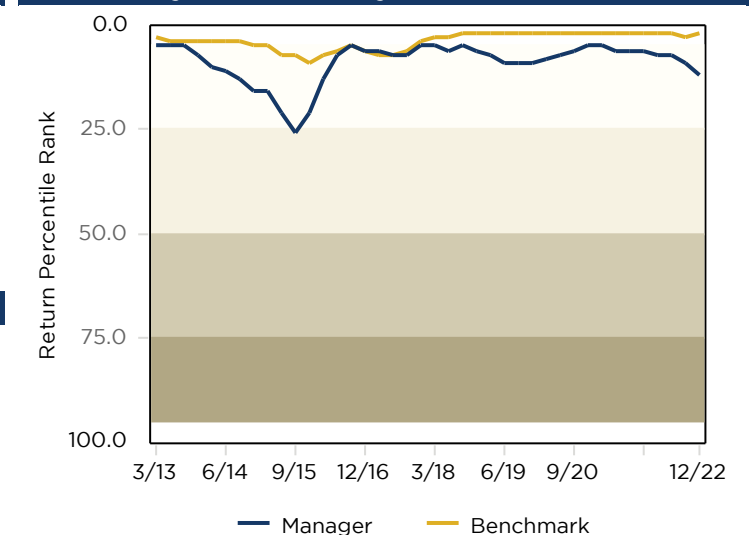
Asset Allocation



Sector Allocation



3 Years Rolling Percentile Ranking



Top Holdings (%)

Fixed Income Clearing Corp (Ficc)	17.43
Federal Home Loan Banks 0%	4.13
Federal Home Loan Banks 0%	3.31
Federal Home Loan Banks 0%	2.73
Federal Home Loan Banks 0%	2.67
Federal Home Loan Banks 0%	2.17
Federal Home Loan Banks 3.87%	2.12
Federal Home Loan Banks 0%	1.85
Federal Home Loan Banks 3.85%	1.80
Federal Home Loan Banks 0%	1.73



TIAA-CREF Bond Index Institutional (TBIIX)

Index: Blmbg. U.S. Aggregate Index

Category: Intermediate Core Bond

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	1.59 (56)	-13.24 (38)	-13.24 (38)	-2.89 (61)	-0.16 (54)	0.88 (55)	-1.81 (65)	7.49 (63)	8.38 (53)	-0.02 (29)
Benchmark	1.87	-13.01	-13.01	-2.71	0.02	1.06	-1.55	7.51	8.72	0.01
Peer Group	1.64	-13.44	-13.44	-2.78	-0.12	0.94	-1.59	7.83	8.46	-0.43
Population	470	459	459	431	407	366	455	452	470	467

Fund Information

Fund Inception	09/14/2009
Fund Assets	18,192 Million
Portfolio Assets	8,448 Million
# of Holdings	8185
% in Top 10	9.20 %
PM	Chen,L/Tsang,J
PM Tenure	
Turnover	18.00 %
Gross Exp. (%)	0.07 %
Net Exp. (%)	0.07 %
New Investors	Open

Fixed Income Characteristics

Avg. Effective Duration	6.19 Years
Avg. Effective Maturity	8.59 Years
Avg. Credit Quality	AA
Avg. Weighted Coupon	2.61 %
Yield To Maturity	4.54 %

Top Holdings (%)

United States Treasury Notes 2.125%	1.30
United States Treasury Notes 0.375%	1.20
United States Treasury Notes 1.75%	1.03
United States Treasury Bonds 3.5%	0.88
United States Treasury Notes 4.125%	0.86
United States Treasury Notes 2.25%	0.85
State Str Navigator Secs Lending	0.82
United States Treasury Notes 1.125%	0.77
United States Treasury Notes 0.75%	0.75
Federal National Mortgage Asso	0.75

Fund Statistics

	3 Years	10 Years
Standard Deviation	5.81	4.15
vs. Blmbg. U.S. Aggregate Index		
Beta	1.01	1.01
Alpha	-0.17	-0.18
Information Ratio	-0.57	-0.60
Tracking Error	0.32	0.28
R-Squared	1.00	1.00
Up Market Capture	100.03	99.34
Down Market Capture	102.04	102.82
Consistency	38.89	39.17

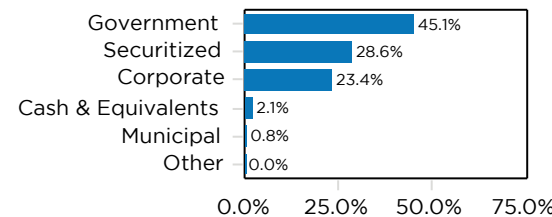
vs. Risk Free

Sharpe Ratio	-0.60	0.05
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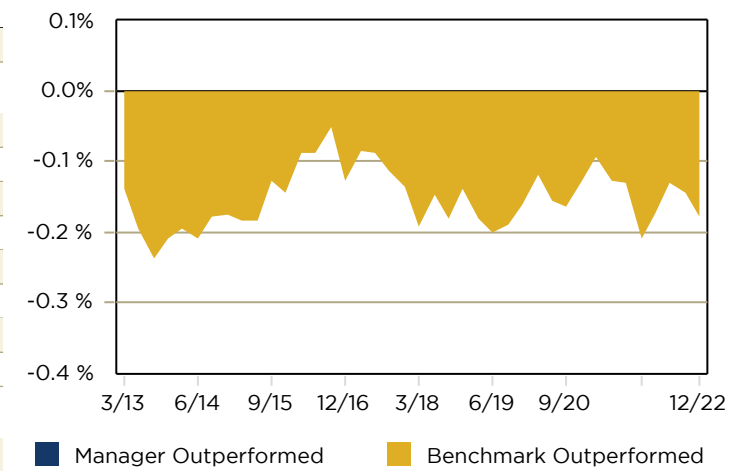
Asset Allocation



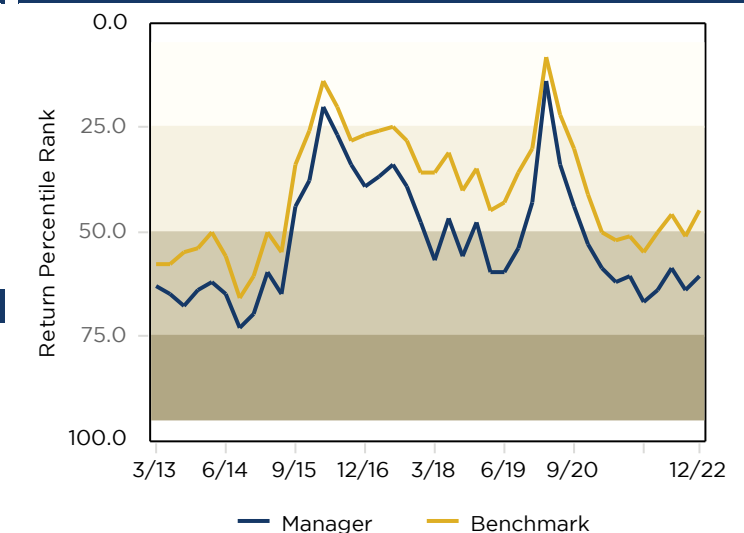
Sector Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	1.79 (34)	-13.14 (33)	-13.14 (33)	-2.54 (36)	0.15 (24)	1.21 (25)	-1.23 (33)	7.92 (49)	9.03 (26)	-0.19 (38)
Benchmark	1.87	-13.01	-13.01	-2.71	0.02	1.06	-1.55	7.51	8.72	0.01
Peer Group	1.64	-13.44	-13.44	-2.78	-0.12	0.94	-1.59	7.83	8.46	-0.43
Population	470	459	459	431	407	366	455	452	470	467

Fund Information

Fund Inception	04/24/2015
Fund Assets	10,546 Million
Portfolio Assets	5,403 Million
# of Holdings	1883
% in Top 10	13.94 %
PM	Cerra,J/Higgins,J/O'Brien,J
PM Tenure	
Turnover	207.00 %
Gross Exp. (%)	0.22 %
Net Exp. (%)	0.22 %
New Investors	Open

Fixed Income Characteristics

Avg. Effective Duration	6.06 Years
Avg. Effective Maturity	8.73 Years
Avg. Credit Quality	A
Avg. Weighted Coupon	3.52 %
Yield To Maturity	5.67 %

Top Holdings (%)

United States Treasury Notes 4.125%	3.01
United States Treasury Notes 4.125%	1.74
United States Treasury Bonds 2.25%	1.66
United States Treasury Notes 4.375%	1.58
United States Treasury Notes 4.375%	1.52
United States Treasury Notes 3.875%	1.02
Government National Mortgage A	0.99
United States Treasury Bonds 3%	0.92
United States Treasury Bonds 3.375%	0.77
Fixed Income Clearing Corp (Ficc)	0.73

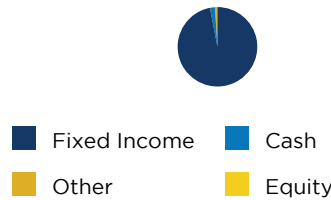
Fund Statistics

	3 Years	10 Years
Standard Deviation	6.11	4.21
vs. Blmbg. U.S. Aggregate Index		
Beta	1.01	0.99
Alpha	0.23	0.16
Information Ratio	0.11	0.15
Tracking Error	1.82	1.06
R-Squared	0.91	0.94
Up Market Capture	110.51	103.54
Down Market Capture	105.24	100.97
Consistency	69.44	60.83

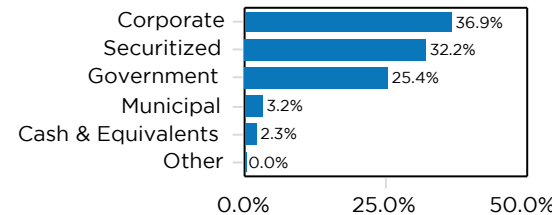
vs. Risk Free

Sharpe Ratio	-0.50	0.13
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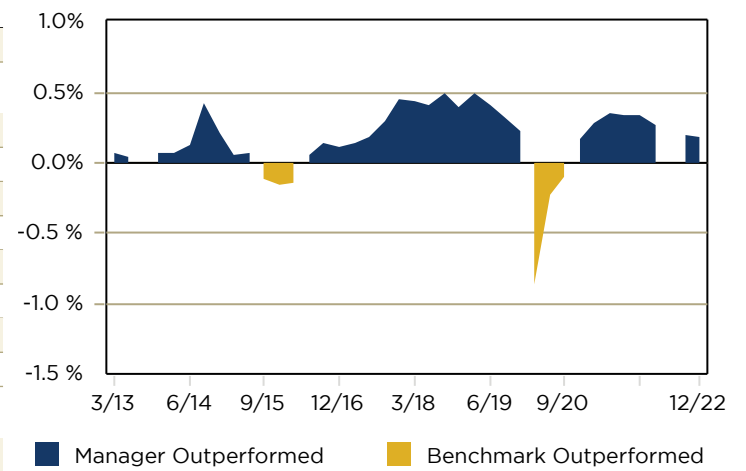
Asset Allocation



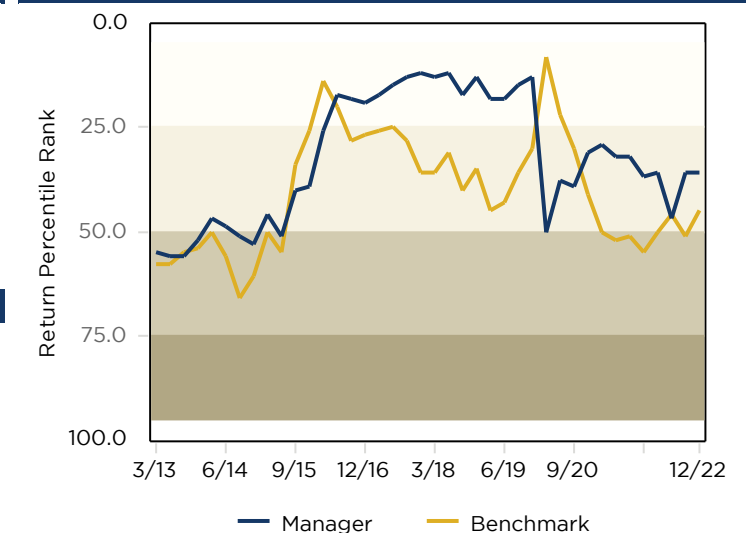
Sector Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	2.12 (27)	-13.32 (36)	-13.32 (36)	-2.29 (37)	0.37 (30)	1.68 (19)	-0.33 (30)	7.98 (58)	9.47 (43)	-0.25 (27)
Benchmark	1.87	-13.01	-13.01	-2.71	0.02	1.06	-1.55	7.51	8.72	0.01
Peer Group	1.81	-13.84	-13.84	-2.57	0.05	1.24	-0.81	8.32	9.24	-0.80
Population	647	627	627	580	556	477	619	616	636	618

Fund Information

Fund Inception	03/31/2006
Fund Assets	4,152 Million
Portfolio Assets	1,316 Million
# of Holdings	1677
% in Top 10	14.68 %
PM	Team Managed
PM Tenure	
Turnover	251.00 %
Gross Exp. (%)	0.30 %
Net Exp. (%)	0.30 %
New Investors	Open

Fixed Income Characteristics

Avg. Effective Duration	6.03 Years
Avg. Effective Maturity	9.04 Years
Avg. Credit Quality	BBB
Avg. Weighted Coupon	3.92 %
Yield To Maturity	6.15 %

Top Holdings (%)

United States Treasury Notes 4.125%	3.02
United States Treasury Bonds 2.375%	2.83
United States Treasury Bonds 2.25%	2.24
United States Treasury Bonds 3%	1.32
United States Treasury Bonds 4%	1.30
United States Treasury Bills 0%	1.12
Federal Home Loan Mortgage Cor	0.85
Federal National Mortgage Asso	0.67
United States Treasury Bonds 1.75%	0.67
Government National Mortgage A	0.66

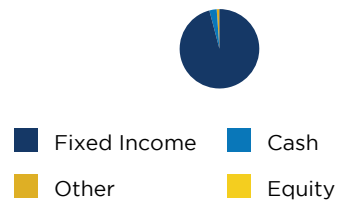
Fund Statistics

	3 Years	10 Years
Standard Deviation	6.82	4.51
vs. Blmbg. U.S. Aggregate Index		
Beta	1.04	1.00
Alpha	0.62	0.64
Information Ratio	0.16	0.33
Tracking Error	3.20	1.93
R-Squared	0.78	0.82
Up Market Capture	119.98	109.44
Down Market Capture	108.64	97.96
Consistency	66.67	63.33

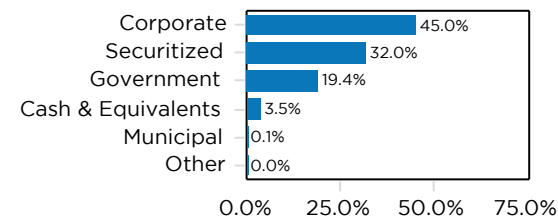
vs. Risk Free

Sharpe Ratio	-0.41	0.23
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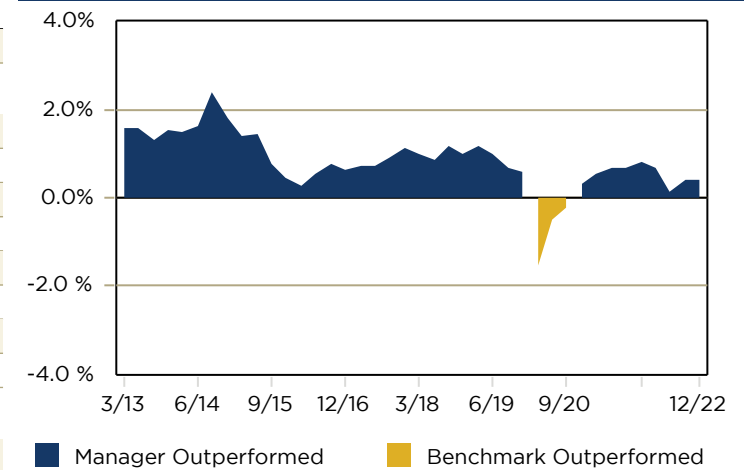
Asset Allocation



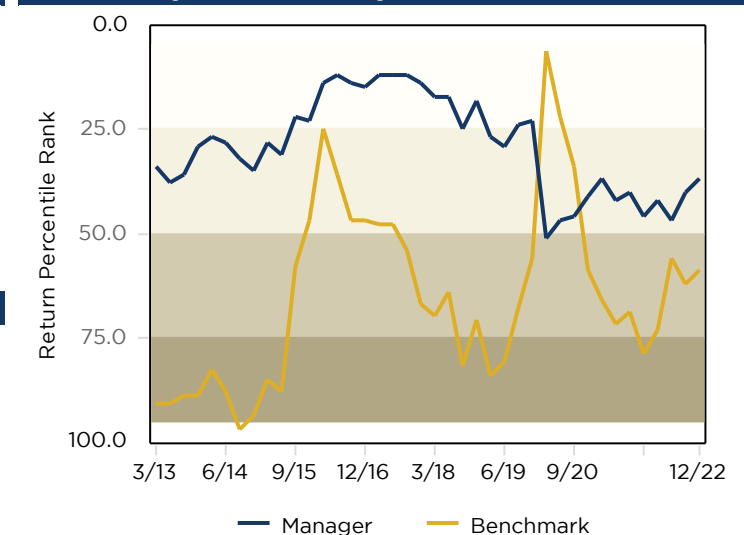
Sector Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	1.50 (76)	-6.34 (24)	-6.34 (24)	2.13 (17)	2.46 (15)	1.03 (39)	5.28 (51)	8.03 (72)	6.53 (70)	-0.49 (15)
Benchmark	1.64	-7.34	-7.34	2.01	2.50	1.29	5.69	8.39	6.85	-0.25
Peer Group	1.97	-11.65	-11.65	1.22	1.91	0.89	5.30	9.70	7.50	-1.59
Population	216	212	212	204	199	185	213	214	229	236

Fund Information

Fund Inception	04/24/2015
Fund Assets	7,159 Million
Portfolio Assets	3,912 Million
# of Holdings	171
% in Top 10	35.15 %
PM	Cerra,J/Kemper,C/Travaglino,N
PM Tenure	
Turnover	24.00 %
Gross Exp. (%)	0.17 %
Net Exp. (%)	0.17 %
New Investors	Open

Fixed Income Characteristics

Avg. Effective Duration	4.23 Years
Avg. Effective Maturity	4.62 Years
Avg. Credit Quality	AA
Avg. Weighted Coupon	0.99 %
Yield To Maturity	4.57 %

Top Holdings (%)

United States Treasury Notes 0.125%	4.32
United States Treasury Notes 0.125%	4.08
United States Treasury Notes 0.625%	3.59
United States Treasury Bonds 1.75%	3.46
United States Treasury Notes 0.375%	3.35
United States Treasury Notes 0.5%	3.30
United States Treasury Notes 0.125%	3.29
United States Treasury Notes 0.5%	3.27
United States Treasury Notes 0.375%	3.25
United States Treasury Notes 0.125%	3.24

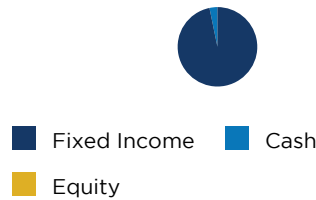
Fund Statistics

	3 Years	10 Years
Standard Deviation	4.74	4.15
vs. Blmbg. U.S. TIPS 1-10 Year		
Beta	0.89	1.03
Alpha	0.33	-0.28
Information Ratio	0.12	-0.24
Tracking Error	0.72	1.02
R-Squared	0.99	0.94
Up Market Capture	92.57	102.34
Down Market Capture	88.52	108.75
Consistency	41.67	46.67

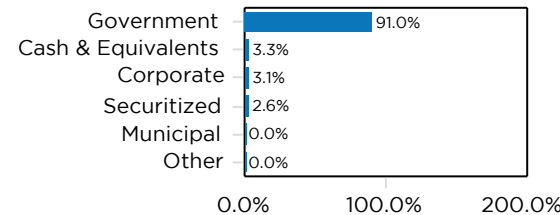
vs. Risk Free

Sharpe Ratio	0.31	0.09
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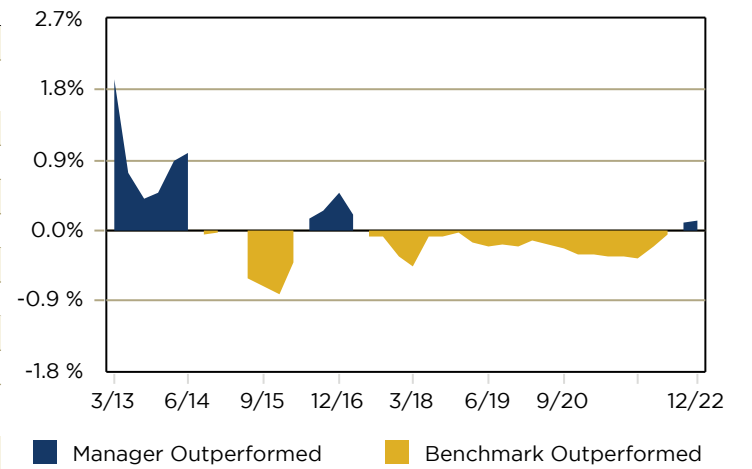
Asset Allocation



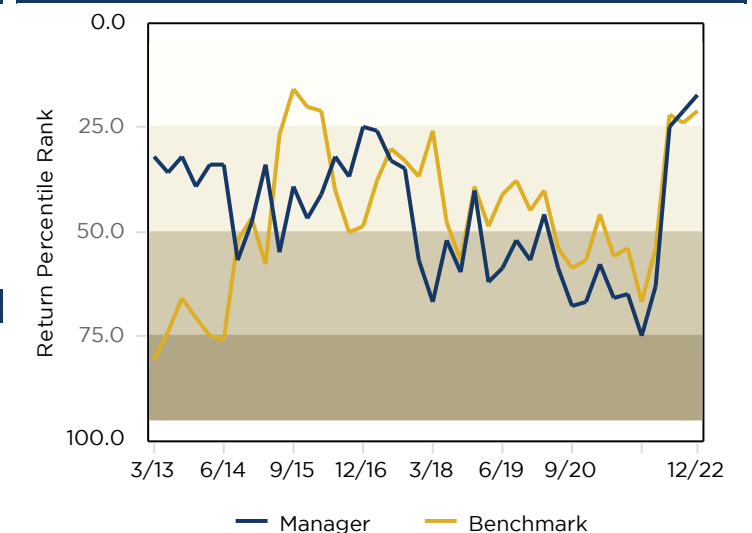
Sector Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	4.54 (22)	-9.83 (32)	-9.83 (32)	-1.15 (75)	1.79 (45)	3.48 (37)	4.79 (51)	2.23 (91)	16.21 (6)	-2.66 (41)
Benchmark	4.31	-10.64	-10.64	-0.15	2.34	3.94	4.62	6.49	15.09	-2.02
Peer Group	3.97	-10.82	-10.82	-0.48	1.68	3.24	4.80	5.24	13.50	-2.90
Population	710	689	689	651	631	539	701	711	738	751

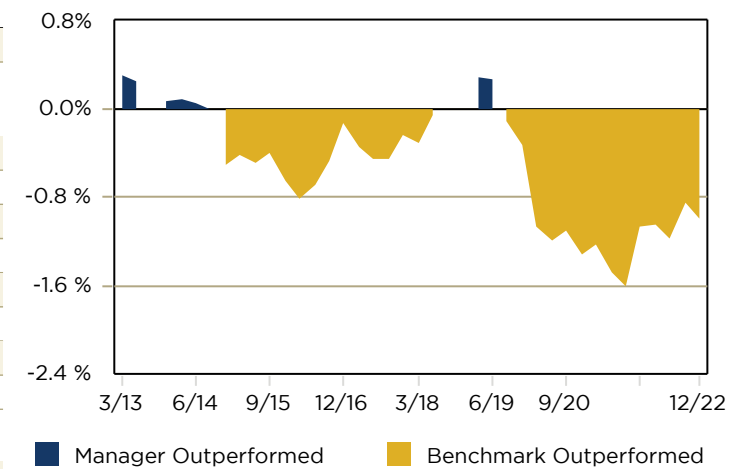
Fund Information

Fund Inception	03/31/2006
Fund Assets	2,565 Million
Portfolio Assets	1,583 Million
# of Holdings	310
% in Top 10	9.62 %
PM	Lin,J/Lorenz,K
PM Tenure	
Turnover	70.00 %
Gross Exp. (%)	0.36 %
Net Exp. (%)	0.36 %
New Investors	Open

Fund Statistics

	3 Years	10 Years
Standard Deviation	11.20	7.66
vs. ICE BofAM US High Yield Cash Pay BB-B Rated Index		
Beta	1.04	1.07
Alpha	-0.96	-0.68
Information Ratio	-0.74	-0.35
Tracking Error	1.28	1.17
R-Squared	0.99	0.98
Up Market Capture	95.68	101.46
Down Market Capture	103.21	108.56
Consistency	52.78	45.83

3 Years Rolling Excess Performance



Fixed Income Characteristics

Avg. Effective Duration	4.13 Years
Avg. Effective Maturity	6.12 Years
Avg. Credit Quality	B
Avg. Weighted Coupon	5.49 %
Yield To Maturity	8.01 %

vs. Risk Free

Sharpe Ratio	-0.11	0.39
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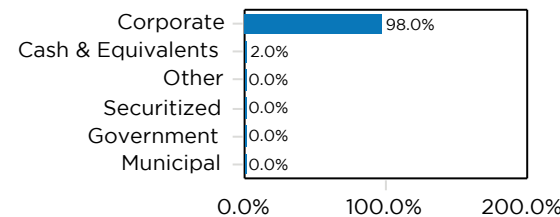
Asset Allocation



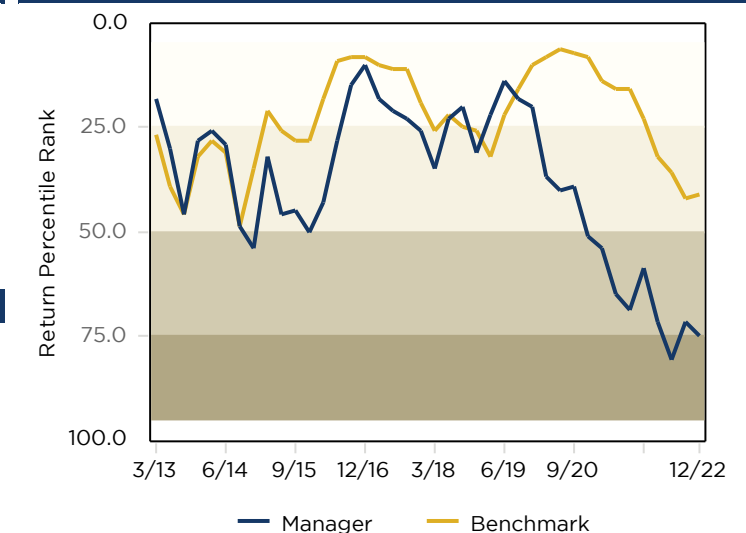
Top Holdings (%)

Imola Merger Corp.	4.75%	1.38
Tenet Healthcare Corporation	4.375%	1.15
Celanese US Holdings Llc	6.05%	1.14
Federal Home Loan Banks	0.01%	1.00
Albion Financing 1 S A R L & A		0.93
Gates Global Llc/Gates Global Co.		0.85
Organon & Co	5.125%	0.84
CDI Escrow Issuer Inc.	5.75%	0.78
Garda World Security Corporation		0.78
CCO Holdings, LLC/ CCO Holdings		0.76

Sector Allocation



3 Years Rolling Percentile Ranking



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	1.34	-4.64	-4.64	0.44	1.64	-	0.64	5.59	6.95	0.11
Benchmark	2.47	-8.19	-8.19	0.32	2.32	-	1.09	8.79	10.80	0.27

Fund Information

Fund Inception	09/28/2015
Fund Assets	205 Million
Portfolio Assets	181 Million
# of Holdings	32
% in Top 10	44.37 %
PM	Alm,E/Drum,P
PM Tenure	
Turnover	15.00 %
Gross Exp. (%)	0.56 %
Net Exp. (%)	0.56 %
New Investors	Open

Fixed Income Characteristics

Avg. Effective Duration	2.84 Years
Avg. Effective Maturity	3.83 Years
Avg. Credit Quality	BB
Avg. Weighted Coupon	4.06 %
Yield To Maturity	4.50 %

Top Holdings (%)

Almarai Co 4.311%	5.47
Icd Sukuk Co 5%	5.33
Equate Sukuk 3.944%	5.08
Difc Sukuk 4.325%	4.62
Tabreed Sukuk Spc 5.5%	4.52
Tnb Global Ventrs Cap Berhad 3.244%	4.28
STC Sukuk Co Ltd. 3.89%	3.97
Dib Sukuk Co 2.95%	3.82
Perusahaan Penerbit SBSN Indonesia	3.67
Qib Sukuk Ltd. 3.982%	3.59

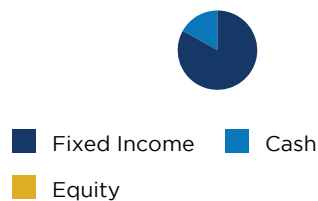
Fund Statistics

	3 Years	10 Years
Standard Deviation	4.05	-
vs. FTSE Sukuk		
Beta	0.62	-
Alpha	0.23	-
Information Ratio	0.02	-
Tracking Error	2.93	-
R-Squared	0.75	-
Up Market Capture	66.22	-
Down Market Capture	62.82	-
Consistency	44.44	-

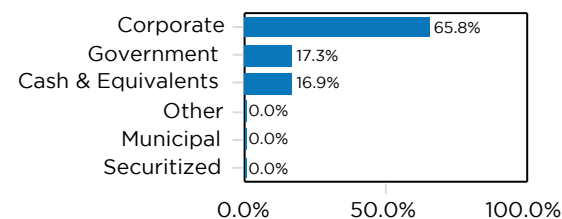
vs. Risk Free

Sharpe Ratio	-0.05	-
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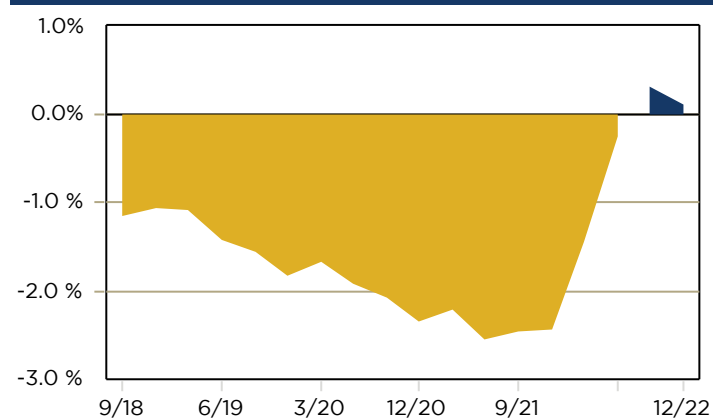
Asset Allocation



Sector Allocation



3 Years Rolling Excess Performance



■ Manager Outperformed ■ Benchmark Outperformed

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	14.39 (18)	-6.99 (63)	-6.99 (63)	6.96 (50)	6.25 (72)	9.71 (70)	27.01 (40)	3.59 (43)	28.81 (17)	-14.10 (94)
Benchmark	12.42	-7.54	-7.54	5.96	6.67	10.29	25.16	2.80	26.54	-8.27
Peer Group	12.76	-5.53	-5.53	6.96	7.10	10.21	26.04	2.79	25.56	-8.80
Population	1,250	1,230	1,230	1,182	1,157	1,044	1,229	1,273	1,325	1,397

Fund Information

Fund Inception	10/01/2002
Fund Assets	4,975 Million
Portfolio Assets	1,829 Million
Total # of Holdings	85
% in Top 10	25.80 %
PM	Carr,C
PM Tenure	
Turnover	14.00 %
Gross Expense (%)	0.41 %
Net Expense (%)	0.41 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	204,725	150,838
Median Mkt. Cap (\$M)	110,404	11,340
Price/Earnings ratio	15.7	15.1
Price/Book ratio	2.8	2.4
5 Yr. EPS Growth Rate (%)	17.4	12.9
Current Yield (%)	2.1	2.3
Beta (5 Years, Monthly)	1.04	1.00
Number of Stocks	81	852
Debt to Equity (%)	87.0	90.5
Forecast P/E	14.3	13.8
Forecast EPS Growth	10.5	8.4
Return on Equity (%)	8.3	5.2

Country/Region Allocation

United States	90.2	96.4
Non-US Developed	9.8	3.5
Other	0.0	0.0
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	22.08	15.88
vs. Russell 1000 Value Index		
Beta	1.04	1.05
Alpha	0.83	-0.95
Information Ratio	0.57	-0.17
Tracking Error	1.95	2.30
R-Squared	0.99	0.98
Up Market Capture	106.16	103.32
Down Market Capture	103.75	108.47
Consistency	58.33	52.50

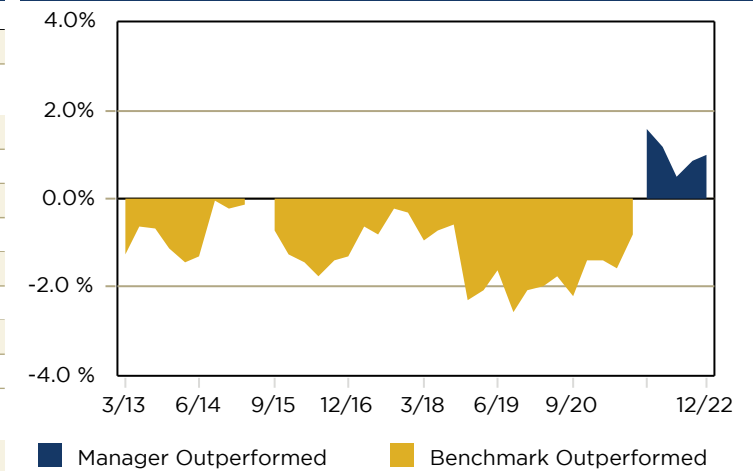
vs. Risk Free

Sharpe Ratio	0.38	0.62
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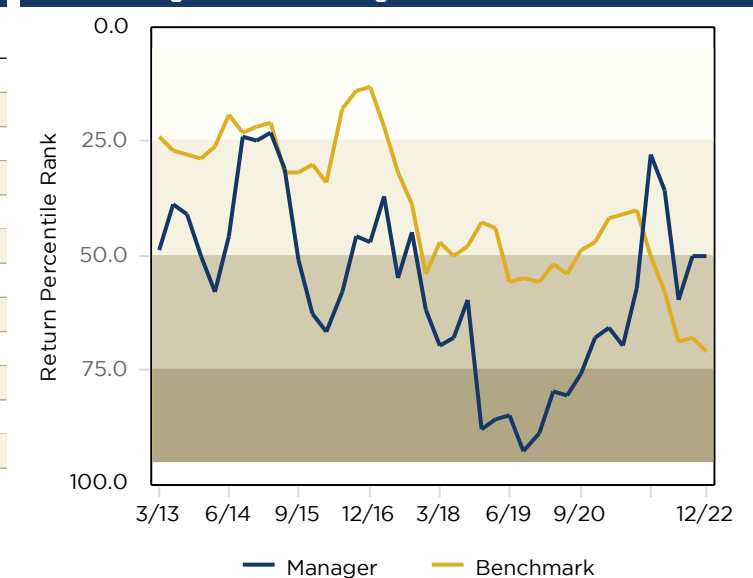
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	6.1	7.3
Consumer Discretionary	5.8	6.0
Consumer Staples	3.4	7.4
Energy	9.3	8.4
Financials	22.6	20.1
Health Care	17.9	17.4
Industrials	14.0	10.5
Information Technology	11.1	8.3
Materials	5.0	4.3
Real Estate	0.9	4.5
Utilities	3.6	5.8
Total	100.0	100.0

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



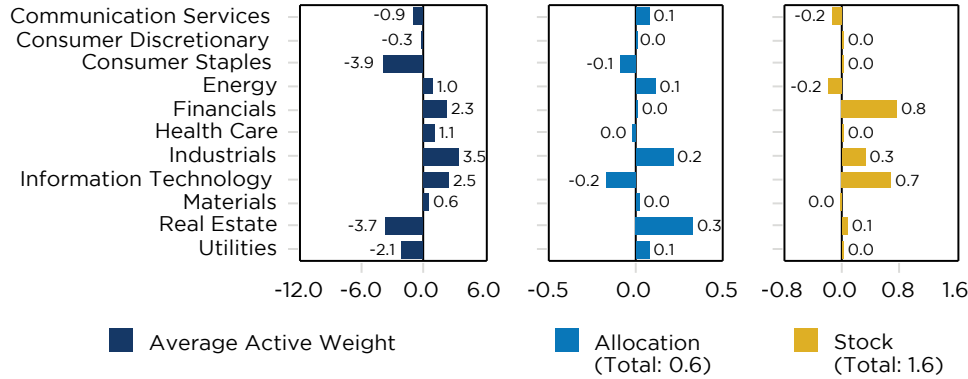


TIAA-CREF Large-Cap Value Instl (TRLIX)

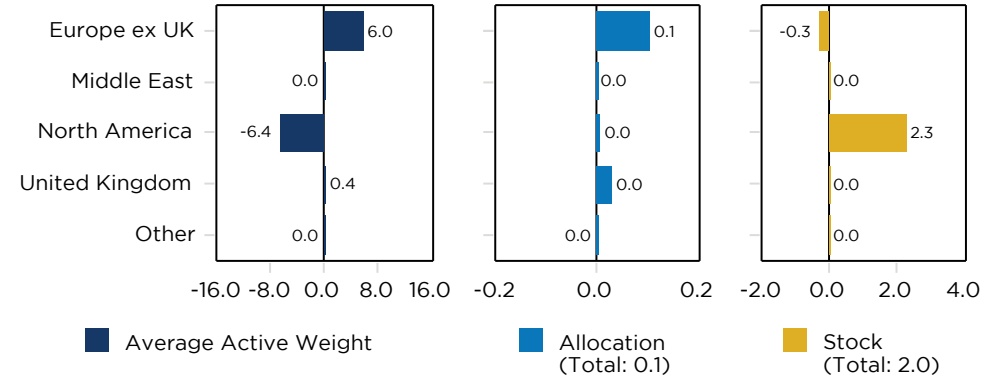
Index: Russell 1000 Value Index

As of: 12/31/2022

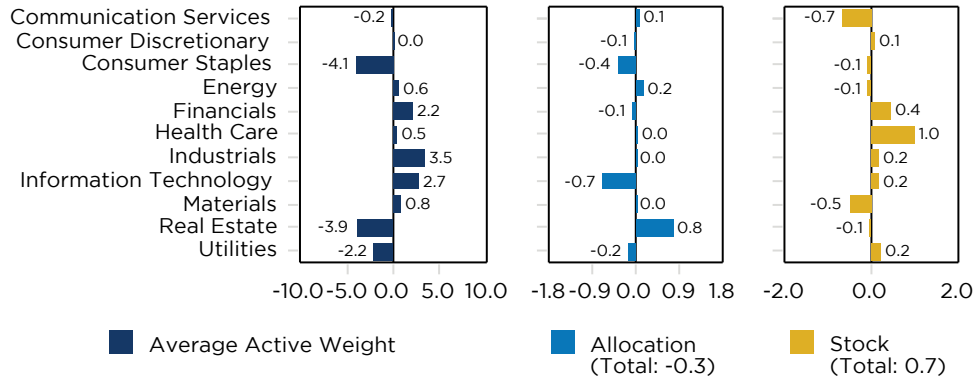
1 Quarter Sector Attribution



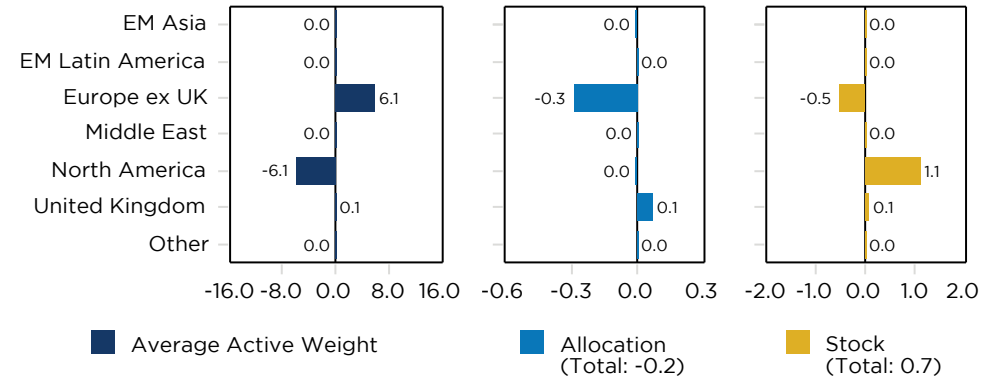
1 Quarter Region Attribution



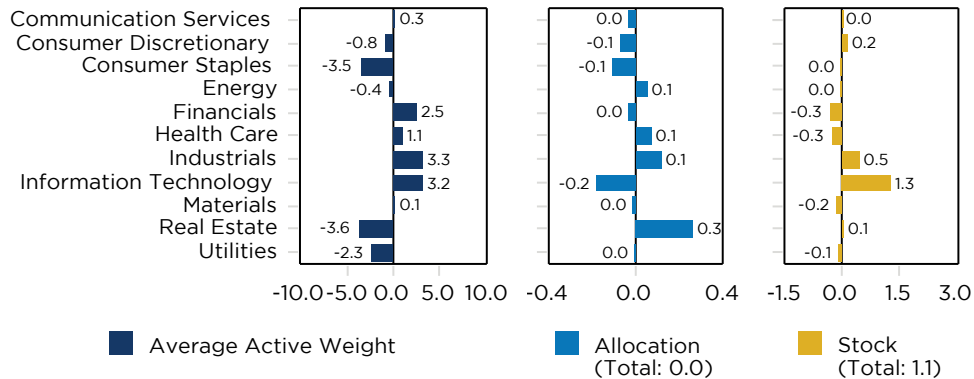
1 Year Sector Attribution



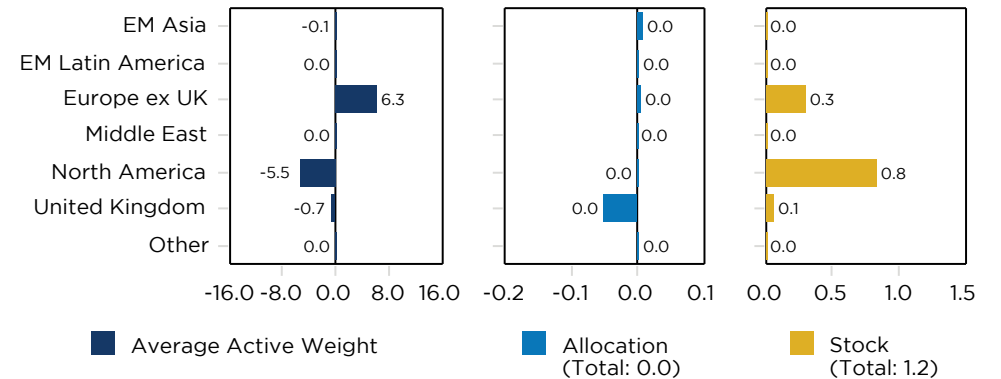
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution





TIAA-CREF Large-Cap Value Instl (TRLIX)

Index: Russell 1000 Value Index

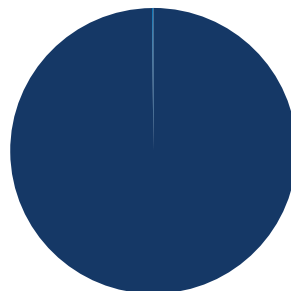
As of: 12/31/2022

Top Ten Securities

Johnson & Johnson	3.5 %
Chevron Corp	3.5 %
JPMorgan Chase & Co	3.2 %
ConocoPhillips	2.9 %
Bank of America Corp	2.6 %
Wells Fargo & Co	2.3 %
Raytheon Technologies Corp	2.2 %
Chubb Ltd	1.9 %
Elevance Health Inc	1.9 %
Berkshire Hathaway Inc Class B	1.9 %
Total	25.8 %

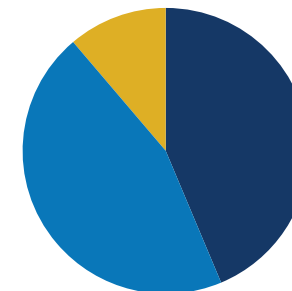
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
American Int'l Group Inc	1.41	0.22	0.26	33.87
Oracle Corp	1.09	0.17	0.20	34.53
Chevron Corp	3.19	1.71	0.20	25.90
Honeywell International Inc	1.64	0.48	0.19	28.98
Raytheon Technologies Corp	2.19	0.74	0.17	24.00
JPMorgan Chase & Co	2.81	1.84	0.17	29.49
Chubb Ltd	1.92	0.46	0.14	21.76
Cigna Corp	1.85	0.42	0.11	19.82
Conocophillips	2.95	0.79	0.09	16.44
Johnson & Johnson	3.77	2.60	-0.04	8.83

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Citigroup Inc	3.55	1.21	0.25	16.55
Lincoln National Corp	0.90	0.08	0.12	20.20
Walt Disney Co (The)	2.41	1.75	0.08	18.52
Boston Properties Inc	0.55	0.15	0.06	21.66
Stanley Black & Decker Inc	0.40	0.17	0.05	27.41
Verizon Communications Inc	2.49	1.77	0.03	10.62
Intel Corp	1.86	1.81	0.01	27.50
Comcast Corp	2.06	0.75	0.01	6.38
Wells Fargo & Co	1.88	1.42	0.00	6.48
AT&T Inc	1.20	1.98	-0.03	10.14

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Alphabet Inc	1.53	0.41	-0.23	-7.72
Crown Holdings Inc	1.23	0.01	-0.13	1.77
Medtronic PLC	1.27	0.65	-0.09	-2.90
Masco Corporation	0.84	0.06	-0.09	0.58
Bristol-Myers Squibb Co	1.77	0.92	-0.09	1.99
Micron Technology Inc.	0.92	0.27	-0.08	0.20
Accenture PLC	0.95	0.00	-0.08	4.17
Walt Disney Co (The)	1.20	0.97	-0.05	-7.90
Danaher Corp	0.45	0.94	0.05	2.86
Meta Platforms Inc	1.14	1.48	0.08	-11.31

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
DEERE & COMPANY	1.39	0.34	-0.35	-27.05
Trane Technologies plc	1.25	0.01	-0.28	-16.44
Goldman Sachs Group Inc	1.68	0.51	-0.24	-14.46
Chevron Corp	2.46	1.60	-0.19	-16.48
Home Depot Inc. (The)	1.69	0.72	-0.19	-13.59
EOG Resources Inc.	1.12	0.34	-0.19	-18.05
Pfizer Inc	2.27	1.51	-0.15	-13.38
Johnson & Johnson	3.22	2.29	-0.14	-8.59
Procter & Gamble Co (The)	2.36	2.02	-0.05	-8.53
Berkshire Hathaway Inc	2.20	3.08	0.14	-9.83

Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

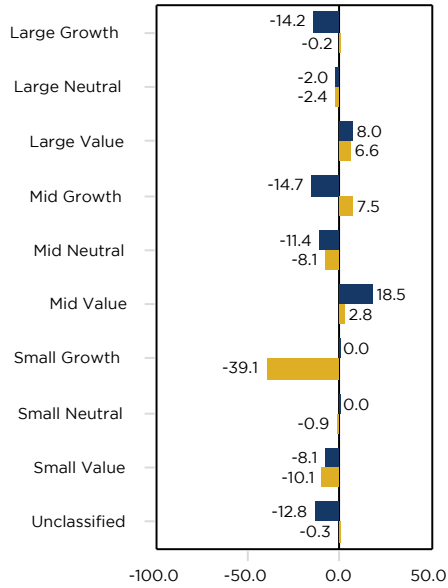


TIAA-CREF Large-Cap Value Instl (TRLIX)

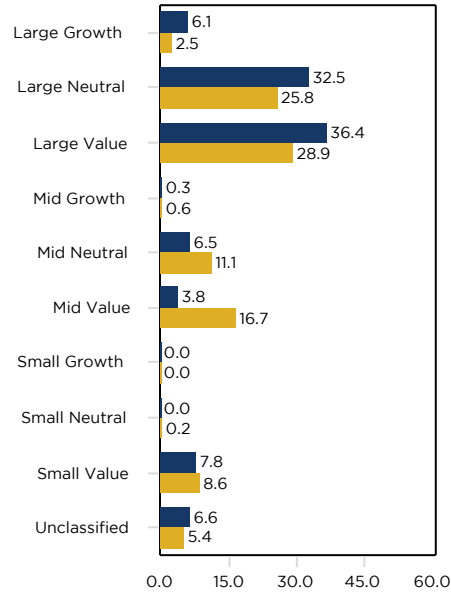
Index: Russell 1000 Value Index

As of: 12/31/2022

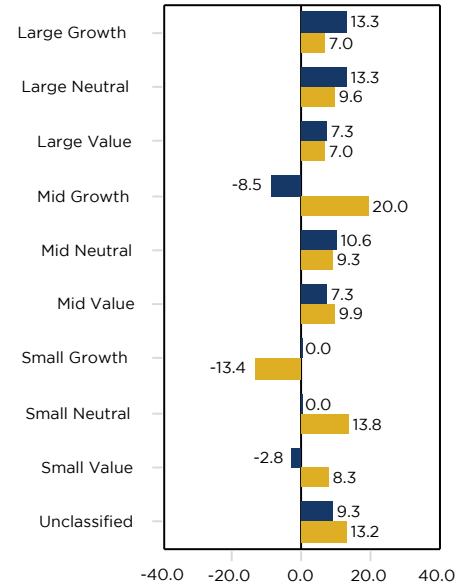
Performance | 1 Year



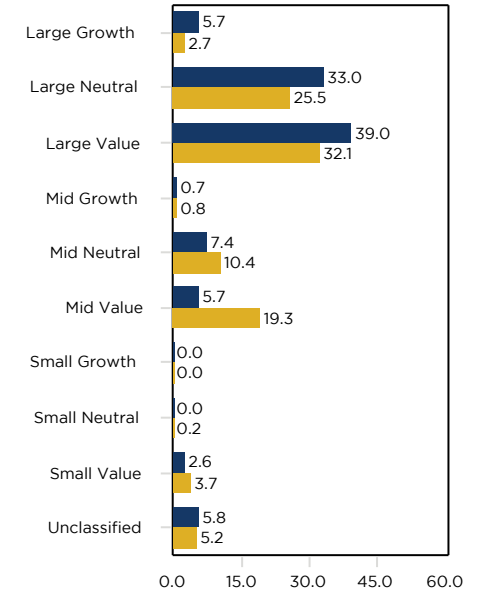
Allocation | 1 Year



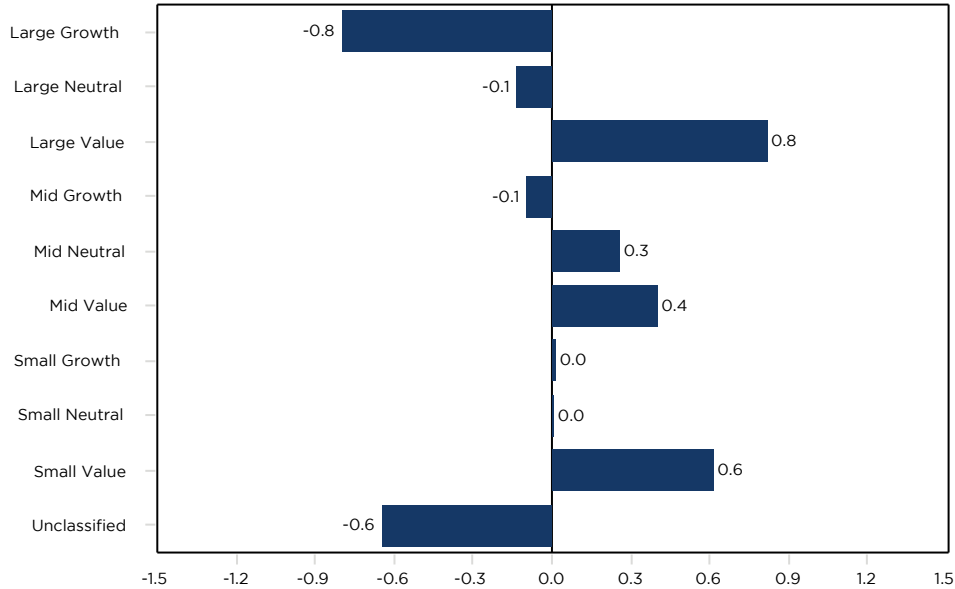
Performance | 3 Years



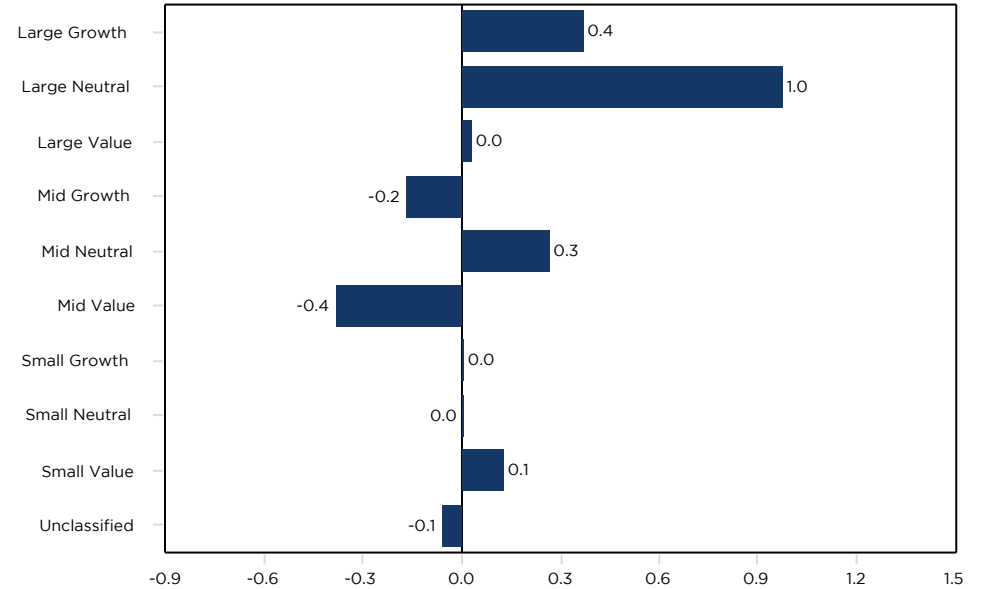
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.



TIAA-CREF Large-Cap Value Idx Inst (TILVX)

Index: Russell 1000 Value Index

Category: Large Value

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	12.41 (59)	-7.54 (68)	-7.54 (68)	5.96 (71)	6.63 (63)	10.24 (50)	25.02 (65)	2.90 (49)	26.39 (39)	-8.31 (43)
Benchmark	12.42	-7.54	-7.54	5.96	6.67	10.29	25.16	2.80	26.54	-8.27
Peer Group	12.76	-5.53	-5.53	6.96	7.10	10.21	26.04	2.79	25.56	-8.80
Population	1,250	1,230	1,230	1,182	1,157	1,044	1,229	1,273	1,325	1,397

Fund Information

Fund Inception	10/01/2002
Fund Assets	7,963 Million
Portfolio Assets	6,673 Million
Total # of Holdings	851
% in Top 10	17.93 %
PM	Campagna,P/Liao,L/Tran,D
PM Tenure	
Turnover	29.00 %
Gross Expense (%)	0.05 %
Net Expense (%)	0.05 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	150,656	150,838
Median Mkt. Cap (\$M)	11,353	11,340
Price/Earnings ratio	15.1	15.1
Price/Book ratio	2.4	2.4
5 Yr. EPS Growth Rate (%)	12.9	12.9
Current Yield (%)	2.3	2.3
Beta (5 Years, Monthly)	1.00	1.00
Number of Stocks	849	852
Debt to Equity (%)	89.9	90.5
Forecast P/E	13.7	13.8
Forecast EPS Growth	8.4	8.4
Return on Equity (%)	5.2	5.2

Country/Region Allocation

United States	96.4	96.4
Non-US Developed	3.5	3.5
Other	0.0	0.0
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	21.19	14.92

vs. Russell 1000 Value Index

Beta	1.00	1.00
Alpha	0.01	-0.03
Information Ratio	-0.15	-0.61
Tracking Error	0.10	0.09
R-Squared	1.00	1.00
Up Market Capture	99.76	99.67
Down Market Capture	99.74	99.81
Consistency	44.44	45.00

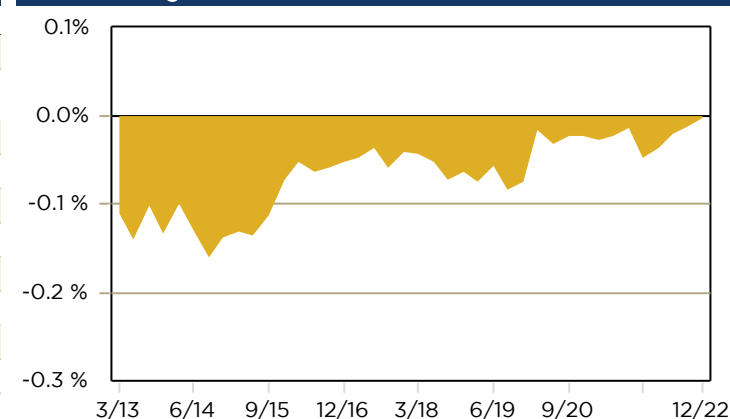
vs. Risk Free

Sharpe Ratio	0.35	0.68
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Sector Allocation

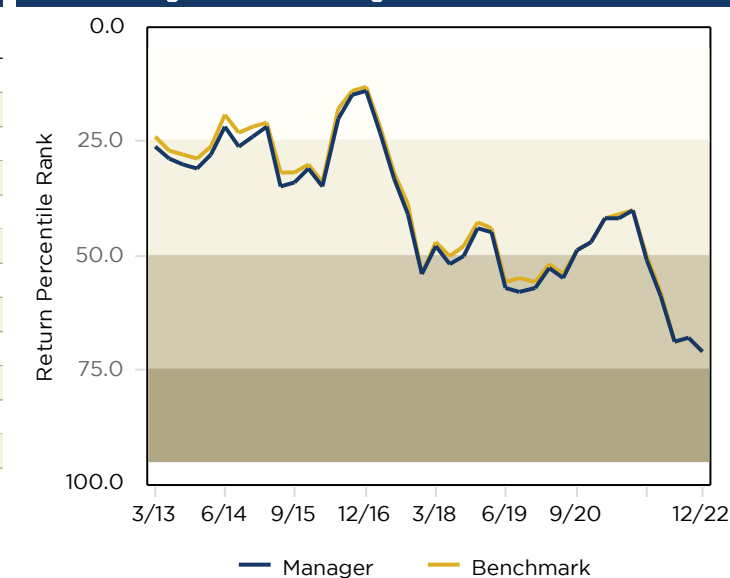
Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	7.3	7.3
Consumer Discretionary	6.0	6.0
Consumer Staples	7.4	7.4
Energy	8.5	8.4
Financials	20.1	20.1
Health Care	17.2	17.4
Industrials	10.5	10.5
Information Technology	8.3	8.3
Materials	4.3	4.3
Real Estate	4.4	4.5
Utilities	5.8	5.8
Total	99.7	100.0

3 Years Rolling Excess Performance



■ Manager Outperformed ■ Benchmark Outperformed

3 Years Rolling Percentile Ranking



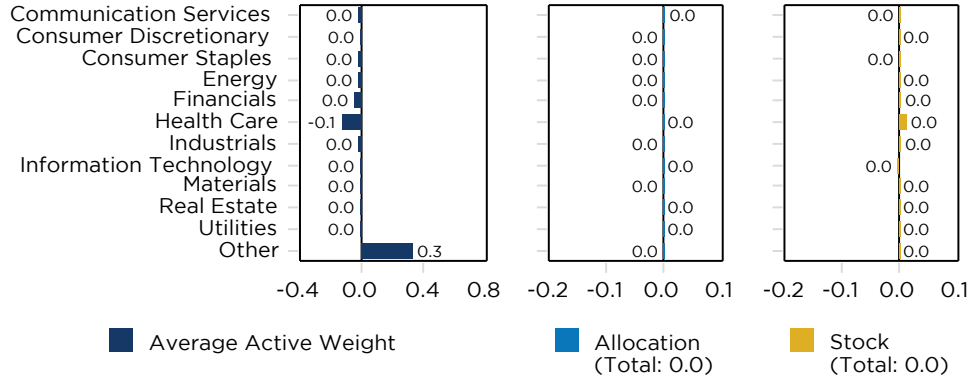


TIAA-CREF Large-Cap Value Idx Inst (TILVX)

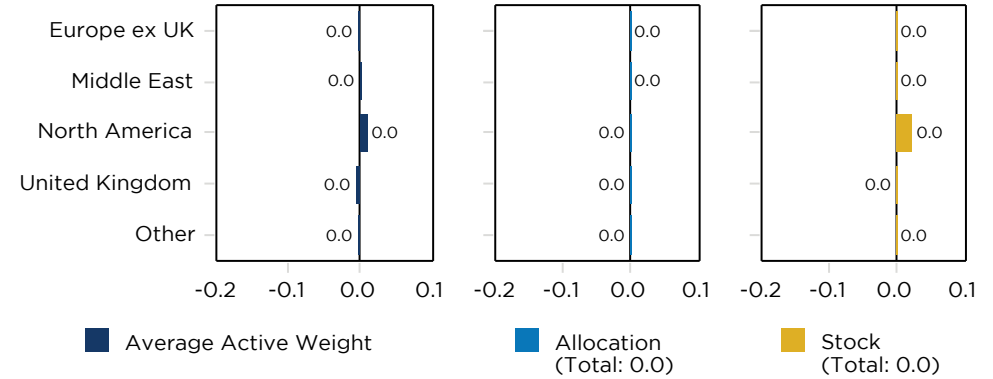
Index: Russell 1000 Value Index

As of: 12/31/2022

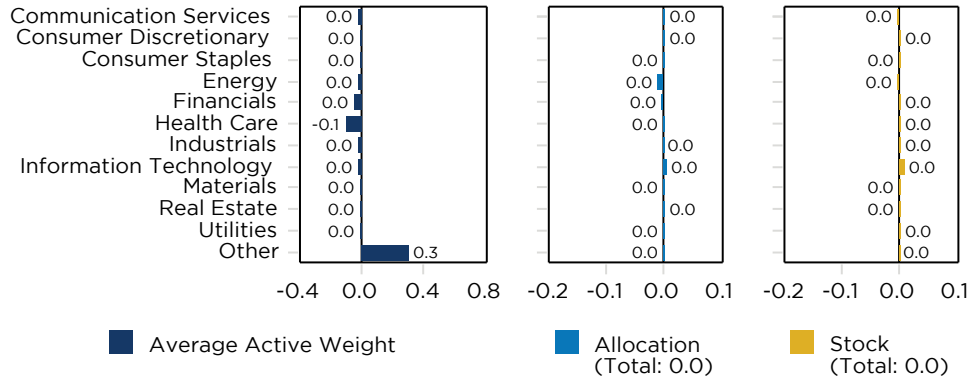
1 Quarter Sector Attribution



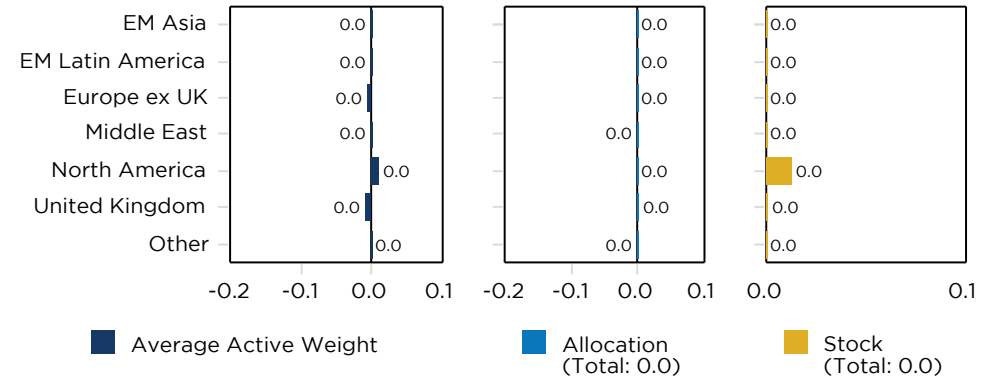
1 Quarter Region Attribution



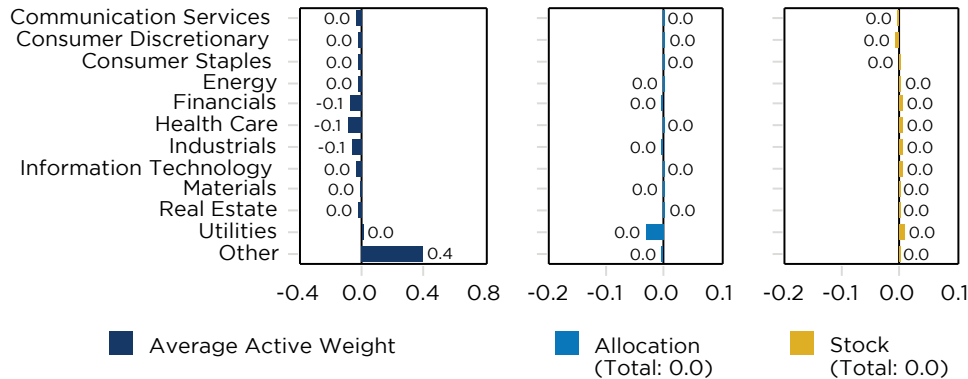
1 Year Sector Attribution



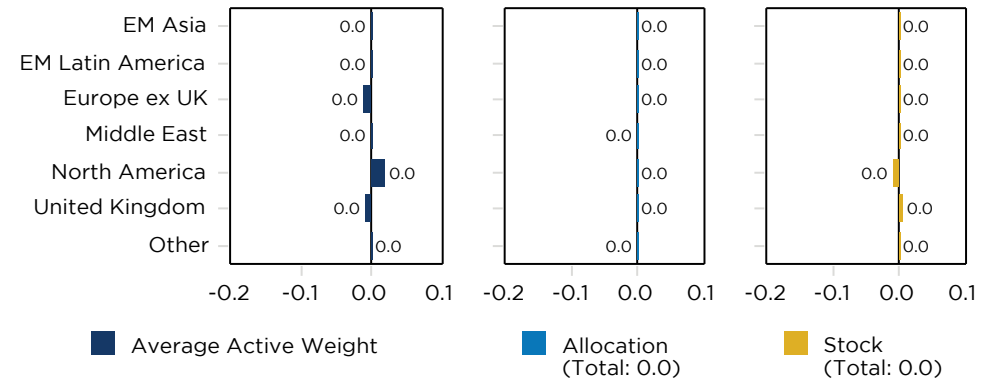
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution





TIAA-CREF Large-Cap Value Idx Inst (TILVX)

Index: Russell 1000 Value Index

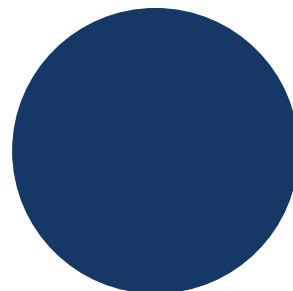
As of: 12/31/2022

Top Ten Securities

Berkshire Hathaway Inc Class B	3.0 %
Johnson & Johnson	2.4 %
Exxon Mobil Corp	2.4 %
JPMorgan Chase & Co	2.1 %
Chevron Corp	1.9 %
Pfizer Inc	1.5 %
Bank of America Corp	1.4 %
Walmart Inc	1.1 %
Meta Platforms Inc Class A	1.1 %
Cisco Systems Inc	1.1 %
Total	17.9 %

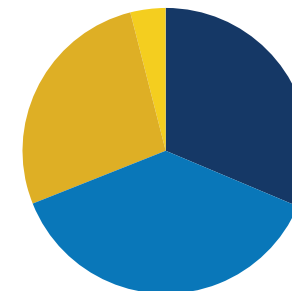
Asset Allocation

- Equity
- Fixed Income
- Cash



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Exxon Mobil Corp	2.20	2.20	0.00	27.35
JPMorgan Chase & Co	1.84	1.84	0.00	29.49
Berkshire Hathaway Inc	2.91	2.91	0.00	15.68
Johnson & Johnson	2.60	2.60	0.00	8.83
Procter & Gamble Co (The)	1.05	1.05	0.00	20.91
Gilead Sciences Inc	0.47	0.47	0.00	40.31
Pfizer Inc	1.49	1.50	0.00	18.10
Cisco Systems Inc	1.00	1.01	0.00	20.18
Chevron Corp	1.70	1.71	0.00	25.90
Merck & Co Inc	0.76	0.77	0.00	29.67

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Walt Disney Co (The)	1.75	1.75	0.00	18.52
Carnival Corporation & Plc	0.14	0.14	0.00	84.04
Wells Fargo & Co	1.42	1.42	0.00	6.48
Royal Caribbean Group	0.16	0.16	0.00	38.72
Fidelity Natioal Info Serv Inc.	0.23	0.23	0.00	25.16
AT&T Inc	1.97	1.98	0.00	10.14
Verizon Communications Inc	1.76	1.77	0.00	10.62
Medtronic PLC	1.05	1.06	0.00	10.89
Citigroup Inc	1.20	1.21	0.00	16.55
Intel Corp	1.80	1.81	0.00	27.50

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Meta Platforms Inc	1.48	1.48	0.00	-11.31
Walt Disney Co (The)	0.97	0.97	0.00	-7.90
PayPal Holdings Inc	0.42	0.42	0.00	-17.25
Rivian Automotive Inc	0.10	0.10	0.00	-44.00
Dominion Energy Inc	0.35	0.35	0.00	-10.29
Alphabet Inc	0.45	0.45	0.00	-7.76
M&T Bank Corp	0.19	0.19	0.00	-17.15
Alphabet Inc	0.41	0.41	0.00	-7.72
Marvell Technology Inc	0.22	0.22	0.00	-13.57
SALESFORCE INC	0.65	0.66	0.00	-7.82

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Pfizer Inc	1.51	1.51	0.00	-13.38
Raytheon Technologies Corp	0.84	0.84	0.00	-22.06
Linde Plc	0.79	0.79	0.00	-14.60
Danaher Corp	0.62	0.62	0.00	-16.99
Procter & Gamble Co (The)	2.01	2.02	0.00	-8.53
Chevron Corp	1.59	1.60	0.00	-16.48
Exxon Mobil Corp	2.04	2.05	0.00	-19.03
Conocophillips	0.49	0.50	0.00	-21.19
Johnson & Johnson	2.27	2.29	0.00	-8.59
Berkshire Hathaway Inc	3.06	3.08	0.00	-9.83

Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

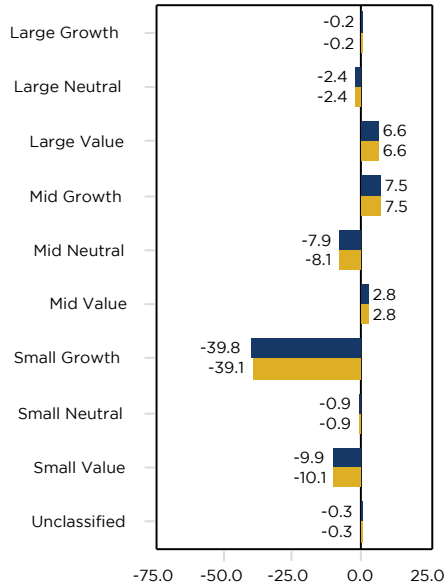


TIAA-CREF Large-Cap Value Idx Inst (TILVX)

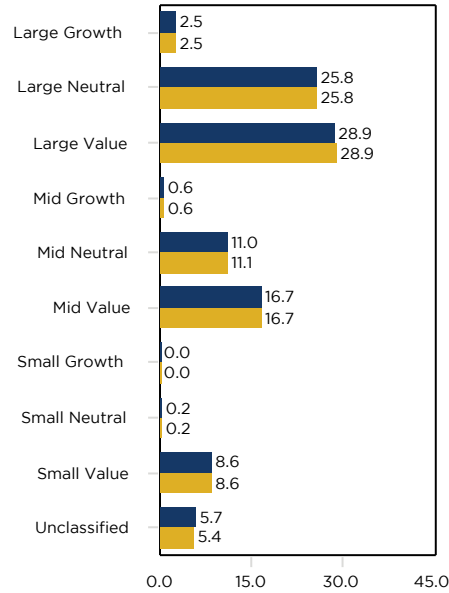
Index: Russell 1000 Value Index

As of: 12/31/2022

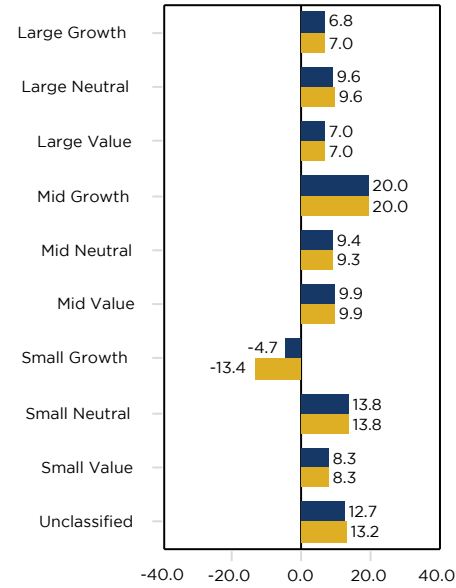
Performance | 1 Year



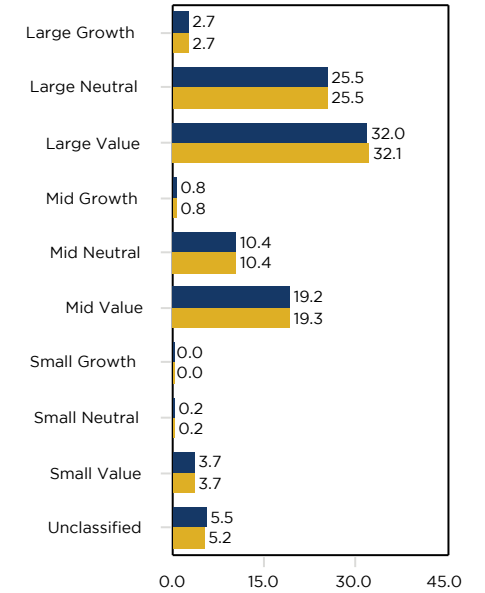
Allocation | 1 Year



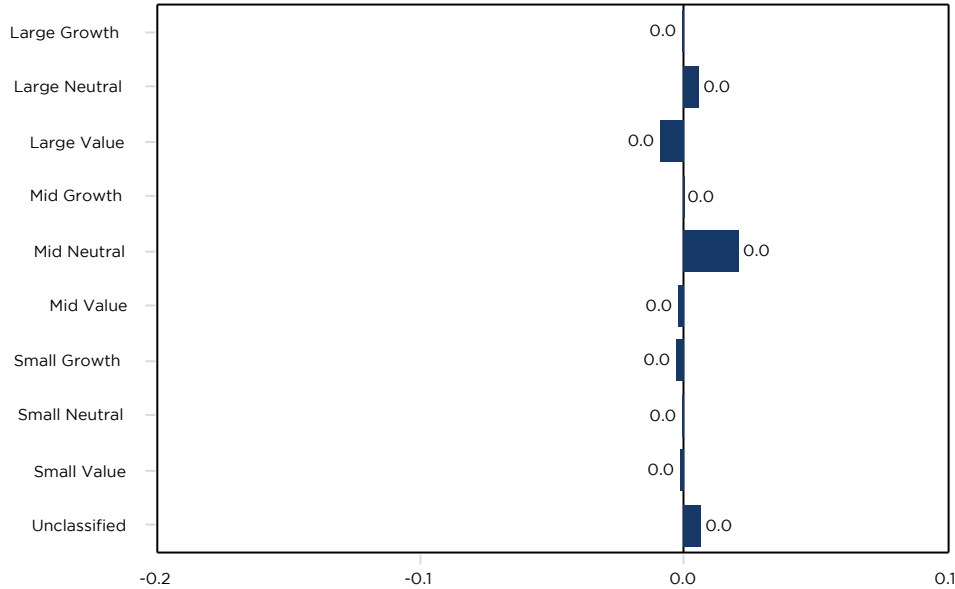
Performance | 3 Years



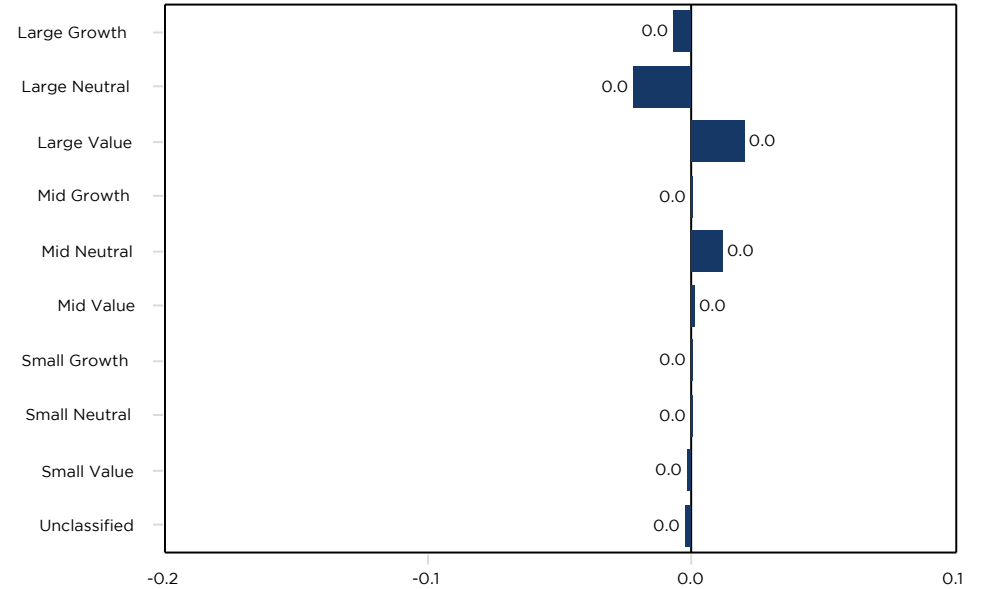
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years





TIAA-CREF S&P 500 Index Instl (TISPX)

Index: S&P 500 Index
 Category: Large Blend
 As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	7.54 (59)	-18.12 (50)	-18.12 (50)	7.62 (33)	9.37 (22)	12.50 (14)	28.64 (23)	18.34 (38)	31.42 (25)	-4.45 (26)
Benchmark	7.56	-18.11	-18.11	7.66	9.42	12.56	28.71	18.40	31.49	-4.38
Peer Group	7.96	-18.12	-18.12	7.11	8.57	11.62	26.73	17.17	29.84	-5.61
Population	1,434	1,369	1,369	1,258	1,186	1,012	1,359	1,362	1,392	1,417

Fund Information

Fund Inception	10/01/2002
Fund Assets	6,853 Million
Portfolio Assets	4,932 Million
Total # of Holdings	507
% in Top 10	25.14 %
PM	Campagna,P/Liao,L/Tran,D
PM Tenure	
Turnover	7.00 %
Gross Expense (%)	0.05 %
Net Expense (%)	0.05 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	414,093	413,469
Median Mkt. Cap (\$M)	29,564	29,555
Price/Earnings ratio	19.1	19.2
Price/Book ratio	3.9	3.9
5 Yr. EPS Growth Rate (%)	17.7	17.7
Current Yield (%)	1.8	1.8
Beta (5 Years, Monthly)	1.00	1.00
Number of Stocks	503	503
Debt to Equity (%)	117.3	116.8
Forecast P/E	16.8	16.8
Forecast EPS Growth	11.5	11.5
Return on Equity (%)	11.0	10.9

Country/Region Allocation

United States	96.9	96.9
Non-US Developed	3.1	3.1
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	20.85	14.70
vs. S&P 500 Index		
Beta	1.00	1.00
Alpha	-0.03	-0.05
Information Ratio	-1.03	-1.07
Tracking Error	0.04	0.06
R-Squared	1.00	1.00
Up Market Capture	99.86	99.80
Down Market Capture	99.97	100.04
Consistency	41.67	36.67

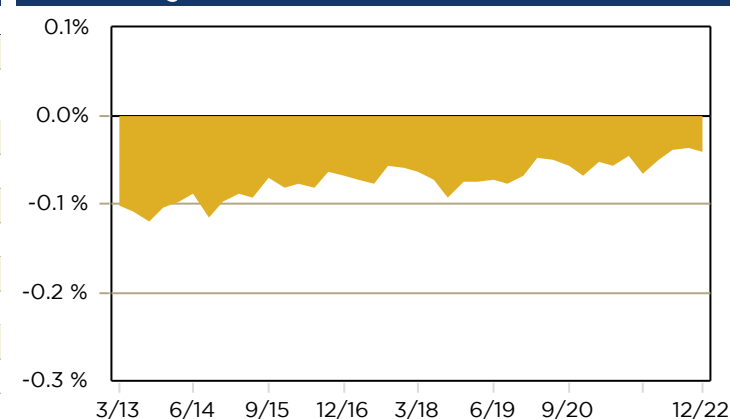
vs. Risk Free

Sharpe Ratio	0.42	0.82
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Sector Allocation

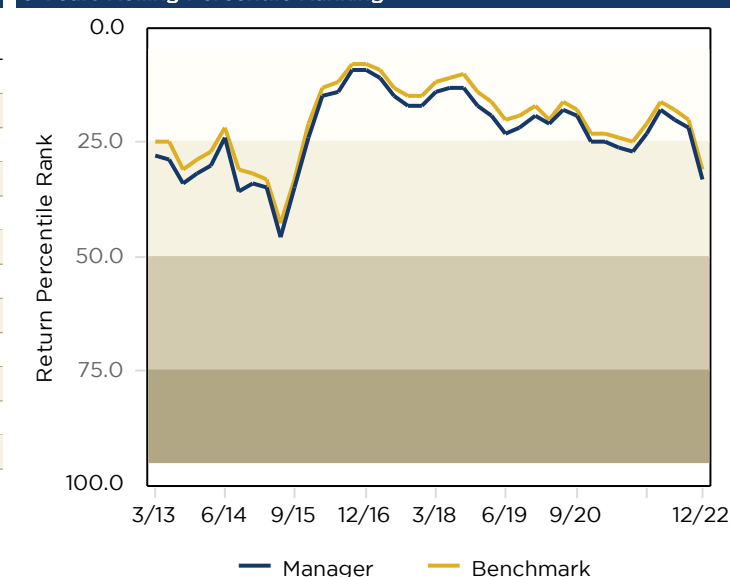
Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	7.3	7.3
Consumer Discretionary	9.8	9.8
Consumer Staples	7.2	7.2
Energy	5.3	5.2
Financials	11.7	11.7
Health Care	15.8	15.8
Industrials	8.7	8.7
Information Technology	25.7	25.7
Materials	2.7	2.7
Real Estate	2.7	2.7
Utilities	3.2	3.2
Total	100.0	100.0

3 Years Rolling Excess Performance



■ Manager Outperformed ■ Benchmark Outperformed

3 Years Rolling Percentile Ranking



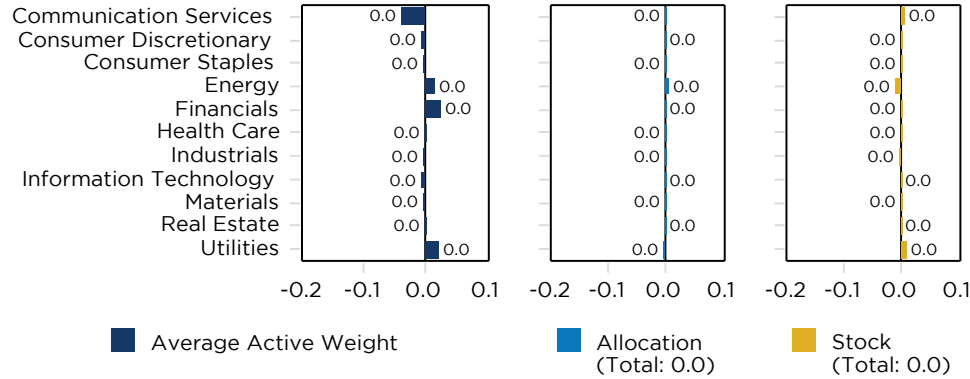


TIAA-CREF S&P 500 Index Instl (TISPX)

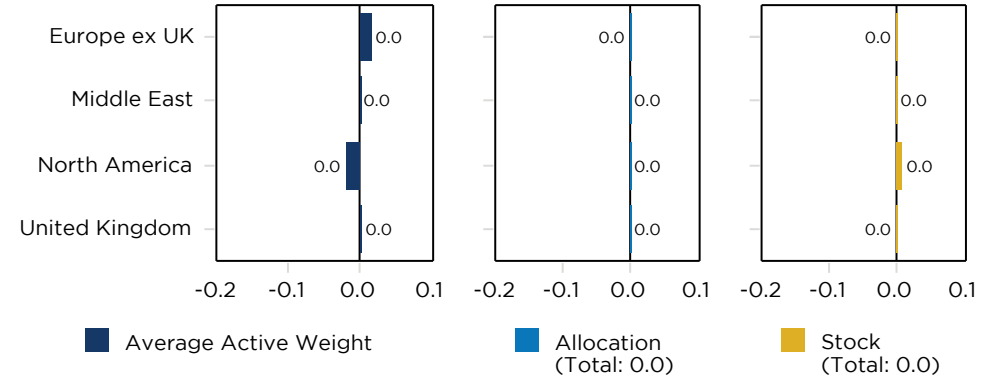
Index: S&P 500 Index

As of: 12/31/2022

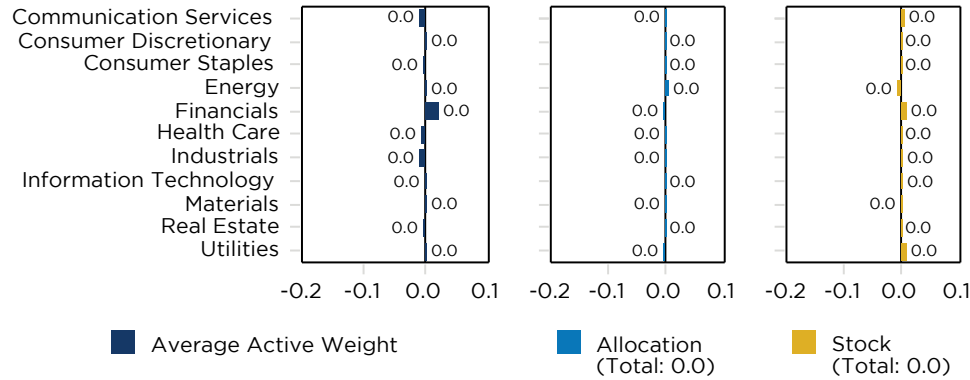
1 Quarter Sector Attribution



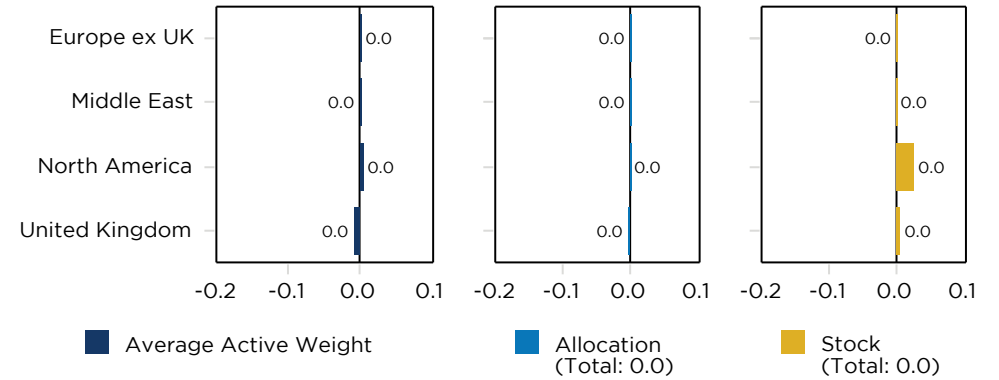
1 Quarter Region Attribution



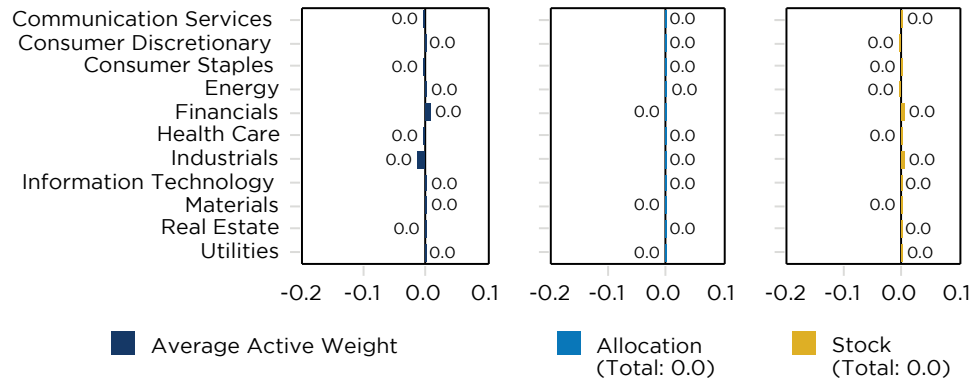
1 Year Sector Attribution



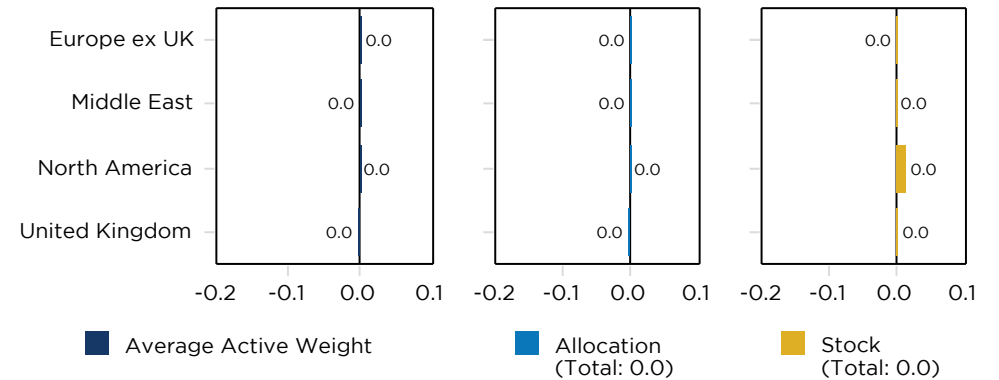
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution





TIAA-CREF S&P 500 Index Instl (TISPX)

Index: S&P 500 Index

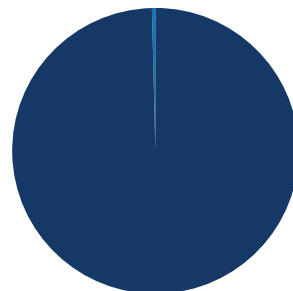
As of: 12/31/2022

Top Ten Securities

Apple Inc	6.5 %
Microsoft Corp	5.5 %
Amazon.com Inc	2.5 %
Alphabet Inc Class A	1.8 %
Berkshire Hathaway Inc Class B	1.7 %
Alphabet Inc Class C	1.6 %
Tesla Inc	1.5 %
UnitedHealth Group Inc	1.5 %
Johnson & Johnson	1.4 %
Exxon Mobil Corp	1.3 %
Total	25.1 %

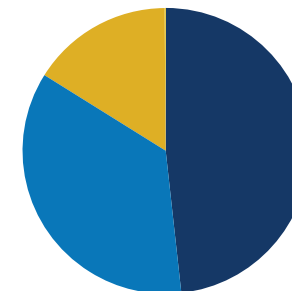
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Microsoft Corp	5.76	5.77	0.00	3.26
Exxon Mobil Corp	1.21	1.21	0.00	27.35
JPMorgan Chase & Co	1.02	1.02	0.00	29.49
Berkshire Hathaway Inc	1.60	1.60	0.00	15.68
Chevron Corp	0.86	0.86	0.00	25.90
Merck & Co Inc	0.72	0.72	0.00	29.67
Procter & Gamble Co (The)	1.00	1.00	0.00	20.91
NVIDIA Corporation	1.01	1.01	0.00	20.42
Mastercard Inc	0.81	0.81	0.00	22.49
AbbVie Inc	0.79	0.79	0.00	21.60

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Meta Platforms Inc	1.85	1.85	0.00	19.48
Intel Corp	0.97	0.97	0.00	27.50
Walt Disney Co (The)	0.97	0.97	0.00	18.52
Boeing Co	0.65	0.65	0.00	19.35
AT&T Inc	1.07	1.07	0.00	10.14
Citigroup Inc	0.65	0.65	0.00	16.55
Verizon Communications Inc	0.95	0.95	0.00	10.62
Amazon.com Inc	2.88	2.88	0.00	3.22
Fidelity Natioal Info Serv Inc.	0.32	0.32	0.00	25.16
PayPal Holdings Inc	0.47	0.47	0.00	14.95

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Alphabet Inc	1.90	1.90	0.00	-7.76
Alphabet Inc	1.71	1.71	0.00	-7.72
Meta Platforms Inc	1.03	1.03	0.00	-11.31
PayPal Holdings Inc	0.33	0.33	0.00	-17.25
Walt Disney Co (The)	0.57	0.57	0.00	-7.90
Costco Wholesale Corp	0.69	0.69	0.00	-3.16
Apple Inc	6.92	6.93	0.00	-5.83
SALESFORCE INC	0.47	0.48	0.00	-7.82
Amazon.com Inc	3.32	3.33	0.00	-25.66
Tesla Inc	2.34	2.35	0.01	-53.56

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Eli Lilly and Co	0.42	0.41	0.00	-30.05
Apple Inc	4.58	4.58	0.00	-17.89
Microsoft Corp	4.50	4.50	0.00	-13.86
Exxon Mobil Corp	1.10	1.10	0.00	-19.03
Unitedhealth Group Inc	1.04	1.04	0.00	-19.01
NVIDIA Corporation	0.54	0.54	0.00	-26.25
Chevron Corp	0.85	0.85	0.00	-16.48
Alphabet Inc	1.49	1.49	0.00	-9.01
Alphabet Inc	1.50	1.50	0.00	-8.78
Berkshire Hathaway Inc	1.65	1.66	0.00	-9.83

Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

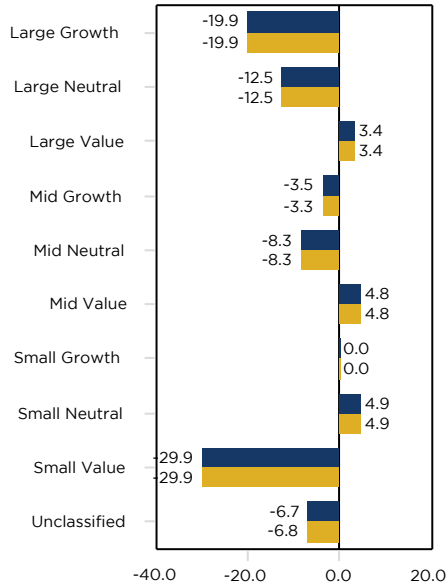


TIAA-CREF S&P 500 Index Instl (TISPX)

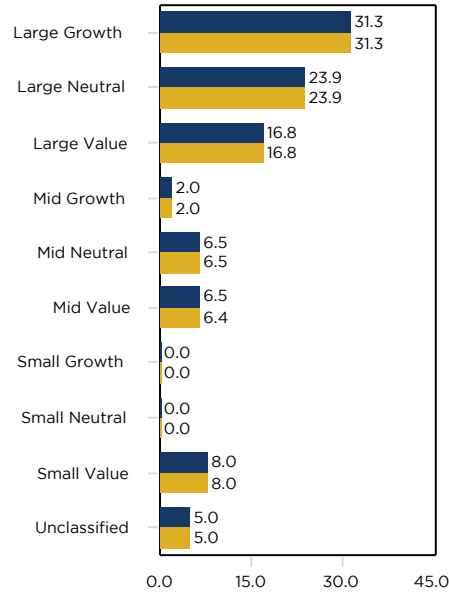
Index: S&P 500 Index

As of: 12/31/2022

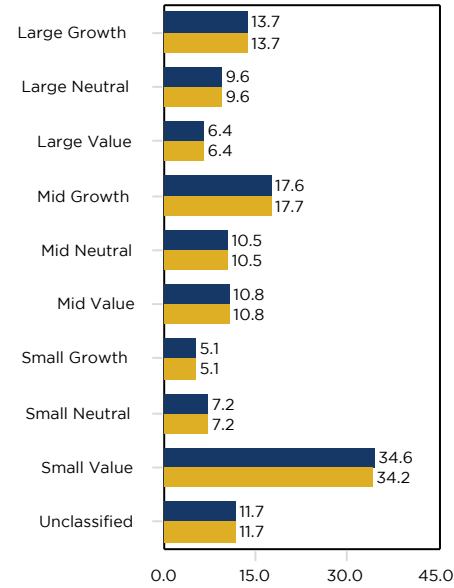
Performance | 1 Year



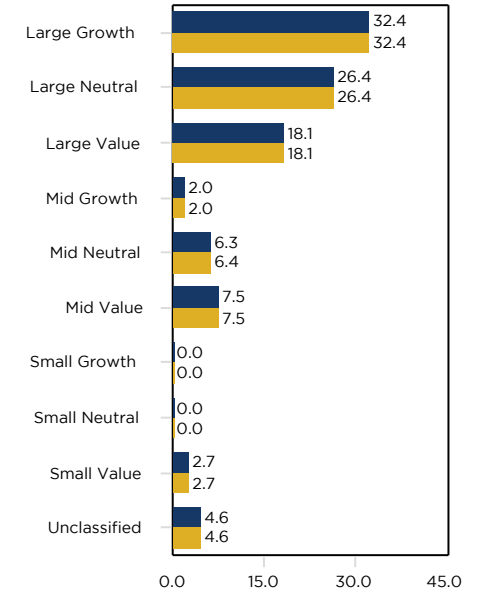
Allocation | 1 Year



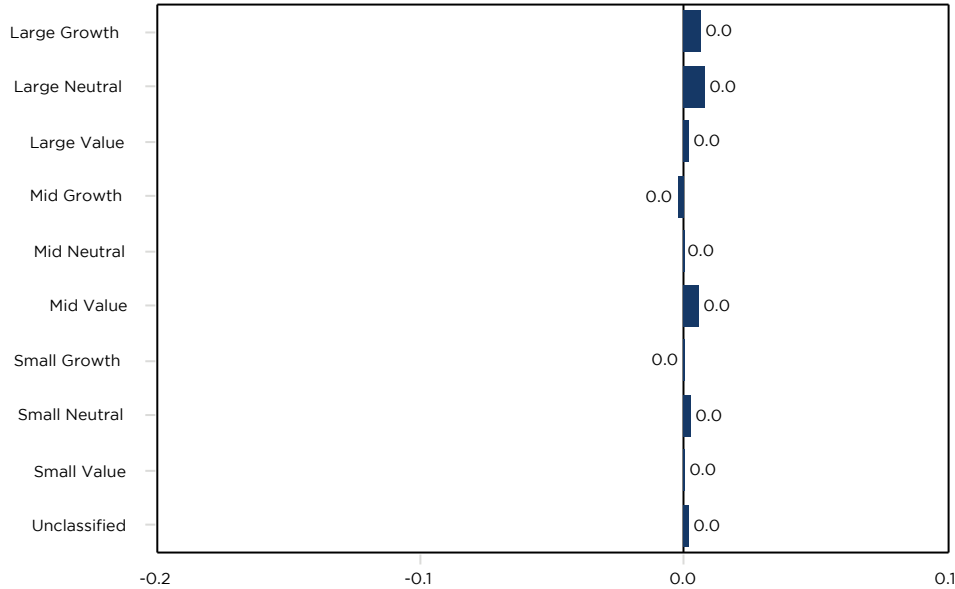
Performance | 3 Years



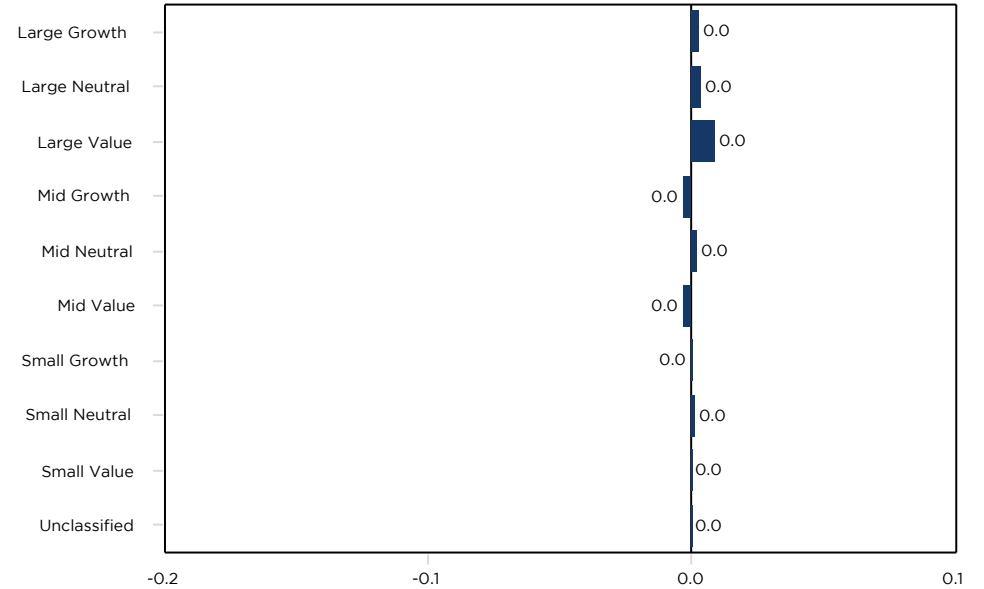
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	7.16 (73)	-19.25 (72)	-19.25 (72)	6.93 (57)	8.63 (49)	11.88 (42)	25.52 (65)	20.63 (22)	30.73 (40)	-5.37 (46)
Benchmark	7.18	-19.21	-19.21	7.07	8.79	12.13	25.66	20.89	31.02	-5.24
Peer Group	7.96	-18.12	-18.12	7.11	8.57	11.62	26.73	17.17	29.84	-5.61
Population	1,434	1,369	1,369	1,258	1,186	1,012	1,359	1,362	1,392	1,417

Fund Information

Fund Inception	04-2015
Fund Assets	19,795 Million
Portfolio Assets	9,602 Million
Total # of Holdings	2809
% Assets in Top 10 Holdings	21.4 %
PM	Campagna,P/Liao,L/Tran,D
PM Tenure	
Turnover	4.0 %
Gross Expense (%)	0.2 %
Net Expense (%)	0.2 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	106,189 (Million)
Price/Earnings	17
Price/Book	3

Top Holdings (%)

Apple Inc	5.6
Microsoft Corp	4.7
Amazon.com Inc	2.1
Alphabet Inc Class A	1.5
Berkshire Hathaway Inc Class B	1.4
Alphabet Inc Class C	1.4
UnitedHealth Group Inc	1.3
Tesla Inc	1.2
Johnson & Johnson	1.2
Exxon Mobil Corp	1.1

Top Countries (%)

United States	99.0
United Kingdom	0.5
Switzerland	0.3
Puerto Rico	0.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	21.43	15.09

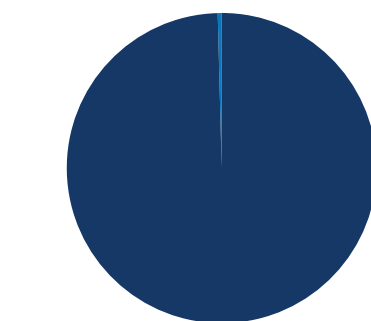
vs. Russell 3000 Index

	3 Years	10 Years
Beta	1.00	1.00
Alpha	-0.12	-0.20
Information Ratio	-1.86	-4.07
Tracking Error	0.08	0.06
R-Squared	1.00	1.00
Up Market Capture	99.66	99.28
Down Market Capture	100.07	100.22
Consistency	22.22	9.17

vs. Risk Free

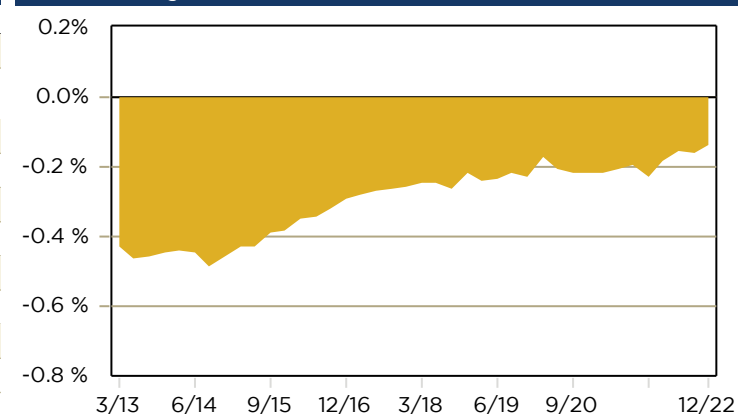
Sharpe Ratio	0.39	0.77
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Asset Allocation



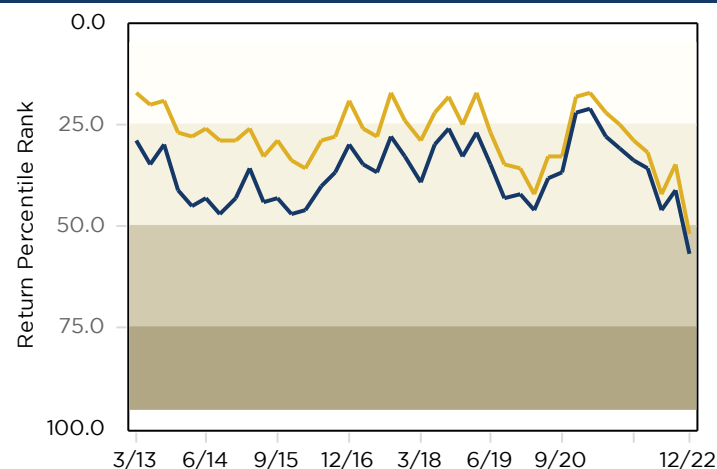
■ Equity ■ Cash
■ Fixed Income

3 Years Rolling Excess Performance



■ Manager Outperformed ■ Benchmark Outperformed

3 Years Rolling Percentile Ranking



— Manager — Benchmark

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	9.76 (29)	-17.77 (47)	-17.77 (47)	7.77 (28)	9.23 (28)	12.02 (35)	26.46 (53)	20.34 (24)	31.49 (23)	-5.53 (49)
Benchmark	7.18	-19.21	-19.21	7.07	8.79	12.13	25.66	20.89	31.02	-5.24
Peer Group	7.96	-18.12	-18.12	7.11	8.57	11.62	26.73	17.17	29.84	-5.61
Population	1,434	1,369	1,369	1,258	1,186	1,012	1,359	1,362	1,392	1,417

Fund Information

Fund Inception	07/01/1999
Fund Assets	6,065 Million
Portfolio Assets	4,585 Million
Total # of Holdings	530
% in Top 10	16.79 %
PM	Campagna,P/Liao,L/Tran,D
PM Tenure	
Turnover	27.00 %
Gross Expense (%)	0.17 %
Net Expense (%)	0.17 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	199,202	354,764
Median Mkt. Cap (\$M)	5,498	1,954
Price/Earnings ratio	19.2	18.1
Price/Book ratio	3.9	3.6
5 Yr. EPS Growth Rate (%)	17.2	17.9
Current Yield (%)	1.8	1.7
Beta (5 Years, Monthly)	0.99	1.00
Number of Stocks	526	2,960
Debt to Equity (%)	163.7	111.5
Forecast P/E	16.7	16.2
Forecast EPS Growth	12.7	12.3
Return on Equity (%)	11.7	10.1

Country/Region Allocation

United States	95.5	96.9
Non-US Developed	4.3	3.0
Emerging Markets	0.2	0.0
Other	0.0	0.1
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	21.41	15.11
vs. Russell 3000 Index		
Beta	0.99	0.99
Alpha	0.70	-0.04
Information Ratio	0.38	-0.08
Tracking Error	1.67	1.33
R-Squared	0.99	0.99
Up Market Capture	100.93	99.55
Down Market Capture	98.84	99.86
Consistency	58.33	47.50

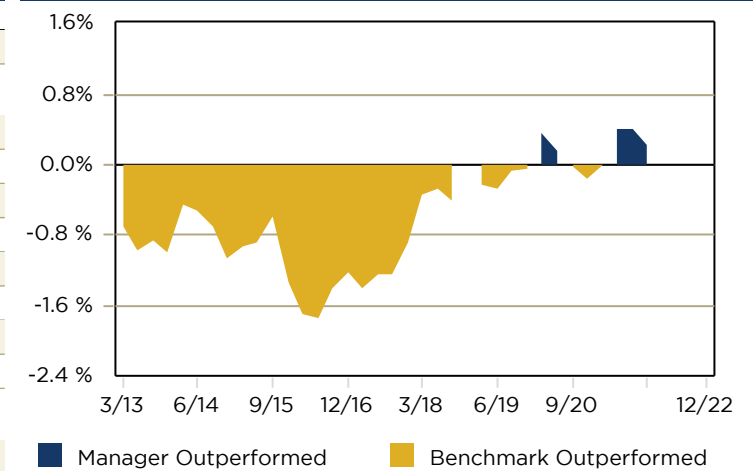
vs. Risk Free

Sharpe Ratio	0.42	0.78
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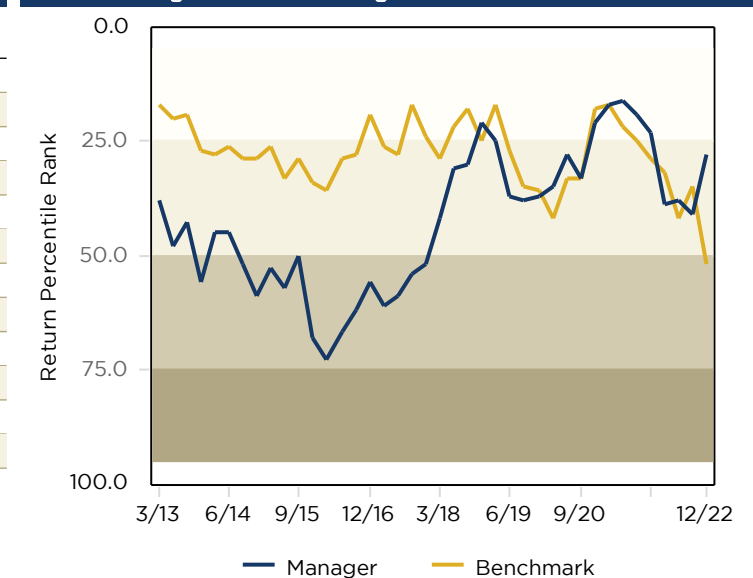
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	4.8	6.8
Consumer Discretionary	9.6	10.0
Consumer Staples	6.2	6.6
Energy	5.3	5.3
Financials	13.9	12.3
Health Care	14.0	15.6
Industrials	10.5	9.7
Information Technology	26.4	24.4
Materials	3.1	3.0
Real Estate	2.8	3.3
Utilities	3.3	3.1
Total	99.9	100.0

3 Years Rolling Excess Performance

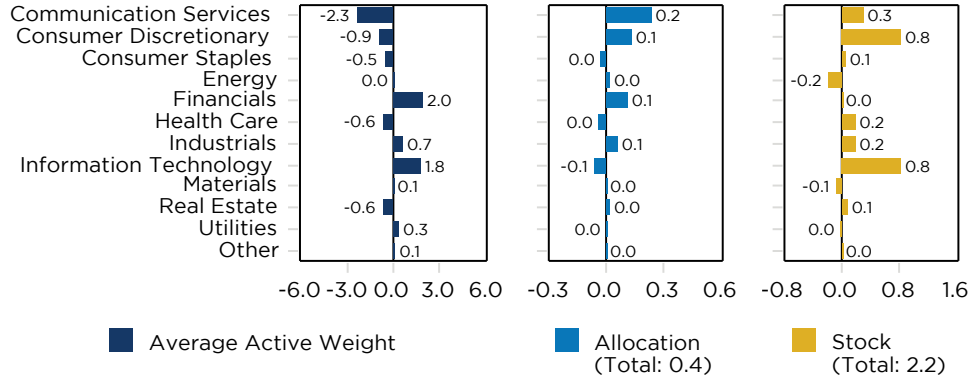


3 Years Rolling Percentile Ranking

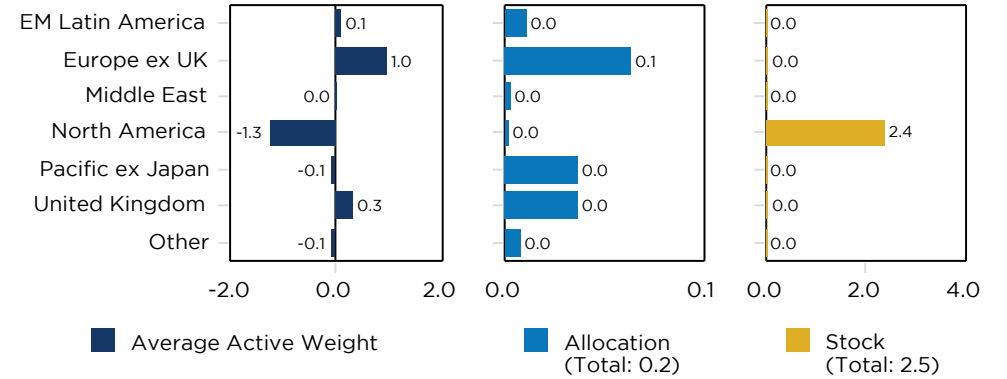




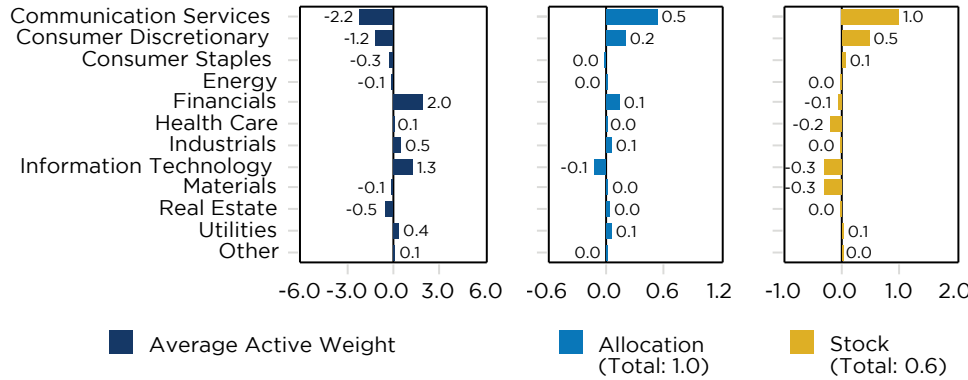
1 Quarter Sector Attribution



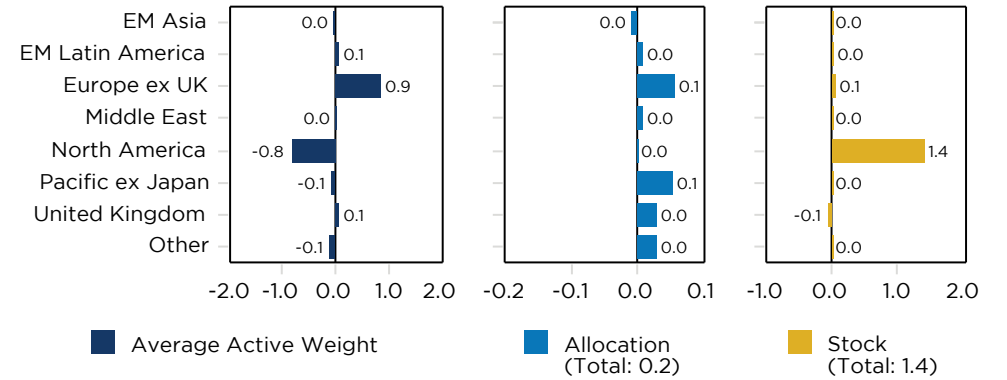
1 Quarter Region Attribution



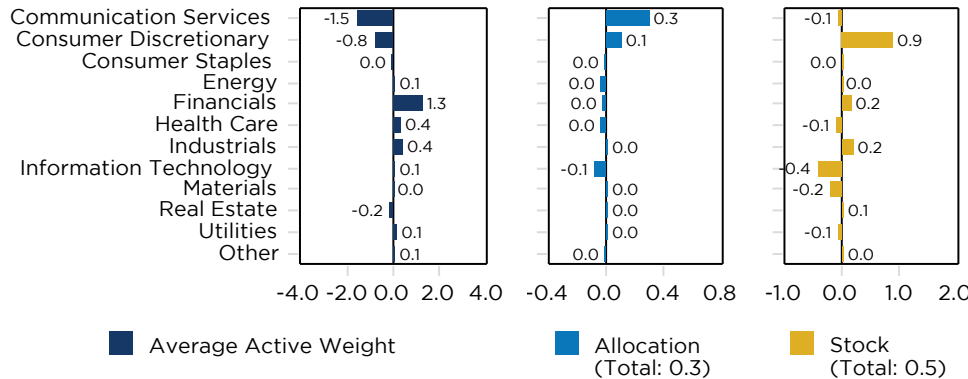
1 Year Sector Attribution



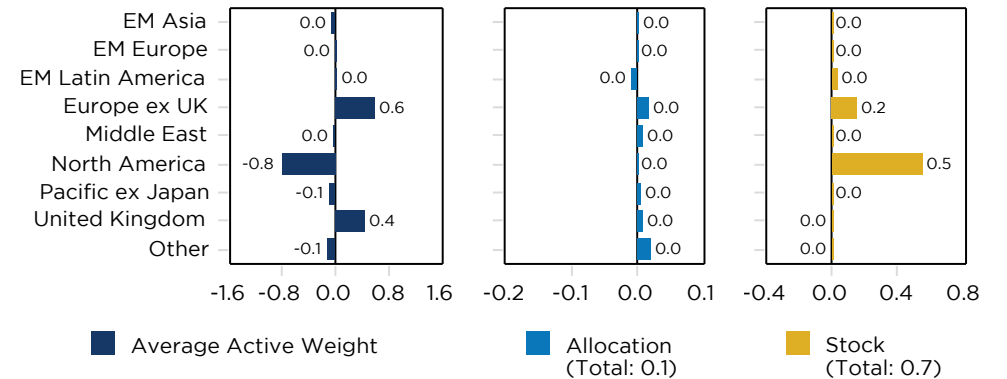
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution





TIAA-CREF Social Choice Eq Instl (TISCX)

Index: Russell 3000 Index

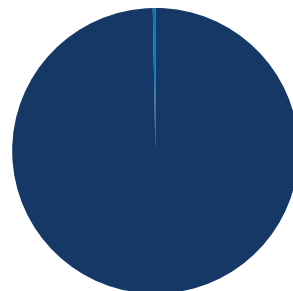
As of: 12/31/2022

Top Ten Securities

Microsoft Corp	5.2 %
Tesla Inc	1.5 %
NVIDIA Corp	1.5 %
Procter & Gamble Co	1.4 %
The Home Depot Inc	1.3 %
Mastercard Inc Class A	1.3 %
Eli Lilly and Co	1.2 %
PepsiCo Inc	1.1 %
Coca-Cola Co	1.1 %
Merck & Co Inc	1.1 %
Total	16.8 %

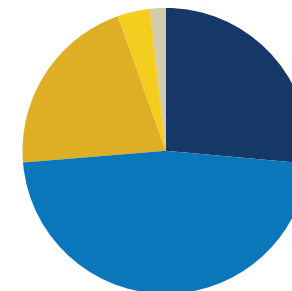
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Schlumberger Ltd	0.58	0.14	0.19	49.43
Caterpillar Inc	0.69	0.24	0.18	46.92
Nike Inc	0.70	0.29	0.14	41.20
Intuitive Surgical Inc	0.50	0.19	0.11	41.57
DEERE & COMPANY	0.73	0.26	0.10	28.77
Blackrock Inc	0.65	0.23	0.09	29.66
Mastercard Inc	1.16	0.69	0.07	22.49
Procter & Gamble Co (The)	1.32	0.85	0.06	20.91
NVIDIA Corporation	1.26	0.82	0.06	20.42
Home Depot Inc. (The)	1.29	0.80	0.04	15.14

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Avaya Holdings Corp	0.05	0.00	0.15	309.91
Intel Corp	1.32	0.82	0.10	27.50
Discovery Communications	0.17	0.02	0.07	51.16
Spirit Aerosystems Holdings Inc	0.24	0.02	0.06	34.88
bluebird bio Inc	0.08	0.02	0.05	96.83
Citigroup Inc	1.04	0.55	0.05	16.55
Royal Caribbean Group	0.21	0.07	0.04	38.72
Liberty Broadband Corp	0.43	0.04	0.04	18.14
Verizon Communications Inc	1.26	0.80	0.02	10.62
Amazon.com Inc	2.50	2.41	0.00	3.22

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Tesla Inc	2.34	1.89	-0.27	-53.56
PayPal Holdings Inc	0.76	0.28	-0.12	-17.25
ZoomInfo Technologies Inc	0.35	0.03	-0.11	-27.72
Wolfspeed Inc	0.22	0.03	-0.08	-33.20
Rogers Corp.	0.14	0.01	-0.08	-50.66
Cheniere Energy Inc.	0.55	0.12	-0.07	-9.40
Edwards Lifesciences Corp	0.53	0.14	-0.07	-9.71
Walt Disney Co (The)	0.87	0.48	-0.06	-7.90
SALESFORCE INC	0.77	0.39	-0.06	-7.82
Fidelity Natioal Info Serv Inc.	0.41	0.13	-0.05	-9.61

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Eli Lilly and Co	0.84	0.35	-0.18	-30.05
NVIDIA Corporation	0.92	0.43	-0.16	-26.25
Conocophillips	0.68	0.22	-0.13	-21.19
Microsoft Corp	4.23	3.75	-0.10	-13.86
Apple Inc	4.49	4.11	-0.09	-17.89
Tesla Inc	0.35	0.19	-0.07	-39.05
Unitedhealth Group Inc	1.15	0.87	-0.07	-19.01
Home Depot Inc. (The)	1.10	0.76	-0.07	-13.59
Alphabet Inc	1.51	1.26	-0.04	-9.01
Alphabet Inc	1.50	1.26	-0.04	-8.78

Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

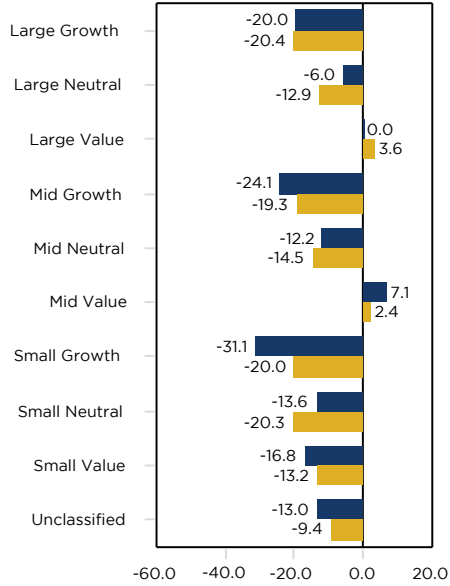


TIAA-CREF Social Choice Eq Instl (TISCX)

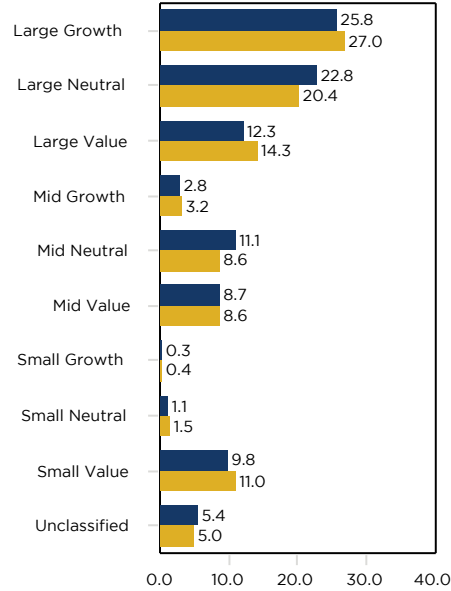
Index: Russell 3000 Index

As of: 12/31/2022

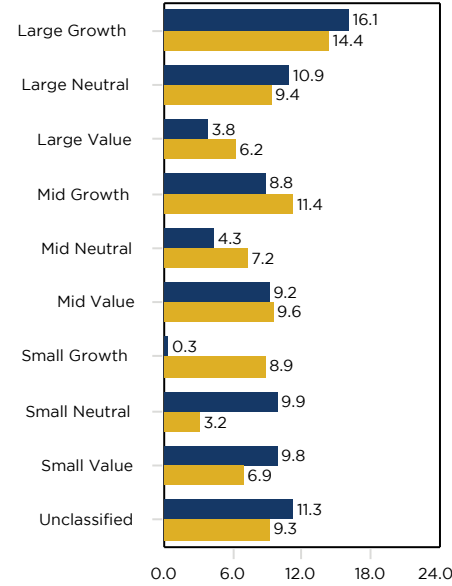
Performance | 1 Year



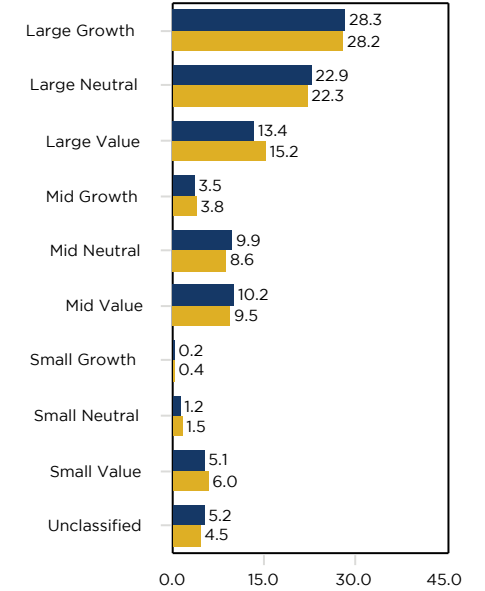
Allocation | 1 Year



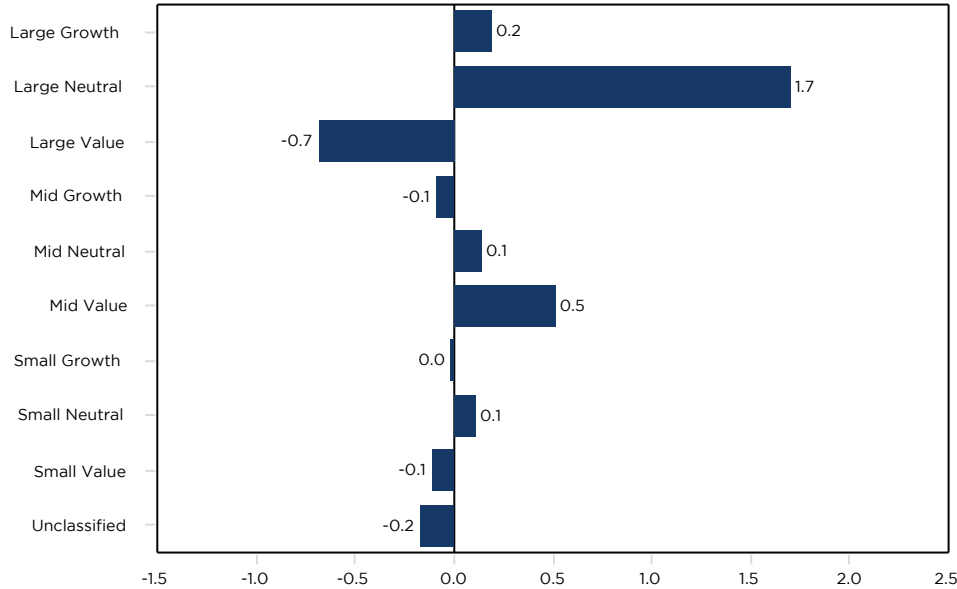
Performance | 3 Years



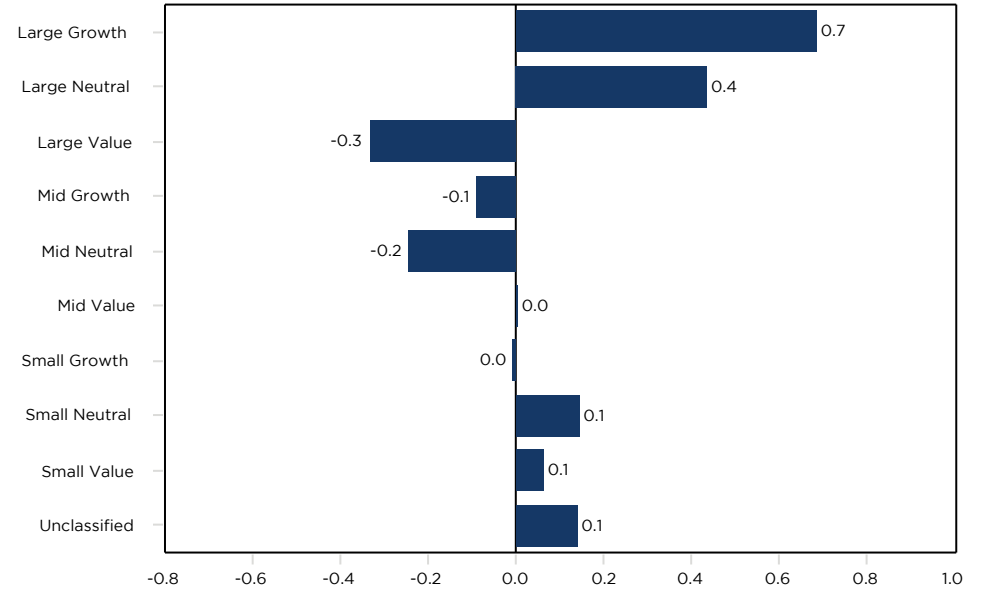
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	3.68 (45)	-32.34 (64)	-32.34 (64)	4.68 (55)	8.05 (57)	12.56 (34)	20.43 (60)	40.76 (31)	31.66 (61)	-2.46 (57)
Benchmark	2.20	-29.14	-29.14	7.79	10.96	14.10	27.60	38.49	36.39	-1.51
Peer Group	2.98	-30.75	-30.75	5.07	8.41	11.93	22.01	34.85	32.80	-1.64
Population	1,278	1,253	1,253	1,176	1,132	1,040	1,260	1,253	1,278	1,353

Fund Information

Fund Inception	04-2015
Fund Assets	25,757 Million
Portfolio Assets	12,933 Million
Total # of Holdings	106
% Assets in Top 10 Holdings	40.8 %
PM	Hiatt,K/Kontos,T/Malik,S
PM Tenure	
Turnover	67.0 %
Gross Expense (%)	0.2 %
Net Expense (%)	0.2 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	239,308 (Million)
Price/Earnings	24
Price/Book	6

Top Holdings (%)

Microsoft Corp	10.7
Apple Inc	7.2
Amazon.com Inc	5.0
Visa Inc Class A	3.1
Mastercard Inc Class A	3.1
Costco Wholesale Corp	2.7
UnitedHealth Group Inc	2.5
Alphabet Inc Class C	2.3
Tesla Inc	2.2
Alphabet Inc Class A	2.0

Top Countries (%)

United States	95.0
United Kingdom	1.8
Canada	1.0
France	0.9

Fund Statistics

	3 Years	10 Years
Standard Deviation	23.60	16.57

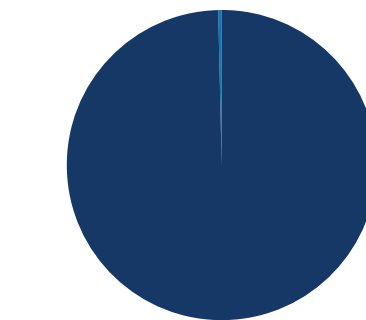
vs. Russell 1000 Growth Index

Beta	1.00	1.01
Alpha	-2.87	-1.50
Information Ratio	-1.17	-0.68
Tracking Error	2.48	1.94
R-Squared	0.99	0.99
Up Market Capture	94.38	98.18
Down Market Capture	102.16	104.91
Consistency	38.89	45.83

vs. Risk Free

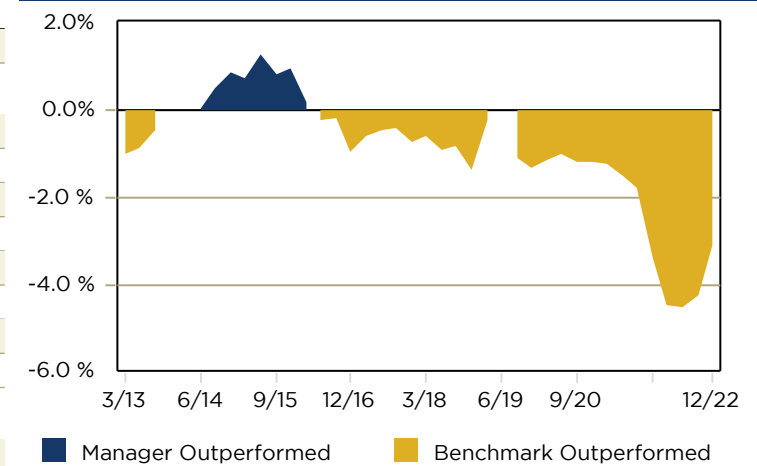
Sharpe Ratio	0.28	0.75
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Asset Allocation

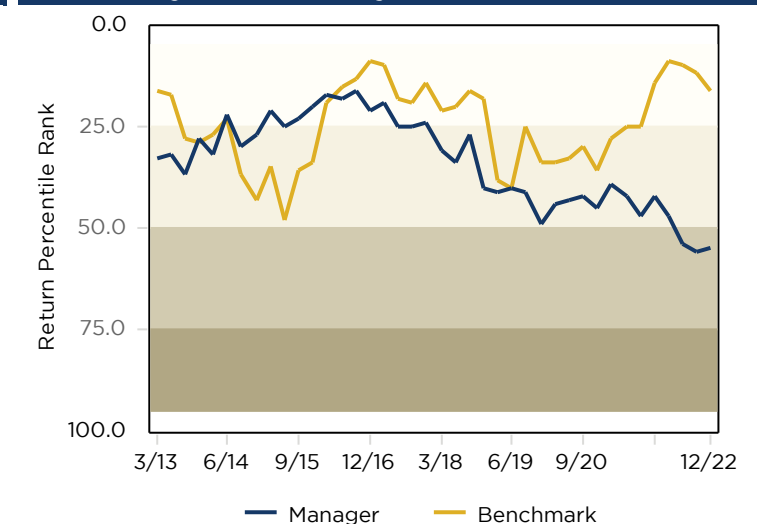


■ Equity ■ Cash
■ Fixed Income

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	2.20 (60)	-29.17 (39)	-29.17 (39)	7.73 (17)	10.90 (13)	14.03 (9)	27.52 (16)	38.43 (37)	36.27 (22)	-1.55 (49)
Benchmark	2.20	-29.14	-29.14	7.79	10.96	14.10	27.60	38.49	36.39	-1.51
Peer Group	2.98	-30.75	-30.75	5.07	8.41	11.93	22.01	34.85	32.80	-1.64
Population	1,278	1,253	1,253	1,176	1,132	1,040	1,260	1,253	1,278	1,353

Fund Information

Fund Inception	10/01/2002
Fund Assets	8,910 Million
Portfolio Assets	8,038 Million
Total # of Holdings	514
% in Top 10	43.09 %
PM	Campagna,P/Liao,L/Tran,D
PM Tenure	
Turnover	31.00 %
Gross Expense (%)	0.05 %
Net Expense (%)	0.05 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	619,734	619,989
Median Mkt. Cap (\$M)	13,831	13,740
Price/Earnings ratio	24.5	24.5
Price/Book ratio	8.6	8.5
5 Yr. EPS Growth Rate (%)	23.1	23.1
Current Yield (%)	1.1	1.1
Beta (5 Years, Monthly)	1.00	1.00
Number of Stocks	512	512
Debt to Equity (%)	133.5	133.3
Forecast P/E	21.4	21.5
Forecast EPS Growth	16.2	16.2
Return on Equity (%)	16.5	16.5

Country/Region Allocation

United States	97.5	97.5
Non-US Developed	2.3	2.3
Other	0.1	0.2
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	23.46	16.22
vs. Russell 1000 Growth Index		
Beta	1.00	1.00
Alpha	-0.05	-0.06
Information Ratio	-1.47	-1.15
Tracking Error	0.03	0.06
R-Squared	1.00	1.00
Up Market Capture	99.88	99.79
Down Market Capture	100.01	100.01
Consistency	27.78	35.00

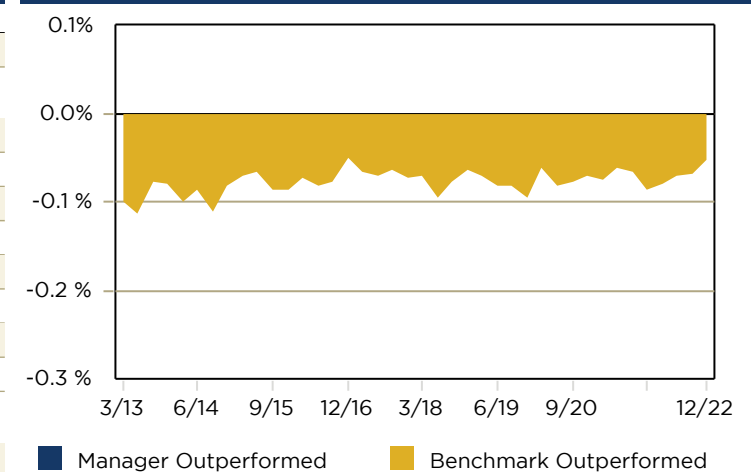
vs. Risk Free

Sharpe Ratio	0.40	0.85
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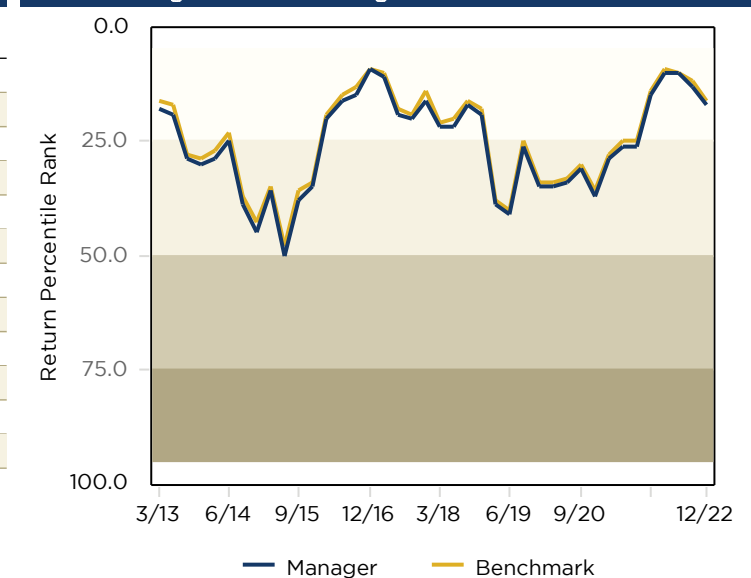
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	6.8	6.8
Consumer Discretionary	14.1	14.2
Consumer Staples	6.1	6.1
Energy	1.7	1.7
Financials	3.2	3.3
Health Care	13.4	13.5
Industrials	8.1	8.1
Information Technology	43.1	43.2
Materials	1.5	1.5
Real Estate	1.6	1.6
Utilities	0.1	0.1
Total	99.6	100.0

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



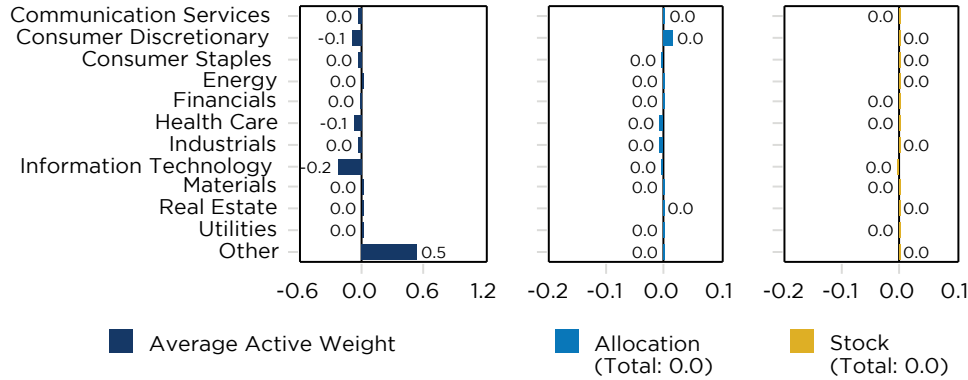


TIAA-CREF Large-Cap Gr Idx Instl (TILIX)

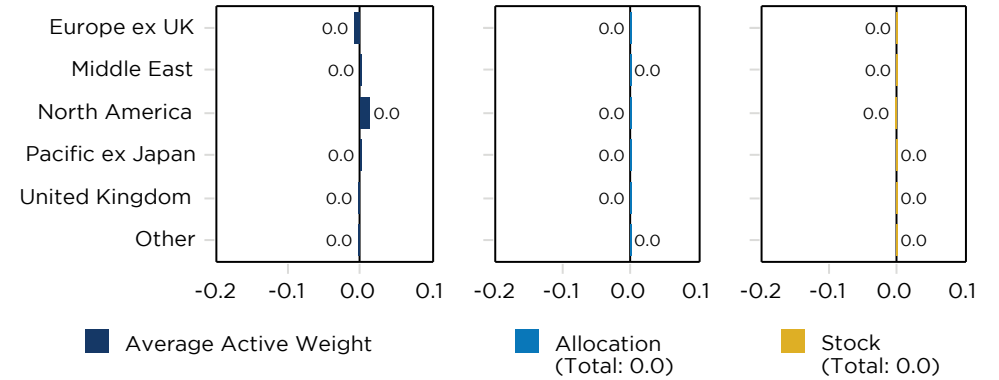
Index: Russell 1000 Growth Index

As of: 12/31/2022

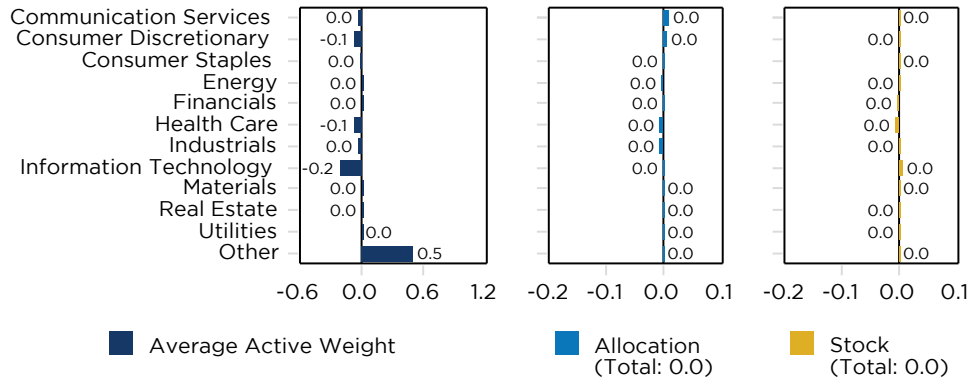
1 Quarter Sector Attribution



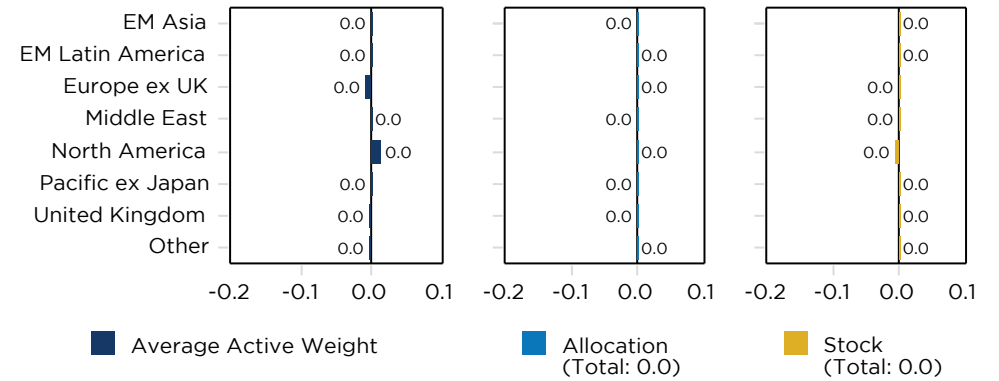
1 Quarter Region Attribution



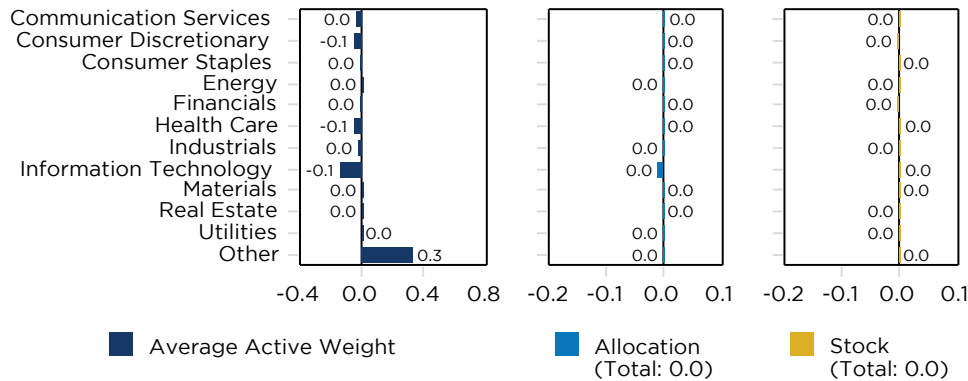
1 Year Sector Attribution



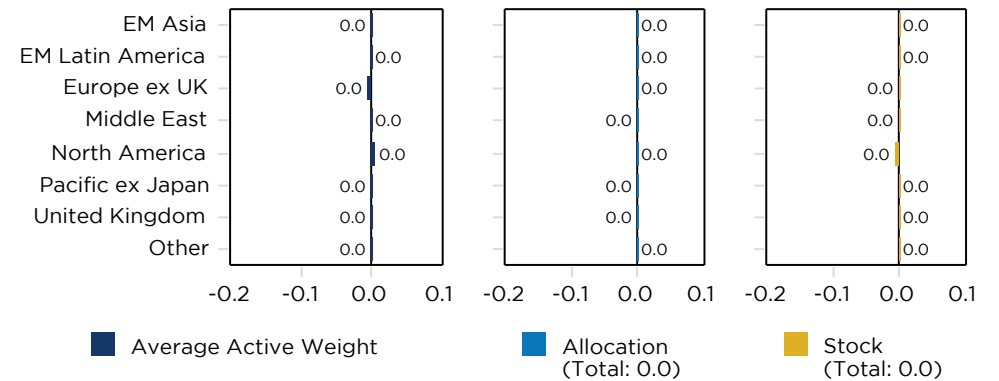
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution





TIAA-CREF Large-Cap Gr Idx Instl (TILIX)

Index: Russell 1000 Growth Index

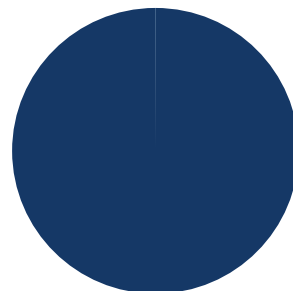
As of: 12/31/2022

Top Ten Securities

Apple Inc	12.1 %
Microsoft Corp	10.2 %
Amazon.com Inc	4.6 %
Alphabet Inc Class A	2.8 %
Tesla Inc	2.6 %
Alphabet Inc Class C	2.5 %
UnitedHealth Group Inc	2.5 %
NVIDIA Corp	2.2 %
Visa Inc Class A	1.9 %
Mastercard Inc Class A	1.6 %
Total	43.1 %

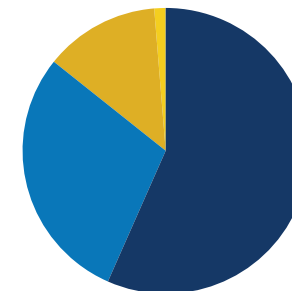
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Broadcom Inc	1.03	1.03	0.00	26.98
Nike Inc	0.60	0.60	0.00	41.20
Microsoft Corp	10.21	10.28	0.00	3.26
Eli Lilly and Co	1.30	1.31	0.00	13.45
AbbVie Inc	1.39	1.40	0.00	21.60
Adobe Inc	0.76	0.77	0.00	22.29
Mastercard Inc	1.43	1.44	0.00	22.49
Visa Inc	1.71	1.73	0.00	17.22
NVIDIA Corporation	1.71	1.73	0.00	20.42
Caterpillar Inc	0.44	0.45	0.00	46.92

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Amazon.com Inc	4.97	5.00	0.00	3.22
PayPal Holdings Inc	0.83	0.83	0.00	14.95
V.F. Corp	0.20	0.20	0.00	48.26
Fidelity Natioal Info Serv Inc.	0.34	0.34	0.00	25.16
SALESFORCE INC	0.88	0.88	0.00	7.05
Illumina Inc	0.32	0.32	0.00	17.94
RingCentral Inc	0.08	0.08	0.00	68.27
Boeing Co	1.12	1.13	0.00	19.35
GLOBAL PAYMENTS INC	0.35	0.36	0.00	21.75
Meta Platforms Inc	3.19	3.21	0.00	19.48

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
CrowdStrike Holdings Inc	0.20	0.20	0.00	-36.11
Atlassian Corp	0.17	0.17	0.00	-38.90
Airbnb Inc	0.24	0.24	0.00	-18.60
Snowflake Inc	0.29	0.29	0.00	-15.55
Meta Platforms Inc	0.39	0.39	0.00	-11.31
Alphabet Inc	2.65	2.67	0.00	-7.72
Alphabet Inc	2.93	2.95	0.00	-7.76
Apple Inc	12.38	12.47	0.01	-5.83
Amazon.com Inc	5.88	5.93	0.01	-25.66
Tesla Inc	3.95	3.98	0.02	-53.56

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Eli Lilly and Co	0.73	0.73	0.00	-30.05
Alphabet Inc	2.61	2.62	0.00	-8.78
Alphabet Inc	2.61	2.62	0.00	-9.01
Merck & Co Inc	1.43	1.44	0.00	-10.77
Broadcom Inc	0.79	0.80	0.00	-20.18
AbbVie Inc	0.85	0.86	0.00	-21.86
NVIDIA Corporation	0.89	0.90	0.00	-26.25
Unitedhealth Group Inc	1.80	1.82	0.01	-19.01
Microsoft Corp	7.76	7.80	0.01	-13.86
Apple Inc	8.50	8.54	0.01	-17.89

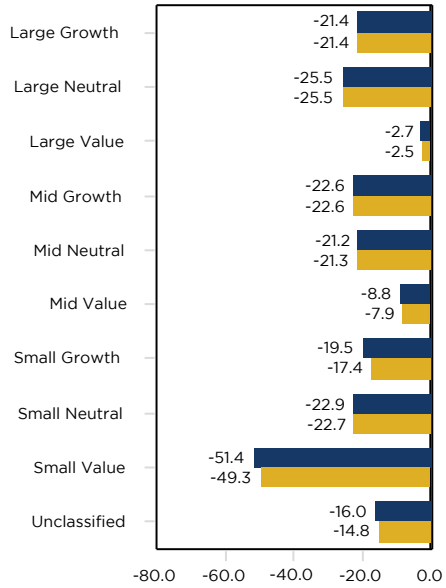


TIAA-CREF Large-Cap Gr Idx Instl (TILIX)

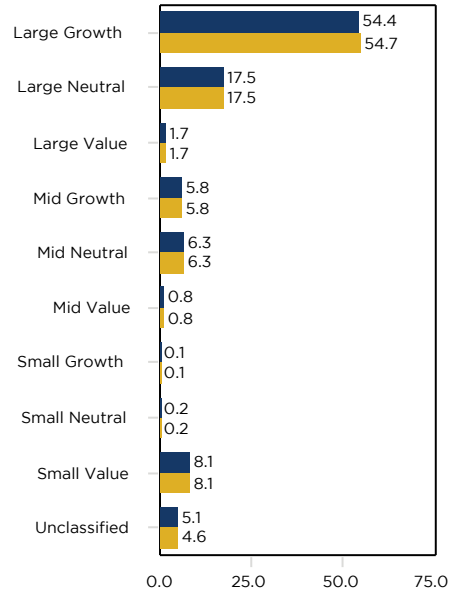
Index: Russell 1000 Growth Index

As of: 12/31/2022

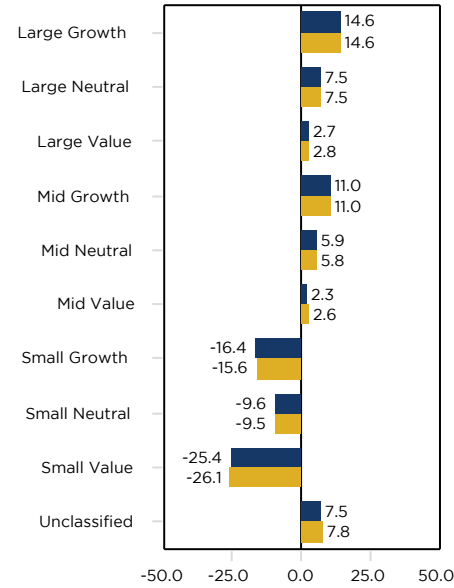
Performance | 1 Year



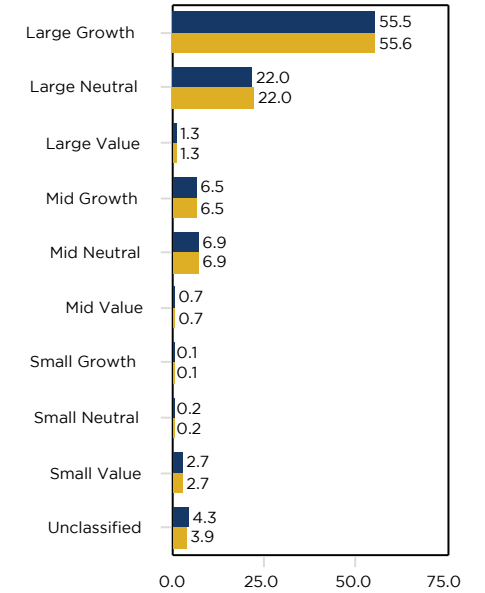
Allocation | 1 Year



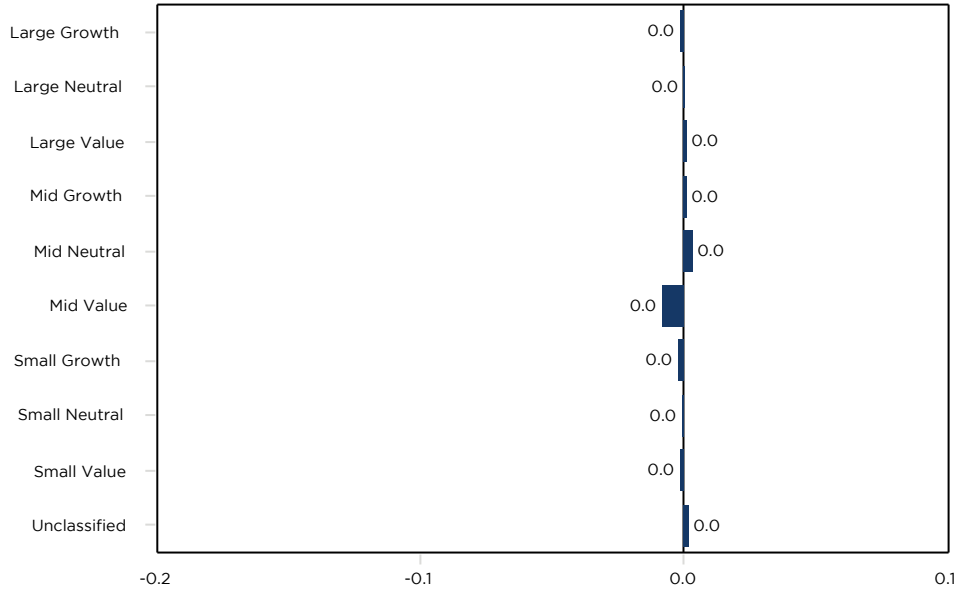
Performance | 3 Years



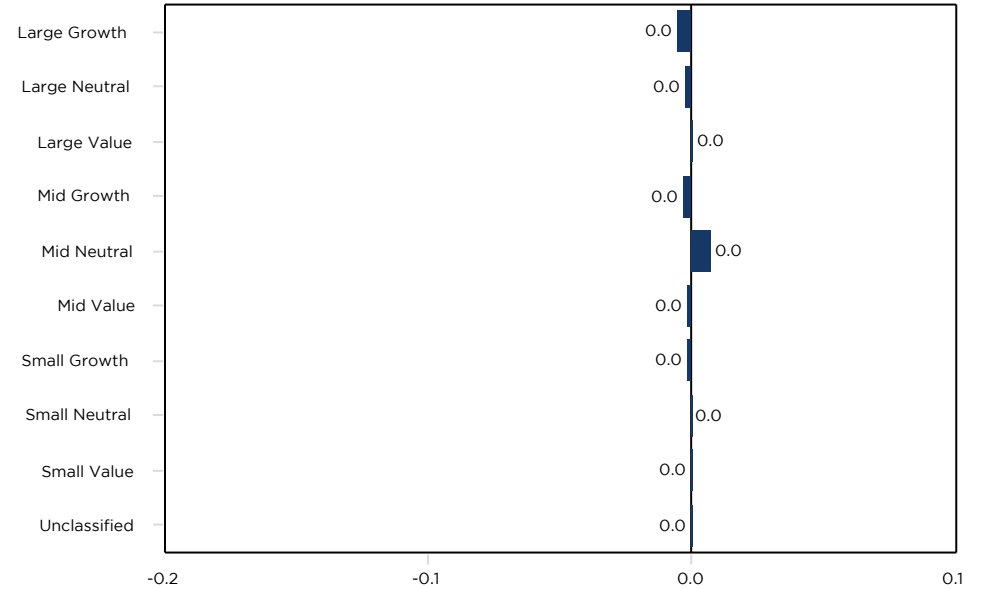
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	1.66 (66)	-36.89 (81)	-36.89 (81)	0.57 (89)	7.08 (74)	10.49 (84)	7.82 (92)	49.49 (16)	37.65 (12)	0.55 (28)
Benchmark	2.31	-28.97	-28.97	7.32	10.45	13.75	25.85	38.26	35.85	-2.12
Peer Group	2.98	-30.75	-30.75	5.07	8.41	11.93	22.01	34.85	32.80	-1.64
Population	1,278	1,253	1,253	1,176	1,132	1,040	1,260	1,253	1,278	1,353

Fund Information

Fund Inception	02/24/2000
Fund Assets	3,083 Million
Portfolio Assets	868 Million
Total # of Holdings	95
% in Top 10	43.16 %
PM	Gruendyke,R/Ognar,T
PM Tenure	
Turnover	43.00 %
Gross Expense (%)	0.83 %
Net Expense (%)	0.75 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	523,163	581,413
Median Mkt. Cap (\$M)	22,737	2,097
Price/Earnings ratio	28.7	23.7
Price/Book ratio	6.1	7.8
5 Yr. EPS Growth Rate (%)	22.0	23.1
Current Yield (%)	0.6	1.1
Beta (5 Years, Monthly)	1.07	1.00
Number of Stocks	96	1,621
Debt to Equity (%)	59.3	131.4
Forecast P/E	24.7	20.9
Forecast EPS Growth	18.7	16.2
Return on Equity (%)	7.6	15.6

Country/Region Allocation

United States	95.7	97.5
Non-US Developed	4.3	2.3
Emerging Markets	0.0	0.0
Other	0.0	0.1
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	26.09	18.45
vs. Russell 3000 Growth Index		
Beta	1.06	1.07
Alpha	-6.28	-3.52
Information Ratio	-0.74	-0.42
Tracking Error	7.91	6.09
R-Squared	0.91	0.90
Up Market Capture	92.03	97.23
Down Market Capture	109.08	111.02
Consistency	44.44	46.67

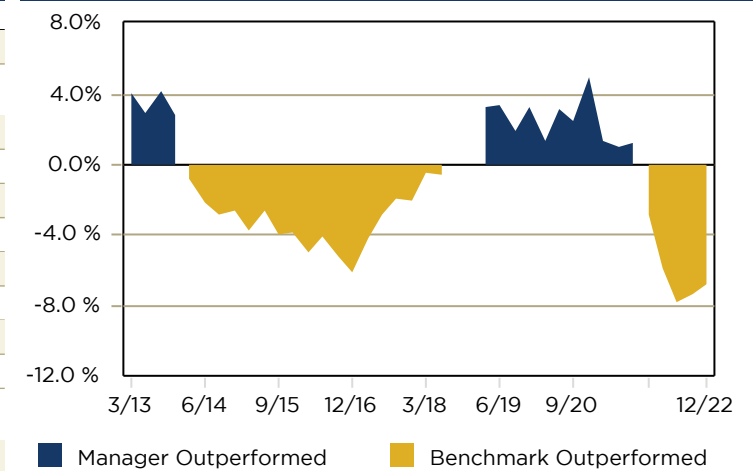
vs. Risk Free

Sharpe Ratio	0.12	0.59
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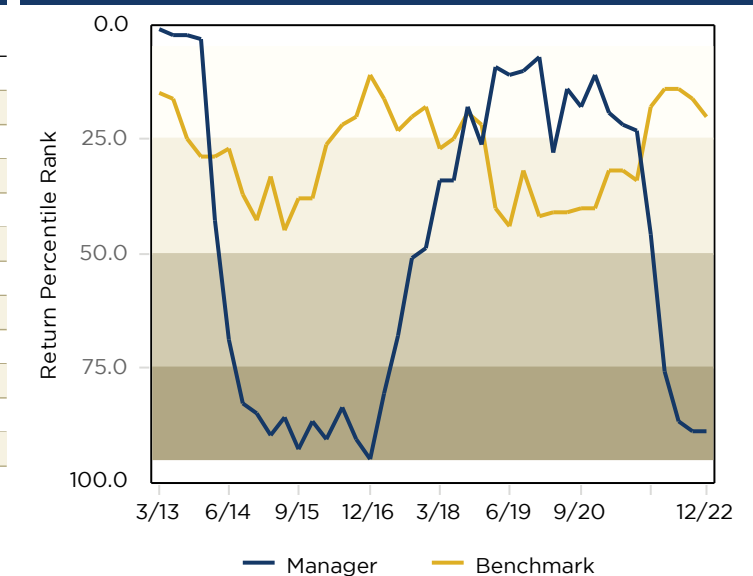
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	10.6	6.5
Consumer Discretionary	14.8	14.0
Consumer Staples	1.4	6.0
Energy	0.0	2.1
Financials	10.6	3.4
Health Care	15.0	14.1
Industrials	7.1	8.7
Information Technology	37.5	41.8
Materials	1.8	1.6
Real Estate	1.2	1.7
Utilities	0.0	0.2
Total	100.0	100.0

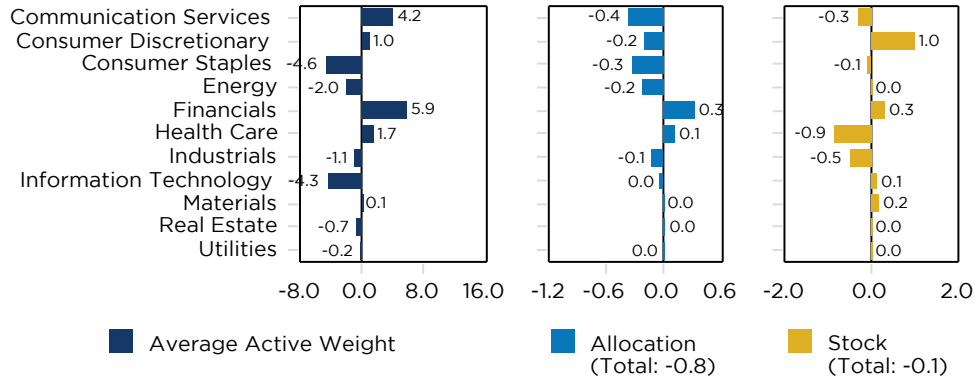
3 Years Rolling Excess Performance



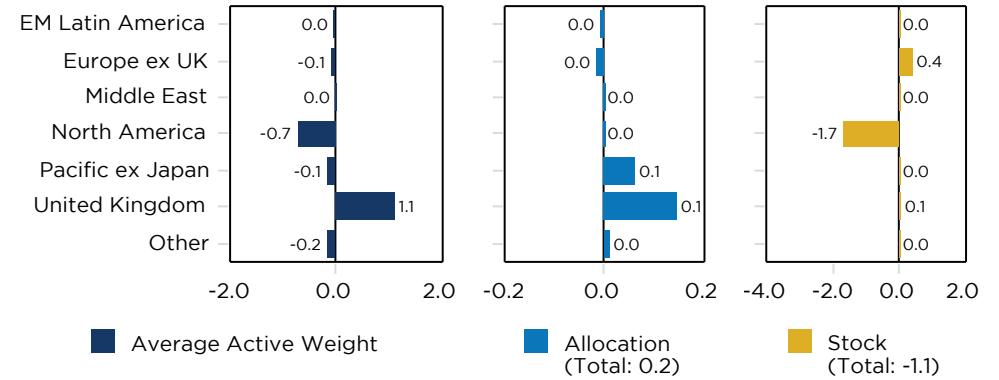
3 Years Rolling Percentile Ranking



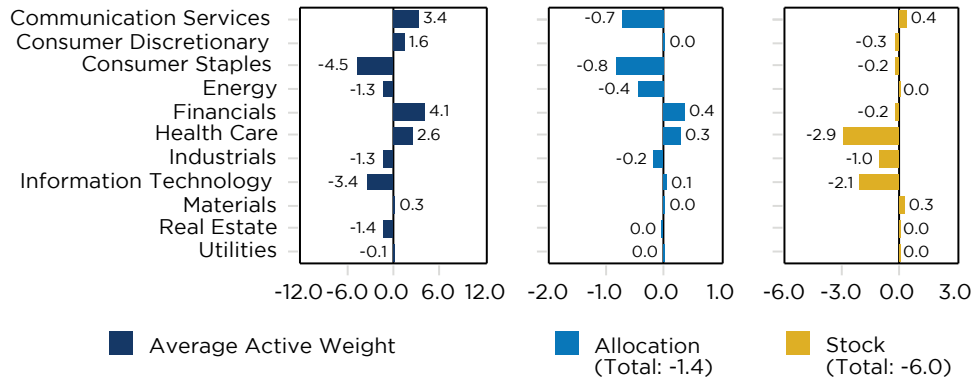
1 Quarter Sector Attribution



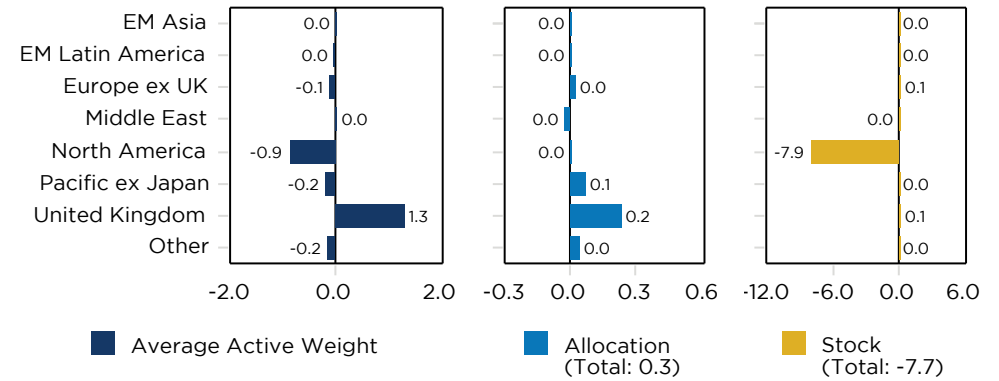
1 Quarter Region Attribution



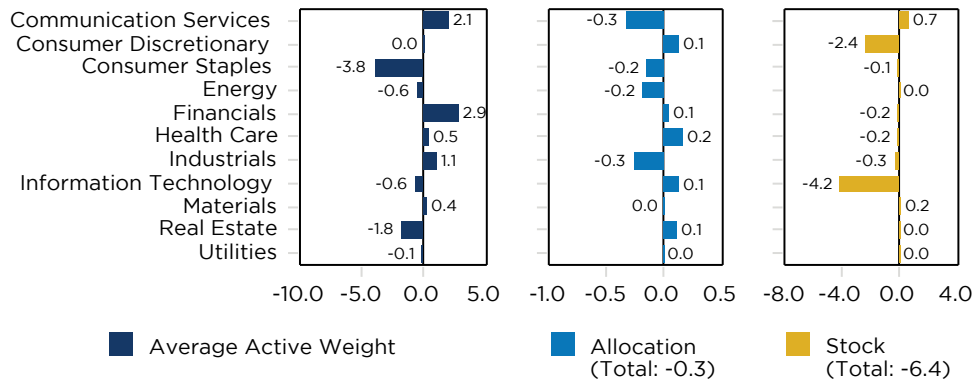
1 Year Sector Attribution



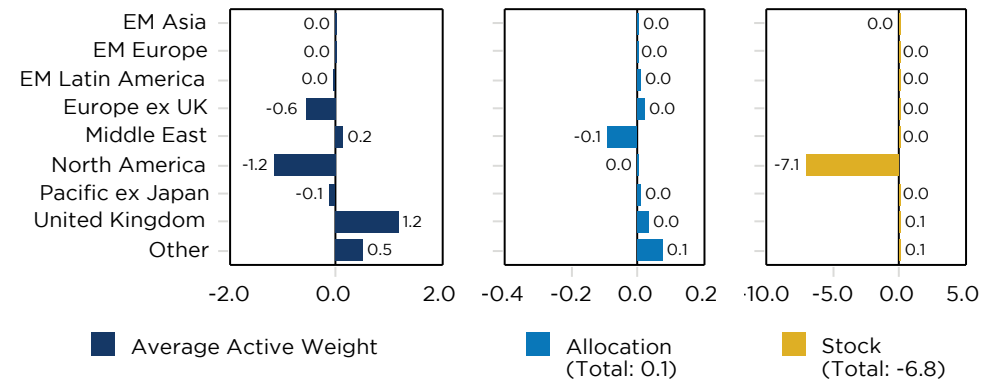
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution

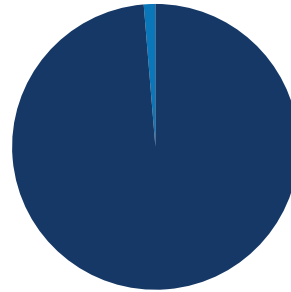


Top Ten Securities

Microsoft Corp	9.9 %
Apple Inc	6.4 %
Alphabet Inc Class A	5.7 %
Amazon.com Inc	4.9 %
Mastercard Inc Class A	4.3 %
Tradeweb Markets Inc	3.0 %
Copart Inc	2.5 %
Boston Scientific Corp	2.5 %
UnitedHealth Group Inc	2.0 %
Monolithic Power Systems Inc	1.9 %
Total	43.2 %

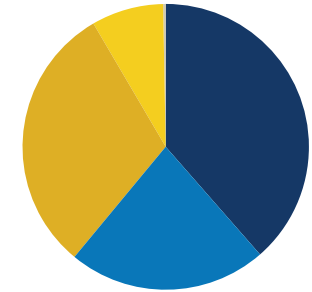
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Horizon Therapeutics Public Ltd Co	0.72	0.07	0.53	83.87
Allegro Microsystems Inc	1.25	0.01	0.43	37.39
Mastercard Inc	3.45	1.36	0.42	22.49
Boston Scientific Corp	2.07	0.00	0.36	19.47
Tradeweb Markets Inc	2.42	0.02	0.31	15.23
Linde Plc	1.55	0.16	0.27	21.41
Five Below Inc	1.04	0.04	0.26	28.47
Copart Inc	2.27	0.13	0.26	14.45
Intuitive Surgical Inc	0.81	0.34	0.18	41.57
Microsoft Corp	10.56	9.65	0.01	3.26

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
LendingTree Inc	0.76	0.01	1.01	142.31
Norwegian Cruise Line	0.52	0.02	0.31	68.36
GLOBAL PAYMENTS INC	1.93	0.33	0.23	21.75
Carvana Co	0.14	0.03	0.18	168.79
Roku Inc	0.46	0.07	0.16	48.73
Euronet Worldwide Inc	1.37	0.05	0.15	18.63
Splunk Inc	1.17	0.14	0.13	20.27
PayPal Holdings Inc	1.49	0.78	0.05	14.95
Meta Platforms Inc	2.47	3.00	-0.06	19.48
Amazon.com Inc	6.78	4.68	-0.09	3.22

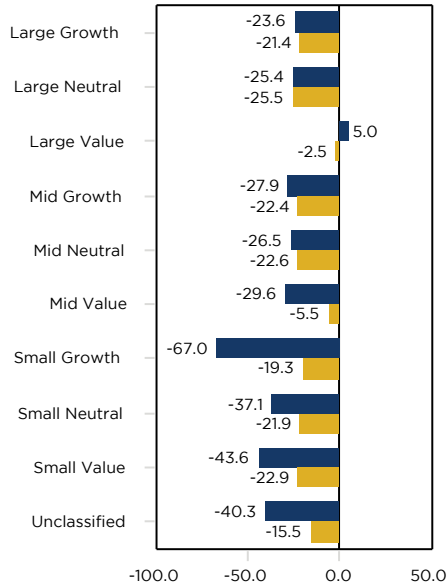
Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Amazon.com Inc	8.06	5.56	-0.70	-25.66
Catalent Inc	1.65	0.02	-0.65	-37.80
Alphabet Inc	8.91	2.77	-0.62	-7.76
Rapid7 Inc	1.20	0.01	-0.27	-20.79
Leslie's Inc	1.38	0.01	-0.26	-17.00
CrowdStrike Holdings Inc	0.80	0.19	-0.23	-36.11
ZoomInfo Technologies Inc	0.80	0.06	-0.22	-27.72
Regal Rexnord Corporation	1.05	0.00	-0.17	-14.27
Edwards Lifesciences Corp	1.45	0.28	-0.14	-9.71
Apple Inc	6.75	11.71	0.40	-5.83

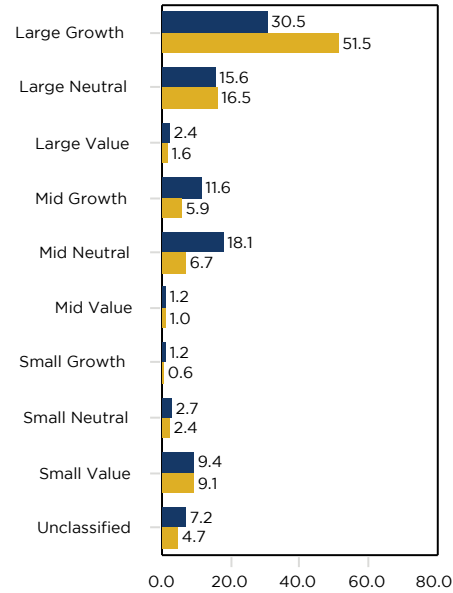
Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Monolithic Power Systems Inc	2.31	0.05	-0.64	-21.02
Microchip Technology Inc	3.57	0.04	-0.63	-10.57
Alphabet Inc	5.35	2.45	-0.47	-8.78
Waste Connections Inc.	1.62	0.00	-0.32	-12.55
Norfolk Southern Corp	1.93	0.04	-0.31	-9.29
Ulta Salon Cosmetics	1.04	0.09	-0.25	-18.58
Mastercard Inc	3.42	1.62	-0.23	-5.46
DexCom Inc	0.90	0.12	-0.23	-21.55
Microsoft Corp	5.55	7.30	0.37	-13.86
Apple Inc	2.88	7.99	1.29	-17.89

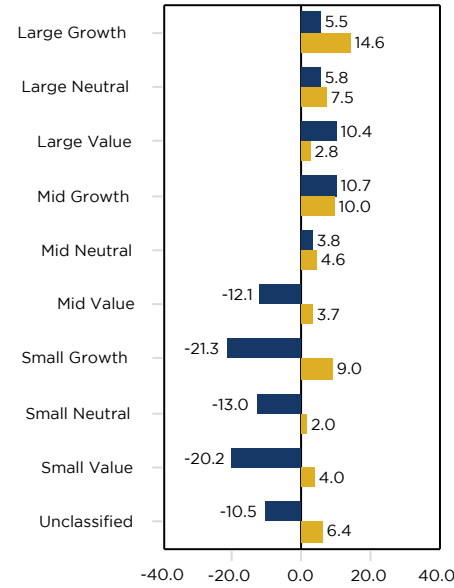
Performance | 1 Year



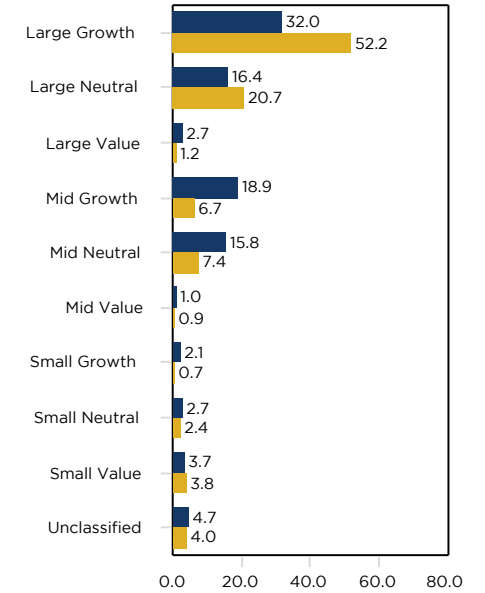
Allocation | 1 Year



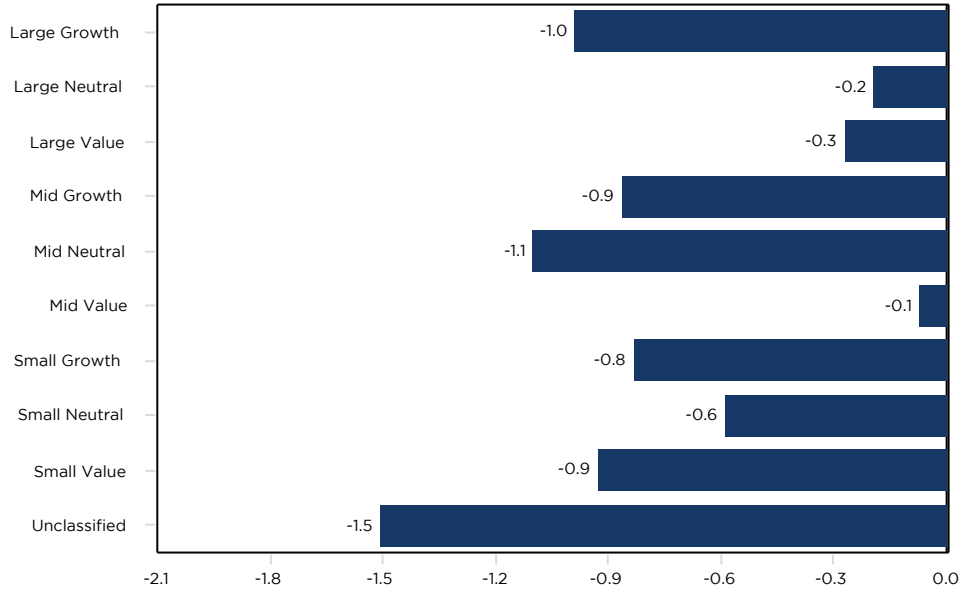
Performance | 3 Years



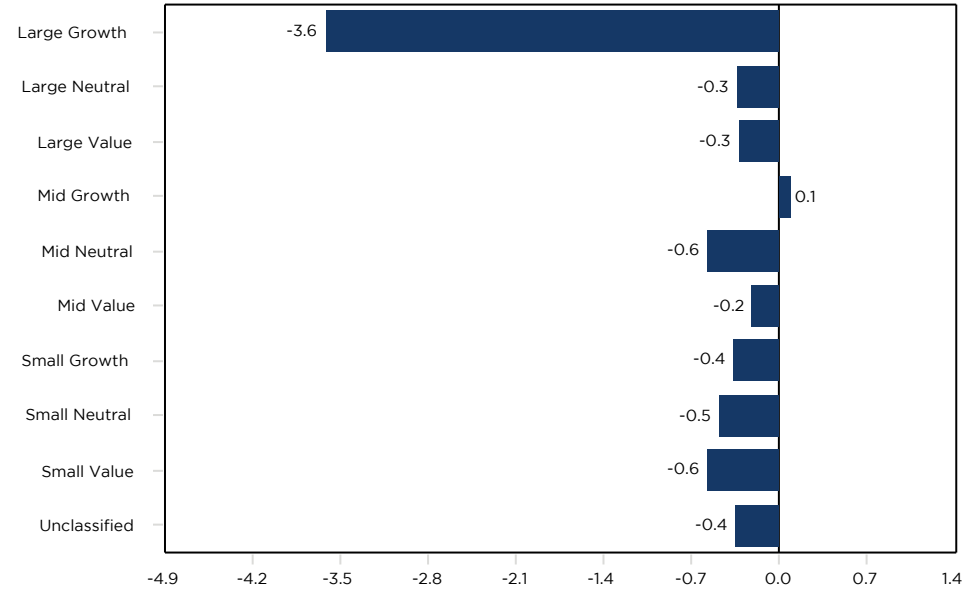
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	11.49 (2)	-19.22 (7)	-19.22 (7)	12.35 (1)	14.20 (1)	14.28 (7)	31.82 (3)	33.19 (59)	33.41 (44)	2.67 (13)
Benchmark	7.56	-18.11	-18.11	7.66	9.42	12.56	28.71	18.40	31.49	-4.38
Peer Group	2.98	-30.75	-30.75	5.07	8.41	11.93	22.01	34.85	32.80	-1.64
Population	1,278	1,253	1,253	1,176	1,132	1,040	1,260	1,253	1,278	1,353

Fund Information

Fund Inception	09/25/2013
Fund Assets	3,123 Million
Portfolio Assets	1,519 Million
Total # of Holdings	36
% in Top 10	41.02 %
PM	Klimo,S/Paul,C/Salam,M
PM Tenure	
Turnover	7.00 %
Gross Expense (%)	0.64 %
Net Expense (%)	0.64 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	369,992	413,469
Median Mkt. Cap (\$M)	109,342	29,555
Price/Earnings ratio	27.3	19.2
Price/Book ratio	7.1	3.9
5 Yr. EPS Growth Rate (%)	16.9	17.7
Current Yield (%)	1.3	1.8
Beta (5 Years, Monthly)	0.95	1.00
Number of Stocks	35	503
Debt to Equity (%)	-78.6	116.8
Forecast P/E	19.0	16.8
Forecast EPS Growth	14.2	11.5
Return on Equity (%)	4.2	10.9

Country/Region Allocation

United States	77.9	96.9
Non-US Developed	19.1	3.1
Emerging Markets	3.0	0.0
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	20.58	14.70
vs. S&P 500 Index		
Beta	0.95	0.95
Alpha	4.82	2.16
Information Ratio	0.74	0.34
Tracking Error	5.72	4.49
R-Squared	0.93	0.91
Up Market Capture	106.58	102.42
Down Market Capture	92.68	93.93
Consistency	55.56	48.33

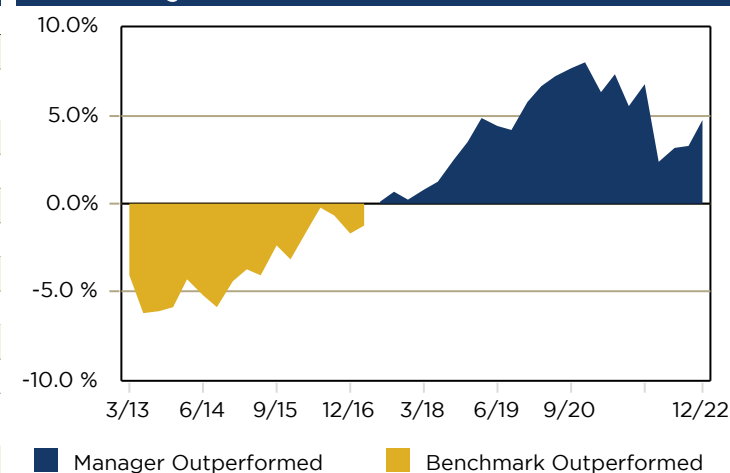
vs. Risk Free

Sharpe Ratio	0.63	0.93
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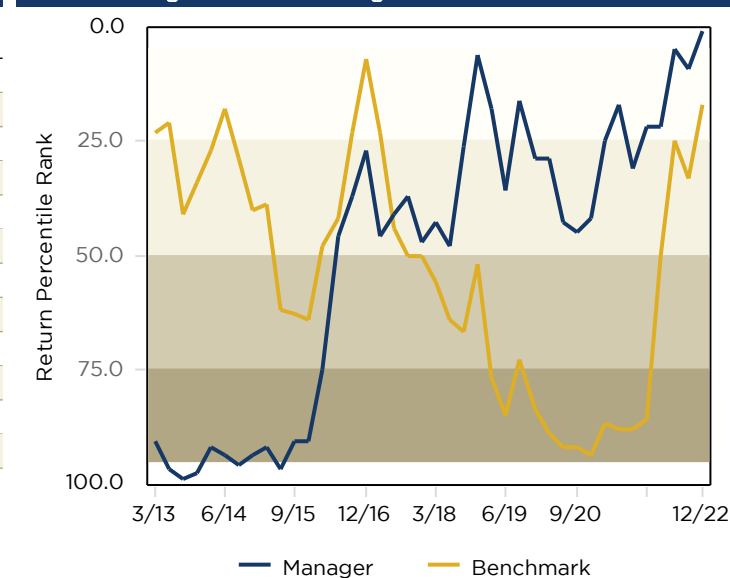
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	2.0	7.3
Consumer Discretionary	7.4	9.8
Consumer Staples	7.0	7.2
Energy	0.0	5.2
Financials	0.0	11.7
Health Care	27.6	15.8
Industrials	11.6	8.7
Information Technology	42.4	25.7
Materials	2.1	2.7
Real Estate	0.0	2.7
Utilities	0.0	3.2
Total	100.0	100.0

3 Years Rolling Excess Performance

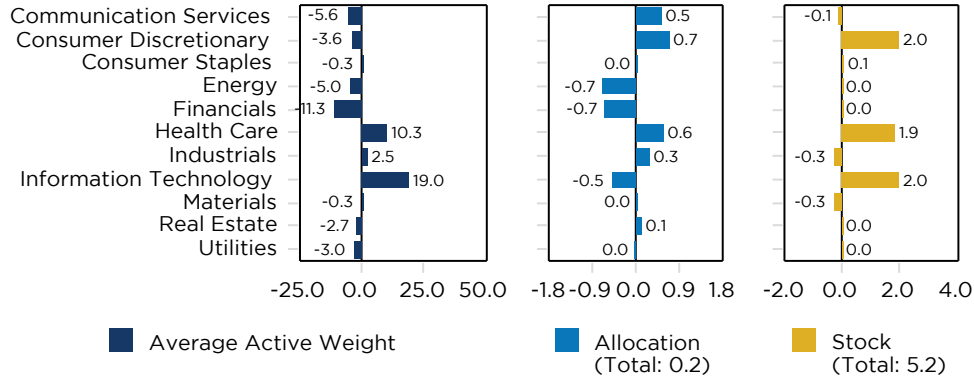


3 Years Rolling Percentile Ranking

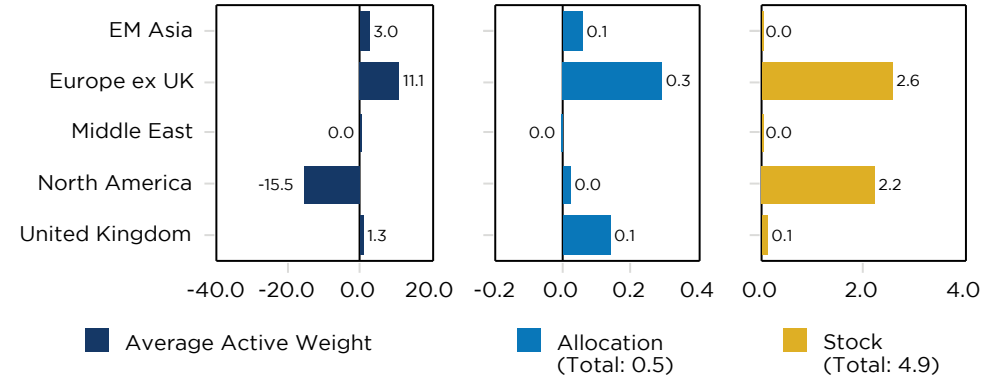




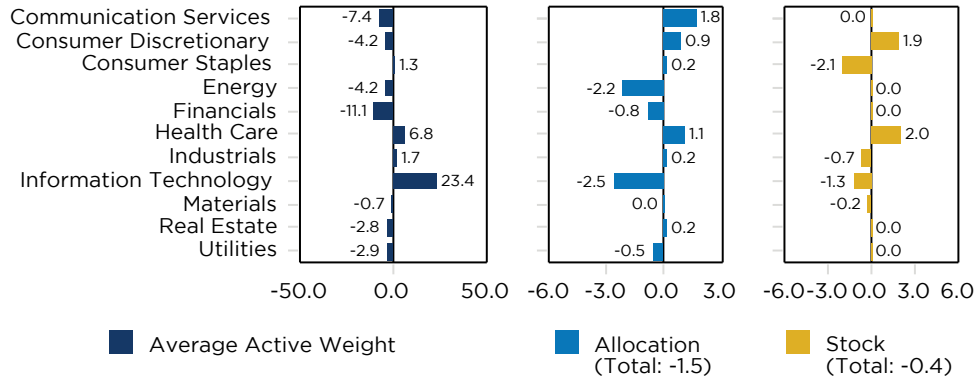
1 Quarter Sector Attribution



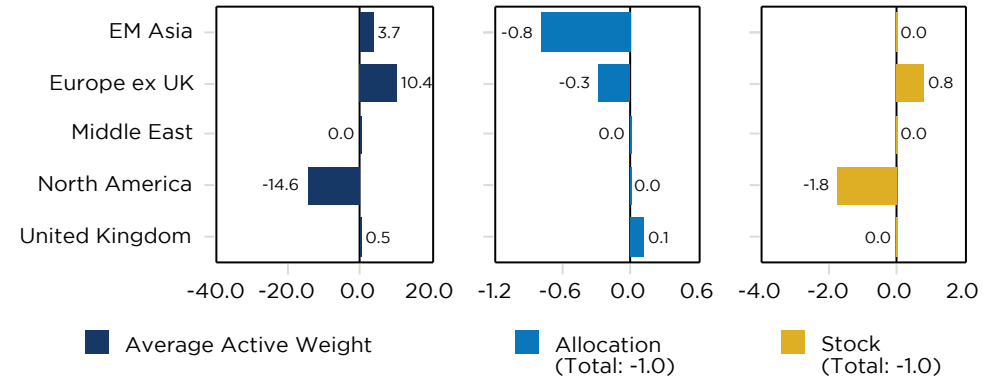
1 Quarter Region Attribution



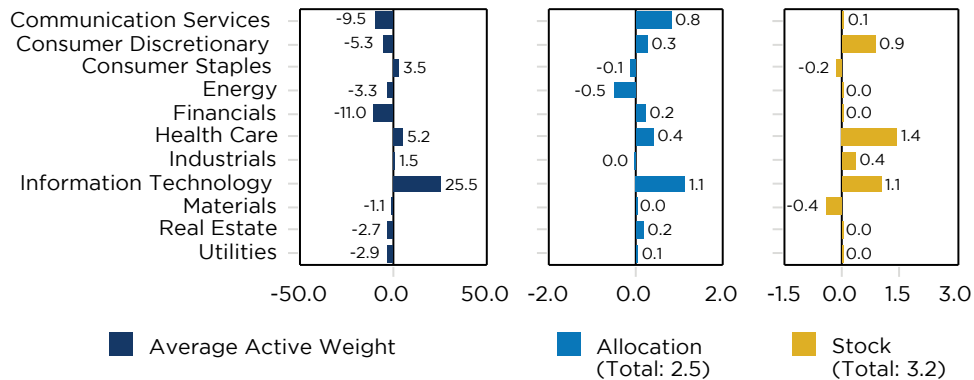
1 Year Sector Attribution



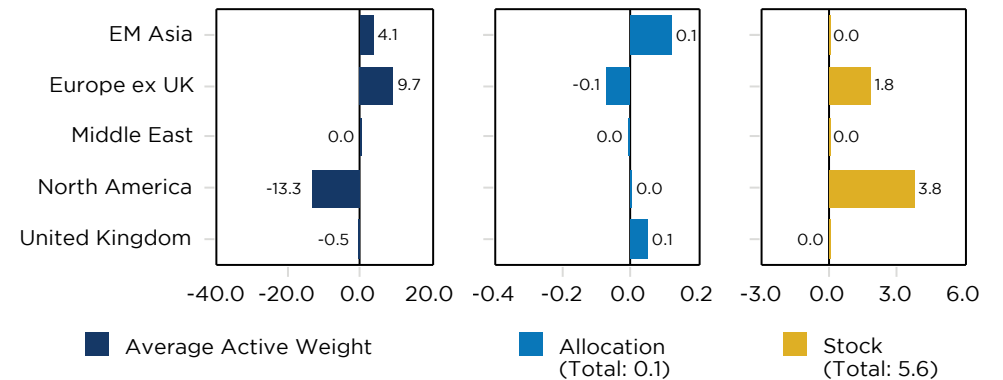
1 Year Region Attribution



3 Years Sector Attribution



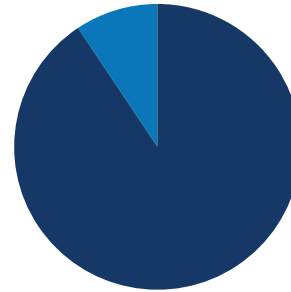
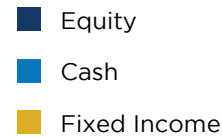
3 Years Region Attribution



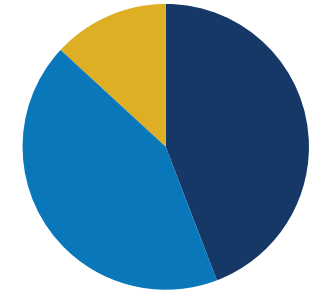
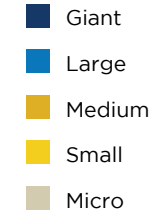
Top Ten Securities

Apple Inc	7.9 %
ASML Holding NV ADR	5.1 %
Novo Nordisk A/S ADR	4.1 %
Agilent Technologies Inc	4.1 %
Eli Lilly and Co	3.9 %
The Estee Lauder Companies Inc	3.5 %
Intuit Inc	3.4 %
Adobe Inc	3.3 %
Church & Dwight Co Inc	2.9 %
Amgen Inc	2.8 %
Total	41.0 %

Asset Allocation



Market Capitalization



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
ASML Holding NV	4.90	0.00	1.20	31.95
Novo Nordisk A/S	3.82	0.00	1.08	35.84
Agilent Technologies Inc	4.19	0.12	0.65	23.51
TJX Companies Inc (The)	2.74	0.24	0.53	28.68
Johnson Controls Intl	2.35	0.11	0.52	30.75
Adobe Inc	3.38	0.43	0.43	22.29
Oracle Corp	1.72	0.31	0.38	34.53
Estee Lauder Companies Inc	3.79	0.17	0.28	15.27
Amgen Inc	3.07	0.40	0.26	17.32
Eli Lilly and Co	4.34	0.85	0.21	13.45

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
SAP AG	2.02	0.00	-0.01	6.99
Bristol-Myers Squibb Co	0.69	0.56	-0.02	-6.64
TD SYNNEX Corporation	0.27	0.00	-0.06	-13.48
Clorox Co (The)	1.83	0.07	-0.13	0.41
PepsiCo Inc	1.53	0.71	-0.16	-11.40
Cisco Systems Inc	3.43	0.76	-0.28	-2.84
Union Pacific Corp	2.59	0.47	-0.30	-6.41
Stryker Corp	3.01	0.25	-0.38	-6.04
L3Harris Technologies Inc	3.68	0.16	-0.39	-3.52
Adobe Inc	6.30	0.60	-0.47	-0.67

Top Ten Detractors | 1 Quarter

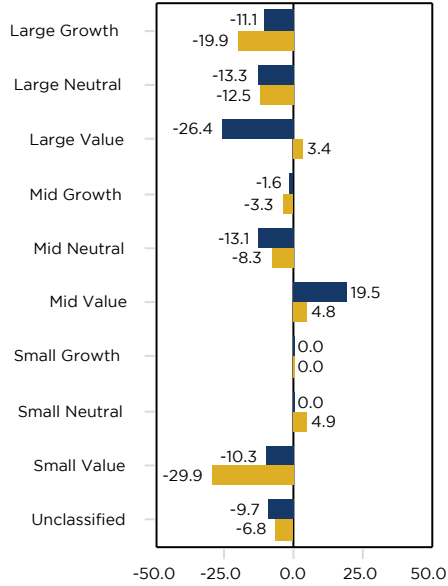
	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Apple Inc	10.65	6.93	-0.50	-5.83
Trimble Inc	3.12	0.04	-0.44	-6.84
Intuit Inc.	4.27	0.36	-0.27	0.68
Corteva Inc	2.30	0.14	-0.10	3.08
QUALCOMM Inc.	1.22	0.42	-0.08	-2.11
Advanced Micro Devices Inc	1.61	0.34	-0.07	2.23
Alphabet Inc	2.18	1.90	-0.04	-7.76
Fastenal Co	1.12	0.09	-0.04	3.46
Union Pacific Corp	2.24	0.40	-0.01	6.94
Microsoft Corp	1.83	5.77	0.17	3.26

Top Ten Detractors | 3 Years

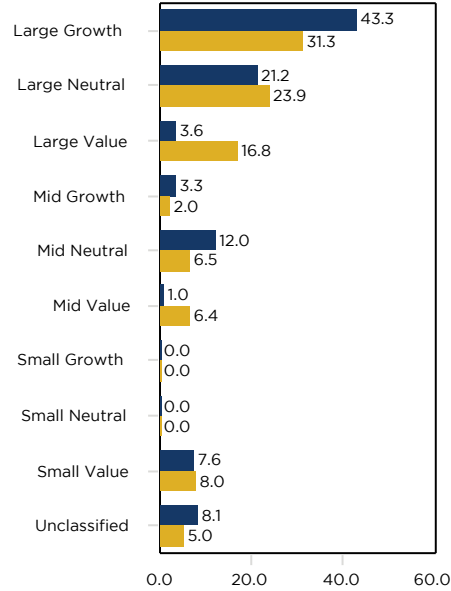
	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
ASML Holding NV	4.35	0.00	-1.17	-19.19
Intuit Inc.	5.63	0.25	-1.11	-12.92
Novo Nordisk A/S	2.77	0.00	-0.93	-26.03
Agilent Technologies Inc	3.66	0.10	-0.90	-17.63
EMCOR Group Inc.	2.81	0.00	-0.69	-16.86
Eli Lilly and Co	2.20	0.41	-0.68	-30.05
TJX Companies Inc (The)	4.08	0.28	-0.65	-9.56
Apple Inc	7.06	4.58	-0.63	-17.89
Keysight Technologies Inc	2.45	0.07	-0.56	-15.66
Lowe's Cos Inc	2.29	0.34	-0.48	-17.00



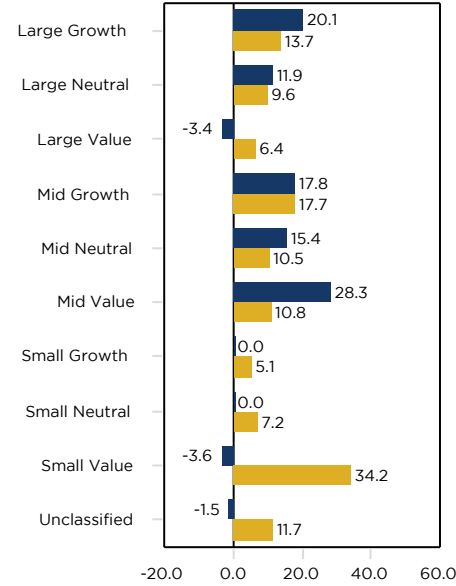
Performance | 1 Year



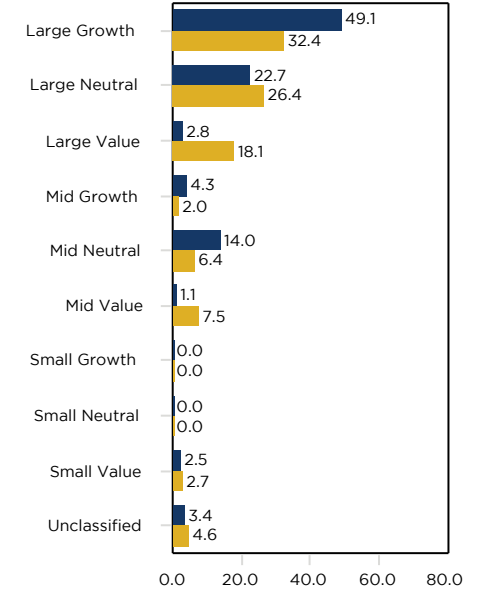
Allocation | 1 Year



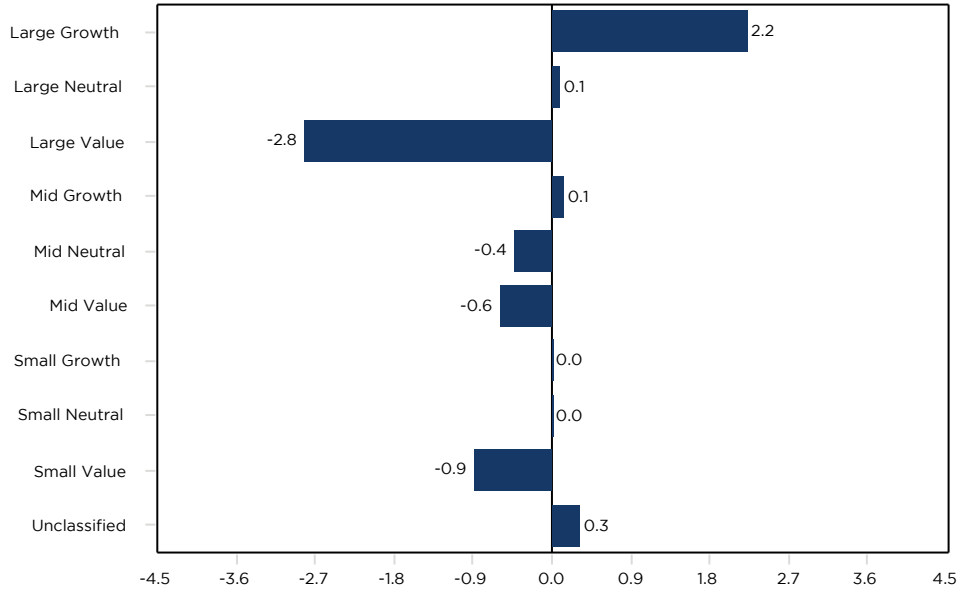
Performance | 3 Years



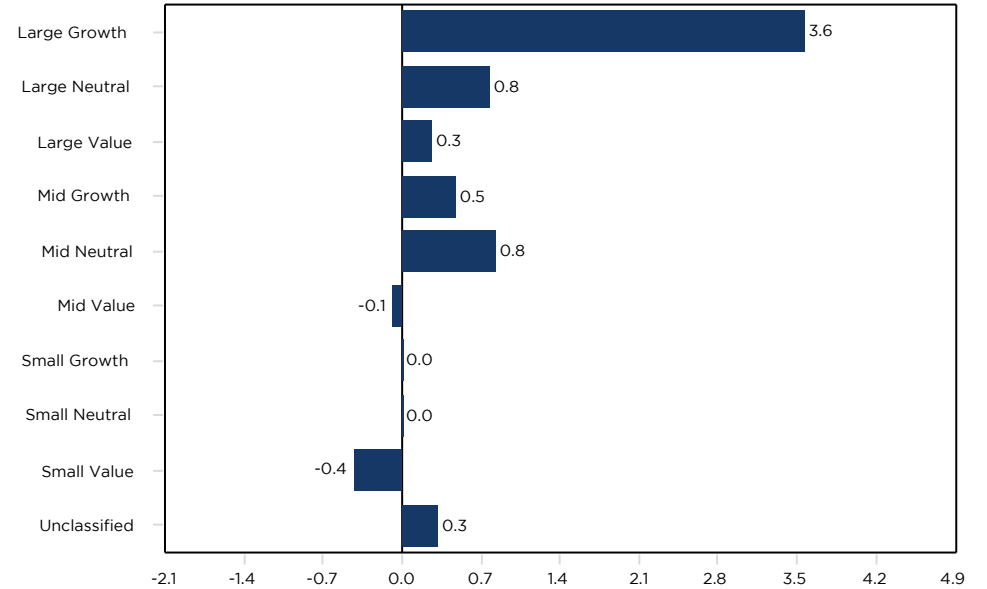
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years





JHancock Disciplined Value Mid Cap R6 (JVMRX)

Index: Russell Midcap Value Index

Category: Mid-Cap Value

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	13.32 (24)	-6.96 (39)	-6.96 (39)	7.81 (32)	6.87 (30)	11.65 (5)	27.05 (67)	6.01 (25)	30.28 (18)	-14.59 (66)
Benchmark	10.45	-12.03	-12.03	5.82	5.72	10.11	28.34	4.96	27.06	-12.29
Peer Group	11.95	-8.12	-8.12	6.50	5.84	9.52	28.69	2.69	26.69	-13.48
Population	414	411	411	404	393	335	426	434	451	485

Fund Information

Fund Inception	09/01/2011
Fund Assets	19,358 Million
Portfolio Assets	4,476 Million
Total # of Holdings	133
% in Top 10	17.15 %
PM	Feeney,J/Pollack,S
PM Tenure	
Turnover	26.00 %
Gross Expense (%)	0.75 %
Net Expense (%)	0.75 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	25,793	19,845
Median Mkt. Cap (\$M)	16,102	8,531
Price/Earnings ratio	16.5	13.9
Price/Book ratio	2.7	2.3
5 Yr. EPS Growth Rate (%)	14.7	13.8
Current Yield (%)	1.9	2.2
Beta (5 Years, Monthly)	0.97	1.00
Number of Stocks	131	699
Debt to Equity (%)	-19.1	60.5
Forecast P/E	14.5	13.6
Forecast EPS Growth	14.4	10.3
Return on Equity (%)	0.3	1.8

Country/Region Allocation

United States	86.7	96.4
Non-US Developed	13.3	3.6
Other	0.0	0.0
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	23.80	16.81
vs. Russell Midcap Value Index		
Beta	0.96	0.98
Alpha	1.99	1.59
Information Ratio	0.47	0.41
Tracking Error	3.53	3.42
R-Squared	0.98	0.96
Up Market Capture	98.43	100.73
Down Market Capture	92.07	92.39
Consistency	47.22	50.83

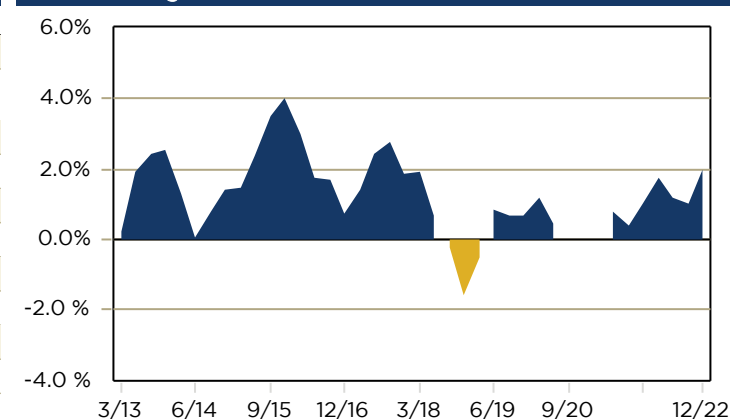
vs. Risk Free

Sharpe Ratio	0.41	0.70
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Sector Allocation

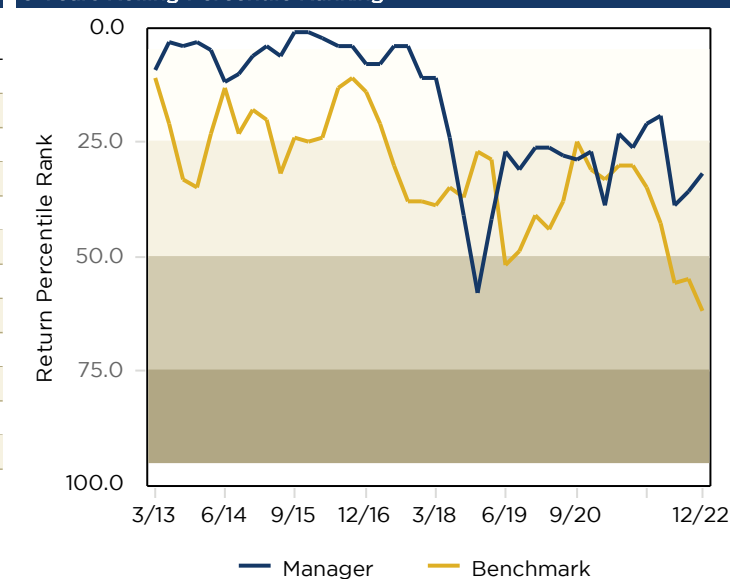
Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	1.0	3.1
Consumer Discretionary	15.2	9.9
Consumer Staples	2.2	4.1
Energy	6.2	5.5
Financials	16.4	18.2
Health Care	8.4	7.5
Industrials	23.9	15.6
Information Technology	9.4	8.8
Materials	5.9	7.6
Real Estate	5.9	10.6
Utilities	5.5	9.2
Total	100.0	100.0

3 Years Rolling Excess Performance



■ Manager Outperformed ■ Benchmark Outperformed

3 Years Rolling Percentile Ranking

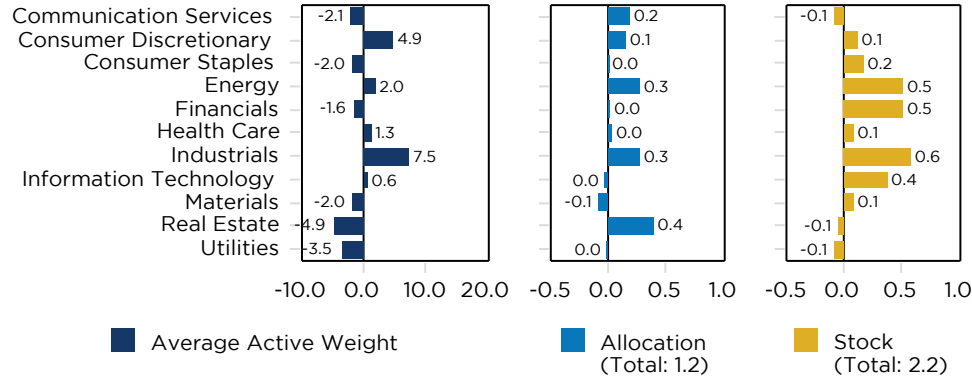




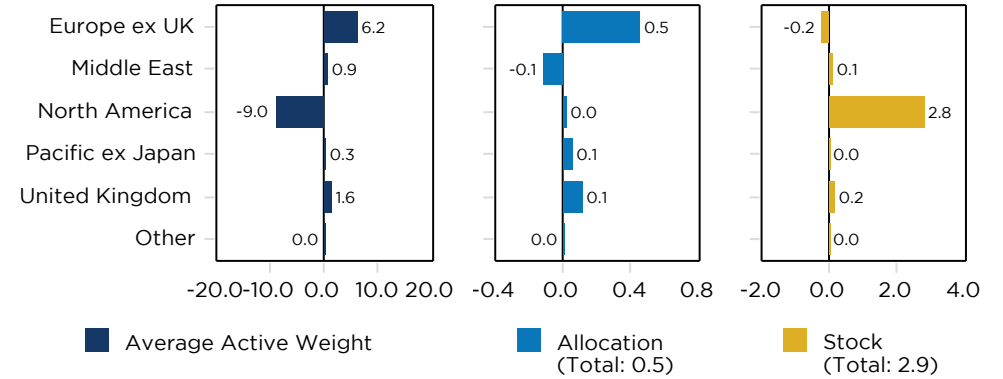
JHancock Disciplined Value Mid Cap R6 (JVMRX)

Index: Russell Midcap Value Index
As of: 12/31/2022

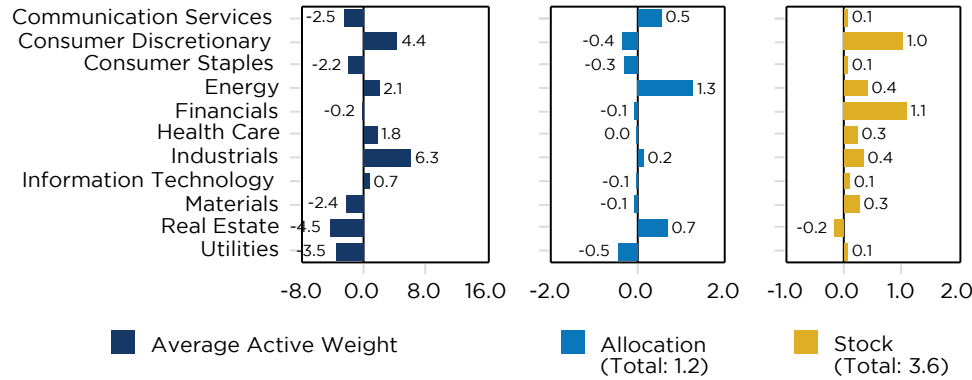
1 Quarter Sector Attribution



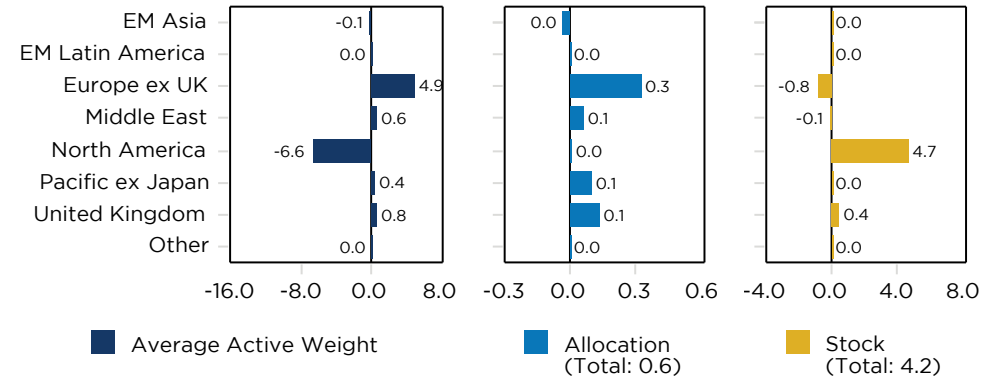
1 Quarter Region Attribution



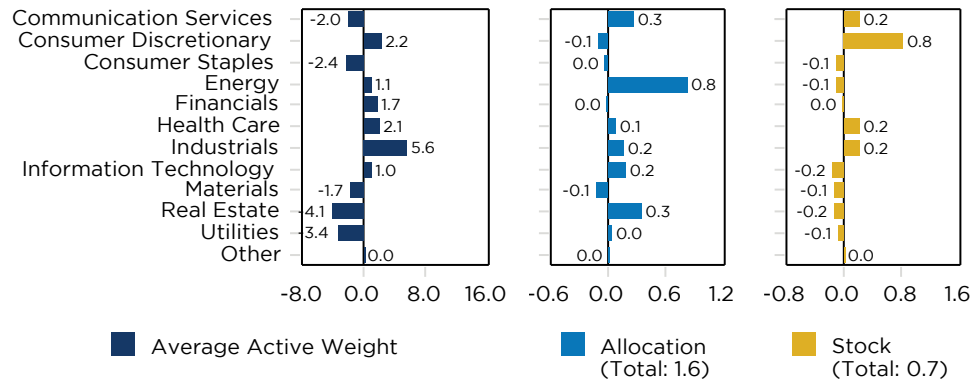
1 Year Sector Attribution



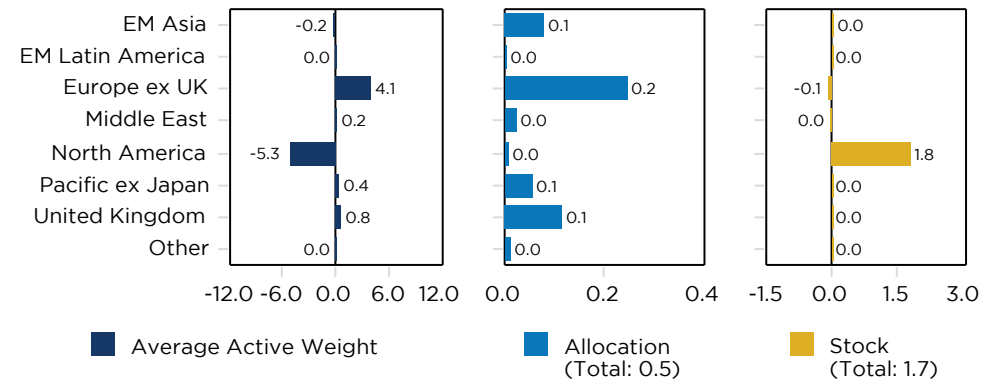
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution





JHancock Disciplined Value Mid Cap R6 (JVMRX)

Index: Russell Midcap Value Index

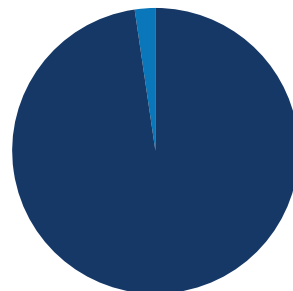
As of: 12/31/2022

Top Ten Securities

Ameriprise Financial Inc	2.4 %
AutoZone Inc	2.0 %
CenterPoint Energy Inc	1.8 %
AMETEK Inc	1.6 %
Dover Corp	1.6 %
Fifth Third Bancorp	1.6 %
KeyCorp	1.6 %
Huntington Bancshares Inc	1.6 %
Eaton Corp PLC	1.5 %
AmerisourceBergen Corp	1.5 %
Total	17.2 %

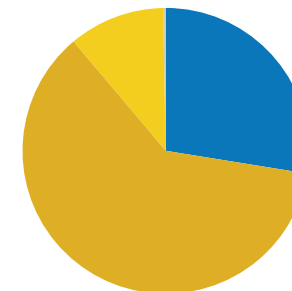
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Schlumberger Ltd	1.54	0.00	0.60	49.43
MacDonald Dettwiler & Assoc	0.25	0.00	0.42	176.51
Ameriprise Financial Inc	2.40	0.18	0.30	24.08
Halliburton Co	0.79	0.22	0.28	60.38
Everest Re Group Ltd	1.21	0.13	0.18	26.86
Howmet Aerospace Inc	1.22	0.19	0.18	27.56
AMERISOURCEBERGEN CORP	1.34	0.00	0.17	22.83
Ross Stores Inc	0.86	0.30	0.15	38.10
AMETEK Inc	1.48	0.47	0.13	23.39
AutoZone Inc	2.19	0.07	0.10	15.14

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Altitice usa inc	0.54	0.00	0.41	81.14
Fidelity Natiaol Info Serv Inc.	1.39	0.00	0.27	25.16
Douglas Emmett Inc	0.86	0.15	0.21	35.36
Boston Properties Inc	1.49	0.44	0.17	21.66
Spirit Aerosystems Holdings Inc	0.56	0.02	0.16	34.88
Southwest Airlines Co.	1.14	0.00	0.13	16.88
Kilroy Realty Corp	0.71	0.18	0.10	24.90
GLOBAL PAYMENTS INC	0.60	0.00	0.10	21.75
Bread Financial Holdings Inc	0.35	0.08	0.07	32.37
Tyson Foods Inc.	0.94	0.54	0.02	10.79

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Advanced Drainage Systems Inc	0.76	0.00	-0.34	-34.01
Essex Property Trust Inc.	0.95	0.28	-0.15	-11.61
Hasbro Inc.	0.92	0.16	-0.14	-8.54
ASGN Inc	0.60	0.00	-0.12	-9.84
Resideo Technologies Inc	0.43	0.00	-0.10	-13.69
Expedia Group Inc	0.59	0.00	-0.10	-6.50
Live Nation Entertainment Inc	0.54	0.10	-0.08	-8.28
Equity Residential	0.74	0.44	-0.07	-11.31
SVB Financial Group	0.24	0.13	-0.05	-31.46
GLOBAL PAYMENTS INC	0.67	0.53	-0.03	-7.84

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Marathon Petroleum Corp	0.91	0.00	-0.26	-22.90
KLA Corp	0.89	0.00	-0.26	-23.20
Aon plc	1.42	0.00	-0.25	-12.12
Ameriprise Financial Inc	1.29	0.38	-0.24	-20.44
AMETEK Inc	1.45	0.10	-0.23	-11.25
Eaton Corp Plc	0.84	0.00	-0.20	-17.82
Valero Energy Corp	0.99	0.00	-0.20	-14.17
AMERISOURCEBERGEN CORP	0.73	0.00	-0.20	-21.14
Corteva Inc	0.98	0.46	-0.14	-21.54
Steel Dynamics Inc	0.47	0.14	-0.12	-31.30

Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

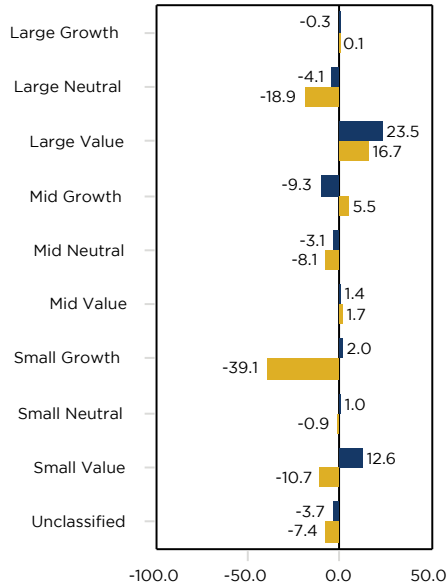


JHancock Disciplined Value Mid Cap R6 (JVMRX)

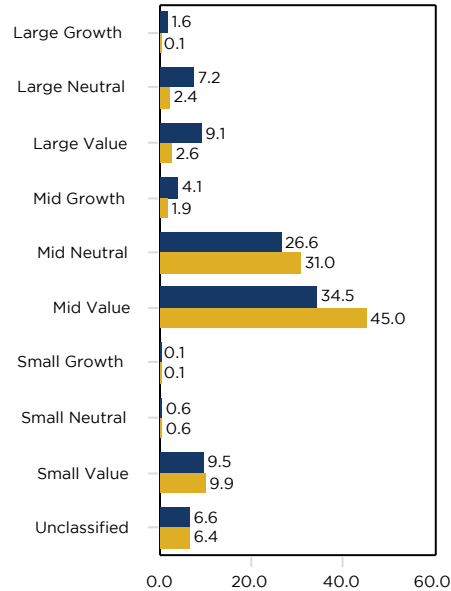
Index: Russell Midcap Value Index

As of: 12/31/2022

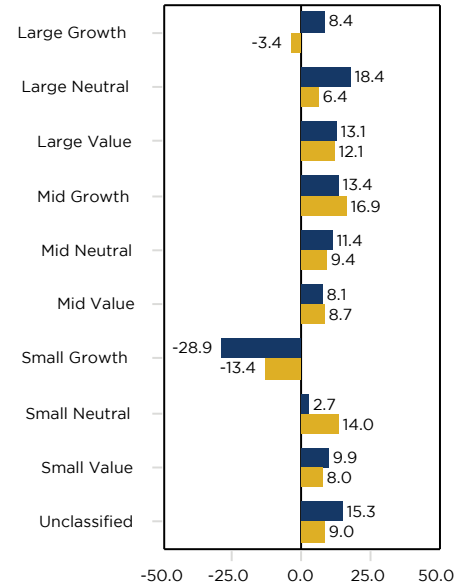
Performance | 1 Year



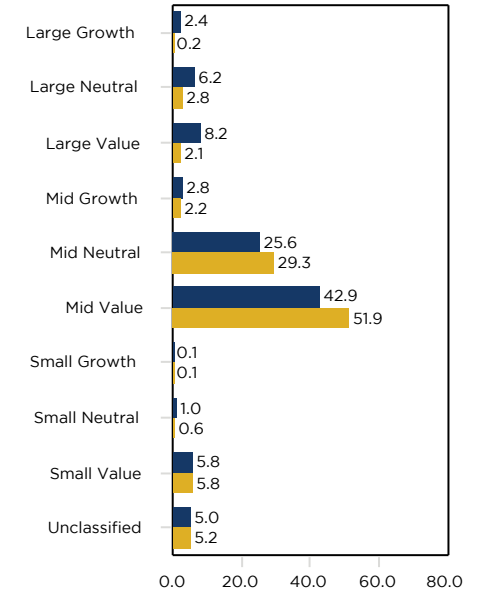
Allocation | 1 Year



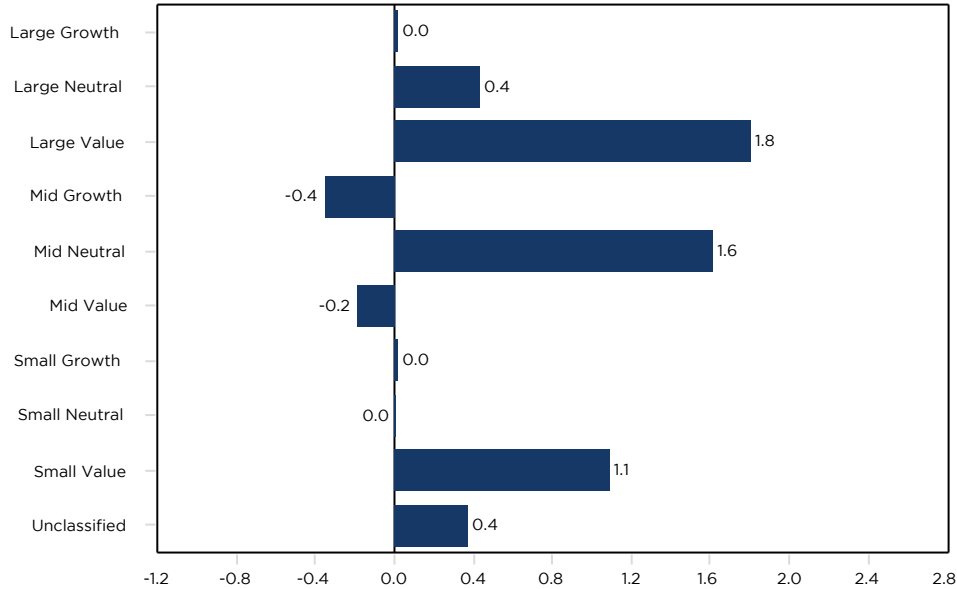
Performance | 3 Years



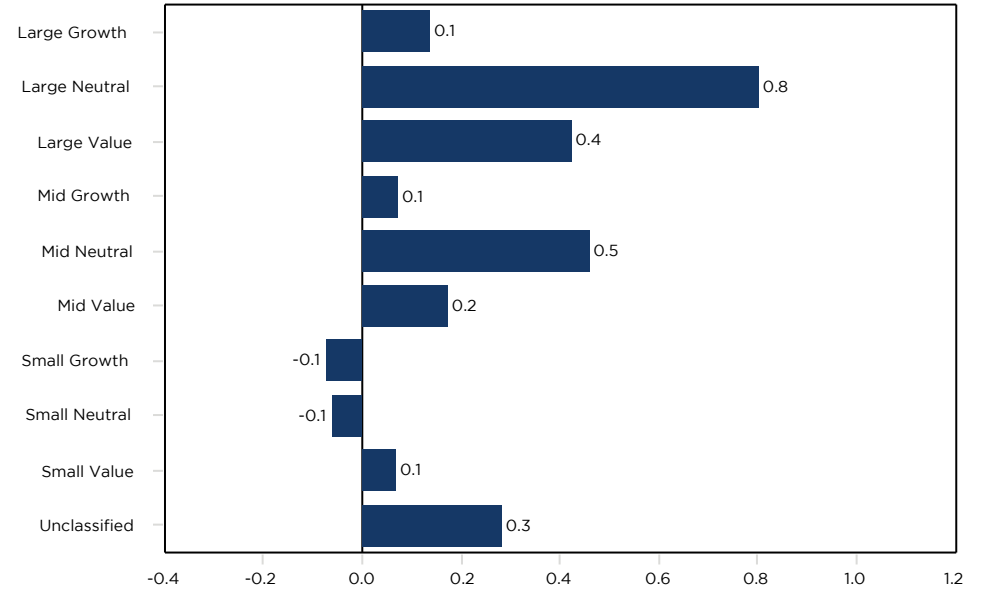
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	10.17 (84)	-10.34 (75)	-10.34 (75)	4.33 (83)	4.37 (78)	8.63 (75)	32.18 (21)	-4.19 (93)	27.05 (45)	-14.15 (59)
Benchmark	10.45	-12.03	-12.03	5.82	5.72	10.11	28.34	4.96	27.06	-12.29
Peer Group	11.95	-8.12	-8.12	6.50	5.84	9.52	28.69	2.69	26.69	-13.48
Population	414	411	411	404	393	335	426	434	451	485

Fund Information

Fund Inception	10/01/2002
Fund Assets	1,809 Million
Portfolio Assets	1,090 Million
Total # of Holdings	90
% in Top 10	17.19 %
PM	Chalupnik,D/Staples,E
PM Tenure	
Turnover	80.00 %
Gross Expense (%)	0.45 %
Net Expense (%)	0.45 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	23,113	19,845
Median Mkt. Cap (\$M)	13,909	8,531
Price/Earnings ratio	13.6	13.9
Price/Book ratio	2.3	2.3
5 Yr. EPS Growth Rate (%)	15.6	13.8
Current Yield (%)	2.1	2.2
Beta (5 Years, Monthly)	1.00	1.00
Number of Stocks	88	699
Debt to Equity (%)	143.6	60.5
Forecast P/E	12.0	13.6
Forecast EPS Growth	13.0	10.3
Return on Equity (%)	4.3	1.8

Country/Region Allocation

United States	90.9	96.4
Non-US Developed	8.7	3.6
Other	0.4	0.0
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	24.21	16.88
vs. Russell Midcap Value Index		
Beta	0.98	1.00
Alpha	-1.27	-1.29
Information Ratio	-0.41	-0.52
Tracking Error	3.58	2.57
R-Squared	0.98	0.98
Up Market Capture	95.71	95.88
Down Market Capture	99.54	101.35
Consistency	50.00	46.67

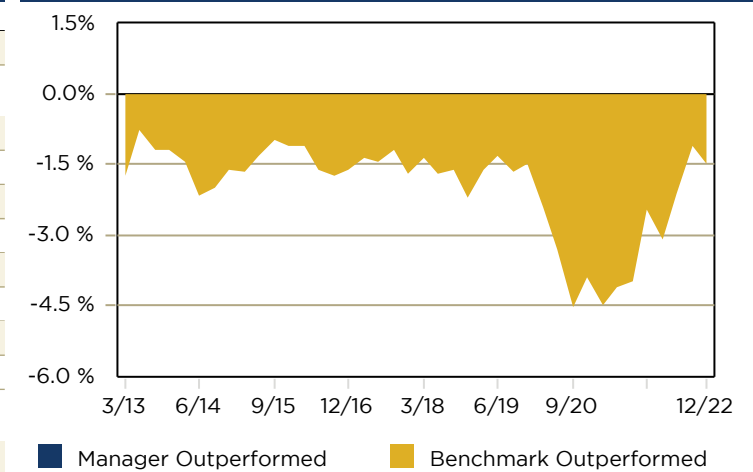
vs. Risk Free

Sharpe Ratio	0.27	0.53
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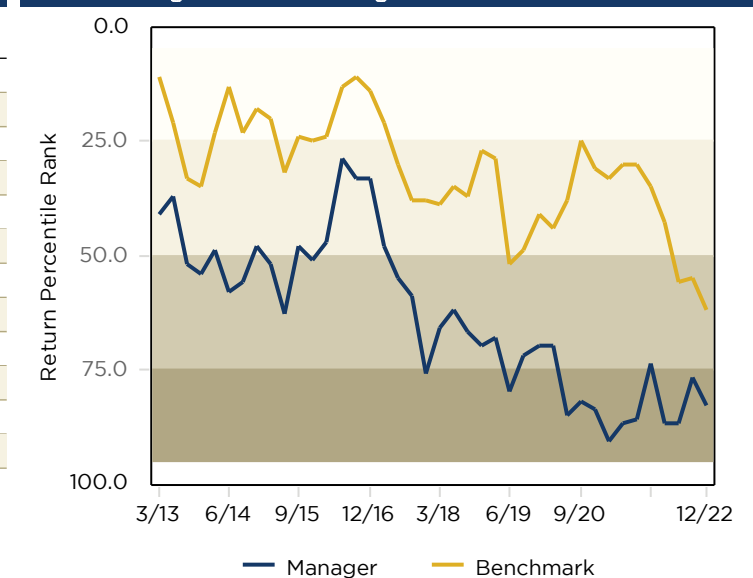
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	0.6	3.1
Consumer Discretionary	6.9	9.9
Consumer Staples	4.6	4.1
Energy	6.4	5.5
Financials	16.8	18.2
Health Care	8.6	7.5
Industrials	20.3	15.6
Information Technology	10.9	8.8
Materials	7.6	7.6
Real Estate	10.7	10.6
Utilities	6.7	9.2
Total	100.0	100.0

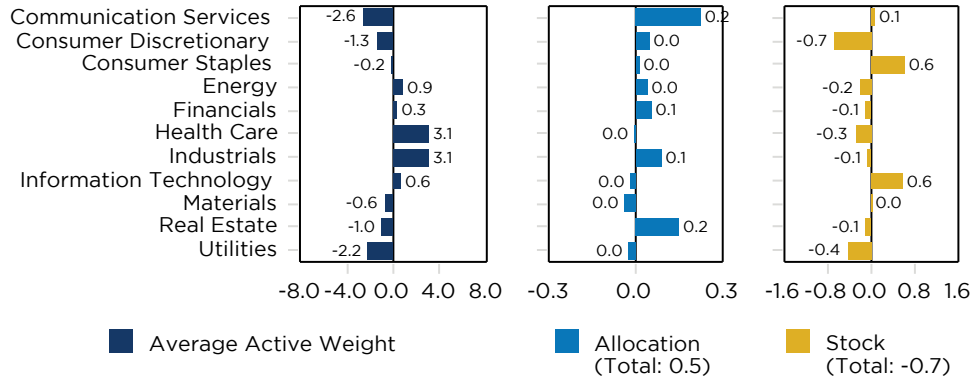
3 Years Rolling Excess Performance



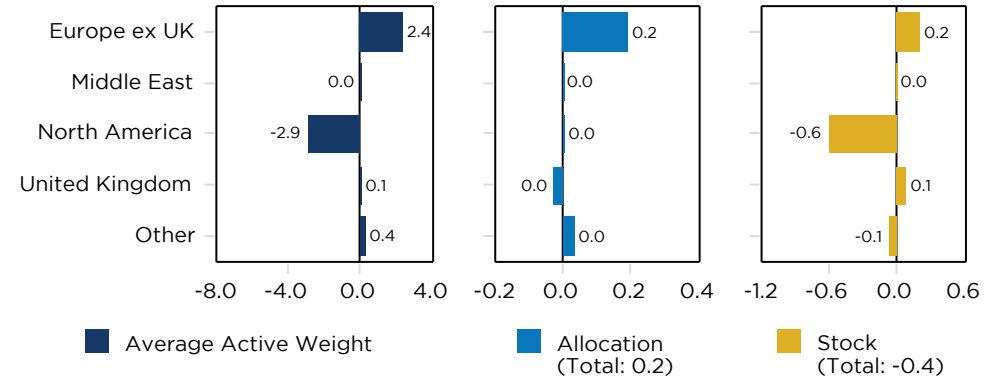
3 Years Rolling Percentile Ranking



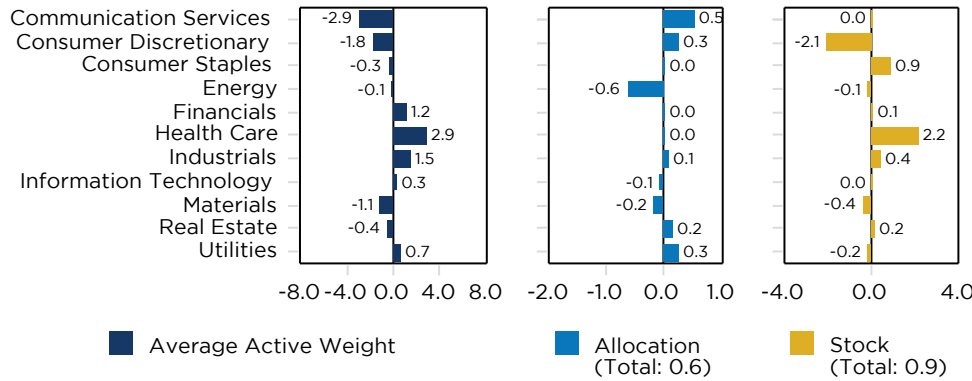
1 Quarter Sector Attribution



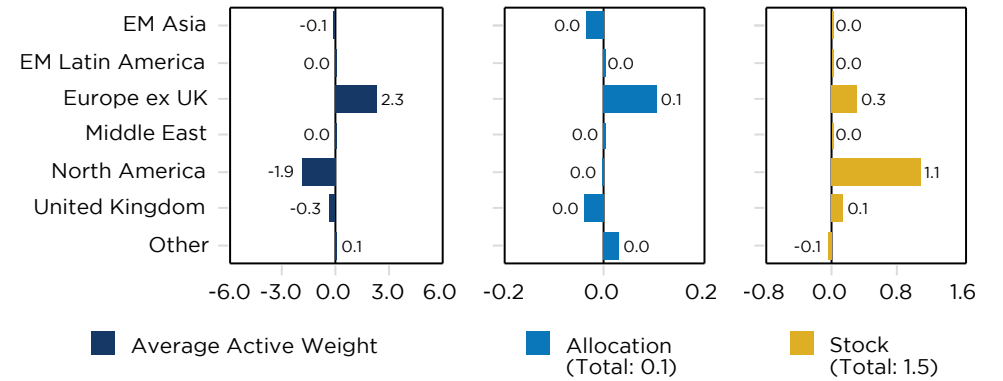
1 Quarter Region Attribution



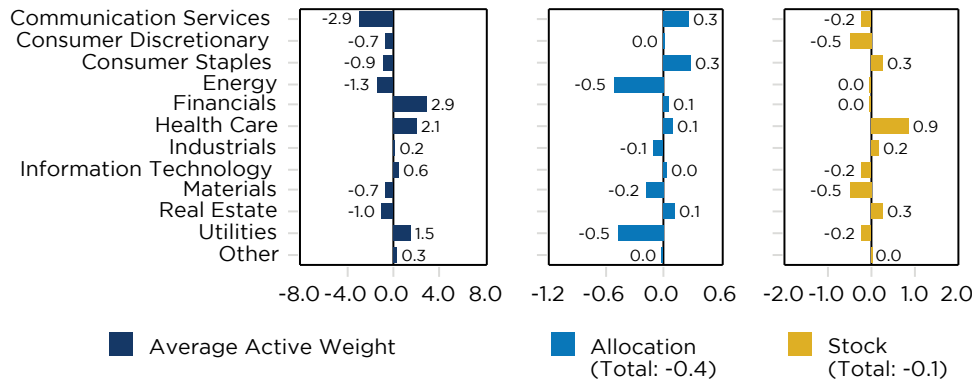
1 Year Sector Attribution



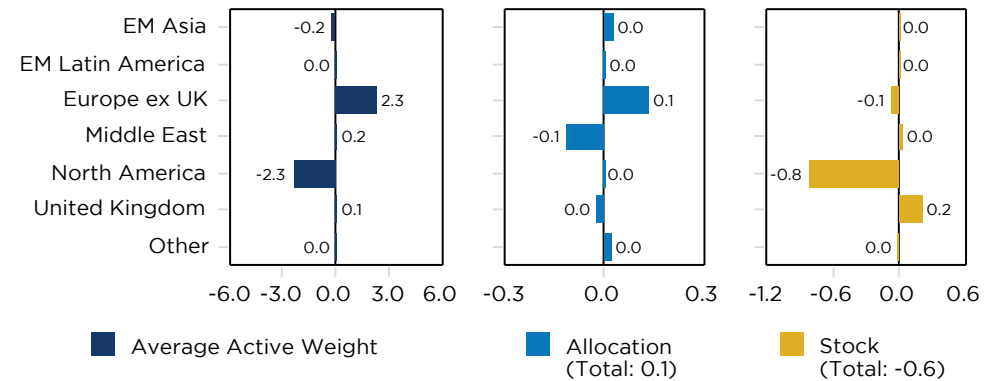
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution

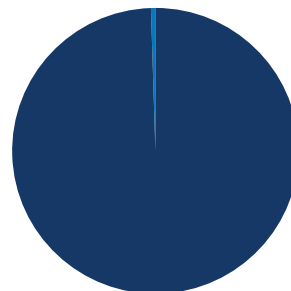


Top Ten Securities

Hewlett Packard Enterprise Co	2.1 %
Alliant Energy Corp	2.0 %
Corteva Inc	1.8 %
Parker Hannifin Corp	1.7 %
Performance Food Group Co	1.7 %
DuPont de Nemours Inc	1.7 %
AMETEK Inc	1.6 %
United Therapeutics Corp	1.6 %
Ameriprise Financial Inc	1.6 %
Willis Towers Watson PLC	1.5 %
Total	17.2 %

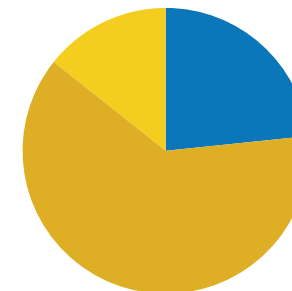
Asset Allocation

■ Equity
■ Cash
■ Fixed Income



Market Capitalization

■ Giant
■ Large
■ Medium
■ Small
■ Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Hewlett Packard Enterprise Co	1.67	0.28	0.33	34.21
Performance Food	1.36	0.08	0.33	35.95
Under Armour Inc	0.73	0.02	0.28	49.67
United Therapeutics Corp	1.34	0.17	0.26	32.82
DuPont De Nemours Inc	1.36	0.45	0.24	36.82
American Int'l Group Inc	0.99	0.00	0.23	33.87
Ameriprise Financial Inc	1.77	0.18	0.22	24.08
Everest Re Group Ltd	1.43	0.13	0.21	26.86
Ciena Corp	1.28	0.11	0.18	26.09
Lennar Corp	1.61	0.33	0.15	21.99

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Cimpress PLC	0.51	0.00	0.31	65.77
Altice usa inc	0.40	0.00	0.30	81.14
DISH Network Corp	0.99	0.19	0.24	36.20
Western Digital Corp	1.47	0.39	0.21	25.38
Argo Group Int.	0.69	0.00	0.18	32.20
Triumph Group Inc.	0.68	0.00	0.17	31.47
Telephone and Data Systems Inc	0.55	0.05	0.12	29.14
Wynn Resorts Ltd	0.80	0.05	0.10	18.62
Royal Caribbean Group	0.66	0.47	0.06	38.72
Boston Properties Inc	0.76	0.44	0.05	21.66

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Regal Rexnord Corporation	1.48	0.17	-0.32	-14.27
Signature Bank	1.07	0.16	-0.31	-23.41
Apartment Income REIT Corp	1.38	0.10	-0.26	-10.04
Brookfield Renewable Corp	1.08	0.07	-0.26	-14.87
Baxter International Inc	1.51	0.00	-0.23	-4.84
Fidelity Natioal Info Serv Inc.	1.12	0.00	-0.22	-9.61
Ally Financial Inc	1.12	0.15	-0.21	-11.19
Advance Auto Parts Inc.	1.50	0.16	-0.21	-4.97
Extra Space Storage Inc	1.19	0.36	-0.20	-13.97
American Homes 4 Rent	1.30	0.18	-0.20	-7.63

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Ameriprise Financial Inc	1.52	0.38	-0.30	-20.44
Louisiana-Pacific Corp	0.84	0.00	-0.23	-21.80
Matador Resources Co	0.58	0.00	-0.22	-32.24
Bunge Ltd	1.04	0.16	-0.22	-19.20
Molina Healthcare Inc.	0.69	0.04	-0.20	-25.66
McKesson Corp	1.00	0.46	-0.19	-28.90
Raymond James Fin. Inc.	0.91	0.18	-0.18	-18.94
First Solar Inc	0.59	0.10	-0.17	-27.98
Olin Corp	0.46	0.06	-0.16	-33.21
Freeport-McMoran Cpr & Gld	0.81	0.39	-0.15	-30.49

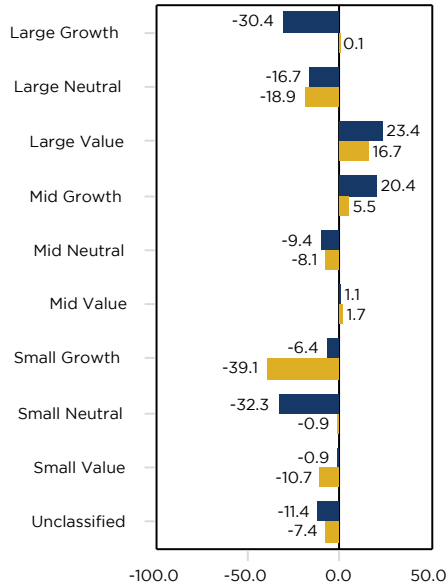


TIAA-CREF Mid-Cap Value Instl (TIMVX)

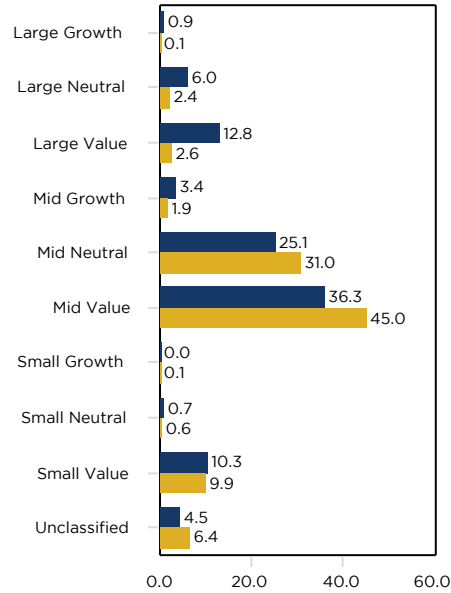
Index: Russell Midcap Value Index

As of: 12/31/2022

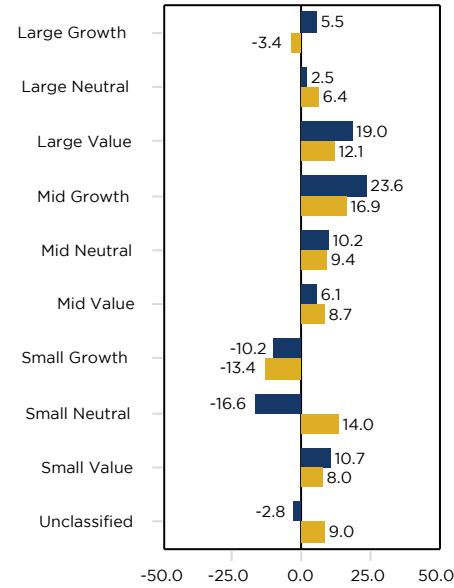
Performance | 1 Year



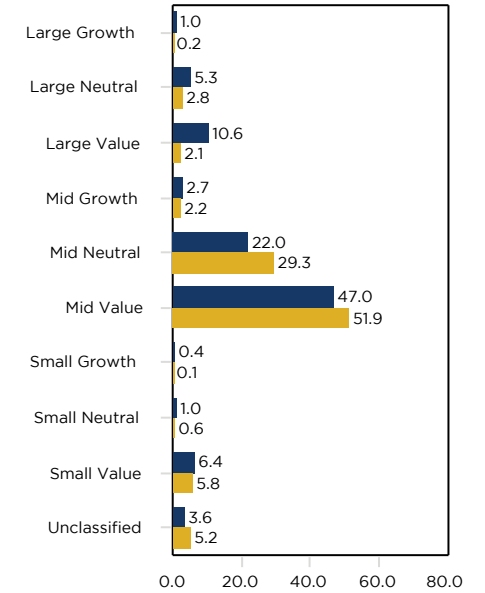
Allocation | 1 Year



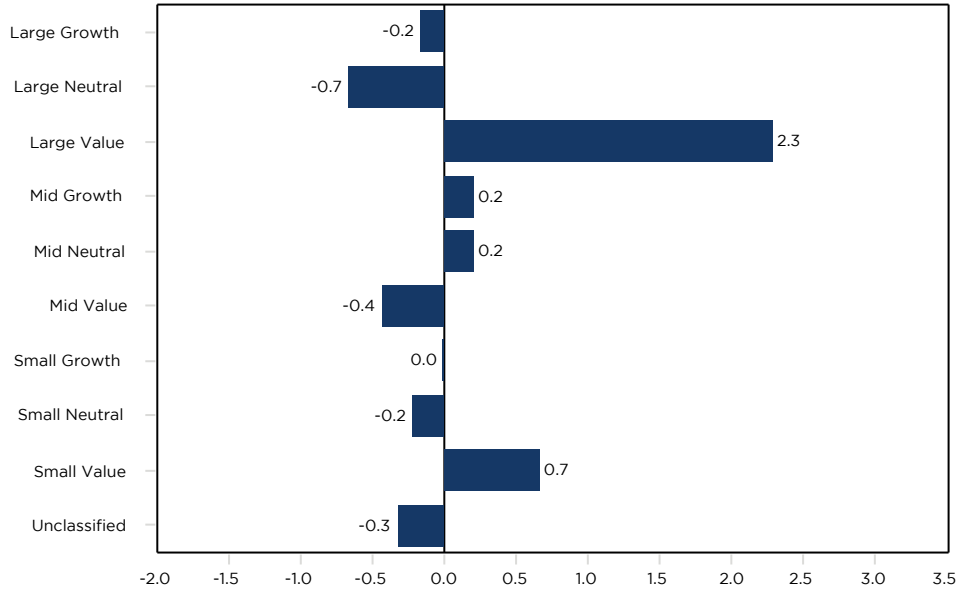
Performance | 3 Years



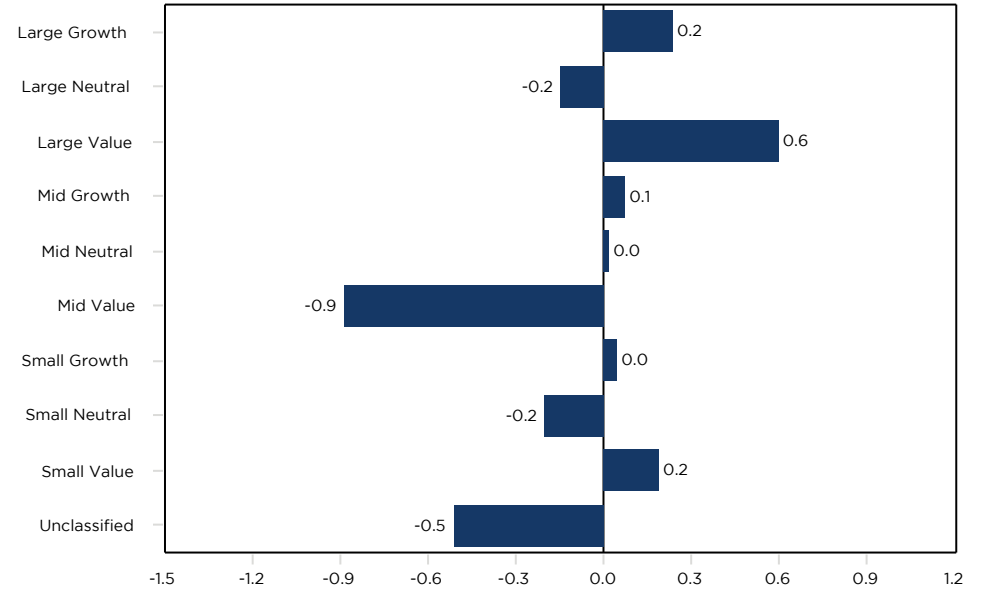
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	9.02 (59)	-18.71 (81)	-18.71 (81)	6.17 (50)	7.32 (26)	11.10 (13)	24.51 (44)	18.24 (21)	31.03 (20)	-9.23 (29)
Benchmark	9.03	-18.68	-18.68	6.19	7.34	11.13	24.52	18.24	31.09	-9.22
Peer Group	9.48	-14.77	-14.77	6.14	6.23	9.95	24.14	12.93	26.85	-11.23
Population	424	409	409	380	356	280	402	405	426	439

Fund Information

Fund Inception	11/12/2001
Fund Assets	136,397 Million
Portfolio Assets	51,404 Million
Total # of Holdings	351
% in Top 10	7.19 %
PM	Butler,D/Khan,A
PM Tenure	
Turnover	16.00 %
Gross Expense (%)	0.05 %
Net Expense (%)	0.05 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	24,472	24,463
Median Mkt. Cap (\$M)	17,712	17,700
Price/Earnings ratio	16.9	16.9
Price/Book ratio	2.9	2.9
5 Yr. EPS Growth Rate (%)	17.4	17.3
Current Yield (%)	1.7	1.7
Beta (5 Years, Monthly)	1.00	1.00
Number of Stocks	347	348
Debt to Equity (%)	-12.0	-11.5
Forecast P/E	16.4	16.4
Forecast EPS Growth	13.6	13.6
Return on Equity (%)	3.1	3.1

Country/Region Allocation

United States	95.9	96.0
Non-US Developed	4.1	4.0
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	23.28	16.24
vs. CRSP U.S. Mid Cap TR Index		
Beta	1.00	1.00
Alpha	-0.01	-0.03
Information Ratio	-0.60	-1.47
Tracking Error	0.03	0.02
R-Squared	1.00	1.00
Up Market Capture	99.97	99.91
Down Market Capture	100.02	100.07
Consistency	27.78	30.00

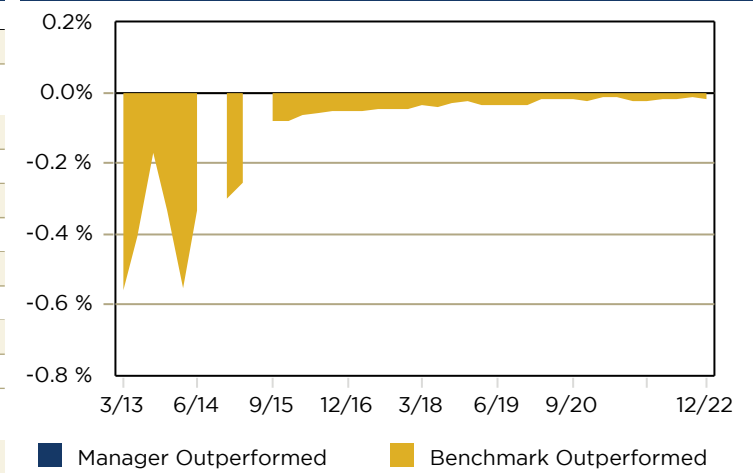
vs. Risk Free

Sharpe Ratio	0.34	0.68
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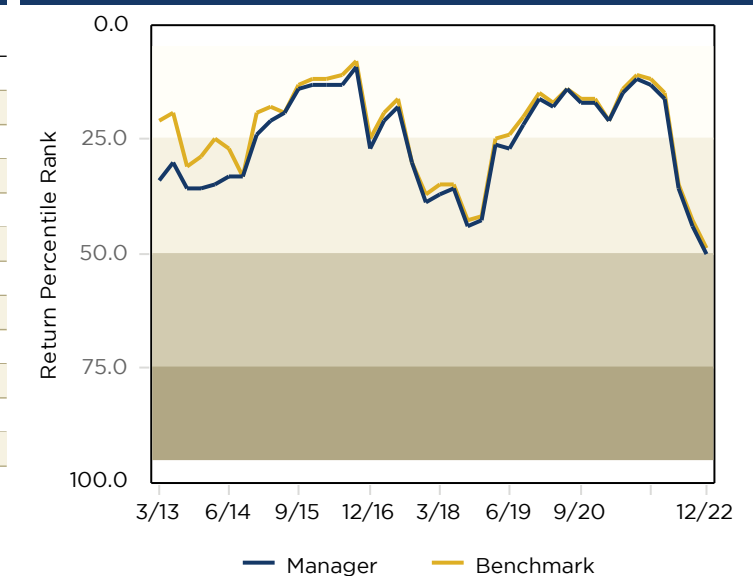
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	3.6	3.6
Consumer Discretionary	9.2	9.2
Consumer Staples	3.8	3.8
Energy	6.0	6.0
Financials	13.1	13.1
Health Care	12.1	12.3
Industrials	14.4	14.3
Information Technology	16.2	16.2
Materials	5.8	5.7
Real Estate	8.5	8.5
Utilities	7.3	7.3
Total	100.0	100.0

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



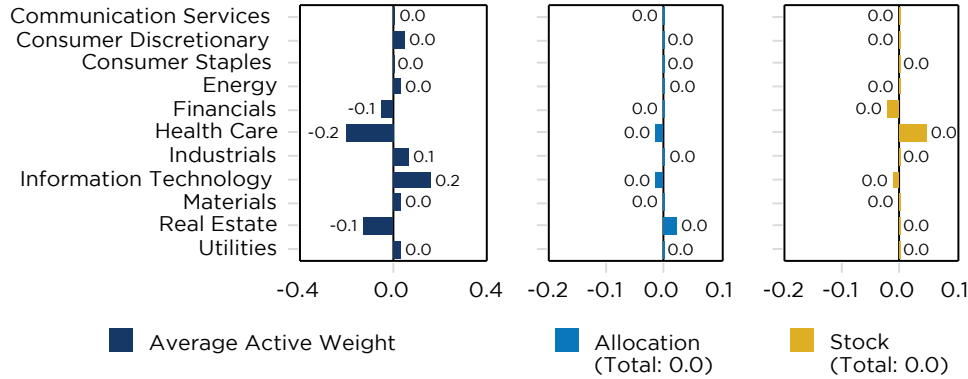


Vanguard Mid Cap Index Admiral (VIMAX)

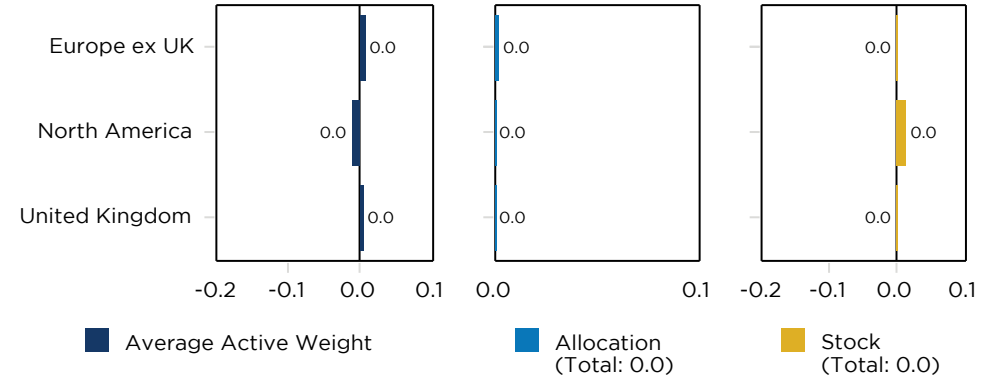
Index: CRSP U.S. Mid Cap TR Index

As of: 12/31/2022

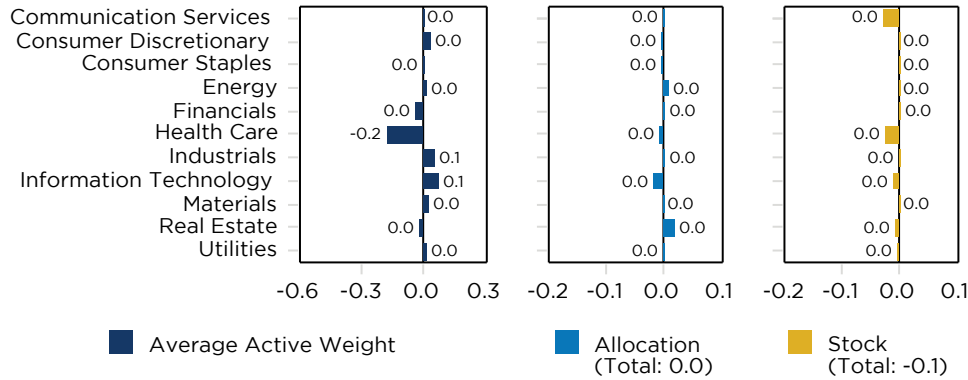
1 Quarter Sector Attribution



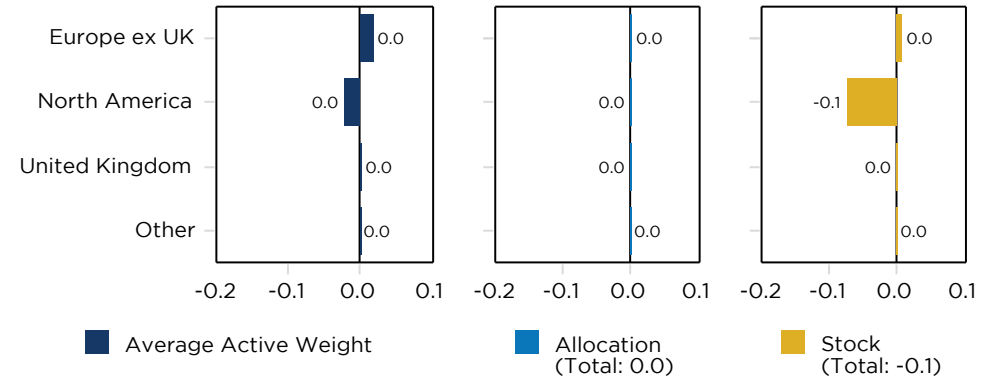
1 Quarter Region Attribution



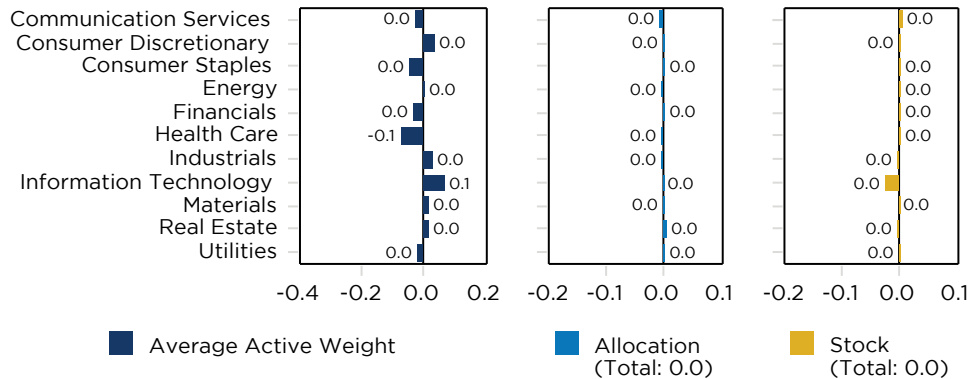
1 Year Sector Attribution



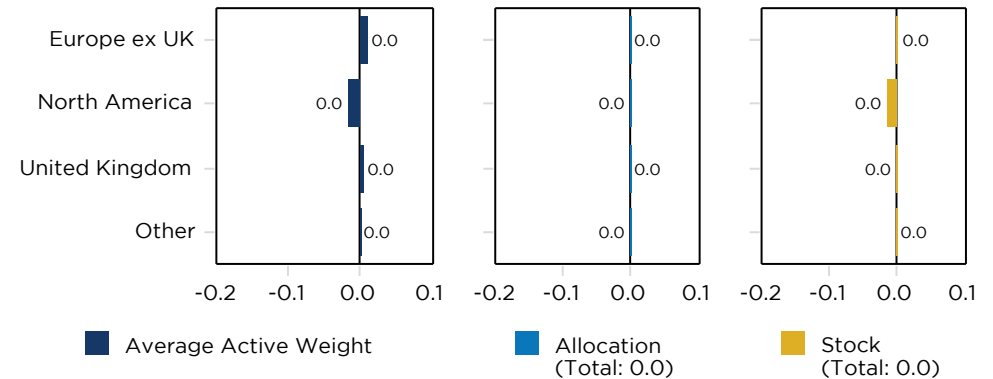
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution

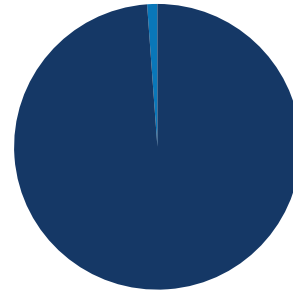


Top Ten Securities

Centene Corp	0.8 %
Amphenol Corp Class A	0.8 %
Cadence Design Systems Inc	0.7 %
DexCom Inc	0.7 %
Motorola Solutions Inc	0.7 %
Corteva Inc	0.7 %
Devon Energy Corp	0.7 %
Arthur J. Gallagher & Co	0.7 %
Realty Income Corp	0.7 %
Hess Corp	0.7 %
Total	7.2 %

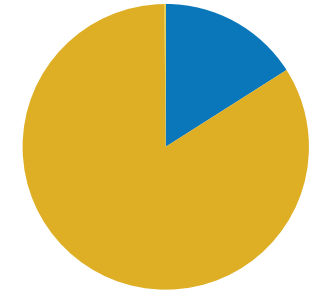
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
DexCom Inc	0.59	0.58	0.00	40.60
ONEOK Inc	0.43	0.42	0.00	30.24
PG&E Corp	0.49	0.48	0.00	30.08
Halliburton Co	0.37	0.37	0.00	60.38
Horizon Therapeutics Public Ltd Co	0.26	0.26	0.00	83.87
Hess Corp	0.56	0.56	0.00	30.49
Baker Hughes a GE Co	0.39	0.39	0.00	41.81
Mettler-Toledo International Inc	0.45	0.45	0.00	33.33
D.R. Horton Inc.	0.39	0.39	0.00	32.74
Nucor Corp	0.52	0.52	0.00	23.67

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Royal Caribbean Group	0.51	0.50	0.00	38.72
Western Digital Corp	0.41	0.40	0.00	25.38
Norwegian Cruise Line	0.28	0.28	0.00	68.36
Altice usa inc	0.19	0.19	0.00	81.14
Roku Inc	0.26	0.26	0.00	48.73
Lyft Inc	0.19	0.19	0.00	57.46
Match Group Inc	0.44	0.44	0.00	24.21
Splunk Inc	0.52	0.52	0.00	20.27
Vornado Realty Trust	0.26	0.26	0.00	38.88
RingCentral Inc	0.14	0.14	0.00	68.27

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Plug Power Inc	0.23	0.22	-0.01	-41.12
Trade Desk Inc (The)	0.49	0.49	0.00	-24.97
SVB Financial Group	0.37	0.37	0.00	-31.46
Albemarle Corp	0.57	0.57	0.00	-17.86
M&T Bank Corp	0.57	0.57	0.00	-17.15
Generac Holdings Inc	0.21	0.21	0.00	-43.49
Catalent Inc	0.23	0.23	0.00	-37.80
Zscaler Inc	0.26	0.26	0.00	-31.92
Lucid Group Inc	0.15	0.15	0.00	-51.11
COINBASE GLOBAL INC	0.17	0.17	0.00	-45.12

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Nucor Corp	0.39	0.38	0.00	-26.49
KLA Corp	0.64	0.63	0.00	-23.20
Freeport-McMoran Cpr & Gld	0.41	0.41	0.00	-30.49
Synopsys Inc	0.47	0.47	0.00	-24.17
Cadence Design Systems Inc	0.44	0.44	0.00	-24.42
Motorola Solutions Inc	0.62	0.62	0.00	-15.75
DexCom Inc	0.45	0.45	0.00	-21.55
Hess Corp	0.41	0.41	0.00	-23.45
Cintas Corp	0.53	0.53	0.00	-16.68
Palo Alto Networks Inc	0.49	0.49	0.00	-17.95

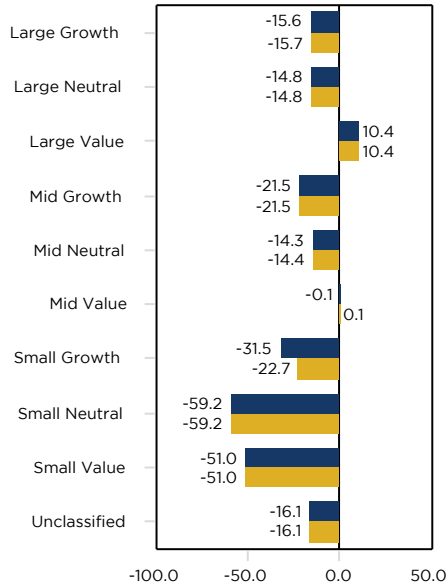


Vanguard Mid Cap Index Admiral (VIMAX)

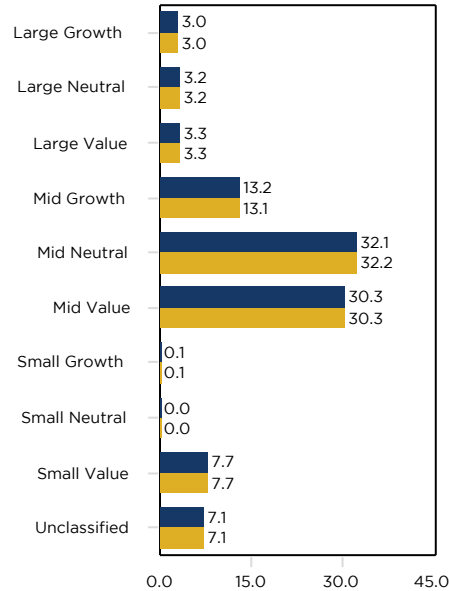
Index: CRSP U.S. Mid Cap TR Index

As of: 12/31/2022

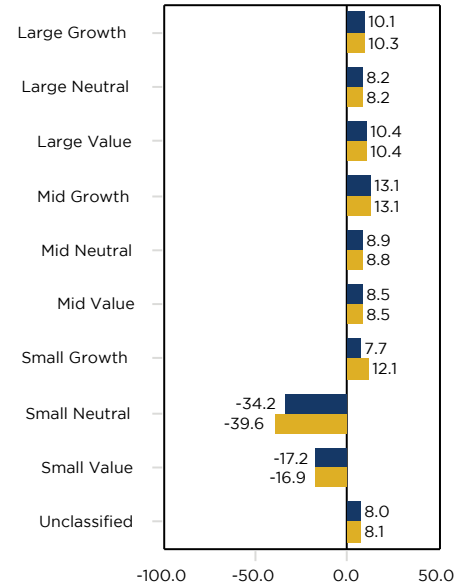
Performance | 1 Year



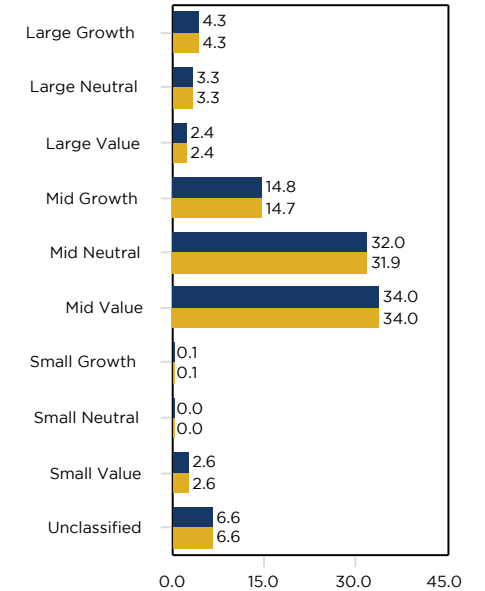
Allocation | 1 Year



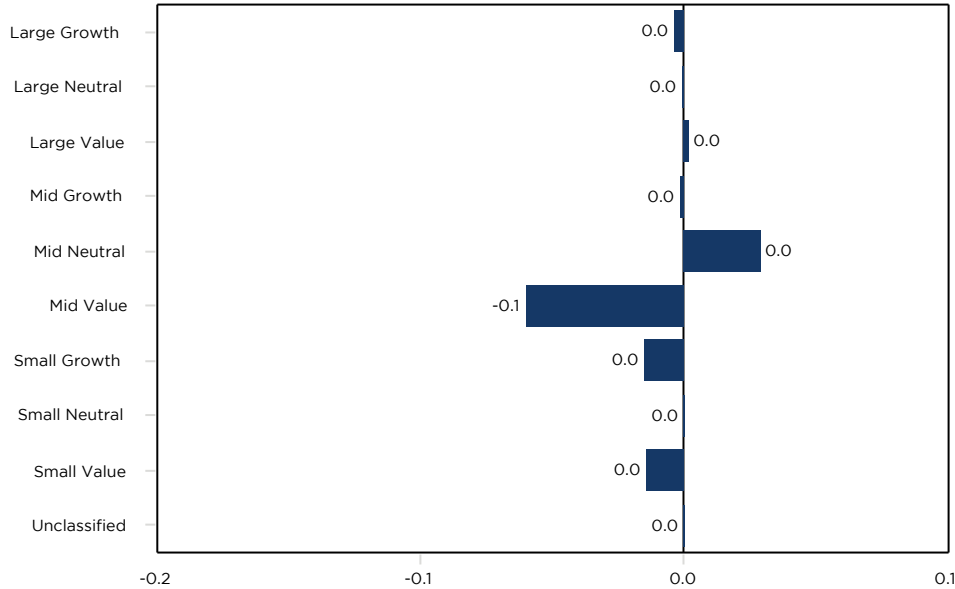
Performance | 3 Years



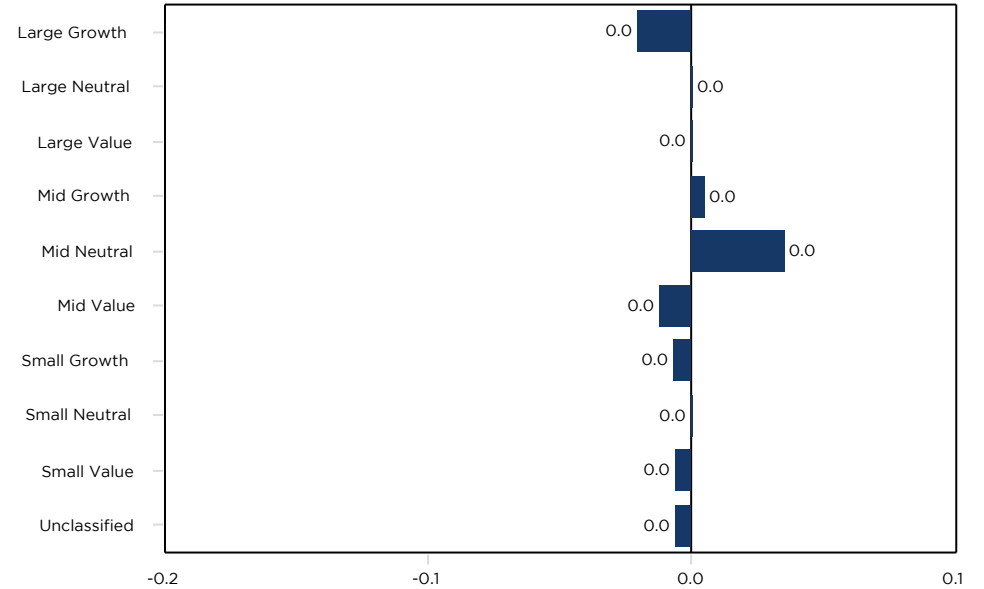
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	5.95 (44)	-33.08 (75)	-33.08 (75)	0.04 (85)	4.17 (88)	8.74 (87)	2.95 (89)	45.33 (30)	33.39 (50)	-8.17 (77)
Benchmark	6.90	-26.72	-26.72	3.85	7.64	11.41	12.73	35.59	35.47	-4.75
Peer Group	5.43	-28.27	-28.27	3.88	7.26	10.63	12.05	35.78	33.32	-5.55
Population	589	588	588	553	532	495	598	600	615	623

Fund Information

Fund Inception	10/01/2002
Fund Assets	1,083 Million
Portfolio Assets	592 Million
Total # of Holdings	103
% in Top 10	23.91 %
PM	Kontos,T
PM Tenure	
Turnover	76.00 %
Gross Expense (%)	0.46 %
Net Expense (%)	0.46 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	23,082	23,603
Median Mkt. Cap (\$M)	14,045	10,053
Price/Earnings ratio	25.0	23.3
Price/Book ratio	5.1	6.1
5 Yr. EPS Growth Rate (%)	25.1	24.1
Current Yield (%)	0.7	0.8
Beta (5 Years, Monthly)	1.05	1.00
Number of Stocks	98	401
Debt to Equity (%)	-62.7	-57.2
Forecast P/E	20.9	20.8
Forecast EPS Growth	18.0	18.3
Return on Equity (%)	2.1	4.9

Country/Region Allocation

United States	84.2	95.6
Non-US Developed	15.5	3.7
Emerging Markets	0.3	0.0
Other	0.0	0.8
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	26.10	18.36
vs. Russell Midcap Growth Index		
Beta	1.05	1.05
Alpha	-3.58	-2.82
Information Ratio	-0.68	-0.64
Tracking Error	4.90	3.46
R-Squared	0.97	0.97
Up Market Capture	100.99	99.66
Down Market Capture	112.23	112.83
Consistency	47.22	41.67

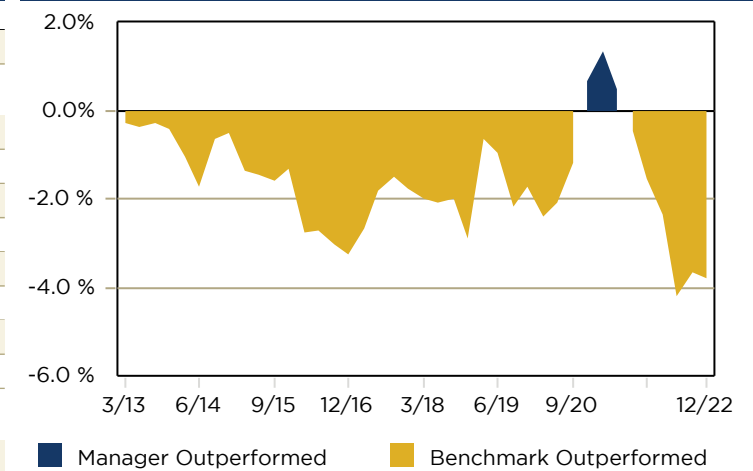
vs. Risk Free

Sharpe Ratio	0.11	0.51
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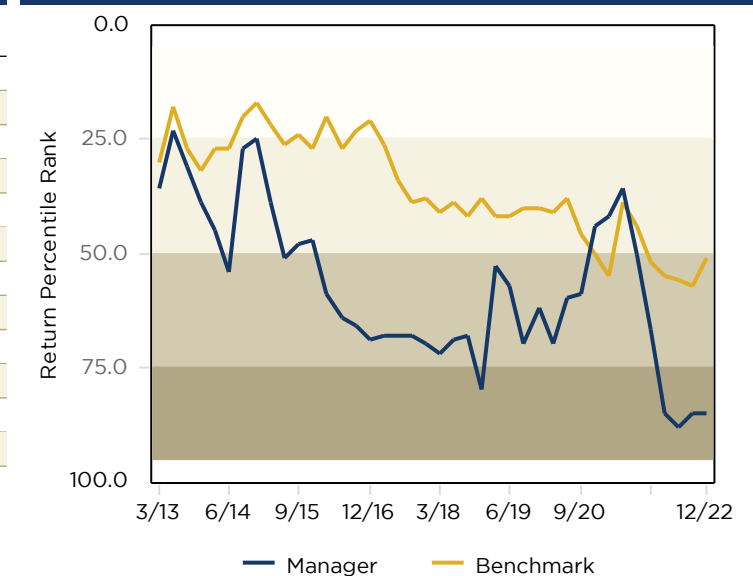
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	3.2	3.8
Consumer Discretionary	15.7	15.2
Consumer Staples	4.3	3.0
Energy	5.9	5.0
Financials	5.4	5.9
Health Care	17.9	17.5
Industrials	18.0	16.0
Information Technology	25.4	27.5
Materials	2.7	3.8
Real Estate	1.6	2.0
Utilities	0.0	0.3
Total	100.0	100.0

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



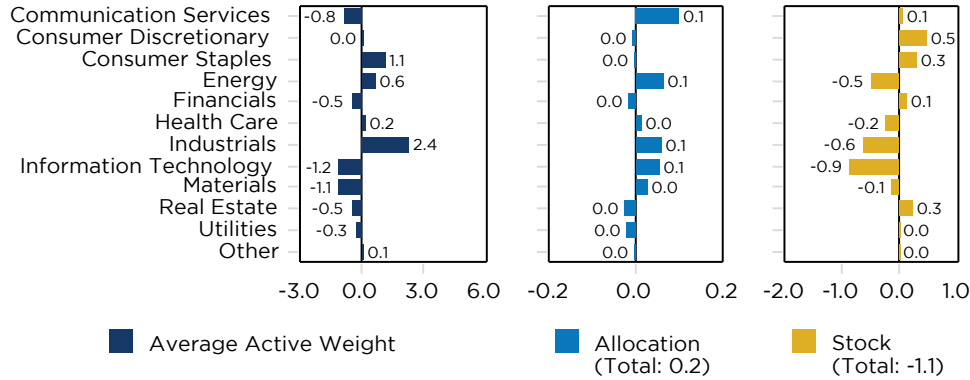


TIAA-CREF Mid-Cap Growth Instl (TRPWX)

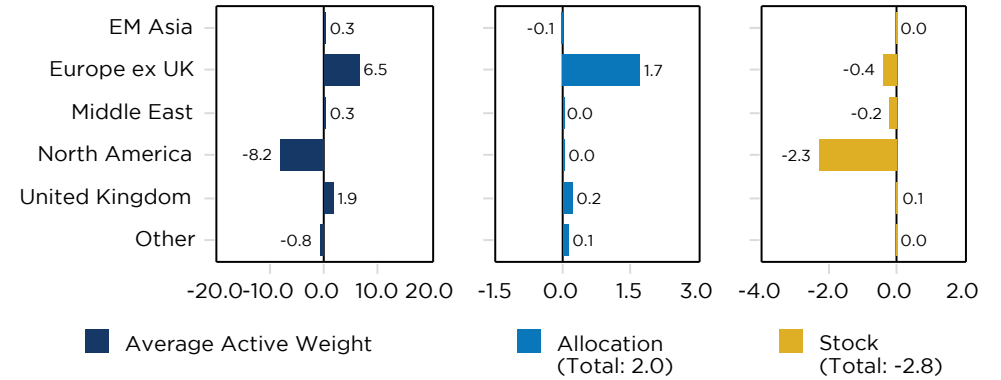
Index: Russell Midcap Growth Index

As of: 12/31/2022

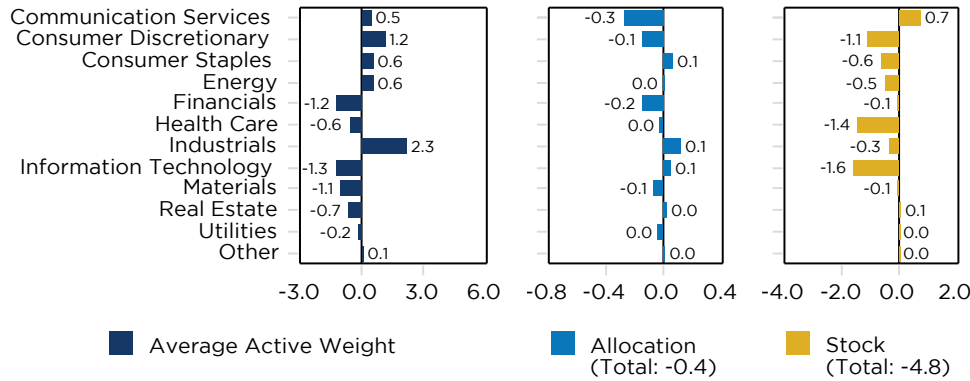
1 Quarter Sector Attribution



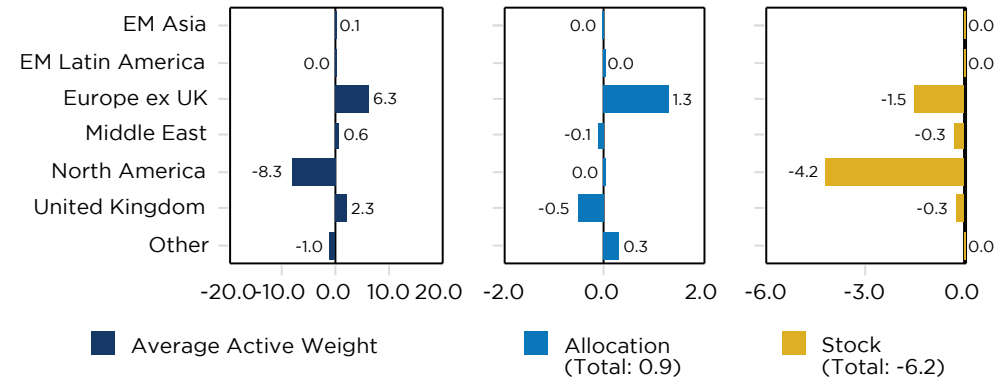
1 Quarter Region Attribution



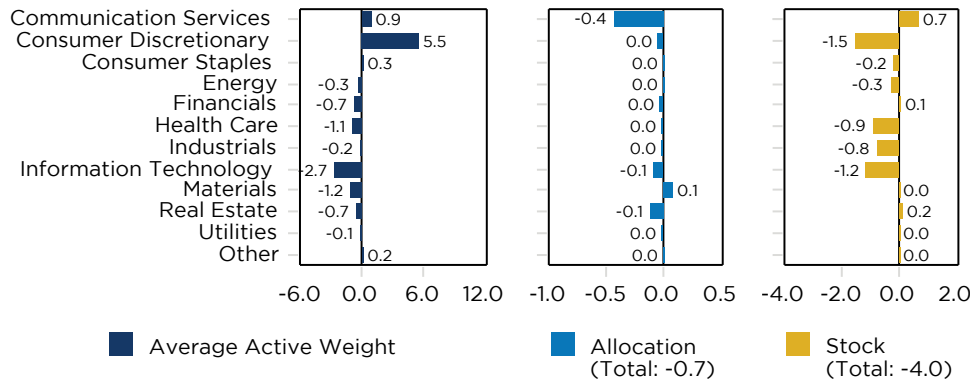
1 Year Sector Attribution



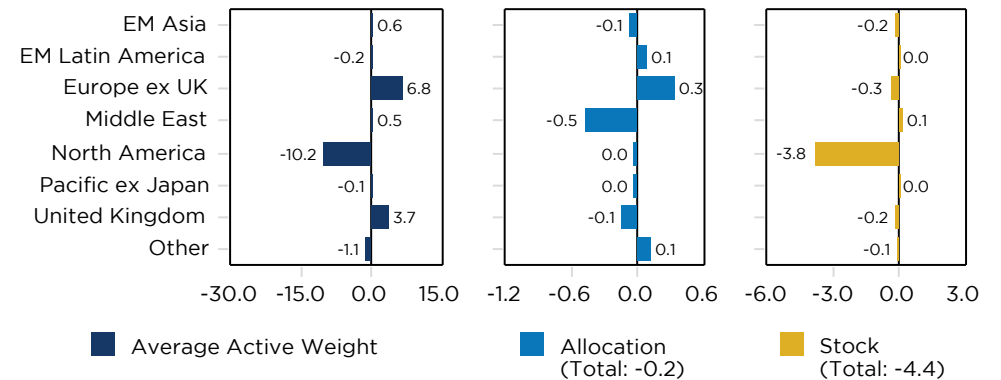
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution





TIAA-CREF Mid-Cap Growth Instl (TRPWX)

Index: Russell Midcap Growth Index

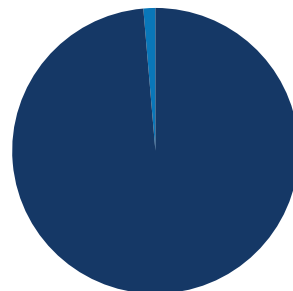
As of: 12/31/2022

Top Ten Securities

Synopsys Inc	3.4 %
DexCom Inc	2.8 %
Verisk Analytics Inc	2.5 %
Agilent Technologies Inc	2.4 %
W.W. Grainger Inc	2.3 %
Cheniere Energy Inc	2.2 %
Molina Healthcare Inc	2.2 %
Paylocity Holding Corp	2.1 %
Horizon Therapeutics PLC	2.1 %
Waste Connections Inc	2.0 %
Total	23.9 %

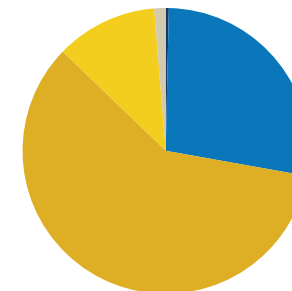
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Horizon Therapeutics Public Ltd Co	1.49	0.41	0.83	83.87
Burlington Stores Inc	0.94	0.22	0.54	81.21
DexCom Inc	2.05	1.00	0.35	40.60
Capri Holdings Ltd	0.72	0.00	0.30	49.12
Five Below Inc	1.46	0.24	0.26	28.47
Halliburton Co	0.76	0.32	0.24	60.38
Simon Property Group Inc.	1.35	0.45	0.23	32.91
Sabre Corp	1.51	0.00	0.20	20.00
Agilent Technologies Inc	2.19	1.04	0.19	23.51
TransDigm Group Inc	1.56	0.33	0.16	19.97

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
RingCentral Inc	1.09	0.39	0.45	68.27
GDS Holdings Limited	0.80	0.00	0.26	35.75
Coherus BioSciences Inc	0.83	0.00	0.23	31.49
Everbridge Inc	0.59	0.00	0.20	38.20
Match Group Inc	1.27	0.34	0.19	24.21
Paramount Global	1.00	0.39	0.17	30.97
Exact Sciences Corporation	1.12	0.41	0.14	23.15
Twilio Inc	0.95	0.38	0.13	26.15
Splunk Inc	1.24	0.73	0.08	20.27
GLOBAL PAYMENTS INC	1.73	1.71	0.00	21.75

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Paylocity Holding Corp	2.88	0.31	-0.68	-19.59
European Wax Center Inc	0.93	0.00	-0.37	-32.52
Guardant Health Inc	0.81	0.17	-0.36	-49.47
SentinelOne Inc	0.66	0.11	-0.27	-42.92
Cheniere Energy Inc.	2.44	0.76	-0.27	-9.40
Entegris Inc	1.19	0.39	-0.22	-20.90
Zscaler Inc	0.99	0.44	-0.21	-31.92
Farfetch Ltd	0.46	0.00	-0.20	-36.51
Roblox Corp	1.10	0.50	-0.16	-20.59
Datadog Inc	1.22	0.75	-0.11	-17.21

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Horizon Therapeutics Public Ltd Co	1.02	0.02	-0.36	-31.74
Tractor Supply Co	1.11	0.35	-0.23	-26.41
Advanced Micro Devices Inc	2.65	1.49	-0.17	-10.87
O'Reilly Automotive Inc	1.72	1.03	-0.16	-19.63
Cintas Corp	1.37	0.71	-0.14	-16.68
DexCom Inc	1.15	0.62	-0.13	-21.55
AutoZone Inc	1.36	0.89	-0.12	-21.54
Dollar General Corporation	1.83	1.20	-0.12	-14.87
Trane Technologies plc	1.47	0.95	-0.11	-16.44
Synopsys Inc	0.95	0.65	-0.08	-24.17

Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

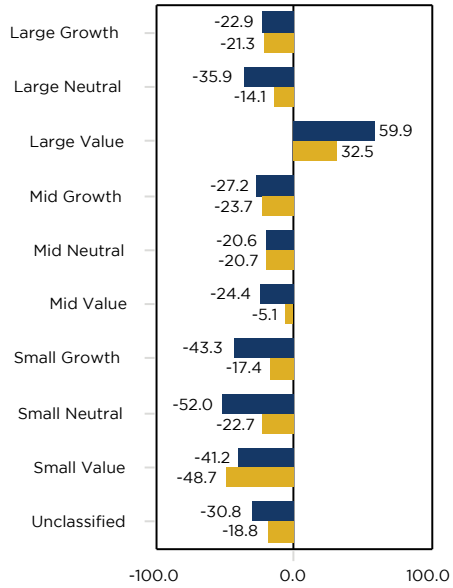


TIAA-CREF Mid-Cap Growth Instl (TRPWX)

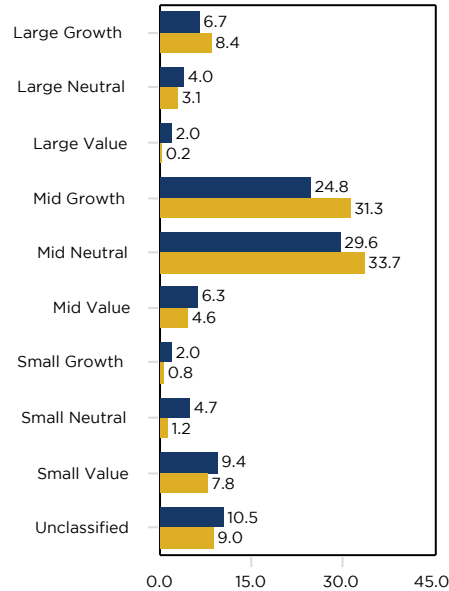
Index: Russell Midcap Growth Index

As of: 12/31/2022

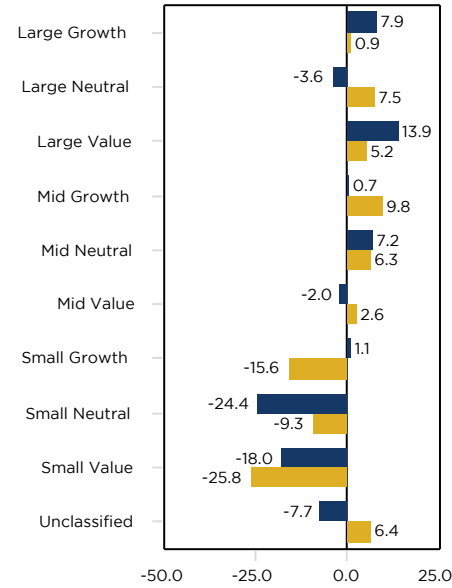
Performance | 1 Year



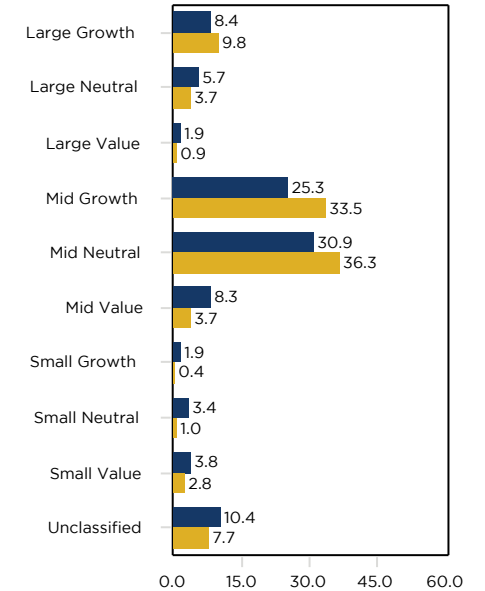
Allocation | 1 Year



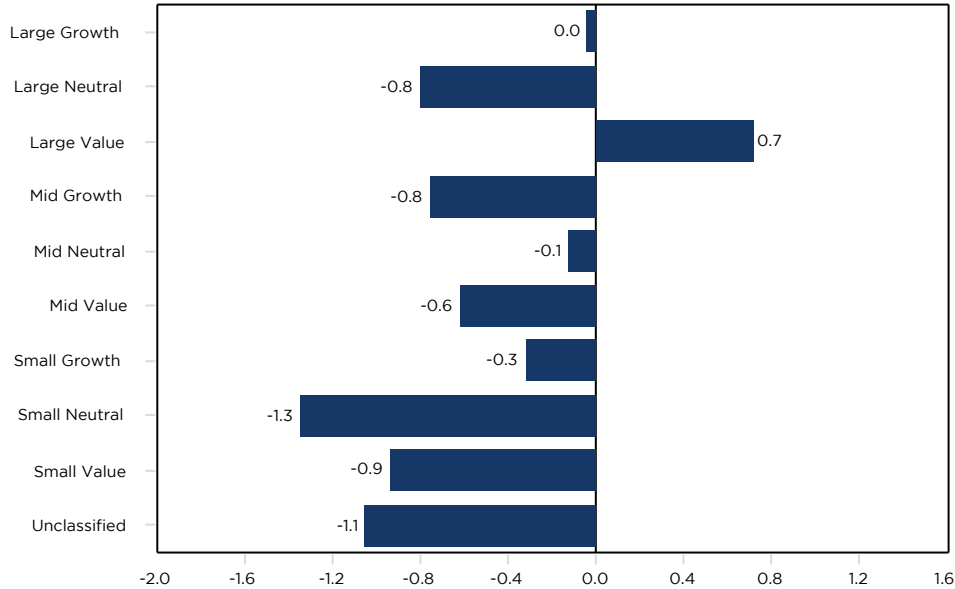
Performance | 3 Years



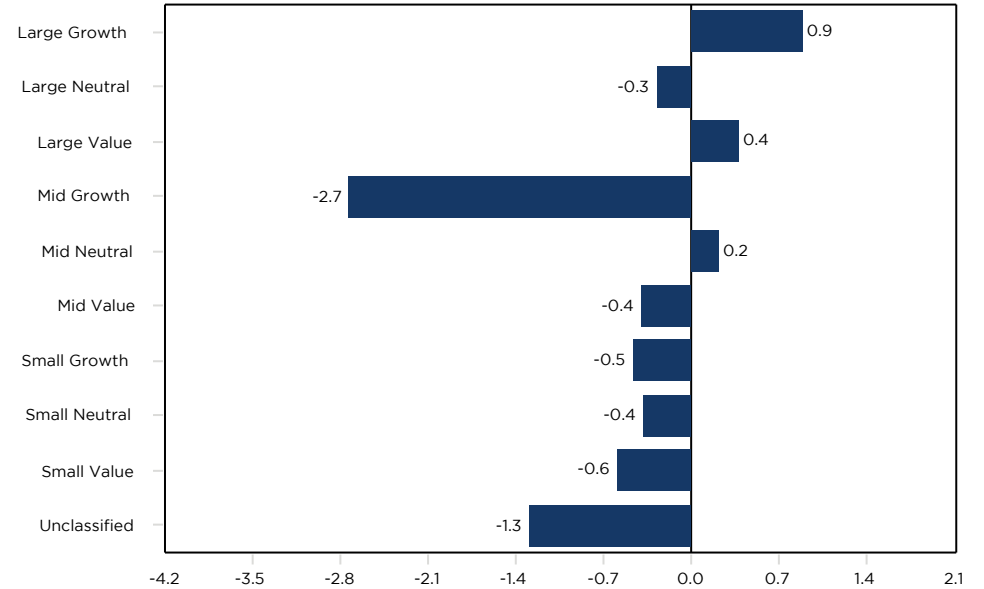
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	12.39 (30)	-16.94 (94)	-16.94 (94)	11.27 (9)	7.23 (13)	10.78 (9)	30.89 (52)	26.72 (1)	28.36 (10)	-19.83 (91)
Benchmark	8.42	-14.48	-14.48	4.70	4.13	8.48	28.27	4.63	22.39	-12.86
Peer Group	11.31	-11.58	-11.58	6.63	4.74	8.75	31.15	3.45	21.94	-15.27
Population	493	479	479	466	453	408	479	485	516	533

Fund Information

Fund Inception	12/12/2001
Fund Assets	1,324 Million
Portfolio Assets	226 Million
Total # of Holdings	252
% in Top 10	8.06 %
PM	Team Managed
PM Tenure	
Turnover	69.00 %
Gross Expense (%)	1.08 %
Net Expense (%)	1.08 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	1,798	2,370
Median Mkt. Cap (\$M)	886	805
Price/Earnings ratio	8.9	10.1
Price/Book ratio	1.9	1.6
5 Yr. EPS Growth Rate (%)	20.4	13.7
Current Yield (%)	1.1	2.3
Beta (5 Years, Monthly)	1.15	1.00
Number of Stocks	248	1,383
Debt to Equity (%)	-51.4	131.3
Forecast P/E	9.6	9.8
Forecast EPS Growth	17.7	9.9
Return on Equity (%)	3.4	1.0

Country/Region Allocation

United States	93.4	95.5
Non-US Developed	5.1	3.8
Emerging Markets	1.0	0.2
Other	0.5	0.4
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	31.31	22.64
vs. Russell 2000 Value Index		
Beta	1.13	1.13
Alpha	6.44	1.51
Information Ratio	1.06	0.48
Tracking Error	6.90	5.72
R-Squared	0.96	0.95
Up Market Capture	118.57	112.21
Down Market Capture	100.82	104.83
Consistency	61.11	58.33

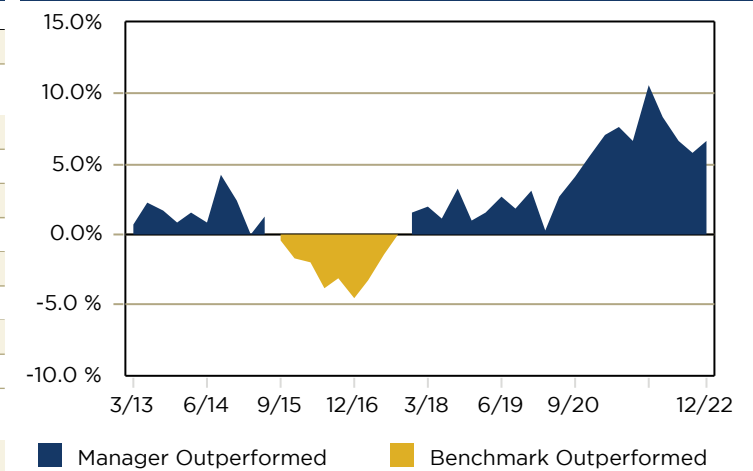
vs. Risk Free

Sharpe Ratio	0.48	0.53
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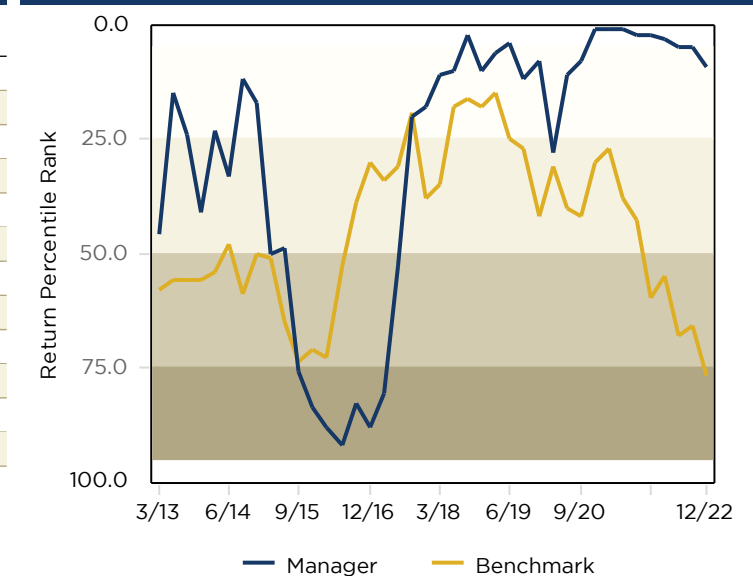
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	5.1	2.9
Consumer Discretionary	15.8	10.0
Consumer Staples	1.0	2.7
Energy	7.1	6.2
Financials	4.5	28.8
Health Care	4.7	10.5
Industrials	32.2	13.3
Information Technology	20.1	5.5
Materials	7.9	4.1
Real Estate	1.4	10.7
Utilities	0.0	5.3
Total	100.0	100.0

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



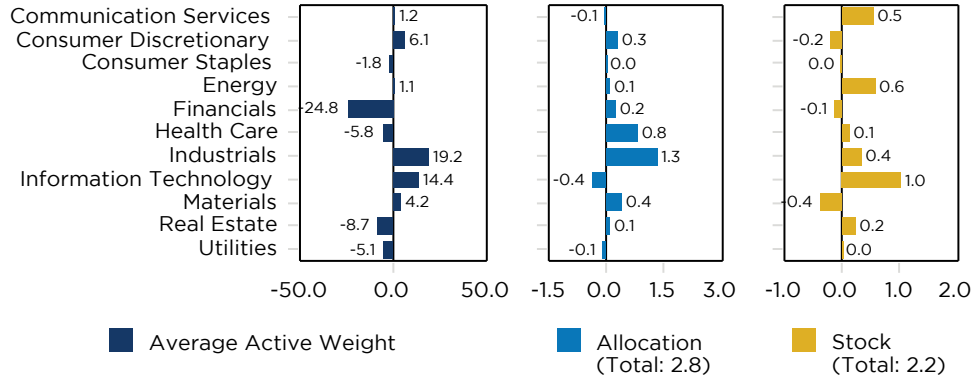


Royce Small-Cap Opportunity Instl (ROFIX)

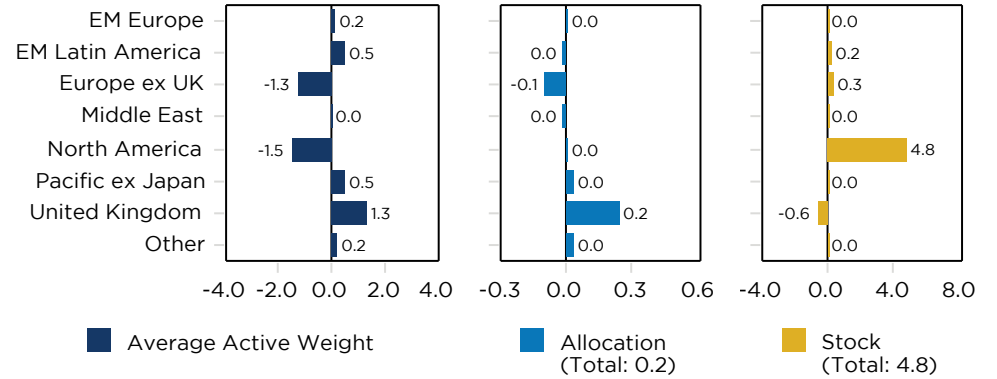
Index: Russell 2000 Value Index

As of: 12/31/2022

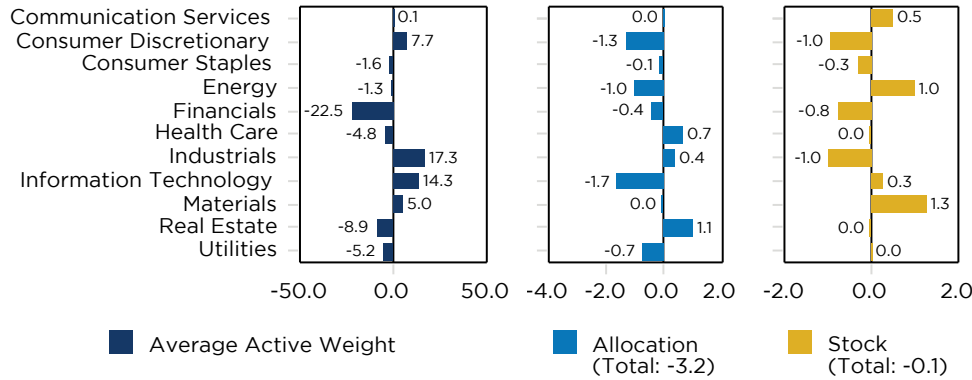
1 Quarter Sector Attribution



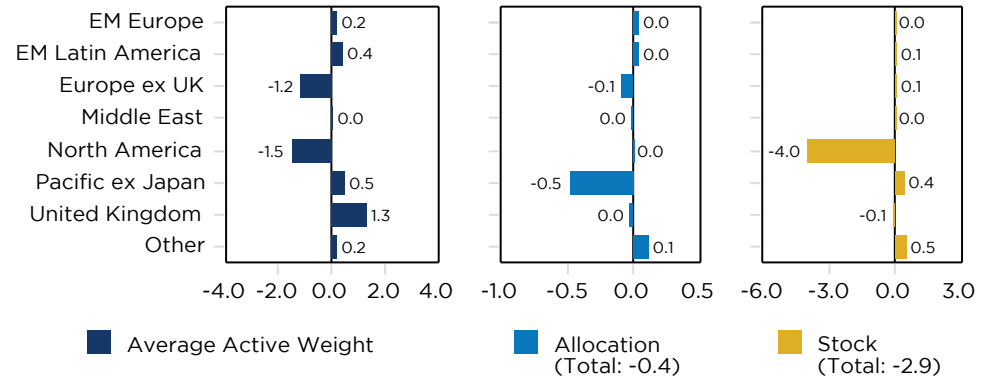
1 Quarter Region Attribution



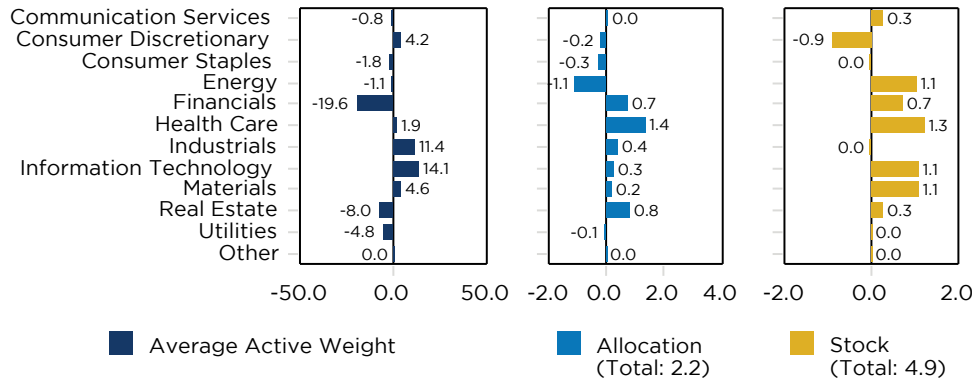
1 Year Sector Attribution



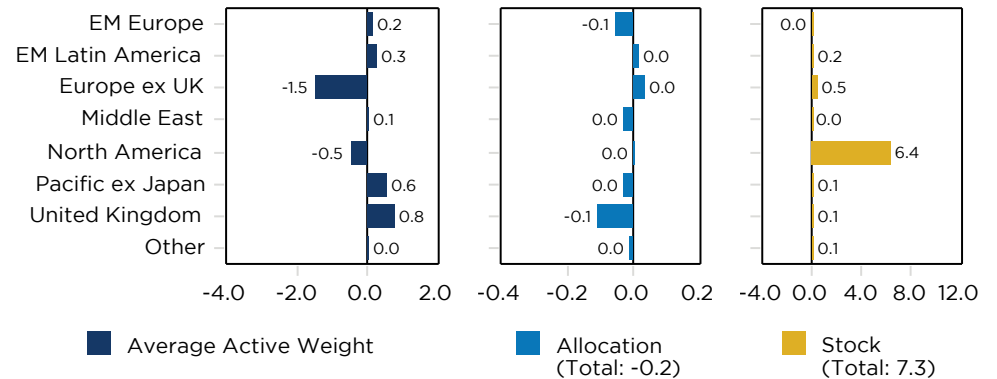
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution



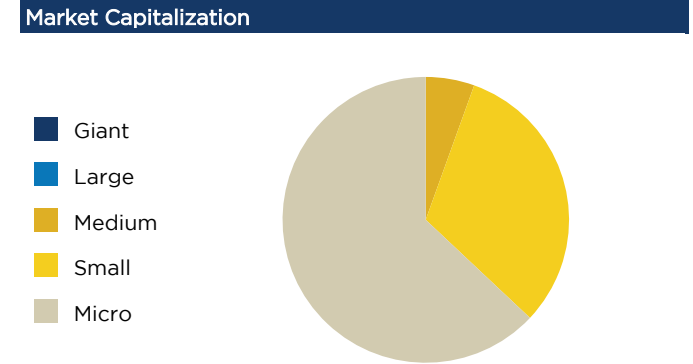
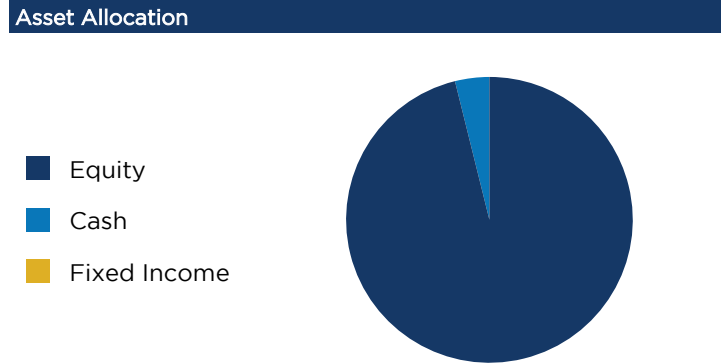


Royce Small-Cap Opportunity Instl (ROFIX)

Index: Russell 2000 Value Index

As of: 12/31/2022

Top Ten Securities	
QuinStreet Inc	0.9 %
Modine Manufacturing Co	0.8 %
Ducommun Inc	0.8 %
Cohu Inc	0.8 %
ATI Inc	0.8 %
Stoneridge Inc	0.8 %
VSE Corp	0.8 %
Wabash National Corp	0.8 %
Fabrinet	0.8 %
Advanced Energy Industries Inc	0.8 %
Total	8.1 %



Top Ten Contributors 1 Quarter				
	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Mammoth Energy Services Inc	0.27	0.00	0.39	153.67
Modine Manufacturing Co	0.89	0.06	0.37	53.48
Wabash National Corp	0.86	0.01	0.32	45.94
Ardmore Shipping Corp	0.58	0.03	0.27	57.83
Dorian LPG Ltd	0.65	0.04	0.24	47.05
QuinStreet Inc	0.75	0.05	0.20	36.67
VSE Corp	0.77	0.04	0.18	32.71
Amkor Technology Inc	0.66	0.13	0.17	41.03
Haynes International Inc	0.80	0.04	0.17	30.66
Barnes Group Inc	0.61	0.13	0.16	42.03

Top Ten Contributors 3 Years				
	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Avaya Holdings Corp	0.82	0.14	2.08	309.91
Invacare Corp	0.96	0.03	1.61	177.65
Team Inc	0.37	0.05	0.66	212.16
SmileDirectClub Inc	0.32	0.00	0.60	191.68
Emergent BioSolutions Inc	0.87	0.00	0.53	65.92
Heritage Insurance Holdings Inc	0.65	0.03	0.53	89.46
Tabula Rasa HealthCare Inc	0.42	0.00	0.46	114.25
Carrols Restaurant Group Inc	0.64	0.02	0.39	67.58
Horizon Global Corp	0.33	0.00	0.34	107.83
Surgalign Holdings Inc	0.15	0.02	0.31	245.67

Top Ten Detractors 1 Quarter				
	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Designer Brands Inc	0.70	0.02	-0.30	-35.80
Bioventus Inc	0.42	0.02	-0.28	-62.71
Livent Corp	0.64	0.00	-0.28	-35.17
JOANN Inc	0.39	0.01	-0.25	-56.95
B. Riley Financial Inc	0.81	0.00	-0.24	-21.44
Ferroglobe PLC	0.62	0.00	-0.22	-27.08
Manitex International Inc	0.49	0.00	-0.19	-30.19
Identiv Inc	0.31	0.00	-0.16	-42.26
Edgio Inc	0.19	0.00	-0.13	-59.35
Thryv Holdings Inc	0.55	0.04	-0.13	-16.78

Top Ten Detractors 3 Years				
	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Alpha and Omega Semiconductor	1.19	0.03	-0.31	-21.88
Avid Technology Inc.	0.81	0.00	-0.29	-31.41
Maco Tech Solutions	1.08	0.12	-0.28	-24.97
Herc Holdings Inc	0.96	0.11	-0.28	-28.57
Ameresco Inc	0.78	0.04	-0.28	-32.59
Cross Country Healthcare Inc	0.89	0.03	-0.25	-24.09
Dorian LPG Ltd	1.09	0.03	-0.25	-18.59
Matador Resources Co	0.83	0.17	-0.24	-32.24
Onto Innovation Inc	1.08	0.13	-0.22	-18.74
Owens & Minor Inc.	0.57	0.03	-0.22	-35.82

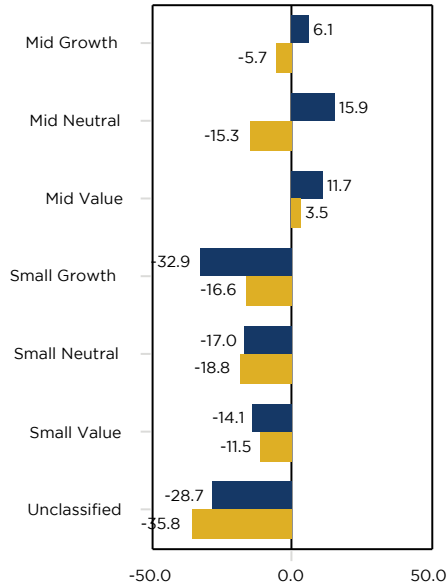


Royce Small-Cap Opportunity Instl (ROFIX)

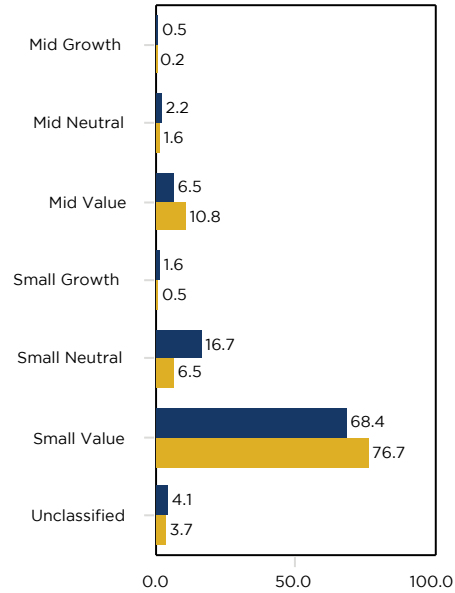
Index: Russell 2000 Value Index

As of: 12/31/2022

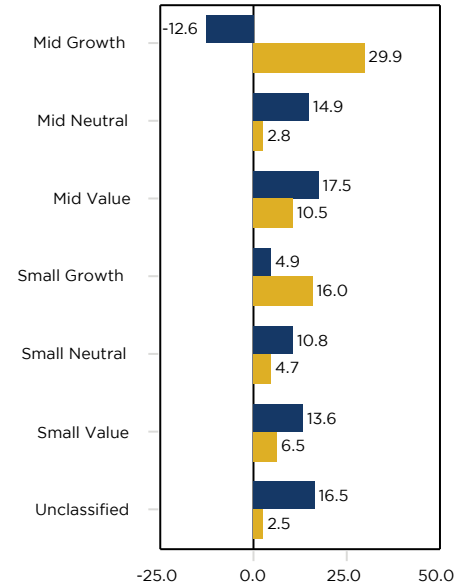
Performance | 1 Year



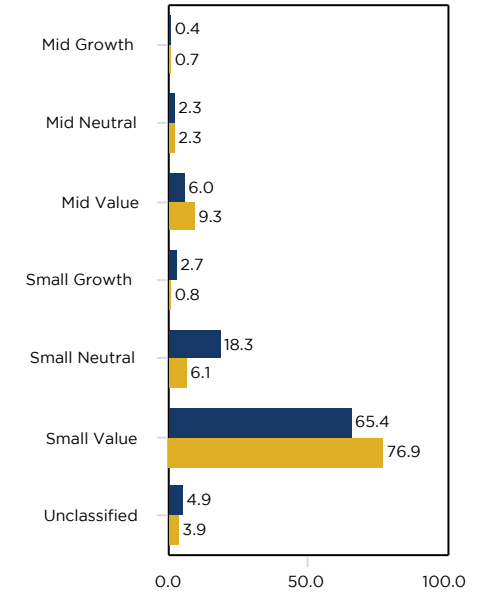
Allocation | 1 Year



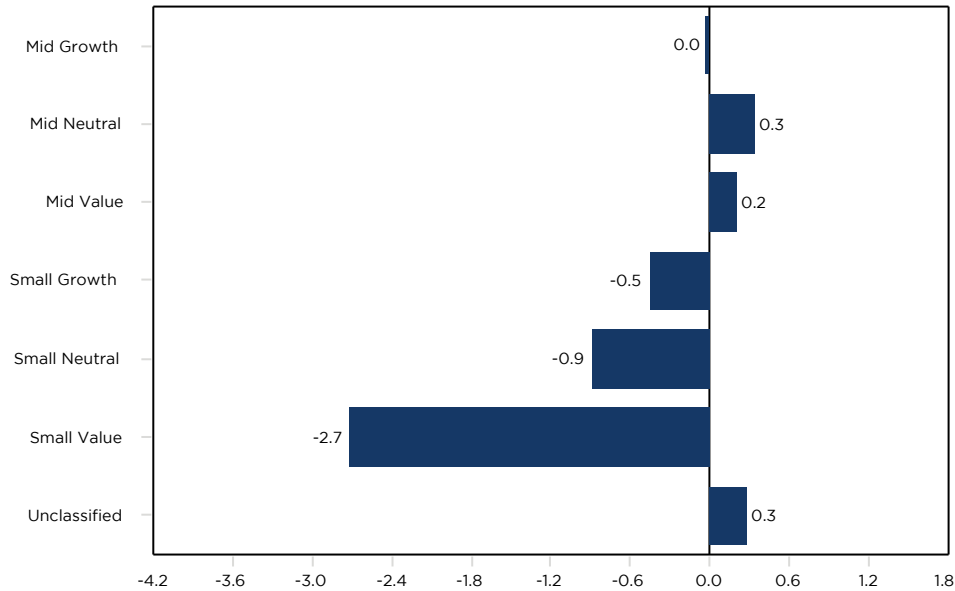
Performance | 3 Years



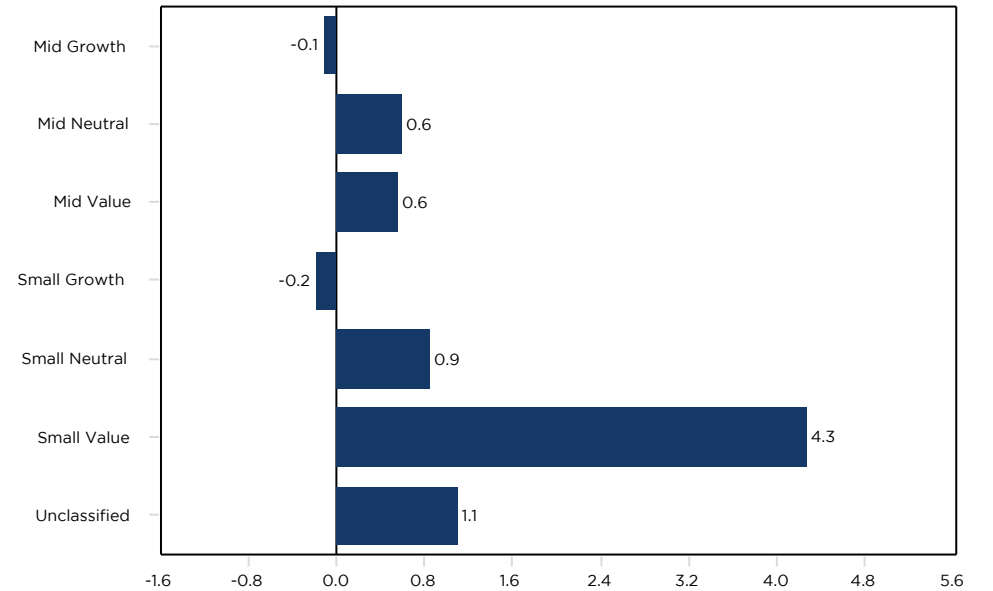
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years





TIAA-CREF Small-Cap Blend Idx Inst (TISBX)

Index: Russell 2000 Index

Category: Small Blend

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	6.34 (89)	-20.29 (81)	-20.29 (81)	3.24 (72)	4.25 (62)	9.19 (49)	14.89 (89)	20.15 (11)	25.53 (37)	-10.84 (34)
Benchmark	6.23	-20.44	-20.44	3.10	4.13	9.01	14.82	19.96	25.53	-11.01
Peer Group	8.97	-16.63	-16.63	5.05	4.89	9.12	23.20	12.14	24.45	-12.12
Population	626	620	620	602	581	480	639	667	702	752

Fund Information

Fund Inception	10/01/2002
Fund Assets	3,305 Million
Portfolio Assets	2,550 Million
Total # of Holdings	1947
% in Top 10	3.20 %
PM	Campagna,P/Liao,L/Tran,D
PM Tenure	
Turnover	33.00 %
Gross Expense (%)	0.05 %
Net Expense (%)	0.05 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	2,725	2,720
Median Mkt. Cap (\$M)	940	922
Price/Earnings ratio	11.6	11.6
Price/Book ratio	2.3	2.3
5 Yr. EPS Growth Rate (%)	17.6	17.5
Current Yield (%)	1.6	1.6
Beta (5 Years, Monthly)	1.00	1.00
Number of Stocks	1,928	1,950
Debt to Equity (%)	117.8	117.4
Forecast P/E	11.4	11.5
Forecast EPS Growth	14.5	14.5
Return on Equity (%)	1.3	1.2

Country/Region Allocation

United States	96.3	96.2
Non-US Developed	3.0	3.1
Emerging Markets	0.4	0.4
Other	0.3	0.3
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	25.99	19.15
vs. Russell 2000 Index		
Beta	1.00	1.00
Alpha	0.13	0.17
Information Ratio	1.39	1.71
Tracking Error	0.09	0.09
R-Squared	1.00	1.00
Up Market Capture	100.12	100.25
Down Market Capture	99.74	99.59
Consistency	61.11	68.33

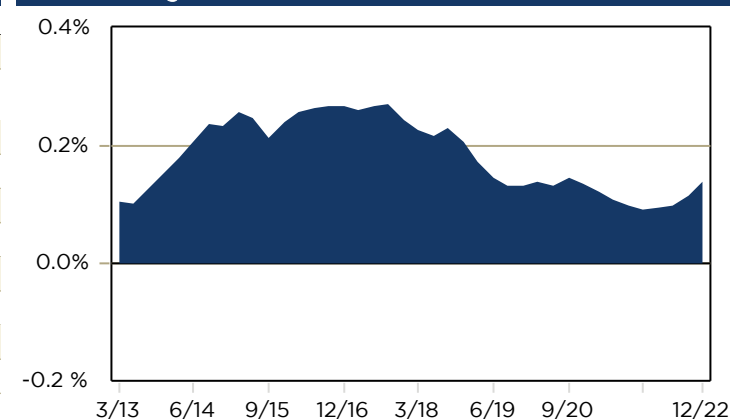
vs. Risk Free

Sharpe Ratio	0.23	0.52
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Sector Allocation

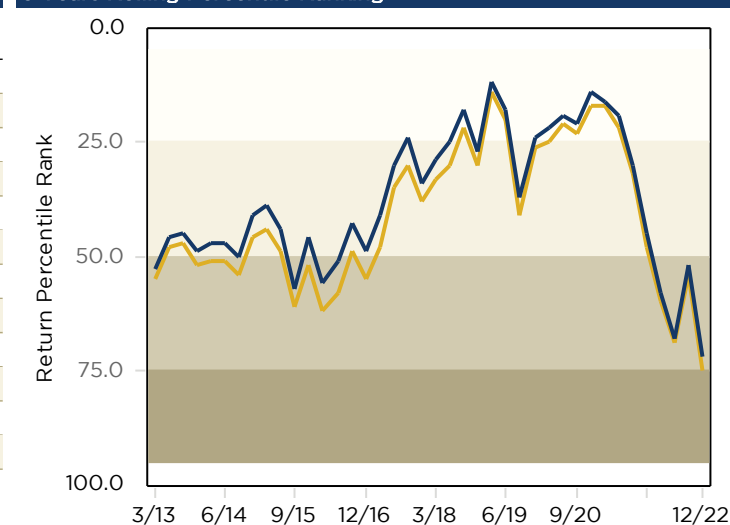
Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	2.6	2.6
Consumer Discretionary	10.5	10.4
Consumer Staples	3.6	3.6
Energy	6.9	6.8
Financials	17.3	17.2
Health Care	16.5	16.9
Industrials	15.6	15.6
Information Technology	12.8	12.7
Materials	4.3	4.3
Real Estate	6.4	6.4
Utilities	3.5	3.5
Total	100.0	100.0

3 Years Rolling Excess Performance



■ Manager Outperformed ■ Benchmark Outperformed

3 Years Rolling Percentile Ranking



— Manager — Benchmark

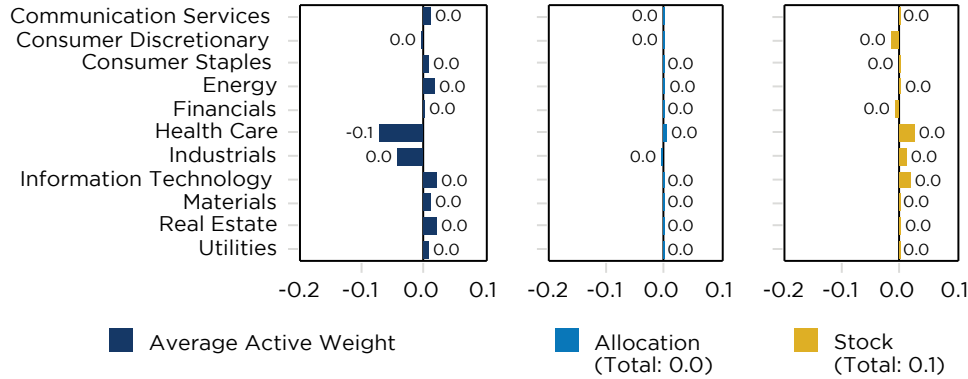


TIAA-CREF Small-Cap Blend Idx Inst (TISBX)

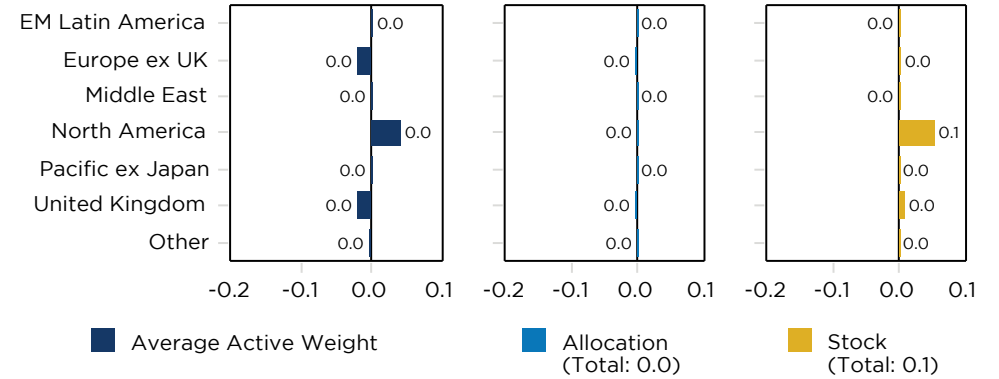
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As of: 12/31/2022

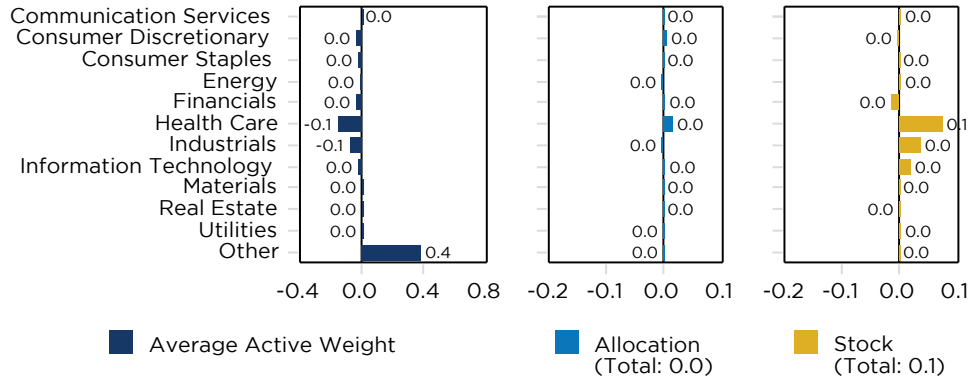
1 Quarter Sector Attribution



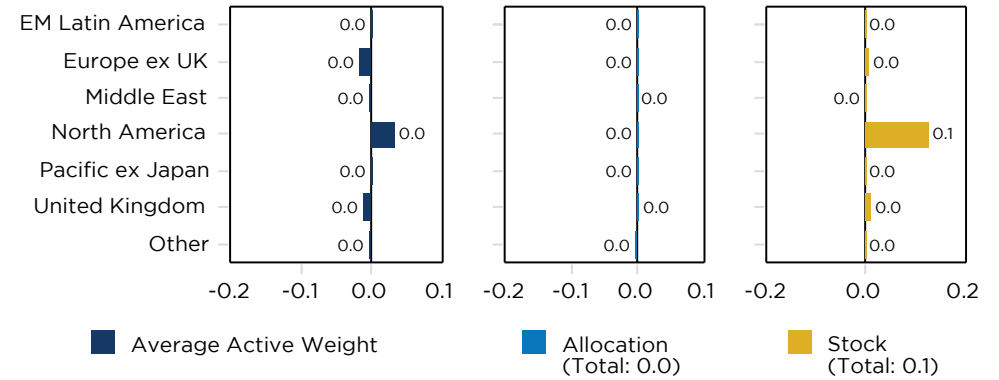
1 Quarter Region Attribution



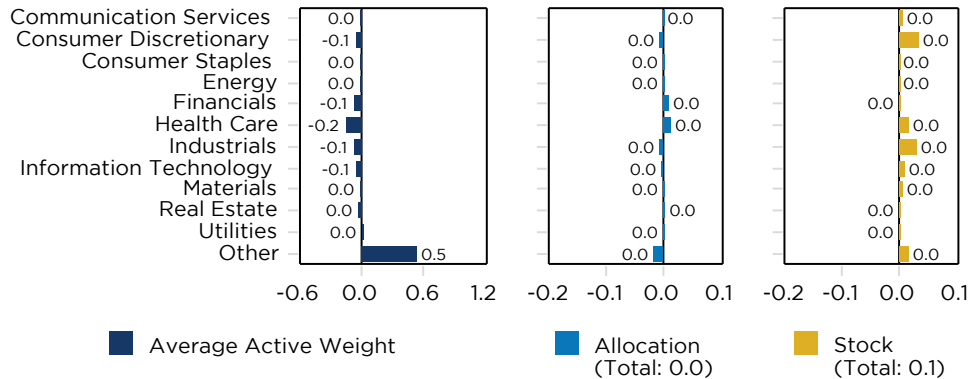
1 Year Sector Attribution



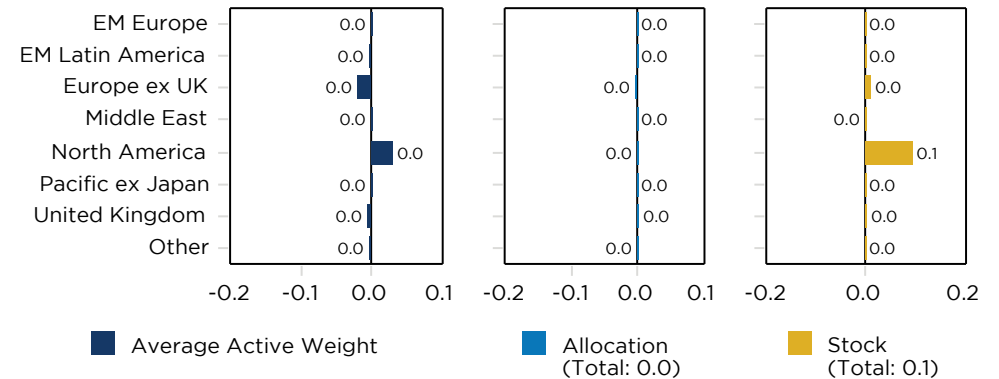
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution





TIAA-CREF Small-Cap Blend Idx Inst (TISBX)

Index: Russell 2000 Index

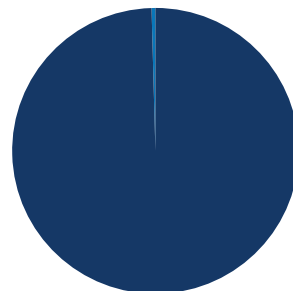
As of: 12/31/2022

Top Ten Securities

E-Mini Russ 2000 Dec22 Xcme 20	0.5 %
ShockWave Medical Inc	0.4 %
Halozyme Therapeutics Inc	0.3 %
EMCOR Group Inc	0.3 %
Matador Resources Co	0.3 %
Karuna Therapeutics Inc	0.3 %
Murphy Oil Corp	0.3 %
Inspire Medical Systems Inc	0.3 %
RBC Bearings Inc	0.3 %
Iridium Communications Inc	0.3 %
Total	3.2 %

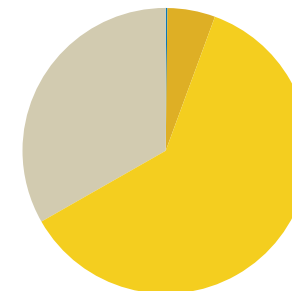
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Madrigal Pharmaceuticals Inc	0.04	0.04	0.00	346.61
Crocs Inc	0.19	0.19	0.00	57.92
MacDonald Dettwiler & Assoc	0.06	0.06	0.00	176.51
Halozyme Therapeutics Inc	0.25	0.25	0.00	43.91
Inspire Medical Systems Inc	0.23	0.23	0.00	42.01
Championx Corp	0.18	0.18	0.00	48.64
Altra Industrial Motion Corp	0.10	0.10	0.00	77.99
EMCOR Group Inc.	0.26	0.26	0.00	28.41
Commercial Metals Co	0.20	0.20	0.00	36.62
Prometheus Biosciences Inc	0.08	0.08	0.00	86.41

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Avaya Holdings Corp	0.07	0.07	0.00	309.91
Tricida Inc	0.04	0.04	0.00	527.28
Athenex Inc	0.05	0.05	0.00	369.55
eHealth Inc	0.10	0.10	0.00	170.77
Intercept Pharmaceuticals Inc	0.15	0.15	0.00	115.57
Reata Pharmaceuticals Inc	0.22	0.22	0.00	75.24
Endo International plc	0.05	0.05	0.00	304.62
FedNat Holding Co	0.01	0.01	0.00	2,055.05
NewAge Inc	0.01	0.01	0.00	1,987.75
Teladoc Health Inc	0.28	0.29	0.00	52.41

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
ShockWave Medical Inc	0.46	0.45	0.00	-26.06
Chart Industries Inc	0.31	0.31	0.00	-37.49
Rogers Corp.	0.21	0.21	0.00	-50.66
Silvergate Capital Corporation	0.11	0.11	0.00	-76.91
Livent Corp	0.23	0.23	0.00	-35.17
Omniceil Inc	0.18	0.18	0.00	-42.07
Intellia Therapeutics Inc	0.19	0.19	0.00	-37.65
Apellis Pharmaceuticals Inc	0.29	0.29	0.00	-24.29
Blueprint Medicines Corp	0.18	0.18	0.00	-33.51
Lantheus Holdings Inc	0.22	0.22	0.00	-27.54

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Enphase Energy Inc	0.11	0.11	0.00	-53.80
Darling Ingredients Inc	0.22	0.22	0.00	-23.45
Axon Enterprise Inc	0.20	0.20	0.00	-23.85
Repligen Corp	0.23	0.23	0.00	-18.25
Murphy USA Inc	0.16	0.16	0.00	-25.50
EMCOR Group Inc.	0.23	0.23	0.00	-16.86
Lattice Semiconductor Corporation	0.11	0.11	0.00	-33.43
Halozyme Therapeutics Inc	0.12	0.12	0.00	-32.20
Crocs Inc	0.14	0.14	0.00	-27.17
Deckers Outdoor Corp	0.22	0.23	0.00	-24.93

Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

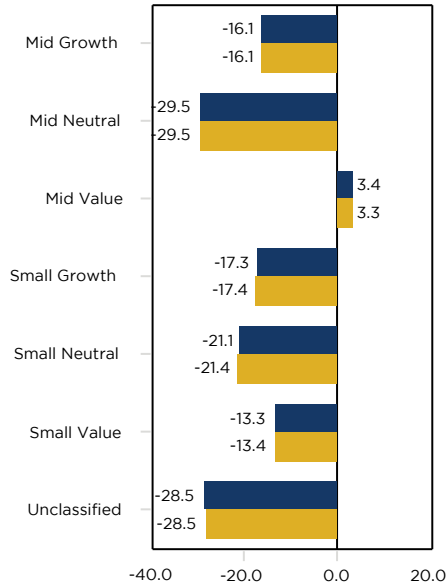


TIAA-CREF Small-Cap Blend Idx Inst (TISBX)

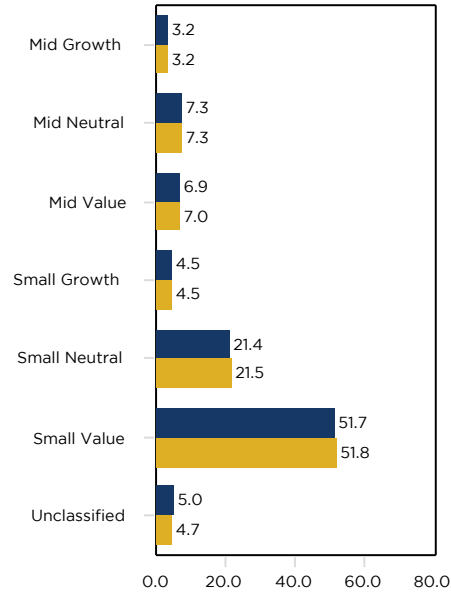
Index: Russell 2000 Index

As of: 12/31/2022

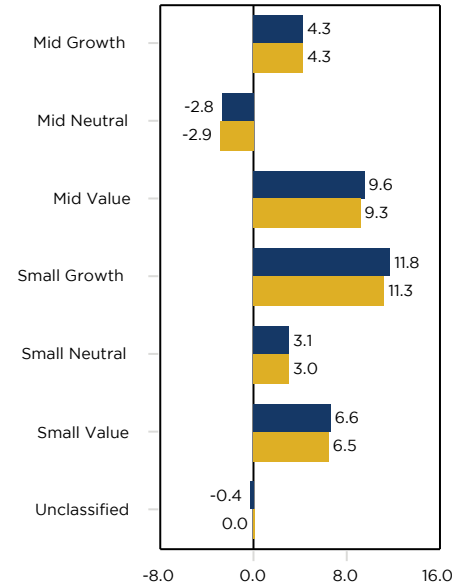
Performance | 1 Year



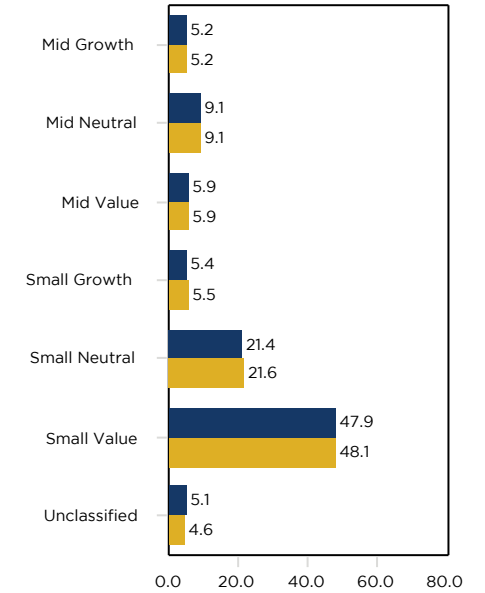
Allocation | 1 Year



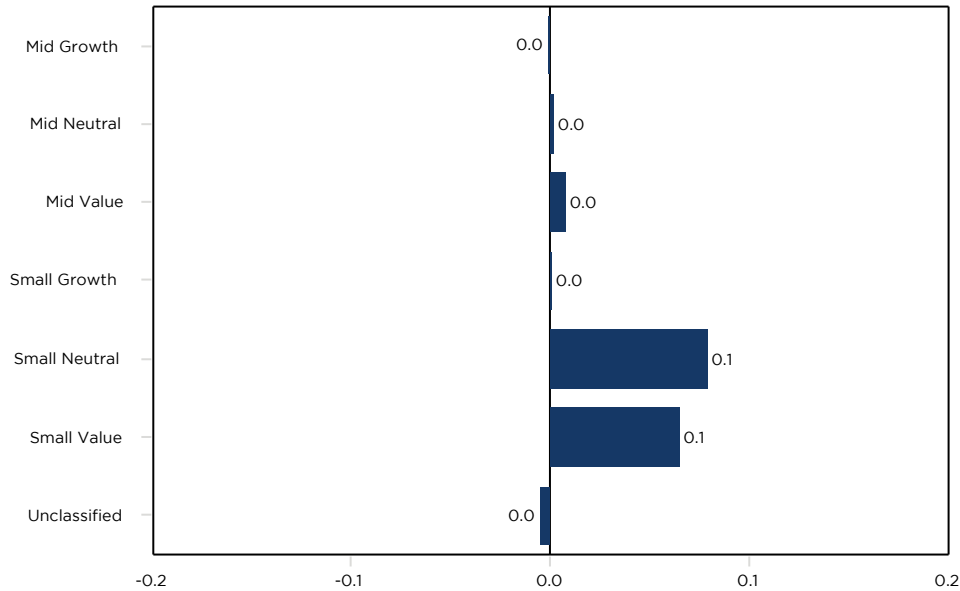
Performance | 3 Years



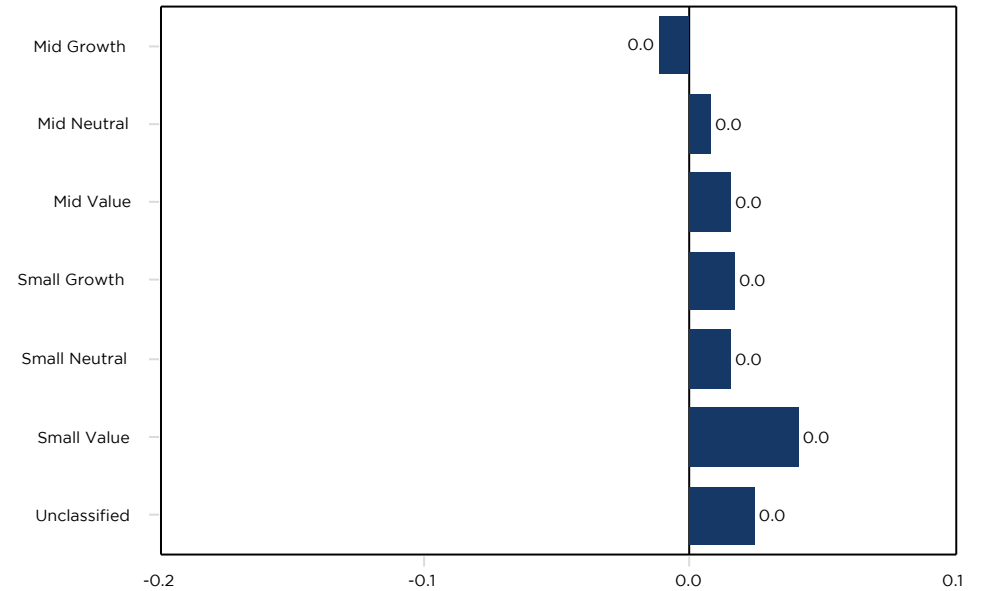
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	3.09 (70)	-38.88 (95)	-38.88 (95)	1.04 (74)	6.88 (44)	11.08 (26)	9.60 (51)	53.97 (23)	36.11 (18)	-0.67 (22)
Benchmark	4.13	-26.36	-26.36	0.65	3.51	9.20	2.83	34.63	28.48	-9.31
Peer Group	4.40	-28.16	-28.16	3.06	6.33	10.11	9.60	37.56	28.34	-5.13
Population	622	616	616	601	580	537	628	639	656	682

Fund Information

Fund Inception	03/01/2005
Fund Assets	4,018 Million
Portfolio Assets	519 Million
Total # of Holdings	95
% in Top 10	19.43 %
PM	Team Managed
PM Tenure	
Turnover	54.00 %
Gross Expense (%)	0.84 %
Net Expense (%)	0.84 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	4,665	3,064
Median Mkt. Cap (\$M)	4,327	1,112
Price/Earnings ratio	18.6	14.0
Price/Book ratio	3.8	3.5
5 Yr. EPS Growth Rate (%)	20.0	22.5
Current Yield (%)	0.5	0.9
Beta (5 Years, Monthly)	1.00	1.00
Number of Stocks	94	1,109
Debt to Equity (%)	103.6	103.6
Forecast P/E	17.3	14.0
Forecast EPS Growth	23.6	18.3
Return on Equity (%)	5.8	1.4

Country/Region Allocation

United States	97.3	96.9
Non-US Developed	2.7	2.3
Emerging Markets	0.0	0.6
Other	0.0	0.1
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	26.40	20.57
vs. Russell 2000 Growth Index		
Beta	0.98	1.00
Alpha	0.53	1.86
Information Ratio	0.07	0.34
Tracking Error	6.53	5.60
R-Squared	0.94	0.93
Up Market Capture	102.04	104.84
Down Market Capture	100.96	98.28
Consistency	52.78	54.17

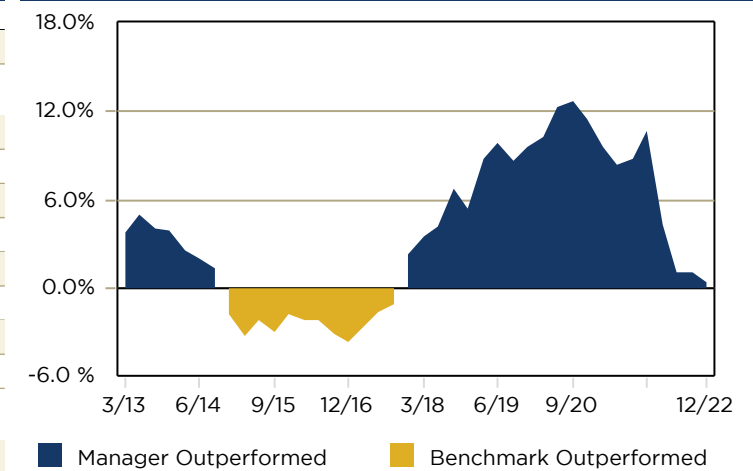
vs. Risk Free

Sharpe Ratio	0.14	0.58
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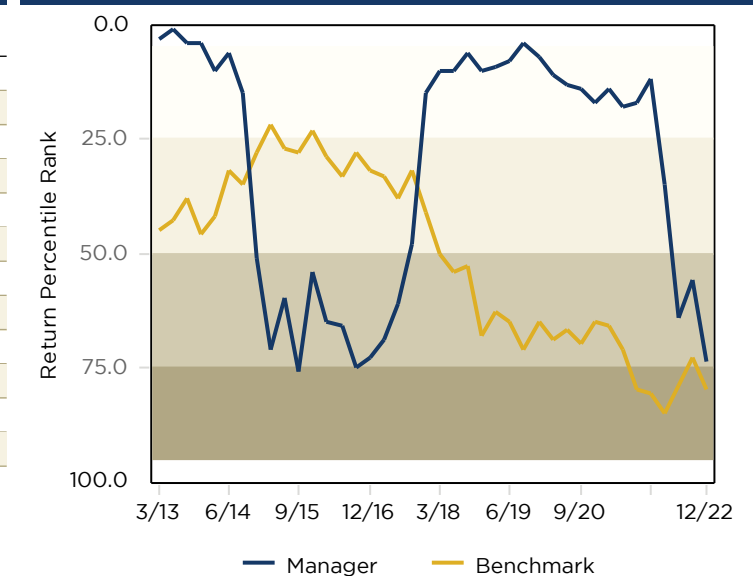
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	0.0	2.3
Consumer Discretionary	14.3	10.8
Consumer Staples	3.2	4.5
Energy	10.0	7.4
Financials	8.4	5.7
Health Care	19.1	23.2
Industrials	20.0	17.8
Information Technology	22.6	19.8
Materials	1.0	4.5
Real Estate	0.0	2.2
Utilities	0.0	1.7
Total	98.6	100.0

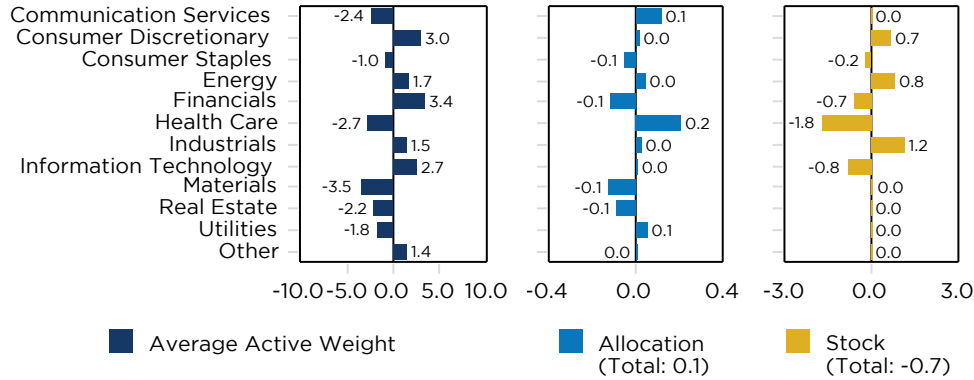
3 Years Rolling Excess Performance



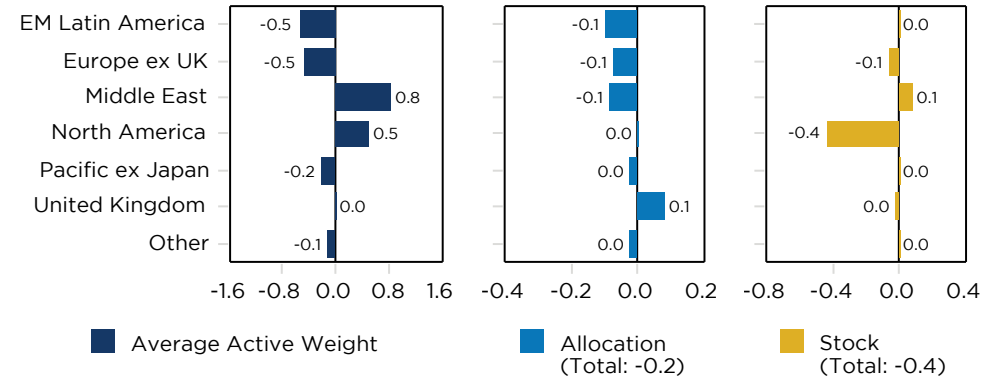
3 Years Rolling Percentile Ranking



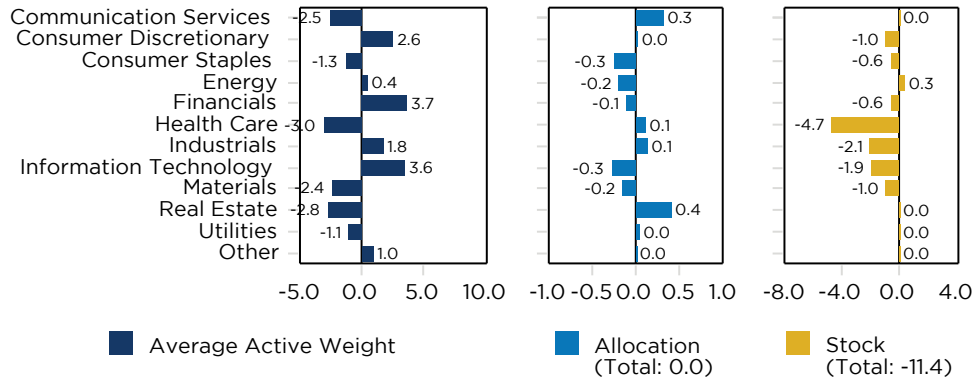
1 Quarter Sector Attribution



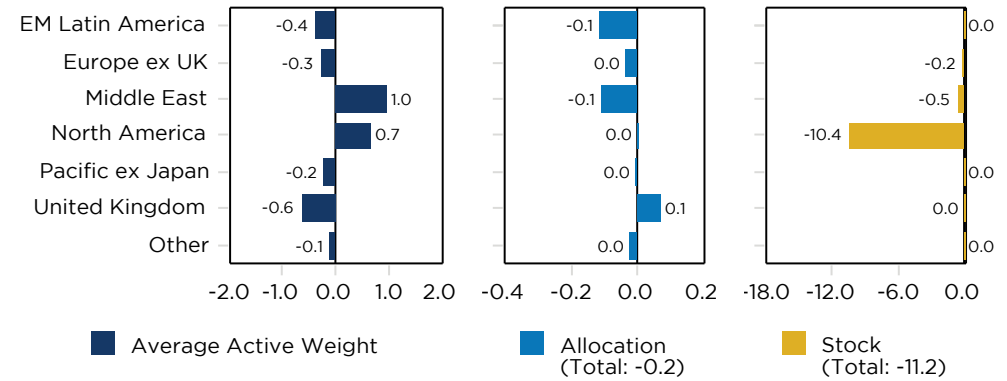
1 Quarter Region Attribution



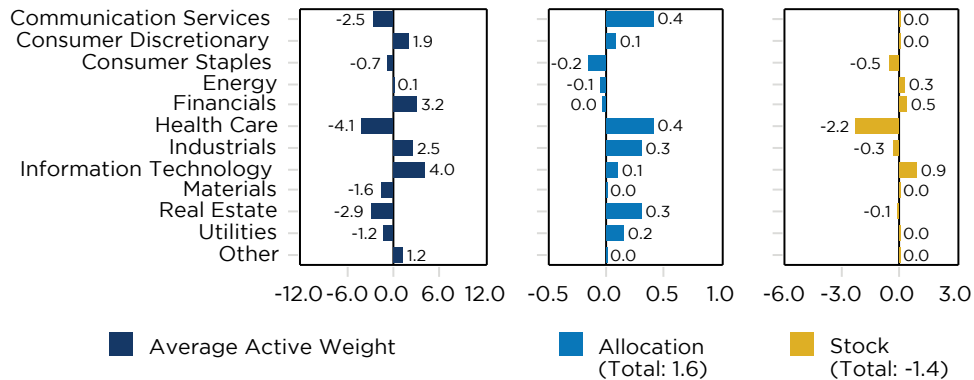
1 Year Sector Attribution



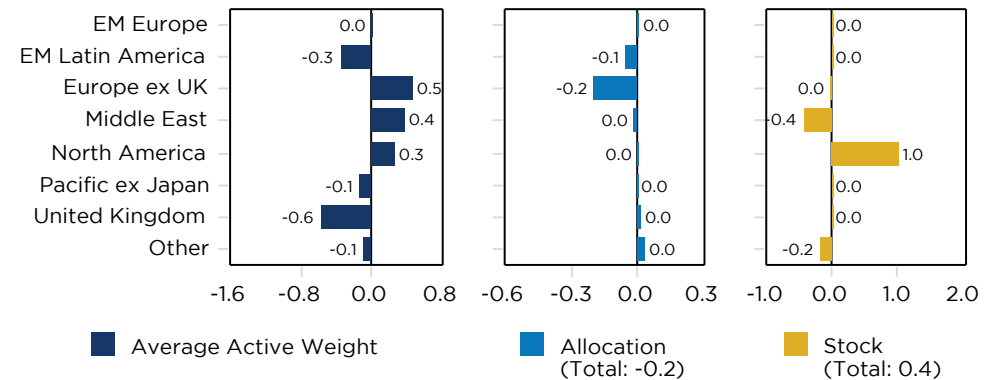
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution

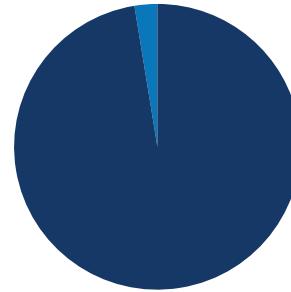


Top Ten Securities

AB Government Money Market AB	2.6 %
Matador Resources Co	2.2 %
ChampionX Corp	2.0 %
Texas Roadhouse Inc	1.9 %
Magnolia Oil & Gas Corp Class A	1.9 %
Hilton Grand Vacations Inc	1.9 %
Novanta Inc	1.9 %
Saia Inc	1.8 %
MACOM Technology Solutions Holdings	1.8 %
Planet Fitness Inc Class A	1.7 %
Total	19.4 %

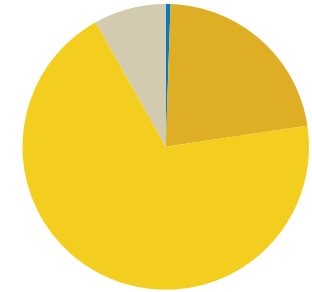
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Axon Enterprise Inc	1.55	0.00	0.61	43.35
Championx Corp	1.61	0.36	0.56	48.64
Planet Fitness Inc	1.34	0.00	0.44	36.66
Helmerich & Payne Inc.	1.29	0.00	0.40	35.34
Allegro Microsystems Inc	1.07	0.00	0.36	37.39
Lattice Semiconductor Corporation	1.20	0.00	0.33	31.84
Herc Holdings Inc	1.65	0.24	0.33	27.22
ITT Inc	1.25	0.00	0.25	24.51
Maco Tech Solutions	1.57	0.23	0.23	21.61
Matador Resources Co	1.94	0.49	0.19	17.19

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
RealReal Inc (The)	0.95	0.01	1.38	147.06
NextCure Inc	0.55	0.07	1.16	241.86
Tactile Systems Technology Inc	1.42	0.12	1.04	80.50
Teladoc Health Inc	1.87	0.56	0.68	52.41
Allakos Inc	0.58	0.17	0.51	124.57
Bright Horizons Family	1.43	0.00	0.47	33.55
Invitae Corp	0.56	0.13	0.45	105.45
Everbridge Inc	1.33	0.24	0.41	38.20
Y-mAbs Therapeutics Inc	0.50	0.07	0.37	85.70
lovance Biotherapeutics Inc	0.88	0.30	0.36	63.01

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
RI RCM INC	1.58	0.25	-0.60	-40.91
BigCommerce Holdings Inc	1.20	0.09	-0.50	-40.95
Lantheus Holdings Inc	1.71	0.43	-0.41	-27.54
Palomar Holdings Inc	0.98	0.18	-0.40	-46.06
Elastic N.V.	1.15	0.00	-0.37	-28.21
iRhythm Technologies Inc	1.47	0.33	-0.33	-25.23
Y-mAbs Therapeutics Inc	0.48	0.05	-0.30	-66.16
First Financial Bankshares Inc	1.86	0.49	-0.29	-17.36
DigitalOcean Holdings Inc	1.09	0.23	-0.29	-29.58
Blueprint Medicines Corp	0.88	0.35	-0.20	-33.51

Top Ten Detractors | 3 Years

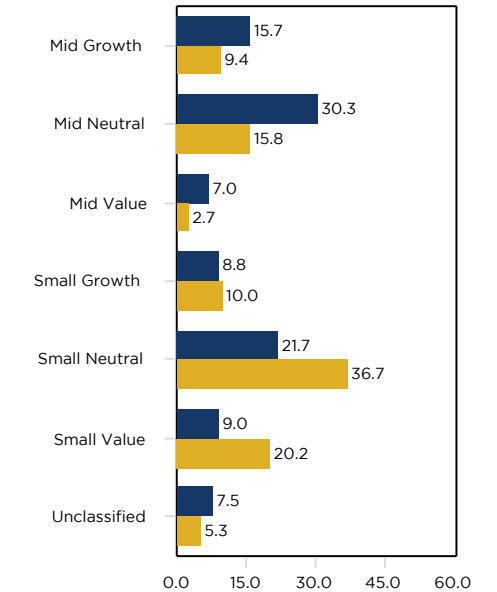
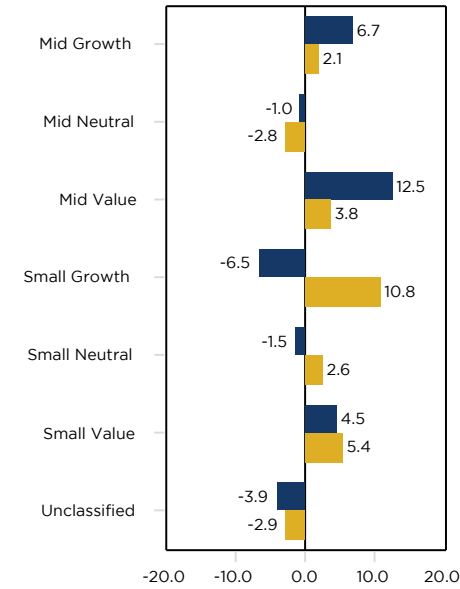
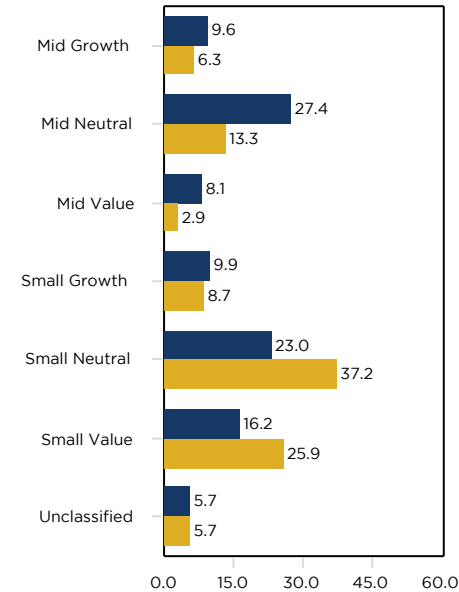
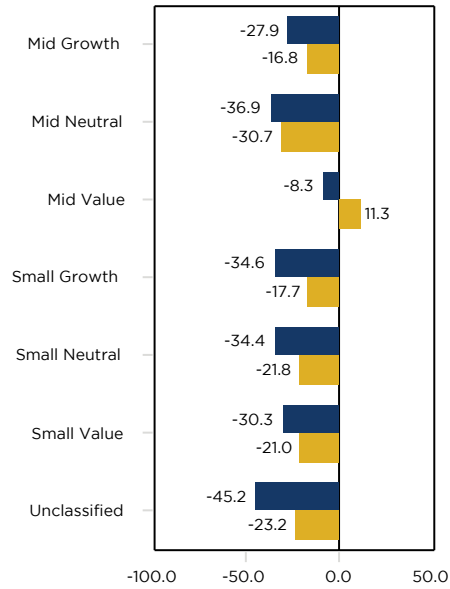
	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Lattice Semiconductor Corporation	1.41	0.23	-0.40	-33.43
Axon Enterprise Inc	1.79	0.40	-0.34	-23.85
Monolithic Power Systems Inc	1.42	0.00	-0.31	-21.02
Saia Inc	1.34	0.13	-0.29	-23.70
Chart Industries Inc	1.51	0.23	-0.22	-16.33
Houlihan Lokey Inc	1.25	0.19	-0.21	-19.28
Wingstop Inc	1.29	0.22	-0.19	-16.89
Skyline Champion Corp	1.26	0.15	-0.17	-14.94
Tetra Tech Inc	1.44	0.44	-0.17	-16.50
Novanta Inc	1.45	0.28	-0.16	-13.34

Performance | 1 Year

Allocation | 1 Year

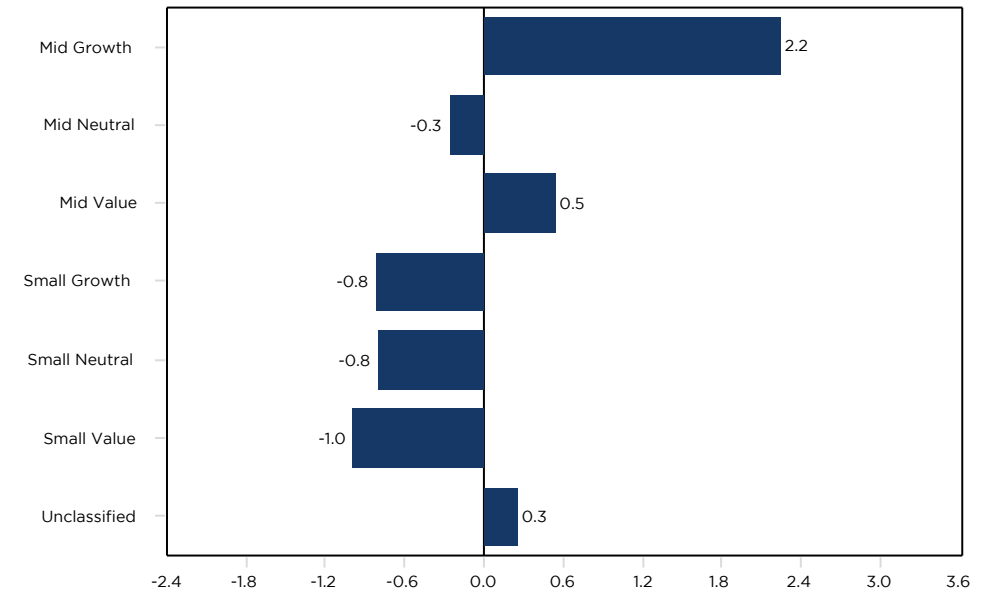
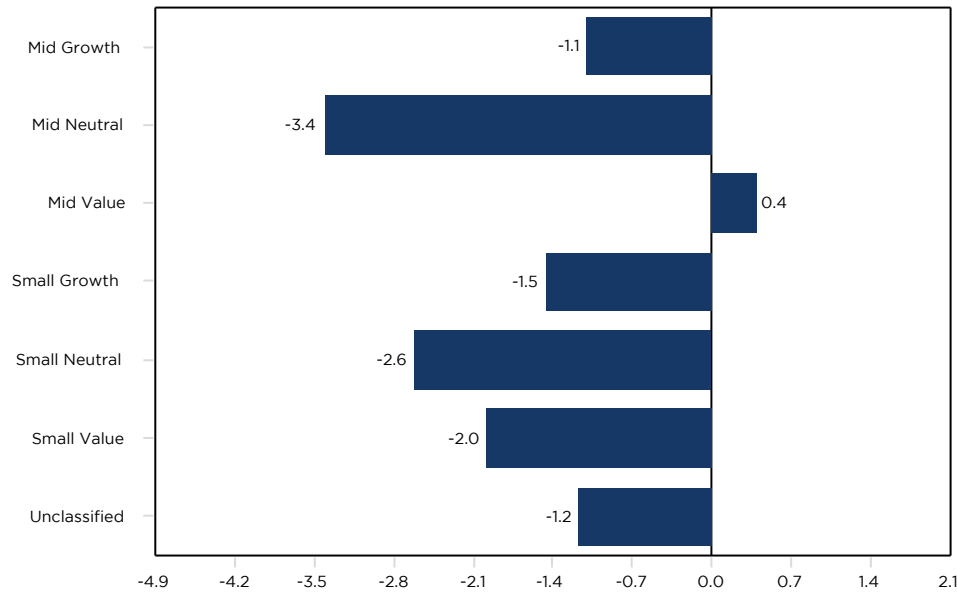
Performance | 3 Years

Allocation | 3 Years



Total Attribution | 1 Year

Total Attribution | 3 Years





CREF Global Equities R3 (QCGLIX)

Index: MSCI World Index
 Category: World Large-Stock Blend
 As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	10.73 (57)	-18.49 (65)	-18.49 (65)	4.99 (33)	5.40 (41)	8.47 (36)	15.65 (73)	22.75 (10)	28.28 (27)	-12.36 (79)
Benchmark	9.89	-17.73	-17.73	5.45	6.69	9.44	22.35	16.50	28.40	-8.20
Peer Group	11.03	-17.47	-17.47	3.93	5.09	8.03	18.20	14.34	26.12	-9.95
Population	386	368	368	346	322	236	378	372	361	348

Fund Information

Fund Inception	04/24/2015
Fund Assets	21,091 Million
Portfolio Assets	11,106 Million
Total # of Holdings	2481
% in Top 10	15.98 %
PM	Malik,S/Tribolet,J
PM Tenure	
Turnover	46.00 %
Gross Expense (%)	0.22 %
Net Expense (%)	0.22 %
Closed to New Investors	Open

Fund Statistics

	3 Years	10 Years
Standard Deviation	20.83	14.87
vs. MSCI World Index		
Beta	1.01	1.02
Alpha	-0.44	-1.03
Information Ratio	-0.14	-0.43
Tracking Error	2.63	1.95
R-Squared	0.98	0.98
Up Market Capture	100.80	99.64
Down Market Capture	102.41	104.99
Consistency	44.44	45.00

vs. Risk Free

Sharpe Ratio	0.30	0.57
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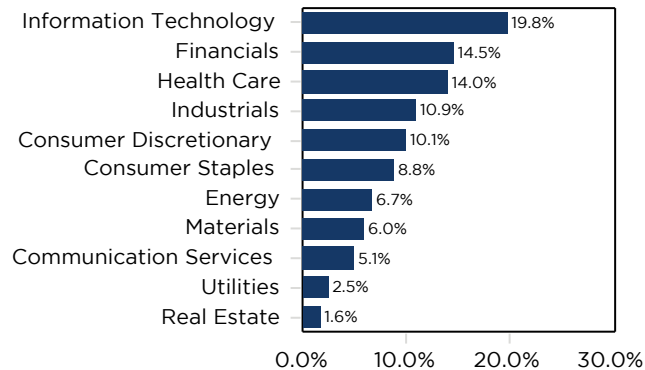
Top Countries(%)

United States	61.42
Japan	5.23
United Kingdom	5.21
Canada	2.91
Switzerland	2.82

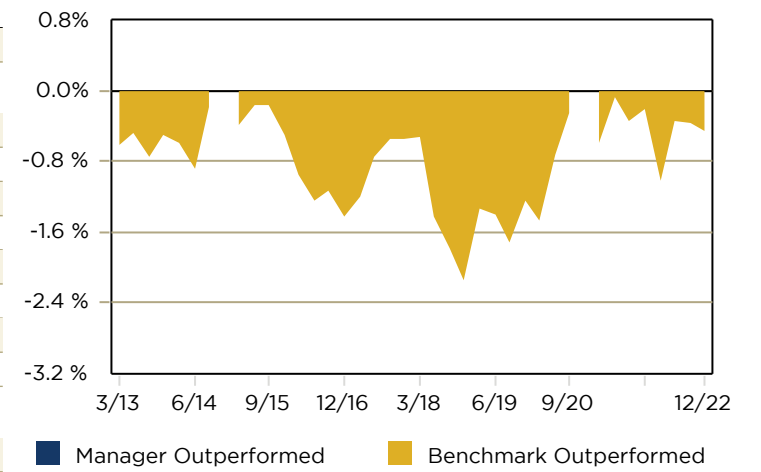
Asset Allocation



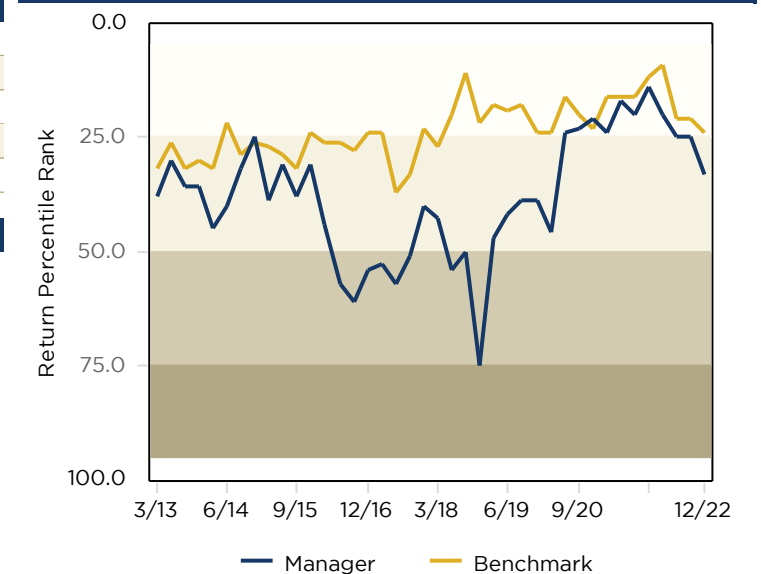
Equity Sector Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	16.01 (83)	-6.78 (26)	-6.78 (26)	1.85 (33)	1.25 (25)	4.81 (14)	11.03 (57)	2.10 (53)	22.78 (12)	-17.98 (77)
Benchmark	17.34	-14.45	-14.45	0.87	1.54	4.67	11.26	7.82	22.01	-13.79
Peer Group	18.65	-9.72	-9.72	0.82	0.39	3.67	11.75	2.48	18.26	-16.25
Population	370	365	365	335	317	255	364	379	396	388

Fund Information

Fund Inception	05/01/2001
Fund Assets	38,735 Million
Portfolio Assets	36,048 Million
Total # of Holdings	82
% in Top 10	31.52 %
PM	Team Managed
PM Tenure	
Turnover	18.00 %
Gross Expense (%)	0.62 %
Net Expense (%)	0.62 %
Closed to New Investors	Open

Fund Statistics

	3 Years	10 Years
Standard Deviation	23.93	17.63
vs. MSCI EAFE (Net) Index		
Beta	1.12	1.12
Alpha	1.53	-0.06
Information Ratio	0.21	0.09
Tracking Error	8.84	6.42
R-Squared	0.87	0.88
Up Market Capture	110.28	109.14
Down Market Capture	104.18	108.65
Consistency	58.33	47.50

vs. Risk Free

Sharpe Ratio	0.17	0.31
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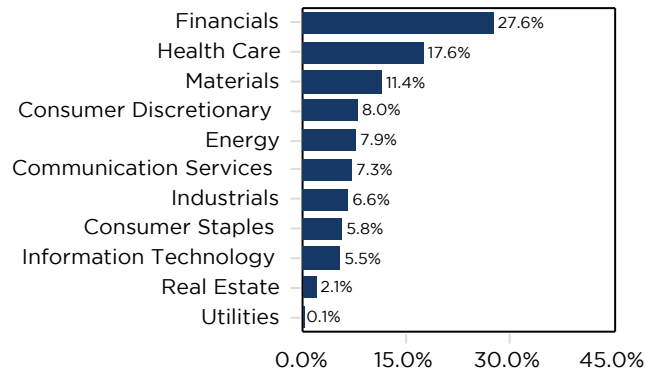
Top Countries(%)

United Kingdom	17.06
Switzerland	14.53
France	11.44
Japan	10.84
Netherlands	6.92

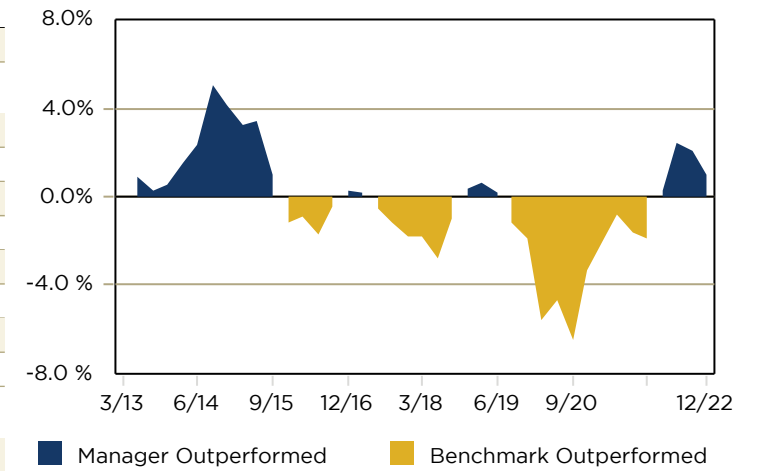
Asset Allocation



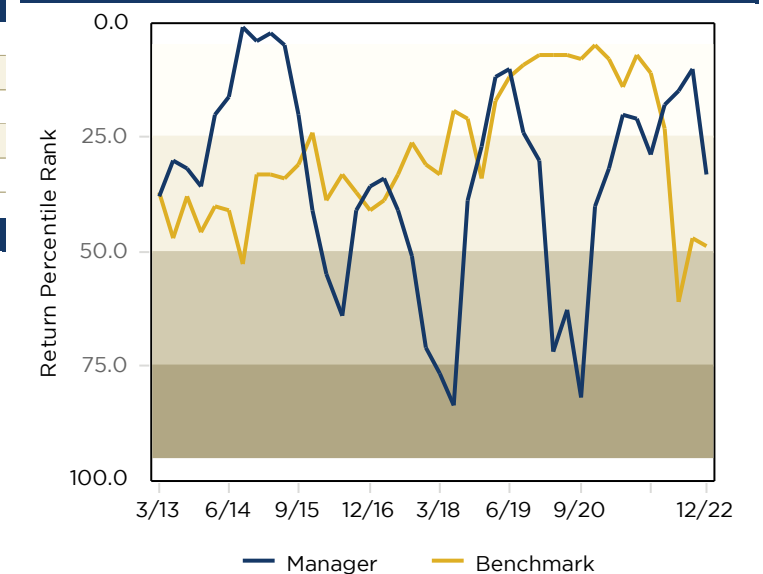
Equity Sector Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking





TIAA-CREF International Eq Idx Instl (TCIEX)

Index: MSCI EAFE (Net) Index
 Category: Foreign Large Blend
 As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	18.12 (18)	-14.20 (26)	-14.20 (26)	1.08 (37)	1.76 (30)	4.73 (28)	11.30 (35)	8.14 (62)	21.79 (54)	-13.25 (19)
Benchmark	17.34	-14.45	-14.45	0.87	1.54	4.67	11.26	7.82	22.01	-13.79
Peer Group	16.75	-15.79	-15.79	0.62	1.20	4.23	10.21	9.45	22.04	-15.09
Population	776	753	753	721	665	542	779	811	813	805

Fund Information

Fund Inception	10/01/2002
Fund Assets	16,688 Million
Portfolio Assets	8,364 Million
Total # of Holdings	813
% in Top 10	14.41 %
PM	Campagna,P/Liao,L/Tran,D
PM Tenure	
Turnover	5.00 %
Gross Expense (%)	0.05 %
Net Expense (%)	0.05 %
Closed to New Investors	Open

Fund Statistics

	3 Years	10 Years
Standard Deviation	20.58	14.89
vs. MSCI EAFE (Net) Index		
Beta	1.02	1.00
Alpha	0.27	0.08
Information Ratio	0.12	0.03
Tracking Error	2.75	2.09
R-Squared	0.98	0.98
Up Market Capture	102.83	99.53
Down Market Capture	101.86	98.97
Consistency	55.56	52.50

vs. Risk Free

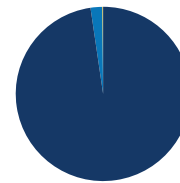
Sharpe Ratio	0.12	0.33
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Top Countries(%)

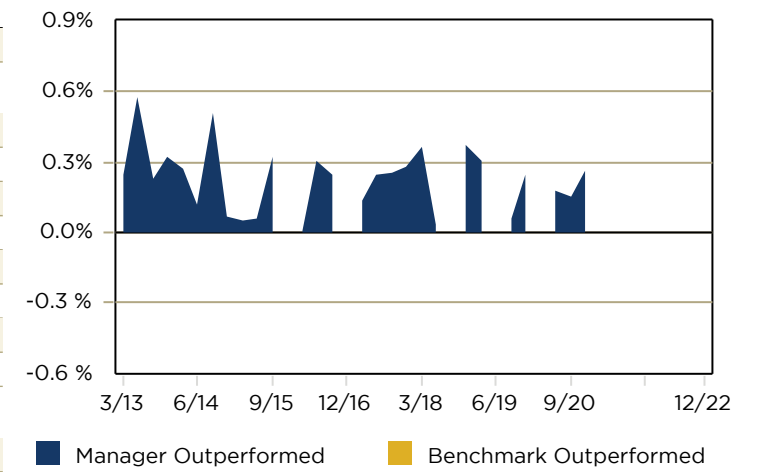
Japan	21.98
United Kingdom	14.84
France	11.16
Switzerland	10.66
Germany	8.05

Asset Allocation

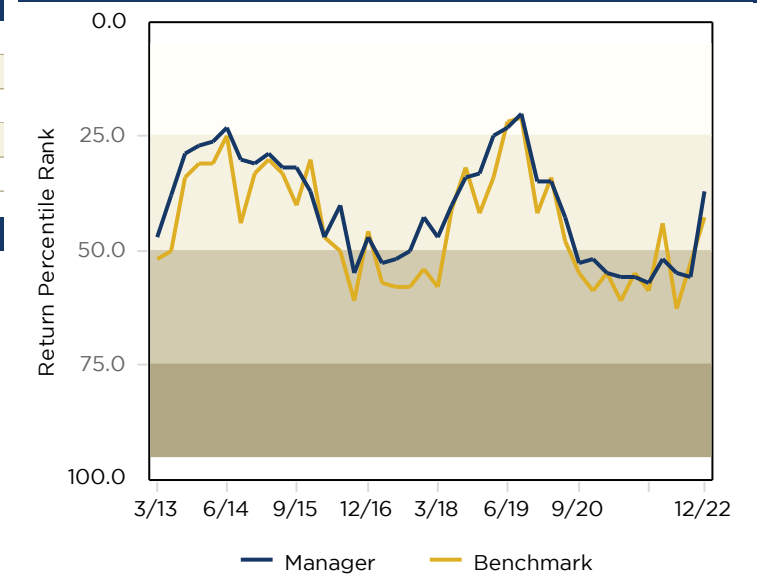
Equity	
Cash	
Other	
Fixed Income	



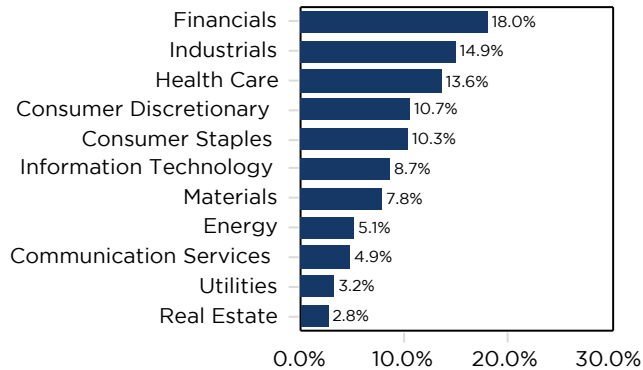
3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Equity Sector Allocation





American Funds Europacific Growth R6 (RERGX)

Index: MSCI AC World ex USA (Net)

Category: Foreign Large Growth

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	13.78 (50)	-22.72 (32)	-22.72 (32)	-0.15 (55)	1.54 (58)	5.30 (37)	2.84 (78)	25.27 (35)	27.40 (63)	-14.91 (55)
Benchmark	14.28	-16.00	-16.00	0.07	0.88	3.80	7.82	10.65	21.51	-14.20
Peer Group	13.77	-24.90	-24.90	0.14	1.81	4.93	8.69	22.17	27.95	-14.44
Population	451	446	446	410	394	329	452	441	446	458

Fund Information

Fund Inception	05/01/2009
Fund Assets	124,440 Million
Portfolio Assets	61,562 Million
Total # of Holdings	370
% in Top 10	24.00 %
PM	Team Managed
PM Tenure	
Turnover	29.00 %
Gross Expense (%)	0.46 %
Net Expense (%)	0.46 %
Closed to New Investors	Open

Fund Statistics

	3 Years	10 Years
Standard Deviation	21.15	15.10
vs. MSCI AC World ex USA (Net)		
Beta	1.07	1.00
Alpha	0.02	1.53
Information Ratio	0.03	0.38
Tracking Error	5.17	4.01
R-Squared	0.94	0.93
Up Market Capture	111.08	103.85
Down Market Capture	111.33	96.00
Consistency	52.78	54.17

vs. Risk Free

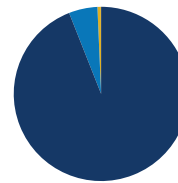
Sharpe Ratio	0.06	0.37
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Top Countries(%)

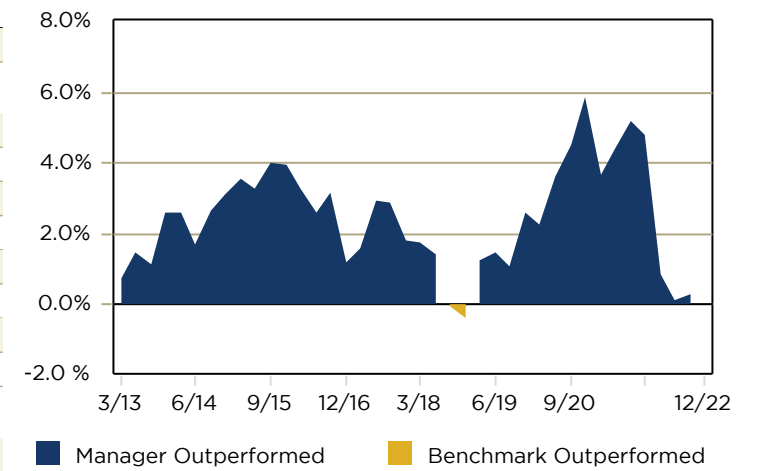
Japan	11.91
France	10.54
India	8.89
Canada	8.07
United Kingdom	7.20

Asset Allocation

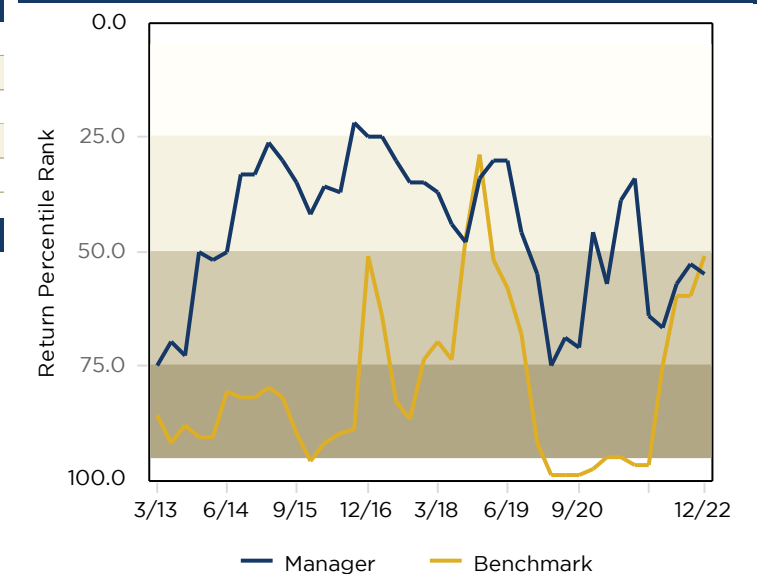
Equity	
Cash	
Fixed Income	
Other	



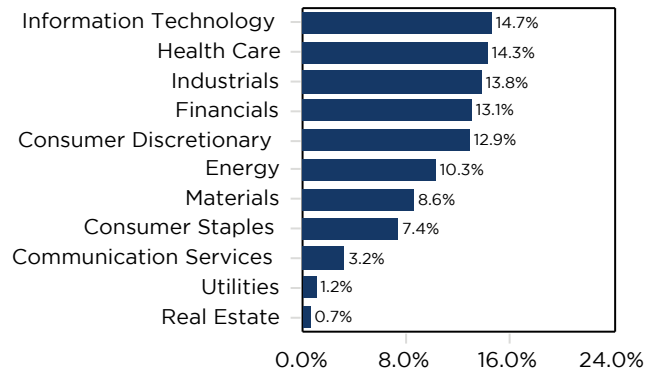
3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Equity Sector Allocation





DFA International Small Company I (DFISX)

Index: MSCI AC World ex USA Small Cap (Net)

Category: Foreign Small/Mid Blend

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	17.61 (14)	-17.12 (17)	-17.12 (17)	1.14 (23)	0.70 (35)	6.08 (31)	14.24 (22)	9.26 (65)	24.20 (28)	-19.42 (48)
Benchmark	13.31	-19.97	-19.97	1.07	0.67	5.24	12.93	14.24	22.42	-18.20
Peer Group	16.32	-20.07	-20.07	0.06	0.06	5.40	12.87	10.48	22.22	-19.65
Population	95	92	92	87	79	61	93	106	112	115

Fund Information

Fund Inception	09/30/1996
Fund Assets	9,310 Million
Portfolio Assets	9,310 Million
Total # of Holdings	4391
% in Top 10	3.56 %
PM	Team Managed
PM Tenure	
Turnover	22.00 %
Gross Expense (%)	0.39 %
Net Expense (%)	0.39 %
Closed to New Investors	Open

Fund Statistics

	3 Years	10 Years
Standard Deviation	23.46	16.37
vs. MSCI AC World ex USA Small Cap (Net)		
Beta	1.02	1.01
Alpha	0.17	0.81
Information Ratio	0.06	0.29
Tracking Error	3.76	2.95
R-Squared	0.97	0.97
Up Market Capture	103.73	102.40
Down Market Capture	103.38	98.31
Consistency	52.78	56.67

vs. Risk Free

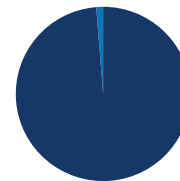
Sharpe Ratio	0.14	0.40
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Top Countries(%)

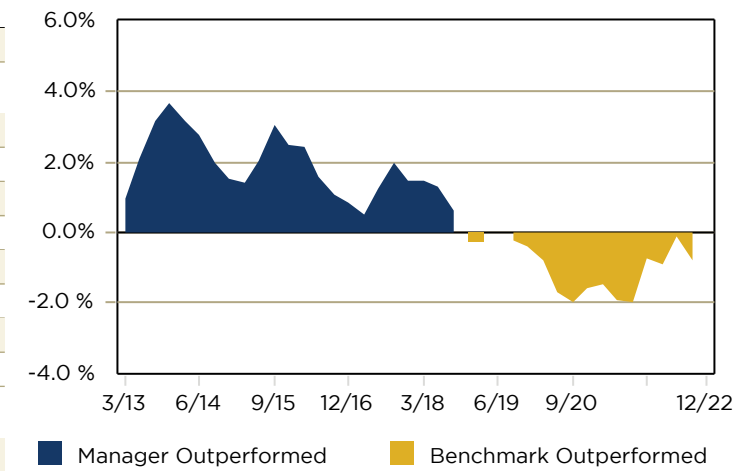
Japan	24.41
United Kingdom	11.99
Canada	11.69
Switzerland	7.00
Australia	6.66

Asset Allocation

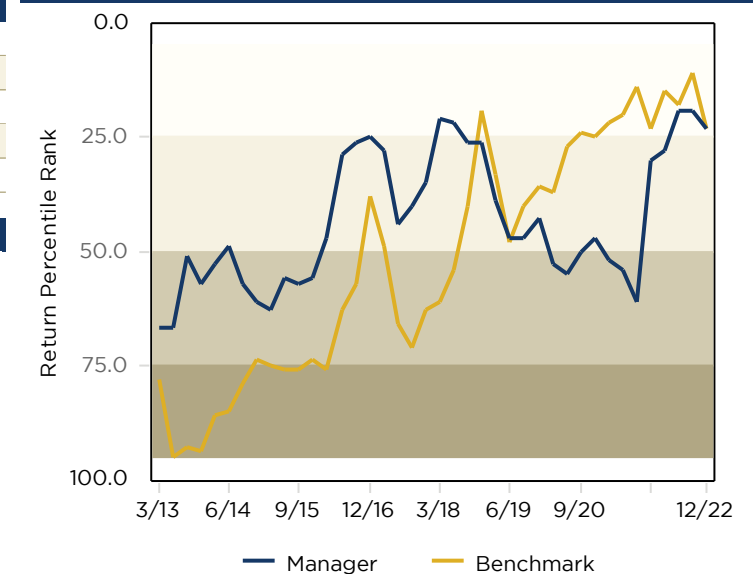
Equity	
Cash	
Other	
Fixed Income	



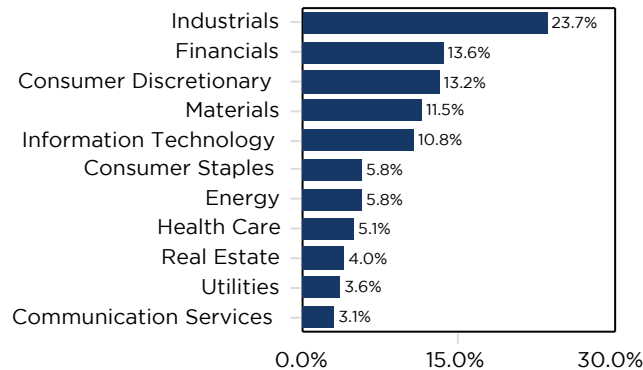
3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Equity Sector Allocation



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	10.07 (48)	-16.88 (16)	-16.88 (16)	-0.99 (26)	-0.55 (29)	1.79 (39)	2.53 (29)	13.89 (71)	16.03 (80)	-13.62 (22)
Benchmark	9.70	-20.09	-20.09	-2.69	-1.40	1.44	-2.54	18.31	18.42	-14.57
Peer Group	9.94	-22.47	-22.47	-3.28	-1.77	1.41	-1.36	17.77	20.41	-16.40
Population	861	829	829	760	701	520	825	844	898	916

Fund Information

Fund Inception	04/25/1994
Fund Assets	3,941 Million
Portfolio Assets	3,941 Million
Total # of Holdings	1898
% in Top 10	17.11 %
PM	Team Managed
PM Tenure	
Turnover	9.00 %
Gross Expense (%)	0.46 %
Net Expense (%)	0.36 %
Closed to New Investors	Open

Fund Statistics

	3 Years	10 Years
Standard Deviation	21.04	16.65
vs. MSCI Emerging Markets (Net) Index		
Beta	1.02	0.99
Alpha	1.96	0.39
Information Ratio	0.53	0.13
Tracking Error	3.66	2.72
R-Squared	0.97	0.97
Up Market Capture	101.32	99.04
Down Market Capture	93.99	97.17
Consistency	61.11	51.67

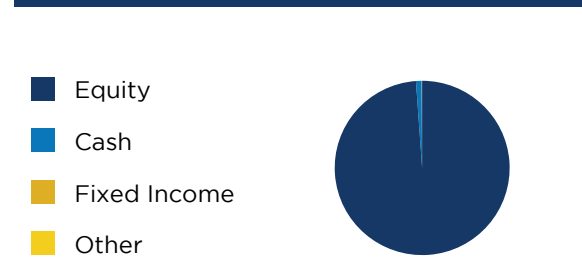
vs. Risk Free

Sharpe Ratio	0.03	0.14
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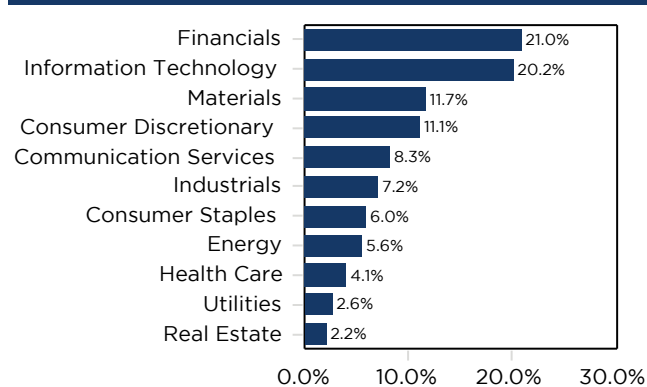
Top Countries(%)

China	26.47
India	16.96
Taiwan	16.42
Korea	12.17
Brazil	4.94

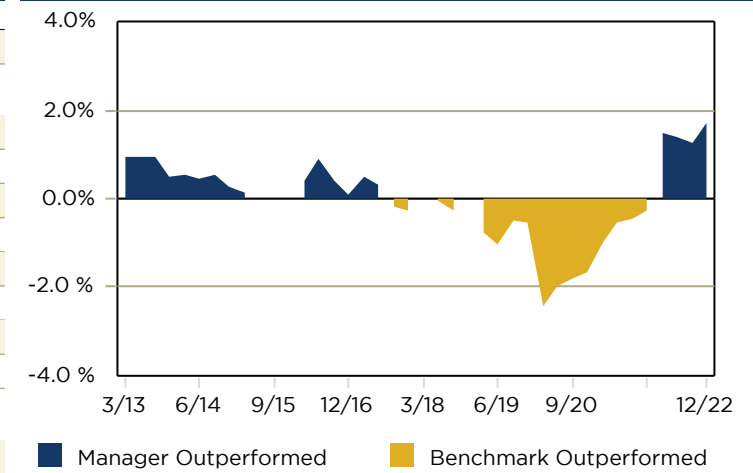
Asset Allocation



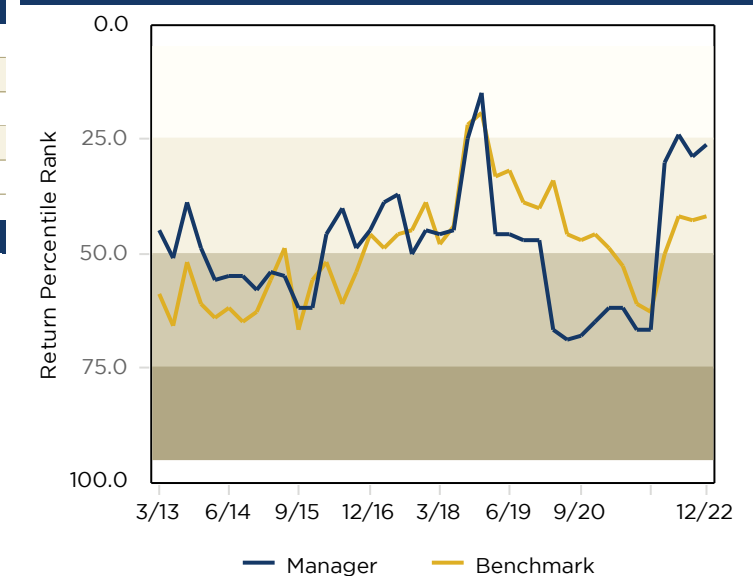
Equity Sector Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	3.88 (51)	-28.73 (88)	-28.73 (88)	0.22 (40)	4.84 (16)	7.30 (10)	39.41 (72)	1.33 (7)	31.09 (16)	-4.04 (16)
Benchmark	4.14	-24.95	-24.95	0.20	4.43	7.10	41.30	-5.12	28.66	-4.04
Peer Group	3.89	-26.20	-26.20	-0.14	3.72	6.21	41.35	-4.67	27.74	-5.74
Population	258	255	255	243	233	204	258	260	279	273

Fund Information

Fund Inception	10/01/2002
Fund Assets	3,070 Million
Portfolio Assets	2,042 Million
Total # of Holdings	49
% in Top 10	48.25 %
PM	Copp,D/Lee,B
PM Tenure	
Turnover	25.00 %
Gross Expense (%)	0.47 %
Net Expense (%)	0.47 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	37,389	36,861
Median Mkt. Cap (\$M)	13,445	2,756
Price/Earnings ratio	26.7	24.9
Price/Book ratio	2.4	2.5
5 Yr. EPS Growth Rate (%)	16.2	14.2
Current Yield (%)	3.8	4.0
Beta (5 Years, Monthly)	0.94	1.00
Number of Stocks	46	147
Debt to Equity (%)	189.8	230.1
Forecast P/E	29.7	27.9
Forecast EPS Growth	7.1	8.1
Return on Equity (%)	5.5	6.0

Country/Region Allocation

United States	100.0	100.0
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	21.10	15.75
vs. FTSE NAREIT All Equity REITs		
Beta	0.94	0.95
Alpha	-0.08	0.49
Information Ratio	-0.07	0.03
Tracking Error	3.37	2.49
R-Squared	0.98	0.98
Up Market Capture	98.31	98.09
Down Market Capture	98.95	96.75
Consistency	52.78	51.67

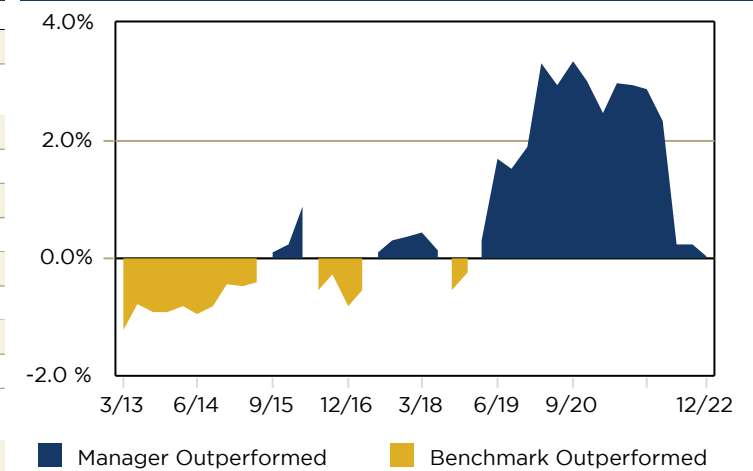
vs. Risk Free

Sharpe Ratio	0.08	0.48
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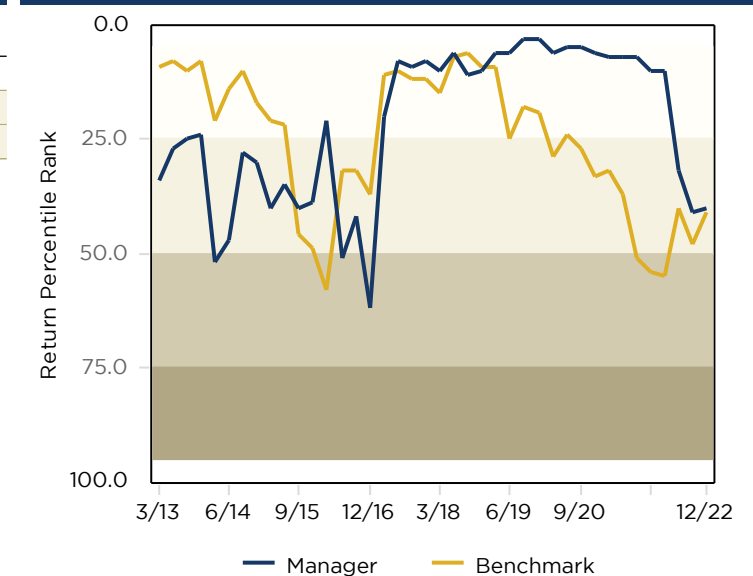
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Information Technology	0.1	0.0
Real Estate	99.9	100.0
Total	100.0	100.0

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



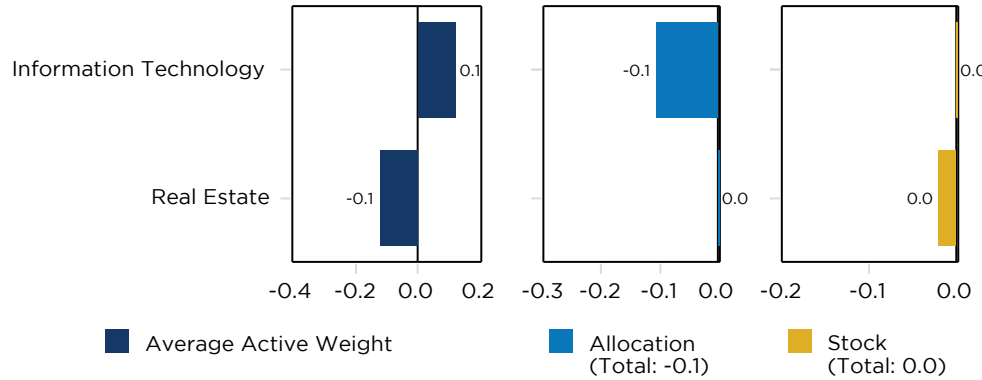


TIAA-CREF Real Estate Sec Instl (TIREX)

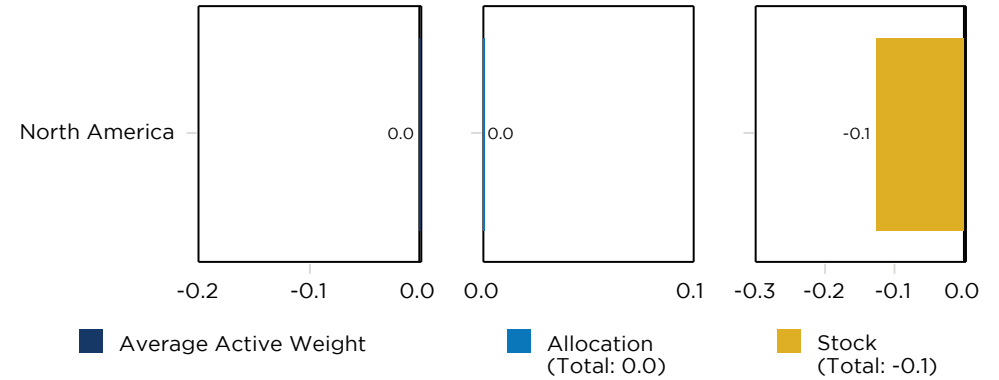
Index: FTSE NAREIT All Equity REITs

As of: 12/31/2022

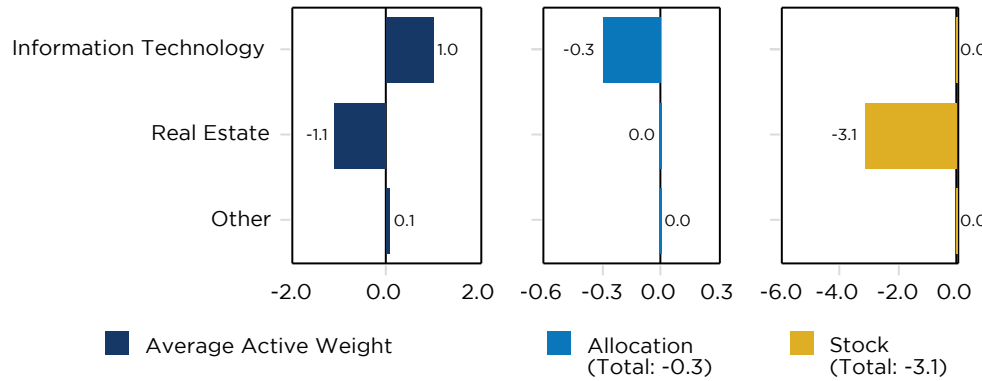
1 Quarter Sector Attribution



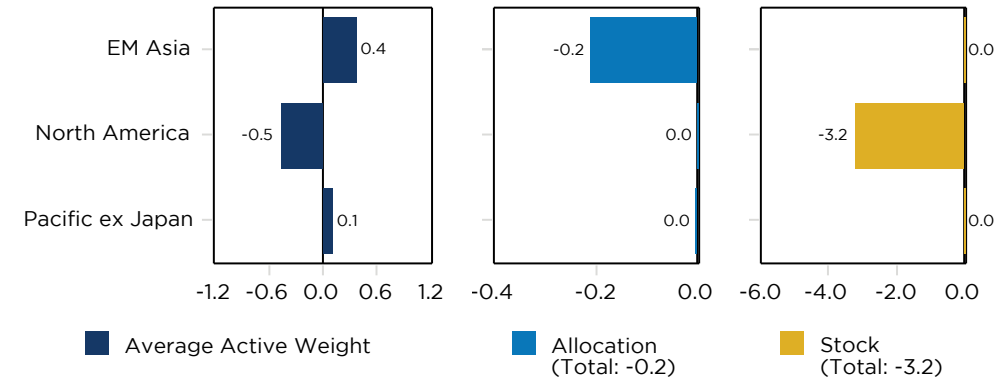
1 Quarter Region Attribution



1 Year Sector Attribution



1 Year Region Attribution



3 Years Sector Attribution

No data available.

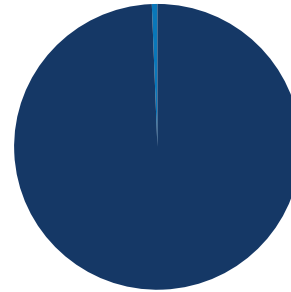
3 Years Region Attribution

No data available.

Top Ten Securities	
Prologis Inc	10.6 %
American Tower Corp	6.7 %
Simon Property Group Inc	6.1 %
AvalonBay Communities Inc	4.5 %
Equinix Inc	4.3 %
Sun Communities Inc	3.4 %
Alexandria Real Estate Equities	3.3 %
Public Storage	3.2 %
Equity Residential	3.2 %
Welltower Inc	3.0 %
Total	48.2 %

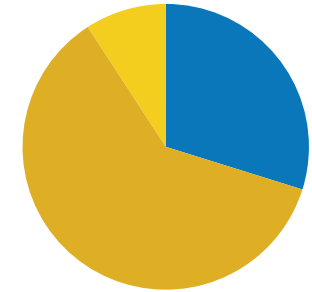
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Simon Property Group Inc.	5.30	2.55	0.79	32.91
Brixmor Property Group Inc	1.65	0.48	0.24	24.33
Kite Realty Group Trust	1.31	0.32	0.19	23.76
Kimco Realty Corp	2.30	0.97	0.16	16.26
Regency Centers Corp.	1.54	0.80	0.10	17.25
Prologis Inc	7.54	6.54	0.08	11.74
Rexford Industrial Realty Inc	4.12	0.78	0.05	5.68
Sun Communities Inc.	3.43	1.43	0.04	6.31
Ventas Inc.	1.56	1.40	0.01	13.26
Equinix Inc	3.84	4.50	-0.08	15.70

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Hudson Pacific Properties Inc	1.90	0.47	0.70	49.36
GDS Holdings Limited	1.53	0.00	0.54	35.75
SL Green Realty Corp	1.85	0.61	0.39	31.28
Kilroy Realty Corp	1.23	0.72	0.13	24.90
Healthpeak Properties Inc	2.66	1.40	0.08	6.48
Essex Property Trust Inc.	2.32	1.63	0.06	8.77
Equity Residential	3.12	2.44	0.05	7.18
AvalonBay Communities Inc.	3.00	2.41	0.03	5.38
Welltower Inc	3.23	2.74	0.02	3.92
Boston Properties Inc	1.80	1.76	0.01	21.66

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
AvalonBay Communities Inc.	5.13	2.24	-0.45	-11.45
Equity Residential	4.42	2.17	-0.35	-11.31
Essex Property Trust Inc.	3.02	1.37	-0.26	-11.61
American Homes 4 Rent	3.05	0.87	-0.26	-7.63
Life Storage Inc	1.87	0.81	-0.15	-10.14
National Storage Affiliates Trust	1.12	0.31	-0.13	-11.88
Boston Properties Inc	1.45	1.02	-0.05	-8.55
Extra Space Storage Inc	1.89	1.99	0.02	-13.97
Public Storage	3.46	3.99	0.04	-3.68
Crown Castle Inc	3.29	5.43	0.20	-5.10

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Rexford Industrial Realty Inc	2.51	0.41	-0.16	-7.57
Prologis Inc	5.64	4.62	-0.10	-9.67
Extra Space Storage Inc	1.65	1.09	-0.08	-13.28
Mid-America Apartment Communities Inc	2.06	1.24	-0.07	-8.29
Gaming and Leisure Properties Inc	1.15	0.72	-0.05	-11.89
VICI Properties Inc	1.36	0.97	-0.05	-12.30
Equinix Inc	4.54	4.10	-0.02	-5.32
SBA Communications Corp	2.30	2.23	0.00	-5.64
Crown Castle Inc	3.91	4.87	0.02	-1.73
Public Storage	1.80	2.60	0.10	-12.54

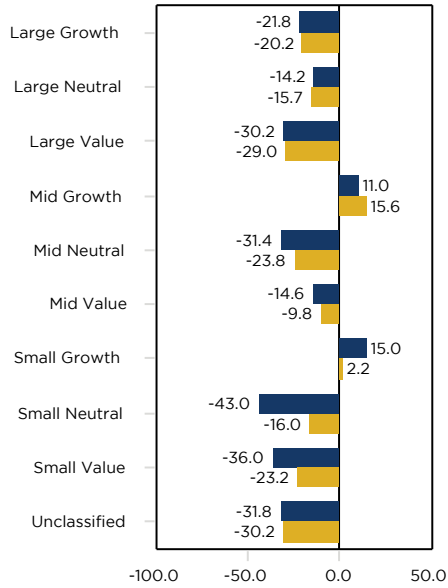


TIAA-CREF Real Estate Sec Instl (TIREX)

Index: FTSE NAREIT All Equity REITs

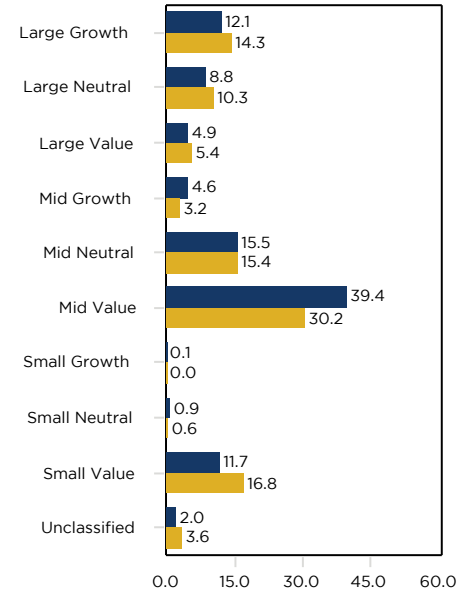
As of: 12/31/2022

Performance | 1 Year

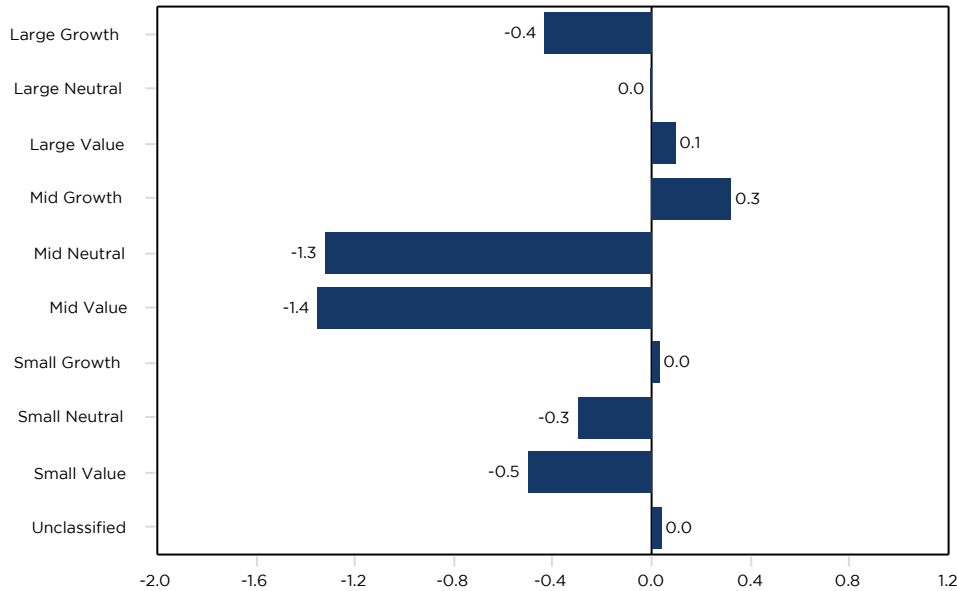


Allocation | 1 Year

No data available.



Total Attribution | 1 Year



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	-3.49	8.19	8.19	8.14	6.93	7.41	17.87	-0.84	5.51	4.79
Benchmark	-5.13	6.59	6.59	8.98	7.72	9.11	21.02	0.34	4.39	7.36

Fund Information

Fund Inception	10-1995
Fund Assets	31,346 Million
Portfolio Assets	31,346 Million
Total # of Holdings	389
% Assets in Top 10 Holdings	18.9 %
PM	Giraldo,R
PM Tenure	5 Years 4 Months
Turnover	11.8 %
Gross Expense (%)	0.8 %
Net Expense (%)	0.8 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	19,773 (Million)
Price/Earnings	46
Price/Book	2

Top Holdings (%)

Ontario Industrial Portfolio	2.7
1001 Pennsylvania Avenue	2.6
Simpson Housing Portfolio	2.2
The Florida Mall	2.0
Fashion Show	1.8
Lincoln Centre	1.7
99 High Street	1.7
701 Brickell Avenue	1.6
Great West Industrial Portfolio	1.3
Storage Portfolio Iv	1.3

Top Countries (%)

United States	91.1
Germany	1.9
Canada	1.2
Sweden	1.2

Fund Statistics

	3 Years	10 Years
Standard Deviation	5.80	3.46

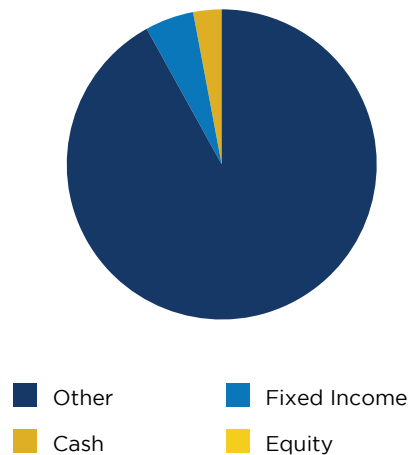
vs. NCREIF Fund Index-ODCE (VW) (Net)

Beta	0.78	0.76
Alpha	1.11	0.48
Information Ratio	-0.43	-1.01
Tracking Error	2.05	1.62
R-Squared	0.95	0.87
Up Market Capture	86.38	80.95
Down Market Capture	72.01	72.01
Consistency	50.00	30.00

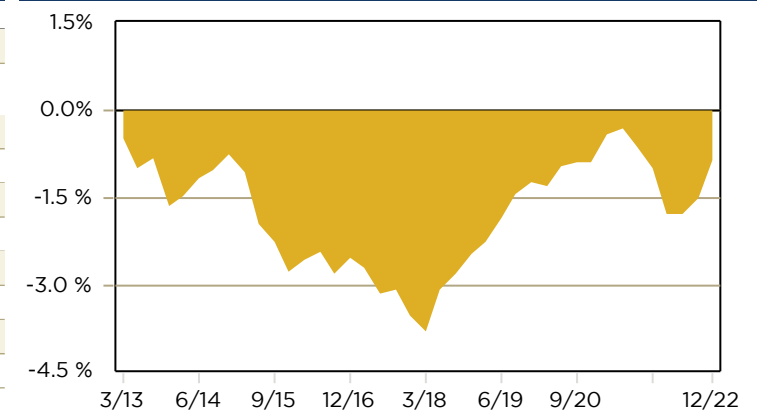
vs. Risk Free

Sharpe Ratio	1.19	1.75
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Asset Allocation

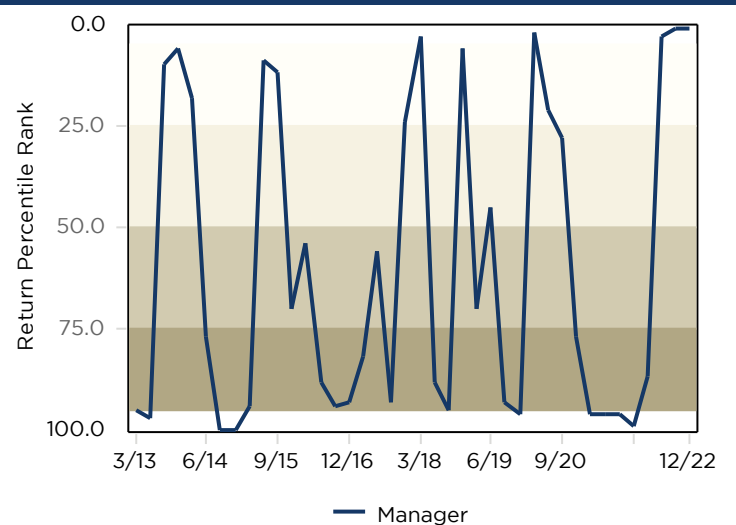


3 Years Rolling Excess Performance



■ Manager Outperformed ■ Benchmark Outperformed

3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	7.47 (22)	-15.47 (57)	-15.47 (57)	2.63 (58)	4.56 (40)	6.60 (44)	12.64 (55)	13.52 (38)	20.80 (26)	-4.29 (27)
Benchmark	6.73	-15.56	-15.56	2.49	4.36	6.52	11.96	13.89	20.46	-4.56
Peer Group	6.48	-14.97	-14.97	2.92	4.08	6.29	13.11	12.35	19.28	-5.88
Population	778	769	769	732	716	623	777	778	812	847

Fund Information

Fund Inception	04-2015
Fund Assets	17,023 Million
Portfolio Assets	8,918 Million
Total # of Holdings	1967
% Assets in Top 10 Holdings	9.5 %
PM	Team Managed
PM Tenure	
Turnover	118.0 %
Gross Expense (%)	0.2 %
Net Expense (%)	0.2 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	64,879 (Million)
Price/Earnings	15
Price/Book	2

Top Holdings (%)

Microsoft Corp	2.2
United States Treasury Notes 4.125%	1.8
United States Treasury Bonds 2.375%	1.0
Federal National Mortgage Asso	0.9
Tesla Inc	0.7
NVIDIA Corp	0.7
United States Treasury Notes 3.875%	0.6
United States Treasury Bonds 3%	0.6
Procter & Gamble Co	0.6
The Home Depot Inc	0.6

Top Countries (%)

United States	74.0
Japan	4.0
Canada	3.2
United Kingdom	3.1

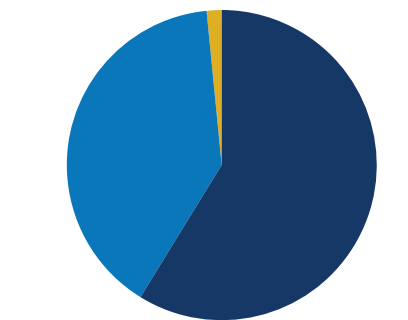
Fund Statistics

	3 Years	10 Years
Standard Deviation	14.17	9.51
vs. 40% BBg US Agg 42% R3000 18% MSCI EAFE + Can		
Beta	1.03	1.01
Alpha	0.10	0.00
Information Ratio	0.15	0.10
Tracking Error	1.30	0.90
R-Squared	0.99	0.99
Up Market Capture	102.92	100.72
Down Market Capture	102.36	100.29
Consistency	55.56	51.67

vs. Risk Free

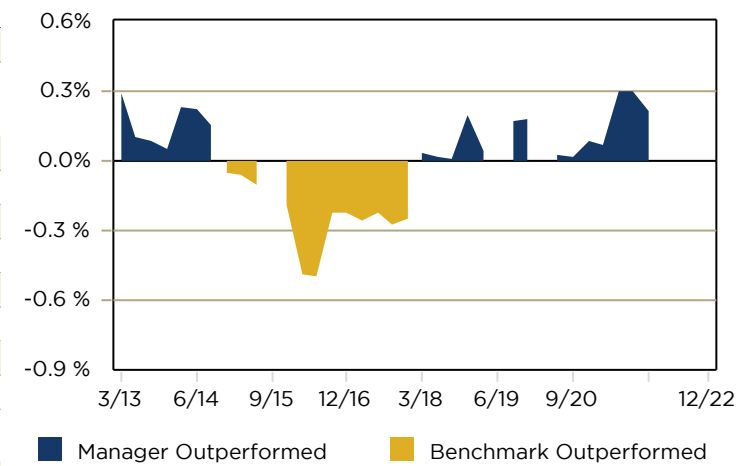
Sharpe Ratio	0.00	0.04
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Asset Allocation

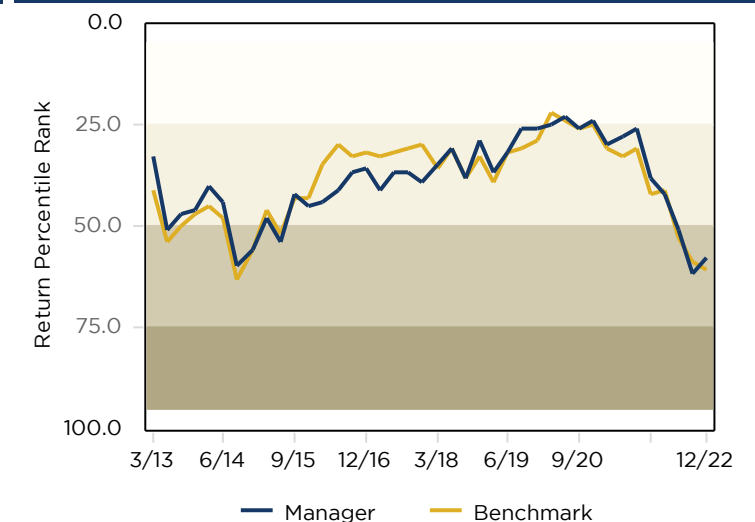


■ Equity ■ Fixed Income
■ Cash ■ Other

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking





T. Rowe Price Capital Appreciation (PRWCX)

Index: 40% BBg US Agg | 60% SP500
 Category: Allocation--50% to 70% Equity
 As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	5.50 (73)	-11.94 (24)	-11.94 (24)	7.24 (2)	9.11 (1)	10.83 (1)	18.53 (4)	18.16 (9)	24.61 (2)	0.62 (2)
Benchmark	5.39	-15.79	-15.79	3.83	5.96	8.08	15.86	14.73	22.18	-2.35
Peer Group	6.48	-14.97	-14.97	2.92	4.08	6.29	13.11	12.35	19.28	-5.88
Population	778	769	769	732	716	623	777	778	812	847

Fund Information

Fund Inception	06-1986
Fund Assets	46,010 Million
Portfolio Assets	26,517 Million
Total # of Holdings	272
% Assets in Top 10 Holdings	33.5 %
PM	Giroux,D
PM Tenure	16 Years 6 Months
Turnover	47.8 %
Gross Expense (%)	0.7 %
Net Expense (%)	0.7 %
New Investors	Closed

Equity Characteristics

Avg. Market Cap	115,535 (Million)
Price/Earnings	18
Price/Book	3

Top Holdings (%)

Microsoft Corp	6.0
United States Treasury Notes 2.75%	5.1
T. Rowe Price Gov. Reserve	3.8
Apple Inc	3.2
Yum Brands Inc	2.8
PNC Financial Services Group Inc	2.7
Amazon.com Inc	2.6
Fortive Corp	2.5
TE Connectivity Ltd	2.5
PerkinElmer Inc	2.4

Top Countries (%)

United States	94.1
Netherlands	2.1
Canada	1.7
Luxembourg	0.8

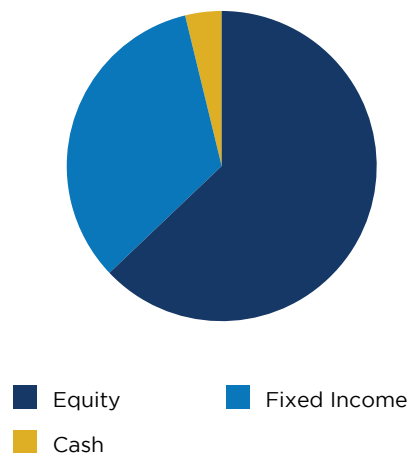
Fund Statistics

	3 Years	10 Years
Standard Deviation	15.07	10.15
vs. 40% BBg US Agg 60% SP500		
Beta	1.06	1.05
Alpha	3.16	2.21
Information Ratio	1.00	1.07
Tracking Error	3.44	2.42
R-Squared	0.95	0.95
Up Market Capture	113.10	111.53
Down Market Capture	97.30	93.08
Consistency	69.44	64.17

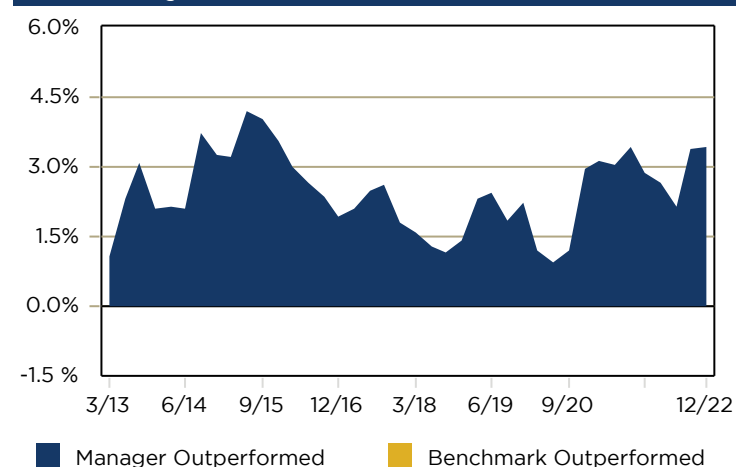
vs. Risk Free

Sharpe Ratio	0.49	0.99
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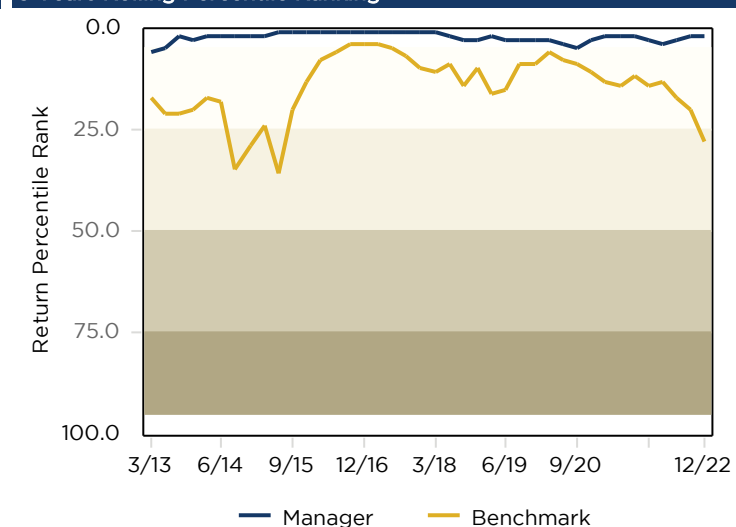
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	10.17 (13)	-18.45 (37)	-18.45 (37)	4.57 (21)	5.65 (23)	9.12 (24)	18.92 (39)	17.91 (45)	27.45 (20)	-9.65 (57)
Benchmark	9.73	-17.96	-17.96	4.67	6.05	9.23	19.20	17.28	27.65	-8.38
Peer Group	8.66	-19.16	-19.16	3.64	4.95	8.33	18.50	16.60	25.79	-9.29
Population	204	203	203	191	191	167	206	202	213	237

Fund Information

Fund Inception	04-2015
Fund Assets	103,262 Million
Portfolio Assets	61,829 Million
Total # of Holdings	9530
% Assets in Top 10 Holdings	13.3 %
PM	Chalupnik,D/Cunniff,J/Malik,S
PM Tenure	
Turnover	50.0 %
Gross Expense (%)	0.2 %
Net Expense (%)	0.2 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	67,717 (Million)
Price/Earnings	15
Price/Book	2
Dividend Yield	2.5 %

Top Holdings (%)

Microsoft Corp	3.4
Apple Inc	3.1
Amazon.com Inc	1.5
UnitedHealth Group Inc	1.0
Mastercard Inc Class A	0.8
Alphabet Inc Class A	0.8
Alphabet Inc Class C	0.8
Taiwan Semiconductor Manufacturing	0.7
Tesla Inc	0.6
Visa Inc Class A	0.6

Top Countries (%)

United States	62.5
Japan	5.1
United Kingdom	4.6
Canada	3.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	20.76	14.72

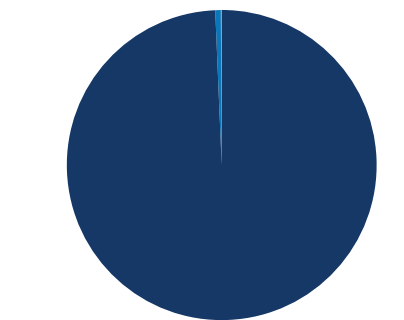
vs. 65% R3000 | 35% ACWI ex US

	3 Years	10 Years
Beta	1.03	1.02
Alpha	-0.15	-0.25
Information Ratio	0.01	-0.06
Tracking Error	1.16	0.94
R-Squared	1.00	1.00
Up Market Capture	102.74	101.16
Down Market Capture	103.39	102.32
Consistency	52.78	53.33

vs. Risk Free

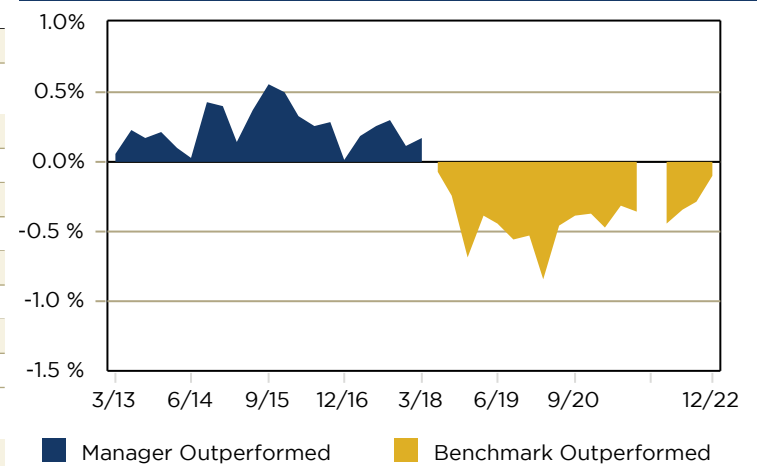
	3 Years	10 Years
Sharpe Ratio	0.28	0.62

Asset Allocation

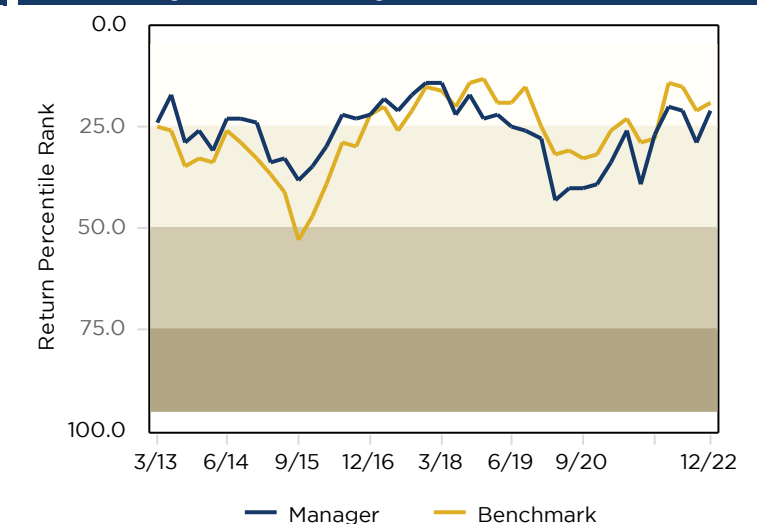


■ Equity ■ Cash
■ Other ■ Fixed Income

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking





TIAA-CREF Lifecycle Retire Income Instl (TLRIX)

Index: CREF Lifecycle Composite Income

Category: Target-Date Retirement

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	4.62 (30)	-12.51 (47)	-12.51 (47)	1.35 (6)	2.91 (6)	4.67 (2)	7.08 (21)	11.10 (12)	15.30 (14)	-3.84 (66)
Benchmark	4.91	-13.40	-13.40	1.08	3.01	4.56	6.40	12.08	15.70	-2.94
Peer Group	3.97	-12.74	-12.74	0.01	1.87	3.34	5.82	9.06	12.92	-3.38
Population	163	163	163	160	142	111	174	183	198	202

Fund Information

Fund Inception	11-2007
Fund Assets	468 Million
Portfolio Assets	192 Million
Total # of Holdings	21
% Assets in Top 10 Holdings	78.7 %
PM	Cunniff,J/Sedmak,S
PM Tenure	
Turnover	28.0 %
Gross Expense (%)	0.5 %
Net Expense (%)	0.4 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	64,154 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

TIAA-CREF Core Bond W	21.0
TIAA-CREF Core Plus Bond W	13.1
TIAA-CREF Short-Term Bond W	10.1
TIAA-CREF Inflation Link Bd W	10.1
Tiaa Cref Real Property Fnd Lp	6.3
TIAA-CREF International Eq W	5.1
TIAA-CREF Large-Cap Value W	3.6
Nuveen Dividend Value R6	3.6
TIAA-CREF International Opps W	3.0
TIAA-CREF Growth & Income W	2.9

Top Countries (%)

United States	75.0
United Kingdom	3.1
Japan	2.3
Canada	1.6

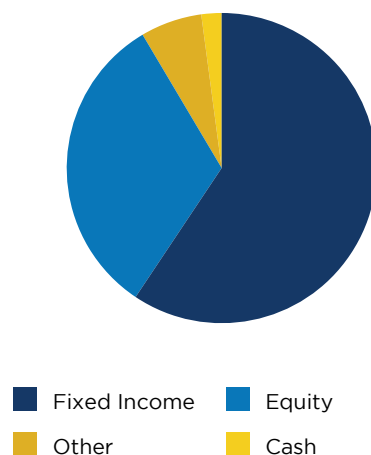
Fund Statistics

	3 Years	10 Years
Standard Deviation	10.13	6.95
vs. CREF Lifecycle Composite Income		
Beta	0.96	0.99
Alpha	0.34	0.15
Information Ratio	0.09	0.07
Tracking Error	3.11	1.82
R-Squared	0.91	0.93
Up Market Capture	93.34	99.16
Down Market Capture	90.41	96.77
Consistency	55.56	51.67

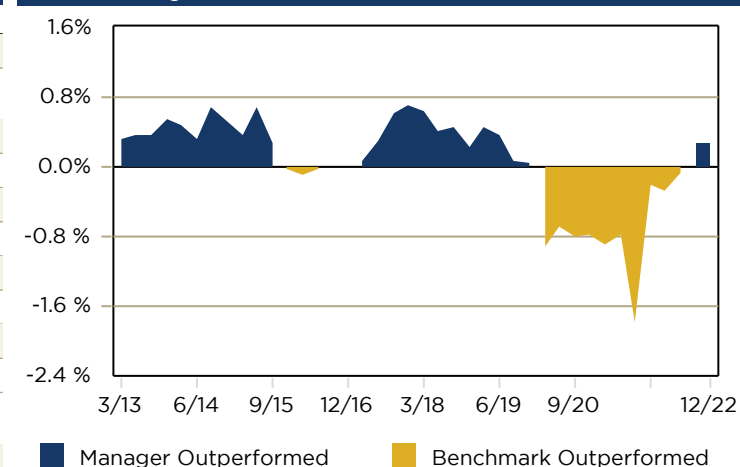
vs. Risk Free

Sharpe Ratio	0.11	0.58
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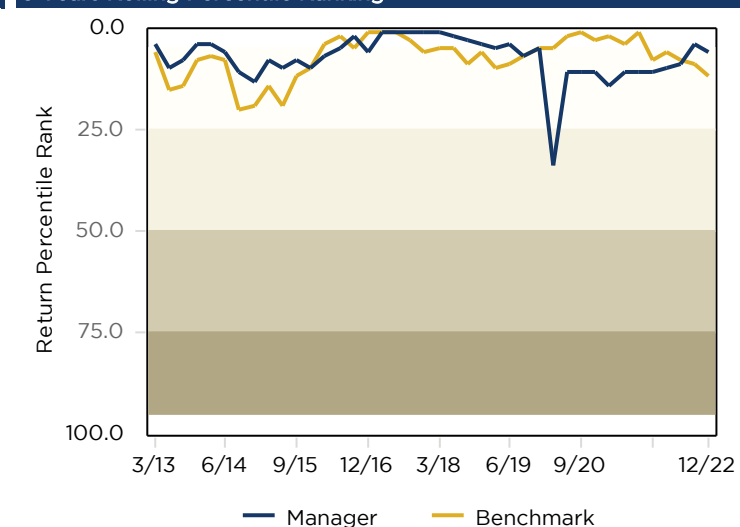
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking





TIAA-CREF Lifecycle 2010 Institutional (TCTIX)

Index: CREF Lifecycle Composite 2010

Category: Target-Date 2000-2010

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	4.54 (46)	-12.40 (45)	-12.40 (45)	1.36 (24)	2.93 (31)	4.98 (13)	6.88 (40)	11.24 (15)	15.43 (11)	-3.92 (74)
Benchmark	4.71	-13.16	-13.16	1.10	3.59	5.19	6.28	11.95	15.94	-0.44
Peer Group	4.42	-12.61	-12.61	0.66	2.64	4.51	5.65	10.30	13.90	-3.38
Population	127	127	127	117	89	73	123	124	152	149

Fund Information

Fund Inception	01-2007
Fund Assets	911 Million
Portfolio Assets	608 Million
Total # of Holdings	21
% Assets in Top 10 Holdings	79.1 %
PM	Cunniff,J/Sedmak,S
PM Tenure	
Turnover	21.0 %
Gross Expense (%)	0.5 %
Net Expense (%)	0.4 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	63,739 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

TIAA-CREF Core Bond W	21.0
TIAA-CREF Core Plus Bond W	13.1
TIAA-CREF Short-Term Bond W	12.6
TIAA-CREF Inflation Link Bd W	10.1
TIAA-CREF International Eq W	4.9
Tiaa Cref Real Property Fnd Lp	4.7
TIAA-CREF Large-Cap Value W	3.5
Nuveen Dividend Value R6	3.5
TIAA-CREF International Opps W	2.9
Nuveen Growth Opportunities ETF	2.8

Top Countries (%)

United States	75.2
United Kingdom	3.0
Japan	2.3
Canada	1.7

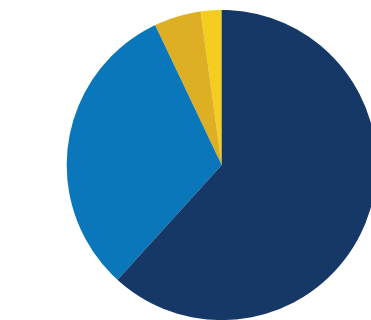
Fund Statistics

	3 Years	10 Years
Standard Deviation	11.80	7.81
vs. CREF Lifecycle Composite 2010		
Beta	1.02	1.04
Alpha	0.30	-0.38
Information Ratio	0.11	-0.07
Tracking Error	3.02	2.06
R-Squared	0.93	0.93
Up Market Capture	94.98	99.30
Down Market Capture	90.38	102.35
Consistency	66.67	47.50

vs. Risk Free

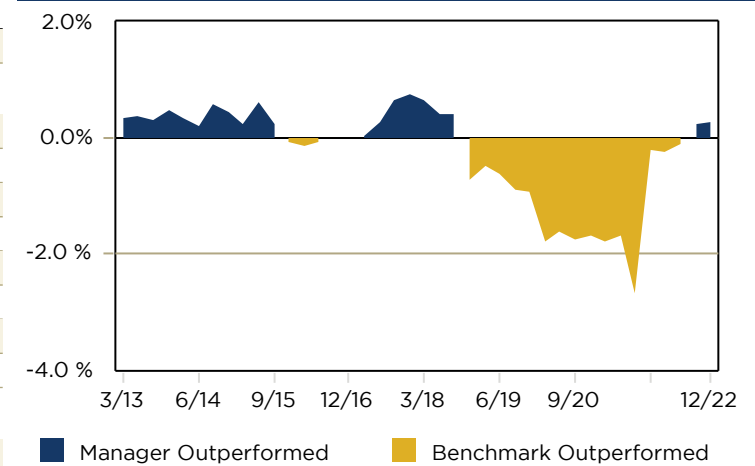
Sharpe Ratio	0.11	0.56
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Asset Allocation

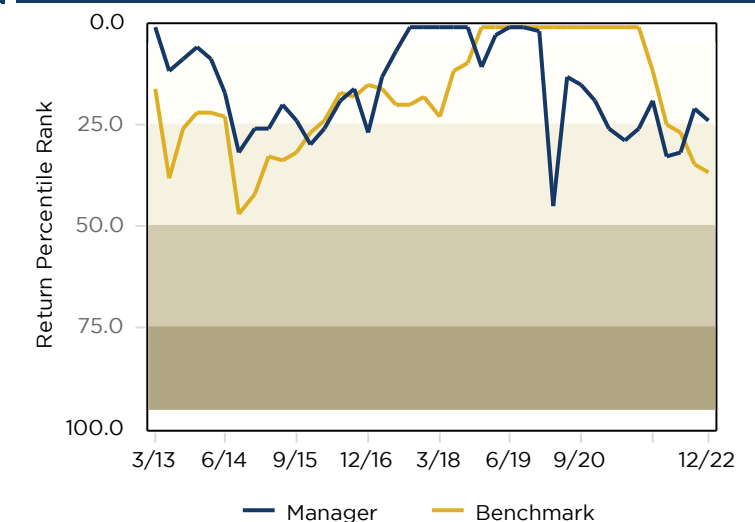


■ Fixed Income ■ Equity
■ Other ■ Cash

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking





TIAA-CREF Lifecycle 2015 Institutional (TCNIX)

Index: CREF Lifecycle Composite 2015

Category: Target-Date 2015

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	4.89 (68)	-12.85 (28)	-12.85 (28)	1.63 (27)	3.17 (22)	5.44 (17)	7.74 (53)	11.80 (30)	16.51 (24)	-4.41 (70)
Benchmark	5.14	-13.77	-13.77	1.24	3.23	5.35	6.91	12.57	17.05	-3.48
Peer Group	5.16	-13.63	-13.63	1.12	2.86	5.13	7.86	11.14	15.26	-3.89
Population	124	124	124	117	103	62	125	128	142	147

Fund Information

Fund Inception	01-2007
Fund Assets	1,286 Million
Portfolio Assets	874 Million
Total # of Holdings	21
% Assets in Top 10 Holdings	77.6 %
PM	Cunniff,J/Sedmak,S
PM Tenure	
Turnover	20.0 %
Gross Expense (%)	0.5 %
Net Expense (%)	0.4 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	64,369 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

TIAA-CREF Core Bond W	20.7
TIAA-CREF Core Plus Bond W	12.9
TIAA-CREF Short-Term Bond W	9.1
TIAA-CREF Inflation Link Bd W	9.1
Tiaa Cref Real Property Fnd Lp	6.3
TIAA-CREF International Eq W	5.5
TIAA-CREF Large-Cap Value W	3.9
Nuveen Dividend Value R6	3.8
TIAA-CREF International Opps W	3.2
Nuveen Growth Opportunities ETF	3.2

Top Countries (%)

United States	74.2
United Kingdom	3.3
Japan	2.4
Canada	1.6

Fund Statistics

	3 Years	10 Years
Standard Deviation	10.87	7.74

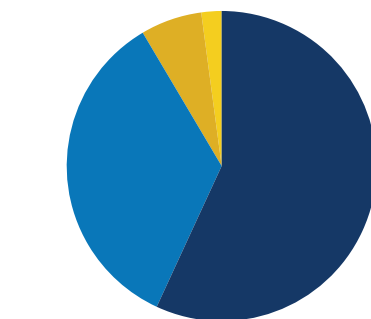
vs. CREF Lifecycle Composite 2015

Beta	0.97	1.00
Alpha	0.46	0.11
Information Ratio	0.12	0.05
Tracking Error	3.32	1.95
R-Squared	0.91	0.94
Up Market Capture	93.71	99.18
Down Market Capture	90.02	97.19
Consistency	47.22	50.00

vs. Risk Free

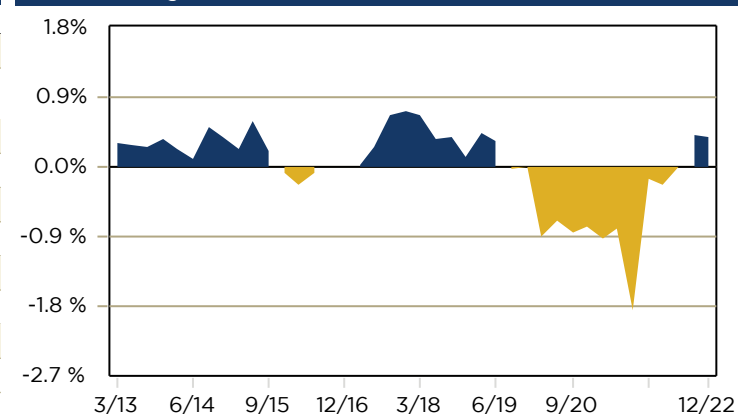
Sharpe Ratio	0.14	0.62
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Asset Allocation



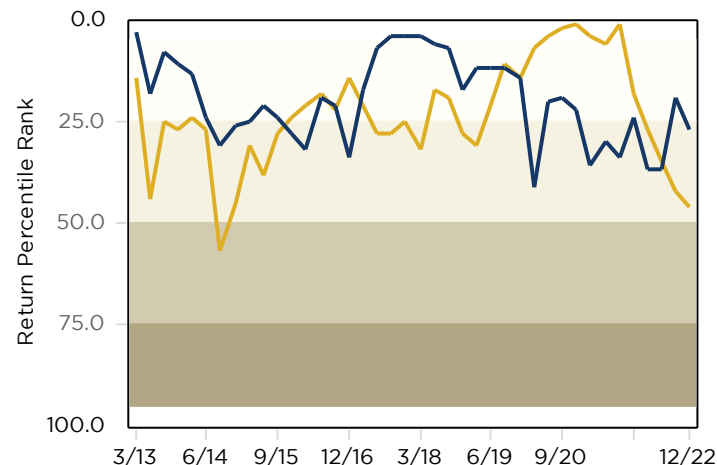
■ Fixed Income ■ Equity
■ Other ■ Cash

3 Years Rolling Excess Performance



■ Manager Outperformed ■ Benchmark Outperformed

3 Years Rolling Percentile Ranking



— Manager — Benchmark



TIAA-CREF Lifecycle 2020 Institutional (TCWIX)

Index: CREF Lifecycle Composite 2020

Category: Target-Date 2020

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	5.21 (63)	-13.52 (28)	-13.52 (28)	1.77 (28)	3.32 (27)	5.94 (15)	8.46 (56)	12.38 (29)	17.79 (22)	-5.18 (69)
Benchmark	5.56	-14.32	-14.32	1.38	3.43	5.89	7.51	13.13	18.30	-3.97
Peer Group	5.54	-14.43	-14.43	1.25	3.08	5.45	8.63	10.96	16.19	-4.54
Population	152	152	152	145	131	81	175	183	231	251

Fund Information

Fund Inception	01-2007
Fund Assets	2,844 Million
Portfolio Assets	2,027 Million
Total # of Holdings	21
% Assets in Top 10 Holdings	75.4 %
PM	Cunniff,J/Sedmak,S
PM Tenure	
Turnover	22.0 %
Gross Expense (%)	0.5 %
Net Expense (%)	0.4 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	64,828 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

TIAA-CREF Core Bond W	20.2
TIAA-CREF Core Plus Bond W	12.6
TIAA-CREF Short-Term Bond W	7.1
TIAA-CREF Inflation Link Bd W	7.0
Tiaa Cref Real Property Fnd Lp	6.3
TIAA-CREF International Eq W	6.2
TIAA-CREF Large-Cap Value W	4.4
Nuveen Dividend Value R6	4.3
TIAA-CREF International Opps W	3.7
Nuveen Growth Opportunities ETF	3.7

Top Countries (%)

United States	72.9
United Kingdom	3.6
Japan	2.7
Canada	1.6

Fund Statistics

	3 Years	10 Years
Standard Deviation	11.71	8.48

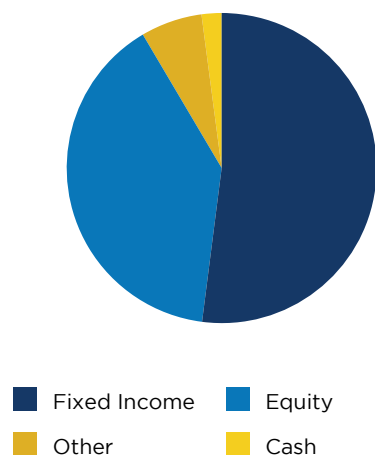
vs. CREF Lifecycle Composite 2020

Beta	0.96	0.99
Alpha	0.48	0.10
Information Ratio	0.11	0.03
Tracking Error	3.66	2.15
R-Squared	0.90	0.94
Up Market Capture	93.23	98.41
Down Market Capture	89.66	96.47
Consistency	50.00	47.50

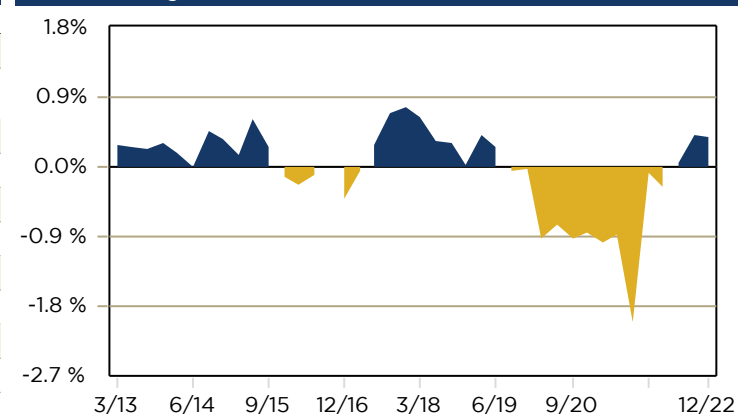
vs. Risk Free

Sharpe Ratio	0.15	0.63
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Asset Allocation

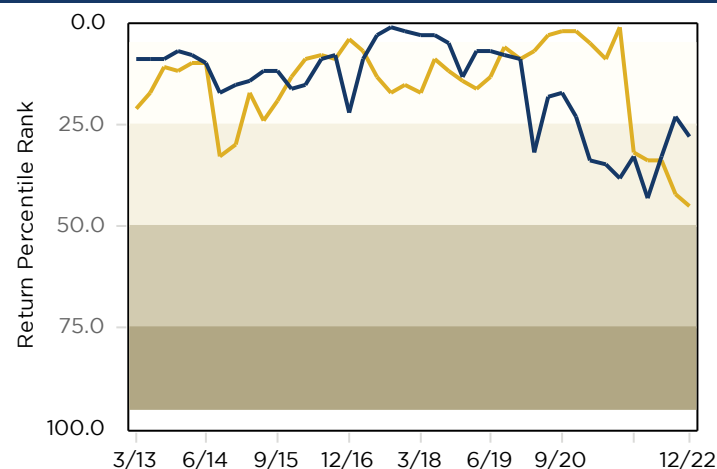


3 Years Rolling Excess Performance



■ Manager Outperformed ■ Benchmark Outperformed

3 Years Rolling Percentile Ranking



— Manager — Benchmark



TIAA-CREF Lifecycle 2025 Institutional (TCYIX)

Index: CREF Lifecycle Composite 2025

Category: Target-Date 2025

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	5.90 (45)	-14.32 (33)	-14.32 (33)	2.21 (20)	3.68 (25)	6.57 (13)	9.85 (47)	13.44 (28)	19.44 (23)	-6.05 (73)
Benchmark	6.10	-14.98	-14.98	1.69	3.77	6.54	8.51	13.98	20.00	-4.66
Peer Group	5.77	-15.49	-15.49	1.33	3.25	5.68	9.75	12.46	18.33	-5.38
Population	221	221	221	211	186	144	228	230	244	239

Fund Information

Fund Inception	01-2007
Fund Assets	4,190 Million
Portfolio Assets	3,106 Million
Total # of Holdings	21
% Assets in Top 10 Holdings	72.7 %
PM	Cunniff,J/Erickson,H/Sedmak,S
PM Tenure	
Turnover	25.0 %
Gross Expense (%)	0.6 %
Net Expense (%)	0.4 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	65,186 (Million)
Price/Earnings	14
Price/Book	2
Dividend Yield	2.6 %

Top Holdings (%)

TIAA-CREF Core Bond W	18.6
TIAA-CREF Core Plus Bond W	11.6
TIAA-CREF International Eq W	7.3
Tiaa Cref Real Property Fnd Lp	6.3
TIAA-CREF Large-Cap Value W	5.2
TIAA-CREF Short-Term Bond W	5.1
Nuveen Dividend Value R6	5.1
TIAA-CREF Inflation Link Bd W	5.0
Nuveen Growth Opportunities ETF	4.4
TIAA-CREF Large-Cap Growth W	4.3

Top Countries (%)

United States	71.3
United Kingdom	4.0
Japan	3.0
Netherlands	1.6

Fund Statistics

	3 Years	10 Years
Standard Deviation	13.14	9.57

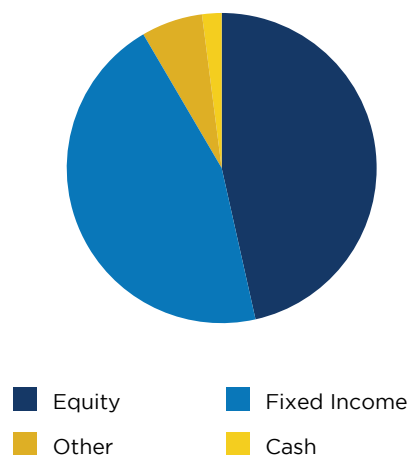
vs. CREF Lifecycle Composite 2025

Beta	0.97	1.00
Alpha	0.62	0.04
Information Ratio	0.14	0.03
Tracking Error	4.03	2.37
R-Squared	0.91	0.94
Up Market Capture	94.64	99.40
Down Market Capture	90.49	98.20
Consistency	58.33	50.83

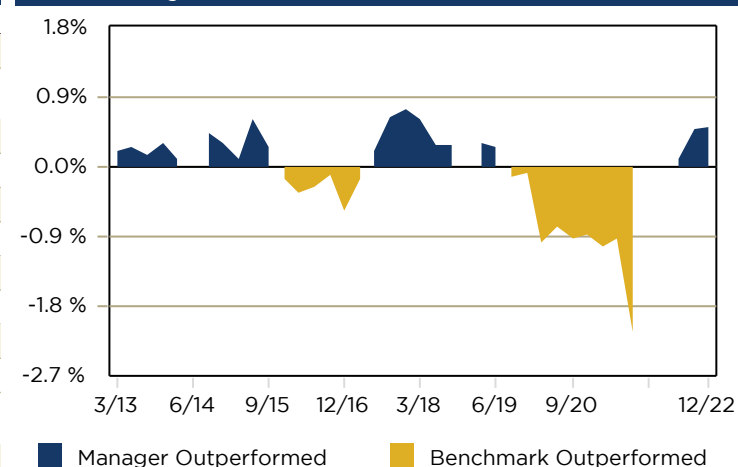
vs. Risk Free

Sharpe Ratio	0.18	0.63
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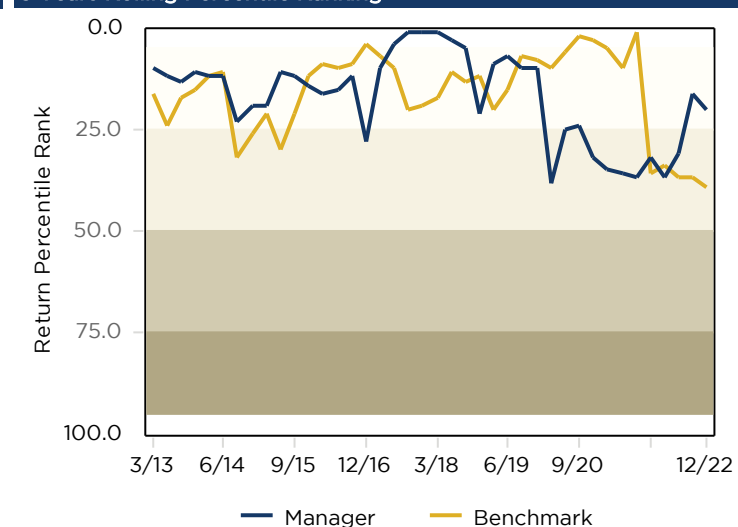
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	6.71 (48)	-15.16 (27)	-15.16 (27)	2.63 (20)	4.02 (34)	7.17 (17)	11.23 (61)	14.54 (23)	21.27 (28)	-7.09 (71)
Benchmark	6.75	-15.69	-15.69	1.99	4.09	7.16	9.58	14.83	21.71	-5.35
Peer Group	6.64	-16.35	-16.35	1.98	3.76	6.43	11.54	13.10	20.37	-6.49
Population	221	221	221	211	183	131	229	240	250	251

Fund Information

Fund Inception	01-2007
Fund Assets	4,655 Million
Portfolio Assets	3,496 Million
Total # of Holdings	21
% Assets in Top 10 Holdings	73.6 %
PM	Cunniff,J/Sedmak,S
PM Tenure	
Turnover	26.0 %
Gross Expense (%)	0.6 %
Net Expense (%)	0.4 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	65,647 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

TIAA-CREF Core Bond W	15.8
TIAA-CREF Core Plus Bond W	9.9
TIAA-CREF International Eq W	8.7
Tiaa Cref Real Property Fnd Lp	6.3
TIAA-CREF Large-Cap Value W	6.1
Nuveen Dividend Value R6	6.0
Nuveen Growth Opportunities ETF	5.3
TIAA-CREF Large-Cap Growth W	5.2
TIAA-CREF International Opps W	5.2
Nuveen Dividend Growth R6	5.1

Top Countries (%)

United States	69.3
United Kingdom	4.4
Japan	3.4
Netherlands	1.8

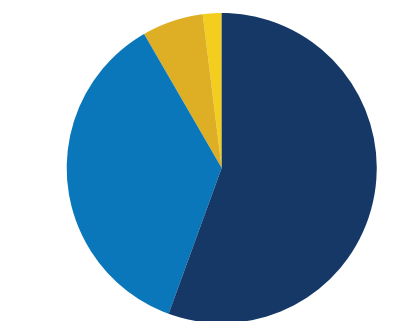
Fund Statistics

	3 Years	10 Years
Standard Deviation	14.58	10.67
vs. CREF Lifecycle Composite 2030		
Beta	0.97	1.01
Alpha	0.76	0.00
Information Ratio	0.15	0.02
Tracking Error	4.56	2.67
R-Squared	0.90	0.94
Up Market Capture	95.06	99.44
Down Market Capture	90.51	98.51
Consistency	55.56	50.00

vs. Risk Free

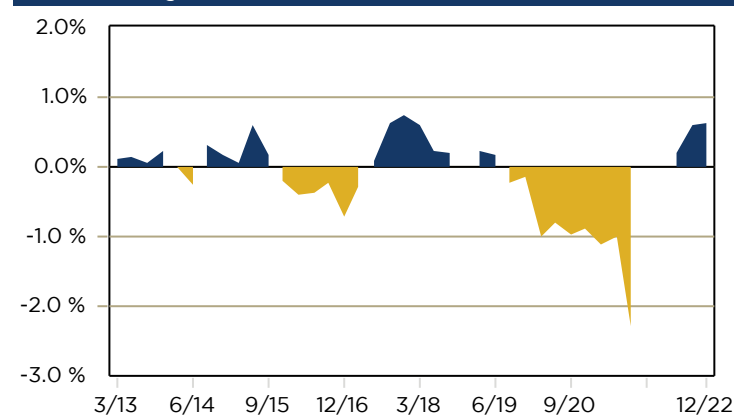
Sharpe Ratio	0.20	0.63
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Asset Allocation



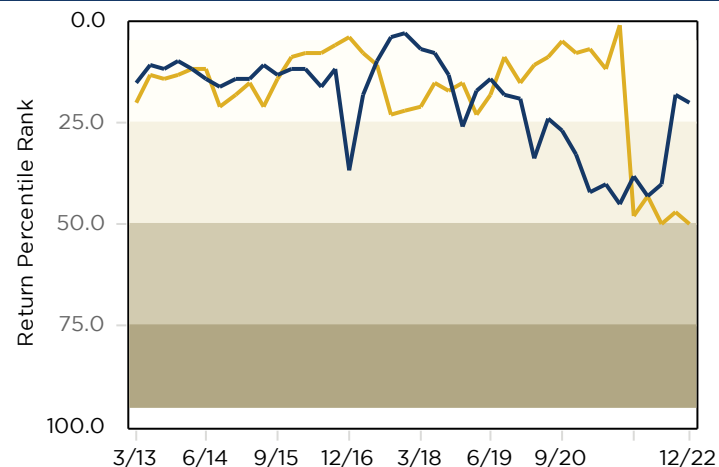
■ Equity ■ Fixed Income
■ Other ■ Cash

3 Years Rolling Excess Performance



■ Manager Outperformed ■ Benchmark Outperformed

3 Years Rolling Percentile Ranking



— Manager — Benchmark

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	7.60 (52)	-15.98 (23)	-15.98 (23)	3.03 (30)	4.35 (42)	7.75 (20)	12.70 (82)	15.48 (28)	23.04 (29)	-8.04 (78)
Benchmark	7.56	-16.29	-16.29	2.31	4.43	7.77	10.65	15.63	23.40	-6.03
Peer Group	7.64	-17.13	-17.13	2.69	4.20	7.01	13.87	14.04	22.30	-7.35
Population	214	214	214	204	180	138	221	223	238	231

Fund Information

Fund Inception	01-2007
Fund Assets	4,823 Million
Portfolio Assets	3,725 Million
Total # of Holdings	21
% Assets in Top 10 Holdings	75.8 %
PM	Cunniff,J/Sedmak,S
PM Tenure	
Turnover	27.0 %
Gross Expense (%)	0.6 %
Net Expense (%)	0.4 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	66,009 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

TIAA-CREF Core Bond W	12.0
TIAA-CREF International Eq W	10.5
TIAA-CREF Core Plus Bond W	7.5
TIAA-CREF Large-Cap Value W	7.3
Nuveen Dividend Value R6	7.2
Nuveen Growth Opportunities ETF	6.4
TIAA-CREF Large-Cap Growth W	6.4
Tiaa Cref Real Property Fnd Lp	6.3
TIAA-CREF International Opps W	6.2
Nuveen Dividend Growth R6	6.2

Top Countries (%)

United States	67.0
United Kingdom	5.0
Japan	3.9
Switzerland	2.0

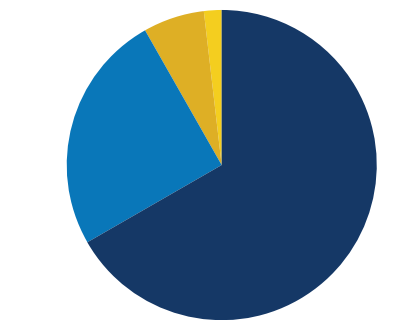
Fund Statistics

	3 Years	10 Years
Standard Deviation	16.16	11.82
vs. CREF Lifecycle Composite 2035		
Beta	0.98	1.01
Alpha	0.85	-0.05
Information Ratio	0.15	0.01
Tracking Error	5.04	2.95
R-Squared	0.90	0.94
Up Market Capture	96.69	99.86
Down Market Capture	92.21	99.42
Consistency	58.33	52.50

vs. Risk Free

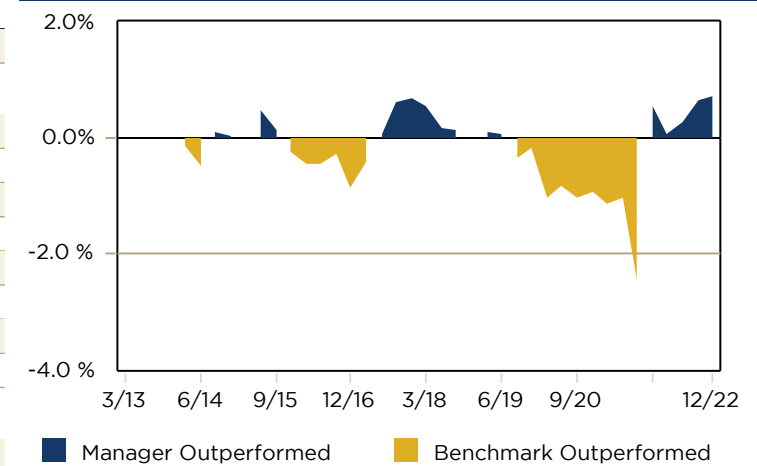
Sharpe Ratio	0.22	0.63
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Asset Allocation

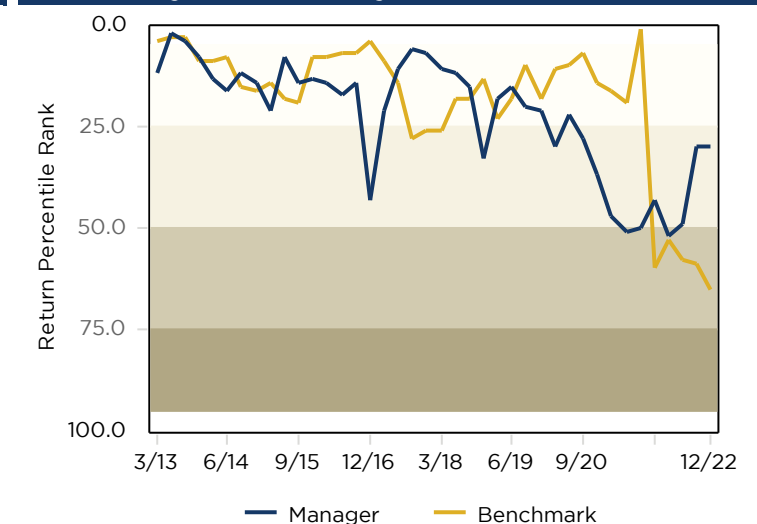


■ Equity ■ Fixed Income
■ Other ■ Cash

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking





TIAA-CREF Lifecycle 2040 Institutional (TCOIX)

Index: CREF Lifecycle Composite 2040

Category: Target-Date 2040

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	8.33 (56)	-16.67 (25)	-16.67 (25)	3.52 (30)	4.71 (42)	8.23 (18)	14.33 (84)	16.44 (27)	24.56 (23)	-8.92 (82)
Benchmark	8.33	-16.73	-16.73	2.71	4.78	8.28	11.88	16.31	24.97	-6.72
Peer Group	8.43	-17.85	-17.85	3.14	4.56	7.50	15.78	14.73	23.63	-8.02
Population	216	216	216	205	183	131	223	234	250	251

Fund Information

Fund Inception	01-2007
Fund Assets	5,713 Million
Portfolio Assets	4,422 Million
Total # of Holdings	19
% Assets in Top 10 Holdings	79.0 %
PM	Cunniff,J/Sedmak,S
PM Tenure	
Turnover	29.0 %
Gross Expense (%)	0.6 %
Net Expense (%)	0.4 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	66,324 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

TIAA-CREF International Eq W	12.2
TIAA-CREF Large-Cap Value W	8.5
Nuveen Dividend Value R6	8.3
TIAA-CREF Large-Cap Growth W	7.5
Nuveen Growth Opportunities ETF	7.5
TIAA-CREF International Opps W	7.2
Nuveen Dividend Growth R6	7.2
TIAA-CREF Growth & Income W	7.2
TIAA-CREF Core Bond W	7.1
Tiaa Cref Real Property Fnd Lp	6.3

Top Countries (%)

United States	65.0
United Kingdom	5.5
Japan	4.4
Switzerland	2.2

Fund Statistics

	3 Years	10 Years
Standard Deviation	17.56	12.86

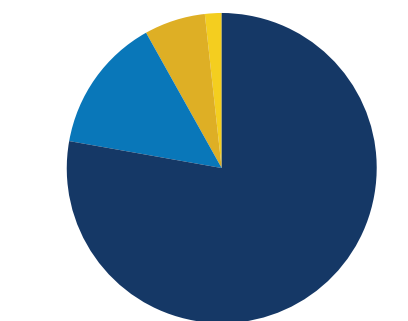
vs. CREF Lifecycle Composite 2040

Beta	0.98	1.01
Alpha	0.98	-0.04
Information Ratio	0.16	0.01
Tracking Error	5.59	3.27
R-Squared	0.90	0.94
Up Market Capture	96.58	99.82
Down Market Capture	91.88	99.52
Consistency	52.78	49.17

vs. Risk Free

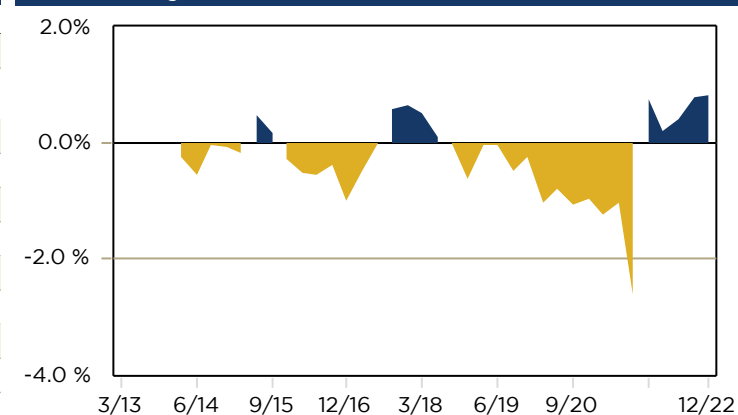
Sharpe Ratio	0.24	0.62
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Asset Allocation



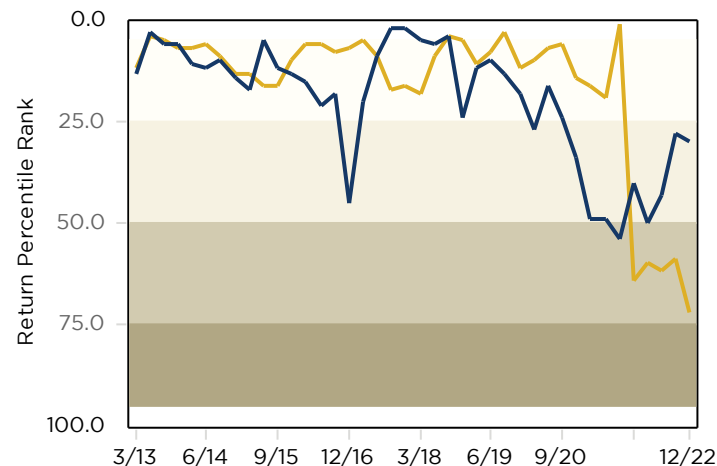
■ Equity ■ Fixed Income
■ Other ■ Cash

3 Years Rolling Excess Performance



■ Manager Outperformed ■ Benchmark Outperformed

3 Years Rolling Percentile Ranking



— Manager — Benchmark



TIAA-CREF Lifecycle 2045 Institutional (TTFIX)

Index: CREF Lifecycle Composite 2045

Category: Target-Date 2045

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	8.94 (49)	-17.32 (30)	-17.32 (30)	3.99 (19)	5.06 (32)	8.50 (14)	15.94 (71)	17.31 (23)	25.87 (16)	-9.59 (89)
Benchmark	8.78	-17.32	-17.32	3.07	5.10	8.55	13.13	17.08	26.25	-7.27
Peer Group	8.93	-18.19	-18.19	3.44	4.83	7.71	16.73	15.35	24.58	-8.33
Population	214	214	214	204	180	138	221	223	238	231

Fund Information

Fund Inception	11-2007
Fund Assets	3,883 Million
Portfolio Assets	3,105 Million
Total # of Holdings	19
% Assets in Top 10 Holdings	83.2 %
PM	Cunniff,J/Sedmak,S
PM Tenure	
Turnover	29.0 %
Gross Expense (%)	0.6 %
Net Expense (%)	0.5 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	66,494 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

TIAA-CREF International Eq W	13.3
TIAA-CREF Large-Cap Value W	9.2
Nuveen Dividend Value R6	9.0
TIAA-CREF Large-Cap Growth W	8.2
Nuveen Growth Opportunities ETF	8.2
TIAA-CREF International Opps W	7.9
Nuveen Dividend Growth R6	7.9
TIAA-CREF Growth & Income W	7.9
Tiaa Cref Real Property Fnd Lp	6.3
TIAA-CREF Emerging Markets Eq W	5.3

Top Countries (%)

United States	63.9
United Kingdom	5.8
Japan	4.7
Switzerland	2.4

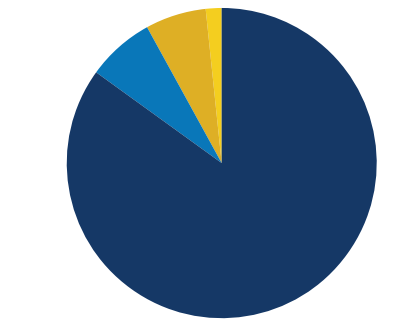
Fund Statistics

	3 Years	10 Years
Standard Deviation	18.91	13.61
vs. CREF Lifecycle Composite 2045		
Beta	0.97	1.01
Alpha	1.12	-0.02
Information Ratio	0.16	0.01
Tracking Error	6.10	3.54
R-Squared	0.90	0.93
Up Market Capture	96.84	99.82
Down Market Capture	91.94	99.51
Consistency	55.56	50.83

vs. Risk Free

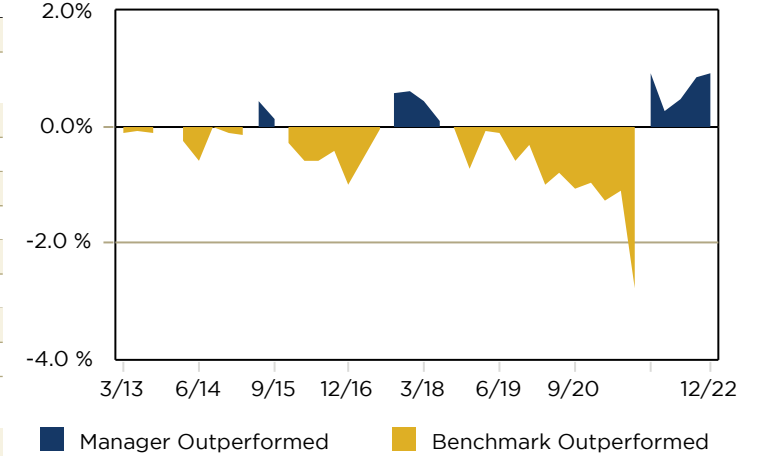
Sharpe Ratio	0.26	0.61
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Asset Allocation

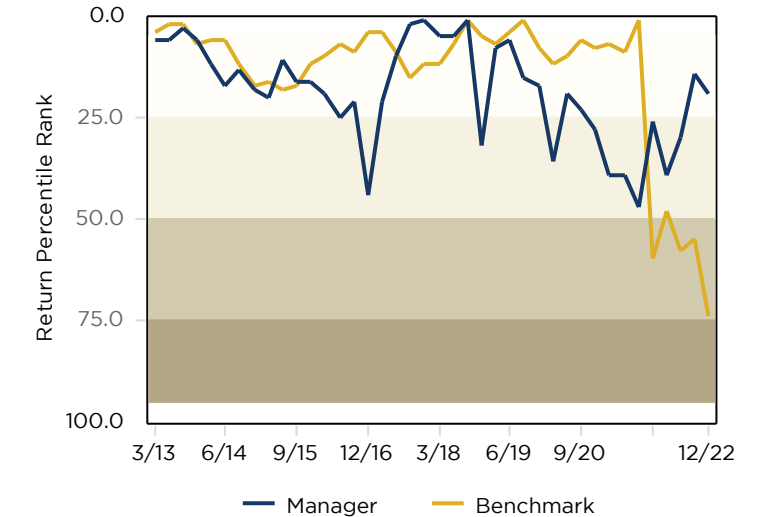


■ Equity ■ Fixed Income
■ Other ■ Cash

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking





TIAA-CREF Lifecycle 2050 Institutional (TFTIX)

Index: CREF Lifecycle Composite 2050

Category: Target-Date 2050

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	9.21 (45)	-17.65 (34)	-17.65 (34)	4.05 (17)	5.09 (34)	8.56 (14)	16.48 (67)	17.44 (23)	26.19 (14)	-9.82 (87)
Benchmark	8.96	-17.63	-17.63	3.11	5.13	8.61	13.48	17.25	26.50	-7.38
Peer Group	9.15	-18.33	-18.33	3.55	4.90	7.83	17.00	15.57	24.69	-8.62
Population	215	215	215	205	183	131	223	233	250	251

Fund Information

Fund Inception	11-2007
Fund Assets	2,938 Million
Portfolio Assets	2,382 Million
Total # of Holdings	19
% Assets in Top 10 Holdings	86.1 %
PM	Cunniff,J/Sedmak,S
PM Tenure	
Turnover	27.0 %
Gross Expense (%)	0.7 %
Net Expense (%)	0.5 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	66,563 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

TIAA-CREF International Eq W	13.8
TIAA-CREF Large-Cap Value W	9.6
Nuveen Dividend Value R6	9.4
TIAA-CREF Large-Cap Growth W	8.5
Nuveen Growth Opportunities ETF	8.5
TIAA-CREF International Opps W	8.2
TIAA-CREF Growth & Income W	8.2
Nuveen Dividend Growth R6	8.2
Tiaa Cref Real Property Fnd Lp	6.3
TIAA-CREF Emerging Markets Eq W	5.5

Top Countries (%)

United States	63.4
United Kingdom	6.0
Japan	4.9
Switzerland	2.5

Fund Statistics

	3 Years	10 Years
Standard Deviation	19.24	13.80

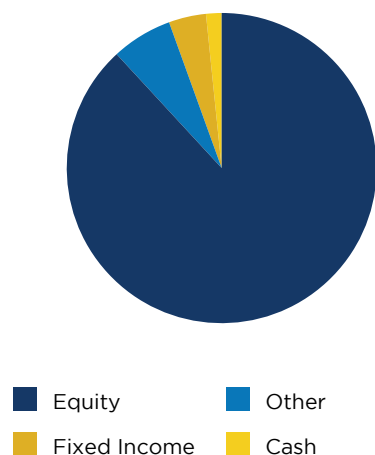
vs. CREF Lifecycle Composite 2050

Beta	0.97	1.00
Alpha	1.16	0.00
Information Ratio	0.16	0.01
Tracking Error	6.31	3.65
R-Squared	0.89	0.93
Up Market Capture	96.71	99.72
Down Market Capture	91.76	99.32
Consistency	55.56	50.00

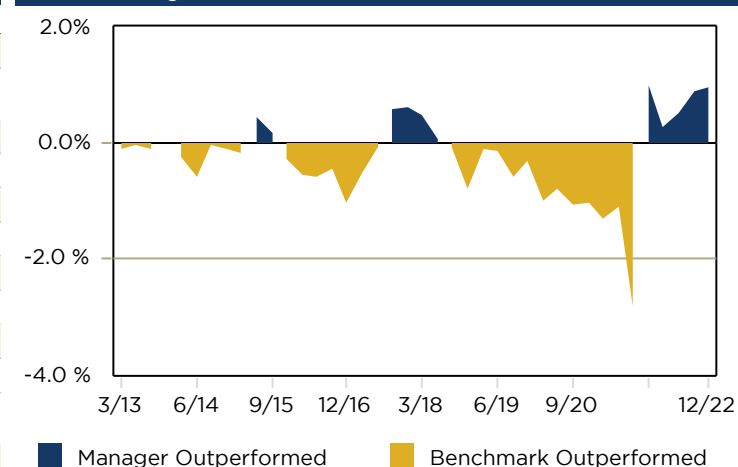
vs. Risk Free

Sharpe Ratio	0.26	0.61
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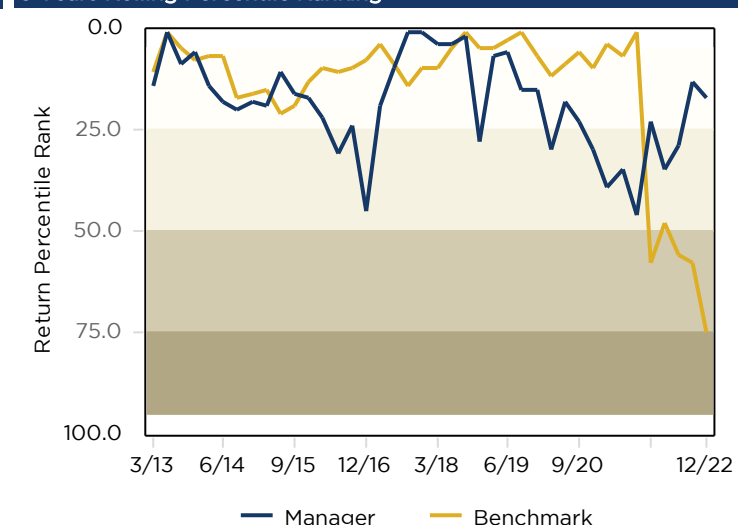
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking





TIAA-CREF Lifecycle 2055 Institutional (TTRIX)

Index: CREF Lifecycle Composite 2055

Category: Target-Date 2055

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	9.28 (43)	-17.73 (33)	-17.73 (33)	4.09 (16)	5.13 (34)	8.61 (15)	16.65 (67)	17.52 (25)	26.36 (15)	-9.86 (88)
Benchmark	9.06	-17.70	-17.70	3.16	5.18	8.68	13.68	17.35	26.74	-7.48
Peer Group	9.21	-18.38	-18.38	3.58	4.91	7.96	17.19	15.69	24.82	-8.60
Population	214	214	214	204	180	113	221	223	238	231

Fund Information

Fund Inception	04-2011
Fund Assets	1,352 Million
Portfolio Assets	1,096 Million
Total # of Holdings	19
% Assets in Top 10 Holdings	87.2 %
PM	Cunniff,J/Sedmak,S
PM Tenure	
Turnover	26.0 %
Gross Expense (%)	0.7 %
Net Expense (%)	0.5 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	66,583 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

TIAA-CREF International Eq W	14.0
TIAA-CREF Large-Cap Value W	9.7
Nuveen Dividend Value R6	9.5
TIAA-CREF Large-Cap Growth W	8.6
Nuveen Growth Opportunities ETF	8.6
TIAA-CREF International Opps W	8.4
TIAA-CREF Growth & Income W	8.3
Nuveen Dividend Growth R6	8.3
Tiaa Cref Real Property Fnd Lp	6.3
TIAA-CREF Emerging Markets Eq W	5.5

Top Countries (%)

United States	63.2
United Kingdom	6.0
Japan	4.9
Switzerland	2.5

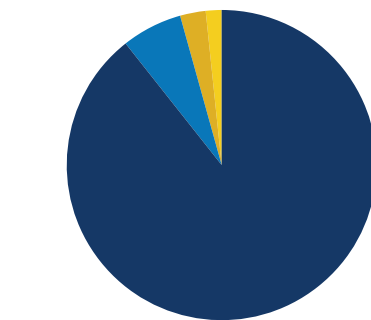
Fund Statistics

	3 Years	10 Years
Standard Deviation	19.42	13.91
vs. CREF Lifecycle Composite 2055		
Beta	0.97	1.00
Alpha	1.15	0.00
Information Ratio	0.16	0.00
Tracking Error	6.34	3.67
R-Squared	0.89	0.93
Up Market Capture	96.55	99.58
Down Market Capture	91.71	99.25
Consistency	52.78	48.33

vs. Risk Free

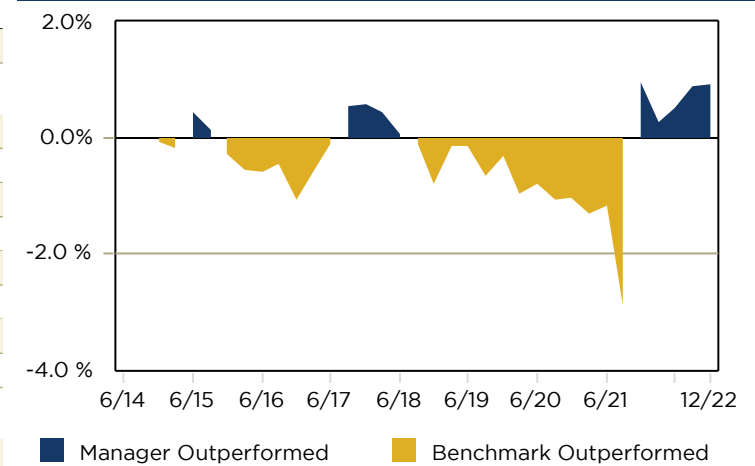
Sharpe Ratio	0.27	0.61
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Asset Allocation

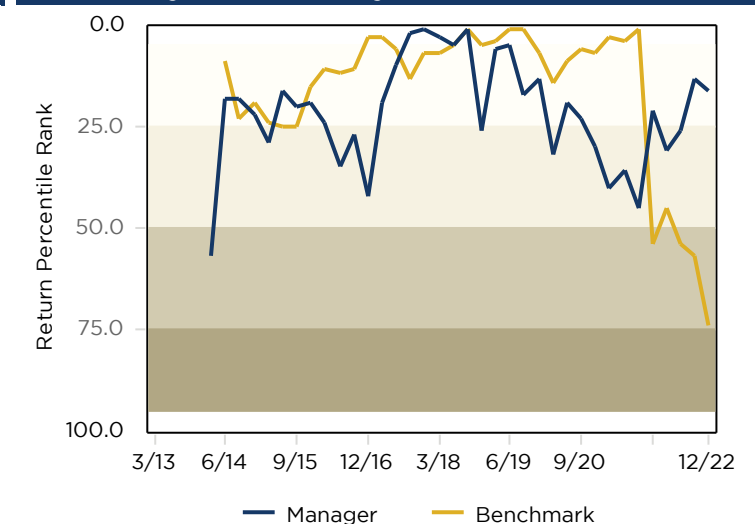


■ Equity ■ Other
■ Fixed Income ■ Cash

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking





TIAA-CREF Lifecycle 2060 Institutional (TLXNX)

Index: CREF Lifecycle Composite 2060

Category: Target-Date 2060

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	9.30 (42)	-17.79 (31)	-17.79 (31)	4.18 (15)	5.20 (31)	-	16.80 (68)	17.75 (24)	26.70 (9)	-10.06 (87)
Benchmark	9.16	-17.77	-17.77	3.22	5.23	-	13.88	17.44	26.99	-7.59
Peer Group	9.26	-18.43	-18.43	3.61	4.93	-	17.35	15.74	25.05	-8.66
Population	214	214	214	199	170	-	221	221	215	203

Fund Information

Fund Inception	09-2014
Fund Assets	456 Million
Portfolio Assets	378 Million
Total # of Holdings	19
% Assets in Top 10 Holdings	88.3 %
PM	Cunniff,J/Sedmak,S
PM Tenure	
Turnover	26.0 %
Gross Expense (%)	0.7 %
Net Expense (%)	0.5 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	66,548 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

TIAA-CREF International Eq W	14.2
TIAA-CREF Large-Cap Value W	9.9
Nuveen Dividend Value R6	9.7
TIAA-CREF Large-Cap Growth W	8.7
Nuveen Growth Opportunities ETF	8.7
TIAA-CREF International Opps W	8.5
TIAA-CREF Growth & Income W	8.4
Nuveen Dividend Growth R6	8.4
Tiaa Cref Real Property Fnd Lp	6.3
TIAA-CREF Emerging Markets Eq W	5.6

Top Countries (%)

United States	63.1
United Kingdom	6.1
Japan	5.0
Switzerland	2.5

Fund Statistics

	3 Years	10 Years
Standard Deviation	19.59	-

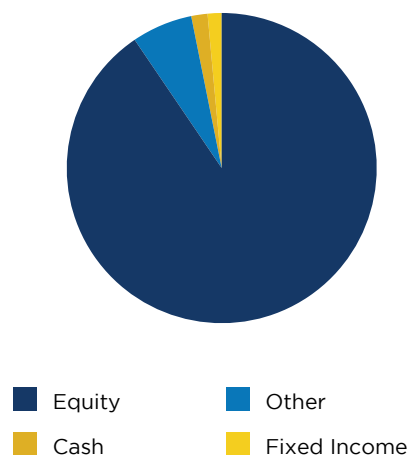
vs. CREF Lifecycle Composite 2060

Beta	0.97	-
Alpha	1.20	-
Information Ratio	0.16	-
Tracking Error	6.47	-
R-Squared	0.89	-
Up Market Capture	96.28	-
Down Market Capture	91.32	-
Consistency	52.78	-

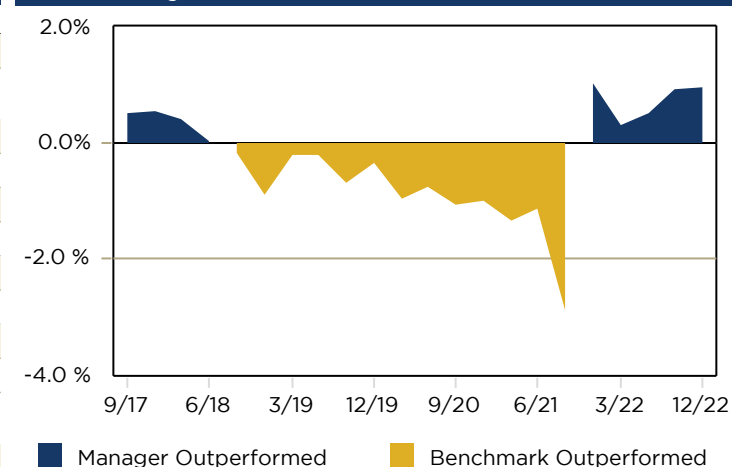
vs. Risk Free

Sharpe Ratio	0.27	-
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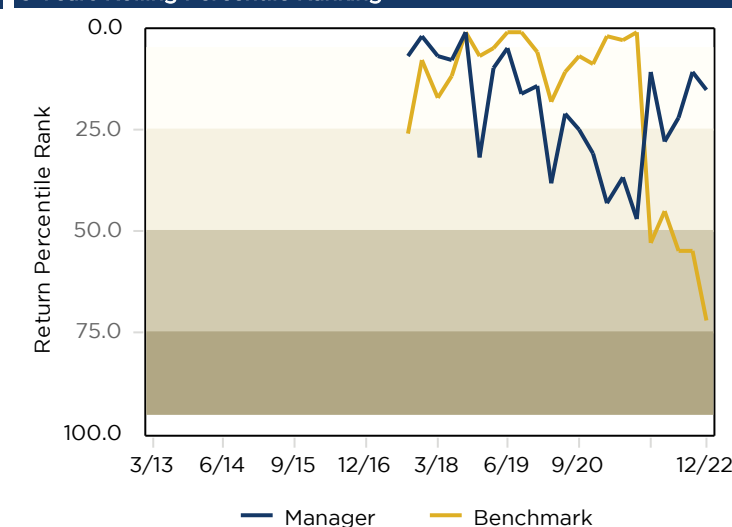
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking





TIAA-CREF Lifecycle 2065 Institutional (TSFTX)

Index: CREF Lifecycle Composite 2065

Category: Target-Date 2065+

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	9.29 (45)	-17.70 (21)	-17.70 (21)	-	-	-	17.15 (54)	-	-	-
Benchmark	9.25	-17.85	-17.85	-	-	-	14.07	-	-	-
Peer Group	9.25	-18.60	-18.60	-	-	-	17.30	-	-	-
Population	169	163	163	-	-	-	146	-	-	-

Fund Information

Fund Inception	09-2020
Fund Assets	31 Million
Portfolio Assets	23 Million
Total # of Holdings	19
% Assets in Top 10 Holdings	89.0 %
PM	Cunniff,J/Erickson,H/Sedmak,S
PM Tenure	
Turnover	109.0 %
Gross Expense (%)	2.1 %
Net Expense (%)	0.5 %
New Investors	Open

Fund Statistics

No data available.

3 Years Rolling Excess Performance

No data available.

Equity Characteristics

Avg. Market Cap	66,636 (Million)
Price/Earnings	14
Price/Book	2
Dividend Yield	2.6 %

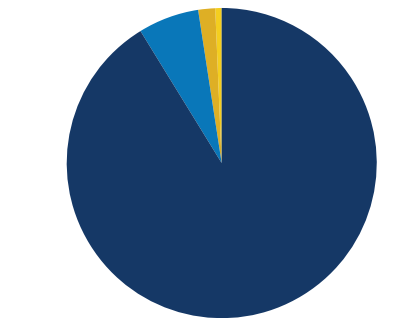
Top Holdings (%)

TIAA-CREF International Eq W	14.3
TIAA-CREF Large-Cap Value W	9.9
Nuveen Dividend Value R6	9.7
TIAA-CREF Large-Cap Growth W	8.9
Nuveen Growth Opportunities ETF	8.6
TIAA-CREF International Opps W	8.6
TIAA-CREF Growth & Income W	8.6
Nuveen Dividend Growth R6	8.5
TIAA CREF REAL PROPERTY FND LP	6.2
TIAA-CREF Emerging Markets Eq W	5.7

Top Countries (%)

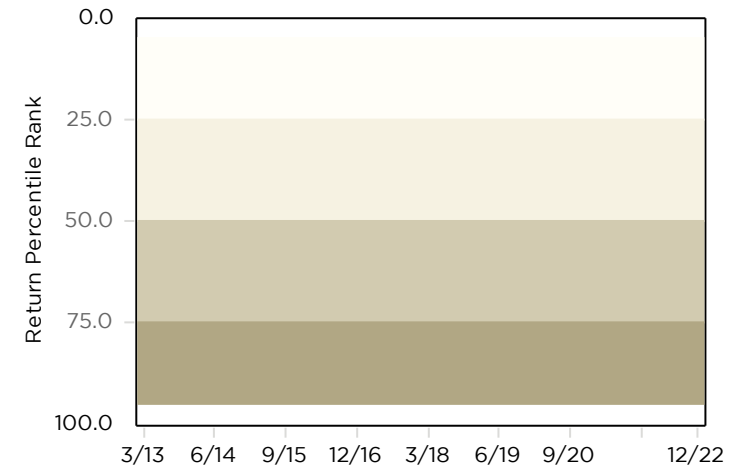
United States	63.0
United Kingdom	6.1
Japan	5.0
Switzerland	2.5

Asset Allocation



■ Equity ■ Other
■ Cash ■ Fixed Income

3 Years Rolling Percentile Ranking



— Manager — Benchmark



Detailed Analysis: Voya Voluntary Plan

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	0.86 (18)	1.50 (14)	1.50 (14)	0.66 (5)	1.18 (3)	0.70 (2)	0.01 (34)	0.47 (3)	2.14 (4)	1.80 (2)
Benchmark	0.89	1.52	1.52	0.70	1.22	0.73	0.04	0.54	2.21	1.82
Peer Group	0.81	1.34	1.34	0.54	0.99	0.54	0.01	0.28	1.83	1.47
Population	590	579	579	532	498	385	572	581	575	591

Fund Information

Fund Inception	12/14/1992
Fund Assets	35,413 Million
Portfolio Assets	35,413 Million
# of Holdings	19
% in Top 10	94.07 %
PM	Smith,N
PM Tenure	5 Years
Turnover	-
Gross Exp. (%)	0.09 %
Net Exp. (%)	0.09 %
New Investors	Open

Fixed Income Characteristics

Avg. Effective Duration	-
Avg. Effective Maturity	-
Avg. Credit Quality	-
Avg. Weighted Coupon	-
Yield To Maturity	-

Top Holdings (%)

United States Treasury Bills	13.14
United States Treasury Bills	12.50
United States Treasury Bills	12.41
United States Treasury Bills	11.37
United States Treasury Bills	11.01
United States Treasury Bills	9.50
United States Treasury Bills	8.65
United States Treasury Bills	7.29
United States Treasury Bills	5.38
United States Treasury Notes	2.83

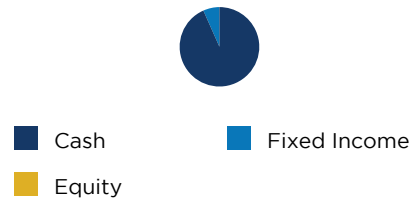
Fund Statistics

	3 Years	10 Years
Standard Deviation	0.30	0.26
vs. Blmbg. U.S. Treasury Bills: 1-3 Months		
Beta	0.90	0.94
Alpha	0.03	0.01
Information Ratio	-0.50	-0.64
Tracking Error	0.08	0.05
R-Squared	0.94	0.97
Up Market Capture	94.18	95.68
Down Market Capture	-40.00	-70.17
Consistency	22.22	27.50

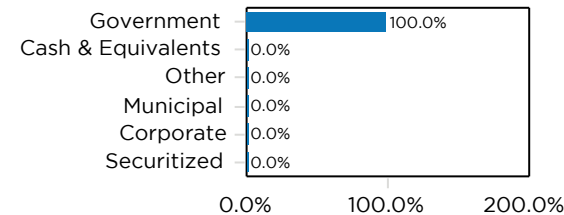
vs. Risk Free

Sharpe Ratio	-0.44	-0.63
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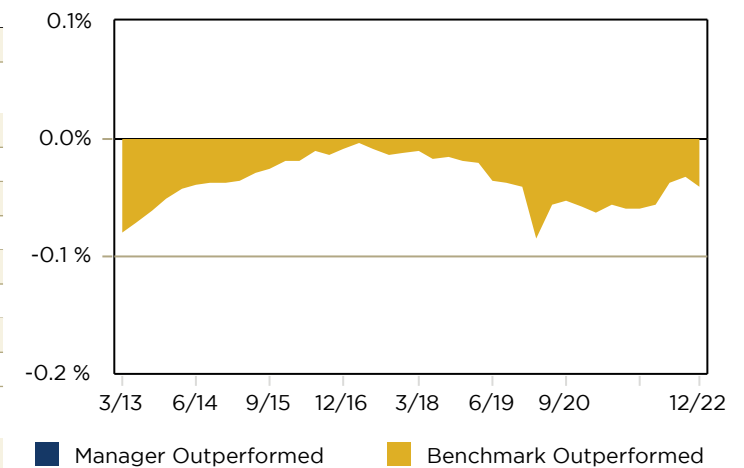
Asset Allocation



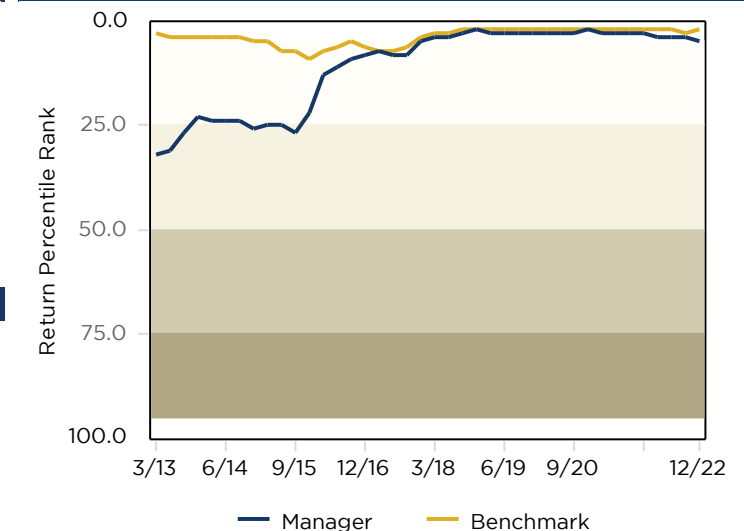
Sector Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking





Voya Fixed Plus Account III

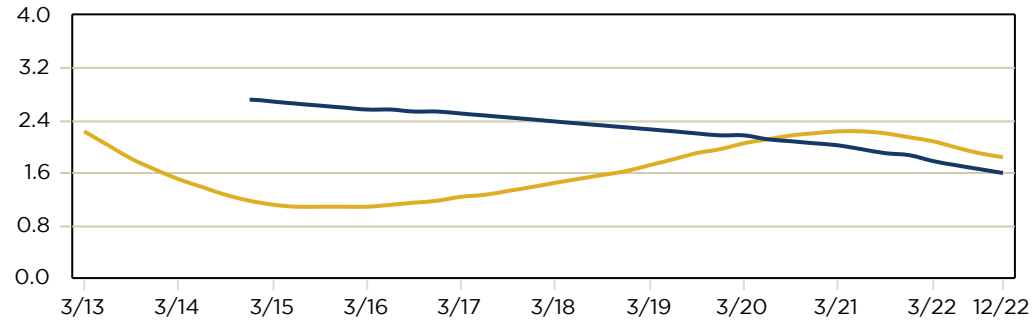
Index: Ryan 3 Yr GIC Master Index

As of: 12/31/2022

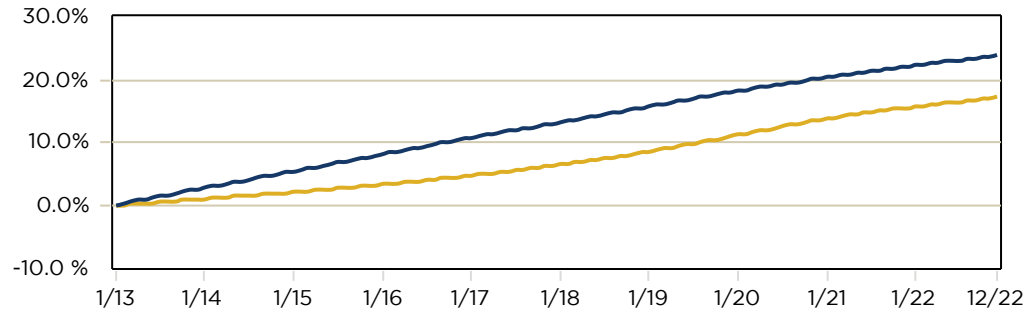
Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	0.35	1.41	1.41	1.62	1.84	2.17	1.60	1.85	2.15	2.20
Benchmark	0.42	1.46	1.46	1.85	1.98	1.61	1.75	2.34	2.38	1.96

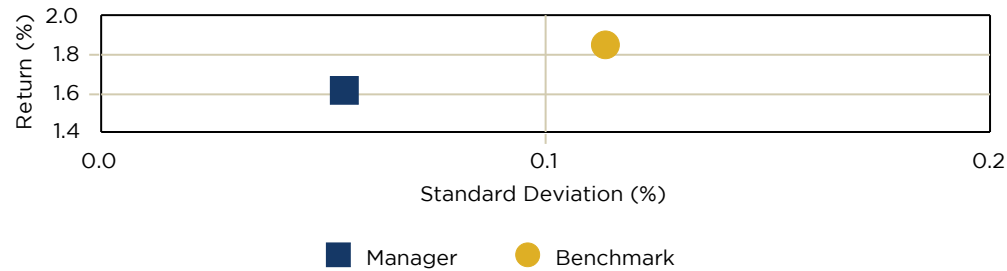
Return (Rolling 36 Months)



Growth of a Dollar



Risk-Reward



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	1.68 (45)	-13.03 (29)	-13.03 (29)	-2.72 (45)	-0.02 (38)	1.01 (42)	-1.79 (64)	7.80 (51)	8.48 (50)	0.01 (26)
Benchmark	1.87	-13.01	-13.01	-2.71	0.02	1.06	-1.55	7.51	8.72	0.01
Peer Group	1.64	-13.44	-13.44	-2.78	-0.12	0.94	-1.59	7.83	8.46	-0.43
Population	470	459	459	431	407	366	455	452	470	467

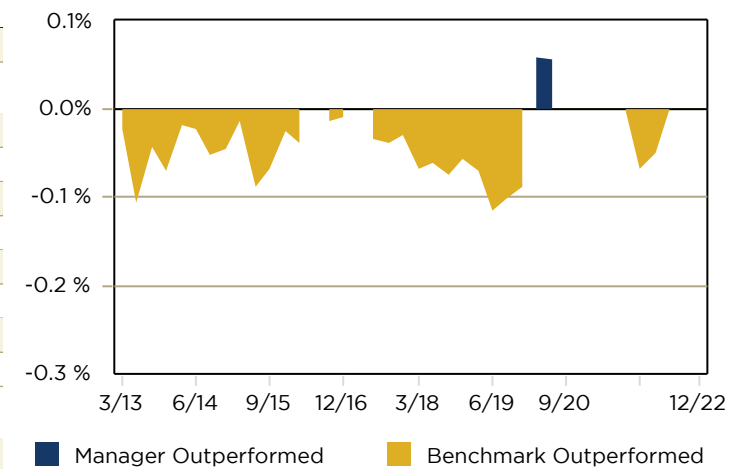
Fund Information

Fund Inception	05/04/2011
Fund Assets	52,710 Million
Portfolio Assets	52,710 Million
# of Holdings	9028
% in Top 10	9.53 %
PM	Bettencourt,B/Munclinger,R
PM Tenure	
Turnover	76.00 %
Gross Exp. (%)	0.03 %
Net Exp. (%)	0.03 %
New Investors	Open

Fund Statistics

	3 Years	10 Years
Standard Deviation	5.78	4.16
vs. Blmbg. U.S. Aggregate Index		
Beta	1.00	1.01
Alpha	0.00	-0.06
Information Ratio	0.00	-0.15
Tracking Error	0.33	0.28
R-Squared	1.00	1.00
Up Market Capture	100.20	101.37
Down Market Capture	100.16	102.64
Consistency	47.22	48.33

3 Years Rolling Excess Performance



Fixed Income Characteristics

Avg. Effective Duration	6.16 Years
Avg. Effective Maturity	-
Avg. Credit Quality	AA
Avg. Weighted Coupon	2.63 %
Yield To Maturity	1.53 %

vs. Risk Free

Sharpe Ratio	-0.57	0.08
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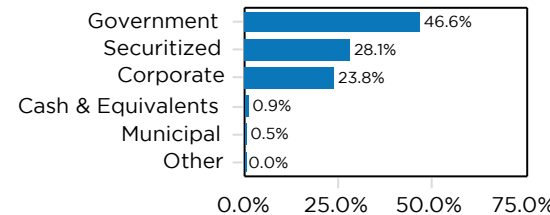
Top Holdings (%)

United States Treasury Notes 2.75%	1.51
United States Treasury Notes 1.5%	1.13
United States Treasury Notes 2.625%	1.08
United States Treasury Notes 2.25%	1.02
Federal Home Loan Mortgage Cor	1.02
United States Treasury Notes 1.5%	0.83
United States Treasury Notes 3%	0.81
United States Treasury Notes 0.5%	0.72
United States Treasury Notes 2.25%	0.71
United States Treasury Notes 1%	0.69

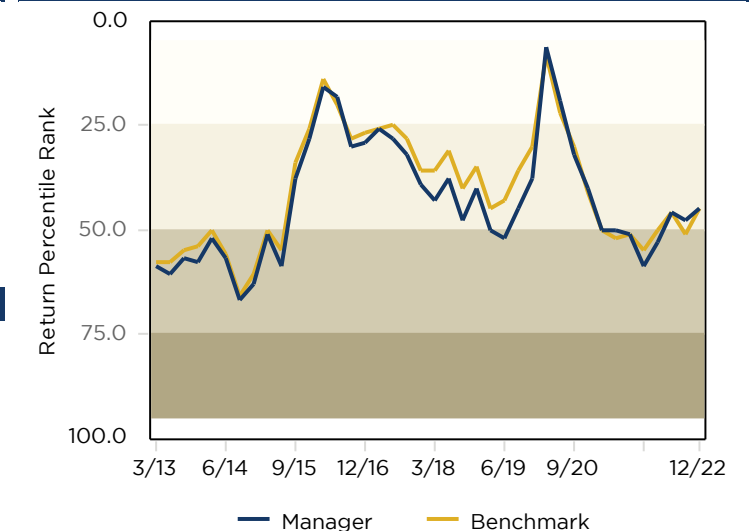
Asset Allocation



Sector Allocation



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	1.77 (54)	-14.09 (59)	-14.09 (59)	-2.48 (46)	0.03 (52)	1.11 (61)	-0.84 (51)	8.88 (36)	8.26 (76)	-0.26 (28)
Benchmark	1.87	-13.01	-13.01	-2.71	0.02	1.06	-1.55	7.51	8.72	0.01
Peer Group	1.81	-13.84	-13.84	-2.57	0.05	1.24	-0.81	8.32	9.24	-0.80
Population	647	627	627	580	556	477	619	616	636	618

Fund Information

Fund Inception	05/11/1987
Fund Assets	54,671 Million
Portfolio Assets	43,646 Million
# of Holdings	7779
% in Top 10	17.36 %
PM	Team Managed
PM Tenure	
Turnover	289.00 %
Gross Exp. (%)	0.46 %
Net Exp. (%)	0.46 %
New Investors	Open

Fixed Income Characteristics

Avg. Effective Duration	5.87 Years
Avg. Effective Maturity	7.86 Years
Avg. Credit Quality	BBB
Avg. Weighted Coupon	3.45 %
Yield To Maturity	2.69 %

Top Holdings (%)

5 Year Treasury Note Future Dec	6.68
Federal National Mortgage Asso	4.07
Federal National Mortgage Asso	3.99
Pimco Fds	3.85
10 Year Treasury Note Future Dec	3.53
Federal National Mortgage Asso	2.43
Federal National Mortgage Asso	2.21
Euro OAT Future Dec 22	-2.09
Euro Bund Future Dec 22	-3.21
Fin Fut 10Yr Jgb Ose 12/13/22	-4.12

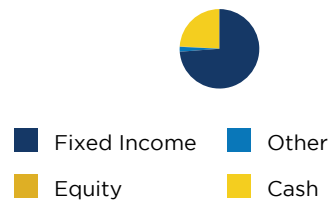
Fund Statistics

	3 Years	10 Years
Standard Deviation	6.07	4.38
vs. Blmbg. U.S. Aggregate Index		
Beta	1.03	1.02
Alpha	0.35	0.04
Information Ratio	0.23	0.05
Tracking Error	1.15	1.29
R-Squared	0.97	0.91
Up Market Capture	107.63	104.79
Down Market Capture	102.55	104.45
Consistency	66.67	60.83

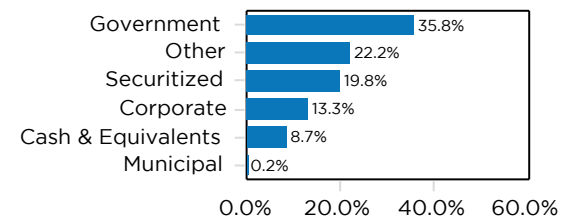
vs. Risk Free

Sharpe Ratio	-0.50	0.10
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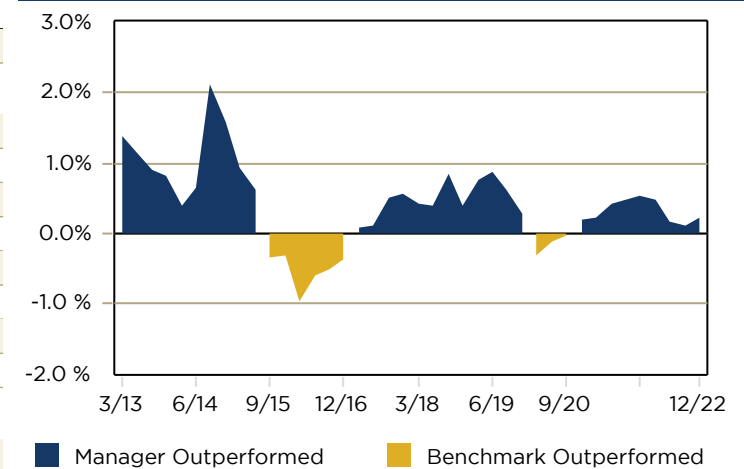
Asset Allocation



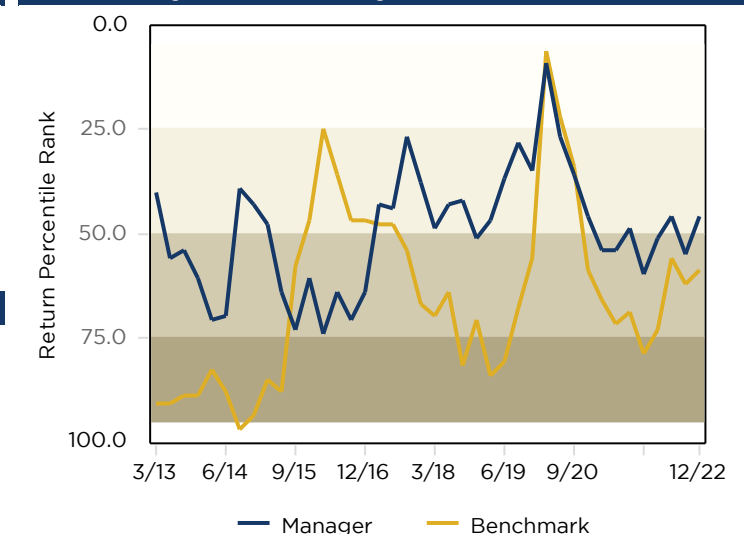
Sector Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking





American Funds Inflation Linked Bond R6 (RILFX)

Index: Bloomberg U.S. TIPS Index
 Category: Inflation-Protected Bond
 As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	2.22 (30)	-11.63 (49)	-11.63 (49)	1.91 (24)	2.42 (17)	1.54 (4)	4.18 (85)	14.97 (3)	7.06 (57)	-0.57 (16)
Benchmark	2.04	-11.85	-11.85	1.21	2.11	1.12	5.96	10.99	8.43	-1.26
Peer Group	1.97	-11.65	-11.65	1.22	1.91	0.89	5.30	9.70	7.50	-1.59
Population	216	212	212	204	199	185	213	214	229	236

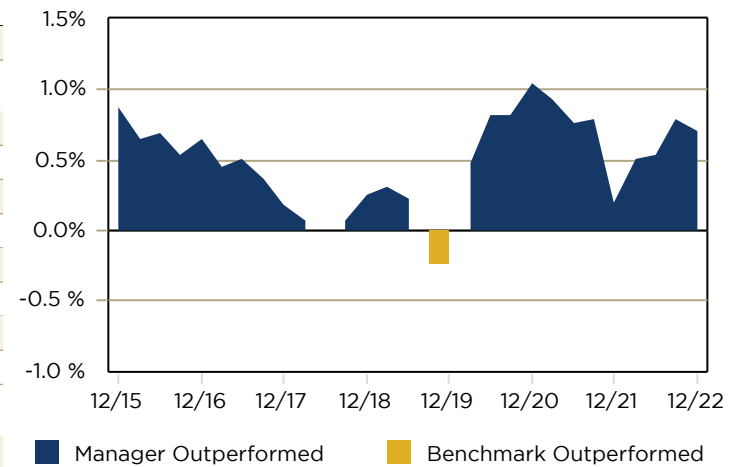
Fund Information

Fund Inception	11/01/2013
Fund Assets	13,637 Million
Portfolio Assets	8,892 Million
# of Holdings	181
% in Top 10	48.15 %
PM	Hoag,D/Ng,T/Tuazon,R
PM Tenure	
Turnover	29.00 %
Gross Exp. (%)	0.30 %
Net Exp. (%)	0.30 %
New Investors	Open

Fund Statistics

	3 Years	10 Years
Standard Deviation	7.12	5.21
vs. Bloomberg U.S. TIPS Index		
Beta	1.00	0.98
Alpha	0.72	0.45
Information Ratio	0.38	0.33
Tracking Error	1.84	1.29
R-Squared	0.93	0.94
Up Market Capture	97.35	100.27
Down Market Capture	88.66	93.18
Consistency	55.56	56.67

3 Years Rolling Excess Performance



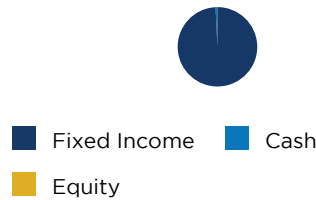
Fixed Income Characteristics

Avg. Effective Duration	3.93 Years
Avg. Effective Maturity	-
Avg. Credit Quality	AA
Avg. Weighted Coupon	0.76 %
Yield To Maturity	3.18 %

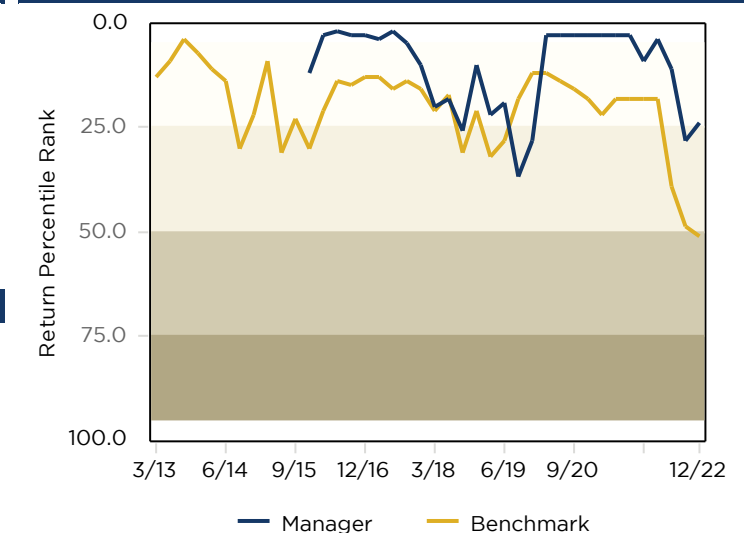
vs. Risk Free

Sharpe Ratio	0.20	0.18
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Asset Allocation



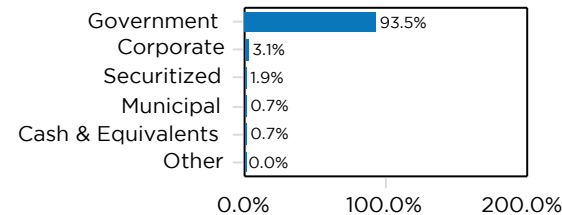
3 Years Rolling Percentile Ranking



Top Holdings (%)

United States Treasury Notes 0.143%	8.32
United States Treasury Notes 0.142%	7.27
United States Treasury Notes 1.635%	6.17
United States Treasury Notes 0.145%	5.19
United States Treasury Notes 0.132%	4.28
United States Treasury Notes 0.145%	4.18
United States Treasury Notes 0.144%	3.43
United States Treasury Notes 0.641%	3.26
United States Treasury Bonds 0.134%	3.09
United States Treasury Notes 0.145%	2.96

Sector Allocation



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	3.67 (73)	-11.55 (69)	-11.55 (69)	-0.15 (40)	2.72 (12)	4.34 (7)	6.47 (16)	5.72 (39)	16.26 (6)	-1.18 (15)
Benchmark	4.17	-11.11	-11.11	-0.12	2.17	3.96	5.16	6.59	14.27	-2.21
Peer Group	3.97	-10.82	-10.82	-0.48	1.68	3.24	4.80	5.24	13.50	-2.90
Population	710	689	689	651	631	539	701	711	738	751

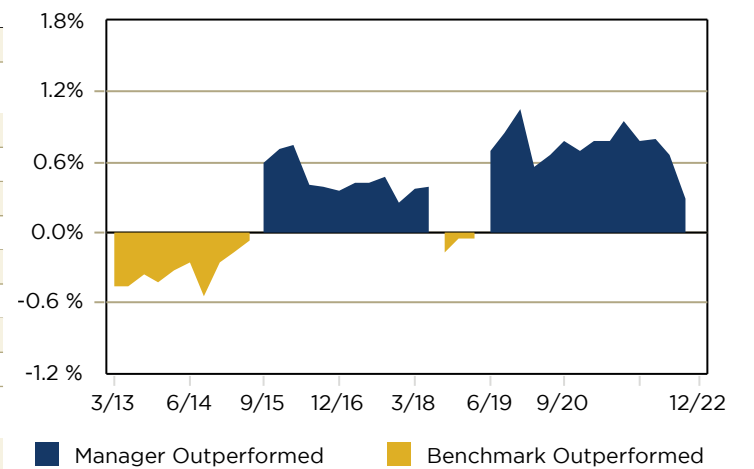
Fund Information

Fund Inception	10/31/2011
Fund Assets	18,491 Million
Portfolio Assets	7,827 Million
# of Holdings	709
% in Top 10	16.22 %
PM	Team Managed
PM Tenure	
Turnover	38.00 %
Gross Exp. (%)	0.38 %
Net Exp. (%)	0.38 %
New Investors	Open

Fund Statistics

	3 Years	10 Years
Standard Deviation	11.28	7.42
vs. Blmbrg U.S. High Yield 1% Issuer Cap Index		
Beta	1.01	0.99
Alpha	0.00	0.40
Information Ratio	0.00	0.41
Tracking Error	1.05	0.89
R-Squared	0.99	0.99
Up Market Capture	100.26	99.79
Down Market Capture	100.25	94.36
Consistency	58.33	56.67

3 Years Rolling Excess Performance



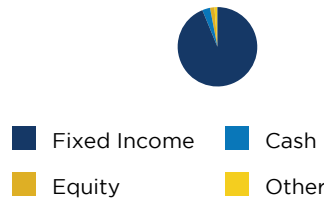
Fixed Income Characteristics

Avg. Effective Duration	4.21 Years
Avg. Effective Maturity	5.60 Years
Avg. Credit Quality	B
Avg. Weighted Coupon	5.77 %
Yield To Maturity	9.07 %

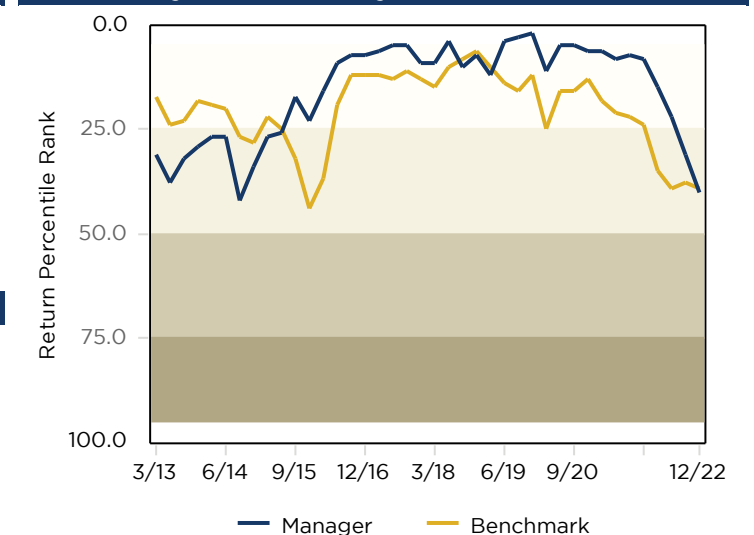
vs. Risk Free

Sharpe Ratio	-0.02	0.51
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Asset Allocation



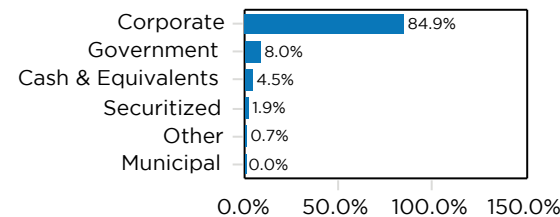
3 Years Rolling Percentile Ranking



Top Holdings (%)

United States Treasury Notes 2.625%	3.53
Dreyfus Government Cash Mgmt Instl	3.19
United States Treasury Notes 3.875%	2.60
PGIM Core Short-Term Bond	1.69
Prudential Invnt Portfolios 2	1.13
Bombardier Inc. 7.875%	0.91
Calpine Corporation 5.125%	0.89
Ferrellgas Escrow Llc 3/30/31	0.78
DISH DBS Corporation 7.75%	0.78
Uniti Group LP/Uniti Fiber Holdings	0.71

Sector Allocation



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	1.34	-4.64	-4.64	0.44	1.64	-	0.64	5.59	6.95	0.11
Benchmark	2.47	-8.19	-8.19	0.32	2.32	-	1.09	8.79	10.80	0.27

Fund Information

Fund Inception	09/28/2015
Fund Assets	205 Million
Portfolio Assets	181 Million
# of Holdings	32
% in Top 10	44.37 %
PM	Alm,E/Drum,P
PM Tenure	
Turnover	15.00 %
Gross Exp. (%)	0.56 %
Net Exp. (%)	0.56 %
New Investors	Open

Fixed Income Characteristics

Avg. Effective Duration	2.84 Years
Avg. Effective Maturity	3.83 Years
Avg. Credit Quality	BB
Avg. Weighted Coupon	4.06 %
Yield To Maturity	4.50 %

Top Holdings (%)

Almarai Co 4.311%	5.47
Icd Sukuk Co 5%	5.33
Equate Sukuk 3.944%	5.08
Difc Sukuk 4.325%	4.62
Tabreed Sukuk Spc 5.5%	4.52
Tnb Global Ventrs Cap Berhad 3.244%	4.28
STC Sukuk Co Ltd. 3.89%	3.97
Dib Sukuk Co 2.95%	3.82
Perusahaan Penerbit SBSN Indonesia	3.67
Qib Sukuk Ltd. 3.982%	3.59

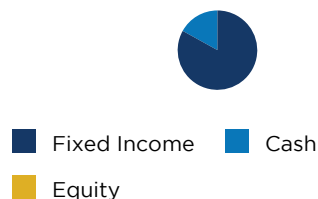
Fund Statistics

	3 Years	10 Years
Standard Deviation	4.05	-
vs. FTSE Sukuk		
Beta	0.62	-
Alpha	0.23	-
Information Ratio	0.02	-
Tracking Error	2.93	-
R-Squared	0.75	-
Up Market Capture	66.22	-
Down Market Capture	62.82	-
Consistency	44.44	-

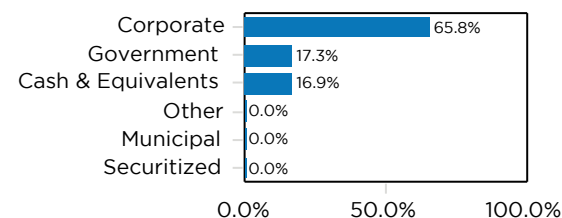
vs. Risk Free

Sharpe Ratio	-0.05	-
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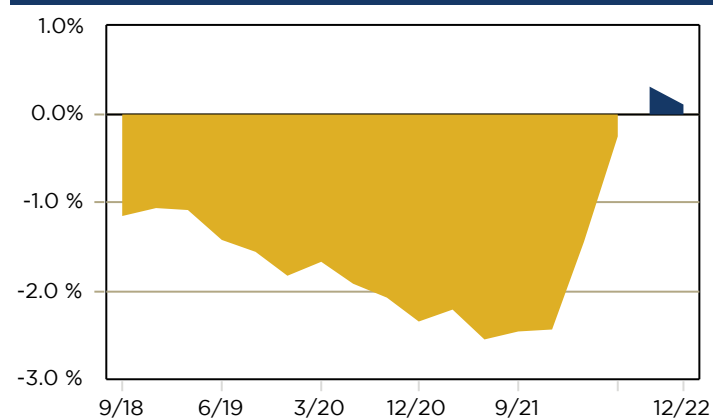
Asset Allocation



Sector Allocation



3 Years Rolling Excess Performance



■ Manager Outperformed ■ Benchmark Outperformed

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	12.03 (68)	-3.98 (34)	-3.98 (34)	6.30 (64)	7.29 (45)	10.14 (53)	20.35 (92)	3.93 (40)	27.52 (28)	-7.17 (30)
Benchmark	12.42	-7.54	-7.54	5.96	6.67	10.29	25.16	2.80	26.54	-8.27
Peer Group	12.76	-5.53	-5.53	6.96	7.10	10.21	26.04	2.79	25.56	-8.80
Population	1,250	1,230	1,230	1,182	1,157	1,044	1,229	1,273	1,325	1,397

Fund Information

Fund Inception	11/29/1988
Fund Assets	19,029 Million
Portfolio Assets	10,404 Million
Total # of Holdings	116
% in Top 10	26.21 %
PM	DeSpirito,T/Zhao,D
PM Tenure	
Turnover	47.00 %
Gross Expense (%)	0.68 %
Net Expense (%)	0.68 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	118,601	150,838
Median Mkt. Cap (\$M)	43,724	11,340
Price/Earnings ratio	13.4	15.1
Price/Book ratio	2.4	2.4
5 Yr. EPS Growth Rate (%)	6.9	12.9
Current Yield (%)	2.5	2.3
Beta (5 Years, Monthly)	0.94	1.00
Number of Stocks	72	852
Debt to Equity (%)	76.8	90.5
Forecast P/E	11.3	13.8
Forecast EPS Growth	8.3	8.4
Return on Equity (%)	3.4	5.2

Country/Region Allocation

United States	75.1	96.4
Non-US Developed	24.9	3.5
Other	0.0	0.0
Total	100.0	100.0

Fund Statistics

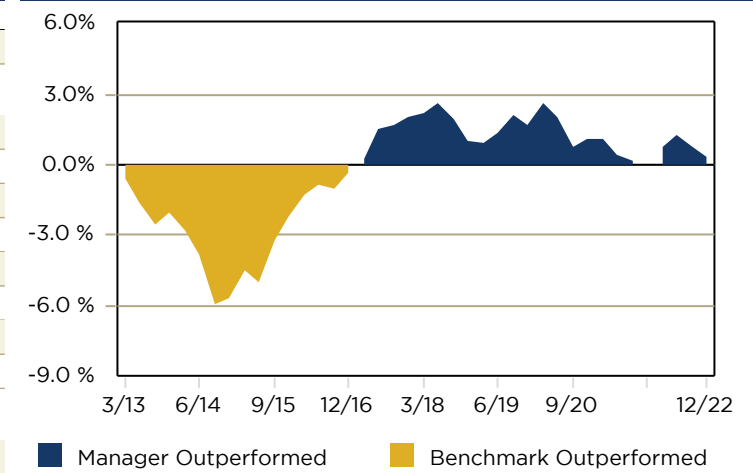
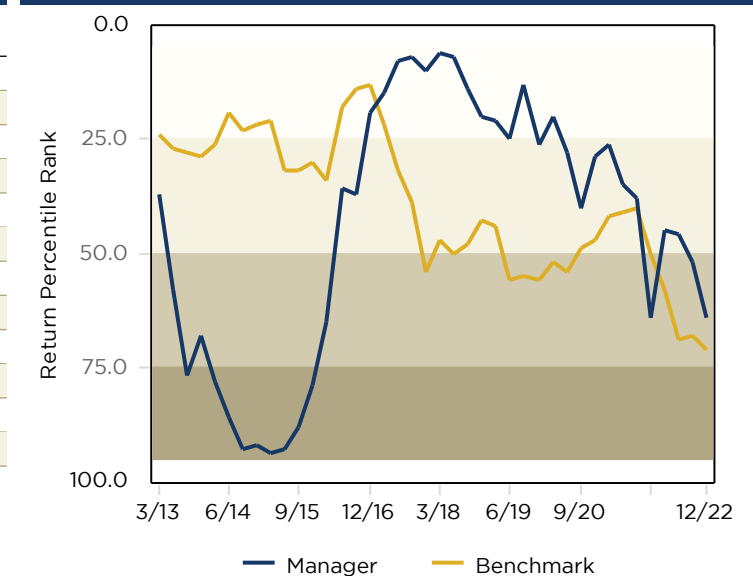
	3 Years	10 Years
Standard Deviation	20.34	14.22
vs. Russell 1000 Value Index		
Beta	0.94	0.93
Alpha	0.58	0.50
Information Ratio	0.02	-0.08
Tracking Error	4.02	3.04
R-Squared	0.96	0.96
Up Market Capture	93.58	93.98
Down Market Capture	91.14	91.21
Consistency	50.00	46.67

vs. Risk Free

Sharpe Ratio	0.37	0.70
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Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	5.8	7.3
Consumer Discretionary	8.5	6.0
Consumer Staples	6.7	7.4
Energy	9.4	8.4
Financials	23.0	20.1
Health Care	22.4	17.4
Industrials	7.6	10.5
Information Technology	10.8	8.3
Materials	2.1	4.3
Real Estate	0.0	4.5
Utilities	3.6	5.8
Total	100.0	100.0

3 Years Rolling Excess Performance

3 Years Rolling Percentile Ranking


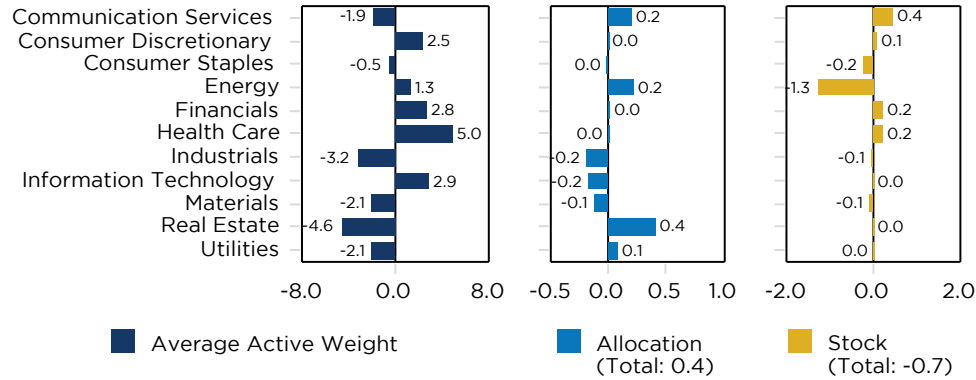


BlackRock Equity Dividend Instl (MADVX)

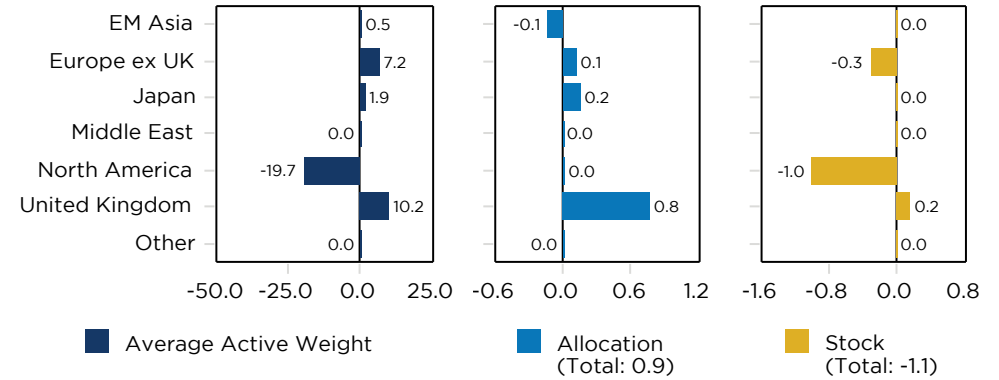
Index: Russell 1000 Value Index

As of: 12/31/2022

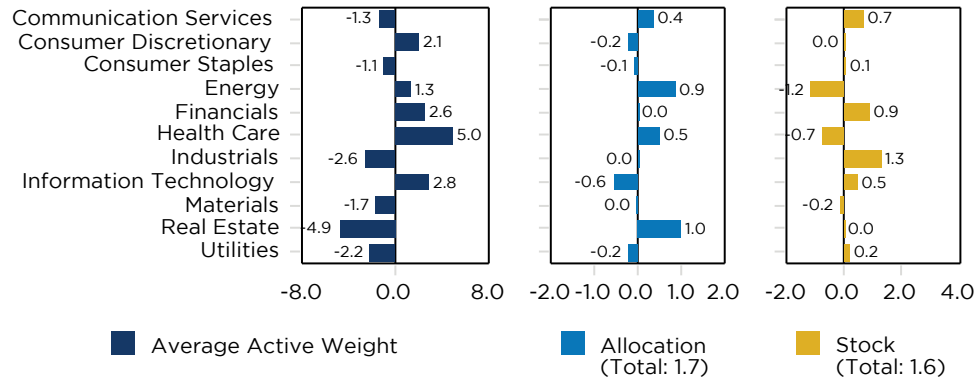
1 Quarter Sector Attribution



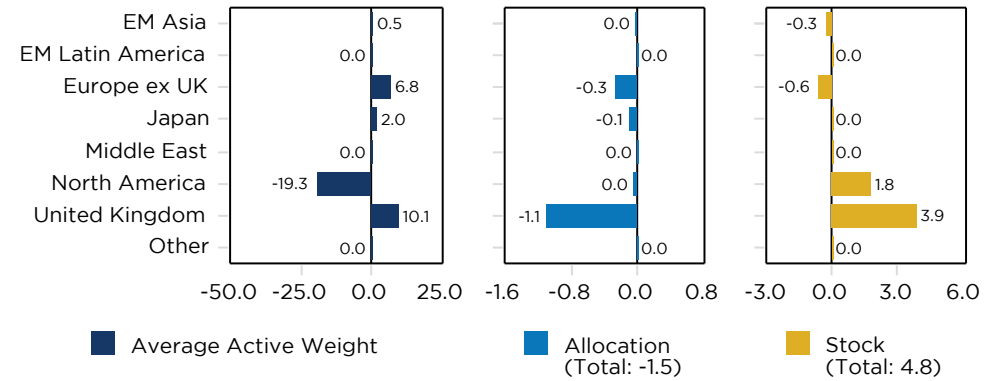
1 Quarter Region Attribution



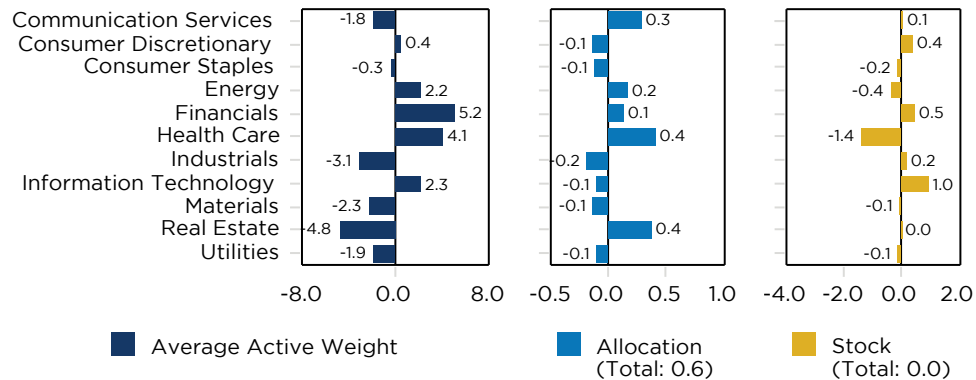
1 Year Sector Attribution



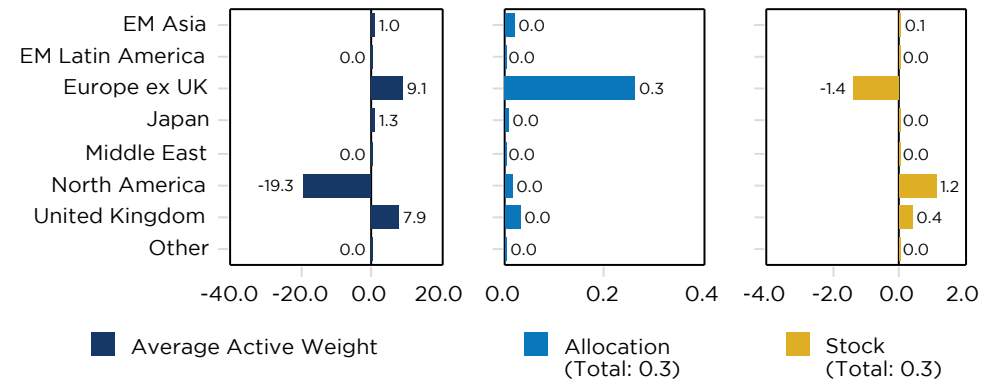
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution



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BlackRock Equity Dividend Instl (MADVX)

Index: Russell 1000 Value Index

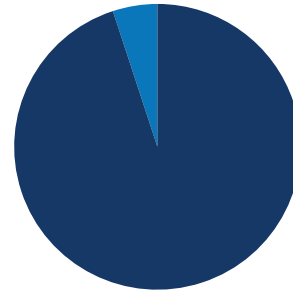
As of: 12/31/2022

Top Ten Securities

BlackRock Liquidity T-Fund Instl	4.6 %
BP PLC	2.9 %
Wells Fargo & Co	2.7 %
Citigroup Inc	2.6 %
Medtronic PLC	2.5 %
American International Group Inc	2.2 %
Enterprise Products Partners LP	2.2 %
Cognizant Technology Solutions	2.2 %
Laboratory Corp of America Holdings	2.1 %
Willis Towers Watson PLC	2.1 %
Total	26.2 %

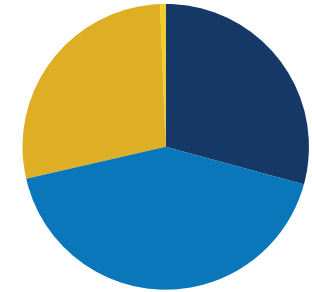
Asset Allocation

■ Equity
■ Cash
■ Fixed Income



Market Capitalization

■ Giant
■ Large
■ Medium
■ Small
■ Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Ross Stores Inc	1.81	0.10	0.44	38.10
American Int'l Group Inc	2.11	0.22	0.41	33.87
Siemens AG	1.16	0.00	0.31	39.56
Astrazeneca PLC	1.94	0.00	0.29	27.19
Sanofi	1.79	0.00	0.22	24.84
BP PLC	2.92	0.00	0.21	19.45
Willis Towers Watson plc	2.09	0.13	0.19	22.13
Cisco Systems Inc	2.64	1.01	0.13	20.18
Elevance Health Inc	2.85	0.46	0.02	13.21
JPMorgan Chase & Co	1.66	1.84	-0.03	29.49

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Philips Electronics NV	2.41	0.00	0.94	44.90
Citigroup Inc	3.95	1.21	0.29	16.55
Verizon Communications Inc	4.49	1.77	0.13	10.62
Medtronic PLC	2.89	1.06	0.09	10.89
Newell Brands Inc	0.90	0.05	0.02	8.37
Wells Fargo & Co	4.03	1.42	0.01	6.48
Comcast Corp	1.93	0.75	0.00	6.38
General Electric Co	1.00	0.67	-0.01	1.71
General Motors Co	0.82	0.32	-0.02	2.27
Cognizant Technology	1.88	0.22	-0.08	1.32

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
EQT Corp	1.66	0.09	-0.46	-16.70
First Citizens BancShares Inc	2.39	0.04	-0.40	-4.81
Fidelity Natioal Info Serv Inc.	1.93	0.28	-0.36	-9.61
Medtronic PLC	2.51	0.65	-0.28	-2.90
Cognizant Technology	2.24	0.18	-0.26	0.02
Philips Electronics NV	1.15	0.00	-0.20	-4.65
Constellation Brands Inc	1.56	0.21	-0.15	1.24
Fox Corp	1.17	0.06	-0.15	-1.01
Newell Brands Inc	0.77	0.03	-0.12	-4.15
Capital One Financial Corp.	0.55	0.21	-0.04	1.39

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Marathon Petroleum Corp	1.99	0.27	-0.50	-22.90
Microsoft Corp	2.39	0.00	-0.47	-13.86
Elevance Health Inc	2.21	0.38	-0.42	-17.18
Astrazeneca PLC	2.06	0.00	-0.38	-12.48
Dollar General Corporation	1.71	0.02	-0.35	-14.87
Metlife Inc.	1.94	0.28	-0.33	-14.14
Morgan Stanley	1.74	0.41	-0.32	-18.00
Arthur J. Gallagher & Co.	1.18	0.10	-0.30	-21.48
McKesson Corp	0.76	0.15	-0.21	-28.90
Pfizer Inc	2.02	1.51	-0.10	-13.38

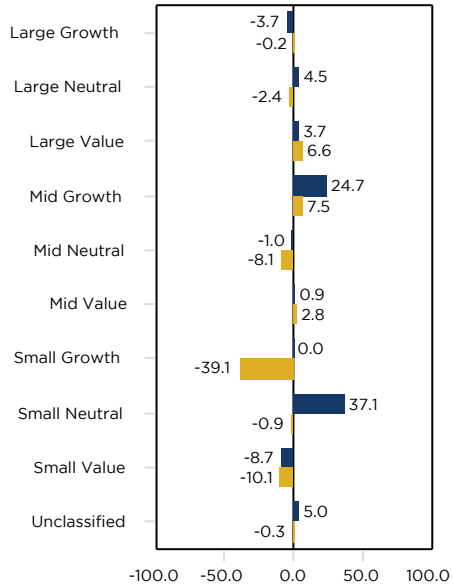


BlackRock Equity Dividend Instl (MADVX)

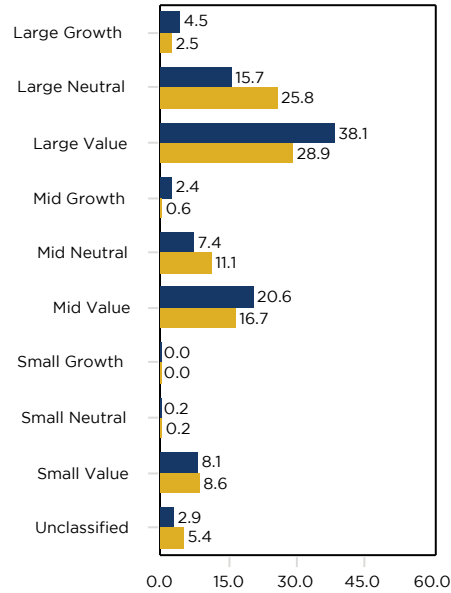
Index: Russell 1000 Value Index

As of: 12/31/2022

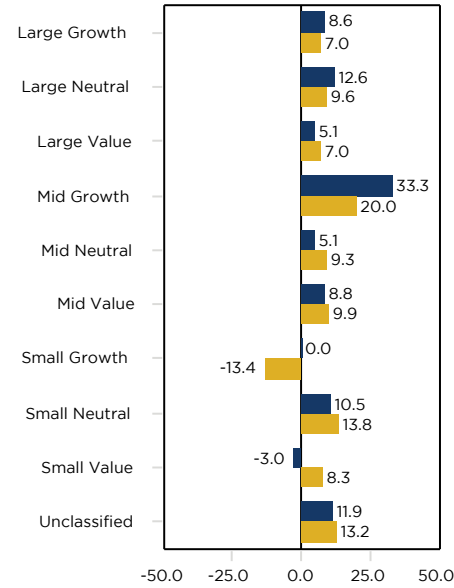
Performance | 1 Year



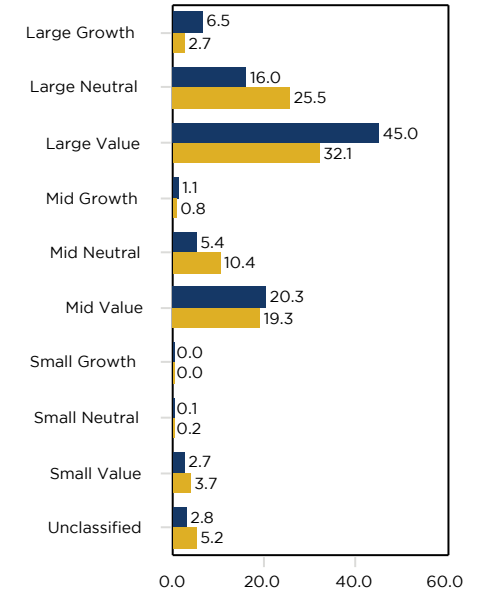
Allocation | 1 Year



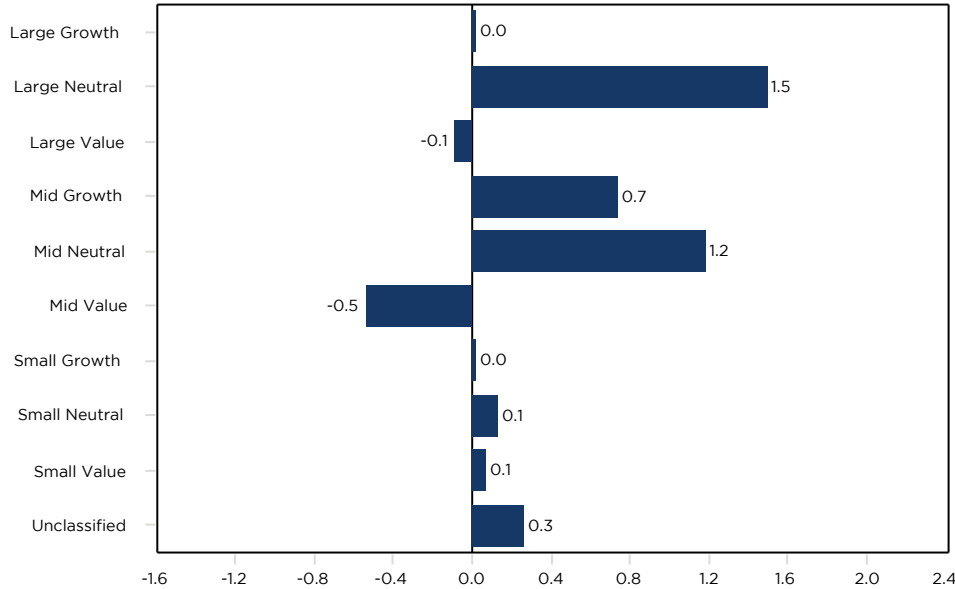
Performance | 3 Years



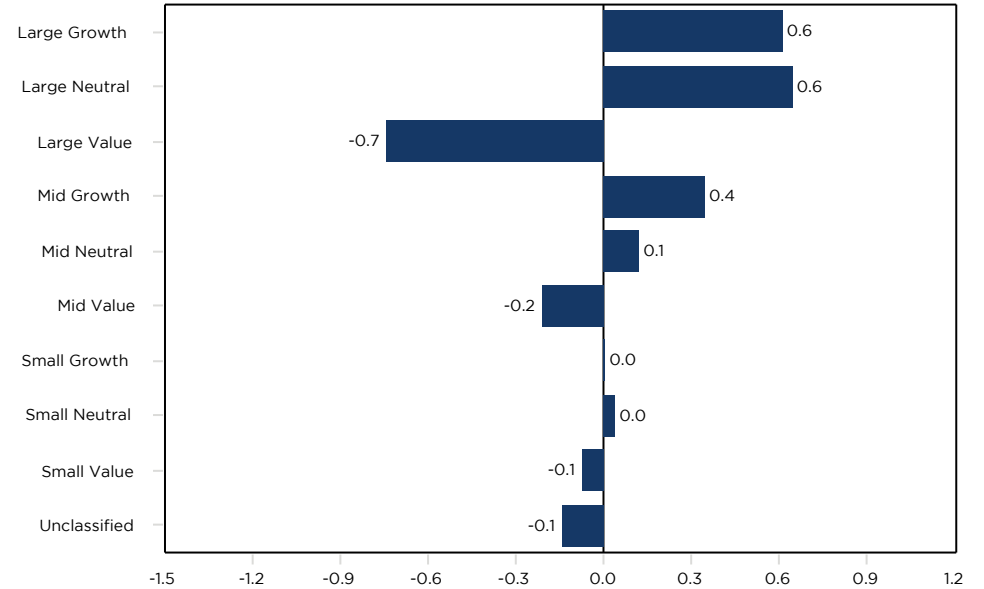
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	12.96 (46)	-1.74 (17)	-1.74 (17)	8.51 (21)	9.11 (9)	11.92 (9)	25.29 (60)	3.77 (42)	26.52 (38)	-4.33 (10)
Benchmark	12.42	-7.54	-7.54	5.96	6.67	10.29	25.16	2.80	26.54	-8.27
Peer Group	12.76	-5.53	-5.53	6.96	7.10	10.21	26.04	2.79	25.56	-8.80
Population	1,250	1,230	1,230	1,182	1,157	1,044	1,229	1,273	1,325	1,397

Fund Information

Fund Inception	02/28/2011
Fund Assets	48,390 Million
Portfolio Assets	1,338 Million
Total # of Holdings	86
% in Top 10	23.87 %
PM	Brandon,A/Hart,C/Silberman,D
PM Tenure	
Turnover	15.00 %
Gross Expense (%)	0.55 %
Net Expense (%)	0.55 %
Closed to New Investors	Closed

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	176,965	150,838
Median Mkt. Cap (\$M)	91,560	11,340
Price/Earnings ratio	17.7	15.1
Price/Book ratio	3.2	2.4
5 Yr. EPS Growth Rate (%)	16.4	12.9
Current Yield (%)	2.7	2.3
Beta (5 Years, Monthly)	0.91	1.00
Number of Stocks	85	852
Debt to Equity (%)	130.2	90.5
Forecast P/E	14.6	13.8
Forecast EPS Growth	9.2	8.4
Return on Equity (%)	9.3	5.2

Country/Region Allocation

United States	94.3	96.4
Non-US Developed	5.7	3.5
Other	0.0	0.0
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	19.42	13.72
vs. Russell 1000 Value Index		
Beta	0.91	0.91
Alpha	2.78	2.34
Information Ratio	0.65	0.51
Tracking Error	3.09	2.52
R-Squared	0.99	0.98
Up Market Capture	96.38	97.35
Down Market Capture	87.34	86.55
Consistency	61.11	59.17

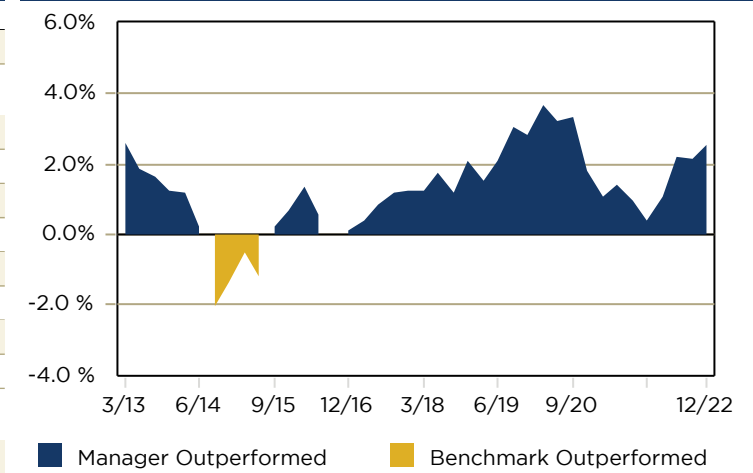
vs. Risk Free

Sharpe Ratio	0.48	0.84
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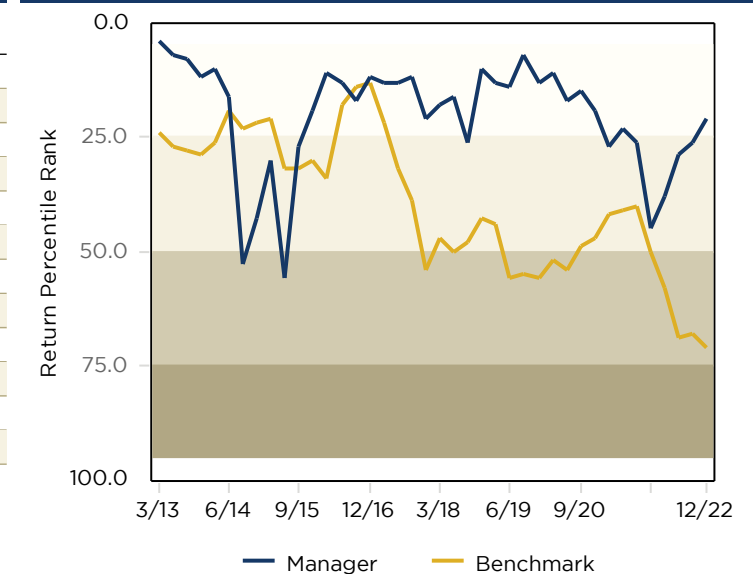
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	2.4	7.3
Consumer Discretionary	6.9	6.0
Consumer Staples	9.5	7.4
Energy	9.2	8.4
Financials	20.5	20.1
Health Care	19.1	17.4
Industrials	13.9	10.5
Information Technology	7.9	8.3
Materials	3.7	4.3
Real Estate	2.1	4.5
Utilities	4.7	5.8
Total	100.0	100.0

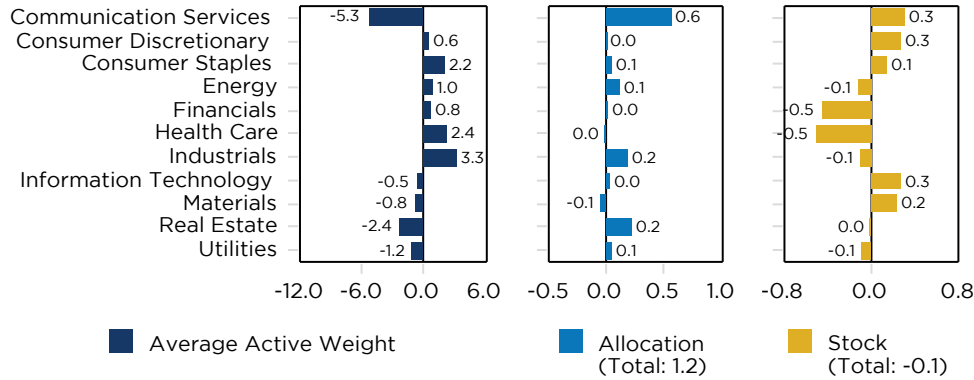
3 Years Rolling Excess Performance



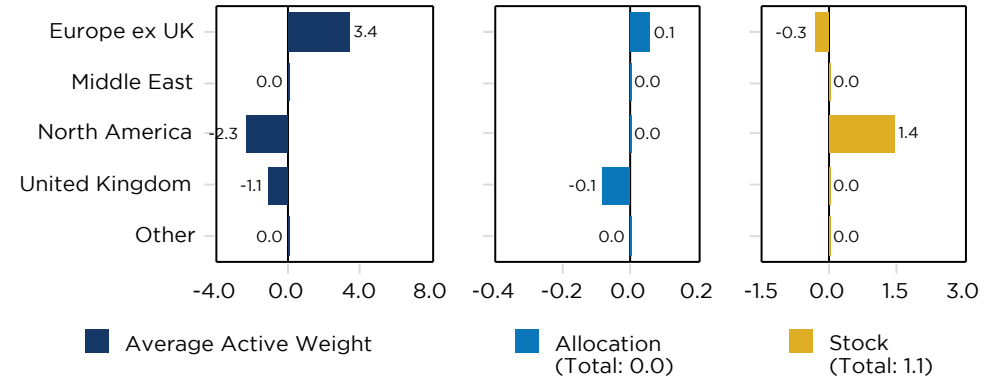
3 Years Rolling Percentile Ranking



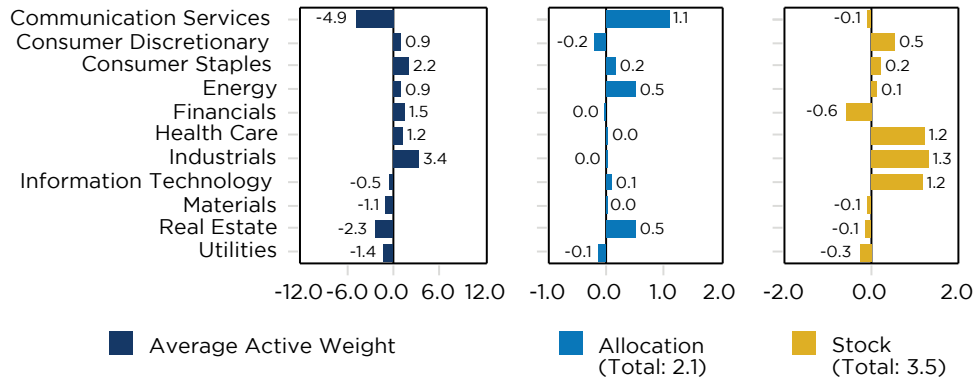
1 Quarter Sector Attribution



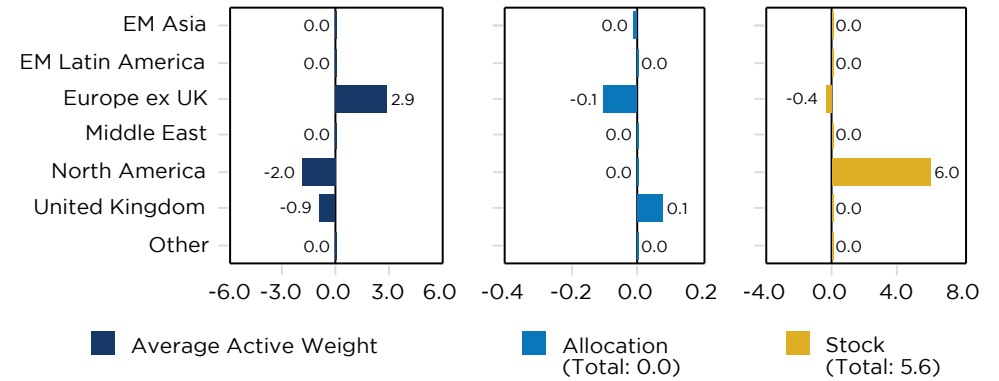
1 Quarter Region Attribution



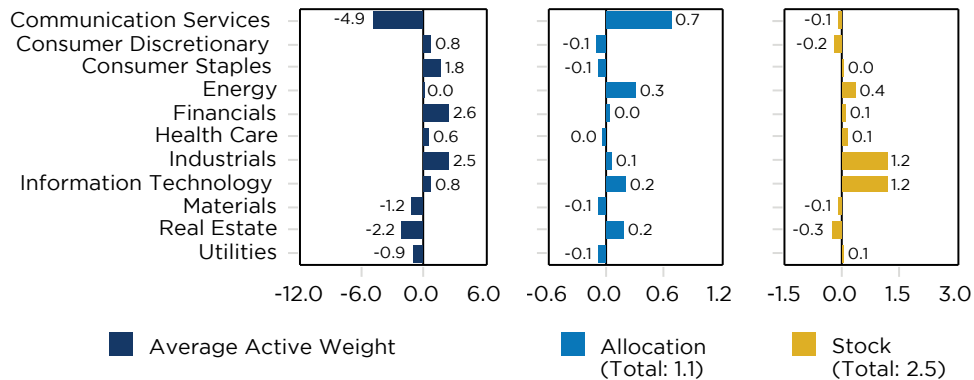
1 Year Sector Attribution



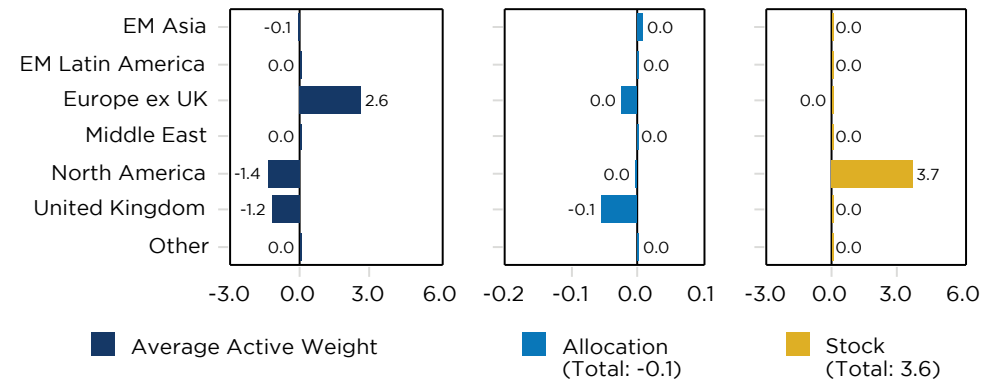
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution

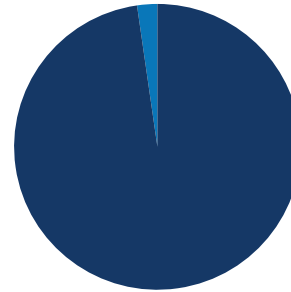


Top Ten Securities

ConocoPhillips	3.0 %
Exxon Mobil Corp	2.9 %
Bristol-Myers Squibb Co	2.7 %
UnitedHealth Group Inc	2.6 %
Raytheon Technologies Corp	2.4 %
JPMorgan Prime Money Market Inst	2.3 %
Air Products & Chemicals Inc	2.1 %
Bank of America Corp	2.0 %
Johnson & Johnson	1.9 %
General Dynamics Corp	1.9 %
Total	23.9 %

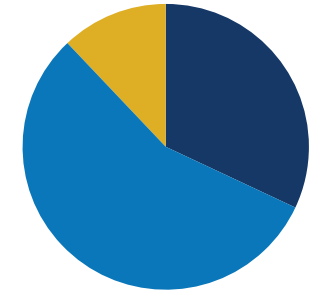
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Air Products and Chemicals Inc.	1.86	0.31	0.32	33.14
TJX Companies Inc (The)	1.47	0.00	0.24	28.68
Blackrock Inc	1.63	0.50	0.19	29.66
Raytheon Technologies Corp	2.34	0.74	0.19	24.00
AbbVie Inc	1.67	0.00	0.15	21.60
Philip Morris International Inc	1.81	0.78	0.11	23.47
EOG Resources Inc.	1.92	0.11	0.10	18.03
Conocophillips	3.17	0.79	0.10	16.44
General Dynamics Corp	1.88	0.31	0.08	17.60
Exxon Mobil Corp	2.74	2.20	0.08	27.35

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
V.F. Corp	1.00	0.00	0.42	48.26
Fidelity Natiaol Info Serv Inc.	1.19	0.23	0.18	25.16
Vornado Realty Trust	0.62	0.08	0.18	38.88
Stanley Black & Decker Inc	0.68	0.17	0.11	27.41
Hasbro Inc.	0.98	0.00	0.10	16.28
Las Vegas Sands Corp	0.89	0.08	0.05	12.11
Medtronic PLC	1.46	1.06	0.02	10.89
Comcast Corp	1.97	0.75	0.01	6.38
Wells Fargo & Co	1.85	1.42	0.00	6.48
Verizon Communications Inc	1.69	1.77	0.00	10.62

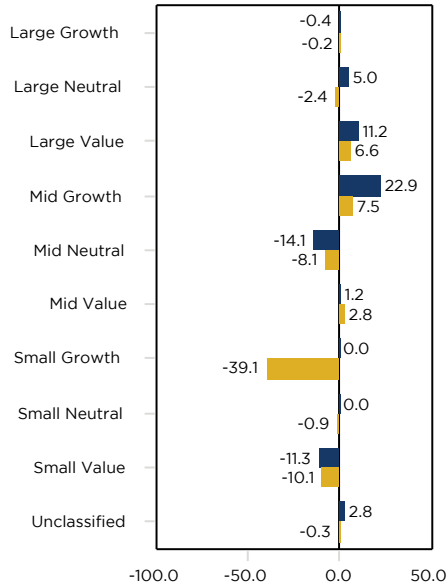
Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
CVS Health Corp	1.91	0.76	-0.16	-1.70
CME Group Inc	1.47	0.38	-0.16	-1.97
Advance Auto Parts Inc.	0.83	0.05	-0.14	-4.97
Medtronic PLC	1.52	0.65	-0.13	-2.90
AvalonBay Communities Inc.	0.51	0.16	-0.08	-11.45
Republic Services Inc.	0.63	0.16	-0.08	-4.82
Apple Inc	0.33	0.00	-0.06	-5.83
Boston Properties Inc	0.33	0.07	-0.05	-8.55
Dominion Energy Inc	0.51	0.35	-0.04	-10.29
Fidelity Natiaol Info Serv Inc.	0.20	0.28	0.02	-9.61

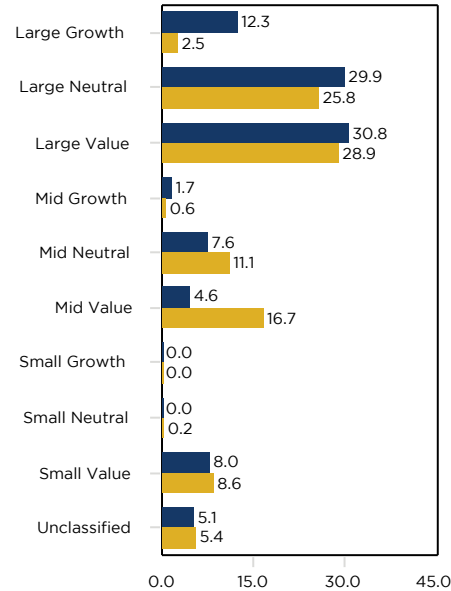
Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Conocophillips	2.24	0.50	-0.47	-21.19
Eli Lilly and Co	1.15	0.00	-0.41	-30.05
Microsoft Corp	1.95	0.00	-0.39	-13.86
Apple Inc	1.51	0.00	-0.36	-17.89
Blackrock Inc	2.15	0.41	-0.33	-12.97
Chevron Corp	2.93	1.60	-0.30	-16.48
Unitedhealth Group Inc	1.16	0.00	-0.29	-19.01
DEERE & COMPANY	1.03	0.34	-0.23	-27.05
Raytheon Technologies Corp	1.42	0.84	-0.16	-22.06
Exxon Mobil Corp	1.24	2.05	0.20	-19.03

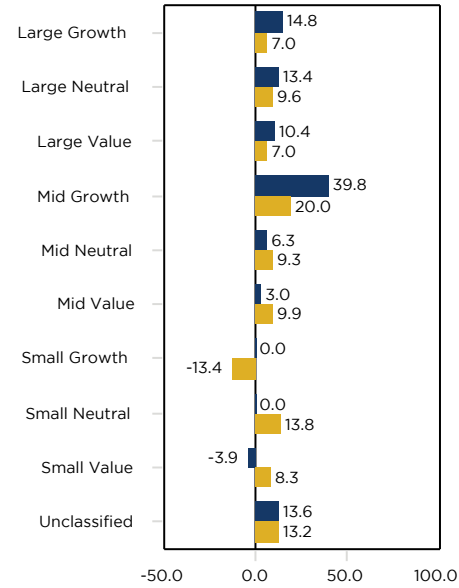
Performance | 1 Year



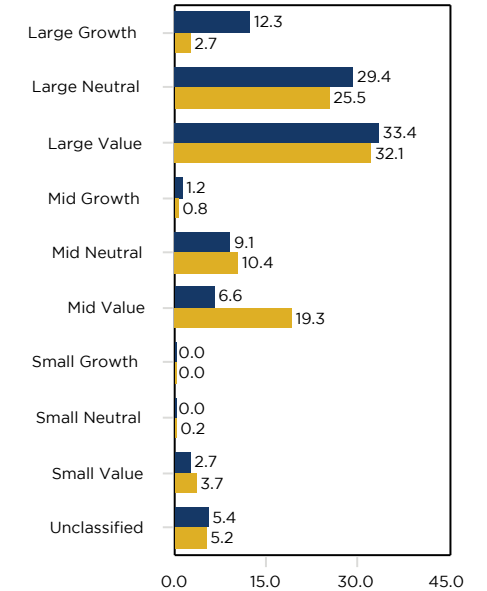
Allocation | 1 Year



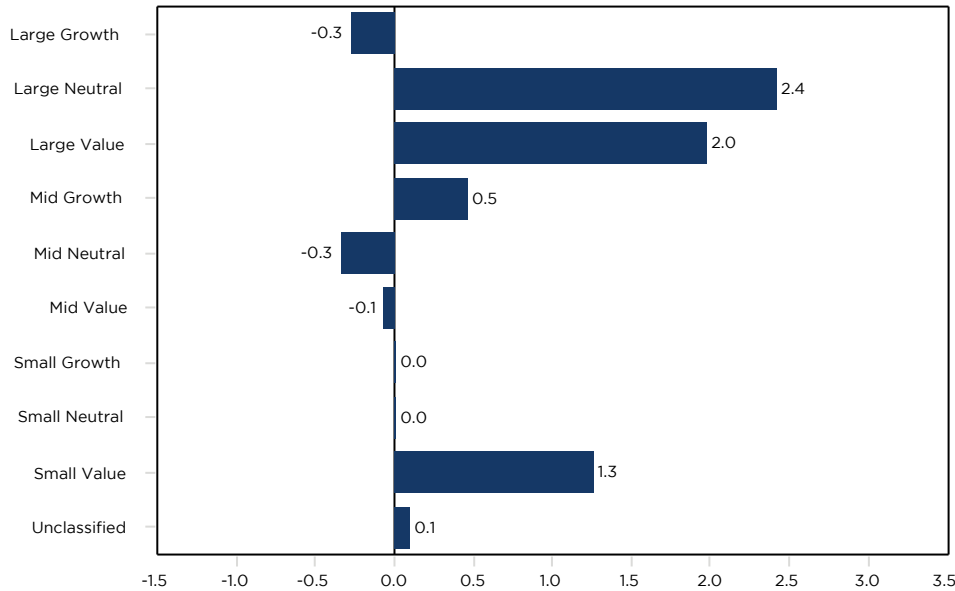
Performance | 3 Years



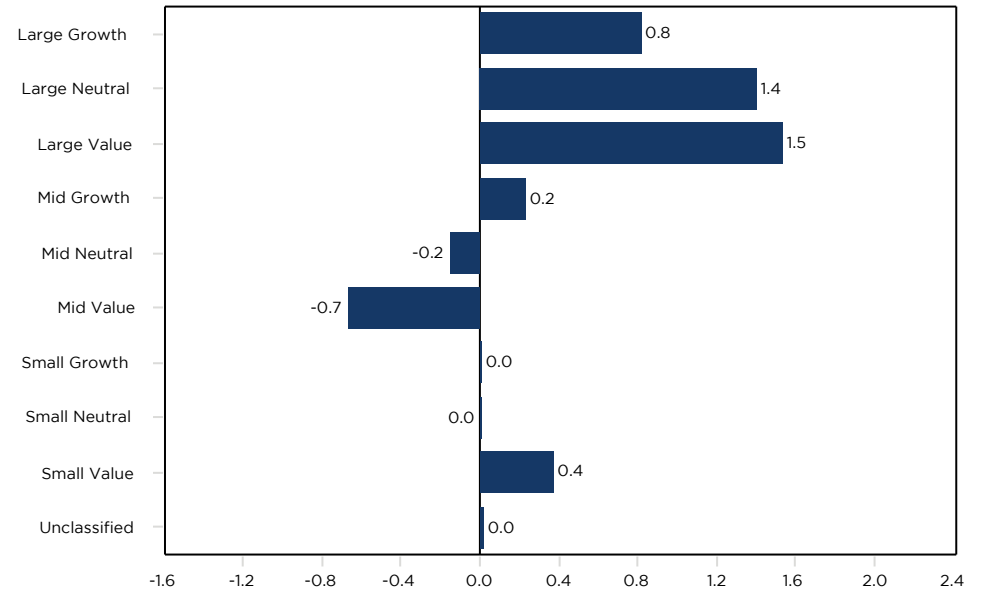
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years





American Funds Fundamental Invs R6 (RFNGX)

Index: S&P 500 Index
Category: Large Blend
As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	10.91 (17)	-16.40 (36)	-16.40 (36)	5.81 (79)	7.27 (76)	11.49 (55)	22.88 (86)	15.30 (61)	28.02 (70)	-6.33 (60)
Benchmark	7.56	-18.11	-18.11	7.66	9.42	12.56	28.71	18.40	31.49	-4.38
Peer Group	7.96	-18.12	-18.12	7.11	8.57	11.62	26.73	17.17	29.84	-5.61
Population	1,434	1,369	1,369	1,258	1,186	1,012	1,359	1,362	1,392	1,417

Fund Information

Fund Inception	05/01/2009
Fund Assets	104,149 Million
Portfolio Assets	20,692 Million
Total # of Holdings	297
% in Top 10	24.55 %
PM	Team Managed
PM Tenure	
Turnover	25.00 %
Gross Expense (%)	0.28 %
Net Expense (%)	0.28 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	248,154	413,469
Median Mkt. Cap (\$M)	40,154	29,555
Price/Earnings ratio	16.8	19.2
Price/Book ratio	3.5	3.9
5 Yr. EPS Growth Rate (%)	21.5	17.7
Current Yield (%)	1.9	1.8
Beta (5 Years, Monthly)	0.96	1.00
Number of Stocks	310	503
Debt to Equity (%)	74.8	116.8
Forecast P/E	15.0	16.8
Forecast EPS Growth	12.9	11.5
Return on Equity (%)	11.8	10.9

Country/Region Allocation

United States	79.2	96.9
Non-US Developed	17.2	3.1
Emerging Markets	3.2	0.0
Other	0.4	0.0
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	20.37	14.50
vs. S&P 500 Index		
Beta	0.96	0.97
Alpha	-1.46	-0.58
Information Ratio	-0.51	-0.36
Tracking Error	3.58	2.79
R-Squared	0.97	0.96
Up Market Capture	94.51	96.59
Down Market Capture	99.57	100.52
Consistency	47.22	42.50

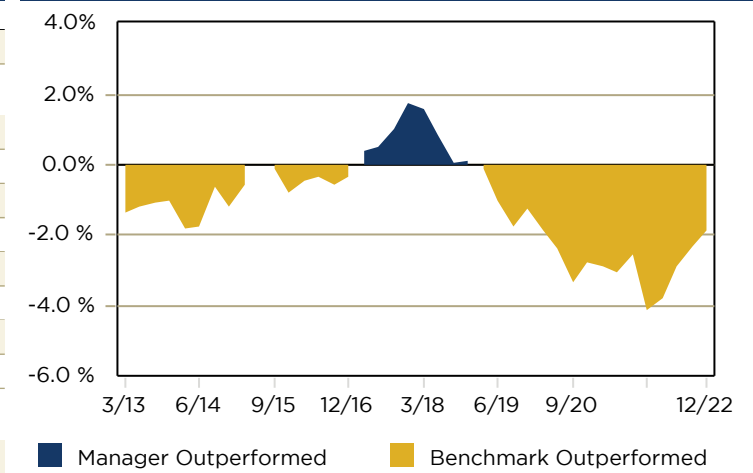
vs. Risk Free

Sharpe Ratio	0.34	0.77
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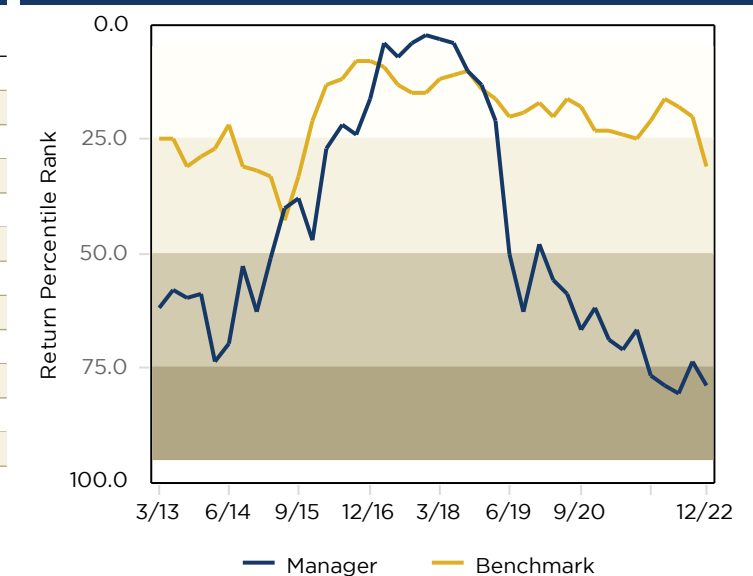
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	6.5	7.3
Consumer Discretionary	12.1	9.8
Consumer Staples	8.9	7.2
Energy	6.1	5.2
Financials	10.2	11.7
Health Care	15.9	15.8
Industrials	11.3	8.7
Information Technology	20.1	25.7
Materials	4.8	2.7
Real Estate	1.3	2.7
Utilities	2.8	3.2
Total	100.0	100.0

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking

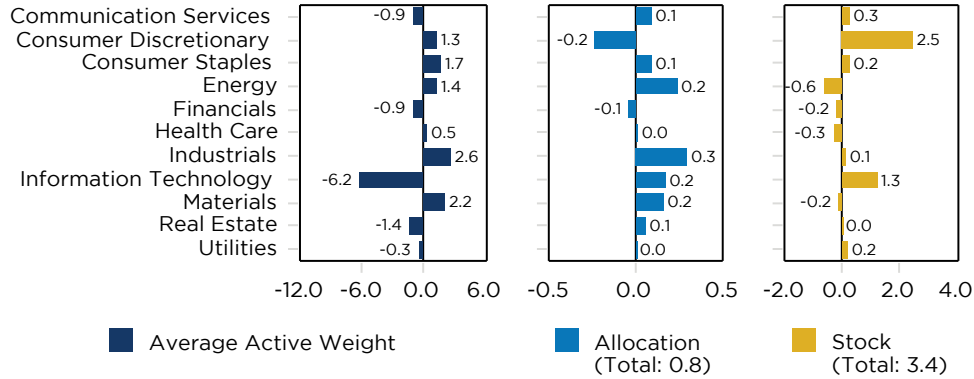




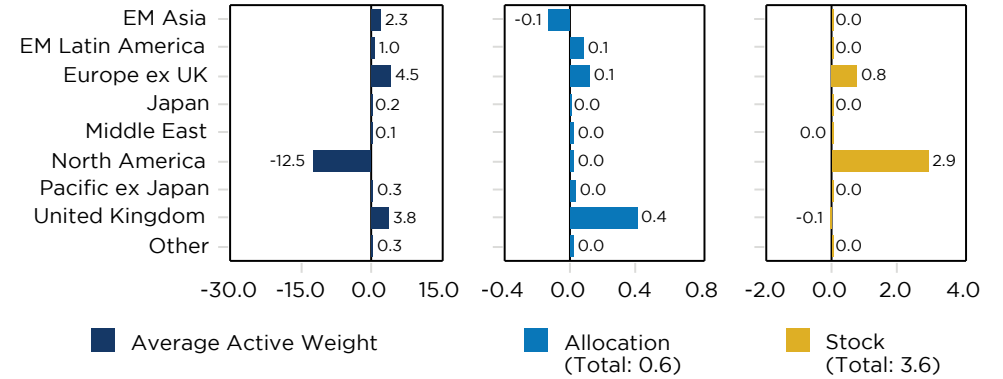
American Funds Fundamental Invs R6 (RFNGX)

Index: S&P 500 Index
As of: 12/31/2022

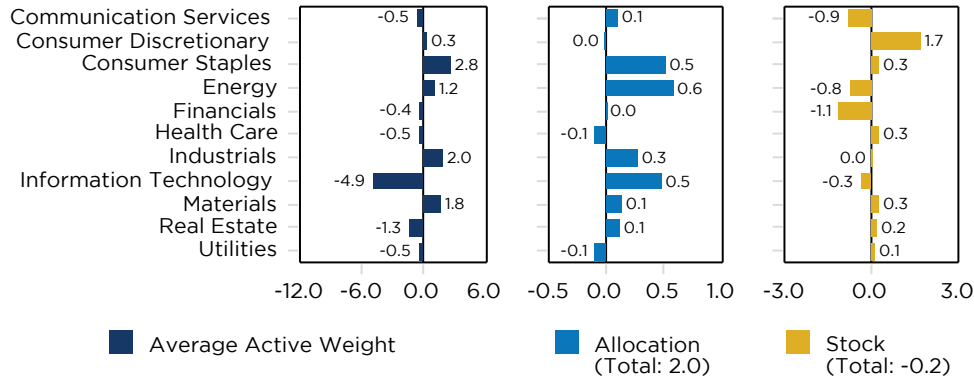
1 Quarter Sector Attribution



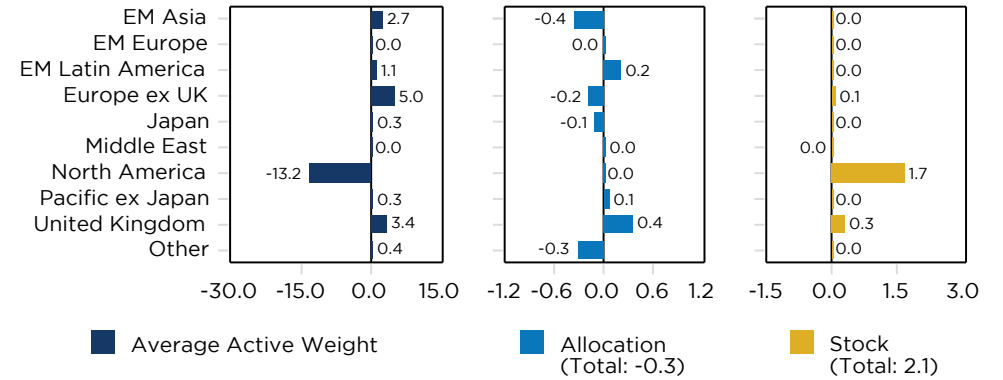
1 Quarter Region Attribution



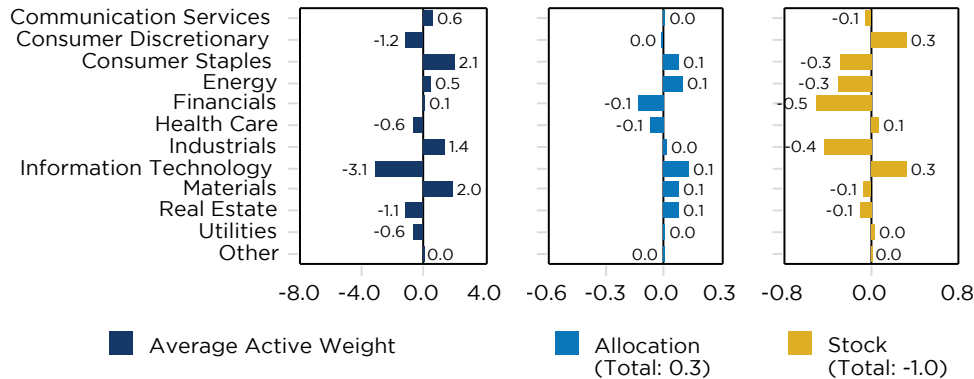
1 Year Sector Attribution



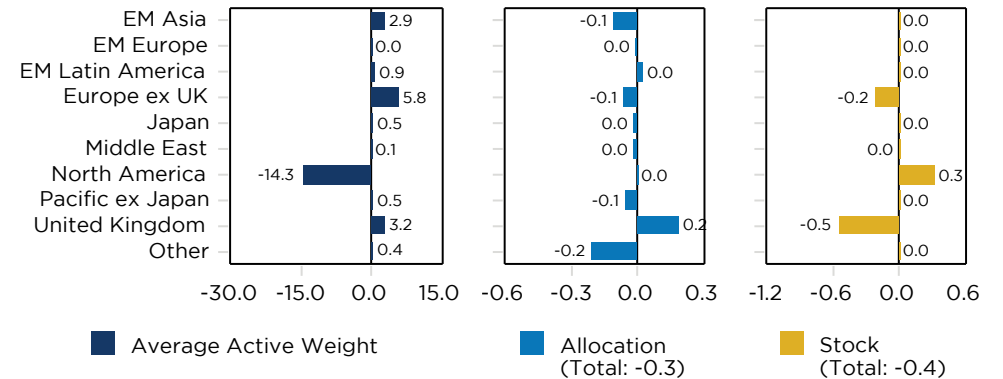
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution





American Funds Fundamental Invs R6 (RFNGX)

Index: S&P 500 Index

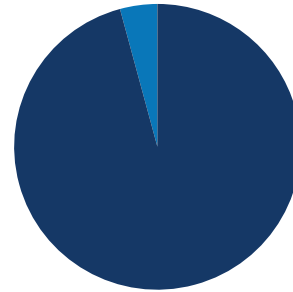
As of: 12/31/2022

Top Ten Securities

Capital Group Central Cash Fund	4.3 %
Microsoft Corp	4.3 %
Broadcom Inc	4.3 %
Philip Morris International Inc	2.4 %
UnitedHealth Group Inc	2.2 %
Centene Corp	1.7 %
British American Tobacco PLC	1.5 %
Alphabet Inc Class C	1.5 %
Eli Lilly and Co	1.4 %
Pfizer Inc	1.2 %
Total	24.6 %

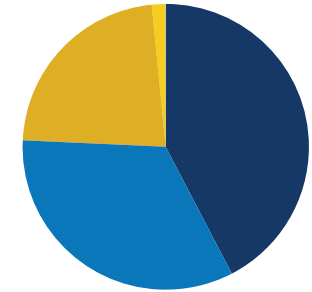
Asset Allocation

- Equity
- Cash
- Other
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Broadcom Inc	3.96	0.60	0.65	26.98
Philip Morris International Inc	2.10	0.43	0.27	23.47
Apollo Global Management Inc	0.64	0.00	0.20	38.06
Astrazeneca PLC	0.93	0.00	0.18	27.19
AES Corp (The)	0.86	0.05	0.17	28.02
Canadian Natural Resources	1.09	0.00	0.14	20.60
Netflix Inc	1.06	0.35	0.13	25.25
Boeing Co	0.45	0.22	0.11	57.33
Caterpillar Inc	0.55	0.29	0.10	46.92
Comcast Corp	1.10	0.43	0.09	20.27

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
bluebird bio Inc	0.15	0.00	0.13	96.83
Allakos Inc	0.11	0.00	0.13	124.57
Boeing Co	1.72	0.65	0.13	19.35
Meta Platforms Inc	2.74	1.85	0.11	19.48
Intel Corp	1.46	0.97	0.10	27.50
Charter Communications Inc	1.86	0.28	0.08	12.67
RingCentral Inc	0.12	0.00	0.07	68.27
Citigroup Inc	0.68	0.65	0.00	16.55
Comcast Corp	1.39	0.76	-0.01	6.38
Walt Disney Co (The)	0.41	0.97	-0.06	18.52

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Coufang Inc	0.68	0.00	-0.13	-11.76
Wolfspeed Inc	0.30	0.00	-0.12	-33.20
Regal Rexnord Corporation	0.56	0.00	-0.12	-14.27
Blackstone Inc	0.62	0.00	-0.11	-10.51
Agilon Health Inc	0.24	0.00	-0.09	-31.08
ZoomInfo Technologies Inc	0.20	0.00	-0.07	-27.72
Meta Platforms Inc	1.19	1.03	-0.03	-11.31
Alphabet Inc	1.90	1.71	-0.03	-7.72
Amazon.com Inc	1.87	3.33	0.49	-25.66
Apple Inc	1.04	6.93	0.79	-5.83

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Broadcom Inc	3.61	0.47	-0.87	-20.18
Unitedhealth Group Inc	2.95	1.04	-0.51	-19.01
ASML Holding NV	1.34	0.00	-0.36	-19.21
Taiwan Semiconductor ORD	1.82	0.00	-0.34	-11.22
Microsoft Corp	5.64	4.50	-0.25	-13.86
Regeneron Pharma	0.89	0.11	-0.21	-19.56
Berkshire Hathaway Inc	2.48	1.66	-0.15	-10.19
DEERE & COMPANY	0.52	0.20	-0.11	-27.05
Thermo Fisher Scientific Inc	0.75	0.49	-0.06	-16.31
Alphabet Inc	1.46	1.49	0.01	-9.01

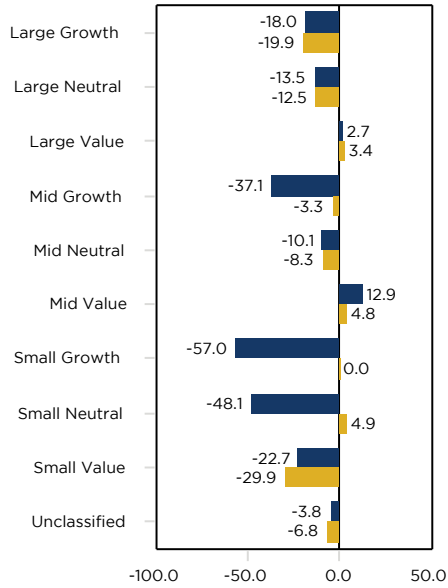


American Funds Fundamental Invs R6 (RFNGX)

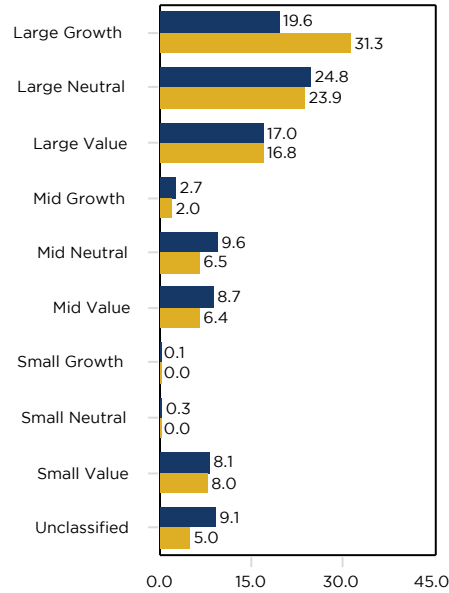
Index: S&P 500 Index

As of: 12/31/2022

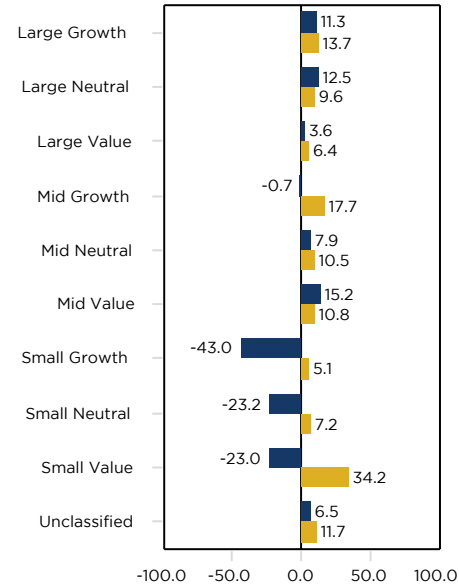
Performance | 1 Year



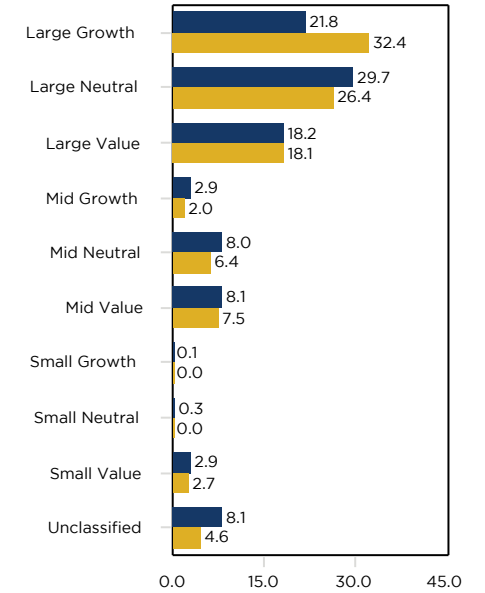
Allocation | 1 Year



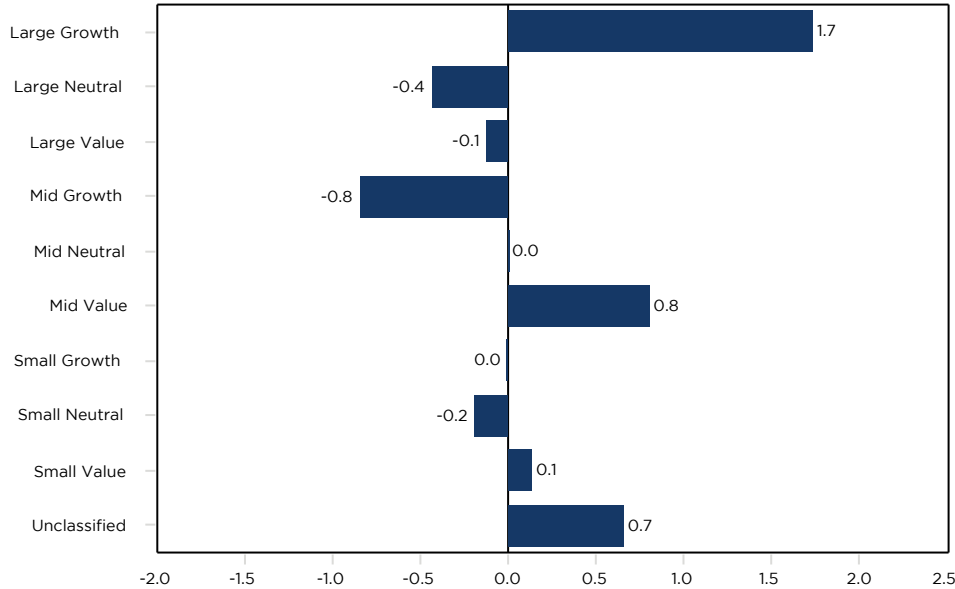
Performance | 3 Years



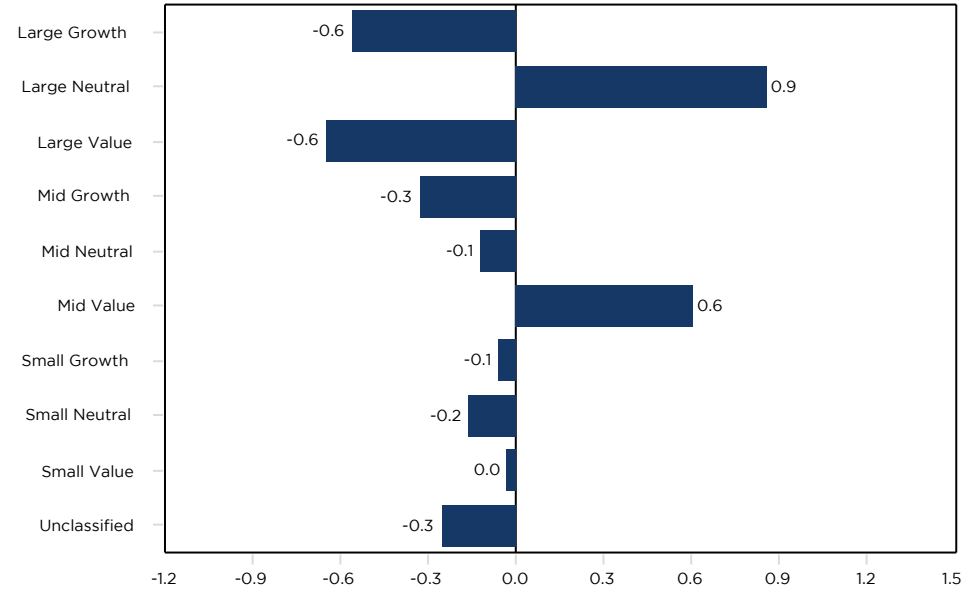
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.



Parnassus Core Equity Institutional (PRILX)

Index: S&P 500 Index
 Category: Large Blend
 As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	9.64 (31)	-18.45 (58)	-18.45 (58)	8.19 (20)	10.66 (4)	12.64 (10)	27.82 (36)	21.47 (15)	30.96 (35)	0.05 (2)
Benchmark	7.56	-18.11	-18.11	7.66	9.42	12.56	28.71	18.40	31.49	-4.38
Peer Group	7.96	-18.12	-18.12	7.11	8.57	11.62	26.73	17.17	29.84	-5.61
Population	1,434	1,369	1,369	1,258	1,186	1,012	1,359	1,362	1,392	1,417

Fund Information

Fund Inception	04/28/2006
Fund Assets	24,585 Million
Portfolio Assets	13,124 Million
Total # of Holdings	39
% in Top 10	39.08 %
PM	Ahlsten,T/Allen,B/Choi,A
PM Tenure	
Turnover	25.82 %
Gross Expense (%)	0.61 %
Net Expense (%)	0.61 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	354,820	413,469
Median Mkt. Cap (\$M)	130,231	29,555
Price/Earnings ratio	23.5	19.2
Price/Book ratio	4.2	3.9
5 Yr. EPS Growth Rate (%)	14.5	17.7
Current Yield (%)	1.3	1.8
Beta (5 Years, Monthly)	0.91	1.00
Number of Stocks	38	503
Debt to Equity (%)	104.3	116.8
Forecast P/E	20.6	16.8
Forecast EPS Growth	12.7	11.5
Return on Equity (%)	11.4	10.9

Country/Region Allocation

United States	93.7	96.9
Non-US Developed	6.3	3.1
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	19.51	13.68
vs. S&P 500 Index		
Beta	0.92	0.91
Alpha	0.97	1.16
Information Ratio	0.06	-0.02
Tracking Error	3.60	3.45
R-Squared	0.97	0.95
Up Market Capture	95.54	94.15
Down Market Capture	93.06	89.38
Consistency	44.44	45.83

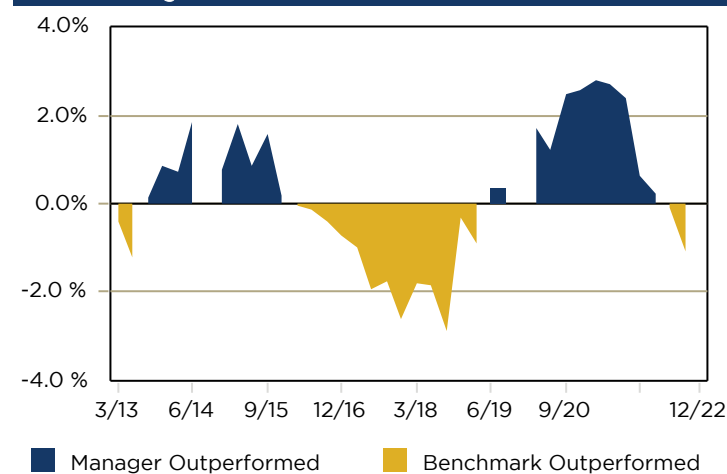
vs. Risk Free

Sharpe Ratio	0.46	0.88
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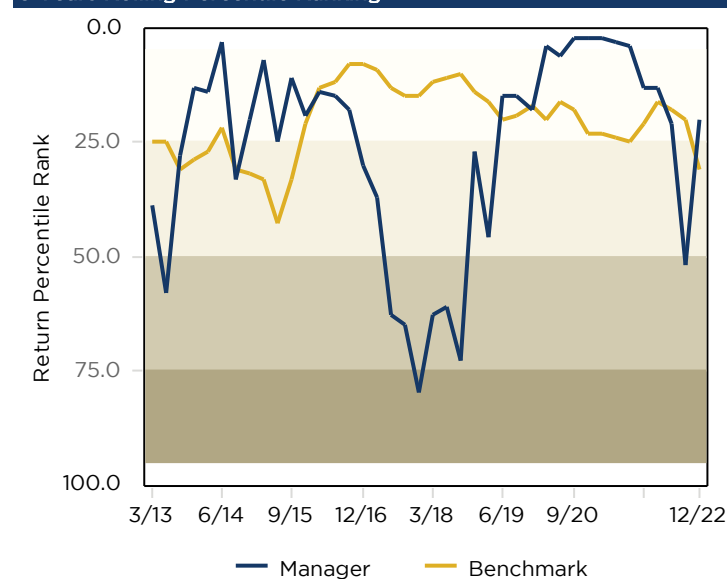
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	8.3	7.3
Consumer Discretionary	3.1	9.8
Consumer Staples	9.1	7.2
Energy	0.0	5.2
Financials	15.7	11.7
Health Care	11.6	15.8
Industrials	12.4	8.7
Information Technology	31.2	25.7
Materials	7.3	2.7
Real Estate	1.4	2.7
Utilities	0.0	3.2
Total	100.0	100.0

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking

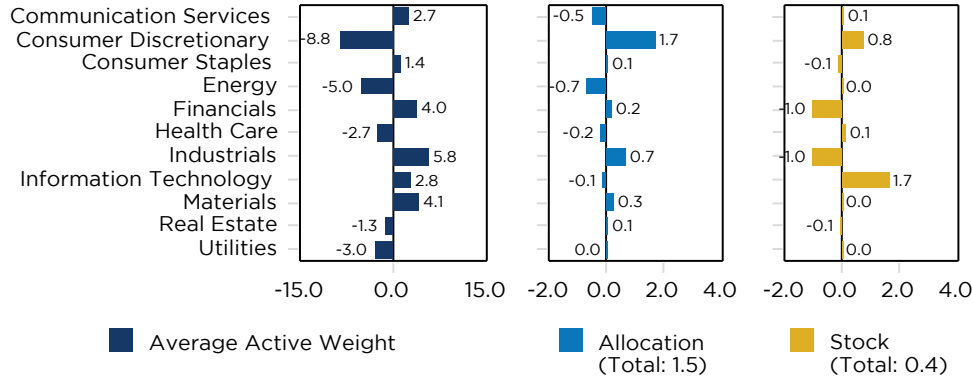




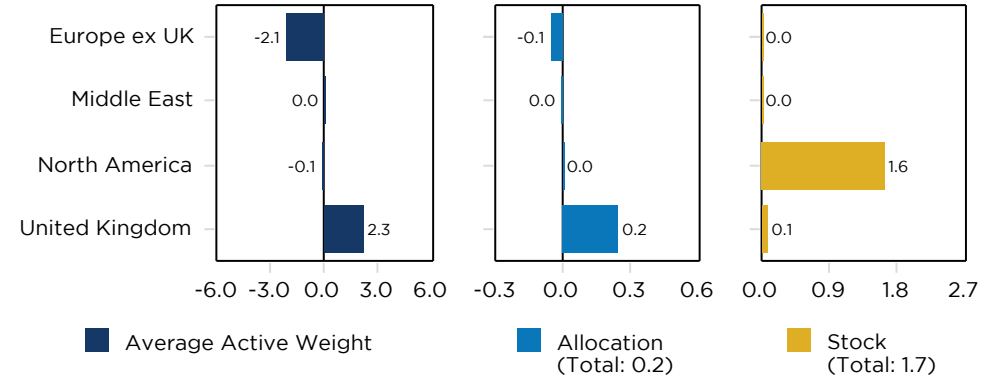
Parnassus Core Equity Institutional (PRILX)

Index: S&P 500 Index
As of: 12/31/2022

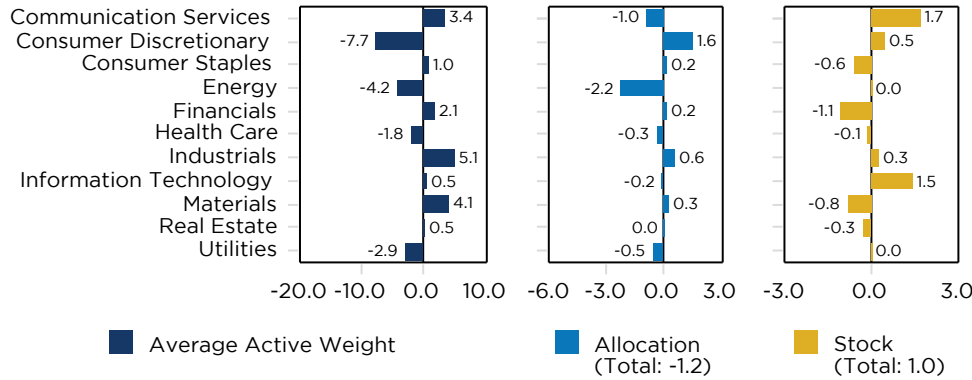
1 Quarter Sector Attribution



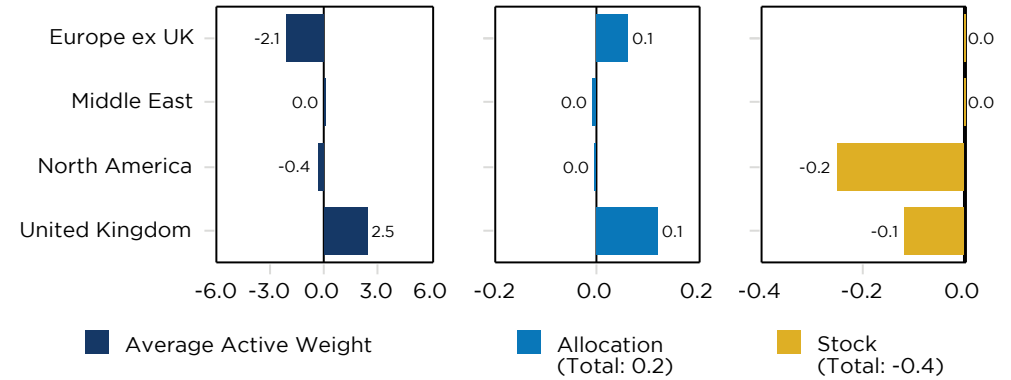
1 Quarter Region Attribution



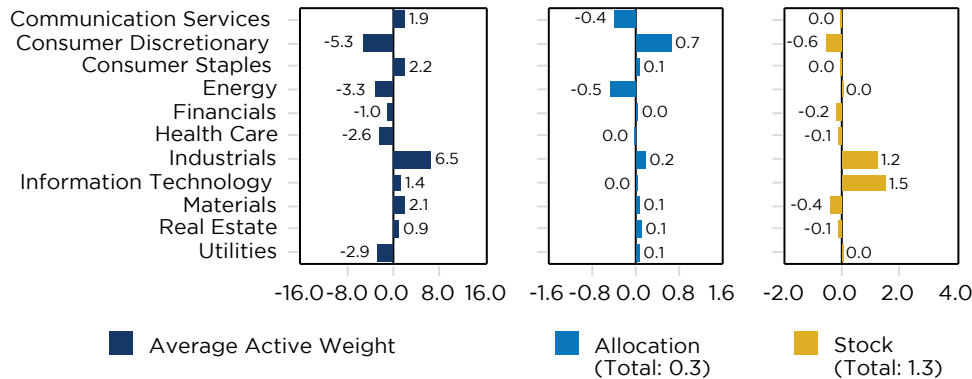
1 Year Sector Attribution



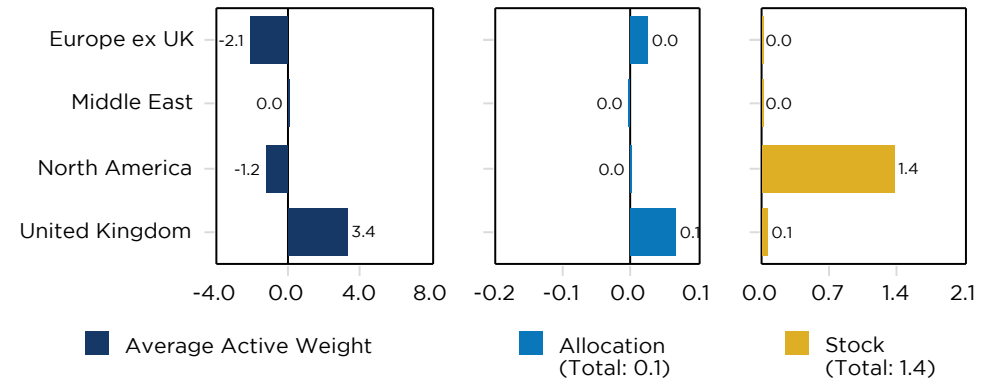
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution





Parnassus Core Equity Institutional (PRILX)

Index: S&P 500 Index

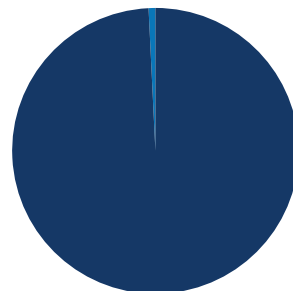
As of: 12/31/2022

Top Ten Securities

Microsoft Corp	6.7 %
Alphabet Inc Class A	5.0 %
Deere & Co	4.3 %
Fiserv Inc	4.2 %
Mastercard Inc Class A	3.7 %
Procter & Gamble Co	3.2 %
Linde PLC	3.2 %
Gilead Sciences Inc	3.0 %
Charles Schwab Corp	2.9 %
Oracle Corp	2.9 %
Total	39.1 %

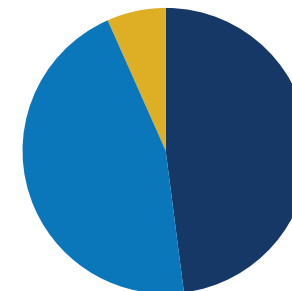
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
DEERE & COMPANY	4.12	0.31	0.81	28.77
Gilead Sciences Inc	2.18	0.26	0.63	40.31
Oracle Corp	2.32	0.31	0.54	34.53
Mastercard Inc	3.16	0.81	0.35	22.49
Linde Plc	2.95	0.45	0.35	21.41
Adobe Inc	2.57	0.43	0.32	22.29
Mondelez International Inc	2.27	0.25	0.30	22.26
Comcast Corp	2.76	0.43	0.30	20.27
Becton Dickinson and Co	4.07	0.21	0.27	14.54
Procter & Gamble Co (The)	2.81	1.00	0.24	20.91

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
V.F. Corp	3.09	0.12	1.21	48.26
Walt Disney Co (The)	4.97	0.97	0.43	18.52
Verizon Communications Inc	3.55	0.95	0.08	10.62
Comcast Corp	2.04	0.76	-0.02	6.38
AvalonBay Communities Inc.	0.95	0.11	-0.02	5.38
Digital Realty Trust Inc	1.64	0.09	-0.08	2.46
CME Group Inc	3.36	0.27	-0.15	2.74
Sysco Corporation	3.01	0.16	-0.19	1.11
PPG Industries Inc.	2.72	0.12	-0.19	0.28
Clorox Co (The)	3.22	0.07	-0.23	0.41

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Alphabet Inc	5.68	1.90	-0.58	-7.76
CME Group Inc	3.96	0.21	-0.36	-1.97
Waste Management Inc.	2.81	0.20	-0.24	-1.70
Costco Wholesale Corp	2.22	0.69	-0.16	-3.16
American Tower Corp	1.50	0.33	-0.09	0.16
Micron Technology Inc.	1.14	0.18	-0.07	0.20
Verizon Communications Inc	1.78	0.53	-0.03	5.55
Union Pacific Corp	0.96	0.40	0.00	6.94
Texas Instruments Inc	1.12	0.47	0.00	7.57
Apple Inc	3.25	6.93	0.49	-5.83

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Danaher Corp	3.64	0.37	-0.81	-16.99
Cadence Design Systems Inc	2.37	0.07	-0.74	-24.42
DEERE & COMPANY	2.05	0.20	-0.64	-27.05
Costco Wholesale Corp	3.27	0.49	-0.63	-15.02
Linde Plc	3.24	0.43	-0.63	-14.60
Synopsys Inc	2.01	0.08	-0.61	-24.17
NVIDIA Corporation	2.23	0.54	-0.57	-26.25
Waste Management Inc.	2.83	0.17	-0.51	-11.63
Gilead Sciences Inc	2.53	0.31	-0.45	-12.64
Microsoft Corp	6.40	4.50	-0.41	-13.86

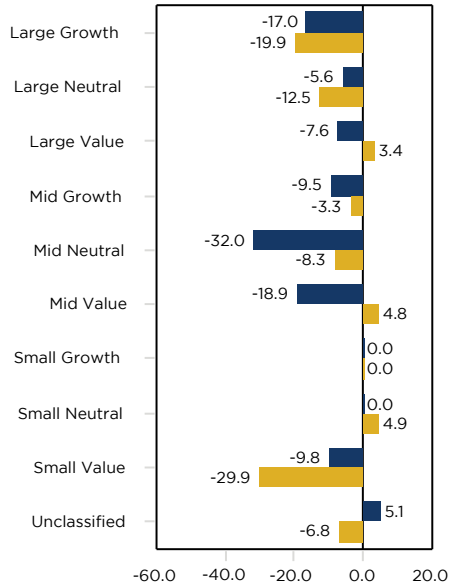


Parnassus Core Equity Institutional (PRILX)

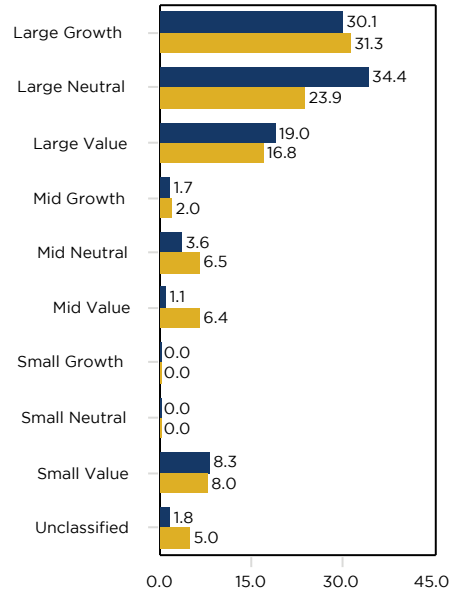
Index: S&P 500 Index

As of: 12/31/2022

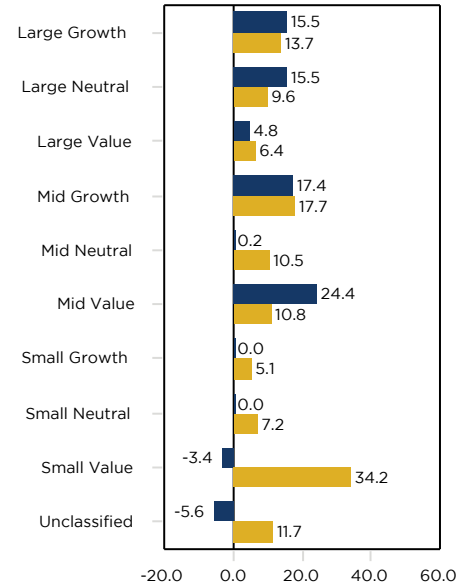
Performance | 1 Year



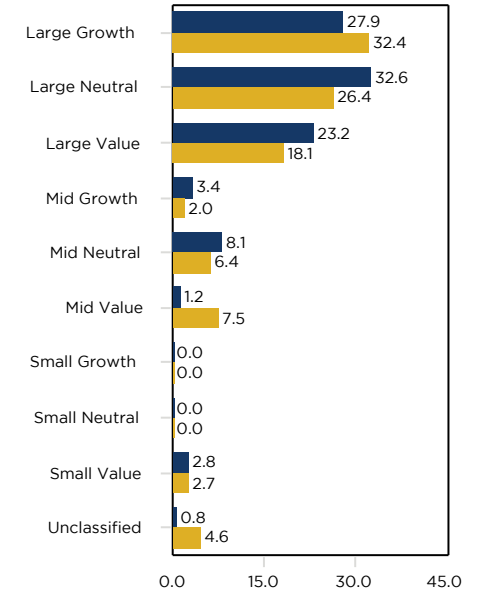
Allocation | 1 Year



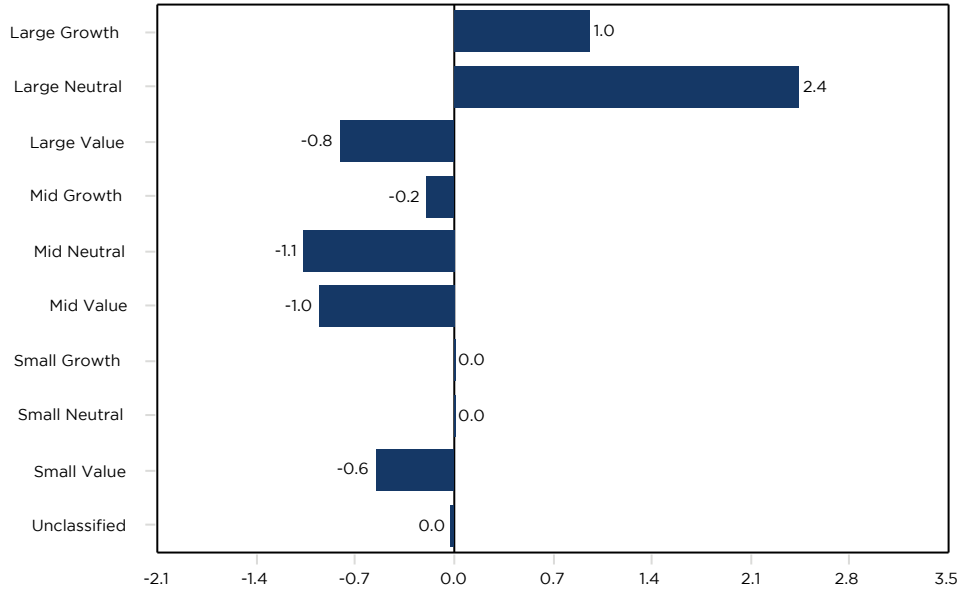
Performance | 3 Years



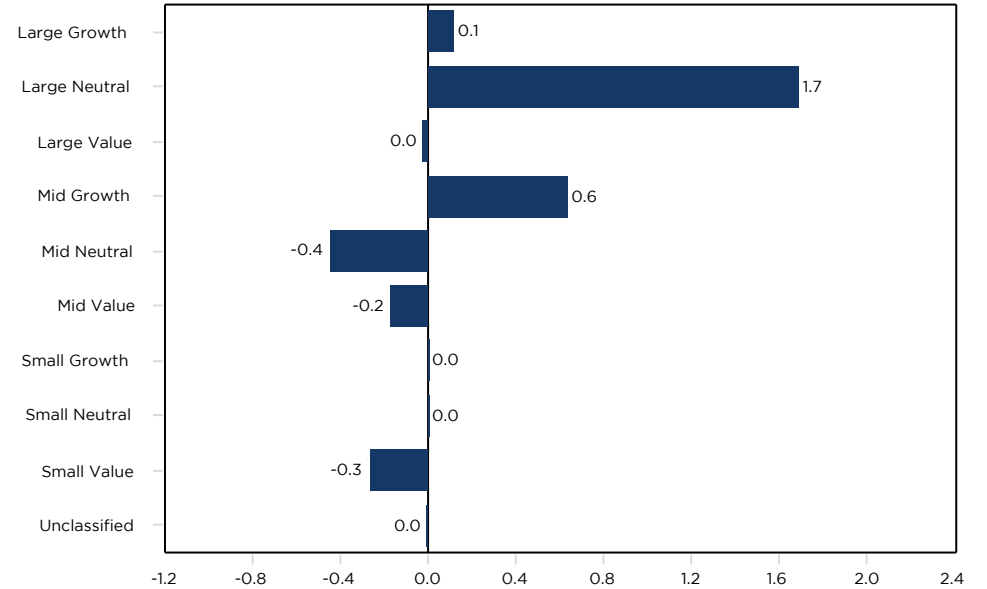
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.



Vanguard Institutional Index I (VINIX)

Index: S&P 500 Index
 Category: Large Blend
 As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	7.55 (59)	-18.14 (51)	-18.14 (51)	7.64 (32)	9.40 (21)	12.53 (12)	28.67 (22)	18.39 (37)	31.46 (23)	-4.42 (25)
Benchmark	7.56	-18.11	-18.11	7.66	9.42	12.56	28.71	18.40	31.49	-4.38
Peer Group	7.96	-18.12	-18.12	7.11	8.57	11.62	26.73	17.17	29.84	-5.61
Population	1,434	1,369	1,369	1,258	1,186	1,012	1,359	1,362	1,392	1,417

Fund Information

Fund Inception	07/31/1990
Fund Assets	233,953 Million
Portfolio Assets	98,074 Million
Total # of Holdings	506
% in Top 10	24.29 %
PM	Butler,D/Louie,M
PM Tenure	
Turnover	3.00 %
Gross Expense (%)	0.04 %
Net Expense (%)	0.04 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	414,237	413,469
Median Mkt. Cap (\$M)	29,564	29,555
Price/Earnings ratio	19.2	19.2
Price/Book ratio	3.9	3.9
5 Yr. EPS Growth Rate (%)	17.7	17.7
Current Yield (%)	1.8	1.8
Beta (5 Years, Monthly)	1.00	1.00
Number of Stocks	503	503
Debt to Equity (%)	116.7	116.8
Forecast P/E	16.8	16.8
Forecast EPS Growth	11.5	11.5
Return on Equity (%)	10.9	10.9

Country/Region Allocation

United States	96.9	96.9
Non-US Developed	3.1	3.1
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	20.87	14.71
vs. S&P 500 Index		
Beta	1.00	1.00
Alpha	-0.02	-0.03
Information Ratio	-2.53	-2.35
Tracking Error	0.01	0.01
R-Squared	1.00	1.00
Up Market Capture	99.97	99.93
Down Market Capture	100.05	100.06
Consistency	13.89	20.00

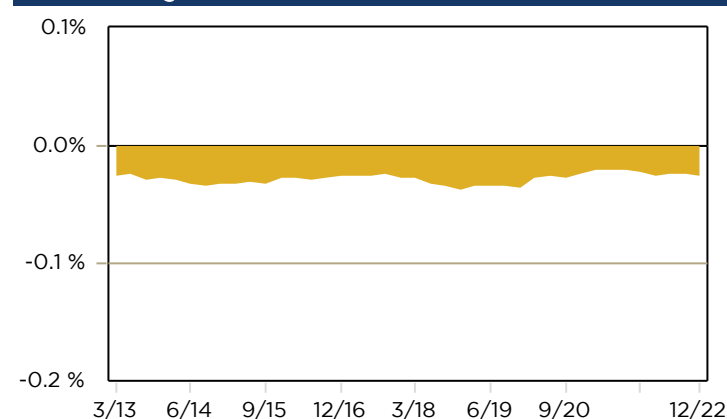
vs. Risk Free

Sharpe Ratio	0.42	0.83
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Sector Allocation

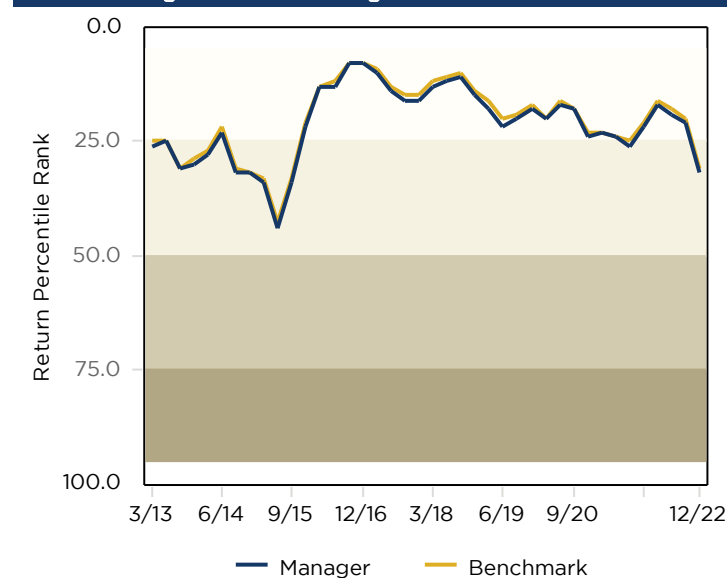
Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	7.3	7.3
Consumer Discretionary	9.8	9.8
Consumer Staples	7.2	7.2
Energy	5.3	5.2
Financials	11.6	11.7
Health Care	15.8	15.8
Industrials	8.7	8.7
Information Technology	25.7	25.7
Materials	2.7	2.7
Real Estate	2.7	2.7
Utilities	3.2	3.2
Total	100.0	100.0

3 Years Rolling Excess Performance

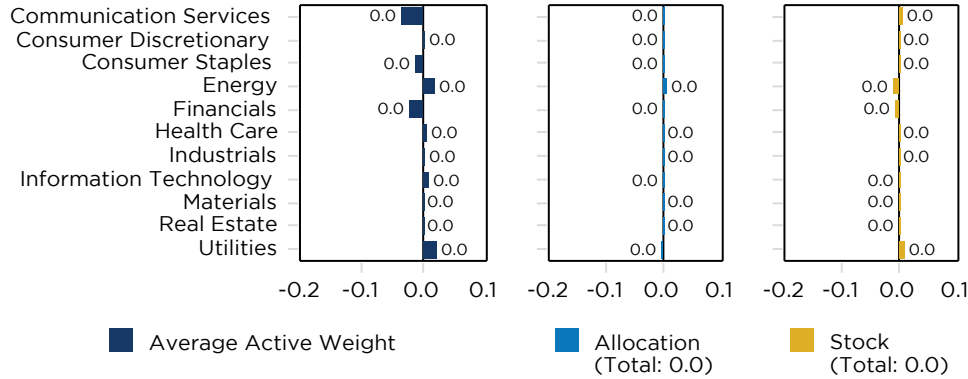


■ Manager Outperformed ■ Benchmark Outperformed

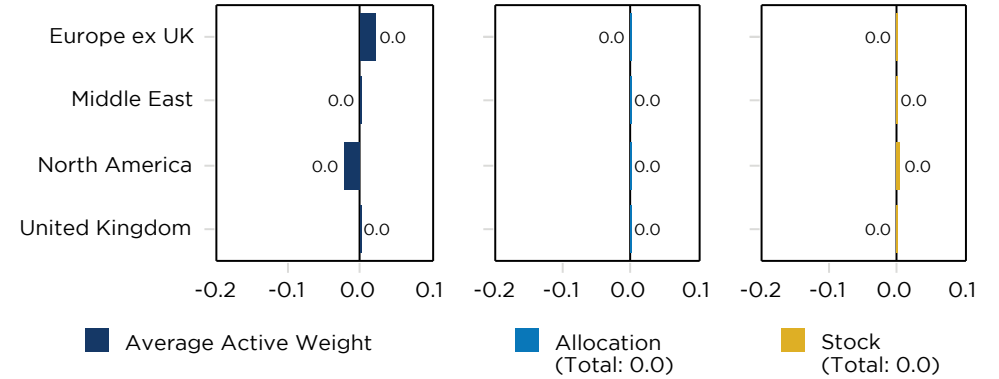
3 Years Rolling Percentile Ranking



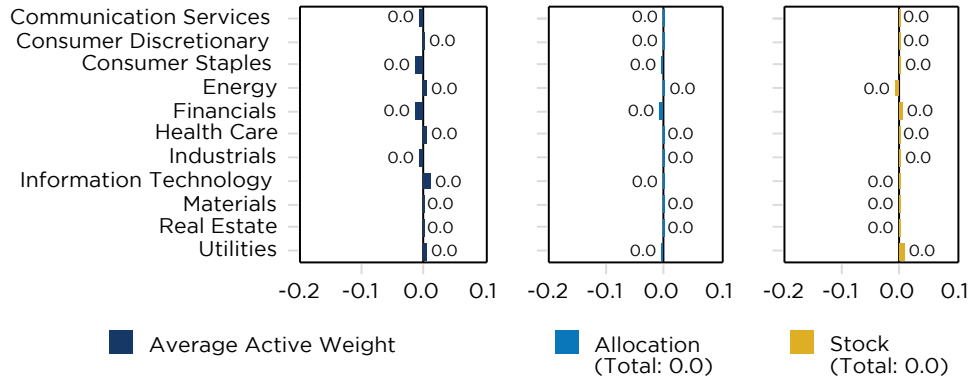
1 Quarter Sector Attribution



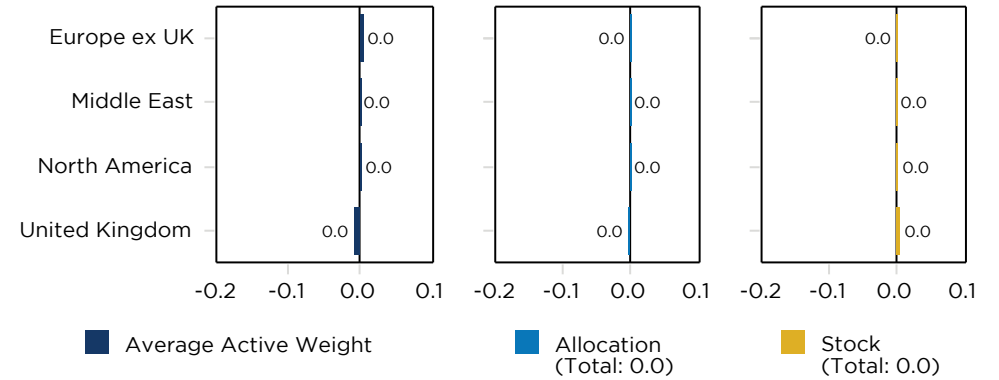
1 Quarter Region Attribution



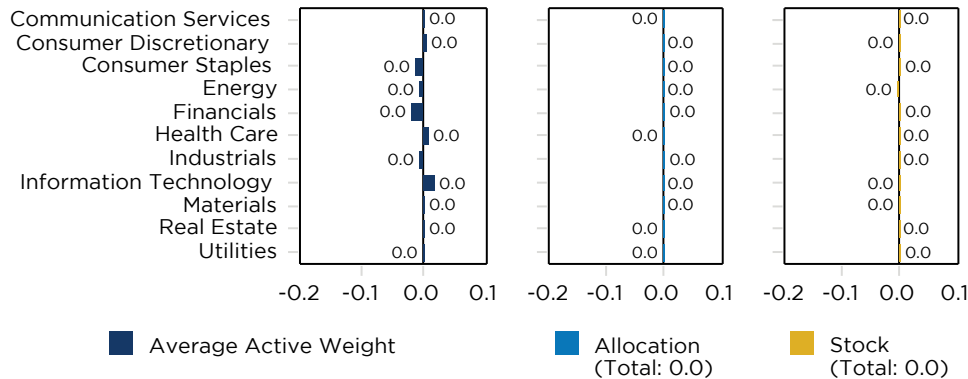
1 Year Sector Attribution



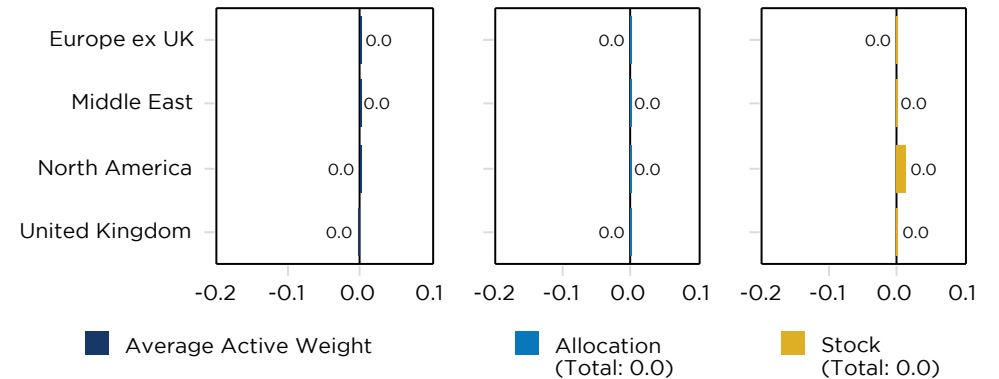
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution

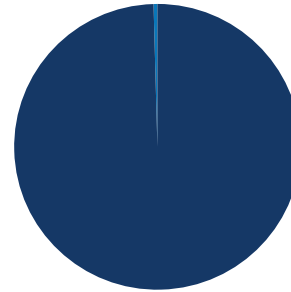


Top Ten Securities

Apple Inc	6.0 %
Microsoft Corp	5.5 %
Amazon.com Inc	2.3 %
Berkshire Hathaway Inc Class B	1.7 %
Alphabet Inc Class A	1.6 %
UnitedHealth Group Inc	1.5 %
Alphabet Inc Class C	1.5 %
Johnson & Johnson	1.4 %
Exxon Mobil Corp	1.4 %
JPMorgan Chase & Co	1.2 %
Total	24.3 %

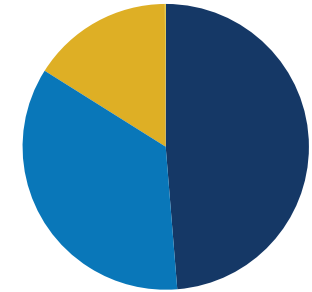
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Microsoft Corp	5.76	5.77	0.00	3.26
Exxon Mobil Corp	1.21	1.21	0.00	27.35
JPMorgan Chase & Co	1.02	1.02	0.00	29.49
Berkshire Hathaway Inc	1.60	1.60	0.00	15.68
Chevron Corp	0.86	0.86	0.00	25.90
Merck & Co Inc	0.72	0.72	0.00	29.67
Procter & Gamble Co (The)	1.00	1.00	0.00	20.91
NVIDIA Corporation	1.01	1.01	0.00	20.42
Mastercard Inc	0.81	0.81	0.00	22.49
AbbVie Inc	0.79	0.79	0.00	21.60

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Meta Platforms Inc	1.85	1.85	0.00	19.48
Intel Corp	0.97	0.97	0.00	27.50
Walt Disney Co (The)	0.97	0.97	0.00	18.52
Boeing Co	0.65	0.65	0.00	19.35
AT&T Inc	1.07	1.07	0.00	10.14
Citigroup Inc	0.65	0.65	0.00	16.55
Verizon Communications Inc	0.95	0.95	0.00	10.62
Amazon.com Inc	2.88	2.88	0.00	3.22
Fidelity Natiaol Info Serv Inc.	0.32	0.32	0.00	25.16
PayPal Holdings Inc	0.47	0.47	0.00	14.95

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Apple Inc	6.93	6.93	0.00	-5.83
Alphabet Inc	1.90	1.90	0.00	-7.76
Alphabet Inc	1.71	1.71	0.00	-7.72
Meta Platforms Inc	1.03	1.03	0.00	-11.31
PayPal Holdings Inc	0.33	0.33	0.00	-17.25
Walt Disney Co (The)	0.57	0.57	0.00	-7.90
Costco Wholesale Corp	0.69	0.69	0.00	-3.16
SALESFORCE INC	0.47	0.48	0.00	-7.82
Amazon.com Inc	3.32	3.33	0.00	-25.66
Tesla Inc	2.34	2.35	0.01	-53.56

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Eli Lilly and Co	0.42	0.41	0.00	-30.05
Alphabet Inc	1.50	1.49	0.00	-9.01
Apple Inc	4.58	4.58	0.00	-17.89
Microsoft Corp	4.50	4.50	0.00	-13.86
Exxon Mobil Corp	1.10	1.10	0.00	-19.03
Unitedhealth Group Inc	1.04	1.04	0.00	-19.01
Berkshire Hathaway Inc	1.66	1.66	0.00	-9.83
NVIDIA Corporation	0.54	0.54	0.00	-26.25
Chevron Corp	0.85	0.85	0.00	-16.48
Alphabet Inc	1.50	1.50	0.00	-8.78

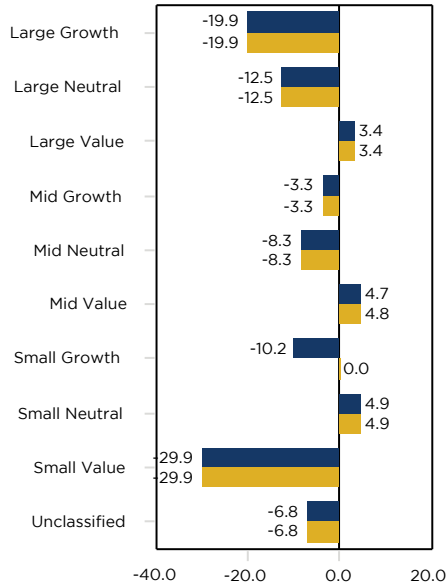


Vanguard Institutional Index I (VINIX)

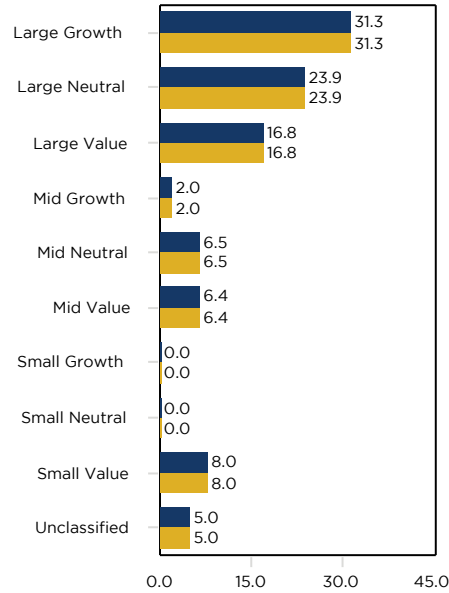
Index: S&P 500 Index

As of: 12/31/2022

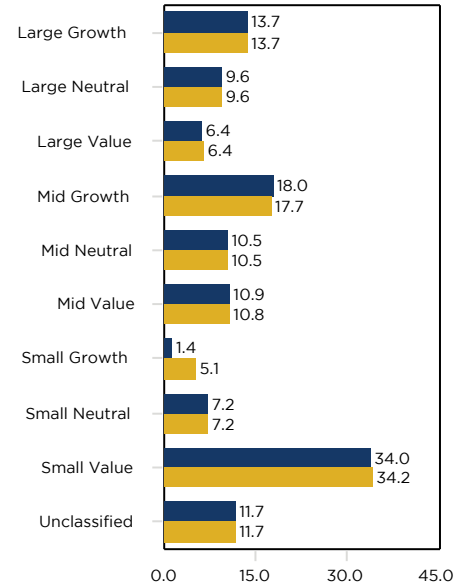
Performance | 1 Year



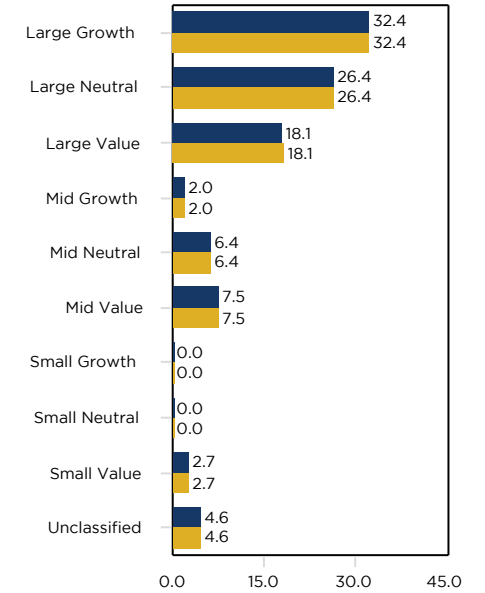
Allocation | 1 Year



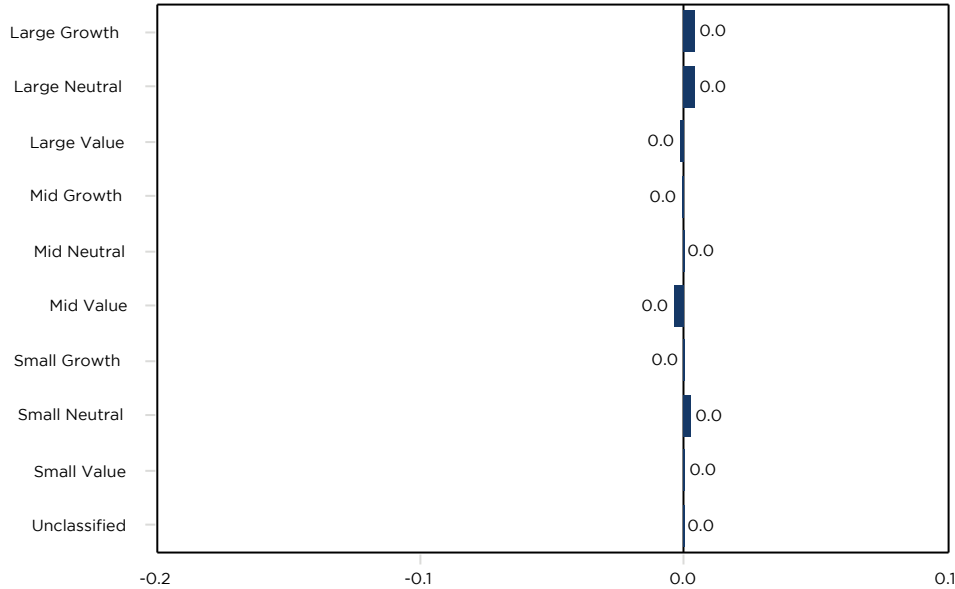
Performance | 3 Years



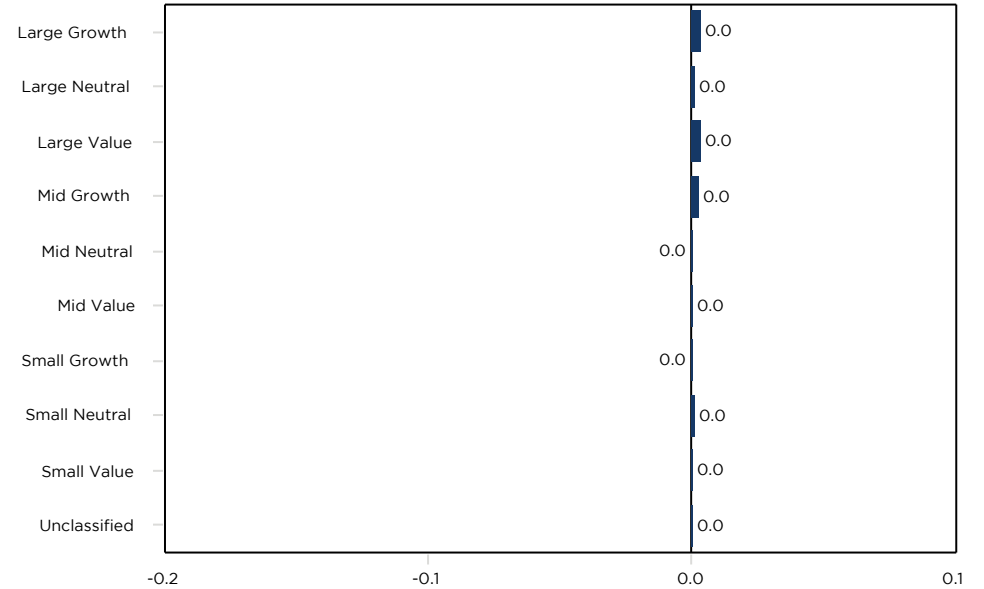
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	11.49 (2)	-19.22 (7)	-19.22 (7)	12.35 (1)	14.20 (1)	14.28 (7)	31.82 (3)	33.19 (59)	33.41 (44)	2.67 (13)
Benchmark	7.56	-18.11	-18.11	7.66	9.42	12.56	28.71	18.40	31.49	-4.38
Peer Group	2.98	-30.75	-30.75	5.07	8.41	11.93	22.01	34.85	32.80	-1.64
Population	1,278	1,253	1,253	1,176	1,132	1,040	1,260	1,253	1,278	1,353

Fund Information

Fund Inception	09/25/2013
Fund Assets	3,123 Million
Portfolio Assets	1,519 Million
Total # of Holdings	36
% in Top 10	41.02 %
PM	Klimo,S/Paul,C/Salam,M
PM Tenure	
Turnover	7.00 %
Gross Expense (%)	0.64 %
Net Expense (%)	0.64 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	369,992	413,469
Median Mkt. Cap (\$M)	109,342	29,555
Price/Earnings ratio	27.3	19.2
Price/Book ratio	7.1	3.9
5 Yr. EPS Growth Rate (%)	16.9	17.7
Current Yield (%)	1.3	1.8
Beta (5 Years, Monthly)	0.95	1.00
Number of Stocks	35	503
Debt to Equity (%)	-78.6	116.8
Forecast P/E	19.0	16.8
Forecast EPS Growth	14.2	11.5
Return on Equity (%)	4.2	10.9

Country/Region Allocation

United States	77.9	96.9
Non-US Developed	19.1	3.1
Emerging Markets	3.0	0.0
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	20.58	14.70
vs. S&P 500 Index		
Beta	0.95	0.95
Alpha	4.82	2.16
Information Ratio	0.74	0.34
Tracking Error	5.72	4.49
R-Squared	0.93	0.91
Up Market Capture	106.58	102.42
Down Market Capture	92.68	93.93
Consistency	55.56	48.33

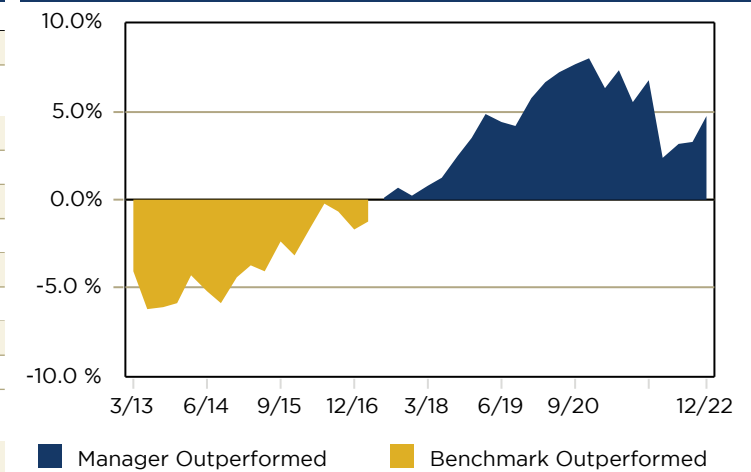
vs. Risk Free

Sharpe Ratio	0.63	0.93
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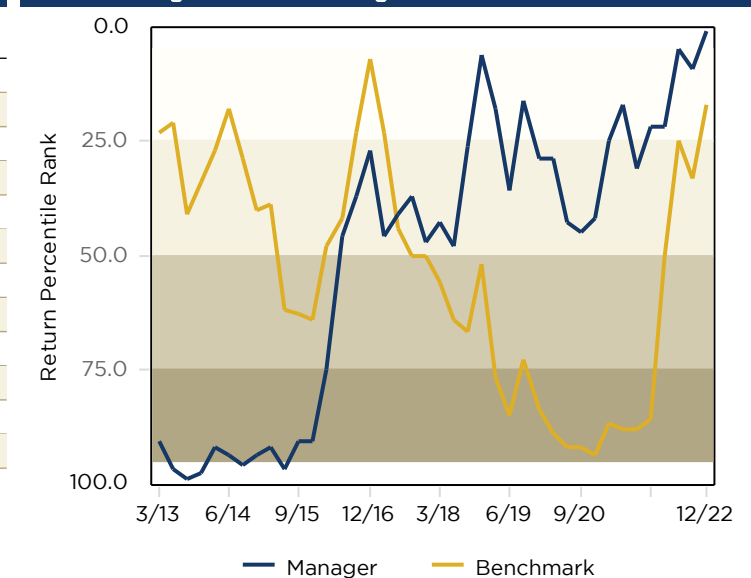
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	2.0	7.3
Consumer Discretionary	7.4	9.8
Consumer Staples	7.0	7.2
Energy	0.0	5.2
Financials	0.0	11.7
Health Care	27.6	15.8
Industrials	11.6	8.7
Information Technology	42.4	25.7
Materials	2.1	2.7
Real Estate	0.0	2.7
Utilities	0.0	3.2
Total	100.0	100.0

3 Years Rolling Excess Performance

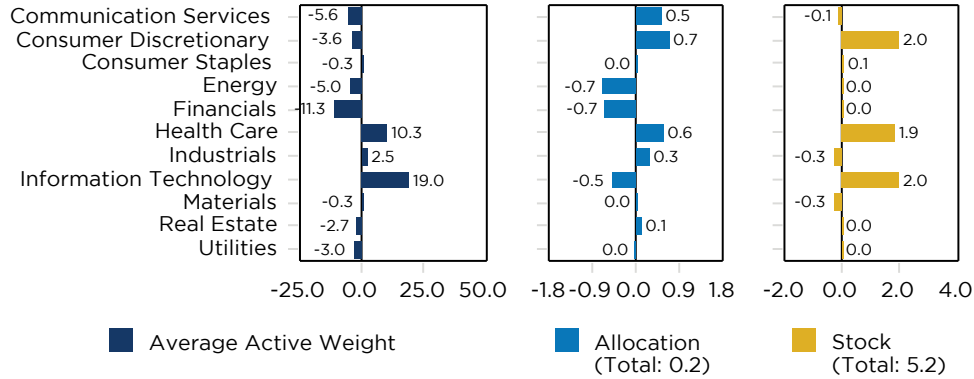


3 Years Rolling Percentile Ranking

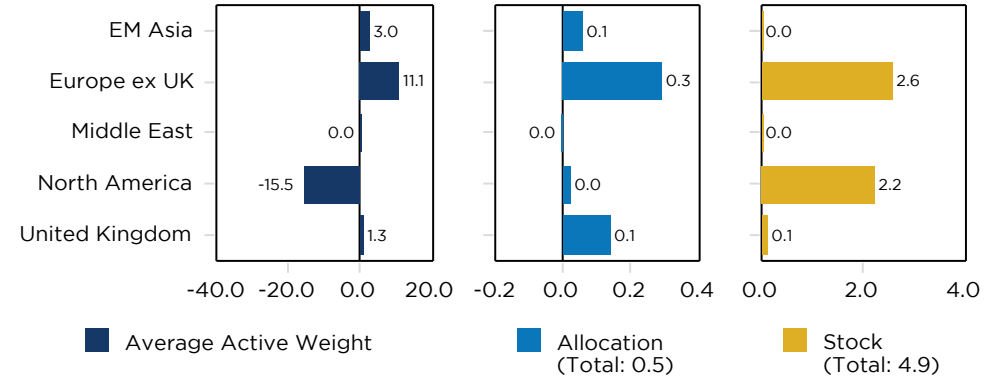




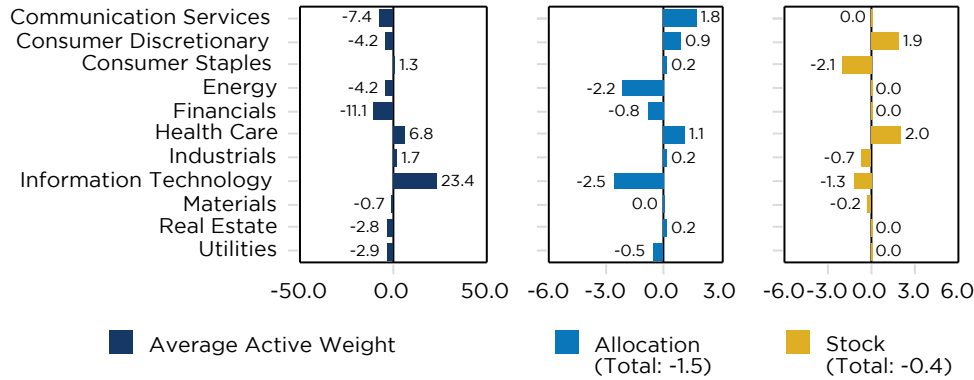
1 Quarter Sector Attribution



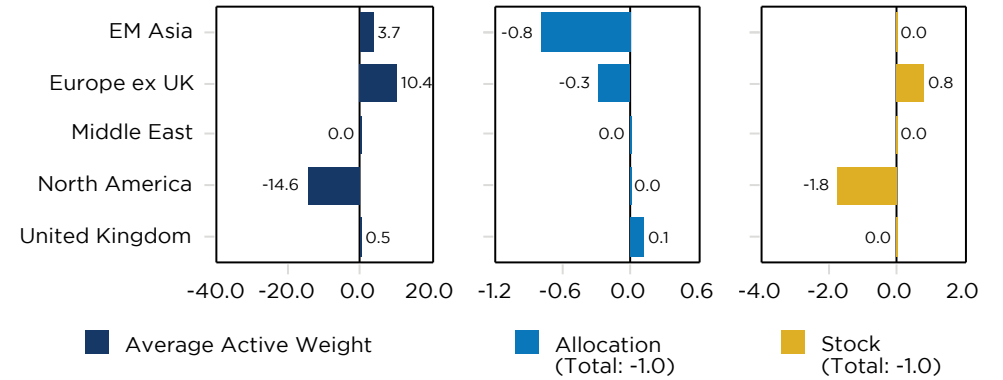
1 Quarter Region Attribution



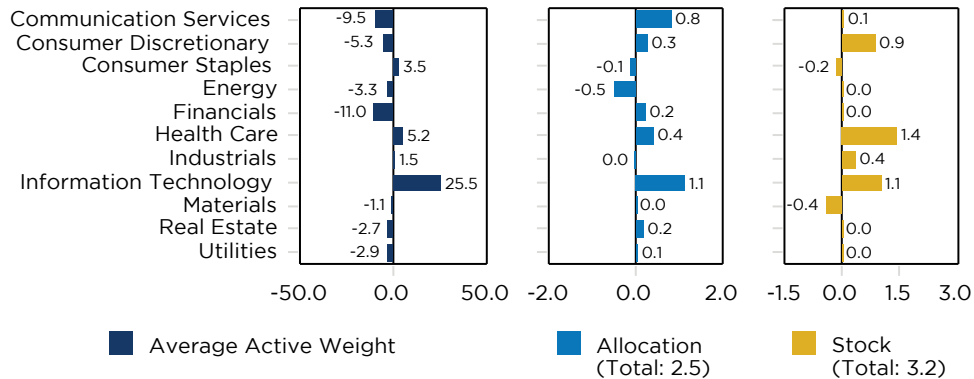
1 Year Sector Attribution



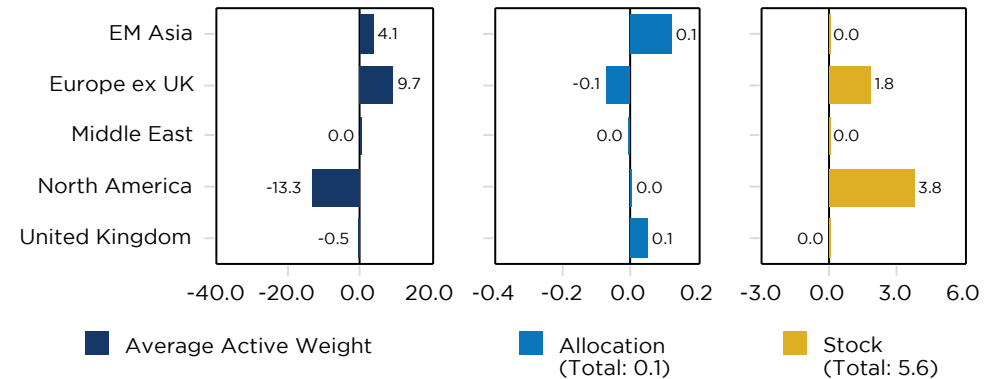
1 Year Region Attribution



3 Years Sector Attribution



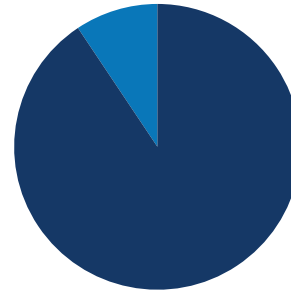
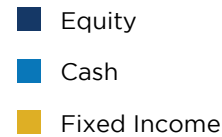
3 Years Region Attribution



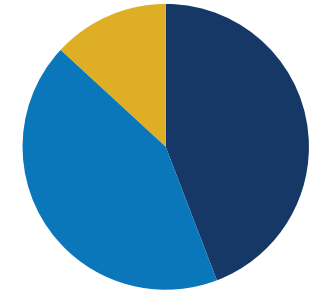
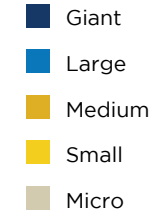
Top Ten Securities

Apple Inc	7.9 %
ASML Holding NV ADR	5.1 %
Novo Nordisk A/S ADR	4.1 %
Agilent Technologies Inc	4.1 %
Eli Lilly and Co	3.9 %
The Estee Lauder Companies Inc	3.5 %
Intuit Inc	3.4 %
Adobe Inc	3.3 %
Church & Dwight Co Inc	2.9 %
Amgen Inc	2.8 %
Total	41.0 %

Asset Allocation



Market Capitalization



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
ASML Holding NV	4.90	0.00	1.20	31.95
Novo Nordisk A/S	3.82	0.00	1.08	35.84
Agilent Technologies Inc	4.19	0.12	0.65	23.51
TJX Companies Inc (The)	2.74	0.24	0.53	28.68
Johnson Controls Intl	2.35	0.11	0.52	30.75
Adobe Inc	3.38	0.43	0.43	22.29
Oracle Corp	1.72	0.31	0.38	34.53
Estee Lauder Companies Inc	3.79	0.17	0.28	15.27
Amgen Inc	3.07	0.40	0.26	17.32
Eli Lilly and Co	4.34	0.85	0.21	13.45

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
SAP AG	2.02	0.00	-0.01	6.99
Bristol-Myers Squibb Co	0.69	0.56	-0.02	-6.64
TD SYNNEX Corporation	0.27	0.00	-0.06	-13.48
Clorox Co (The)	1.83	0.07	-0.13	0.41
PepsiCo Inc	1.53	0.71	-0.16	-11.40
Cisco Systems Inc	3.43	0.76	-0.28	-2.84
Union Pacific Corp	2.59	0.47	-0.30	-6.41
Stryker Corp	3.01	0.25	-0.38	-6.04
L3Harris Technologies Inc	3.68	0.16	-0.39	-3.52
Adobe Inc	6.30	0.60	-0.47	-0.67

Top Ten Detractors | 1 Quarter

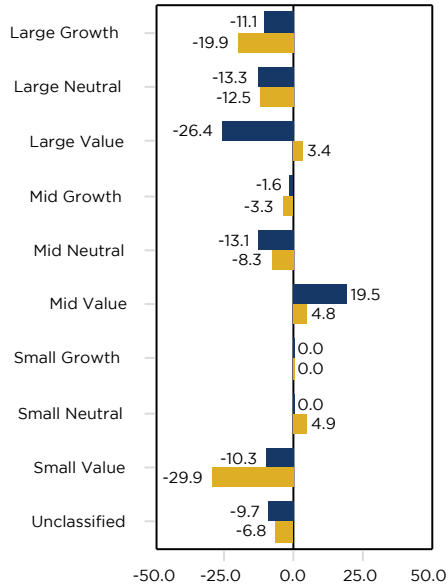
	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Apple Inc	10.65	6.93	-0.50	-5.83
Trimble Inc	3.12	0.04	-0.44	-6.84
Intuit Inc.	4.27	0.36	-0.27	0.68
Corteva Inc	2.30	0.14	-0.10	3.08
QUALCOMM Inc.	1.22	0.42	-0.08	-2.11
Advanced Micro Devices Inc	1.61	0.34	-0.07	2.23
Alphabet Inc	2.18	1.90	-0.04	-7.76
Fastenal Co	1.12	0.09	-0.04	3.46
Union Pacific Corp	2.24	0.40	-0.01	6.94
Microsoft Corp	1.83	5.77	0.17	3.26

Top Ten Detractors | 3 Years

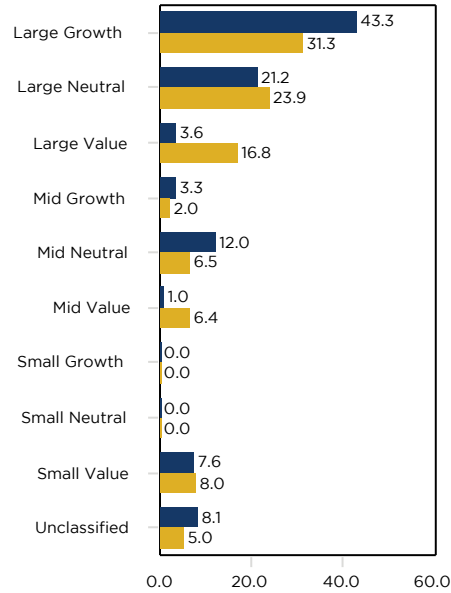
	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
ASML Holding NV	4.35	0.00	-1.17	-19.19
Intuit Inc.	5.63	0.25	-1.11	-12.92
Novo Nordisk A/S	2.77	0.00	-0.93	-26.03
Agilent Technologies Inc	3.66	0.10	-0.90	-17.63
EMCOR Group Inc.	2.81	0.00	-0.69	-16.86
Eli Lilly and Co	2.20	0.41	-0.68	-30.05
TJX Companies Inc (The)	4.08	0.28	-0.65	-9.56
Apple Inc	7.06	4.58	-0.63	-17.89
Keysight Technologies Inc	2.45	0.07	-0.56	-15.66
Lowe's Cos Inc	2.29	0.34	-0.48	-17.00



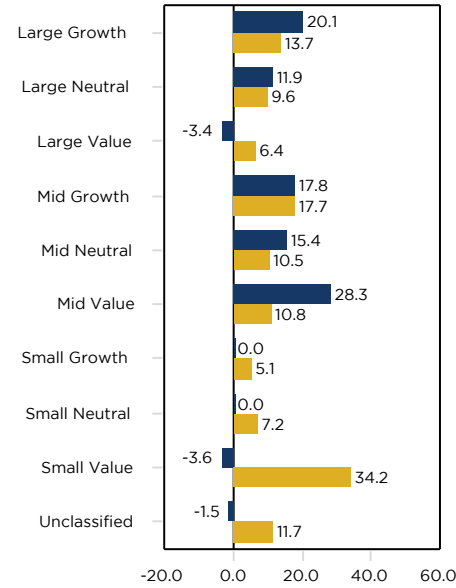
Performance | 1 Year



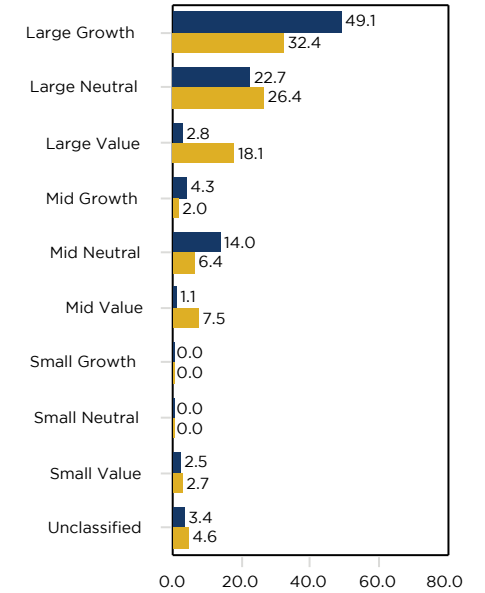
Allocation | 1 Year



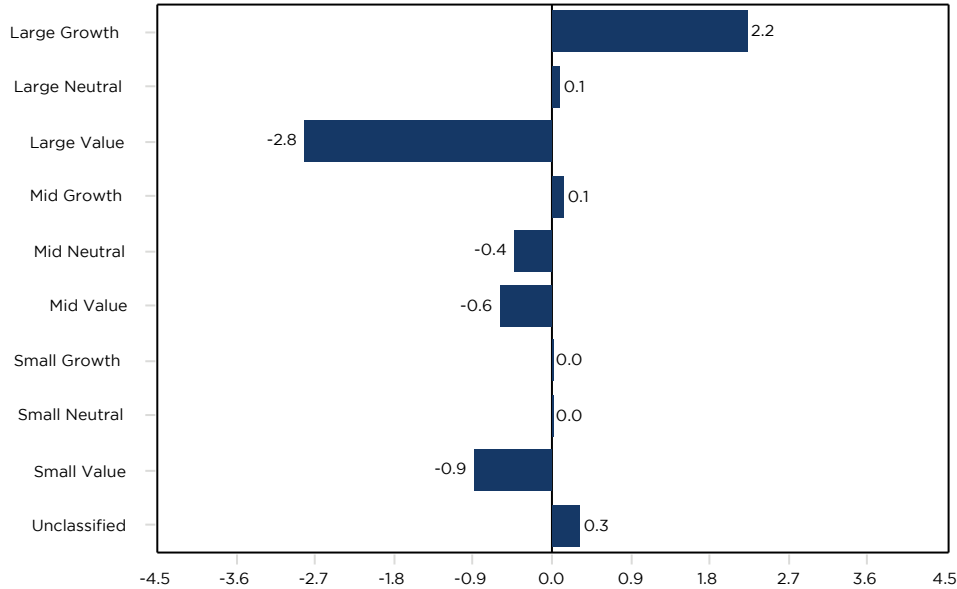
Performance | 3 Years



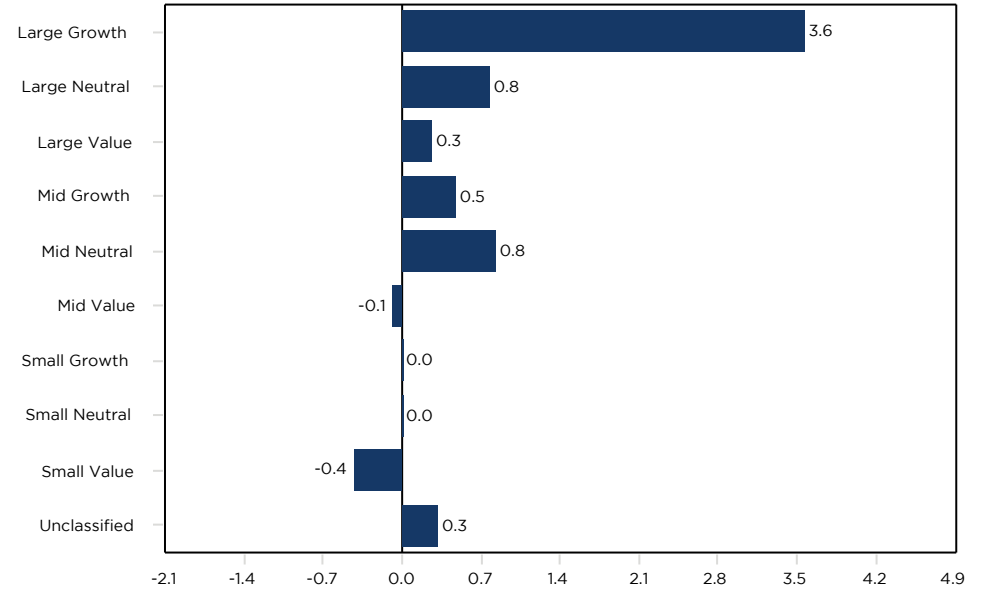
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	0.92 (72)	-30.50 (48)	-30.50 (48)	2.83 (73)	7.30 (69)	11.75 (57)	19.55 (65)	30.88 (68)	32.76 (51)	-1.48 (48)
Benchmark	2.20	-29.14	-29.14	7.79	10.96	14.10	27.60	38.49	36.39	-1.51
Peer Group	2.98	-30.75	-30.75	5.07	8.41	11.93	22.01	34.85	32.80	-1.64
Population	1,278	1,253	1,253	1,176	1,132	1,040	1,260	1,253	1,278	1,353

Fund Information

Fund Inception	05-2005
Fund Assets	3,902 Million
Portfolio Assets	1,316 Million
Total # of Holdings	59
% Assets in Top 10 Holdings	47.1 %
PM	Team Managed
PM Tenure	
Turnover	72.0 %
Gross Expense (%)	0.7 %
Net Expense (%)	0.7 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	169,978 (Million)
Price/Earnings	24
Price/Book	6

Top Holdings (%)

Microsoft Corp	11.9
Apple Inc	8.6
Visa Inc Class A	4.9
Alphabet Inc Class A	4.4
Eli Lilly and Co	4.0
Amazon.com Inc	3.9
Constellation Brands Inc Class	2.8
NVIDIA Corp	2.4
DexCom Inc	2.2
Boston Scientific Corp	2.0

Top Countries (%)

United States	100.0
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Fund Statistics

	3 Years	10 Years
Standard Deviation	22.62	15.76

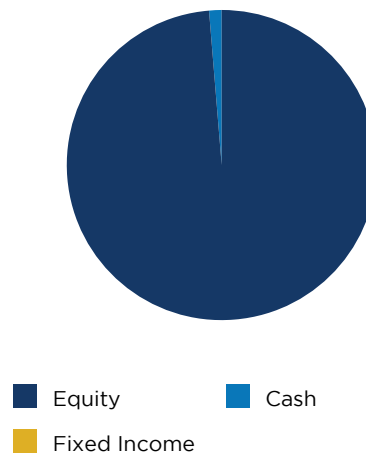
vs. Russell 1000 Growth Index

	3 Years	10 Years
Beta	0.95	0.96
Alpha	-4.31	-1.53
Information Ratio	-1.23	-0.78
Tracking Error	4.00	2.78
R-Squared	0.97	0.97
Up Market Capture	87.84	93.03
Down Market Capture	100.07	100.46
Consistency	36.11	44.17

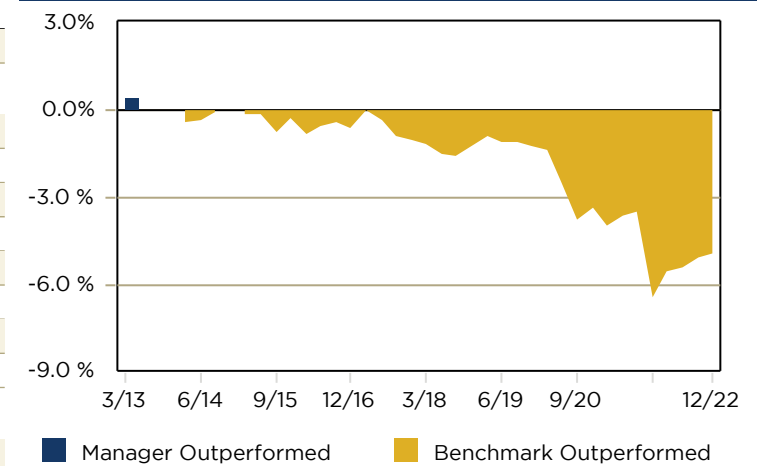
vs. Risk Free

	3 Years	10 Years
Sharpe Ratio	0.20	0.74

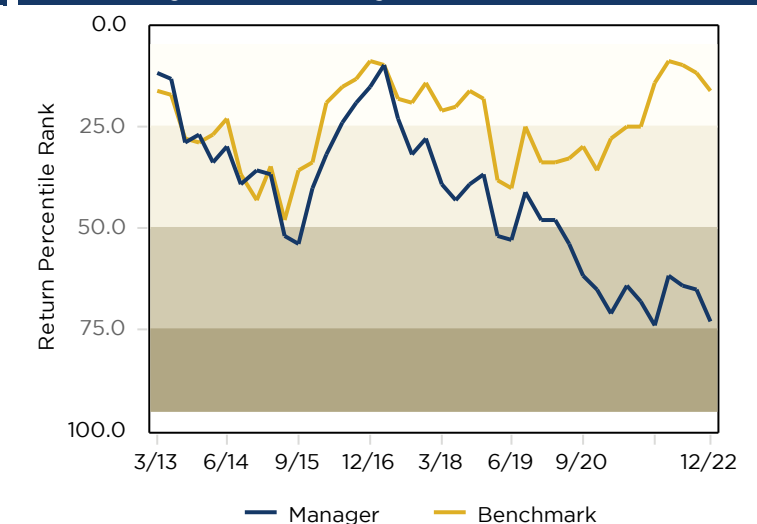
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking





American Century Mid Cap Value I (AVUAX)

Index: Russell Midcap Value Index

Category: Mid-Cap Value

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	13.68 (17)	-1.22 (7)	-1.22 (7)	7.46 (38)	6.91 (29)	11.15 (8)	23.30 (89)	1.88 (57)	29.12 (29)	-12.84 (41)
Benchmark	10.45	-12.03	-12.03	5.82	5.72	10.11	28.34	4.96	27.06	-12.29
Peer Group	11.95	-8.12	-8.12	6.50	5.84	9.52	28.69	2.69	26.69	-13.48
Population	414	411	411	404	393	335	426	434	451	485

Fund Information

Fund Inception	08/02/2004
Fund Assets	9,233 Million
Portfolio Assets	1,663 Million
Total # of Holdings	102
% in Top 10	22.02 %
PM	Team Managed
PM Tenure	
Turnover	50.00 %
Gross Expense (%)	0.77 %
Net Expense (%)	0.77 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	23,577	19,845
Median Mkt. Cap (\$M)	17,734	8,531
Price/Earnings ratio	15.7	13.9
Price/Book ratio	2.1	2.3
5 Yr. EPS Growth Rate (%)	8.6	13.8
Current Yield (%)	2.7	2.2
Beta (5 Years, Monthly)	0.88	1.00
Number of Stocks	99	699
Debt to Equity (%)	54.6	60.5
Forecast P/E	14.4	13.6
Forecast EPS Growth	7.5	10.3
Return on Equity (%)	2.5	1.8

Country/Region Allocation

United States	86.9	96.4
Non-US Developed	13.1	3.6
Other	0.0	0.0
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	20.95	14.99
vs. Russell Midcap Value Index		
Beta	0.84	0.88
Alpha	2.08	2.04
Information Ratio	0.12	0.17
Tracking Error	5.56	3.75
R-Squared	0.96	0.96
Up Market Capture	88.00	93.98
Down Market Capture	81.89	85.67
Consistency	41.67	46.67

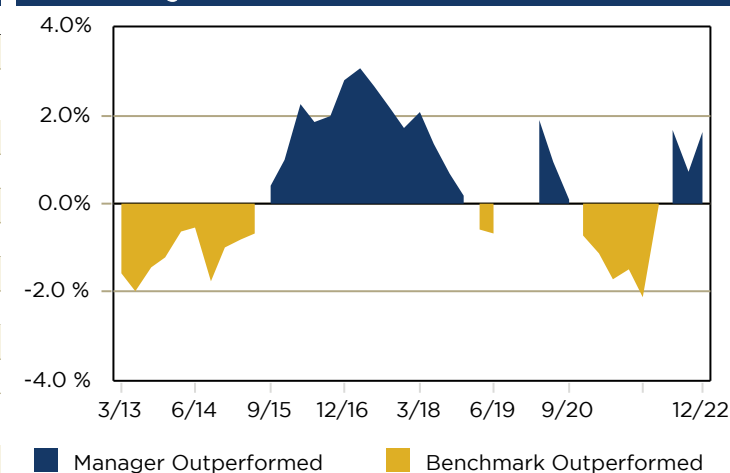
vs. Risk Free

Sharpe Ratio	0.41	0.73
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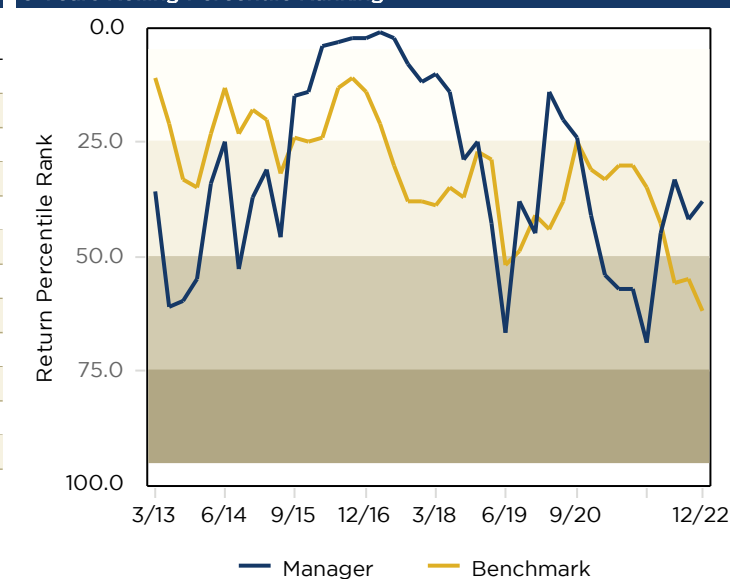
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	1.5	3.1
Consumer Discretionary	6.6	9.9
Consumer Staples	8.2	4.1
Energy	4.5	5.5
Financials	19.7	18.2
Health Care	15.4	7.5
Industrials	16.6	15.6
Information Technology	5.1	8.8
Materials	5.2	7.6
Real Estate	8.2	10.6
Utilities	7.1	9.2
Total	98.2	100.0

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking

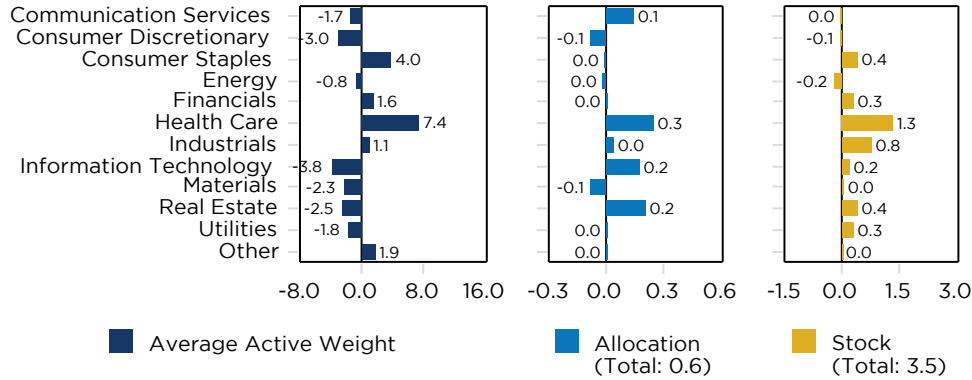




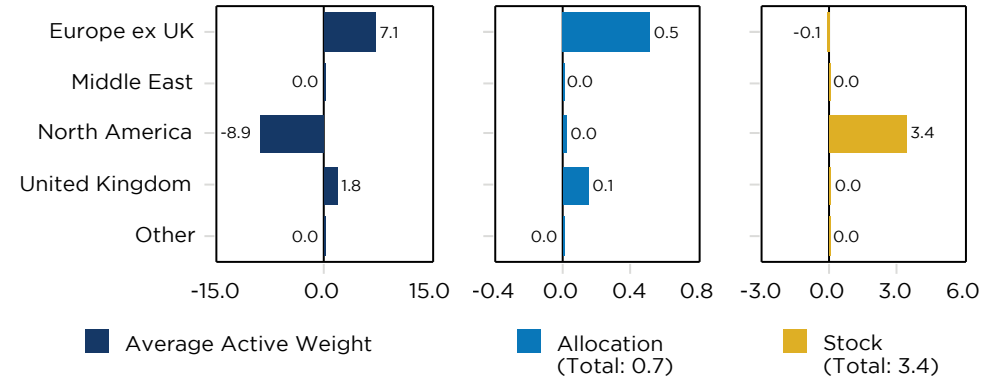
American Century Mid Cap Value I (AVUAX)

Index: Russell Midcap Value Index
As of: 12/31/2022

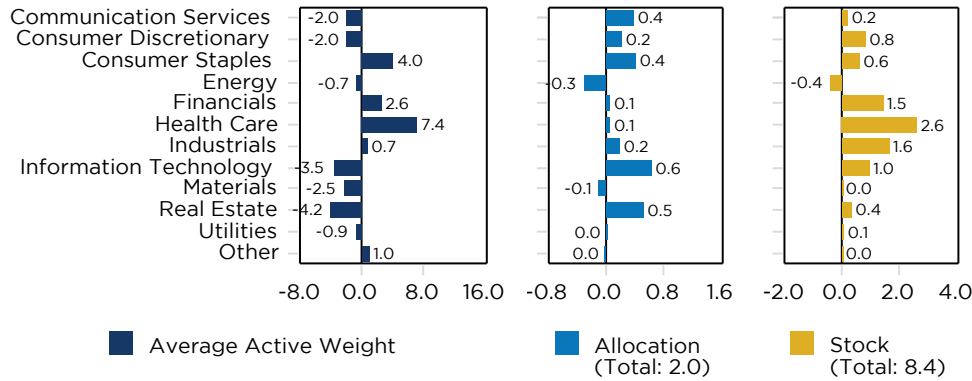
1 Quarter Sector Attribution



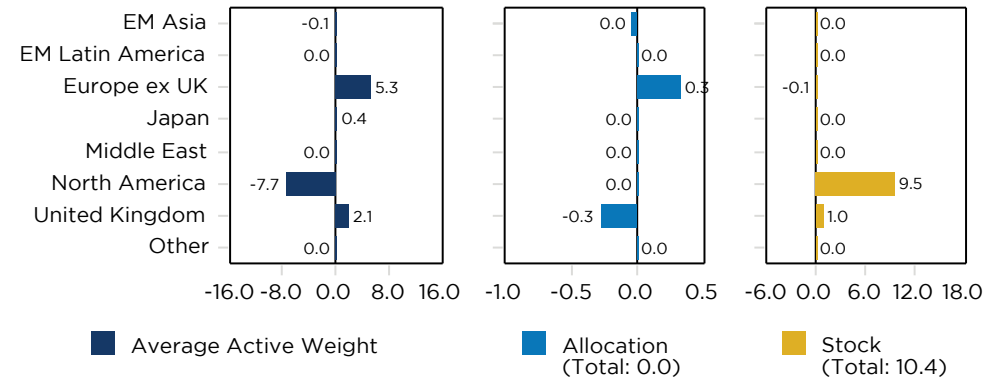
1 Quarter Region Attribution



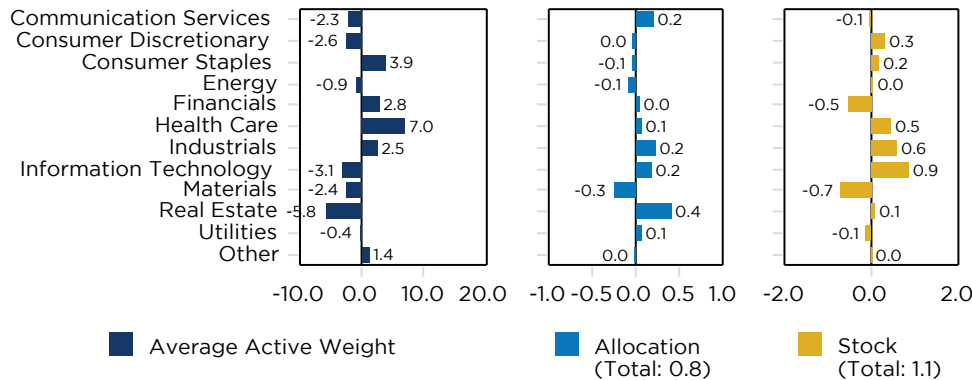
1 Year Sector Attribution



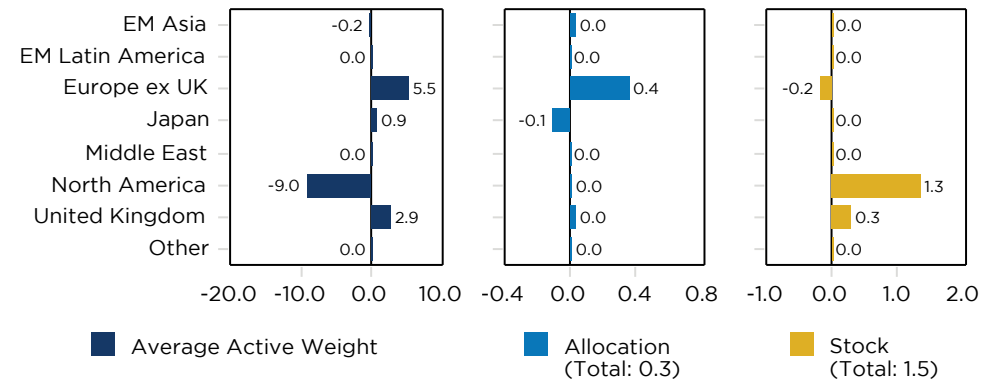
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution





American Century Mid Cap Value I (AVUAX)

Index: Russell Midcap Value Index

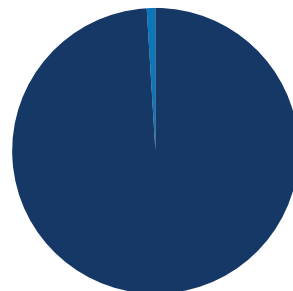
As of: 12/31/2022

Top Ten Securities

Zimmer Biomet Holdings Inc	3.0 %
Northern Trust Corp	2.8 %
Bank of New York Mellon Corp	2.6 %
Edison International	2.2 %
Allstate Corp	2.1 %
Spire Inc	2.0 %
Koninklijke Ahold Delhaize NV	1.9 %
Oshkosh Corp	1.9 %
Conagra Brands Inc	1.8 %
Truist Financial Corp	1.7 %
Total	22.0 %

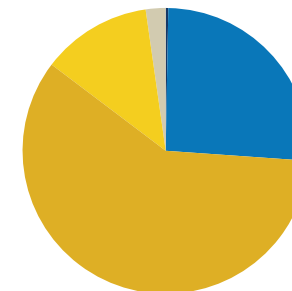
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Universal Health Services Inc.	1.58	0.10	0.73	60.02
Emerson Electric Co.	2.21	0.00	0.48	31.95
Quest Diagnostics Inc	2.13	0.26	0.33	28.18
Zimmer Biomet Holdings Inc	3.21	0.39	0.33	22.18
BorgWarner Inc	1.51	0.13	0.25	28.70
Oshkosh Corp	1.59	0.08	0.23	25.98
HENRY SCHEIN INC	1.89	0.16	0.19	21.44
nVent Electric plc	1.65	0.09	0.19	22.37
Bank of New York	2.58	0.50	0.18	19.23
Conagra Brands Inc	1.89	0.27	0.15	19.69

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Carnival Corporation & Plc	1.01	0.00	0.79	84.04
Piedmont Office Realty Trust Inc	0.88	0.00	0.19	27.42
ProAssurance Corp	0.93	0.00	0.19	25.74
Southwest Airlines Co.	1.55	0.00	0.17	16.88
Empire State Realty Trust Inc	0.69	0.04	0.13	25.16
Heartland Express Inc	0.97	0.00	0.04	9.56
Orkla ASA	1.08	0.00	0.03	8.41
Truist Financial Corp	2.54	0.00	-0.01	5.28
Zimmer Biomet Holdings Inc	2.98	0.64	-0.05	3.83
Northern Trust Corp	2.52	0.43	-0.06	3.14

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Advance Auto Parts Inc.	1.68	0.16	-0.23	-4.97
Essex Property Trust Inc.	1.20	0.28	-0.20	-11.61
Embecka Corp	0.86	0.00	-0.19	-11.65
F5 Inc	1.18	0.15	-0.12	-0.84
Baxter International Inc	0.60	0.00	-0.09	-4.84
Public Storage	0.64	0.00	-0.09	-3.68
EQT Corp	0.47	0.27	-0.05	-16.70
Beacon Roofing Supply Inc	0.33	0.00	-0.05	-3.53
Healthcare Realty Trust Inc	0.26	0.14	-0.02	-6.12
Republic Services Inc.	0.53	0.47	-0.01	-4.82

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Conocophillips	1.43	0.00	-0.39	-21.19
Hubbell Inc	1.69	0.07	-0.36	-16.19
Johnson Controls Intl	1.49	0.00	-0.32	-15.96
Ameriprise Financial Inc	1.58	0.38	-0.32	-20.44
nVent Electric plc	1.52	0.08	-0.30	-15.01
Applied Materials Inc	1.38	0.00	-0.29	-15.25
Quest Diagnostics Inc	1.60	0.30	-0.25	-13.68
McKesson Corp	1.13	0.46	-0.23	-28.90
Genuine Parts Co	1.23	0.31	-0.21	-17.46
Cardinal Health Inc	1.26	0.31	-0.21	-16.03

Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

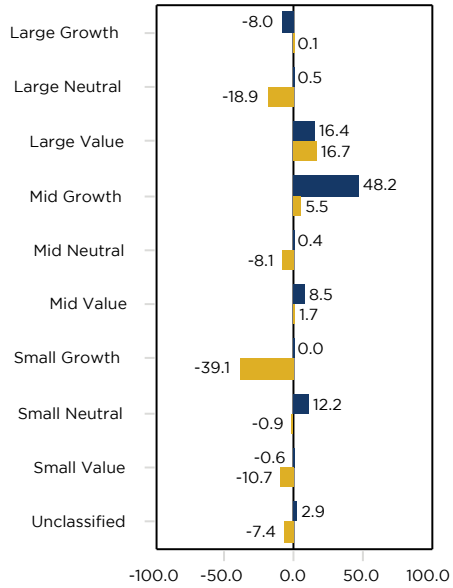


American Century Mid Cap Value I (AVUAX)

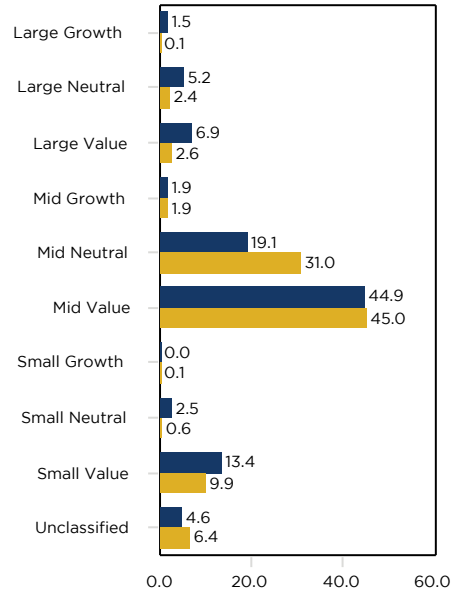
Index: Russell Midcap Value Index

As of: 12/31/2022

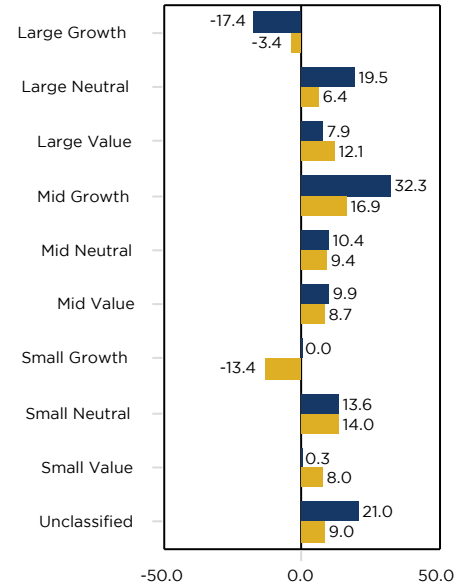
Performance | 1 Year



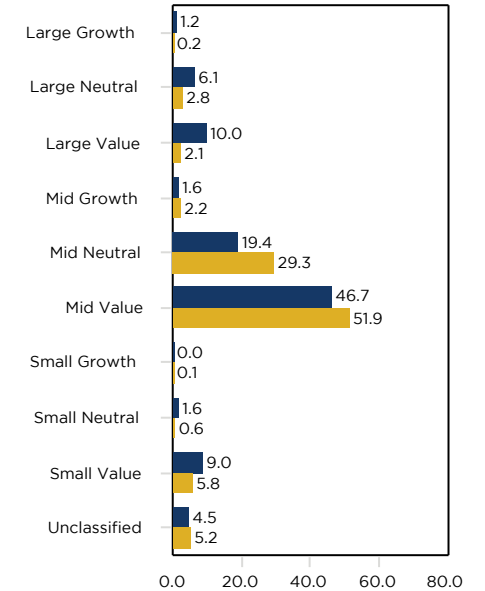
Allocation | 1 Year



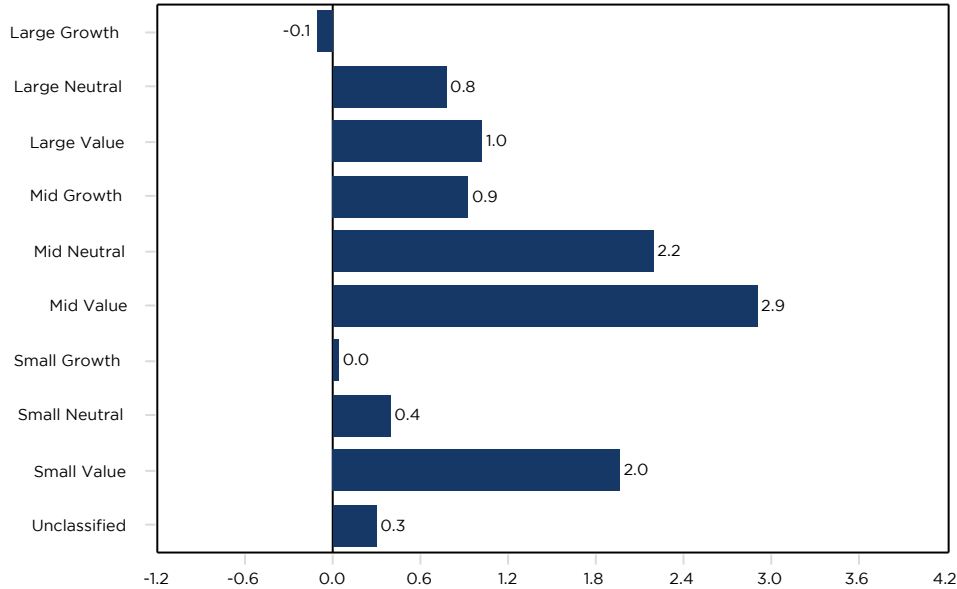
Performance | 3 Years



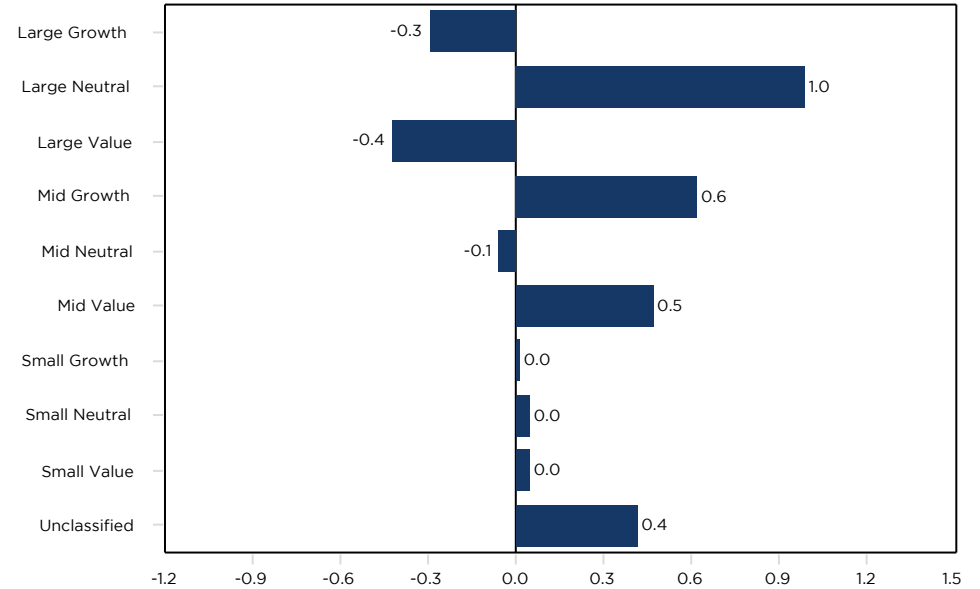
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	9.01 (59)	-18.70 (81)	-18.70 (81)	6.18 (49)	7.32 (26)	11.11 (12)	24.53 (44)	18.26 (20)	31.04 (20)	-9.24 (29)
Benchmark	9.03	-18.68	-18.68	6.19	7.34	11.13	24.52	18.24	31.09	-9.22
Peer Group	9.48	-14.77	-14.77	6.14	6.23	9.95	24.14	12.93	26.85	-11.23
Population	424	409	409	380	356	280	402	405	426	439

Fund Information

Fund Inception	05/21/1998
Fund Assets	136,397 Million
Portfolio Assets	20,429 Million
Total # of Holdings	351
% in Top 10	7.19 %
PM	Butler,D/Khan,A
PM Tenure	
Turnover	16.00 %
Gross Expense (%)	0.04 %
Net Expense (%)	0.04 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	24,646	24,463
Median Mkt. Cap (\$M)	17,207	17,700
Price/Earnings ratio	16.8	16.9
Price/Book ratio	2.9	2.9
5 Yr. EPS Growth Rate (%)	17.4	17.3
Current Yield (%)	1.7	1.7
Beta (5 Years, Monthly)	1.00	1.00
Number of Stocks	352	348
Debt to Equity (%)	-13.4	-11.5
Forecast P/E	16.4	16.4
Forecast EPS Growth	13.6	13.6
Return on Equity (%)	2.9	3.1

Country/Region Allocation

United States	96.7	96.0
Non-US Developed	3.3	4.0
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	23.27	16.24
vs. CRSP U.S. Mid Cap TR Index		
Beta	1.00	1.00
Alpha	0.00	-0.02
Information Ratio	-0.13	-0.58
Tracking Error	0.04	0.04
R-Squared	1.00	1.00
Up Market Capture	99.98	99.90
Down Market Capture	99.99	100.00
Consistency	44.44	43.33

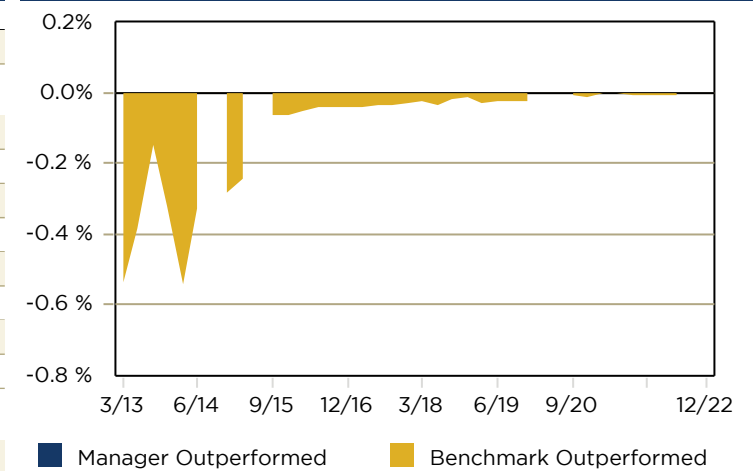
vs. Risk Free

Sharpe Ratio	0.34	0.69
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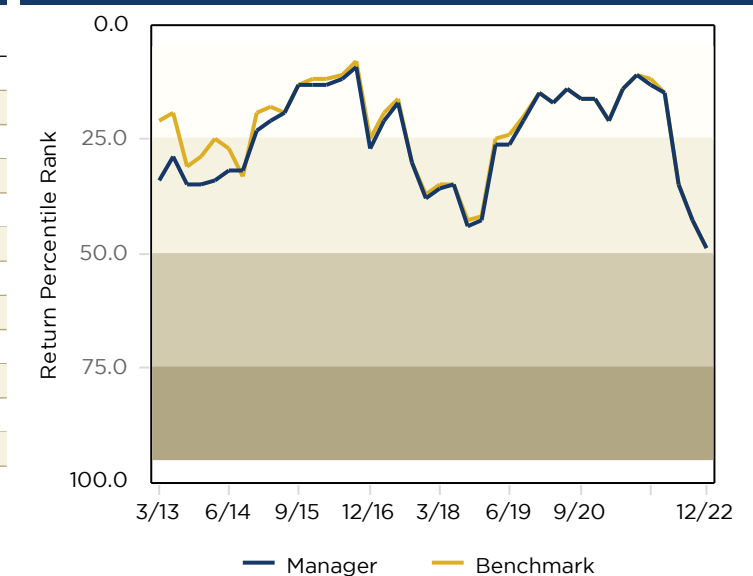
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	3.5	3.6
Consumer Discretionary	9.5	9.2
Consumer Staples	3.8	3.8
Energy	5.8	6.0
Financials	13.0	13.1
Health Care	12.6	12.3
Industrials	14.0	14.3
Information Technology	16.1	16.2
Materials	5.9	5.7
Real Estate	8.5	8.5
Utilities	7.4	7.3
Total	100.0	100.0

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



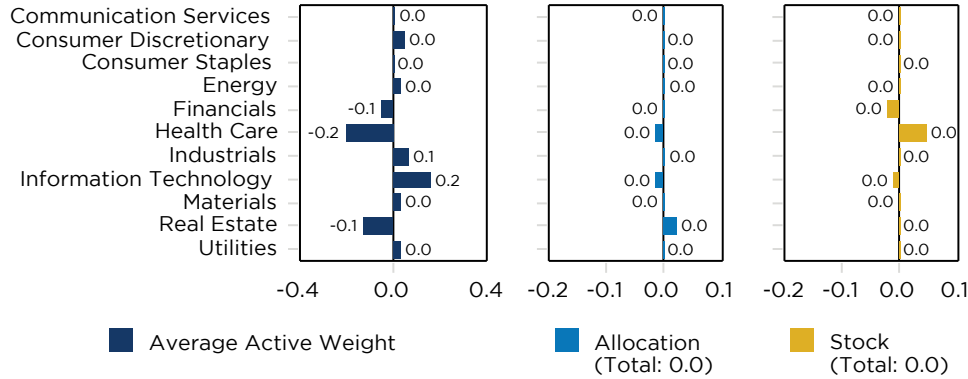


Vanguard Mid Cap Index Institutional (VMCIX)

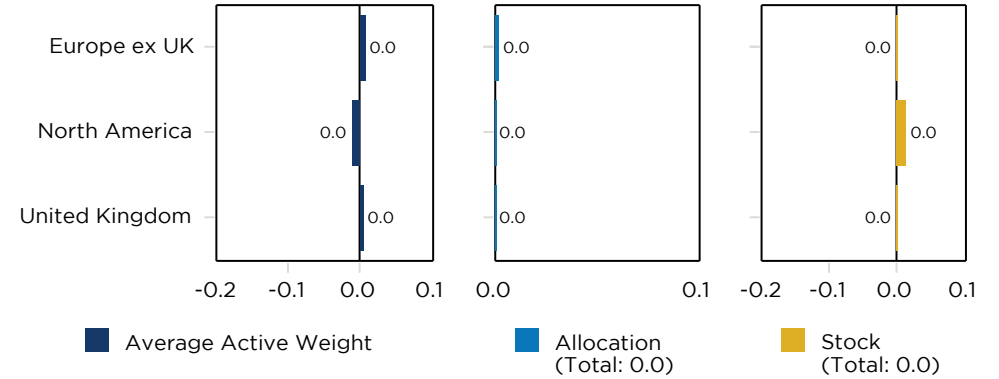
Index: CRSP U.S. Mid Cap TR Index

As of: 12/31/2022

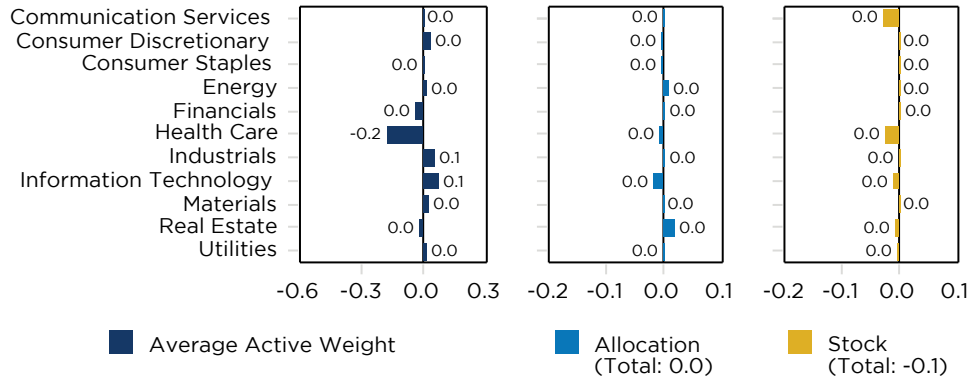
1 Quarter Sector Attribution



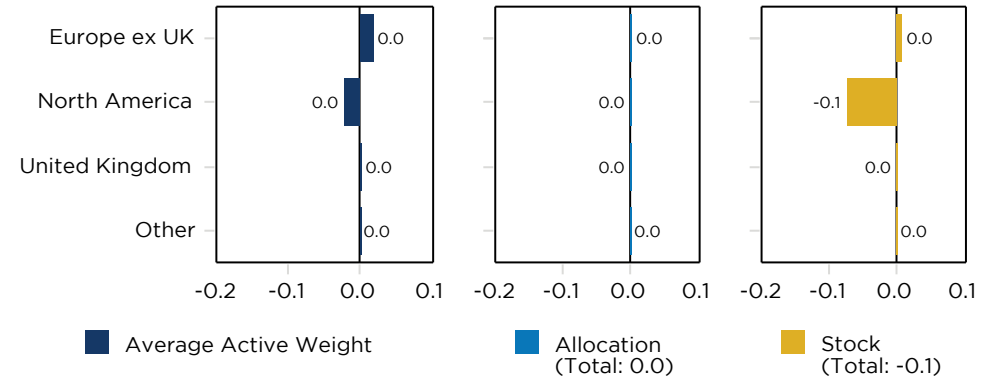
1 Quarter Region Attribution



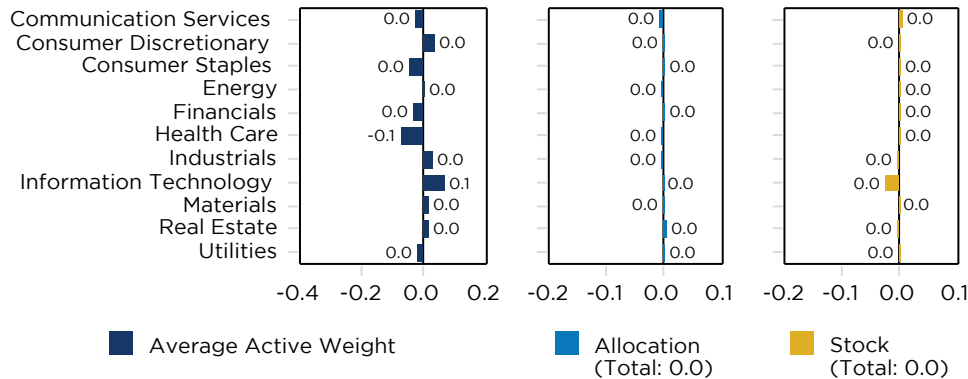
1 Year Sector Attribution



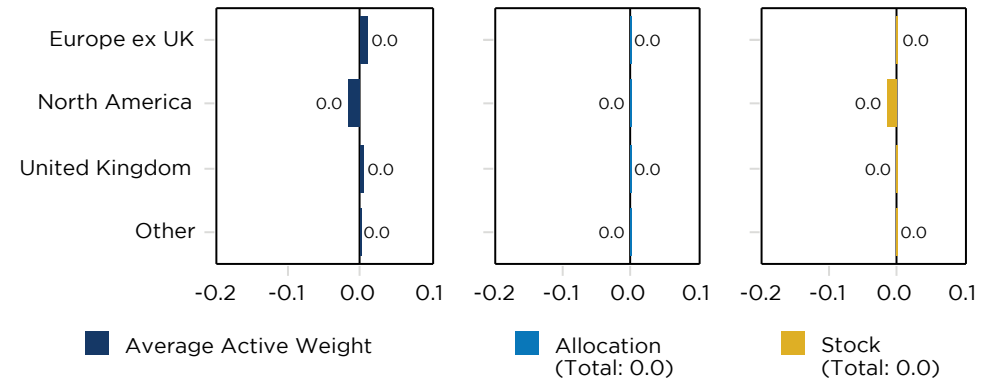
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution





Vanguard Mid Cap Index Institutional (VMCIX)

Index: CRSP U.S. Mid Cap TR Index

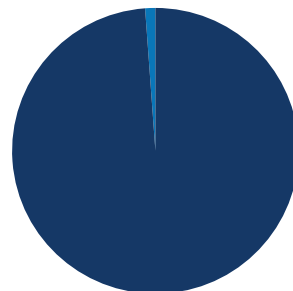
As of: 12/31/2022

Top Ten Securities

Centene Corp	0.8 %
Amphenol Corp Class A	0.8 %
Cadence Design Systems Inc	0.7 %
DexCom Inc	0.7 %
Motorola Solutions Inc	0.7 %
Corteva Inc	0.7 %
Devon Energy Corp	0.7 %
Arthur J. Gallagher & Co	0.7 %
Realty Income Corp	0.7 %
Hess Corp	0.7 %
Total	7.2 %

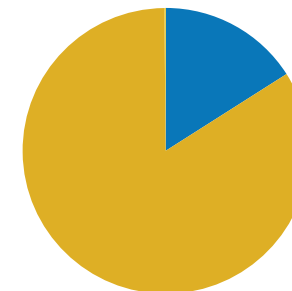
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
DexCom Inc	0.59	0.58	0.00	40.60
ONEOK Inc	0.43	0.42	0.00	30.24
PG&E Corp	0.49	0.48	0.00	30.08
Halliburton Co	0.37	0.37	0.00	60.38
Horizon Therapeutics Public Ltd Co	0.26	0.26	0.00	83.87
Hess Corp	0.56	0.56	0.00	30.49
Baker Hughes a GE Co	0.39	0.39	0.00	41.81
Mettler-Toledo International Inc	0.45	0.45	0.00	33.33
D.R. Horton Inc.	0.39	0.39	0.00	32.74
Nucor Corp	0.52	0.52	0.00	23.67

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Royal Caribbean Group	0.51	0.50	0.00	38.72
Western Digital Corp	0.41	0.40	0.00	25.38
Norwegian Cruise Line	0.28	0.28	0.00	68.36
Altice usa inc	0.19	0.19	0.00	81.14
Roku Inc	0.26	0.26	0.00	48.73
Lyft Inc	0.19	0.19	0.00	57.46
Match Group Inc	0.44	0.44	0.00	24.21
Splunk Inc	0.52	0.52	0.00	20.27
Vornado Realty Trust	0.26	0.26	0.00	38.88
RingCentral Inc	0.14	0.14	0.00	68.27

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Plug Power Inc	0.23	0.22	-0.01	-41.12
Trade Desk Inc (The)	0.49	0.49	0.00	-24.97
SVB Financial Group	0.37	0.37	0.00	-31.46
Albemarle Corp	0.57	0.57	0.00	-17.86
M&T Bank Corp	0.57	0.57	0.00	-17.15
Generac Holdings Inc	0.21	0.21	0.00	-43.49
Catalent Inc	0.23	0.23	0.00	-37.80
Zscaler Inc	0.26	0.26	0.00	-31.92
Lucid Group Inc	0.15	0.15	0.00	-51.11
COINBASE GLOBAL INC	0.17	0.17	0.00	-45.12

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Nucor Corp	0.39	0.38	0.00	-26.49
KLA Corp	0.64	0.63	0.00	-23.20
Freeport-McMoran Cpr & Gld	0.41	0.41	0.00	-30.49
Synopsys Inc	0.47	0.47	0.00	-24.17
Cadence Design Systems Inc	0.44	0.44	0.00	-24.42
Motorola Solutions Inc	0.62	0.62	0.00	-15.75
DexCom Inc	0.45	0.45	0.00	-21.55
Hess Corp	0.41	0.41	0.00	-23.45
Cintas Corp	0.53	0.53	0.00	-16.68
Palo Alto Networks Inc	0.49	0.49	0.00	-17.95

Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

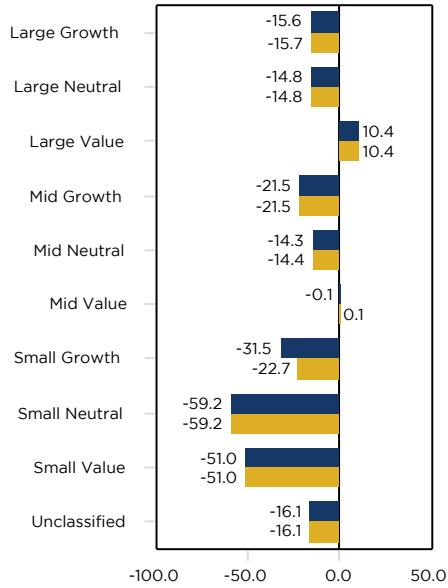


Vanguard Mid Cap Index Institutional (VMCIX)

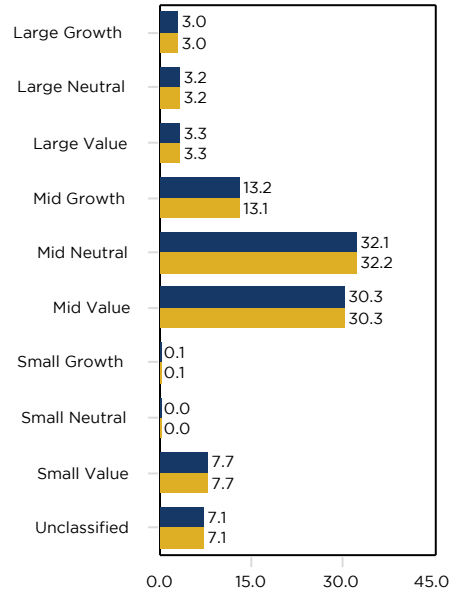
Index: CRSP U.S. Mid Cap TR Index

As of: 12/31/2022

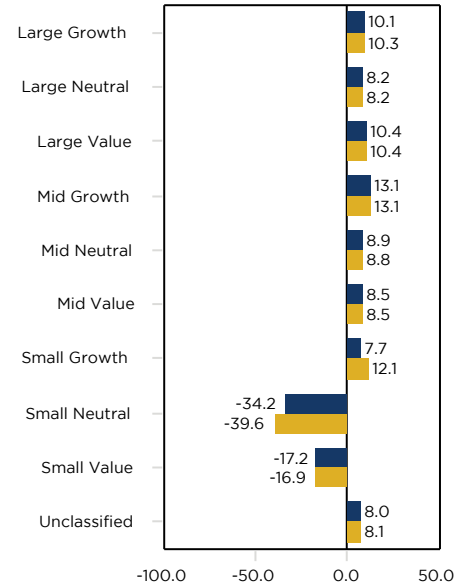
Performance | 1 Year



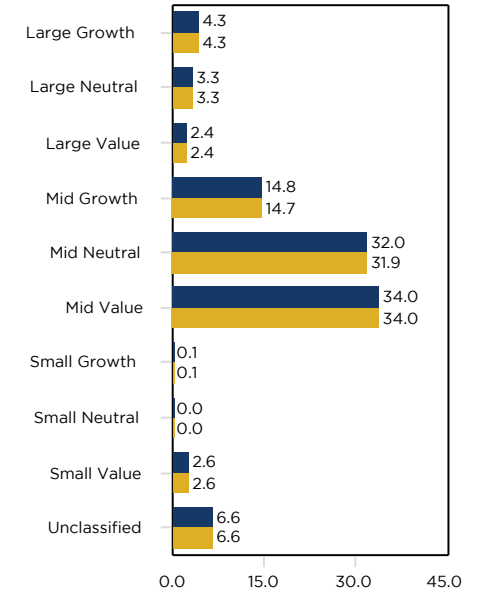
Allocation | 1 Year



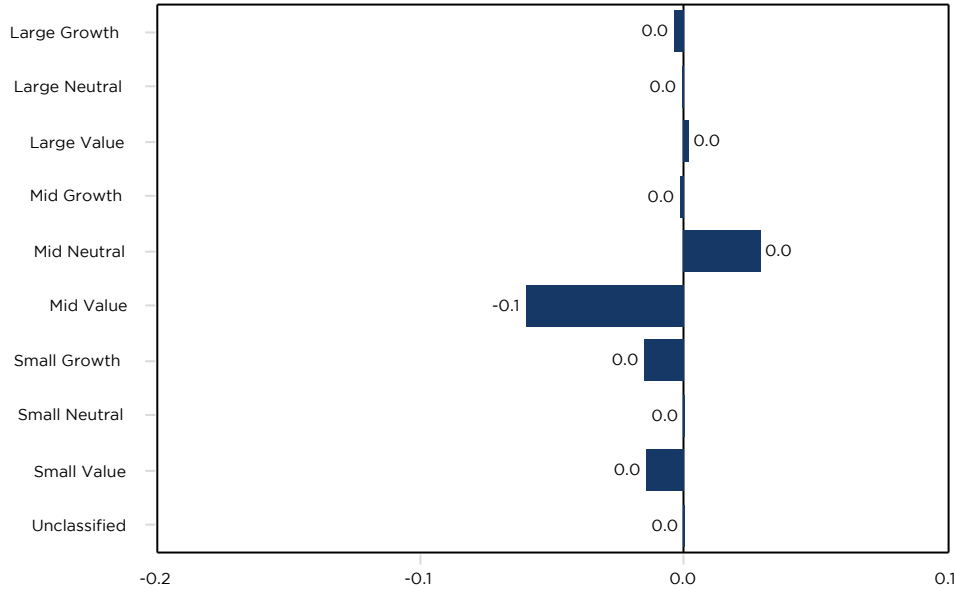
Performance | 3 Years



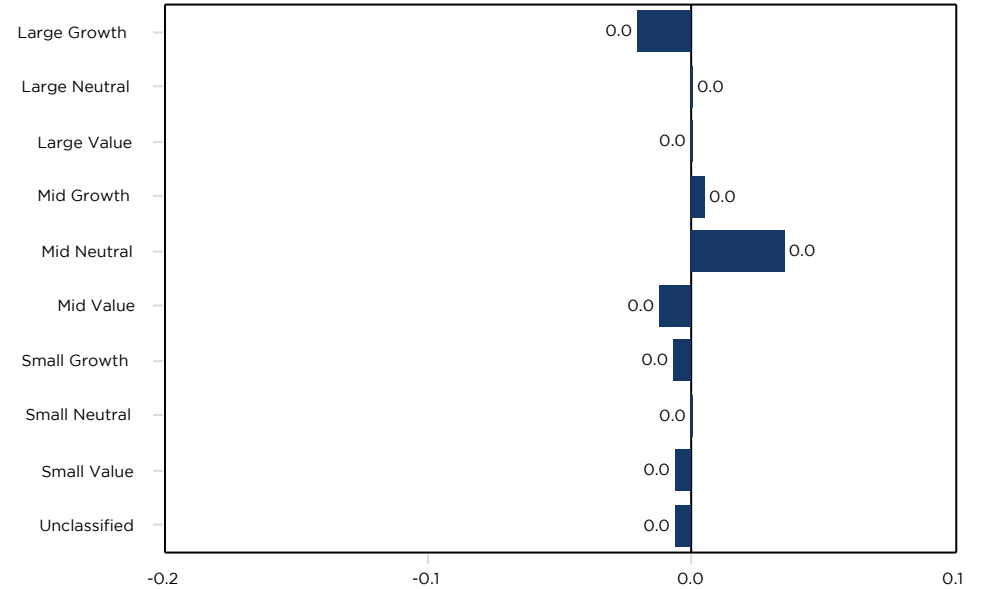
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	7.28 (30)	-26.30 (36)	-26.30 (36)	6.00 (22)	9.36 (16)	12.82 (11)	24.90 (7)	29.38 (77)	26.55 (94)	3.76 (5)
Benchmark	6.90	-26.72	-26.72	3.85	7.64	11.41	12.73	35.59	35.47	-4.75
Peer Group	5.43	-28.27	-28.27	3.88	7.26	10.63	12.05	35.78	33.32	-5.55
Population	589	588	588	553	532	495	598	600	615	623

Fund Information

Fund Inception	01/03/2011
Fund Assets	5,429 Million
Portfolio Assets	5,191 Million
Total # of Holdings	64
% in Top 10	27.88 %
PM	Team Managed
PM Tenure	14 Years 6 Months
Turnover	32.00 %
Gross Expense (%)	0.84 %
Net Expense (%)	0.84 %
Closed to New Investors	Closed

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	18,628	23,603
Median Mkt. Cap (\$M)	13,256	10,053
Price/Earnings ratio	28.6	23.3
Price/Book ratio	4.0	6.1
5 Yr. EPS Growth Rate (%)	11.9	24.1
Current Yield (%)	0.9	0.8
Beta (5 Years, Monthly)	0.86	1.00
Number of Stocks	61	401
Debt to Equity (%)	78.4	-57.2
Forecast P/E	23.6	20.8
Forecast EPS Growth	16.7	18.3
Return on Equity (%)	3.8	4.9

Country/Region Allocation

United States	93.3	95.6
Non-US Developed	6.7	3.7
Other	0.0	0.8
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	21.87	15.61
vs. Russell Midcap Growth Index		
Beta	0.86	0.86
Alpha	2.38	2.72
Information Ratio	0.22	0.19
Tracking Error	6.41	5.38
R-Squared	0.94	0.90
Up Market Capture	93.16	91.17
Down Market Capture	86.88	78.51
Consistency	52.78	47.50

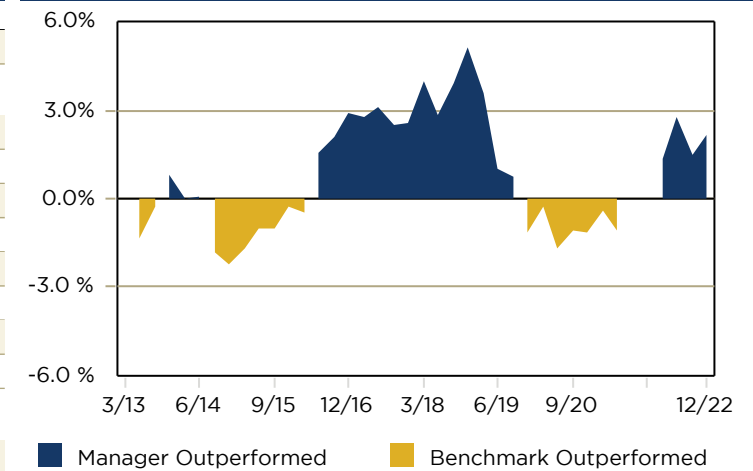
vs. Risk Free

Sharpe Ratio	0.34	0.80
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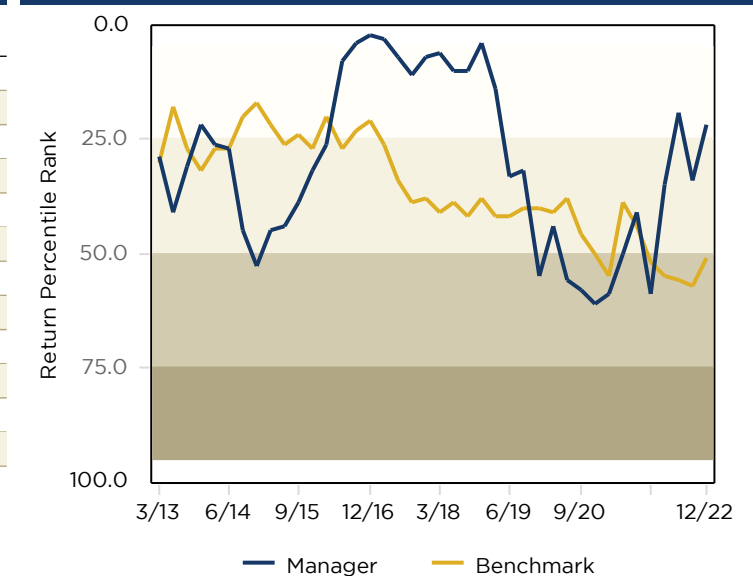
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	0.0	3.8
Consumer Discretionary	9.6	15.2
Consumer Staples	10.3	3.0
Energy	0.0	5.0
Financials	14.3	5.9
Health Care	22.1	17.5
Industrials	25.6	16.0
Information Technology	16.1	27.5
Materials	2.0	3.8
Real Estate	0.0	2.0
Utilities	0.0	0.3
Total	100.0	100.0

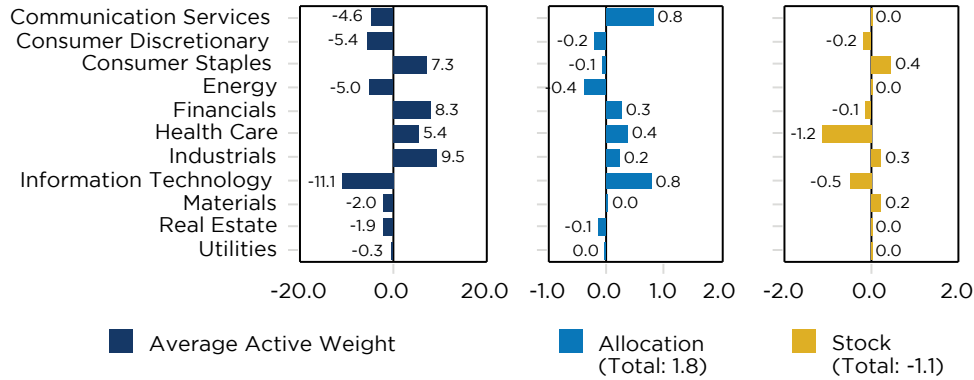
3 Years Rolling Excess Performance



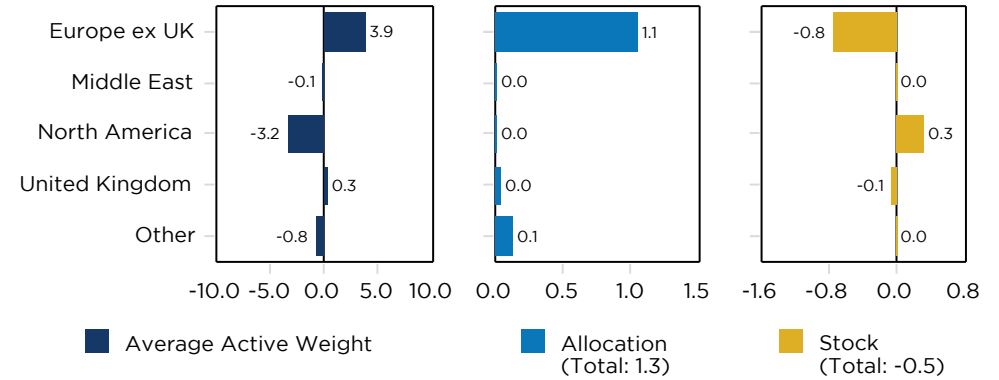
3 Years Rolling Percentile Ranking



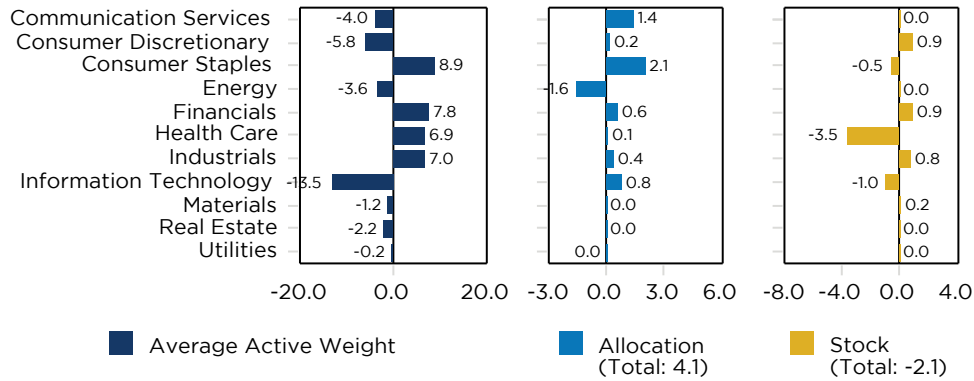
1 Quarter Sector Attribution



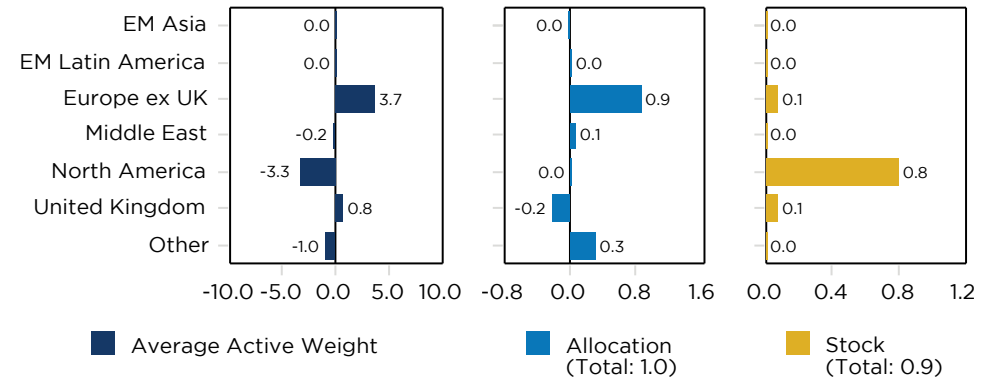
1 Quarter Region Attribution



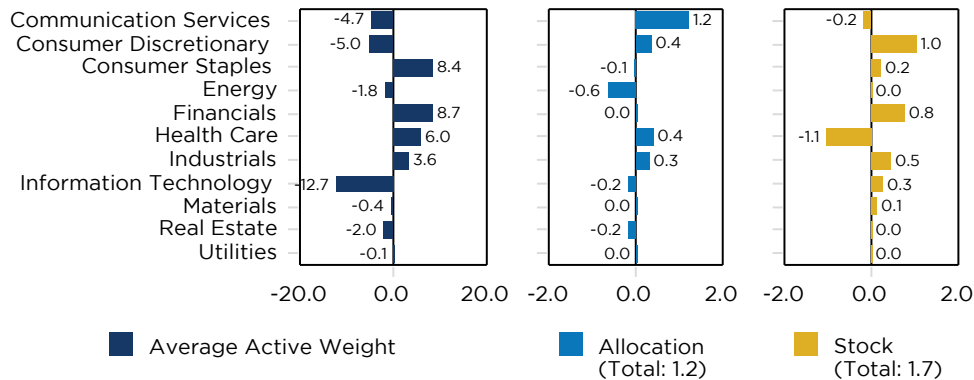
1 Year Sector Attribution



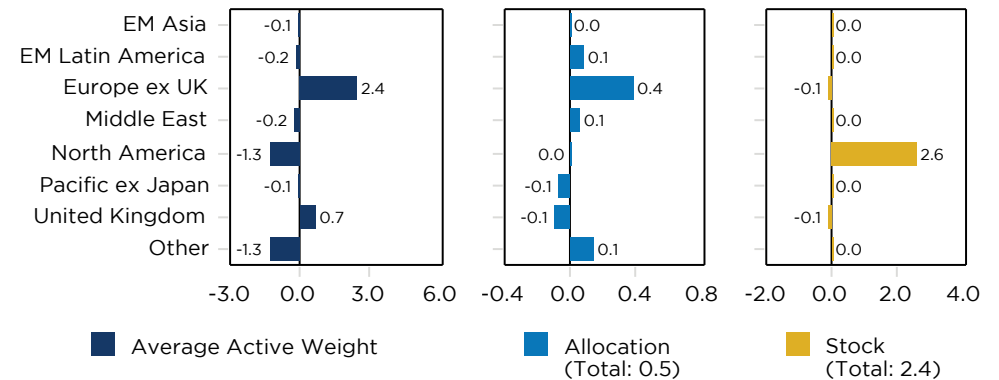
1 Year Region Attribution



3 Years Sector Attribution



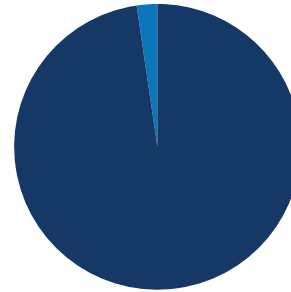
3 Years Region Attribution



Top Ten Securities	
Everest Re Group Ltd	3.4 %
Fortive Corp	3.4 %
AMETEK Inc	3.3 %
IDEX Corp	2.7 %
Workday Inc Class A	2.6 %
Edwards Lifesciences Corp	2.6 %
Advance Auto Parts Inc	2.6 %
The Toro Co	2.4 %
Generac Holdings Inc	2.4 %
Rockwell Automation Inc	2.4 %
Total	27.9 %

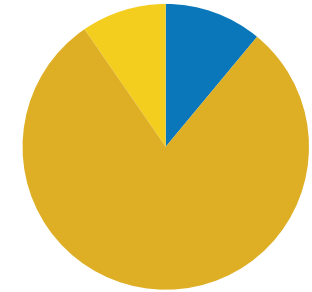
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Everest Re Group Ltd	3.52	0.10	0.68	26.86
AMETEK Inc	3.39	0.00	0.56	23.39
Toro Co (The)	2.50	0.29	0.55	31.71
Waters Corp	2.22	0.51	0.35	27.10
Planet Fitness Inc	1.24	0.11	0.34	36.66
Integra LifeSciences Holdings Corp	1.23	0.00	0.31	32.37
Rockwell Automation Inc.	2.43	0.54	0.25	20.27
IDEX Corp	2.74	0.09	0.20	14.59
DexCom Inc	1.55	1.00	0.19	40.60
Fortive Corp	3.49	0.00	0.12	10.32

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Splunk Inc	3.04	0.73	0.38	20.27
DENTSPLY SIRONA Inc	2.31	0.00	0.37	19.91
Guidewire Software Inc	1.85	0.29	0.26	20.61
OKTA INC	1.38	0.38	0.15	19.08
Blackbaud Inc	1.44	0.00	0.10	10.52
Sally Beauty Holdings Inc	1.00	0.00	0.10	13.38
Catalent Inc	2.06	0.00	0.08	7.75
Stericycle Inc	1.26	0.00	0.06	8.55
Nutanix Inc	1.58	0.17	0.03	6.27
Northern Trust Corp	2.36	0.00	-0.02	3.14

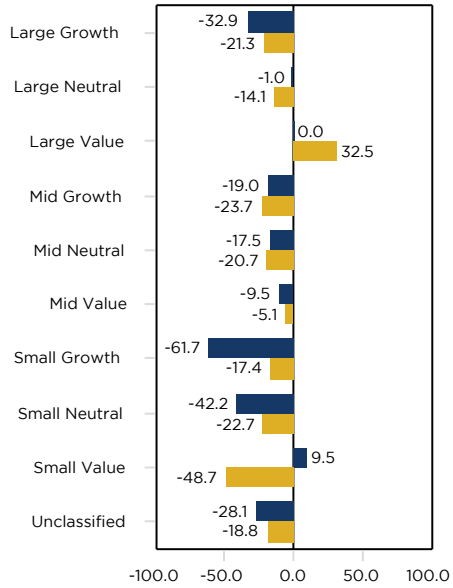
Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Generac Holdings Inc	2.44	0.35	-1.05	-43.49
Zscaler Inc	2.07	0.44	-0.63	-31.92
Palo Alto Networks Inc	2.30	0.00	-0.50	-14.81
Catalent Inc	1.15	0.13	-0.46	-37.80
Edwards Lifesciences Corp	2.68	0.00	-0.45	-9.71
Asana Inc	0.90	0.00	-0.40	-38.06
Leslie's Inc	1.69	0.07	-0.39	-17.00
SVB Financial Group	1.33	0.40	-0.36	-31.46
Advance Auto Parts Inc.	2.67	0.02	-0.31	-4.97
Palantir Technologies Inc	0.78	0.47	-0.09	-21.03

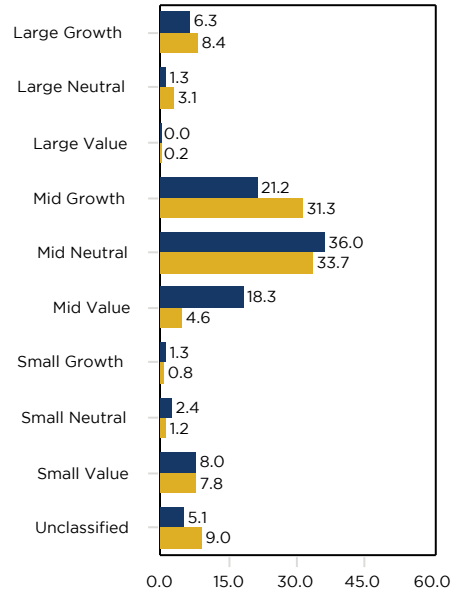
Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Arthur J. Gallagher & Co.	2.53	0.12	-0.61	-21.48
Nordson Corp	2.97	0.27	-0.45	-12.64
Tractor Supply Co	1.70	0.35	-0.41	-26.41
The J M Smucker Company	1.98	0.00	-0.38	-15.41
Waters Corp	2.85	0.47	-0.38	-11.98
Palo Alto Networks Inc	2.38	0.69	-0.37	-17.95
Bio-Techne Corp	2.26	0.26	-0.34	-13.17
AMETEK Inc	2.75	0.57	-0.33	-11.25
Rockwell Automation Inc.	3.08	0.73	-0.31	-9.28
Ulta Salon Cosmetics	1.63	0.45	-0.26	-18.58

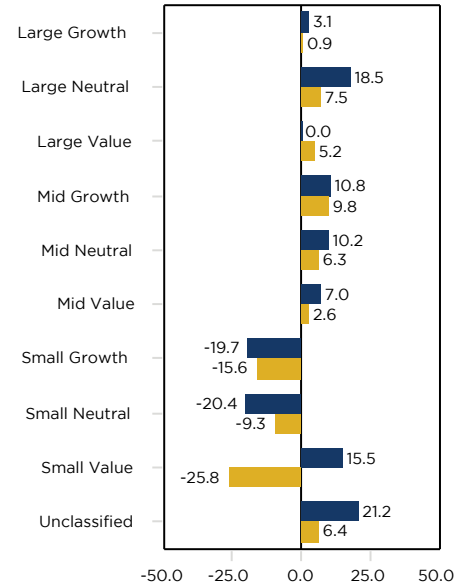
Performance | 1 Year



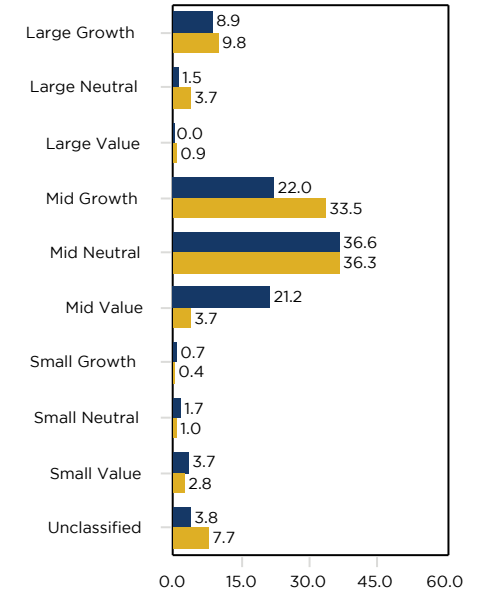
Allocation | 1 Year



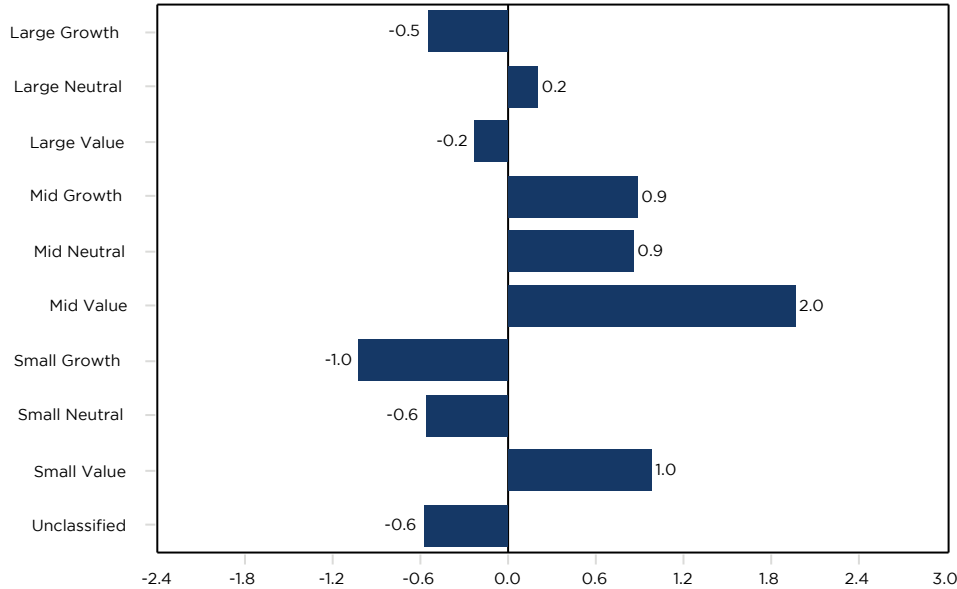
Performance | 3 Years



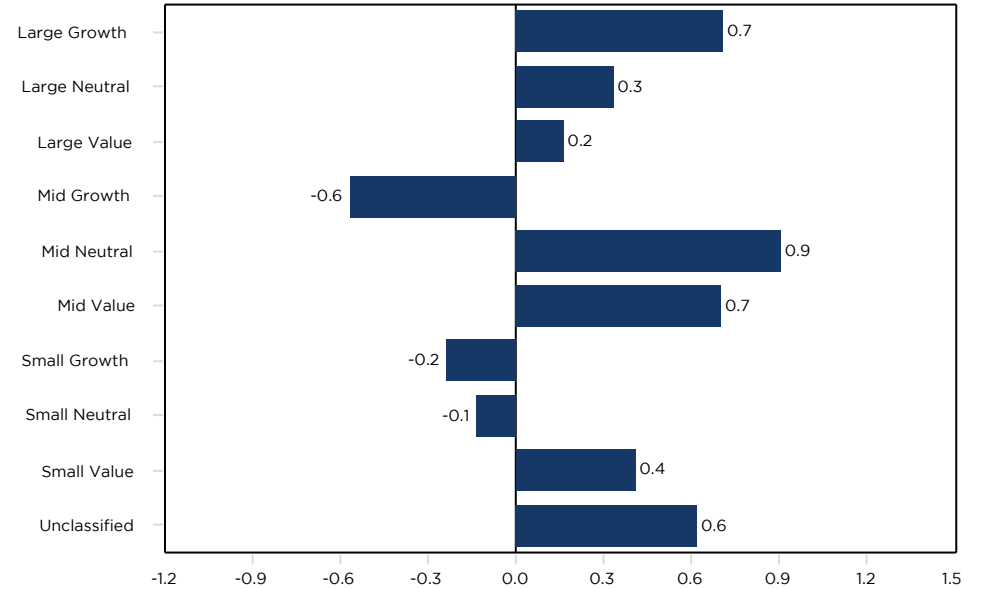
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years





American Beacon Small Cp Val Inst (AVFIX)

Index: Russell 2000 Value Index

Category: Small Value

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	13.71 (14)	-7.78 (22)	-7.78 (22)	7.13 (38)	5.08 (43)	9.41 (33)	28.15 (65)	4.05 (43)	23.51 (33)	-15.63 (54)
Benchmark	8.42	-14.48	-14.48	4.70	4.13	8.48	28.27	4.63	22.39	-12.86
Peer Group	11.31	-11.58	-11.58	6.63	4.74	8.75	31.15	3.45	21.94	-15.27
Population	493	479	479	466	453	408	479	485	516	533

Fund Information

Fund Inception	12/31/1998
Fund Assets	4,543 Million
Portfolio Assets	2,242 Million
Total # of Holdings	483
% in Top 10	19.55 %
PM	Team Managed
PM Tenure	
Turnover	48.00 %
Gross Expense (%)	0.81 %
Net Expense (%)	0.81 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	3,151	2,370
Median Mkt. Cap (\$M)	1,816	805
Price/Earnings ratio	10.0	10.1
Price/Book ratio	1.9	1.6
5 Yr. EPS Growth Rate (%)	16.7	13.7
Current Yield (%)	1.6	2.3
Beta (5 Years, Monthly)	1.07	1.00
Number of Stocks	480	1,383
Debt to Equity (%)	106.7	131.3
Forecast P/E	10.1	9.8
Forecast EPS Growth	14.3	9.9
Return on Equity (%)	4.3	1.0

Country/Region Allocation

United States	91.7	95.5
Non-US Developed	8.0	3.8
Emerging Markets	0.2	0.2
Other	0.0	0.4
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	29.07	20.81

vs. Russell 2000 Value Index

Beta	1.05	1.05
Alpha	2.45	0.64
Information Ratio	0.62	0.33
Tracking Error	4.61	3.47
R-Squared	0.98	0.97
Up Market Capture	107.94	105.30
Down Market Capture	101.14	102.42
Consistency	58.33	57.50

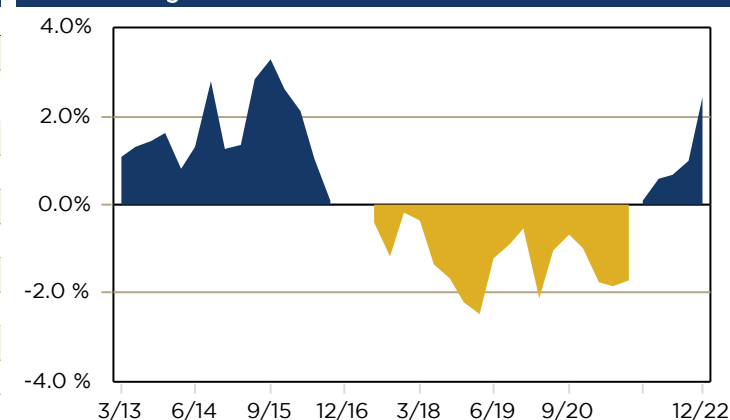
vs. Risk Free

Sharpe Ratio	0.36	0.50
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Sector Allocation

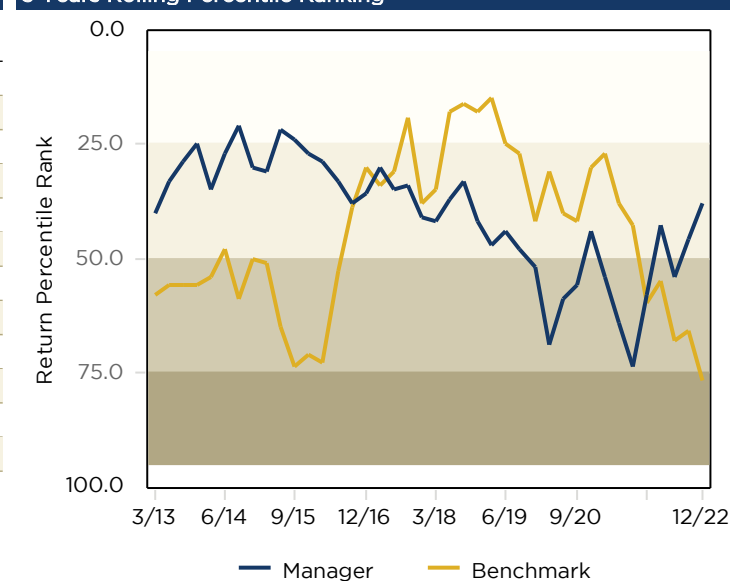
Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	2.6	2.9
Consumer Discretionary	12.7	10.0
Consumer Staples	2.9	2.7
Energy	7.0	6.2
Financials	24.2	28.8
Health Care	3.2	10.5
Industrials	22.6	13.3
Information Technology	13.5	5.5
Materials	6.8	4.1
Real Estate	2.8	10.7
Utilities	1.9	5.3
Total	100.0	100.0

3 Years Rolling Excess Performance



■ Manager Outperformed ■ Benchmark Outperformed

3 Years Rolling Percentile Ranking



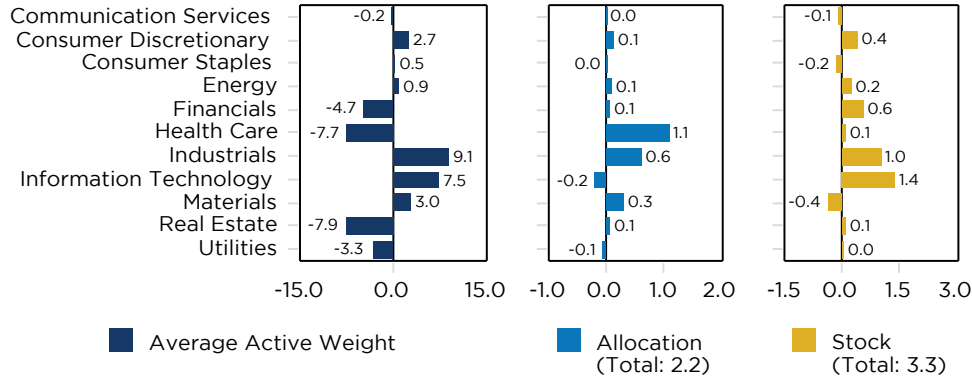


American Beacon Small Cp Val Inst (AVFIX)

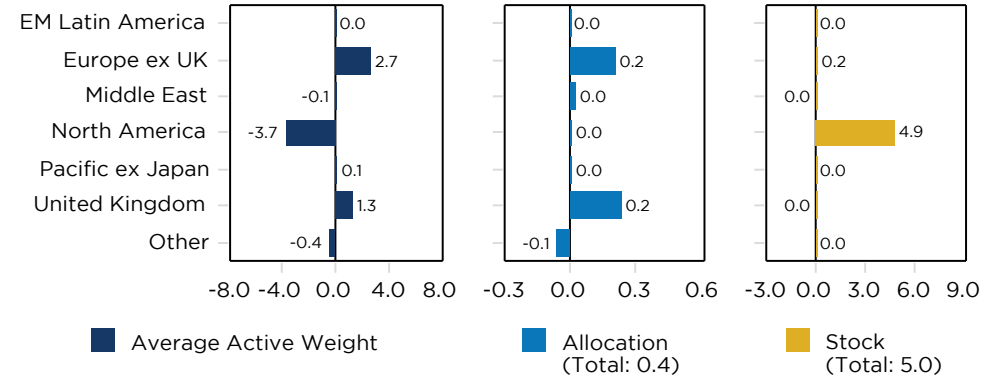
Index: Russell 2000 Value Index

As of: 12/31/2022

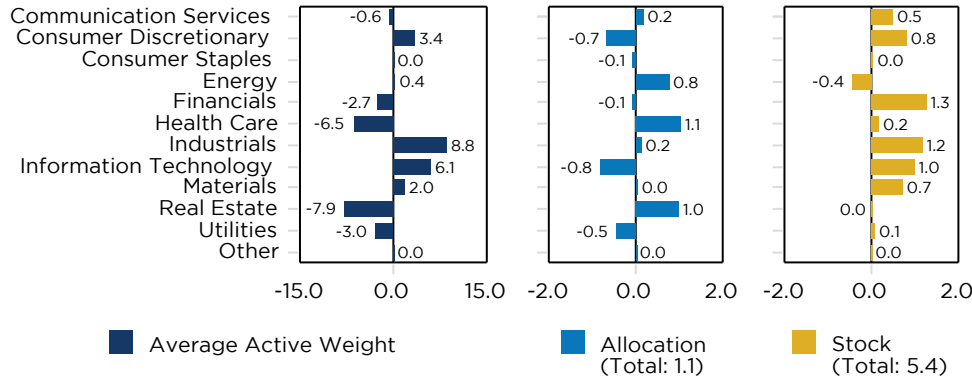
1 Quarter Sector Attribution



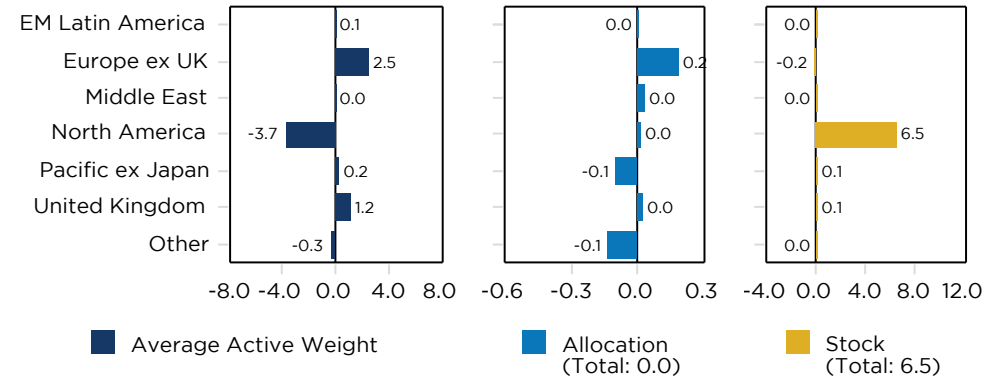
1 Quarter Region Attribution



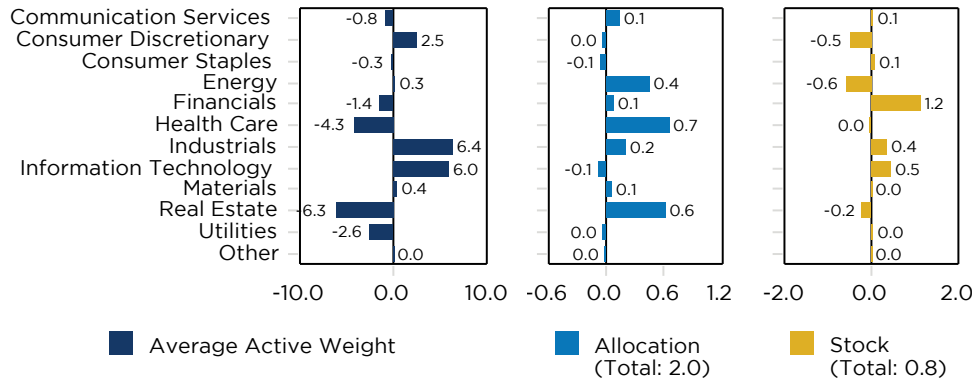
1 Year Sector Attribution



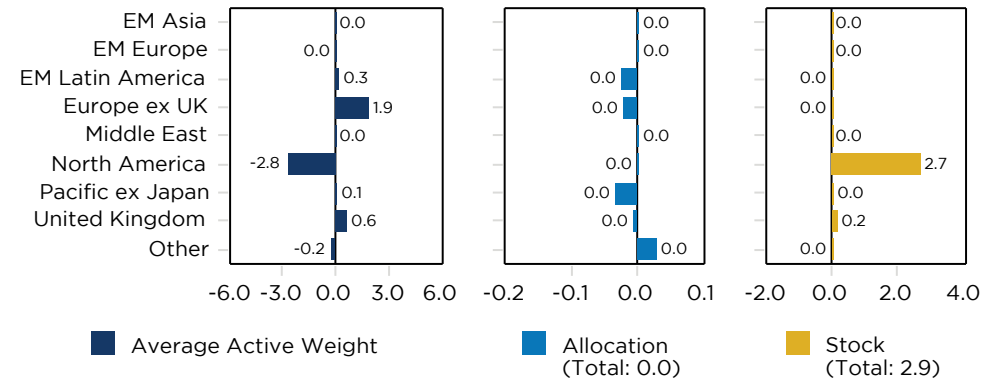
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution





American Beacon Small Cp Val Inst (AVFIX)

Index: Russell 2000 Value Index

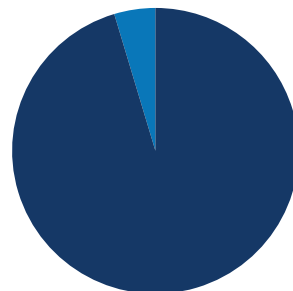
As of: 12/31/2022

Top Ten Securities

E-Mini Russ 2000 Dec22 Xcme 20	5.4 %
State Street Instl US Govt MMkt	4.3 %
Adient PLC	1.5 %
Super Micro Computer Inc	1.4 %
Evercore Inc Class A	1.3 %
F5 Inc	1.2 %
Greenbrier Companies Inc	1.2 %
Texas Capital Bancshares Inc	1.1 %
Gentherm Inc Class A	1.1 %
Stagwell Inc Ordinary Shares -	1.0 %
Total	19.6 %

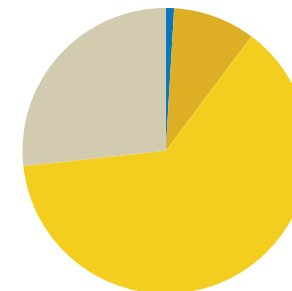
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Super Micro Computer Inc	1.13	0.00	0.46	49.08
Fluor Corp	1.10	0.03	0.33	39.25
Enerpac Tool Group Corp	0.93	0.00	0.32	43.01
Evercore Inc	1.25	0.00	0.31	33.47
Greenbrier Cos Inc (The)	1.00	0.07	0.29	39.15
Gentherm Inc	0.99	0.00	0.23	31.29
Adient plc	1.58	0.25	0.22	25.01
Expro Group Holdings N V	0.68	0.09	0.20	42.31
Harsco Corp	0.32	0.03	0.17	68.18
Enstar Group Ltd	0.78	0.18	0.17	36.23

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Seritage Growth Properties	0.79	0.12	0.30	50.19
Invacare Corp	0.15	0.03	0.21	177.65
Armstrong Flooring Inc	0.04	0.01	0.19	653.04
Emergent BioSolutions Inc	0.17	0.00	0.10	65.92
JetBlue Airways Corp	0.25	0.00	0.09	42.42
G III Apparel Group Ltd	0.32	0.14	0.05	34.69
Argo Group Int.	0.33	0.21	0.03	32.20
Coeur Mining Inc	0.30	0.19	0.03	33.98
Bed Bath & Beyond Inc.	0.23	0.20	0.03	88.62
Deluxe Corp	0.26	0.19	0.02	37.37

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Stagwell Inc	1.32	0.05	-0.24	-10.65
R1 RCM INC	0.37	0.00	-0.18	-40.91
Evolent Health Inc	0.56	0.00	-0.17	-21.85
Popular Inc	1.02	0.00	-0.16	-7.21
Funko Inc	0.25	0.00	-0.14	-46.04
Bank Butterfield & Son Ltd	0.95	0.14	-0.12	-6.90
Ferroglobe PLC	0.30	0.00	-0.11	-27.08
Omnicell Inc	0.20	0.00	-0.10	-42.07
Telos Corp/MD	0.17	0.00	-0.09	-42.75
Designer Brands Inc	0.19	0.02	-0.08	-35.80

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Diodes Inc	1.79	0.17	-0.23	-9.53
Evercore Inc	0.72	0.00	-0.14	-14.12
Federal Signal Corp.	0.79	0.01	-0.13	-12.31
Dick's Sporting Goods Inc.	0.39	0.00	-0.13	-28.32
Azenta Inc	0.85	0.04	-0.12	-10.73
Encore Wire Corp	0.35	0.11	-0.07	-25.36
Group 1 Automotive Inc.	0.48	0.17	-0.07	-18.45
Dillard's Inc.	0.22	0.07	-0.07	-41.22
Darling Ingredients Inc	0.66	0.45	-0.06	-23.45
KBR Inc	0.67	0.42	-0.06	-17.76

Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

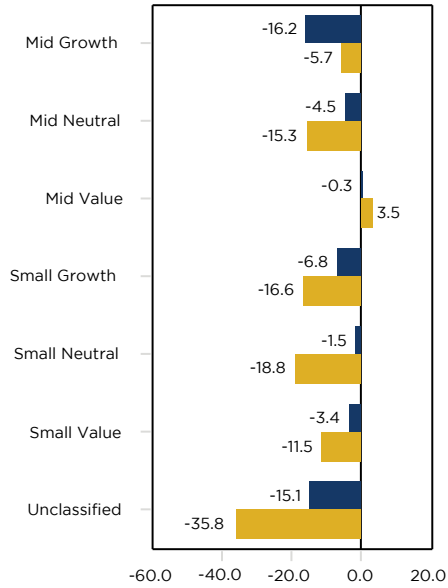


American Beacon Small Cp Val Inst (AVFIX)

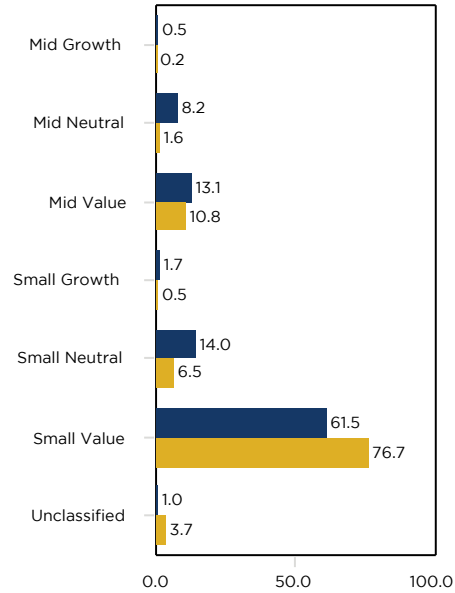
Index: Russell 2000 Value Index

As of: 12/31/2022

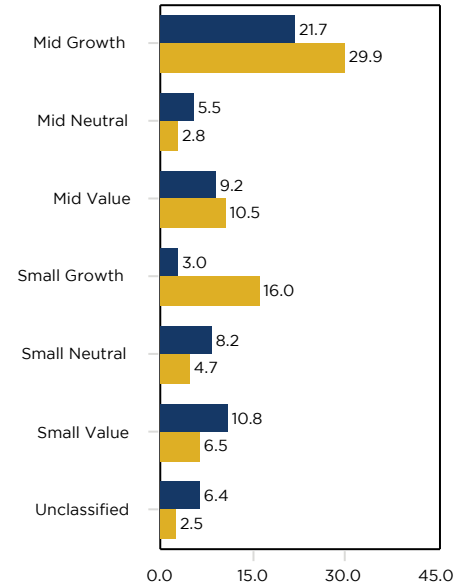
Performance | 1 Year



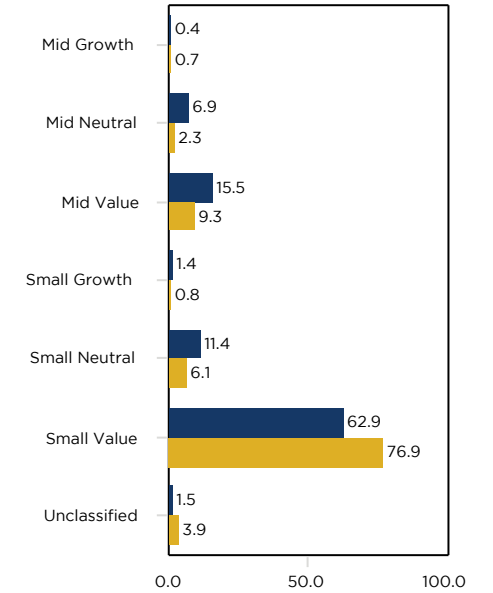
Allocation | 1 Year



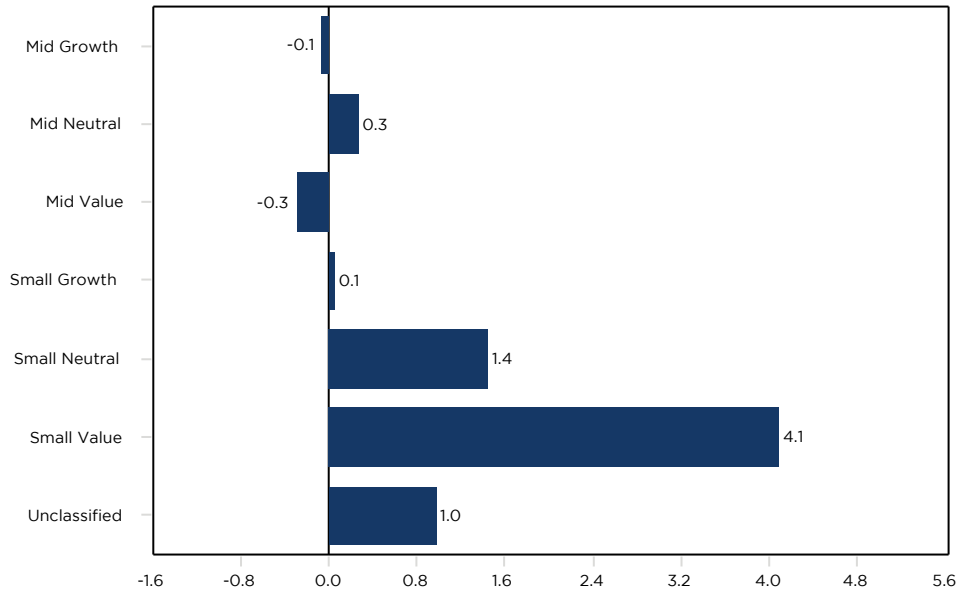
Performance | 3 Years



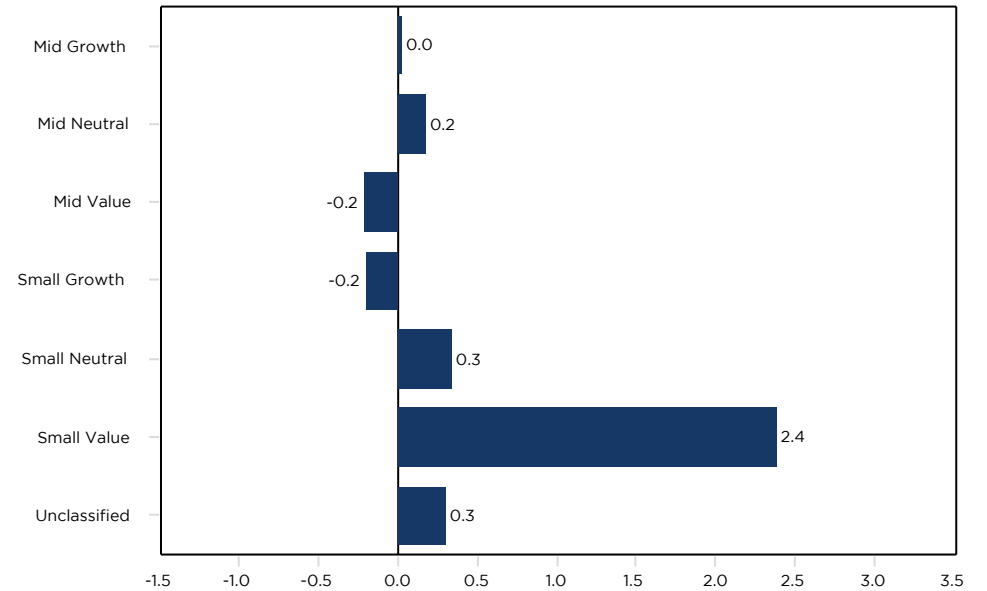
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	7.96 (71)	-17.60 (61)	-17.60 (61)	4.94 (52)	5.95 (22)	10.12 (23)	17.73 (81)	19.12 (20)	27.40 (19)	-9.32 (20)
Benchmark	7.95	-17.64	-17.64	4.90	5.92	10.15	17.71	19.07	27.35	-9.33
Peer Group	8.97	-16.63	-16.63	5.05	4.89	9.12	23.20	12.14	24.45	-12.12
Population	626	620	620	602	581	480	639	667	702	752

Fund Information

Fund Inception	07/07/1997
Fund Assets	114,929 Million
Portfolio Assets	17,945 Million
Total # of Holdings	1491
% in Top 10	3.50 %
PM	Coleman,W/O'Reilly,G
PM Tenure	
Turnover	17.00 %
Gross Expense (%)	0.04 %
Net Expense (%)	0.04 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	6,139	6,021
Median Mkt. Cap (\$M)	2,574	2,613
Price/Earnings ratio	12.6	12.5
Price/Book ratio	2.5	2.5
5 Yr. EPS Growth Rate (%)	18.5	18.1
Current Yield (%)	1.7	1.7
Beta (5 Years, Monthly)	1.00	1.00
Number of Stocks	1,486	1,480
Debt to Equity (%)	96.0	105.0
Forecast P/E	12.4	12.4
Forecast EPS Growth	13.8	13.8
Return on Equity (%)	2.7	2.6

Country/Region Allocation

United States	97.3	97.3
Non-US Developed	2.4	2.4
Emerging Markets	0.1	0.1
Other	0.2	0.2
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	25.17	18.04
vs. CRSP U.S. Small Cap TR Index		
Beta	1.00	1.00
Alpha	0.03	-0.02
Information Ratio	1.37	-0.18
Tracking Error	0.02	0.15
R-Squared	1.00	1.00
Up Market Capture	100.05	99.89
Down Market Capture	99.95	99.98
Consistency	63.89	59.17

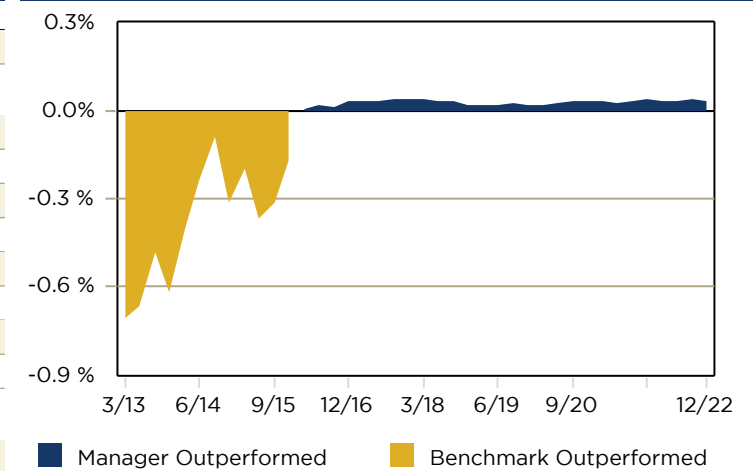
vs. Risk Free

Sharpe Ratio	0.29	0.58
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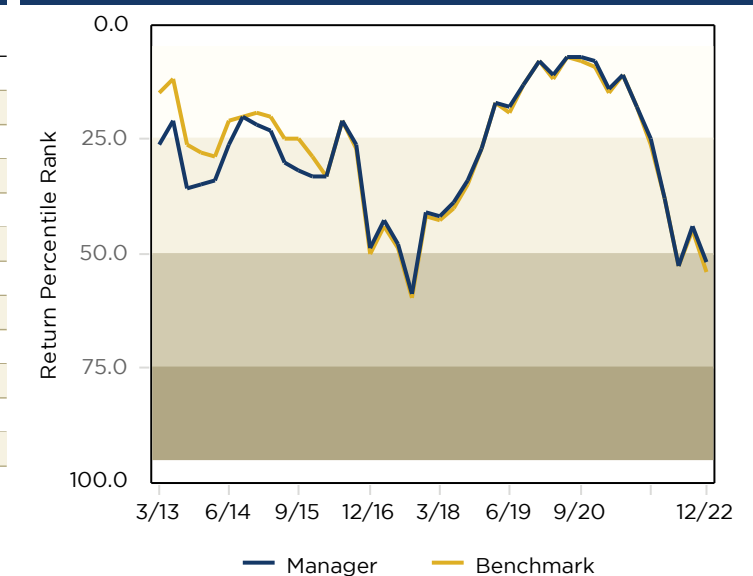
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	2.3	2.3
Consumer Discretionary	11.8	11.8
Consumer Staples	3.9	3.9
Energy	5.6	5.2
Financials	15.0	15.1
Health Care	11.8	12.1
Industrials	19.3	19.2
Information Technology	13.4	13.5
Materials	5.6	5.6
Real Estate	8.1	8.1
Utilities	3.3	3.3
Total	100.0	100.0

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



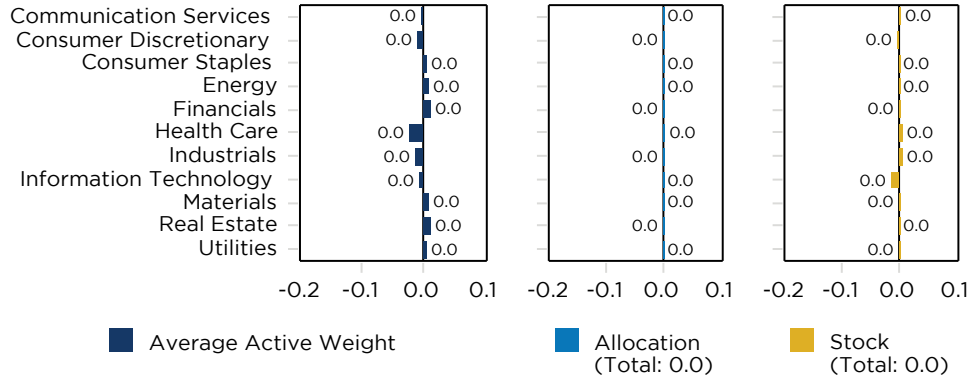


Vanguard Small Cap Index I (VSCIX)

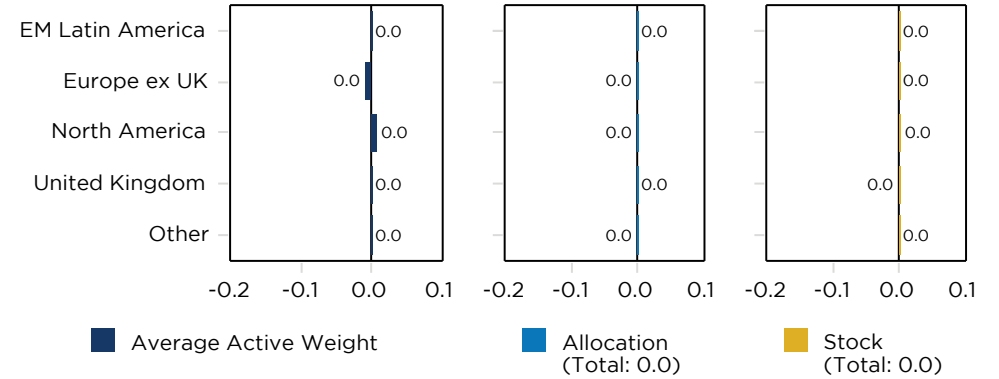
Index: CRSP U.S. Small Cap TR Index

As of: 12/31/2022

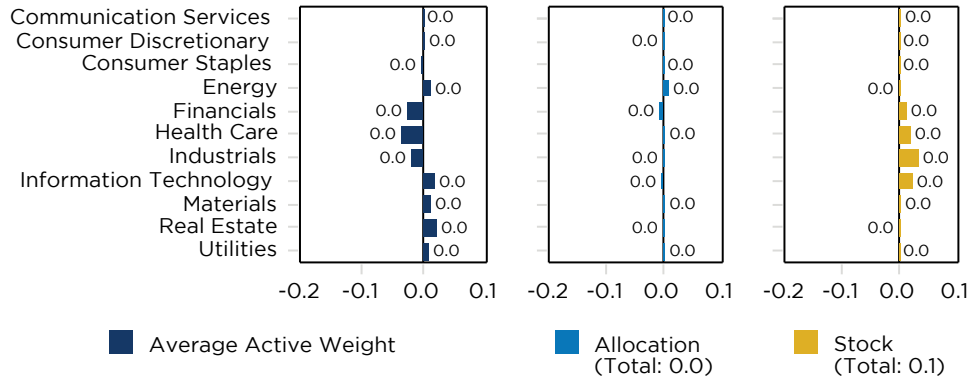
1 Quarter Sector Attribution



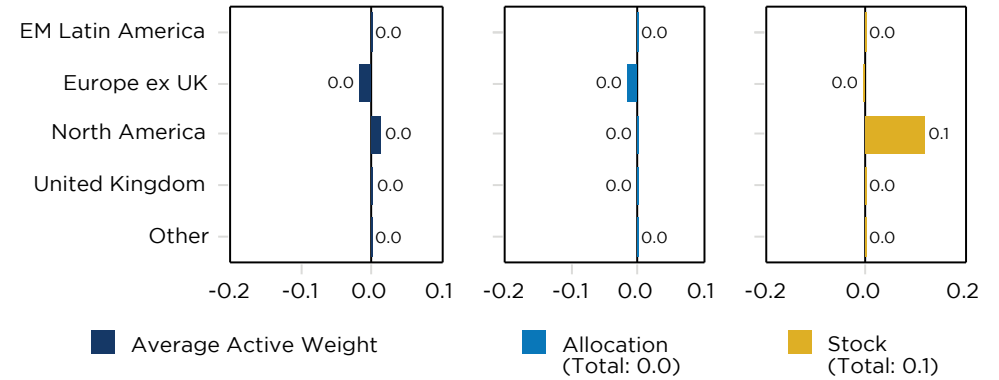
1 Quarter Region Attribution



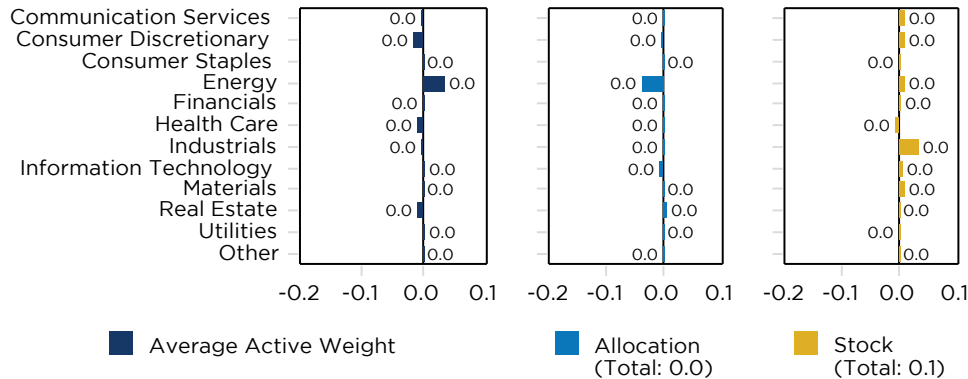
1 Year Sector Attribution



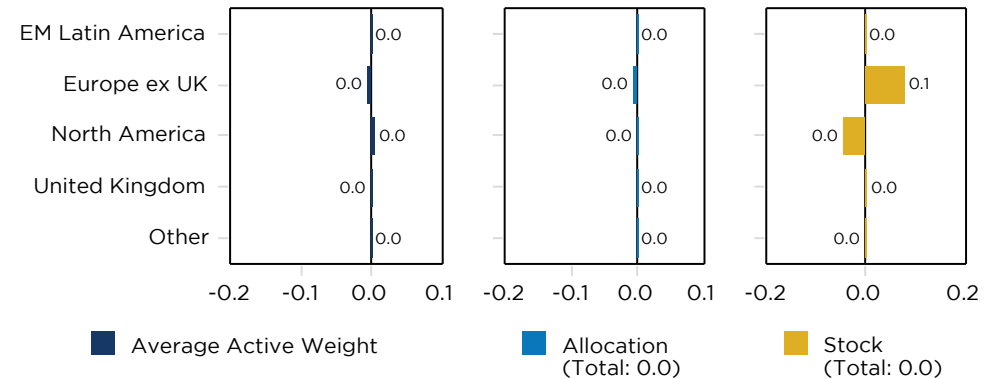
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution

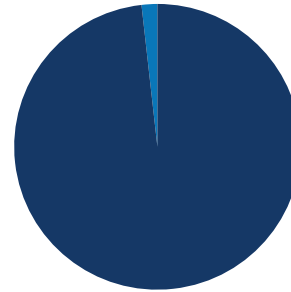


Top Ten Securities

IDEX Corp	0.4 %
Targa Resources Corp	0.4 %
Steel Dynamics Inc	0.4 %
Atmos Energy Corp	0.4 %
First Solar Inc	0.3 %
APA Corp	0.3 %
Fair Isaac Corp	0.3 %
Bunge Ltd	0.3 %
Howmet Aerospace Inc	0.3 %
Booz Allen Hamilton Holding Corp	0.3 %
Total	3.5 %

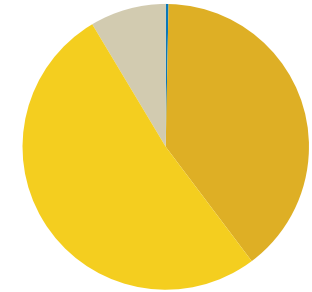
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Fair Isaac Corporation	0.26	0.26	0.00	45.28
Steel Dynamics Inc	0.30	0.30	0.00	38.18
APA Corporation	0.27	0.27	0.00	37.35
Texas Pacific Land Corp	0.27	0.27	0.00	32.07
Axon Enterprise Inc	0.19	0.19	0.00	43.35
Howmet Aerospace Inc	0.28	0.28	0.00	27.56
United Therapeutics Corp	0.23	0.23	0.00	32.82
Targa Resources Corp	0.34	0.34	0.00	22.44
Madrigal Pharmaceuticals Inc	0.02	0.02	0.00	346.61
Toro Co (The)	0.22	0.22	0.00	31.71

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Reata Pharmaceuticals Inc	0.13	0.12	0.01	75.24
Tricida Inc	0.02	0.02	0.00	527.28
Avaya Holdings Corp	0.04	0.04	0.00	309.91
GTT Communications Inc	0.01	0.01	0.00	1,214.24
RingCentral Inc	0.16	0.16	0.00	68.27
Nektar Therapeutics	0.10	0.10	0.00	112.17
Carvana Co	0.06	0.06	0.00	168.79
Intercept Pharmaceuticals Inc	0.08	0.08	0.00	115.57
LendingTree Inc	0.06	0.06	0.00	142.31
bluebird bio Inc	0.09	0.09	0.00	96.83

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Wolfspeed Inc	0.32	0.31	0.00	-33.20
Advanced Drainage Systems Inc	0.22	0.22	0.00	-34.01
Guardant Health Inc	0.13	0.13	0.00	-49.47
Entegris Inc	0.30	0.30	0.00	-20.90
Chart Industries Inc	0.17	0.17	0.00	-37.49
ShockWave Medical Inc	0.23	0.23	0.00	-26.06
Rogers Corp.	0.11	0.11	0.00	-50.66
Carlisle Cos Inc	0.36	0.36	0.00	-15.71
Signature Bank	0.23	0.23	0.00	-23.41
SentinelOne Inc	0.12	0.12	0.00	-42.92

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
ON Semiconductor Corp	0.26	0.26	0.00	-26.88
Molina Healthcare Inc.	0.22	0.22	0.00	-25.66
Steel Dynamics Inc	0.18	0.18	0.00	-31.30
Horizon Therapeutics Public Ltd Co	0.18	0.18	0.00	-31.74
Moderna Inc	0.10	0.10	0.00	-52.25
Quanta Services Inc.	0.15	0.15	0.00	-34.34
LPL Financial Holdings Inc	0.19	0.19	0.00	-25.35
Insulet Corporation	0.28	0.28	0.00	-16.53
Trade Desk Inc (The)	0.27	0.27	0.00	-16.63
West Pharmaceutical Services Inc.	0.29	0.29	0.00	-14.10

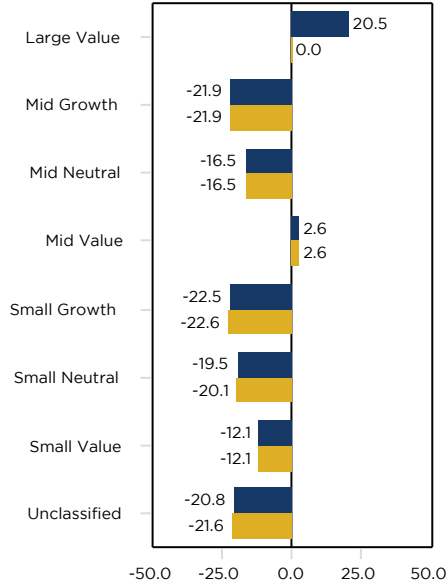


Vanguard Small Cap Index I (VSCIX)

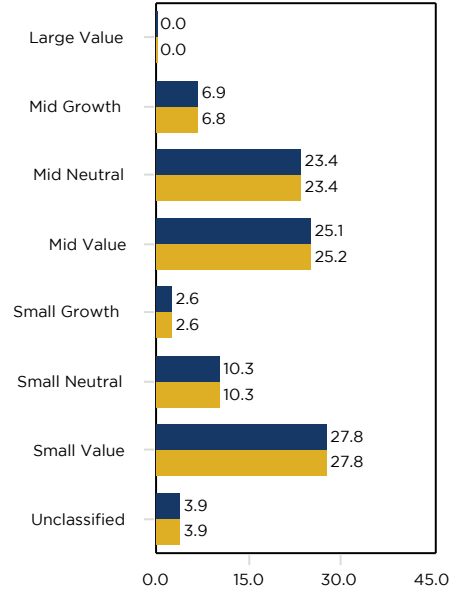
Index: CRSP U.S. Small Cap TR Index

As of: 12/31/2022

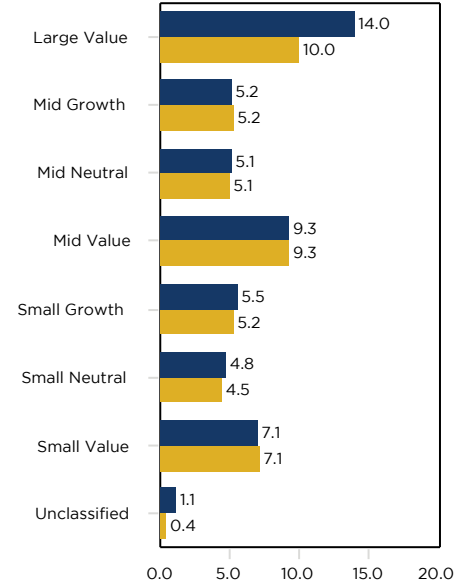
Performance | 1 Year



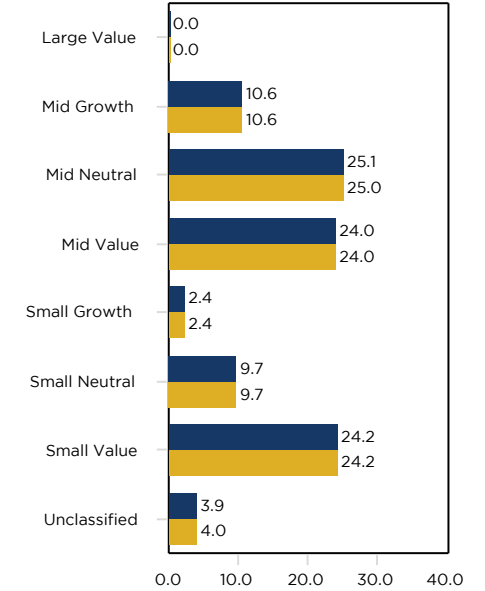
Allocation | 1 Year



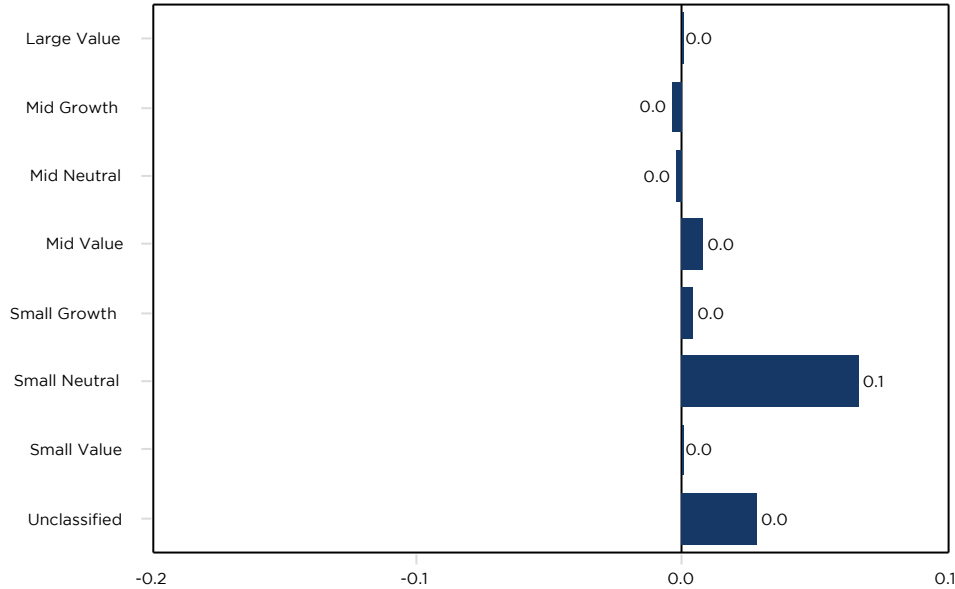
Performance | 3 Years



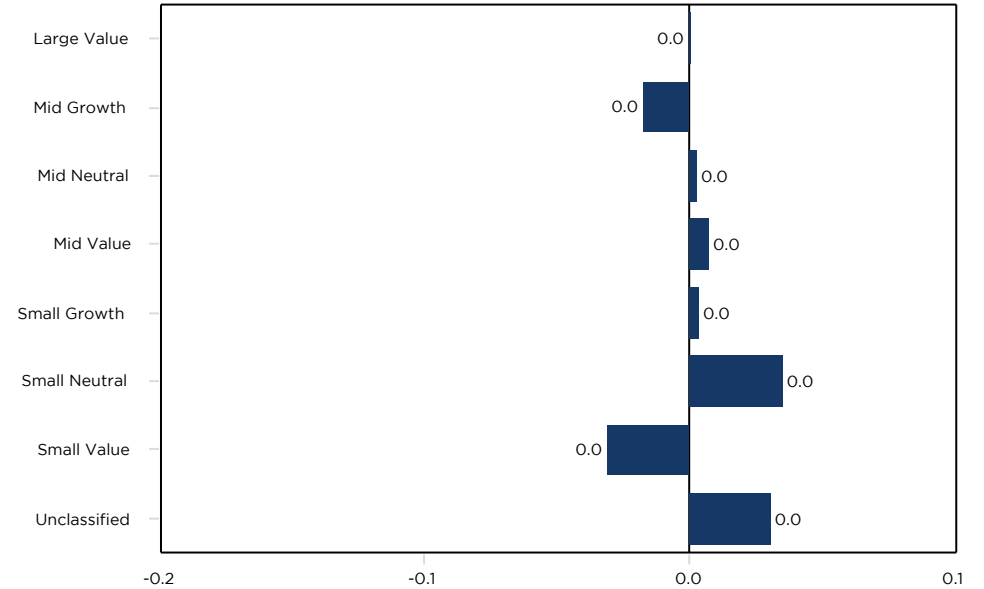
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	7.90 (12)	-22.92 (17)	-22.92 (17)	4.40 (34)	7.65 (31)	11.34 (22)	10.07 (49)	34.11 (60)	26.51 (60)	0.45 (17)
Benchmark	4.13	-26.36	-26.36	0.65	3.51	9.20	2.83	34.63	28.48	-9.31
Peer Group	4.40	-28.16	-28.16	3.06	6.33	10.11	9.60	37.56	28.34	-5.13
Population	622	616	616	601	580	537	628	639	656	682

Fund Information

Fund Inception	12/31/1996
Fund Assets	2,132 Million
Portfolio Assets	955 Million
Total # of Holdings	99
% in Top 10	18.33 %
PM	Burns,M/Slavik,J
PM Tenure	
Turnover	52.00 %
Gross Expense (%)	0.92 %
Net Expense (%)	0.92 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	3,795	3,064
Median Mkt. Cap (\$M)	2,744	1,112
Price/Earnings ratio	21.5	14.0
Price/Book ratio	3.7	3.5
5 Yr. EPS Growth Rate (%)	22.8	22.5
Current Yield (%)	0.5	0.9
Beta (5 Years, Monthly)	0.91	1.00
Number of Stocks	97	1,109
Debt to Equity (%)	87.4	103.6
Forecast P/E	20.0	14.0
Forecast EPS Growth	18.9	18.3
Return on Equity (%)	8.3	1.4

Country/Region Allocation

United States	97.1	96.9
Non-US Developed	1.1	2.3
Emerging Markets	1.8	0.6
Other	0.0	0.1
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	24.56	18.76
vs. Russell 2000 Growth Index		
Beta	0.91	0.92
Alpha	3.72	2.70
Information Ratio	0.49	0.34
Tracking Error	6.72	5.26
R-Squared	0.94	0.93
Up Market Capture	98.71	98.29
Down Market Capture	88.53	88.92
Consistency	52.78	50.00

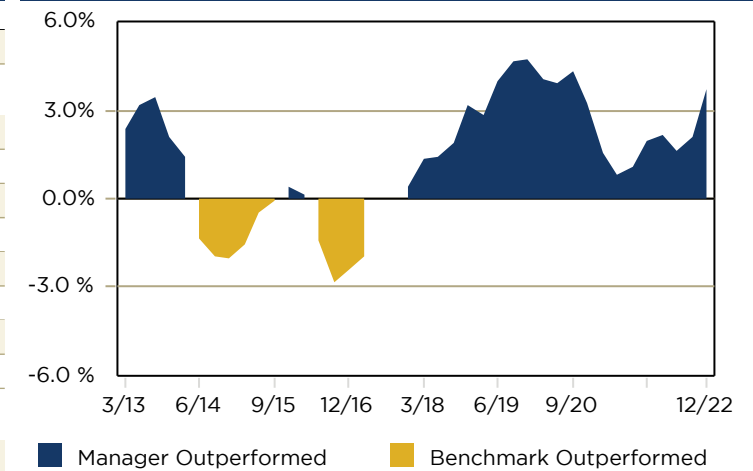
vs. Risk Free

Sharpe Ratio	0.27	0.63
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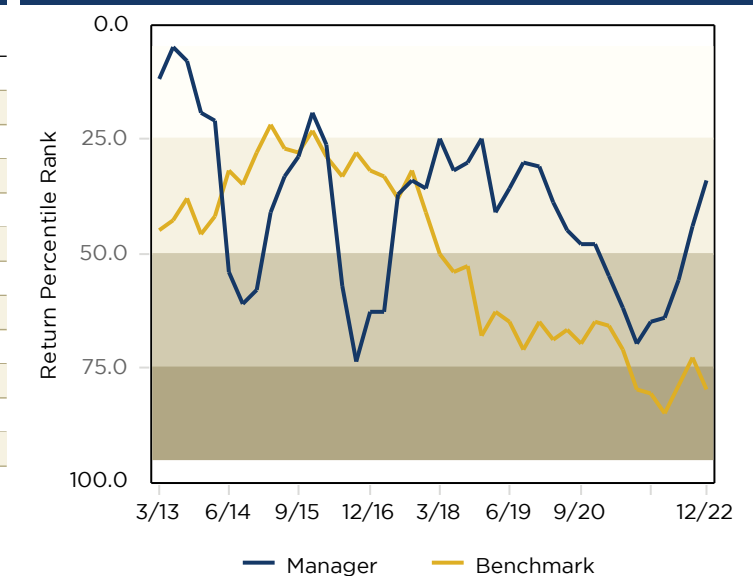
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)
Communication Services	1.5	2.3
Consumer Discretionary	10.5	10.8
Consumer Staples	6.4	4.5
Energy	5.6	7.4
Financials	8.6	5.7
Health Care	27.3	23.2
Industrials	20.2	17.8
Information Technology	20.0	19.8
Materials	0.0	4.5
Real Estate	0.0	2.2
Utilities	0.0	1.7
Total	100.0	100.0

3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking

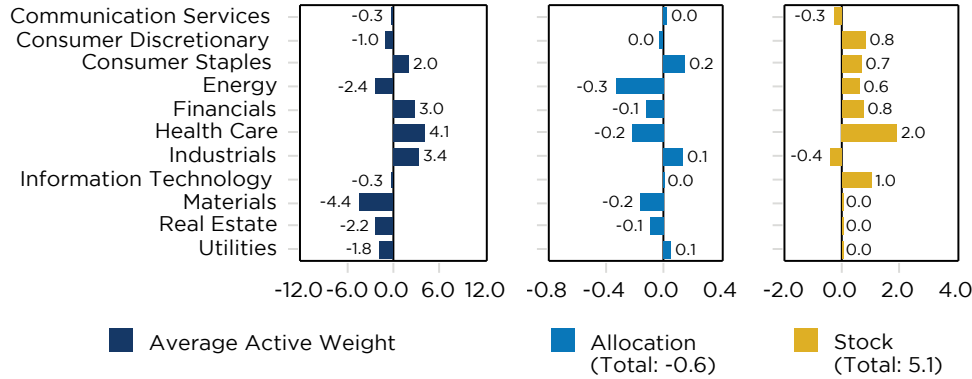




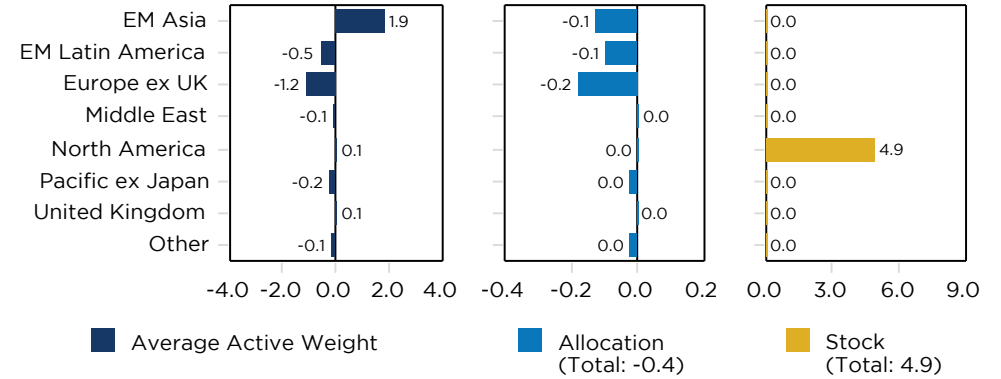
Loomis Sayles Small Cap Growth Instl (LSSIX)

Index: Russell 2000 Growth Index
As of: 12/31/2022

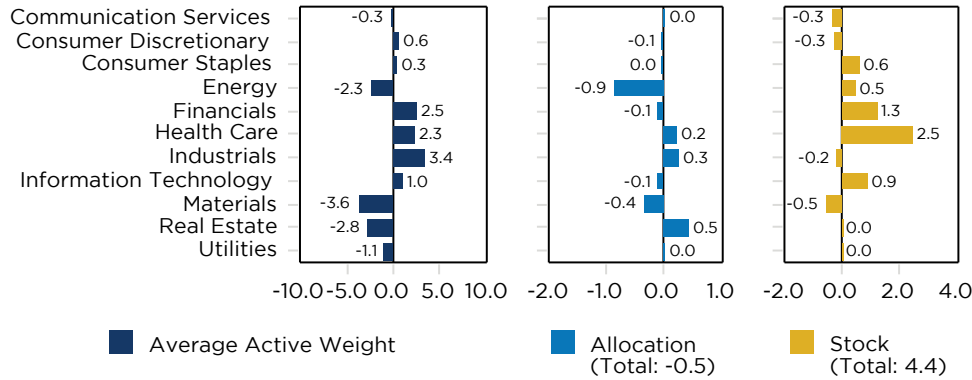
1 Quarter Sector Attribution



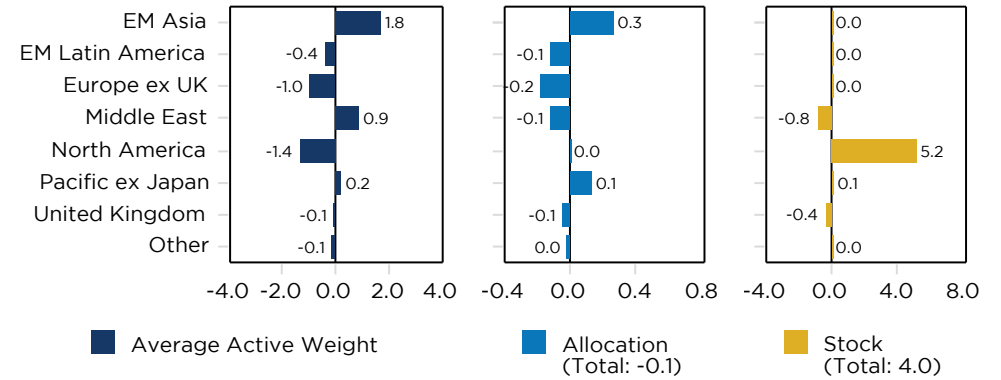
1 Quarter Region Attribution



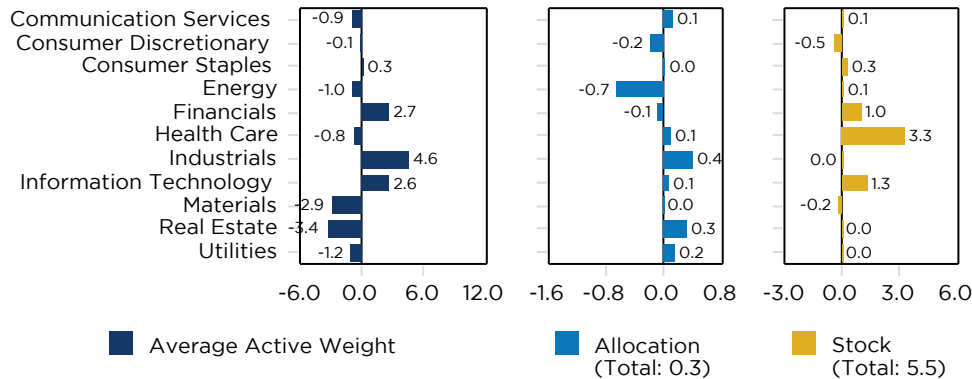
1 Year Sector Attribution



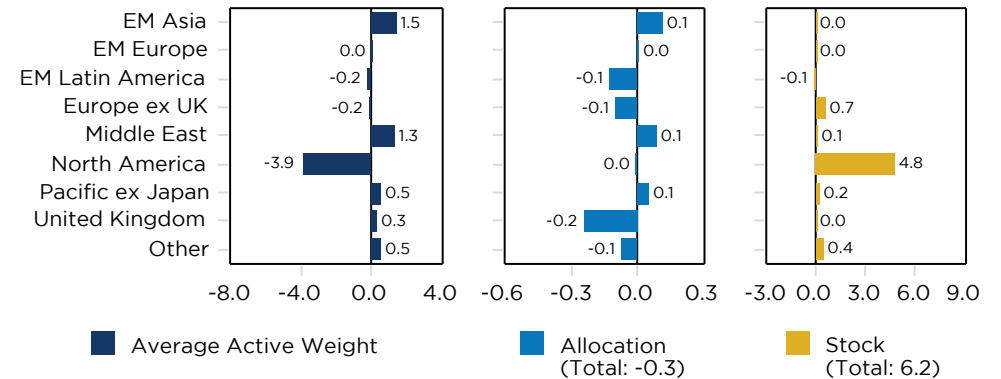
1 Year Region Attribution



3 Years Sector Attribution



3 Years Region Attribution





Loomis Sayles Small Cap Growth Instl (LSSIX)

Index: Russell 2000 Growth Index

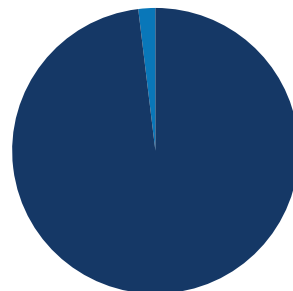
As of: 12/31/2022

Top Ten Securities

Halozyme Therapeutics Inc	2.1 %
WillScot Mobile Mini Holdings Corp	2.1 %
Casella Waste Systems Inc Class	2.0 %
Rambus Inc	1.9 %
Inspire Medical Systems Inc	1.8 %
Axonics Inc	1.8 %
WNS (Holdings) Ltd ADR	1.7 %
Option Care Health Inc	1.7 %
KBR Inc	1.7 %
Cactus Inc Class A	1.6 %
Total	18.3 %

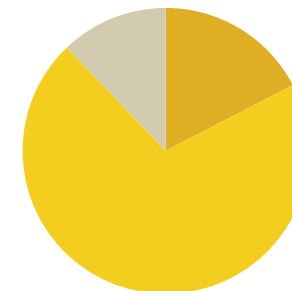
Asset Allocation

- Equity
- Cash
- Fixed Income



Market Capitalization

- Giant
- Large
- Medium
- Small
- Micro



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
e.l.f. Beauty Inc	1.40	0.16	0.53	47.00
Rambus Inc	1.51	0.21	0.48	40.91
Weatherford International plc	1.08	0.20	0.47	57.70
Halozyme Therapeutics Inc	1.66	0.48	0.47	43.91
Inspire Medical Systems Inc	1.53	0.45	0.41	42.01
Cactus Inc	1.33	0.20	0.30	31.06
KBR Inc	1.64	0.00	0.30	22.45
Albany International Corp.	1.41	0.04	0.29	25.38
Merit Medical Systems Inc	1.41	0.24	0.24	24.97
Medpace Holdings Inc	1.12	0.36	0.24	35.15

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Q2 Holdings Inc	1.40	0.33	0.47	44.51
Reata Pharmaceuticals Inc	0.76	0.18	0.43	75.24
Y-mAbs Therapeutics Inc	0.55	0.07	0.41	85.70
Proto Labs Inc	0.90	0.26	0.37	58.44
Neogenomics Inc	0.94	0.26	0.31	46.83
Amedisys Inc	1.38	0.49	0.23	25.95
Harsco Corp	0.57	0.17	0.21	54.08
Rapid7 Inc	1.28	0.26	0.18	18.13
Mercury Systems Inc	1.32	0.35	0.15	15.60
PROS Holdings Inc	0.58	0.18	0.14	35.17

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Advanced Drainage Systems Inc	2.03	0.00	-0.77	-34.01
Evolent Health Inc	2.03	0.26	-0.46	-21.85
PTC Therapeutics Inc	1.41	0.24	-0.33	-23.96
Pacira BioSciences Inc	1.25	0.21	-0.33	-27.41
TechTarget Inc	1.22	0.15	-0.32	-25.57
Axonics Inc	2.11	0.31	-0.28	-11.23
Grid Dynamics Holdings Inc	0.53	0.08	-0.20	-40.10
STAAR Surgical Co	0.71	0.30	-0.14	-31.20
Blueprint Medicines Corp	0.64	0.35	-0.11	-33.51
Varonis Systems Inc	1.01	0.26	-0.10	-9.73

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Kinsale Capital Group Inc	1.69	0.19	-0.42	-27.18
Horizon Therapeutics Public Ltd Co	1.10	0.00	-0.36	-31.74
Monolithic Power Systems Inc	1.49	0.00	-0.32	-21.02
arGEN-X SE	1.21	0.00	-0.31	-24.89
Inspire Medical Systems Inc	0.65	0.09	-0.19	-33.46
Rambus Inc	0.63	0.00	-0.18	-27.28
Casella Waste Systems Inc	1.22	0.20	-0.18	-16.59
Halozyme Therapeutics Inc	0.73	0.24	-0.16	-32.20
Advanced Drainage Systems Inc	0.79	0.16	-0.15	-22.42
Wingstop Inc	1.00	0.22	-0.14	-16.89

Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

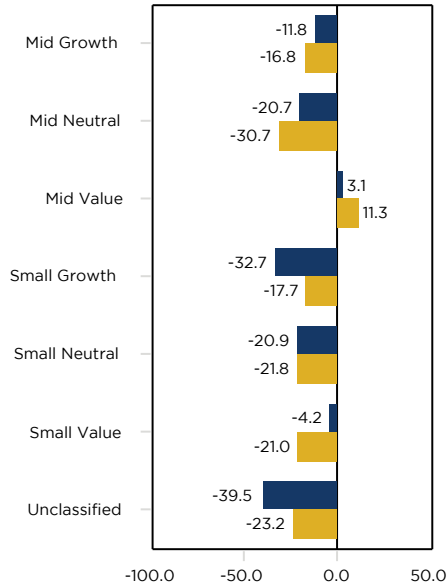


Loomis Sayles Small Cap Growth Instl (LSSIX)

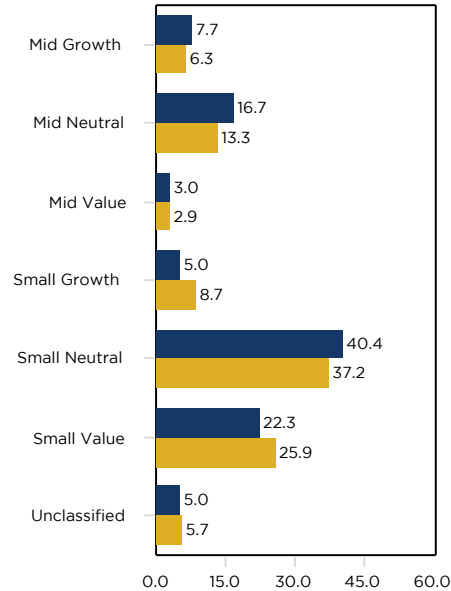
Index: Russell 2000 Growth Index

As of: 12/31/2022

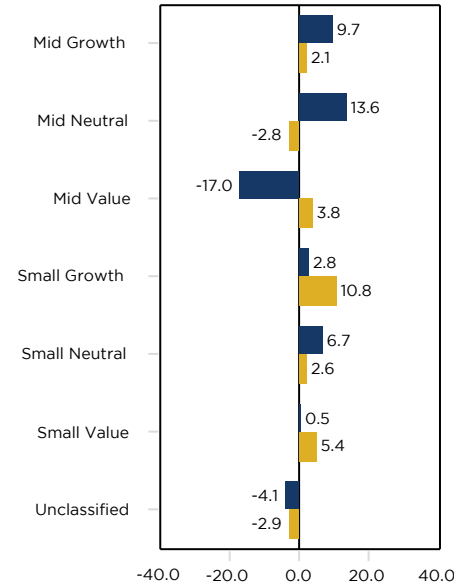
Performance | 1 Year



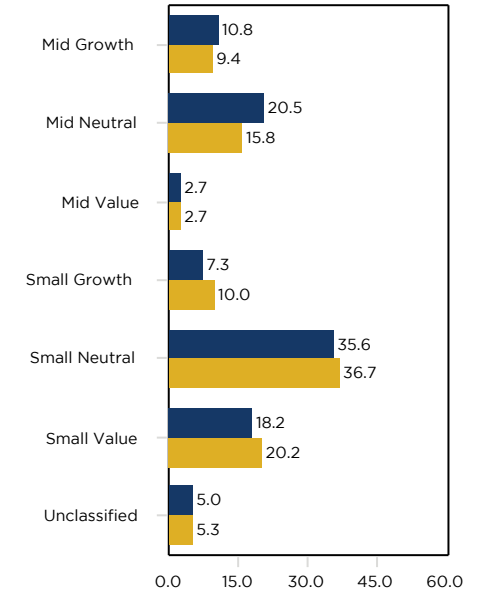
Allocation | 1 Year



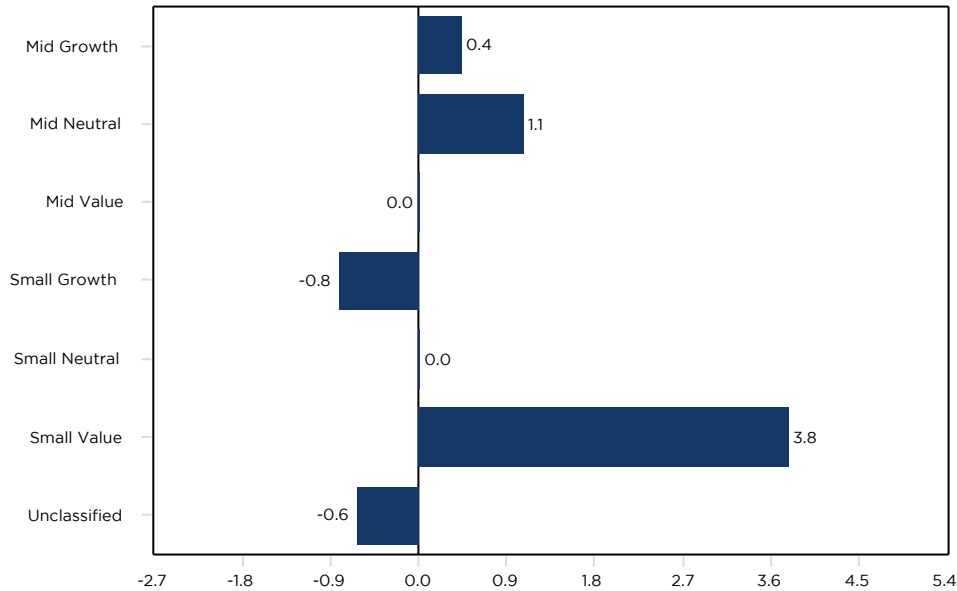
Performance | 3 Years



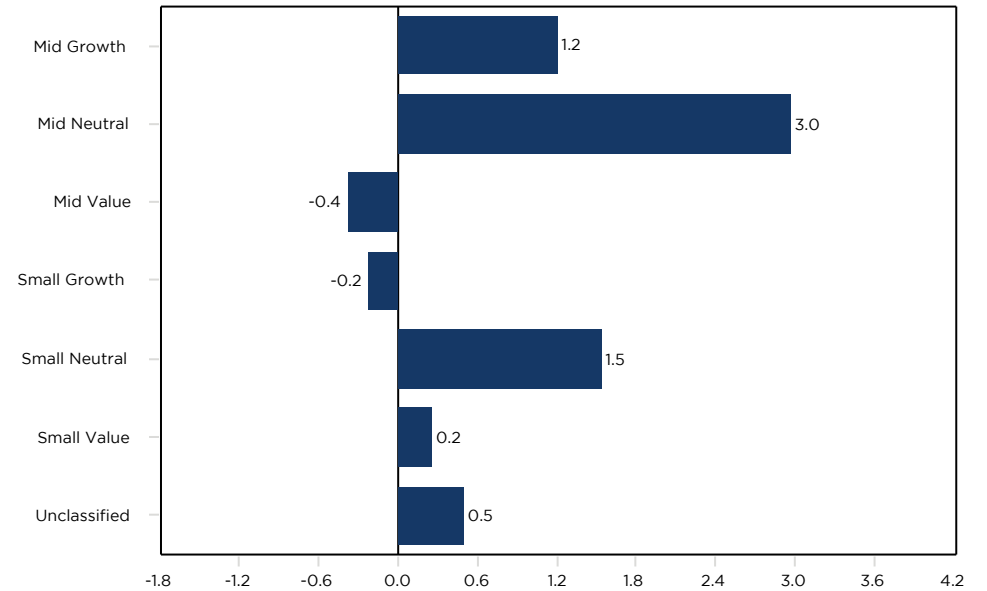
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	10.07 (72)	-31.93 (100)	-31.93 (100)	0.12 (99)	2.80 (92)	7.84 (57)	15.37 (74)	27.78 (5)	31.80 (4)	-13.19 (82)
Benchmark	9.89	-17.73	-17.73	5.45	6.69	9.44	22.35	16.50	28.40	-8.20
Peer Group	11.03	-17.47	-17.47	3.93	5.09	8.03	18.20	14.34	26.12	-9.95
Population	386	368	368	346	322	236	378	372	361	348

Fund Information

Fund Inception	05/01/2002
Fund Assets	1,011 Million
Portfolio Assets	815 Million
Total # of Holdings	68
% in Top 10	51.44 %
PM	Delano, J
PM Tenure	
Turnover	7.00 %
Gross Expense (%)	0.83 %
Net Expense (%)	0.80 %
Closed to New Investors	Open

Fund Statistics

	3 Years	10 Years
Standard Deviation	24.49	17.57
vs. MSCI World Index		
Beta	1.15	1.16
Alpha	-5.28	-2.59
Information Ratio	-0.57	-0.17
Tracking Error	7.49	5.62
R-Squared	0.92	0.92
Up Market Capture	107.17	110.07
Down Market Capture	125.69	123.51
Consistency	50.00	51.67

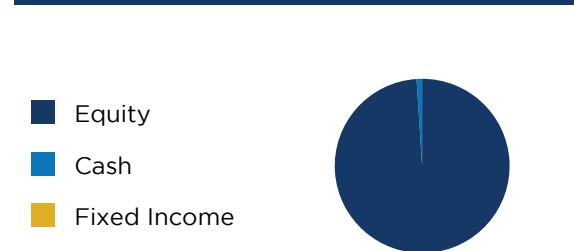
vs. Risk Free

Sharpe Ratio	0.10	0.48
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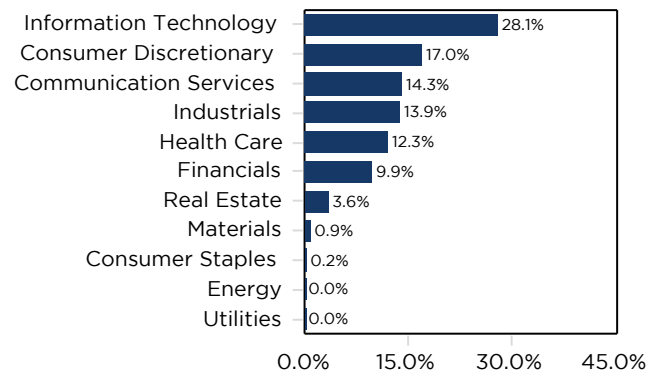
Top Countries(%)

United States	52.69
France	9.50
Japan	6.43
China	6.42
Netherlands	6.08

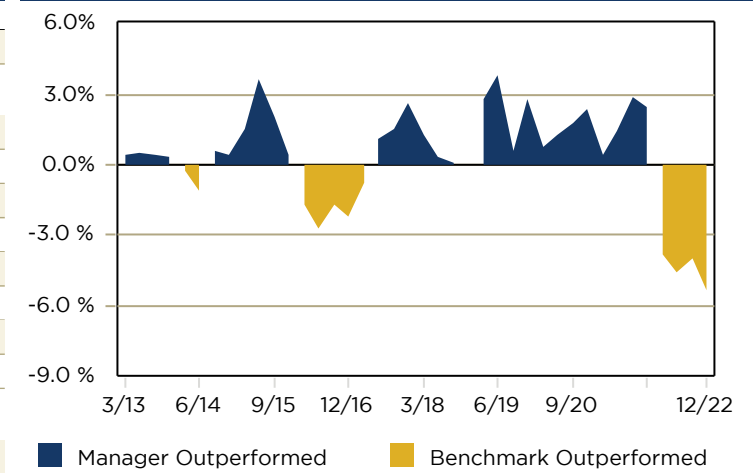
Asset Allocation



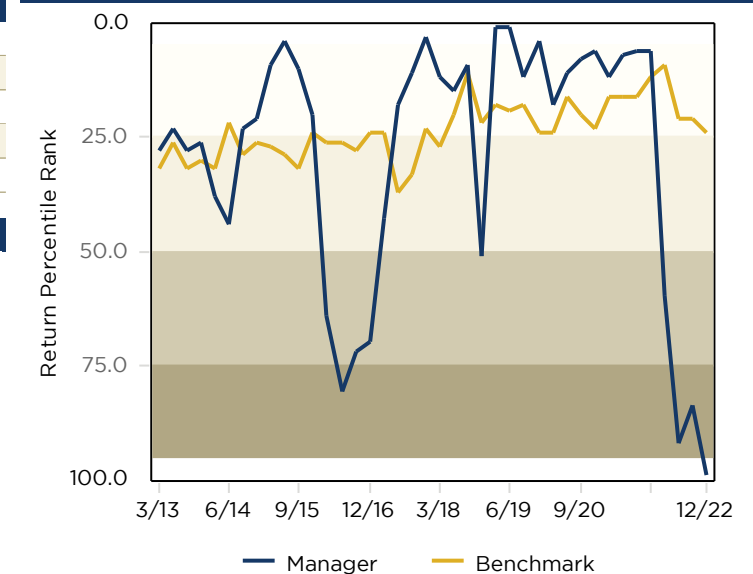
Equity Sector Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	14.67 (80)	-16.01 (54)	-16.01 (54)	0.51 (54)	1.09 (55)	4.06 (60)	8.62 (66)	11.28 (39)	21.51 (60)	-14.43 (41)
Benchmark	14.14	-16.10	-16.10	0.52	1.10	4.18	8.84	11.24	21.80	-14.61
Peer Group	16.75	-15.79	-15.79	0.62	1.20	4.23	10.21	9.45	22.04	-15.09
Population	776	753	753	721	665	542	779	811	813	805

Fund Information

Fund Inception	11/29/2010
Fund Assets	318,899 Million
Portfolio Assets	59,468 Million
Total # of Holdings	7912
% in Top 10	8.85 %
PM	Franquin,C/Perre,M
PM Tenure	
Turnover	8.00 %
Gross Expense (%)	0.11 %
Net Expense (%)	0.11 %
Closed to New Investors	Open

Fund Statistics

	3 Years	10 Years
Standard Deviation	20.04	14.72
vs. FTSE Global ex USA All Cap Index (Net)		
Beta	1.02	1.00
Alpha	0.04	-0.11
Information Ratio	0.03	-0.05
Tracking Error	2.45	1.85
R-Squared	0.99	0.98
Up Market Capture	103.07	100.31
Down Market Capture	103.03	101.00
Consistency	50.00	49.17

vs. Risk Free

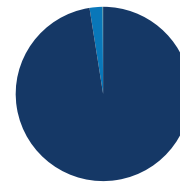
Sharpe Ratio	0.09	0.29
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Top Countries(%)

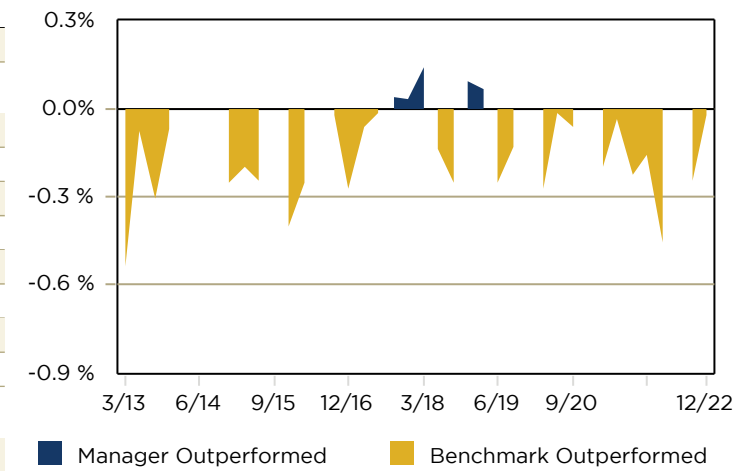
Japan	15.28
United Kingdom	9.22
China	8.54
Canada	7.30
France	6.22

Asset Allocation

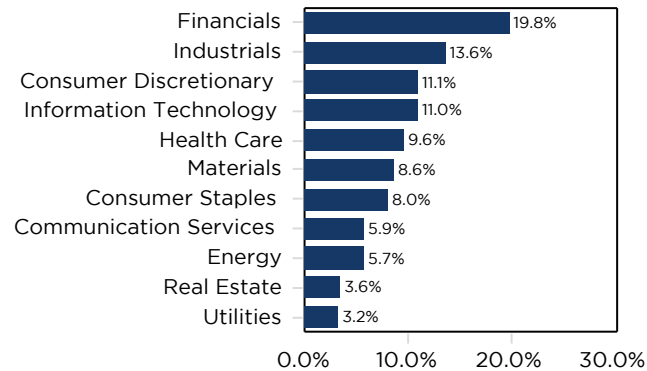
Equity	
Cash	
Other	
Fixed Income	



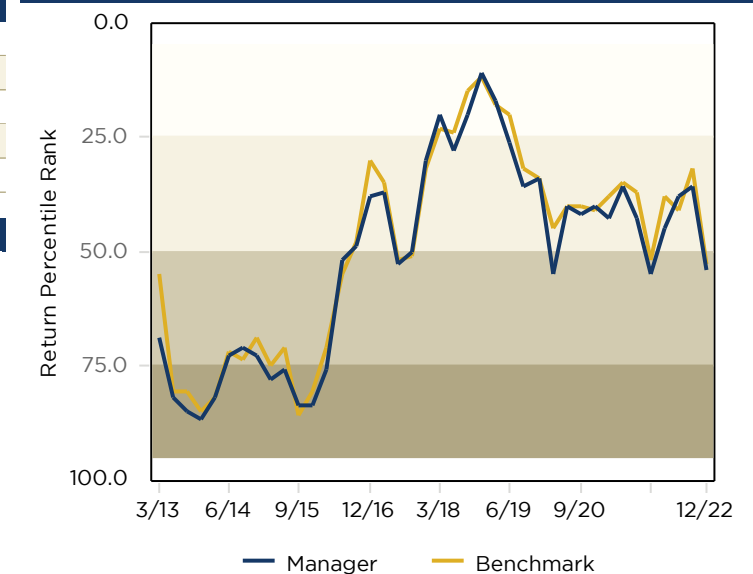
3 Years Rolling Excess Performance



Equity Sector Allocation



3 Years Rolling Percentile Ranking





American Funds Europacific Growth R6 (RERGX)

Index: MSCI AC World ex USA (Net)

Category: Foreign Large Growth

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	13.78 (50)	-22.72 (32)	-22.72 (32)	-0.15 (55)	1.54 (58)	5.30 (37)	2.84 (78)	25.27 (35)	27.40 (63)	-14.91 (55)
Benchmark	14.28	-16.00	-16.00	0.07	0.88	3.80	7.82	10.65	21.51	-14.20
Peer Group	13.77	-24.90	-24.90	0.14	1.81	4.93	8.69	22.17	27.95	-14.44
Population	451	446	446	410	394	329	452	441	446	458

Fund Information

Fund Inception	05/01/2009
Fund Assets	124,440 Million
Portfolio Assets	61,562 Million
Total # of Holdings	370
% in Top 10	24.00 %
PM	Team Managed
PM Tenure	
Turnover	29.00 %
Gross Expense (%)	0.46 %
Net Expense (%)	0.46 %
Closed to New Investors	Open

Fund Statistics

	3 Years	10 Years
Standard Deviation	21.15	15.10
vs. MSCI AC World ex USA (Net)		
Beta	1.07	1.00
Alpha	0.02	1.53
Information Ratio	0.03	0.38
Tracking Error	5.17	4.01
R-Squared	0.94	0.93
Up Market Capture	111.08	103.85
Down Market Capture	111.33	96.00
Consistency	52.78	54.17

vs. Risk Free

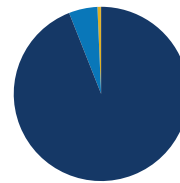
Sharpe Ratio	0.06	0.37
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Top Countries(%)

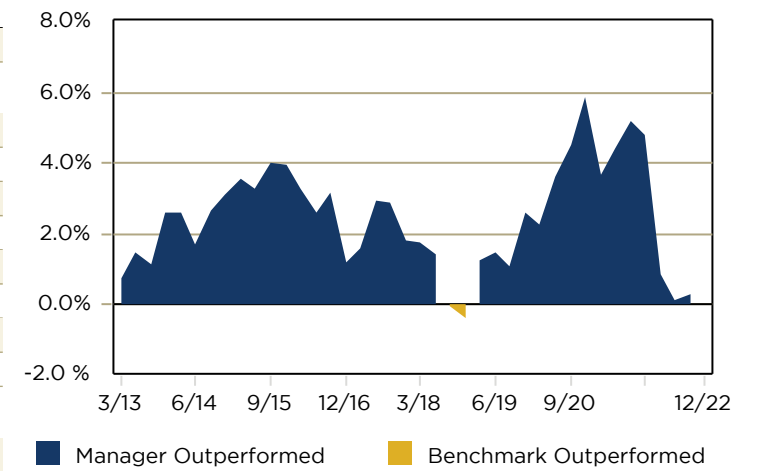
Japan	11.91
France	10.54
India	8.89
Canada	8.07
United Kingdom	7.20

Asset Allocation

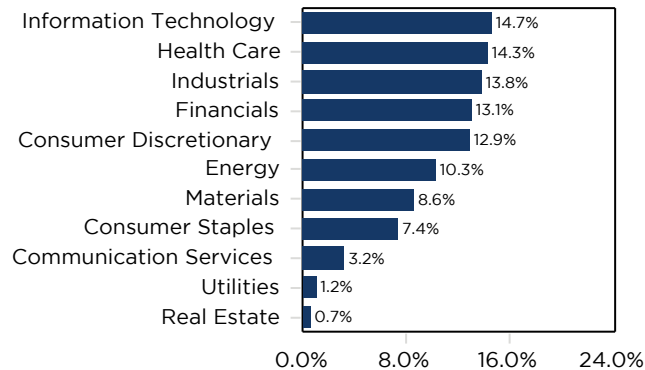
Equity	
Cash	
Fixed Income	
Other	



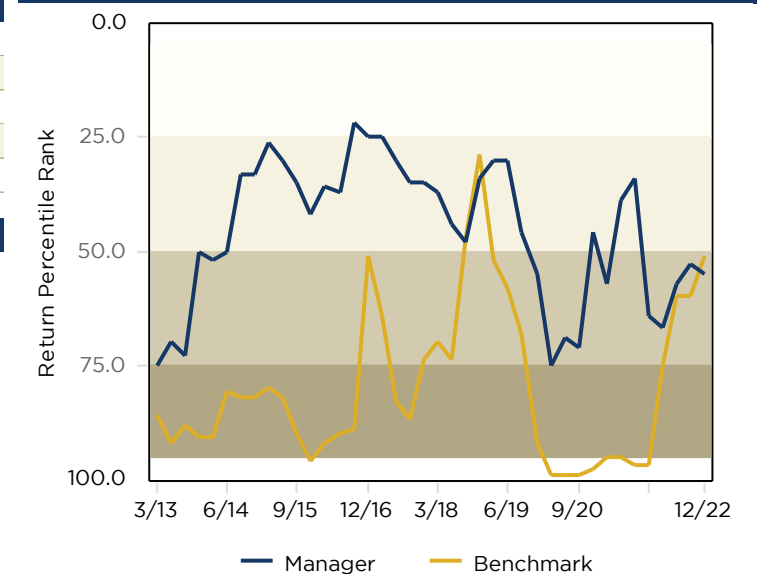
3 Years Rolling Excess Performance



Equity Sector Allocation



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	16.87 (21)	-16.53 (8)	-16.53 (8)	1.44 (14)	1.29 (21)	7.62 (1)	13.58 (31)	10.11 (54)	21.59 (56)	-16.01 (8)
Benchmark	13.31	-19.97	-19.97	1.07	0.67	5.24	12.93	14.24	22.42	-18.20
Peer Group	16.32	-20.07	-20.07	0.06	0.06	5.40	12.87	10.48	22.22	-19.65
Population	95	92	92	87	79	61	93	106	112	115

Fund Information

Fund Inception	10/02/2018
Fund Assets	2,930 Million
Portfolio Assets	968 Million
Total # of Holdings	197
% in Top 10	10.45 %
PM	Chamovitz,S/Jenkins,D
PM Tenure	
Turnover	28.00 %
Gross Expense (%)	0.89 %
Net Expense (%)	0.89 %
Closed to New Investors	Open

Fund Statistics

	3 Years	10 Years
Standard Deviation	21.44	14.97
vs. MSCI AC World ex USA Small Cap (Net)		
Beta	0.92	0.91
Alpha	0.37	2.72
Information Ratio	0.01	0.51
Tracking Error	5.09	4.10
R-Squared	0.95	0.94
Up Market Capture	92.30	95.98
Down Market Capture	91.02	82.40
Consistency	58.33	56.67

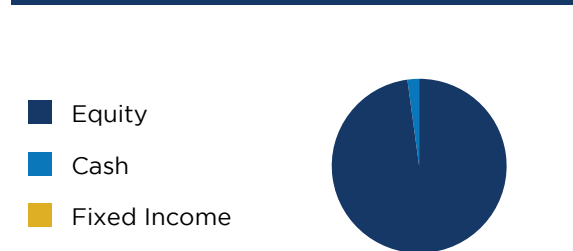
vs. Risk Free

Sharpe Ratio	0.14	0.52
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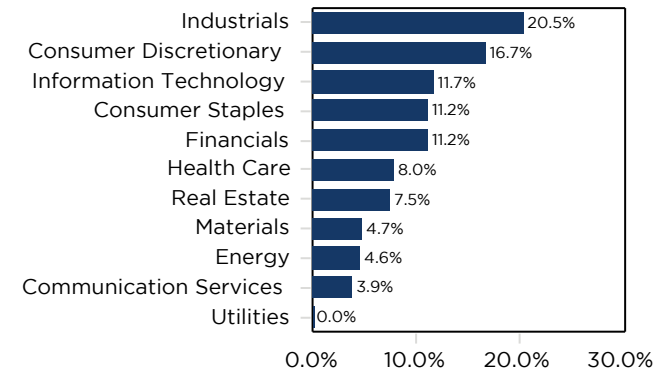
Top Countries(%)

Japan	19.93
United Kingdom	13.32
Germany	5.43
United States	4.54
China	4.28

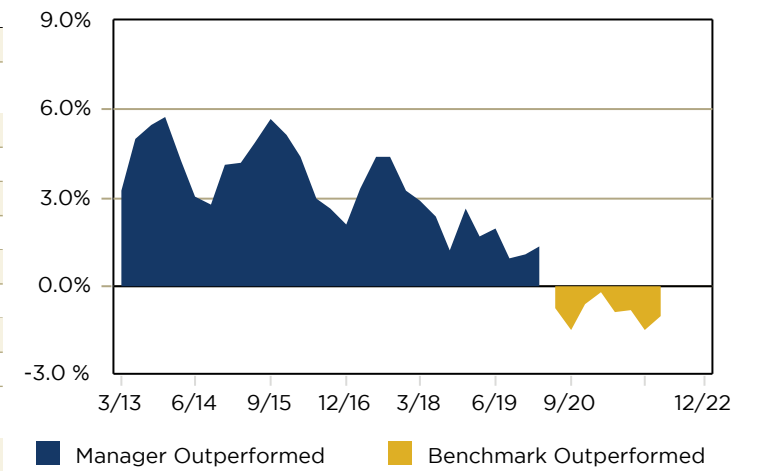
Asset Allocation



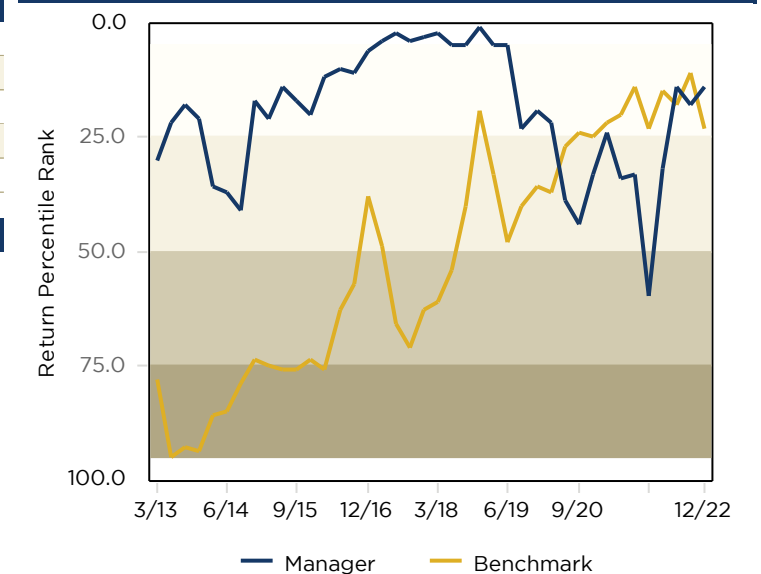
Equity Sector Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	11.42 (24)	-24.85 (69)	-24.85 (69)	-6.36 (90)	-2.04 (58)	1.65 (42)	-7.13 (82)	17.66 (51)	24.53 (25)	-11.79 (9)
Benchmark	9.70	-20.09	-20.09	-2.69	-1.40	1.44	-2.54	18.31	18.42	-14.57
Peer Group	9.94	-22.47	-22.47	-3.28	-1.77	1.41	-1.36	17.77	20.41	-16.40
Population	861	829	829	760	701	520	825	844	898	916

Fund Information

Fund Inception	12/29/2011
Fund Assets	22,897 Million
Portfolio Assets	9,365 Million
Total # of Holdings	90
% in Top 10	51.63 %
PM	Leverenz,J
PM Tenure	
Turnover	30.00 %
Gross Expense (%)	0.81 %
Net Expense (%)	0.81 %
Closed to New Investors	Closed

Fund Statistics

	3 Years	10 Years
Standard Deviation	21.78	16.83
vs. MSCI Emerging Markets (Net) Index		
Beta	1.03	0.96
Alpha	-3.45	0.35
Information Ratio	-0.56	0.05
Tracking Error	6.31	5.31
R-Squared	0.92	0.90
Up Market Capture	96.82	96.10
Down Market Capture	110.29	94.40
Consistency	50.00	50.83

vs. Risk Free

Sharpe Ratio	-0.22	0.14
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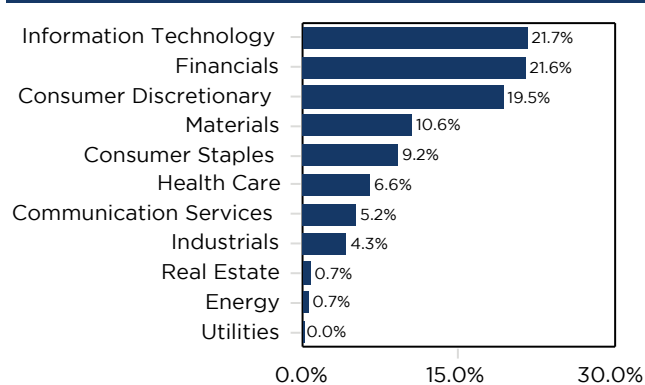
Top Countries(%)

China	23.61
India	23.52
Taiwan	10.32
Korea	9.23
Mexico	8.12

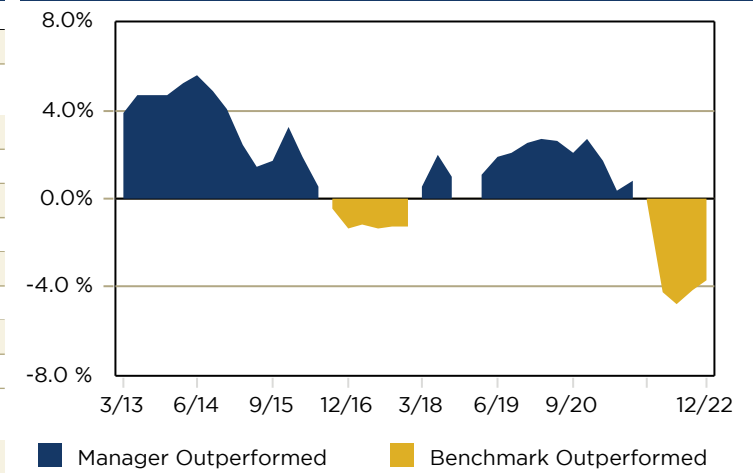
Asset Allocation



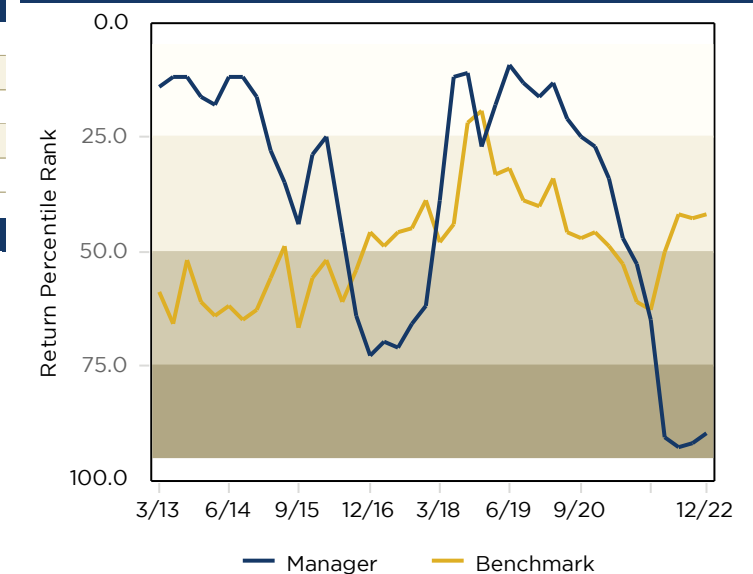
Equity Sector Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	5.46 (74)	-11.96 (24)	-11.96 (24)	7.31 (2)	9.19 (1)	10.92 (1)	18.67 (4)	18.28 (8)	24.71 (2)	0.74 (1)
Benchmark	5.39	-15.79	-15.79	3.83	5.96	8.08	15.86	14.73	22.18	-2.35
Peer Group	6.48	-14.97	-14.97	2.92	4.08	6.29	13.11	12.35	19.28	-5.88
Population	778	769	769	732	716	623	777	778	812	847

Fund Information

Fund Inception	05-2003
Fund Assets	7,339 Million
Portfolio Assets	1,426 Million
Total # of Holdings	365
% Assets in Top 10 Holdings	35.5 %
PM	Giroux,D
PM Tenure	
Turnover	58.0 %
Gross Expense (%)	0.6 %
Net Expense (%)	0.6 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	101,887 (Million)
Price/Earnings	19
Price/Book	3

Top Holdings (%)

United States Treasury Notes 2.75%	8.9
T. Rowe Price Gov. Reserve	6.4
Microsoft Corp	5.2
PNC Financial Services Group Inc	2.9
Apple Inc	2.4
Amazon.com Inc	2.0
Yum Brands Inc	2.0
UnitedHealth Group Inc	2.0
Fortive Corp	1.9
Thermo Fisher Scientific Inc	1.9

Top Countries (%)

United States	93.7
Netherlands	2.0
United Kingdom	1.5
Canada	1.4

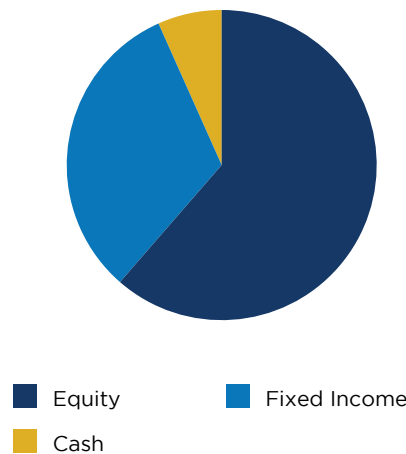
Fund Statistics

	3 Years	10 Years
Standard Deviation	15.07	10.15
vs. 40% BBg US Agg 60% SP500		
Beta	1.06	1.05
Alpha	3.23	2.29
Information Ratio	1.01	1.10
Tracking Error	3.45	2.43
R-Squared	0.95	0.94
Up Market Capture	113.33	111.84
Down Market Capture	97.22	92.80
Consistency	69.44	64.17

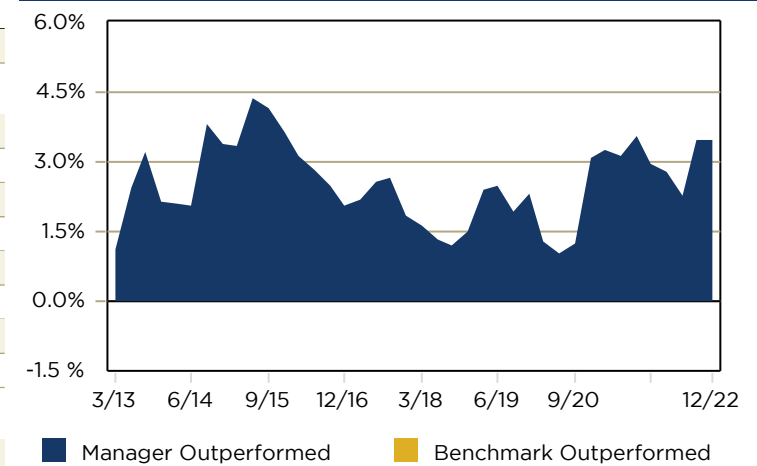
vs. Risk Free

Sharpe Ratio	0.49	1.00
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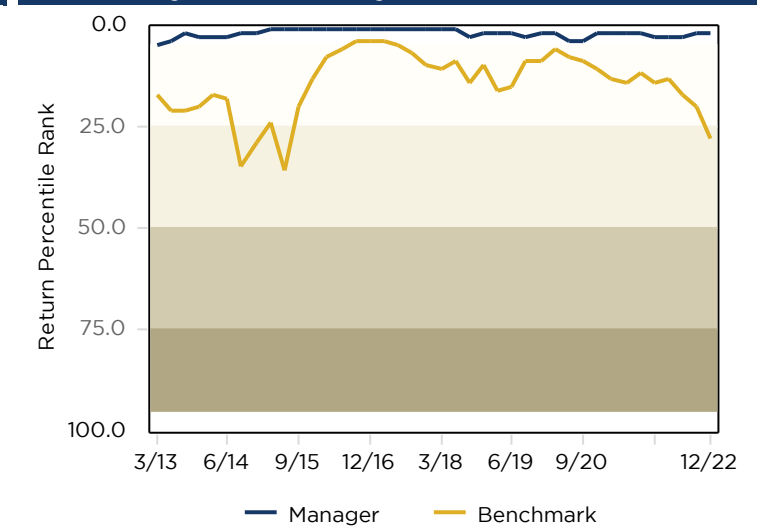
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	4.36 (27)	-26.17 (50)	-26.17 (50)	-0.39 (59)	3.71 (52)	6.45 (38)	40.41 (62)	-4.67 (50)	29.02 (35)	-5.93 (53)
Benchmark	4.35	-26.12	-26.12	-0.29	3.78	6.52	40.56	-4.55	29.03	-5.88
Peer Group	3.89	-26.20	-26.20	-0.14	3.72	6.21	41.35	-4.67	27.74	-5.74
Population	258	255	255	243	233	204	258	260	279	273

Fund Information

Fund Inception	12/02/2003
Fund Assets	63,766 Million
Portfolio Assets	9,908 Million
Total # of Holdings	171
% in Top 10	47.54 %
PM	Nejman,W/O'Reilly,G
PM Tenure	
Turnover	7.00 %
Gross Expense (%)	0.10 %
Net Expense (%)	0.10 %
Closed to New Investors	Open

Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	35,909	35,862
Median Mkt. Cap (\$M)	2,651	2,722
Price/Earnings ratio	23.9	23.9
Price/Book ratio	2.5	2.5
5 Yr. EPS Growth Rate (%)	14.3	14.3
Current Yield (%)	3.8	3.8
Beta (5 Years, Monthly)	1.00	1.00
Number of Stocks	165	163
Debt to Equity (%)	226.0	225.6
Forecast P/E	26.5	26.6
Forecast EPS Growth	8.1	8.1
Return on Equity (%)	5.9	5.9

Country/Region Allocation

United States	99.9	99.9
Non-US Developed	0.1	0.1
Total	100.0	100.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	22.54	16.88
vs. Spliced Index		
Beta	1.00	1.00
Alpha	-0.09	-0.07
Information Ratio	-1.13	-0.84
Tracking Error	0.08	0.08
R-Squared	1.00	1.00
Up Market Capture	99.85	99.90
Down Market Capture	100.14	100.23
Consistency	38.89	40.83

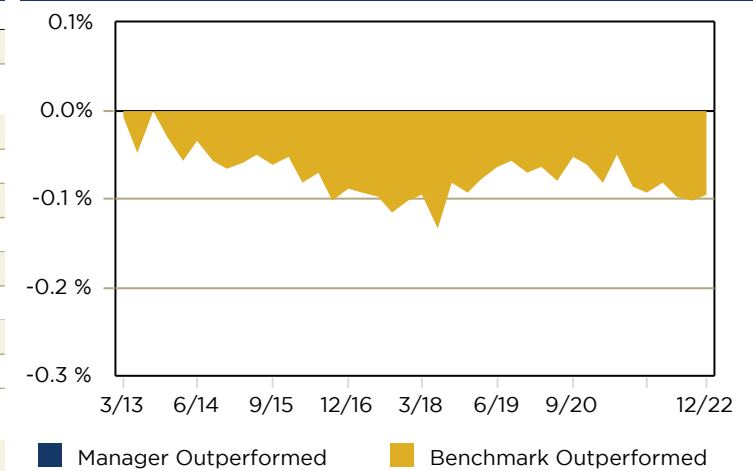
vs. Risk Free

Sharpe Ratio	0.07	0.41
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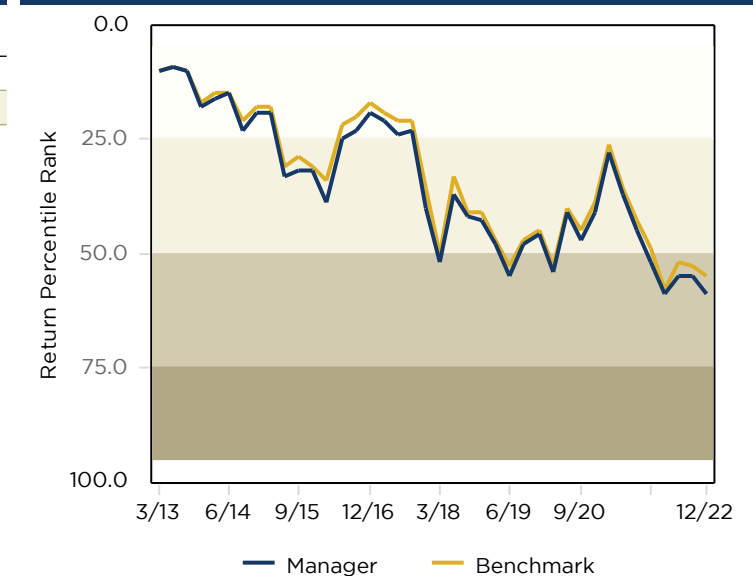
Sector Allocation

Sector	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)
Real Estate	100.0	100.0	0.0
Total	100.0	100.0	0.0

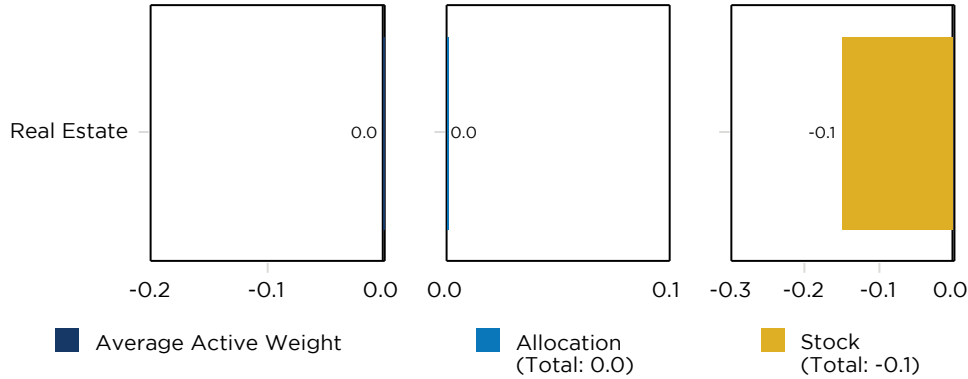
3 Years Rolling Excess Performance



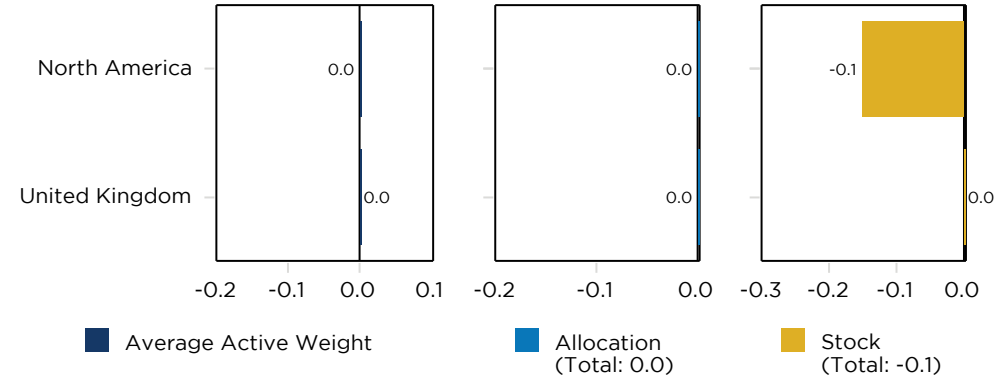
3 Years Rolling Percentile Ranking



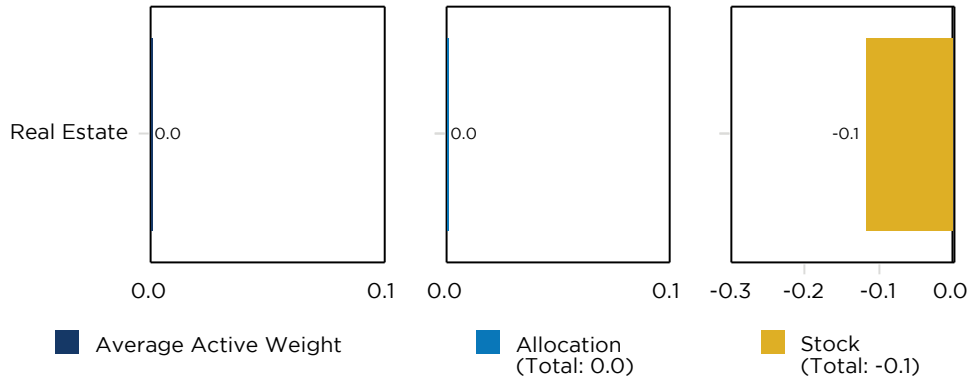
1 Quarter Sector Attribution



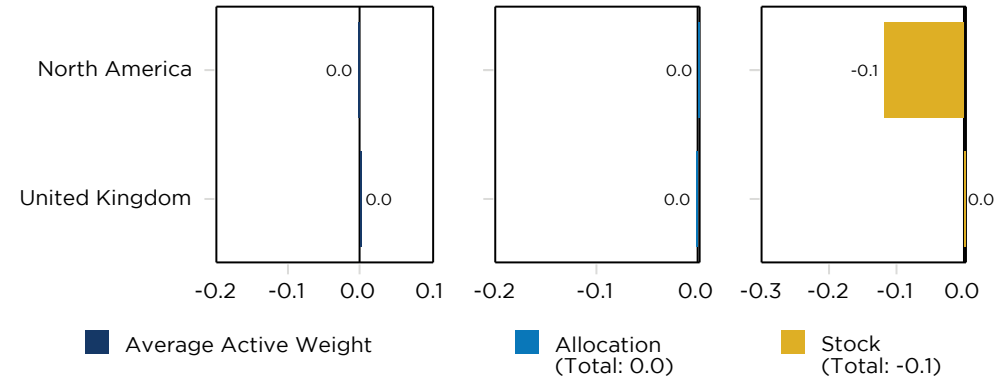
1 Quarter Region Attribution



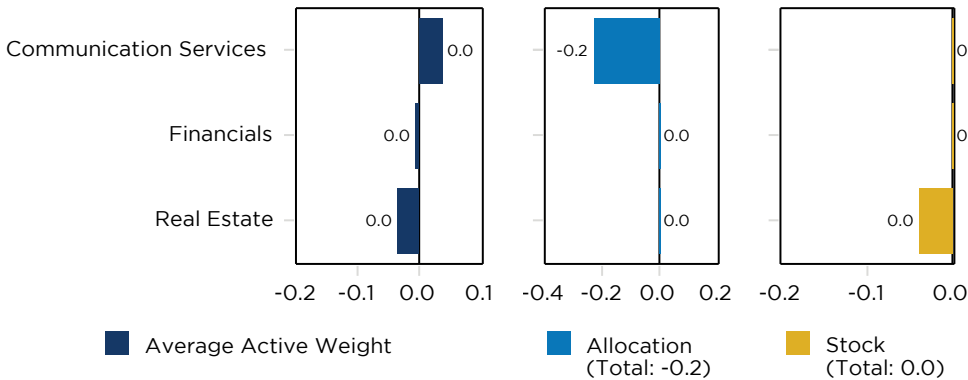
1 Year Sector Attribution



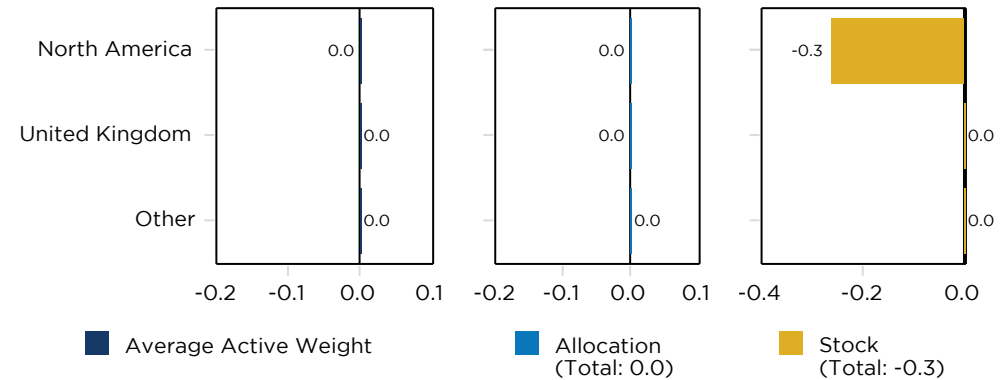
1 Year Region Attribution



3 Years Sector Attribution



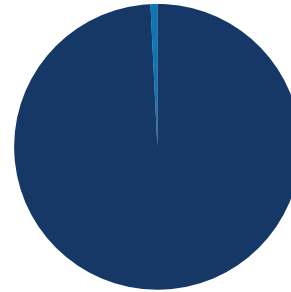
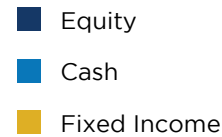
3 Years Region Attribution



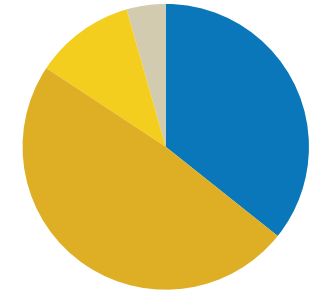
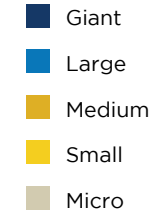
Top Ten Securities

Vanguard Real Estate II Index	12.1 %
Prologis Inc	7.3 %
American Tower Corp	7.0 %
Equinix Inc	4.2 %
Crown Castle Inc	4.1 %
Public Storage	3.1 %
Realty Income Corp	2.8 %
Simon Property Group Inc	2.6 %
SBA Communications Corp	2.1 %
Welltower Inc	2.1 %
Total	47.5 %

Asset Allocation



Market Capitalization



Top Ten Contributors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Equinix Inc	4.35	4.32	0.00	15.70
Gaming and Leisure Properties Inc	0.95	0.94	0.00	19.34
Realty Income Corp.	2.94	2.92	0.00	10.28
CBRE Group Inc	1.85	1.84	0.00	14.00
Weyerhaeuser Co	1.79	1.77	0.00	9.15
Ventas Inc.	1.35	1.34	0.00	13.26
Iron Mountain Inc	1.07	1.07	0.00	14.65
Simon Property Group Inc.	2.41	2.46	-0.01	32.91
VICI Properties Inc	2.12	2.40	-0.02	9.83
Prologis Inc	6.32	7.82	-0.11	11.74

Top Ten Contributors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
SL Green Realty Corp	0.60	0.59	0.00	31.28
Kilroy Realty Corp	0.67	0.66	0.00	24.90
Boston Properties Inc	1.68	1.67	0.00	21.66
Medical Properties Trust Inc	0.85	0.84	0.00	16.32
Equity Residential	2.36	2.35	0.00	7.18
Vornado Realty Trust	0.90	0.90	0.00	38.88
Hudson Pacific Properties Inc	0.46	0.46	0.00	49.36
Douglas Emmett Inc	0.57	0.57	0.00	35.36
Diversified Healthcare Trust	0.16	0.16	0.00	128.48
Service Properties Trust	0.31	0.31	0.00	46.42

Top Ten Detractors | 1 Quarter

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Crown Castle Inc	5.26	5.22	0.00	-5.10
Extra Space Storage Inc	1.95	1.93	0.00	-13.97
Public Storage	3.88	3.86	0.00	-3.68
Essex Property Trust Inc.	1.33	1.32	0.00	-11.61
Invitation Homes Inc	1.73	1.72	0.00	-11.58
AvalonBay Communities Inc.	2.16	2.15	0.00	-11.45
Boston Properties Inc	0.94	0.93	0.00	-8.55
UDR Inc	1.12	1.11	0.00	-6.22
Life Storage Inc	0.78	0.78	0.00	-10.14
Equity Residential	1.94	2.00	0.01	-11.31

Top Ten Detractors | 3 Years

	Portfolio Weight (%)	Benchmark Weight (%)	Contrib. to Rel. Rtn. (%)	Quarterly Return (%)
Prologis Inc	4.43	4.41	0.00	-9.67
Extra Space Storage Inc	1.07	1.06	0.00	-13.28
Public Storage	2.63	2.62	0.00	-12.54
Equinix Inc	3.90	3.88	0.00	-5.32
SBA Communications Corp	2.15	2.14	0.00	-5.64
Iron Mountain Inc	0.72	0.72	0.00	-19.13
CBRE Group Inc	1.54	1.54	0.00	-7.31
Mid-America Apartment Communities Inc	1.18	1.18	0.00	-8.29
Gaming and Leisure Properties Inc	0.69	0.69	0.00	-11.89
VICI Properties Inc	0.80	0.92	0.01	-12.30

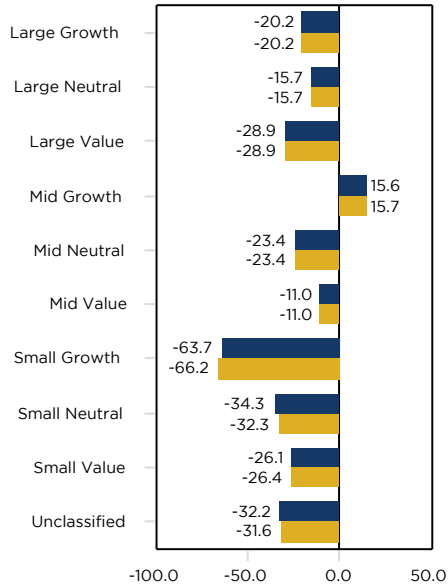


Vanguard Real Estate Index Inst (VGSNX)

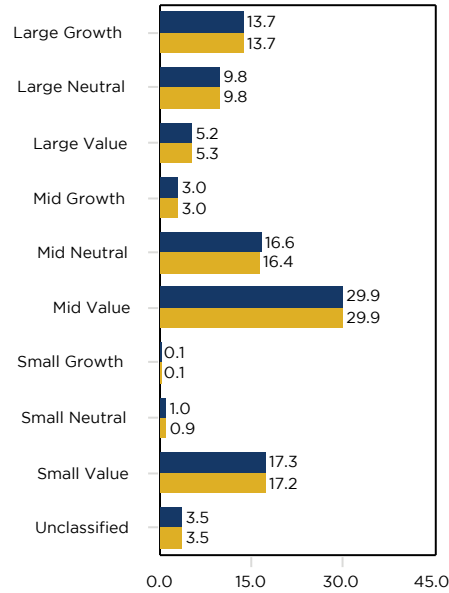
Index: Spliced Index

As of: 12/31/2022

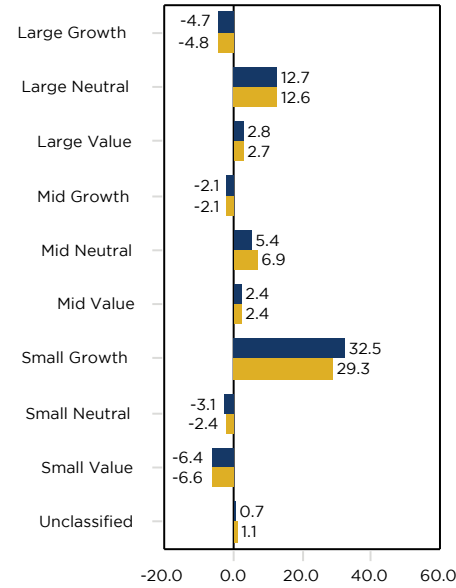
Performance | 1 Year



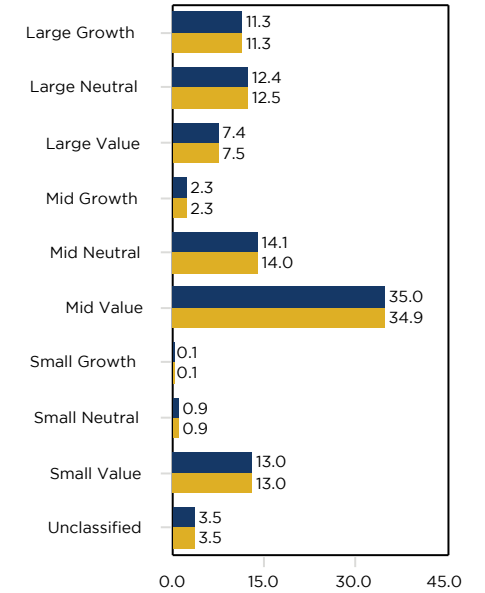
Allocation | 1 Year



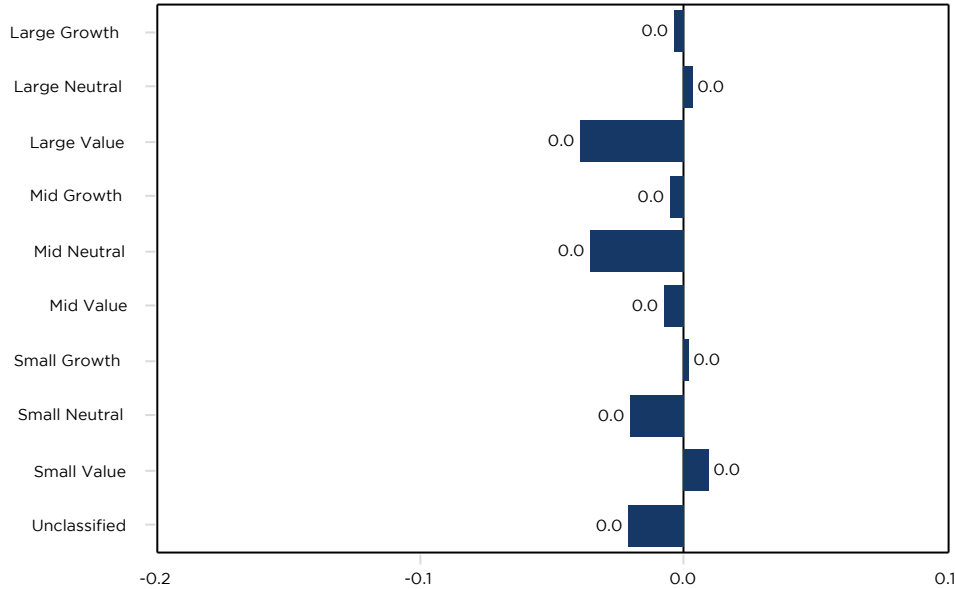
Performance | 3 Years



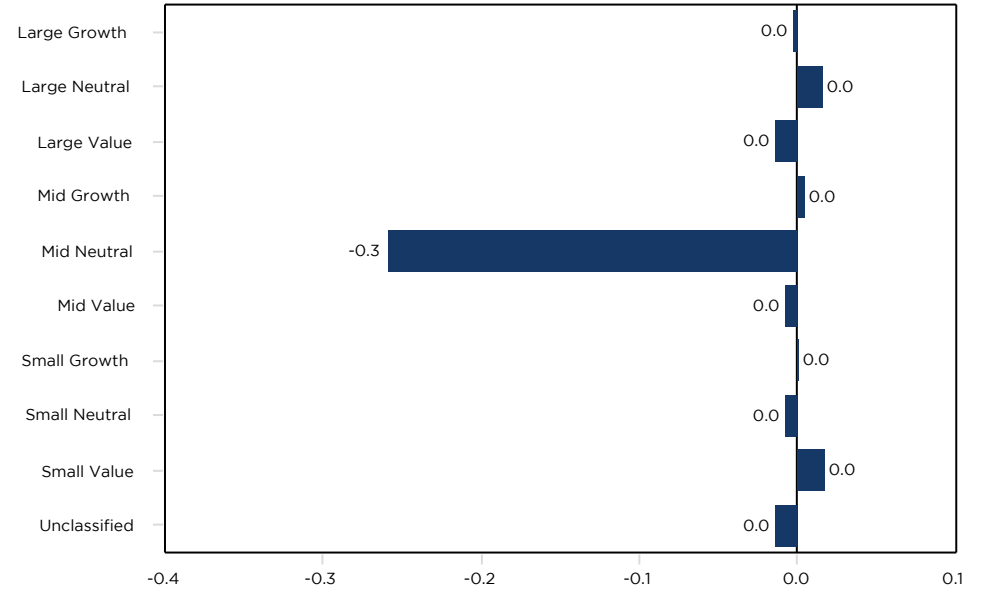
Allocation | 3 Years



Total Attribution | 1 Year



Total Attribution | 3 Years



Performance data for funds and indices obtained from Morningstar, Investment Metrics, and in some cases, directly from the fund manager. Data is believed to be accurate as of the date of this report. ACG does not independently verify performance data.

Vanguard Target Retirement Income (VTINX)

Index: Vanguard Target Income Composite Index

Category: Target-Date Retirement

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	3.74 (63)	-12.74 (50)	-12.74 (50)	0.34 (31)	2.30 (31)	3.62 (30)	5.25 (64)	10.02 (27)	13.16 (47)	-1.99 (14)
Benchmark	3.95	-12.44	-12.44	0.73	2.59	3.86	5.44	10.70	13.41	-1.97
Peer Group	3.97	-12.74	-12.74	0.01	1.87	3.34	5.82	9.06	12.92	-3.38
Population	163	163	163	160	142	111	174	183	198	202

Fund Information

Fund Inception	10-2003
Fund Assets	36,544 Million
Portfolio Assets	36,544 Million
Total # of Holdings	7
% Assets in Top 10 Holdings	98.7 %
PM	Coleman,W/Nejman,W
PM Tenure	
Turnover	6.0 %
Gross Expense (%)	0.1 %
Net Expense (%)	0.1 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	56,815 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

Vanguard Total Bond Market II Idx	36.9
Vanguard Total Stock Mkt Idx Instl	17.2
Vanguard Shrt-Term Infl-Prot Sec	16.6
Vanguard Total Intl Bd II Idx Instl	15.9
Vanguard Total Intl Stock Index	12.1

Top Countries (%)

United States	69.1
Japan	4.7
United Kingdom	2.8
France	2.7
Germany	2.5

Fund Statistics

	3 Years	10 Years
Standard Deviation	8.47	5.59

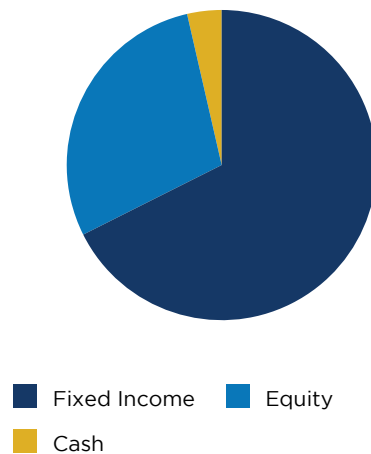
vs. Vanguard Target Income Composite Index

Beta	1.01	1.01
Alpha	-0.39	-0.26
Information Ratio	-0.80	-0.69
Tracking Error	0.47	0.34
R-Squared	1.00	1.00
Up Market Capture	99.91	98.94
Down Market Capture	103.31	102.44
Consistency	41.67	42.50

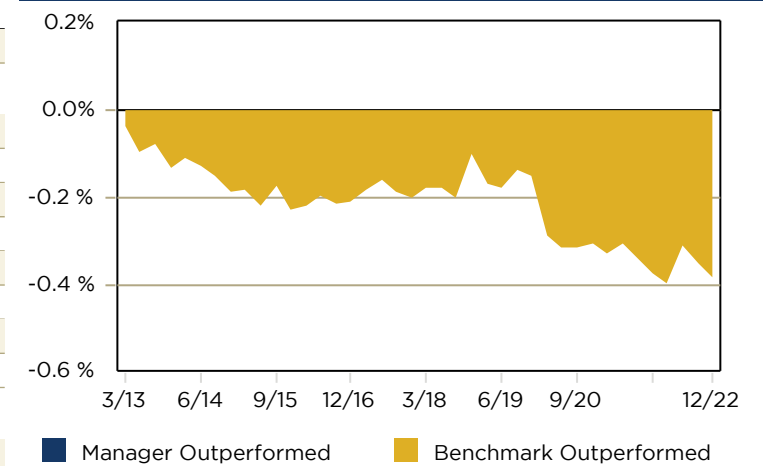
vs. Risk Free

Sharpe Ratio	0.00	0.53
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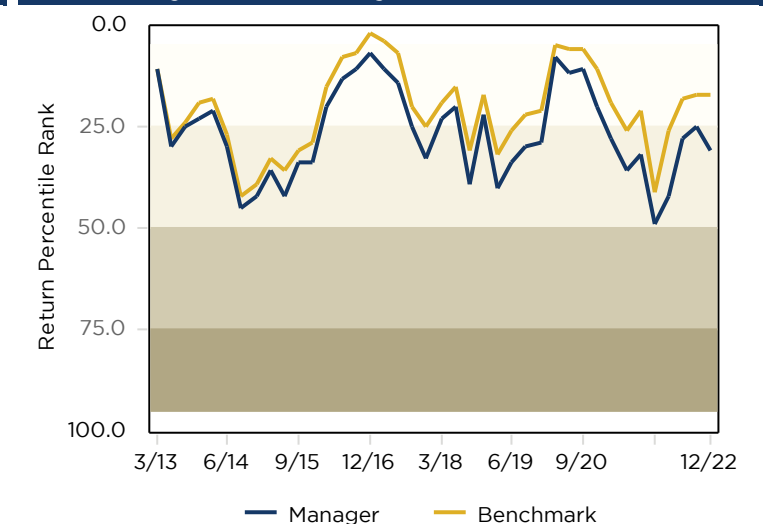
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	4.97 (70)	-14.15 (41)	-14.15 (41)	1.33 (48)	3.22 (37)	5.83 (25)	8.17 (63)	12.04 (38)	17.63 (24)	-4.24 (40)
Benchmark	5.13	-13.76	-13.76	1.81	3.58	6.14	8.43	12.85	17.87	-4.13
Peer Group	5.54	-14.43	-14.43	1.25	3.08	5.45	8.63	10.96	16.19	-4.54
Population	152	152	152	145	131	81	175	183	231	251

Fund Information

Fund Inception	06-2006
Fund Assets	39,979 Million
Portfolio Assets	39,979 Million
Total # of Holdings	7
% Assets in Top 10 Holdings	98.8 %
PM	Coleman,W/Nejman,W
PM Tenure	
Turnover	5.0 %
Gross Expense (%)	0.1 %
Net Expense (%)	0.1 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	57,226 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

Vanguard Total Bond Market II Idx	31.7
Vanguard Total Stock Mkt Idx Instl	25.2
Vanguard Total Intl Stock Index	17.3
Vanguard Total Intl Bd II Idx Instl	13.8
Vanguard Shrt-Term Infl-Prot Sec	10.8

Top Countries (%)

United States	66.4
Japan	5.1
United Kingdom	3.1
France	2.8
Canada	2.7

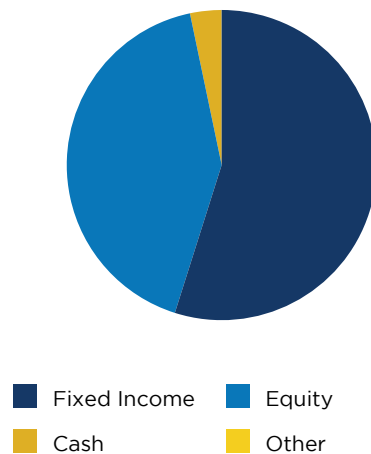
Fund Statistics

	3 Years	10 Years
Standard Deviation	11.32	8.14
vs. Vanguard Target 2020 Composite Index		
Beta	1.01	1.01
Alpha	-0.48	-0.32
Information Ratio	-0.73	-0.64
Tracking Error	0.62	0.45
R-Squared	1.00	1.00
Up Market Capture	99.99	98.86
Down Market Capture	103.16	101.57
Consistency	41.67	39.17

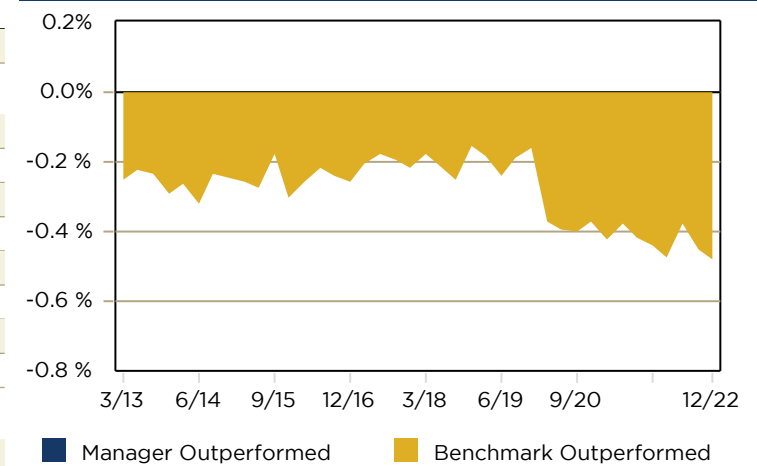
vs. Risk Free

Sharpe Ratio	0.11	0.64
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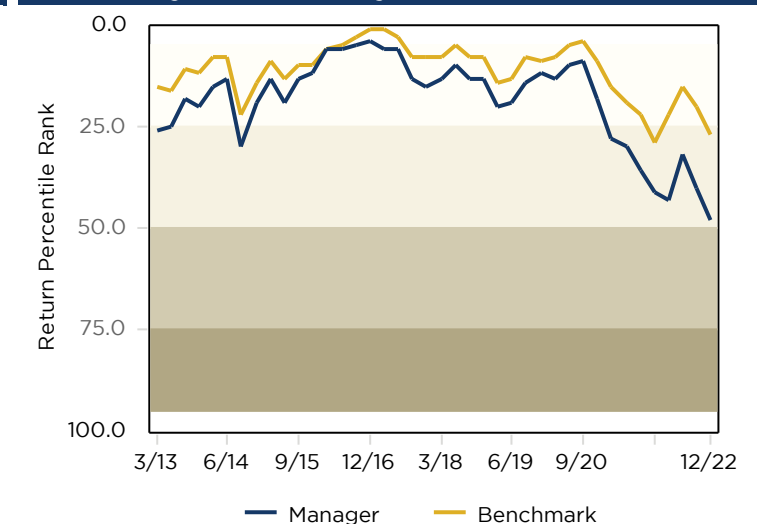
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	6.03 (40)	-15.55 (53)	-15.55 (53)	1.66 (40)	3.58 (31)	6.43 (17)	9.80 (49)	13.30 (34)	19.63 (19)	-5.15 (43)
Benchmark	6.17	-15.01	-15.01	2.23	4.01	6.78	10.09	14.19	19.93	-5.00
Peer Group	5.77	-15.49	-15.49	1.33	3.25	5.68	9.75	12.46	18.33	-5.38
Population	221	221	221	211	186	144	228	230	244	239

Fund Information

Fund Inception	10-2003
Fund Assets	70,506 Million
Portfolio Assets	70,506 Million
Total # of Holdings	7
% Assets in Top 10 Holdings	98.7 %
PM	Coleman,W/Nejman,W
PM Tenure	
Turnover	7.0 %
Gross Expense (%)	0.1 %
Net Expense (%)	0.1 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	56,843 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

Vanguard Total Stock Mkt Idx Instl	32.3
Vanguard Total Bond Market II Idx	28.1
Vanguard Total Intl Stock Index	22.7
Vanguard Total Intl Bd II Idx Instl	12.1
Vanguard Shrt-Term Infl-Prot Sec	3.5

Top Countries (%)

United States	63.0
Japan	5.6
United Kingdom	3.5
Canada	2.9
France	2.9

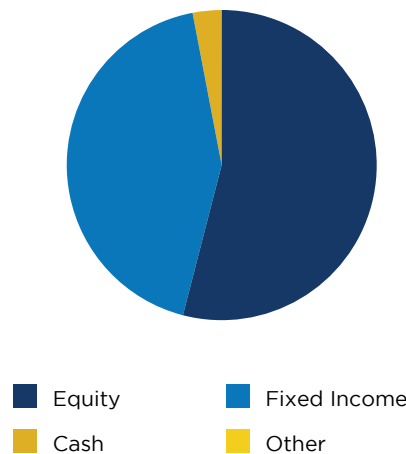
Fund Statistics

	3 Years	10 Years
Standard Deviation	13.20	9.39
vs. Vanguard Target 2025 Composite Index		
Beta	1.02	1.01
Alpha	-0.58	-0.36
Information Ratio	-0.71	-0.60
Tracking Error	0.76	0.53
R-Squared	1.00	1.00
Up Market Capture	99.77	98.93
Down Market Capture	102.96	101.57
Consistency	41.67	44.17

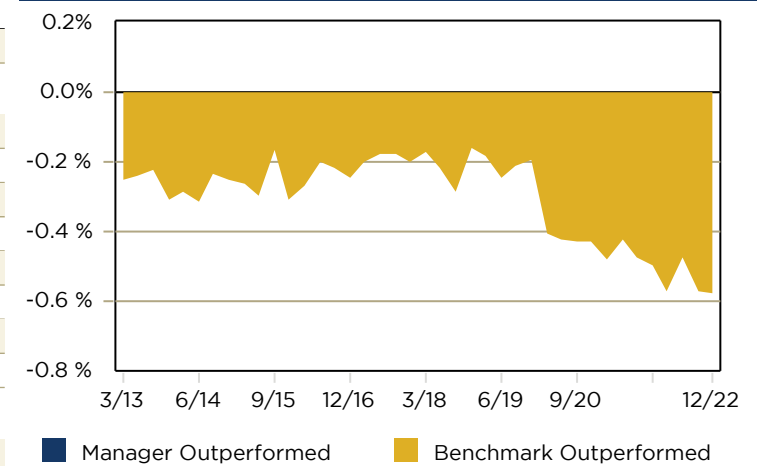
vs. Risk Free

Sharpe Ratio	0.14	0.63
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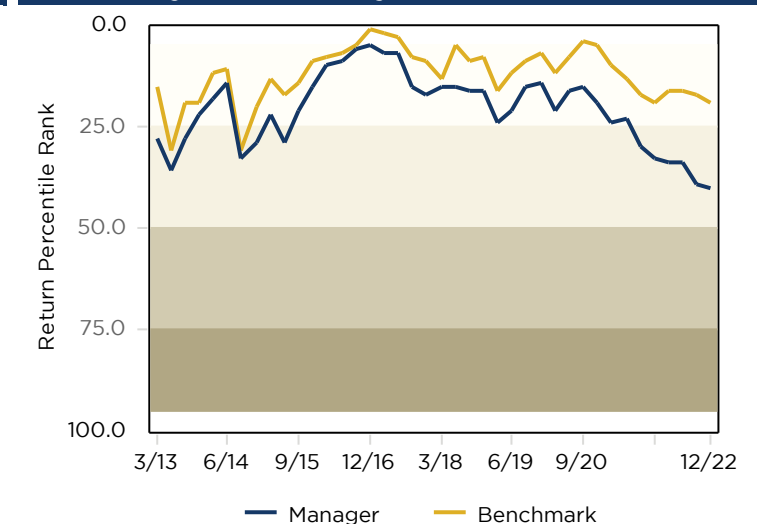
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	6.81 (40)	-16.27 (47)	-16.27 (47)	2.09 (45)	3.94 (40)	6.99 (26)	11.38 (54)	14.10 (34)	21.07 (33)	-5.86 (34)
Benchmark	6.93	-15.70	-15.70	2.67	4.36	7.34	11.66	14.98	21.34	-5.72
Peer Group	6.64	-16.35	-16.35	1.98	3.76	6.43	11.54	13.10	20.37	-6.49
Population	221	221	221	211	183	131	229	240	250	251

Fund Information

Fund Inception	06-2006
Fund Assets	74,134 Million
Portfolio Assets	74,134 Million
Total # of Holdings	6
% Assets in Top 10 Holdings	98.7 %
PM	Coleman,W/Nejman,W
PM Tenure	
Turnover	6.0 %
Gross Expense (%)	0.1 %
Net Expense (%)	0.1 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	56,718 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

Vanguard Total Stock Mkt Idx Instl	37.3
Vanguard Total Intl Stock Index	26.4
Vanguard Total Bond Market II Idx	24.6
Vanguard Total Intl Bd II Idx Instl	10.4

Top Countries (%)

United States	61.3
Japan	5.9
United Kingdom	3.7
Canada	3.1
France	2.9

Fund Statistics

	3 Years	10 Years
Standard Deviation	14.56	10.38

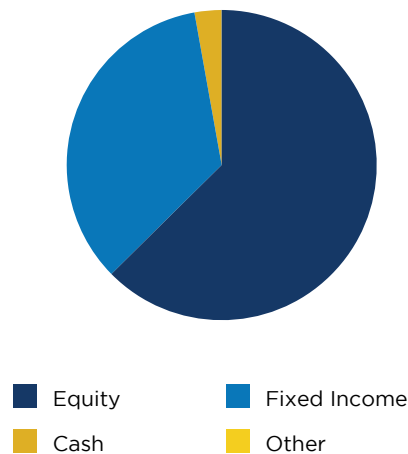
vs. Vanguard Target 2030 Composite Index

Beta	1.01	1.01
Alpha	-0.58	-0.36
Information Ratio	-0.66	-0.58
Tracking Error	0.80	0.56
R-Squared	1.00	1.00
Up Market Capture	99.98	99.20
Down Market Capture	102.87	101.74
Consistency	44.44	42.50

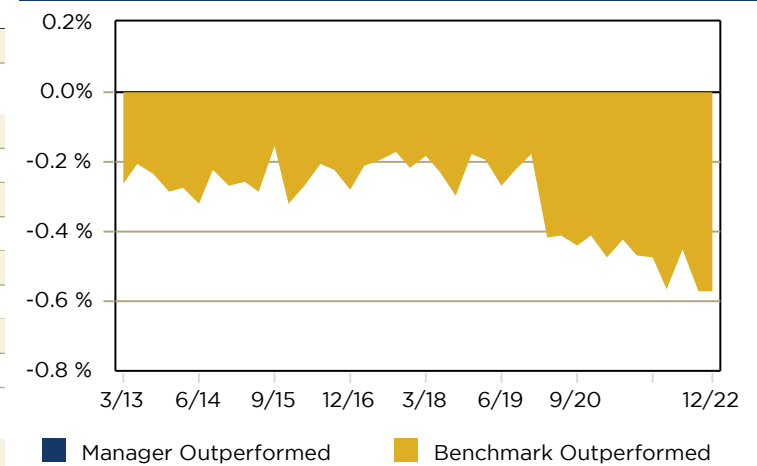
vs. Risk Free

Sharpe Ratio	0.17	0.63
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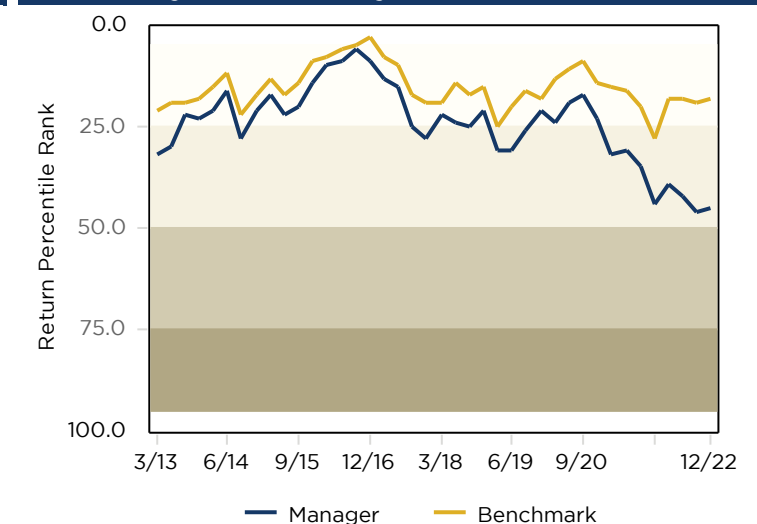
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Vanguard Target Retirement 2035 (VTTHX)

Index: Vanguard Target 2035 Composite Index

Category: Target-Date 2035

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	7.45 (62)	-16.62 (39)	-16.62 (39)	2.64 (53)	4.34 (42)	7.57 (30)	12.96 (78)	14.79 (39)	22.44 (46)	-6.58 (29)
Benchmark	7.58	-16.10	-16.10	3.20	4.76	7.93	13.24	15.67	22.76	-6.46
Peer Group	7.64	-17.13	-17.13	2.69	4.20	7.01	13.87	14.04	22.30	-7.35
Population	214	214	214	204	180	138	221	223	238	231

Fund Information

Fund Inception	10-2003
Fund Assets	72,701 Million
Portfolio Assets	72,701 Million
Total # of Holdings	6
% Assets in Top 10 Holdings	98.6 %
PM	Coleman,W/Nejman,W
PM Tenure	
Turnover	6.0 %
Gross Expense (%)	0.1 %
Net Expense (%)	0.1 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	56,668 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

Vanguard Total Stock Mkt Idx Instl	41.4
Vanguard Total Intl Stock Index	29.4
Vanguard Total Bond Market II Idx	19.6
Vanguard Total Intl Bd II Idx Instl	8.2

Top Countries (%)

United States	60.8
Japan	5.9
United Kingdom	3.7
Canada	3.1
France	2.8

Fund Statistics

	3 Years	10 Years
Standard Deviation	15.82	11.35

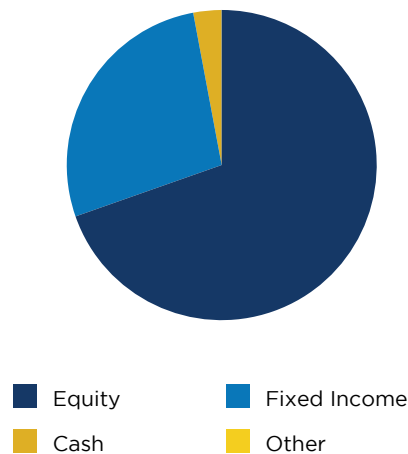
vs. Vanguard Target 2035 Composite Index

Beta	1.01	1.00
Alpha	-0.56	-0.36
Information Ratio	-0.61	-0.54
Tracking Error	0.84	0.60
R-Squared	1.00	1.00
Up Market Capture	100.12	99.40
Down Market Capture	102.73	101.82
Consistency	44.44	44.17

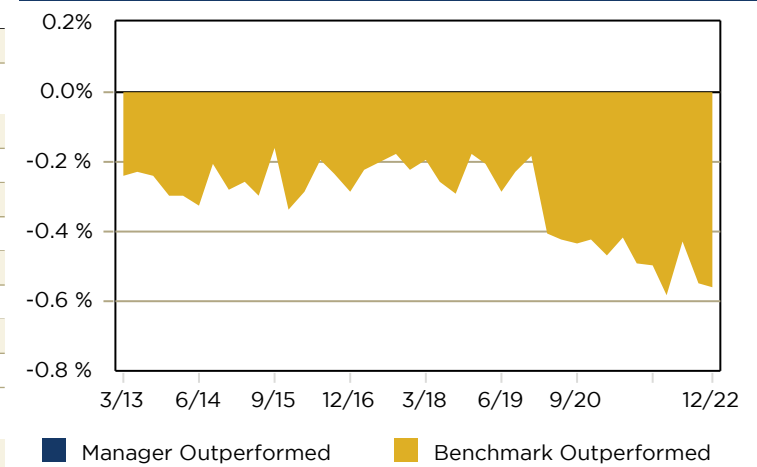
vs. Risk Free

Sharpe Ratio	0.20	0.63
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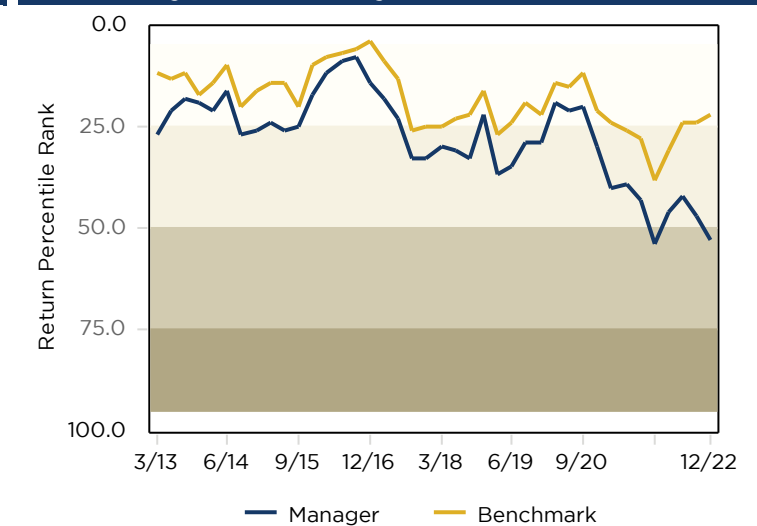
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	8.20 (64)	-16.98 (34)	-16.98 (34)	3.17 (50)	4.74 (40)	8.06 (24)	14.56 (81)	15.47 (38)	23.86 (44)	-7.32 (30)
Benchmark	8.23	-16.50	-16.50	3.70	5.14	8.42	14.84	16.31	24.19	-7.22
Peer Group	8.43	-17.85	-17.85	3.14	4.56	7.50	15.78	14.73	23.63	-8.02
Population	216	216	216	205	183	131	223	234	250	251

Fund Information

Fund Inception	06-2006
Fund Assets	62,837 Million
Portfolio Assets	62,837 Million
Total # of Holdings	6
% Assets in Top 10 Holdings	98.7 %
PM	Coleman,W/Nejman,W
PM Tenure	
Turnover	7.0 %
Gross Expense (%)	0.1 %
Net Expense (%)	0.1 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	56,761 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

Vanguard Total Stock Mkt Idx Instl	45.9
Vanguard Total Intl Stock Index	32.4
Vanguard Total Bond Market II Idx	14.5
Vanguard Total Intl Bd II Idx Instl	6.0

Top Countries (%)

United States	60.4
Japan	6.0
United Kingdom	3.8
Canada	3.1
China	2.7

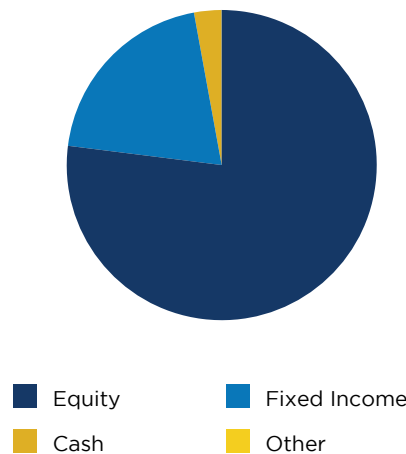
Fund Statistics

	3 Years	10 Years
Standard Deviation	17.09	12.29
vs. Vanguard Target 2040 Composite Index		
Beta	1.01	1.00
Alpha	-0.53	-0.36
Information Ratio	-0.55	-0.52
Tracking Error	0.86	0.63
R-Squared	1.00	1.00
Up Market Capture	100.20	99.29
Down Market Capture	102.49	101.46
Consistency	41.67	41.67

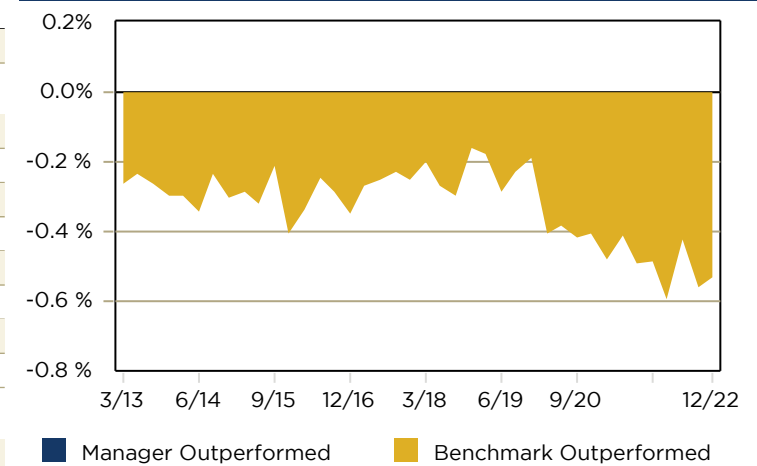
vs. Risk Free

Sharpe Ratio	0.23	0.63
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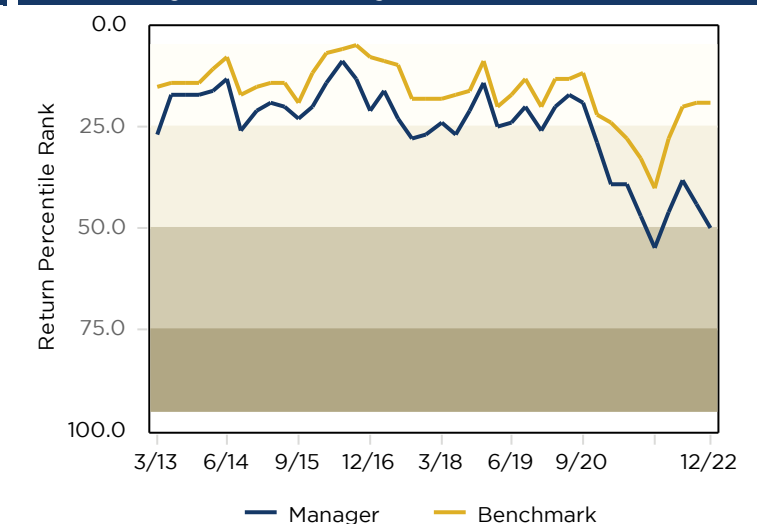
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	8.89 (54)	-17.36 (31)	-17.36 (31)	3.74 (32)	5.14 (27)	8.34 (19)	16.16 (66)	16.30 (34)	24.94 (38)	-7.90 (38)
Benchmark	8.89	-16.92	-16.92	4.22	5.53	8.70	16.45	17.02	25.37	-7.77
Peer Group	8.93	-18.19	-18.19	3.44	4.83	7.71	16.73	15.35	24.58	-8.33
Population	214	214	214	204	180	138	221	223	238	231

Fund Information

Fund Inception	10-2003
Fund Assets	58,528 Million
Portfolio Assets	58,528 Million
Total # of Holdings	6
% Assets in Top 10 Holdings	98.9 %
PM	Coleman,W/Nejman,W
PM Tenure	
Turnover	6.0 %
Gross Expense (%)	0.1 %
Net Expense (%)	0.1 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	56,844 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

Vanguard Total Stock Mkt Idx Instl	50.3
Vanguard Total Intl Stock Index	35.4
Vanguard Total Bond Market II Idx	9.3
Vanguard Total Intl Bd II Idx Instl	3.8

Top Countries (%)

United States	59.9
Japan	6.1
United Kingdom	3.9
Canada	3.1
China	2.9

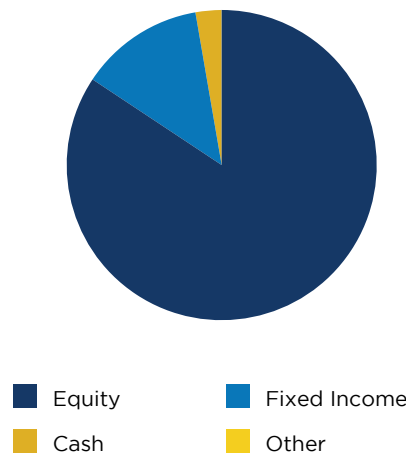
Fund Statistics

	3 Years	10 Years
Standard Deviation	18.38	12.99
vs. Vanguard Target 2045 Composite Index		
Beta	1.01	1.00
Alpha	-0.48	-0.36
Information Ratio	-0.47	-0.49
Tracking Error	0.91	0.65
R-Squared	1.00	1.00
Up Market Capture	100.46	99.40
Down Market Capture	102.44	101.46
Consistency	47.22	44.17

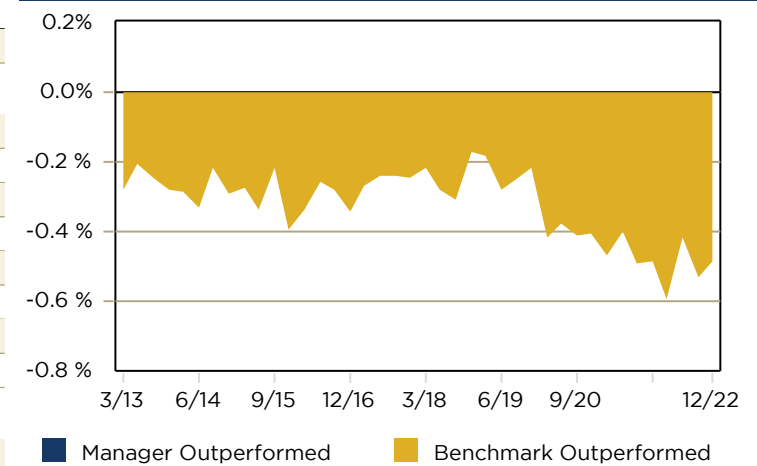
vs. Risk Free

Sharpe Ratio	0.25	0.62
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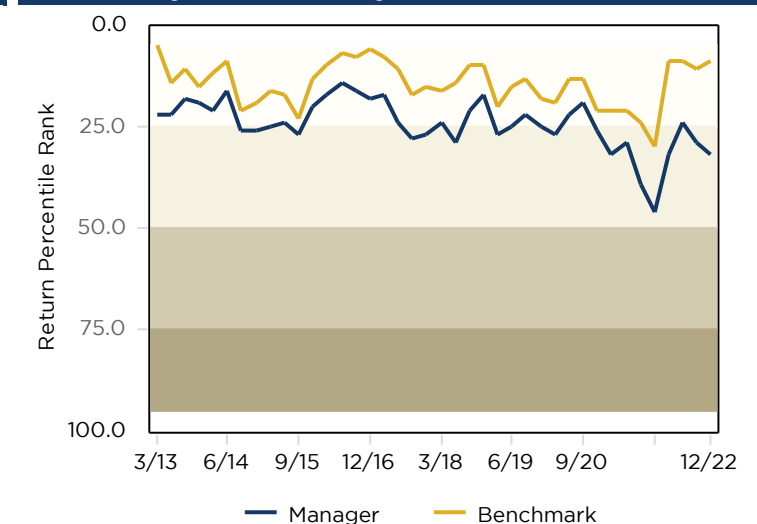
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	9.23 (43)	-17.46 (29)	-17.46 (29)	3.80 (32)	5.18 (27)	8.36 (20)	16.41 (70)	16.39 (34)	24.98 (41)	-7.90 (33)
Benchmark	9.18	-17.07	-17.07	4.30	5.58	8.72	16.75	17.17	25.37	-7.77
Peer Group	9.15	-18.33	-18.33	3.55	4.90	7.83	17.00	15.57	24.69	-8.62
Population	215	215	215	205	183	131	223	233	250	251

Fund Information

Fund Inception	06-2006
Fund Assets	46,892 Million
Portfolio Assets	46,892 Million
Total # of Holdings	6
% Assets in Top 10 Holdings	98.9 %
PM	Coleman,W/Nejman,W
PM Tenure	
Turnover	5.0 %
Gross Expense (%)	0.1 %
Net Expense (%)	0.1 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	56,869 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

Vanguard Total Stock Mkt Idx Instl	52.6
Vanguard Total Intl Stock Index	36.9
Vanguard Total Bond Market II Idx	6.7
Vanguard Total Intl Bd II Idx Instl	2.8

Top Countries (%)

United States	59.7
Japan	6.1
United Kingdom	3.9
Canada	3.1
China	3.0

Fund Statistics

	3 Years	10 Years
Standard Deviation	18.56	13.07

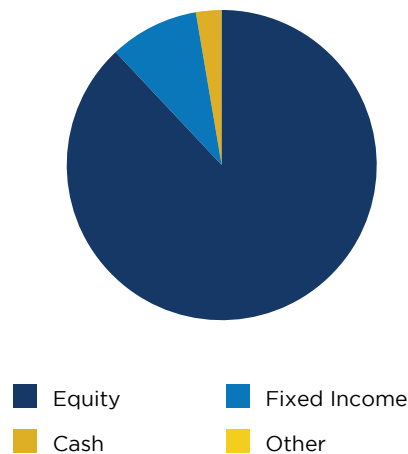
vs. Vanguard Target 2050 Composite Index

Beta	1.01	1.00
Alpha	-0.49	-0.36
Information Ratio	-0.47	-0.49
Tracking Error	0.93	0.67
R-Squared	1.00	1.00
Up Market Capture	100.30	99.36
Down Market Capture	102.29	101.42
Consistency	47.22	45.00

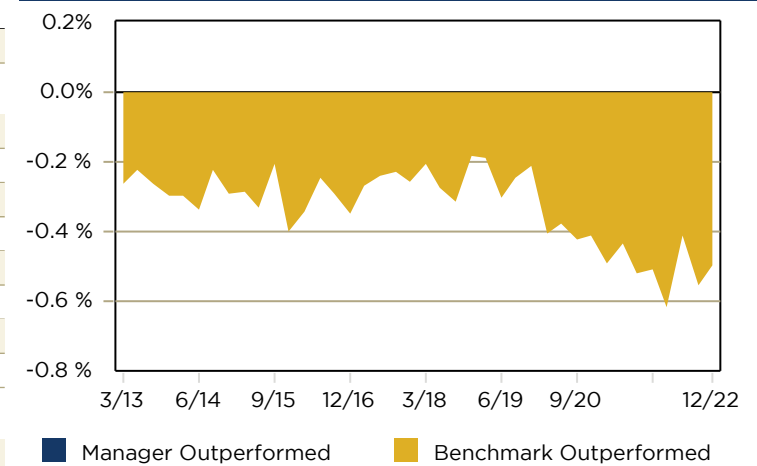
vs. Risk Free

Sharpe Ratio	0.25	0.62
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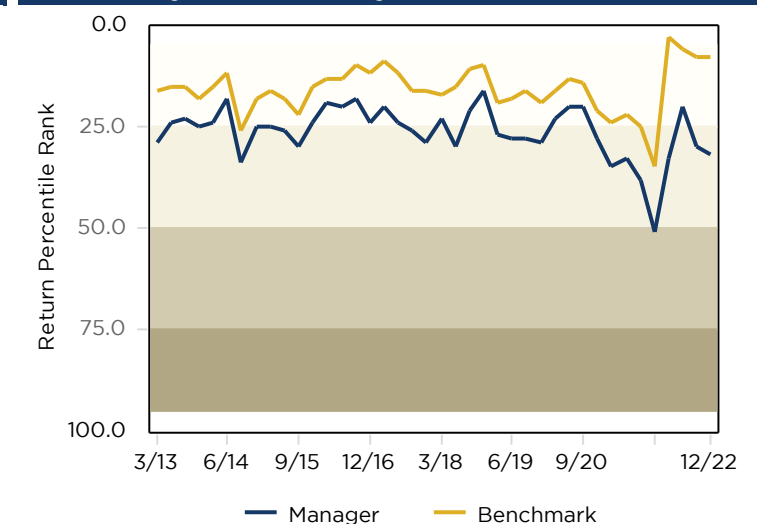
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	9.23 (47)	-17.46 (25)	-17.46 (25)	3.79 (36)	5.18 (29)	8.34 (25)	16.44 (75)	16.32 (40)	24.98 (44)	-7.89 (33)
Benchmark	9.18	-17.07	-17.07	4.30	5.58	8.72	16.75	17.17	25.37	-7.77
Peer Group	9.21	-18.38	-18.38	3.58	4.91	7.96	17.19	15.69	24.82	-8.60
Population	214	214	214	204	180	113	221	223	238	231

Fund Information

Fund Inception	08-2010
Fund Assets	28,979 Million
Portfolio Assets	28,979 Million
Total # of Holdings	6
% Assets in Top 10 Holdings	98.8 %
PM	Coleman,W/Nejman,W
PM Tenure	
Turnover	5.0 %
Gross Expense (%)	0.1 %
Net Expense (%)	0.1 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	56,904 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

Vanguard Total Stock Mkt Idx Instl	52.6
Vanguard Total Intl Stock Index	36.8
Vanguard Total Bond Market II Idx	6.7
Vanguard Total Intl Bd II Idx Instl	2.8

Top Countries (%)

United States	59.7
Japan	6.1
United Kingdom	3.9
Canada	3.1
China	3.0

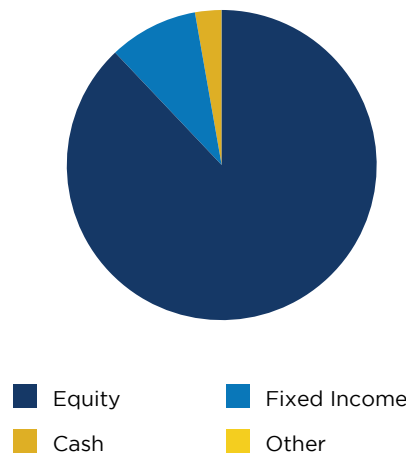
Fund Statistics

	3 Years	10 Years
Standard Deviation	18.56	13.06
vs. Vanguard Target 2055 Composite Index		
Beta	1.01	1.00
Alpha	-0.51	-0.37
Information Ratio	-0.49	-0.53
Tracking Error	0.92	0.66
R-Squared	1.00	1.00
Up Market Capture	100.25	99.24
Down Market Capture	102.28	101.34
Consistency	41.67	42.50

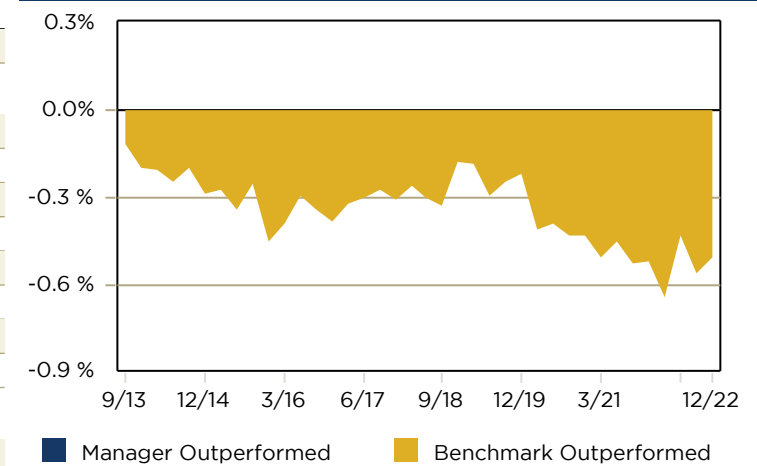
vs. Risk Free

Sharpe Ratio	0.25	0.62
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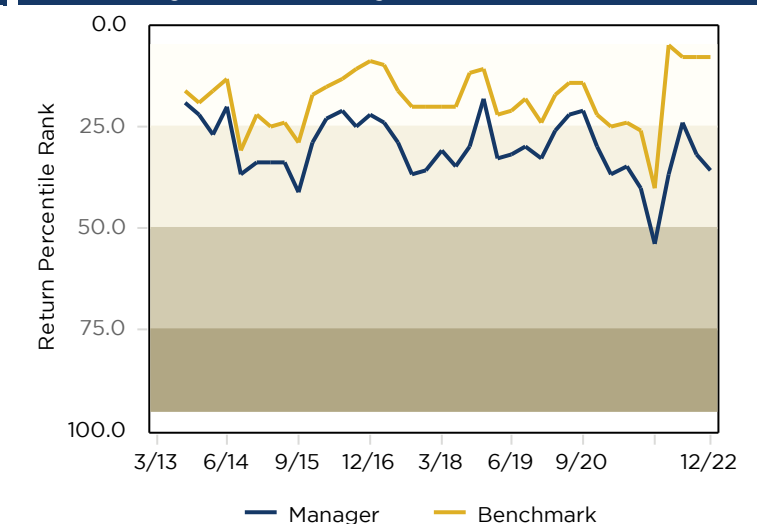
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	9.23 (52)	-17.46 (24)	-17.46 (24)	3.79 (38)	5.18 (33)	8.34 (-)	16.44 (78)	16.32 (40)	24.96 (55)	-7.87 (30)
Benchmark	9.18	-17.07	-17.07	4.30	5.58	8.72	16.75	17.17	25.37	-7.77
Peer Group	9.26	-18.43	-18.43	3.61	4.93	-	17.35	15.74	25.05	-8.66
Population	214	214	214	199	170	-	221	221	215	203

Fund Information

Fund Inception	01-2012
Fund Assets	14,494 Million
Portfolio Assets	14,494 Million
Total # of Holdings	6
% Assets in Top 10 Holdings	98.7 %
PM	Coleman,W/Nejman,W
PM Tenure	
Turnover	6.0 %
Gross Expense (%)	0.1 %
Net Expense (%)	0.1 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	56,952 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

Vanguard Total Stock Mkt Idx Instl	52.6
Vanguard Total Intl Stock Index	36.7
Vanguard Total Bond Market II Idx	6.6
Vanguard Total Intl Bd II Idx Instl	2.8

Top Countries (%)

United States	59.8
Japan	6.1
United Kingdom	3.9
Canada	3.1
China	3.0

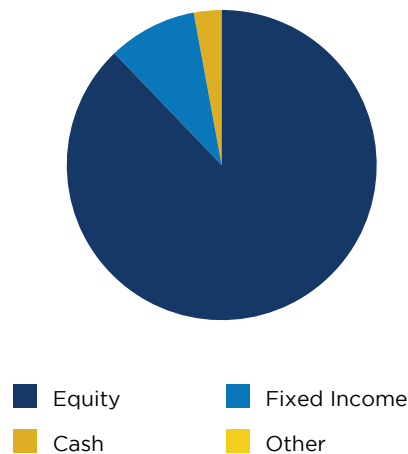
Fund Statistics

	3 Years	10 Years
Standard Deviation	18.54	13.06
vs. Vanguard Target 2060 Composite Index		
Beta	1.01	1.00
Alpha	-0.50	-0.37
Information Ratio	-0.49	-0.52
Tracking Error	0.94	0.67
R-Squared	1.00	1.00
Up Market Capture	100.16	99.22
Down Market Capture	102.18	101.34
Consistency	47.22	45.83

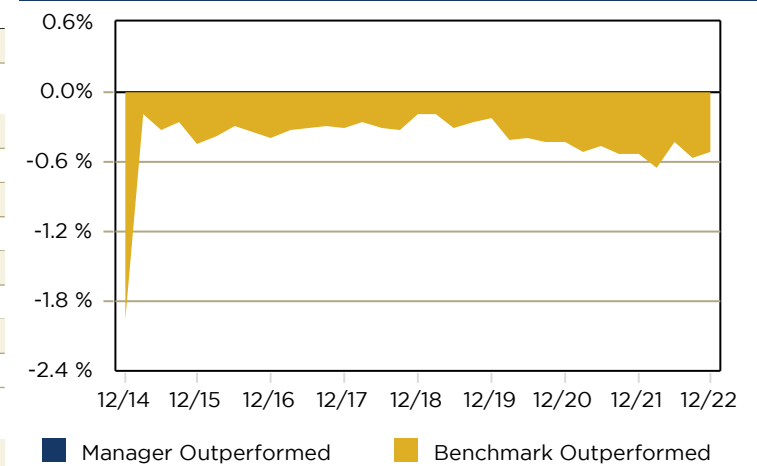
vs. Risk Free

Sharpe Ratio	0.25	0.62
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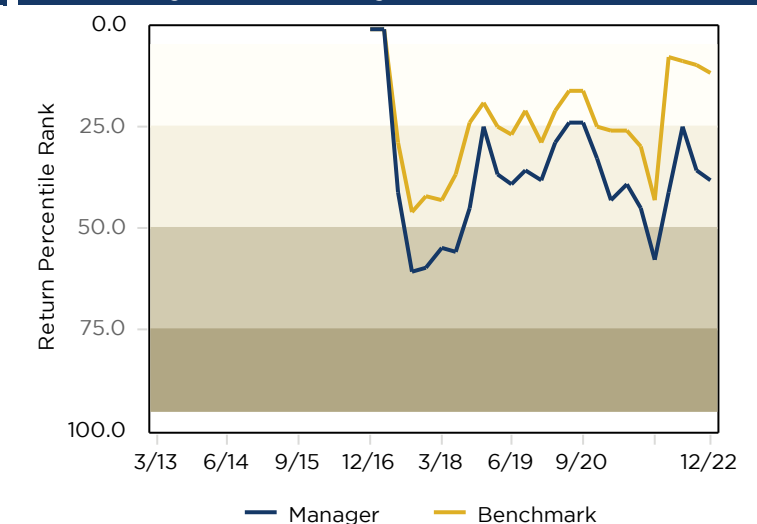
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	9.24 (51)	-17.39 (18)	-17.39 (18)	3.78 (33)	5.15 (22)	-	16.46 (69)	16.17 (56)	24.96 (61)	-7.95 (7)
Benchmark	9.18	-17.07	-17.07	4.30	5.58	-	16.75	17.17	25.37	-7.77
Peer Group	9.25	-18.60	-18.60	3.58	4.75	-	17.30	16.30	25.71	-9.37
Population	169	163	163	54	15	-	146	55	16	16

Fund Information

Fund Inception	07-2017
Fund Assets	3,367 Million
Portfolio Assets	3,367 Million
Total # of Holdings	6
% Assets in Top 10 Holdings	98.6 %
PM	Coleman,W/Nejman,W
PM Tenure	
Turnover	3.0 %
Gross Expense (%)	0.1 %
Net Expense (%)	0.1 %
New Investors	Open

Equity Characteristics

Avg. Market Cap	57,351 (Million)
Price/Earnings	14
Price/Book	2

Top Holdings (%)

Vanguard Total Stock Mkt Idx Instl	53.0
Vanguard Total Intl Stock Index	36.3
Vanguard Total Bond Market II Idx	6.3
Vanguard Total Intl Bd II Idx Instl	2.9

Top Countries (%)

United States	60.0
Japan	6.1
United Kingdom	3.9
Canada	3.1
China	3.0

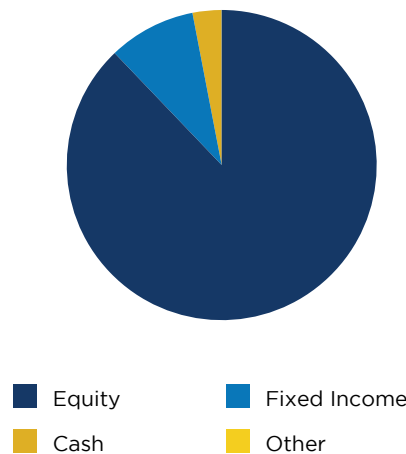
Fund Statistics

	3 Years	10 Years
Standard Deviation	18.56	-
vs. Vanguard Target 2065 Composite Index (Net)		
Beta	1.01	-
Alpha	-0.52	-
Information Ratio	-0.50	-
Tracking Error	0.93	-
R-Squared	1.00	-
Up Market Capture	100.20	-
Down Market Capture	102.26	-
Consistency	44.44	-

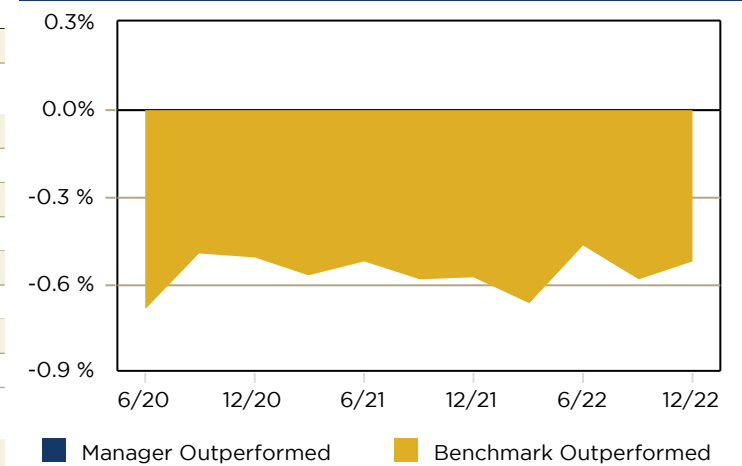
vs. Risk Free

Sharpe Ratio	0.25	-
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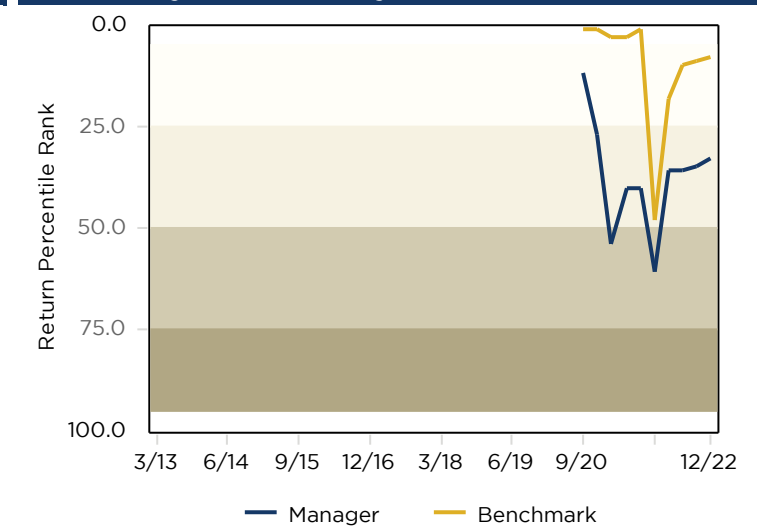
Asset Allocation



3 Years Rolling Excess Performance



3 Years Rolling Percentile Ranking



Vanguard Target Retirement 2070 (VSVNX)

Index: Vanguard Target 2070 Composite Index (Net)

Category: Target-Date 2065+

As of: 12/31/2022

Trailing Performance

	1 Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018
Manager	9.21 (54)	-	-	-	-	-	-	-	-	-
Benchmark	9.18	-	-	-	-	-	-	-	-	-
Peer Group	9.25	-	-	-	-	-	-	-	-	-
Population	169	-	-	-	-	-	-	-	-	-

Fund Information

Fund Inception	06-2022
Fund Assets	43 Million
Portfolio Assets	43 Million
Total # of Holdings	6
% Assets in Top 10 Holdings	99.7 %
PM	Coleman,W/Nejman,W
PM Tenure	
Turnover	-
Gross Expense (%)	0.1 %
Net Expense (%)	0.1 %
New Investors	Open

Fund Statistics

No data available.

3 Years Rolling Excess Performance

No data available.

Equity Characteristics

Avg. Market Cap	57,920 (Million)
Price/Earnings	14
Price/Book	2

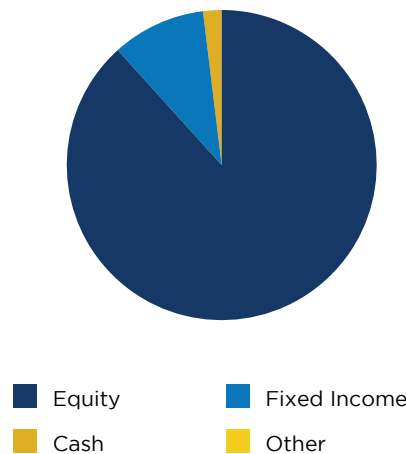
Top Holdings (%)

Vanguard Total Stock Mkt Idx Instl	53.9
Vanguard Total Intl Stock Index	35.8
Vanguard Total Bond Market II Idx	7.0
Vanguard Total Intl Bd II Idx Instl	3.0

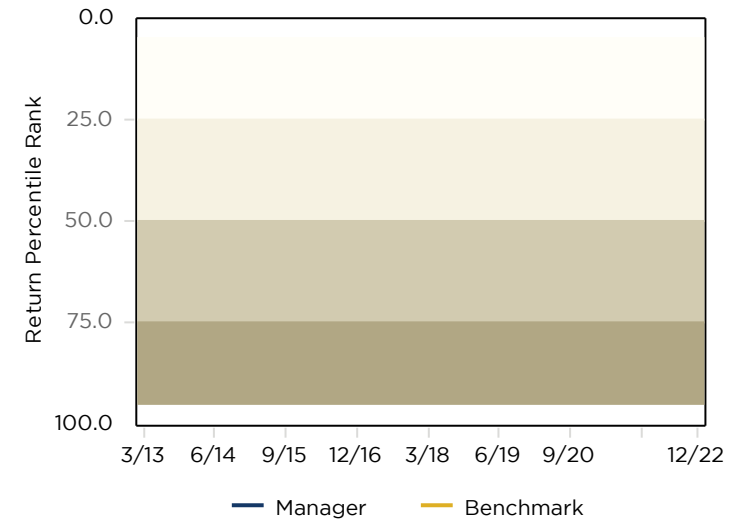
Top Countries (%)

United States	60.8
Japan	5.9
United Kingdom	3.8
Canada	3.0
China	2.9

Asset Allocation



3 Years Rolling Percentile Ranking





Appendix

Performance: TIAA-CREF Legacy Funds

As of 12.31.2022

Fund	Morningstar Category	Ticker	Prospectus		Trailing Returns				
			Net Expense Ratio	3 Month	1 Year	3 Year	5 Year	10 Year	15 Year
AB Small Cap Growth I	US Fund Small Growth	QUAIX	0.84%	3.09%	-38.88%	1.04%	6.88%	11.08%	9.21%
Allspring Growth Inst	US Fund Large Growth	SGRNX	0.75%	1.66%	-36.89%	0.57%	7.08%	10.49%	9.46%
American Funds Capital Income Bldr R6	US Fund Global Allocation	RIRGX	0.26%	11.39%	-6.83%	3.66%	4.11%	6.07%	4.45%
American Funds Europacific Growth R6	US Fund Foreign Large Growth	RERGX	0.46%	13.78%	-22.72%	-0.15%	1.54%	5.30%	3.10%
Artisan International Institutional	US Fund Foreign Large Growth	APHIX	0.97%	17.16%	-19.38%	-1.71%	1.90%	4.60%	2.50%
Columbia Mid Cap Index Inst	US Fund Mid-Cap Blend	NMPAX	0.20%	10.65%	-13.25%	6.98%	6.46%	10.54%	8.66%
Columbia Small Cap Value I Inst3	US Fund Small Value	CSVYX	0.86%	12.45%	-8.48%	8.62%	5.02%	9.75%	7.62%
CREF Core Bond R3	US Insurance Intermediate Core Bond	QCBMIX	0.22%	1.79%	-13.14%	-2.54%	0.15%	1.21%	2.60%
CREF Equity Index R3	US Insurance Large Blend	QCEQIX	0.16%	7.16%	-19.25%	6.93%	8.63%	11.88%	8.37%
CREF Global Equities R3	US Insurance Global Large-Stock Blend	QCGLIX	0.22%	10.73%	-18.49%	4.99%	5.40%	8.47%	5.14%
CREF Growth R3	US Insurance Large Growth	QCGRIX	0.21%	3.68%	-32.34%	4.68%	8.05%	12.56%	8.95%
CREF Inflation-Linked Bond R3	US Insurance Inflation-Protected Bond	QCILIX	0.17%	1.50%	-6.34%	2.13%	2.46%	1.03%	2.83%
CREF Money Market R3	US Fund Money Market - Taxable	QCMMIX	0.18%	0.81%	1.24%	0.54%	1.02%	0.57%	0.55%
CREF Social Choice R3	US Insurance Allocation--50% to 70% Equity	QCSCIX	0.19%	7.47%	-15.47%	2.63%	4.56%	6.60%	5.54%
CREF Stock R3	US Insurance Allocation--85%+ Equity	QCSTIX	0.23%	10.17%	-18.45%	4.57%	5.65%	9.12%	6.18%
Davis NY Venture Y	US Fund Large Blend	DNVYX	0.66%	11.85%	-17.27%	1.38%	3.59%	9.35%	5.90%
DFA Emerging Markets I	US Fund Diversified Emerging Mkts	DFEMX	0.36%	10.07%	-16.88%	-0.99%	-0.55%	1.79%	1.49%
DFA International Small Company I	US Fund Foreign Small/Mid Blend	DFISX	0.39%	17.61%	-17.12%	1.14%	0.70%	6.08%	3.97%
Dodge & Cox International Stock I	US Fund Foreign Large Value	DODFX	0.62%	16.01%	-6.78%	1.85%	1.25%	4.81%	2.53%
Eaton Vance Large-Cap Value R6	US Fund Large Value	ERLVX	0.70%	11.55%	-2.50%	7.66%	8.71%	10.62%	6.47%
Goldman Sachs Government Income Instl	US Fund Intermediate Government	GSOIX	0.50%	1.20%	-12.54%	-3.02%	-0.53%	0.36%	1.90%
Harbor International Institutional	US Fund Foreign Large Blend	HAINX	0.77%	19.40%	-13.79%	1.60%	1.06%	3.12%	1.76%
Invesco American Value R6	US Fund Mid-Cap Value	0.00%	0.72%	19.39%	-2.84%	8.13%	6.73%	9.12%	0.00%
Lazard Emerging Markets Equity Instl	US Fund Diversified Emerging Mkts	LZEMX	1.08%	12.36%	-14.86%	-3.57%	-2.81%	0.15%	0.70%
Lord Abbett Developing Growth I	US Fund Small Growth	LADYX	0.69%	-0.13%	-35.92%	2.65%	8.55%	11.07%	8.34%
MainStay CBRE Real Estate R6	US Fund Real Estate	VREQX	0.74%	3.17%	-26.95%	1.44%	4.30%	6.35%	6.42%
Northern Small Cap Value	US Fund Small Value	NOSGX	1.00%	10.05%	-10.40%	3.42%	3.15%	8.27%	7.14%
PGIM Jennison Mid-Cap Growth R6	US Fund Mid-Cap Growth	PJGQX	0.60%	8.46%	-23.72%	6.82%	9.08%	10.54%	8.77%
PIMCO Total Return Instl	US Fund Intermediate Core-Plus Bond	PTRRX	0.46%	1.77%	-14.09%	-2.48%	0.03%	1.11%	3.47%
Royce Pennsylvania Mutual Instl	US Fund Small Blend	RPMIX	0.87%	10.12%	-17.07%	4.93%	5.74%	8.81%	7.14%
T. Rowe Price Capital Appreciation	US Fund Allocation--50% to 70% Equity	PRWCX	0.68%	5.50%	-11.94%	7.24%	9.11%	10.83%	9.03%
Templeton Global Bond R6	US Fund Global Bond	FBNRX	0.59%	8.78%	-5.79%	-4.82%	-2.42%	-0.26%	3.04%
TIAA Real Estate Account	US Insurance Miscellaneous Sector	QREARX	0.77%	-3.49%	8.19%	8.14%	6.93%	7.41%	3.95%
TIAA-CREF Bond Index Institutional	US Fund Intermediate Core Bond	TBIIX	0.07%	1.59%	-13.24%	-2.89%	-0.16%	0.88%	0.00%
TIAA-CREF Core Bond Instl	US Fund Intermediate Core-Plus Bond	TIBDX	0.29%	2.02%	-13.24%	-2.50%	0.20%	1.49%	3.00%
TIAA-CREF Core Plus Bond Instl	US Fund Intermediate Core-Plus Bond	TIBFX	0.30%	2.12%	-13.32%	-2.29%	0.37%	1.68%	3.18%
TIAA-CREF Equity Index Instl	US Fund Large Blend	TIEIX	0.05%	7.16%	-19.17%	7.05%	8.76%	12.10%	8.64%

Performance: TIAA-CREF Legacy Funds

As of 12.31.2022

Fund	Morningstar Category	Ticker	Prospectus			Trailing Returns			
			Net Expense Ratio	3 Month	1 Year	3 Year	5 Year	10 Year	15 Year
TIAA-CREF Growth & Income Instl	US Fund Large Blend	TIGRX	0.41%	6.19%	-22.11%	5.59%	7.32%	11.48%	8.33%
TIAA-CREF High-Yield Inst	US Fund High Yield Bond	TIHYX	0.36%	4.54%	-9.83%	-1.15%	1.79%	3.48%	5.51%
TIAA-CREF Inflation Link Bd Instl	US Fund Inflation-Protected Bond	TIILX	0.25%	1.36%	-7.20%	1.83%	2.29%	0.93%	2.81%
TIAA-CREF International Eq Idx Instl	US Fund Foreign Large Blend	TCIEX	0.05%	18.12%	-14.20%	1.08%	1.76%	4.73%	1.97%
TIAA-CREF International Eq Instl	US Fund Foreign Large Blend	TIIEIX	0.46%	17.52%	-17.33%	1.99%	0.01%	4.18%	1.27%
TIAA-CREF Large-Cap Gr Idx Instl	US Fund Large Growth	TILIX	0.05%	2.20%	-29.17%	7.73%	10.90%	14.03%	10.25%
TIAA-CREF Large-Cap Growth Inst	US Fund Large Growth	TILGX	0.41%	2.70%	-32.76%	4.24%	8.17%	12.86%	8.90%
TIAA-CREF Large-Cap Value Idx Inst	US Fund Large Value	TILVX	0.05%	12.41%	-7.54%	5.96%	6.63%	10.24%	6.91%
TIAA-CREF Large-Cap Value Instl	US Fund Large Value	TRLIX	0.41%	14.39%	-6.99%	6.96%	6.25%	9.71%	6.72%
TIAA-CREF Lifecycle 2010 Institutional	US Fund Target-Date 2000-2010	TCTIX	0.37%	4.54%	-12.40%	1.36%	2.93%	4.98%	4.41%
TIAA-CREF Lifecycle 2015 Institutional	US Fund Target-Date 2015	TCNIX	0.38%	4.89%	-12.85%	1.63%	3.17%	5.44%	4.54%
TIAA-CREF Lifecycle 2020 Institutional	US Fund Target-Date 2020	TCWIX	0.39%	5.21%	-13.52%	1.77%	3.32%	5.94%	4.70%
TIAA-CREF Lifecycle 2025 Institutional	US Fund Target-Date 2025	TCYIX	0.41%	5.90%	-14.32%	2.21%	3.68%	6.57%	4.92%
TIAA-CREF Lifecycle 2030 Institutional	US Fund Target-Date 2030	TCRIX	0.42%	6.71%	-15.16%	2.63%	4.02%	7.17%	5.10%
TIAA-CREF Lifecycle 2035 Institutional	US Fund Target-Date 2035	TCIIX	0.43%	7.60%	-15.98%	3.03%	4.35%	7.75%	5.39%
TIAA-CREF Lifecycle 2040 Institutional	US Fund Target-Date 2040	TCOIX	0.44%	8.33%	-16.67%	3.52%	4.71%	8.23%	5.72%
TIAA-CREF Lifecycle 2045 Institutional	US Fund Target-Date 2045	TTFIX	0.45%	8.94%	-17.32%	3.99%	5.06%	8.50%	5.79%
TIAA-CREF Lifecycle 2050 Institutional	US Fund Target-Date 2050	TFTIX	0.45%	9.21%	-17.65%	4.05%	5.09%	8.56%	5.82%
TIAA-CREF Lifecycle 2055 Institutional	US Fund Target-Date 2055	TTRIX	0.45%	9.28%	-17.73%	4.09%	5.13%	8.61%	0.00%
TIAA-CREF Lifecycle 2060 Institutional	US Fund Target-Date 2060	TLXNX	0.45%	9.30%	-17.79%	4.18%	5.20%	0.00%	0.00%
TIAA-CREF Lifecycle 2060 Institutional	US Fund Target-Date 2060	TLXNX	0.45%	9.30%	-17.79%	4.18%	5.20%	0.00%	0.00%
TIAA-CREF Lifecycle Retire Income Instl	US Fund Allocation--30% to 50% Equity	TLRIX	0.37%	4.62%	-12.51%	1.35%	2.91%	4.67%	4.47%
TIAA-CREF Managed Allc Inst	US Fund Allocation--50% to 70% Equity	TIMIX	0.45%	6.99%	-16.79%	1.85%	3.48%	6.27%	5.05%
TIAA-CREF Mid-Cap Growth Instl	US Fund Mid-Cap Growth	TRPWX	0.48%	5.95%	-33.08%	0.04%	4.17%	8.74%	6.64%
TIAA-CREF Mid-Cap Value Instl	US Fund Mid-Cap Value	TIMVX	0.45%	10.17%	-10.34%	4.33%	4.37%	8.63%	6.53%
TIAA-CREF Money Market Instl	US Fund Money Market - Taxable	TCIXX	0.13%	0.86%	1.48%	0.64%	1.15%	0.68%	0.69%
TIAA-CREF Quant Small-Cap Equity Instl	US Fund Small Blend	TISEX	0.42%	8.17%	-15.44%	6.06%	5.40%	10.40%	8.09%
TIAA-CREF Real Estate Sec Instl	US Fund Real Estate	TIREX	0.47%	3.88%	-28.73%	0.22%	4.84%	7.30%	6.57%
TIAA-CREF S&P 500 Index Instl	US Fund Large Blend	TISPX	0.05%	7.54%	-18.12%	7.62%	9.37%	12.50%	8.75%
TIAA-CREF Short-Term Bond Inst	US Fund Short-Term Bond	TISIX	0.26%	1.13%	-2.89%	0.25%	1.28%	1.27%	2.13%
TIAA-CREF Small-Cap Blend Idx Inst	US Fund Small Blend	TISBX	0.06%	6.34%	-20.29%	3.24%	4.25%	9.19%	7.30%
TIAA-CREF Social Choice Eq Instl	US Fund Large Blend	TISCX	0.18%	9.76%	-17.77%	7.77%	9.23%	12.02%	8.66%

Performance: Voya Legacy Funds

As of 12.31.2022

Fund	Morningstar Category	Ticker	Prospectus Net Expense Ratio	Trailing Returns					
				3 Month	1 Year	3 Year	5 Year	10 Year	15 Year
Alger Responsible Investing A	US Fund Large Growth	SPEGX	1.36%	4.02%	-30.80%	5.20%	8.92%	11.17%	6.54%
American Century Equity Income R	US Fund Large Value	AEURX	1.44%	9.83%	-3.64%	4.03%	5.76%	8.99%	6.87%
American Century Growth R	US Fund Large Growth	AGWRX	1.44%	2.25%	-31.79%	5.20%	8.95%	11.81%	8.35%
American Century Short Dur Inf PrBd R	US Fund Inflation-Protected Bond	APORX	1.06%	1.02%	-4.33%	1.85%	1.88%	0.62%	2.04%
American Funds American Balanced R2	US Fund Allocation--50% to 70% Equity	RLBBX	1.34%	7.85%	-12.78%	3.30%	4.70%	7.43%	5.93%
American Funds Capital Income Bldr R2	US Fund Global Allocation	RIRBX	1.36%	11.07%	-7.86%	2.53%	2.97%	4.92%	3.33%
American Funds Capital World Gr&Inc R2	US Fund Global Large-Stock Blend	RWIBX	1.55%	12.96%	-17.93%	2.30%	3.46%	6.77%	3.96%
American Funds Europacific Growth R2	US Fund Foreign Large Growth	RERBX	1.55%	13.51%	-23.55%	-1.23%	0.43%	4.16%	2.01%
American Funds Fundamental Invs R2	US Fund Large Blend	RFNBX	1.39%	10.61%	-17.33%	4.65%	6.09%	10.28%	6.83%
American Funds Growth Fund of Amer R2	US Fund Large Growth	RGABX	1.40%	2.00%	-31.26%	3.64%	6.39%	10.73%	7.16%
American Funds Income Fund of Amer R2	US Fund Allocation--70% to 85% Equity	RIDBX	1.35%	10.05%	-7.17%	4.03%	4.57%	6.64%	5.19%
American Funds New Perspective R2	US Fund Global Large-Stock Growth	RNPBX	1.51%	8.19%	-26.44%	4.38%	6.51%	9.09%	6.20%
American Funds Washington Mutual R2	US Fund Large Blend	RWMBX	1.35%	11.80%	-9.19%	7.37%	8.22%	11.04%	7.54%
BlackRock Advantage Large Cap Core R	US Fund Large Blend	MRLRX	0.98%	7.57%	-20.51%	6.65%	7.98%	11.19%	6.84%
BlackRock Mid-Cap Value R	US Fund Mid-Cap Value	MRRFX	1.24%	11.65%	-4.51%	8.59%	8.25%	9.88%	7.79%
ClearBridge Appreciation R	US Fund Large Blend	LMPPX	1.26%	9.45%	-12.92%	6.98%	9.08%	11.15%	8.16%
Columbia High Yield Bond R	US Fund High Yield Bond	CHBRX	1.25%	3.80%	-11.25%	-0.89%	1.56%	3.14%	5.03%
Columbia Large Cap Value R	US Fund Large Value	RDEIX	1.22%	13.39%	-5.50%	7.00%	7.05%	10.22%	6.27%
Columbia Select Mid Cap Value R	US Fund Mid-Cap Value	CMVRX	1.38%	11.53%	-9.67%	8.10%	7.39%	10.08%	6.91%
Delaware Extended Duration Bond R	US Fund Long-Term Bond	DEERX	1.07%	3.72%	-26.92%	-6.19%	-1.53%	1.55%	5.29%
Eaton Vance Large-Cap Value R	US Fund Large Value	ERSTX	1.26%	11.44%	-3.04%	7.05%	8.11%	10.04%	6.01%
Franklin Mutual Global Discovery R	US Fund Global Large-Stock Value	TEDRX	1.52%	14.63%	-5.24%	2.40%	3.41%	6.22%	4.58%
Franklin Utilities R	US Fund Utilities	FRURX	1.07%	8.55%	1.33%	5.21%	8.53%	9.77%	7.23%
Invesco Charter R	US Fund Diversified Emerging Mkts	ODVNX	1.49%	11.21%	-25.34%	-6.96%	-2.68%	0.96%	1.67%
Invesco Developing Markets R	US Fund Pacific/Asia ex-Japan Stk	ASIAX	1.46%	12.40%	-10.83%	1.74%	2.11%	4.78%	4.96%
Invesco Eqv Asia Pacific Equity A	US Fund Large Blend	CHRRX	1.27%	7.17%	-20.92%	4.39%	5.70%	7.74%	5.91%
Invesco Eqv European Equity R	US Fund Europe Stock	AEDRX	1.62%	20.00%	-21.92%	-3.94%	-2.28%	2.79%	1.37%
Invesco Gold & Special Minerals R	US Fund Equity Precious Metals	OGMNX	1.31%	21.21%	-17.07%	2.94%	6.64%	-2.14%	-0.68%
Invesco International Bond R	US Fund Global Bond	OIBNX	1.36%	10.66%	-13.21%	-5.69%	-2.95%	-0.80%	1.29%
Invesco Main Street Mid Cap R	US Fund Mid-Cap Blend	OPMNX	1.31%	8.52%	-14.53%	4.53%	5.68%	8.92%	6.97%
Invesco Small Cap Growth R	US Fund Small Growth	GTSRX	1.39%	4.63%	-35.79%	2.49%	3.91%	9.41%	7.48%
Janus Henderson Enterprise S	US Fund Mid-Cap Growth	JGRTX	1.16%	9.40%	-16.35%	5.44%	9.28%	12.64%	9.36%

Performance: Voya Legacy Funds

As of 12.31.2022

Fund	Morningstar Category	Ticker	Prospectus Net Expense Ratio	Trailing Returns					
				3 Month	1 Year	3 Year	5 Year	10 Year	15 Year
Lord Abbett Developing Growth R3	US Fund Small Growth	LADRX	1.19%	-0.25%	-36.22%	2.14%	8.01%	10.52%	7.80%
Lord Abbett Fundamental Equity R3	US Fund Large Value	LAVRX	1.21%	11.81%	-9.69%	5.98%	5.89%	9.32%	6.97%
Lord Abbett Value Opportunities R3	US Fund Mid-Cap Blend	LVORX	1.41%	8.10%	-22.10%	4.33%	4.12%	8.39%	7.14%
MainStay CBRE Real Estate A	US Fund Real Estate	CLARX	1.18%	3.06%	-27.28%	1.00%	3.84%	5.97%	6.04%
MFS International Intrinsic Value R2	US Fund Foreign Large Growth	MINFX	1.22%	12.16%	-23.45%	0.32%	2.74%	7.43%	5.15%
MFS Massachusetts Inv Gr Stk R2	US Fund Large Growth	MIRGX	0.95%	9.37%	-19.44%	7.38%	11.68%	13.01%	9.74%
MFS Utilities R2	US Fund Utilities	MURRX	1.25%	10.01%	0.18%	6.36%	8.55%	8.17%	6.20%
MFS Value R2	US Fund Large Value	MVRRX	1.05%	13.43%	-6.39%	6.50%	6.99%	10.63%	7.19%
Impax Sustainable Allocation Inv	US Fund Allocation--50% to 70% Equity	PAXWX	0.89%	5.88%	-16.42%	3.86%	5.36%	6.87%	4.72%
PIMCO High Yield R	US Fund High Yield Bond	PHYRX	1.16%	4.03%	-11.32%	-1.34%	1.24%	2.93%	4.51%
PIMCO Low Duration R	US Fund Short-Term Bond	PLDRX	1.05%	0.52%	-5.73%	-1.46%	-0.14%	0.16%	1.50%
Pioneer Equity Income R	US Fund Large Value	PQIRX	1.40%	13.26%	-8.61%	4.39%	5.21%	9.72%	6.85%
Pioneer Mid Cap Value R	US Fund Mid-Cap Value	PCMRX	1.53%	12.39%	-6.43%	6.96%	4.57%	8.65%	5.69%
Pioneer R	US Fund Large Blend	PIORX	1.45%	8.31%	-19.86%	7.97%	9.96%	11.92%	7.63%
Pioneer Strategic Income R	US Fund Multisector Bond	STIRX	1.36%	0.95%	-13.42%	-1.93%	0.27%	1.67%	3.70%
Royce Pennsylvania Mutual R	US Fund Small Blend	RPMRX	1.74%	9.95%	-17.72%	4.03%	4.88%	7.92%	6.30%
Royce Small-Cap Value R	US Fund Small Value	RVVRX	1.99%	12.62%	-10.52%	2.01%	2.91%	5.03%	4.52%
Thornburg International Equity R3	US Fund Foreign Large Blend	TGVRX	1.36%	18.53%	-17.13%	2.72%	2.12%	4.43%	1.92%
Victory Diversified Stock R	US Fund Large Blend	GRINX	1.35%	6.18%	-18.91%	7.57%	6.75%	10.00%	6.35%
Victory Special Value R	US Fund Large Blend	VSVGX	1.69%	6.12%	-18.94%	7.31%	6.40%	8.99%	4.91%
Virtus NFJ Dividend Value A	US Fund Large Value	PNEAX	1.01%	11.26%	-13.70%	2.65%	3.92%	7.67%	4.73%
Virtus NFJ Small-Cap Value A	US Fund Small Value	PCVAX	1.17%	9.17%	-16.22%	-0.24%	-0.09%	5.10%	5.10%
Voya Global High Dividend Low Vol A	US Fund Global Large-Stock Value	NAWGX	0.85%	14.09%	-4.54%	4.40%	4.63%	6.45%	5.42%
Voya Global High Dividend Low Vol PortS2	US Fund Global Large-Stock Value	IWTTX	1.00%	13.98%	-5.33%	4.04%	4.38%	6.43%	0.00%
Voya Index Solution 2025 Port ADV	US Fund Target-Date 2025	ISDAX	0.69%	5.44%	-16.26%	1.26%	3.03%	5.51%	0.00%
Voya Index Solution 2030 Port ADV	US Fund Target-Date 2030	IDAFX	0.71%	6.37%	-16.89%	1.71%	3.41%	6.22%	0.00%
Voya Index Solution 2035 Port ADV	US Fund Target-Date 2035	ISEAX	0.72%	7.41%	-18.14%	1.91%	3.66%	6.72%	0.00%
Voya Index Solution 2040 Port ADV	US Fund Target-Date 2040	IDXKX	0.75%	8.31%	-18.48%	2.85%	4.29%	7.30%	0.00%
Voya Index Solution 2045 Port ADV	US Fund Target-Date 2045	ISJAX	0.72%	8.84%	-18.60%	3.22%	4.53%	7.53%	0.00%
Voya Index Solution 2050 Port ADV	US Fund Target-Date 2050	IDXPX	0.78%	8.99%	-18.70%	3.00%	4.40%	7.49%	0.00%
Voya Index Solution 2055 Port ADV	US Fund Target-Date 2055	IISAX	0.76%	9.06%	-18.76%	3.08%	4.44%	7.54%	0.00%
Voya Index Solution 2060 Port ADV	US Fund Target-Date 2060	VPSAX	0.82%	9.16%	-18.84%	3.20%	4.53%	0.00%	0.00%

Performance: Voya Legacy Funds

As of 12.31.2022

Fund	Morningstar Category	Ticker	Prospectus Net Expense Ratio	Trailing Returns					
				3 Month	1 Year	3 Year	5 Year	10 Year	15 Year
Voya Index Solution 2065 Port ADV	US Fund Target-Date 2065+	VIQAX	0.80%	9.14%	-18.86%	0.00%	0.00%	0.00%	0.00%
Voya Index Solution Income Port ADV	US Fund Target-Date Retirement	ISKAX	0.69%	3.56%	-14.57%	-0.02%	1.66%	3.31%	0.00%
Voya Intermediate Bond Port A	US Fund Intermediate Core-Plus Bond	IIBPX	1.05%	1.65%	-14.90%	-3.44%	-0.54%	1.10%	2.41%
Voya International Index Port A	US Fund Foreign Large Blend	IIIAX	0.94%	18.13%	-15.03%	0.22%	0.88%	3.81%	0.00%
Voya Large Cap Growth Port A	US Fund Large Growth	IEOPX	1.27%	0.79%	-30.97%	2.21%	6.64%	11.09%	9.66%
Voya MidCap Opportunities Port S	US Fund Mid-Cap Growth	ISMOX	0.91%	4.74%	-25.20%	5.60%	7.00%	10.37%	8.63%
Voya Multi-Manager International Sm Cp A	US Fund Foreign Small/Mid Blend	NTKLX	1.53%	16.44%	-18.67%	2.72%	0.98%	6.24%	3.11%
Voya Russell Large Cap Index Port A	US Fund Large Blend	IRLIX	0.86%	6.33%	-20.48%	6.93%	8.95%	11.97%	0.00%
Voya Russell Mid Cap Index Port A	US Fund Mid-Cap Blend	IRMAX	0.90%	8.89%	-18.07%	4.95%	6.16%	9.97%	0.00%
Voya Russell Small Cap Index Port A	US Fund Small Blend	IRSIX	0.95%	6.16%	-21.02%	2.25%	3.30%	8.23%	0.00%
Voya Small Company A	US Fund Small Blend	VYSYX	1.17%	12.14%	-16.53%	2.14%	2.26%	8.08%	6.52%
Voya US Bond Index Port A	US Fund Intermediate Core Bond	ILUAX	0.86%	1.45%	-13.60%	-3.43%	-0.77%	0.23%	0.00%
VY® American Century Sm-Mid Cp Val A	US Fund Mid-Cap Value	IASAX	1.35%	12.59%	-5.85%	7.29%	6.57%	10.52%	9.07%
VY® Baron Growth A	US Fund Mid-Cap Growth	IBSAX	1.49%	10.50%	-23.90%	6.71%	10.45%	11.66%	9.03%
VY® CBRE Real Estate A	US Fund Real Estate	ICRPX	1.28%	3.87%	-27.40%	0.79%	3.77%	5.87%	5.87%
VY® Columbia Small Cap Value II A	US Fund Small Value	ICSAX	1.42%	9.94%	-14.12%	7.90%	4.32%	9.03%	6.80%
VY® T. Rowe Price Capital Apprec A	US Fund Allocation--50% to 70% Equity	ITRAX	1.24%	5.33%	-12.47%	6.67%	8.54%	10.26%	8.47%
VY® T. Rowe Price Growth Equity A	US Fund Large Growth	IGEAX	1.23%	-2.11%	-40.93%	-1.34%	4.23%	10.56%	7.65%



SECURE Act 2.0 (Division T)

Setting Every Community Up for Retirement (SECURE) Act 2.0 is a massive piece of legislation. There are 92 provisions, and they are almost universally good, with “good” being defined as “helpful to the cause of promoting retirement security.”

In keeping with the head-scratching nature of the U.S. political process, near unanimous bipartisan support is insufficient to merit a stand-alone Bill, so SECURE Act 1.0 was part of the Further Consolidated Appropriations, 2020 Act and SECURE Act 2.0 is “Division T” of the Consolidated Appropriations Act, 2023.

Selected Highlights (24 items) include:

Starting	Topic	Optional	Summary
2023	Tribal Court QDROs	No	Tribal courts are now authorized under federal law to issue qualified domestic relations orders.
2023	Cash balance interest crediting rate rule	No	In proving that the plan does not impermissibly backload accruals, the plan sponsor can assume an interest credit that is a “reasonable” rate of return, provided it does not exceed 6%.
2024	Variable rate premium indexing termination	No	The PBGC variable rate premium for DB plans, which has been increasing in recent years, is locked in to a flat \$52 for each \$1,000 (5.2%) of unfunded vested benefits.
2024	Hardship withdrawal self-certification	Yes	Participants may self-certify that they had a qualified event that constitutes the need for a hardship withdrawal.
2024	Roth tax treatment for catch-up	No	All catch-up contributions to qualified plans are subject to Roth tax treatment except for those employees with compensation of \$145,000 or less (indexed).
2024	Force-out Limit	No	Force-out amount is increased from \$5,000 to \$7,000 for distributions made after 12/31/2023.
2024	Automatic portability	Yes	Force-out IRAs can be rolled automatically into a new employer's plan unless the participant opts out. Begins 12 months after enactment.
2024	Emergency Withdrawals	Yes	The additional 10% tax applied to early distributions is waived for unforeseeable personal or family emergency expenses. One distribution of up to \$1,000 per year with the option to repay within 3 years. Only one distribution per 3-year repayment period is permitted if a distribution has not been fully repaid.
2023	Roth - employer contributions	Yes	Plans are permitted to allow employees to elect whether employer matching or nonelective contributions will be made on a Roth vs. pretax basis. Can begin immediately but won't. It's too hard to implement.
2023	RMD Age Increase	No	Required Minimum Distribution age is increased to age 73 starting on January 1, 2023, and age 75 starting on January 1, 2033.
2023	RMD Aggregation	Yes	Account owners may now elect to aggregate distributions from retirement accounts and annuities for purposes of determining RMDs.
2023	RMD Excise Tax Reduction	No	Penalty for failure to take required minimum distributions is decreased from 50% to 25% and decreased even further to 10% if the failure is corrected timely.
2023	QLAC	No	The 25% of account balance limitation is removed and the cap raised to \$200,000 that may be taken from a plan to purchase a qualified longevity annuity contract.
2023	Incentives	Yes	Employers may offer de minimis financial incentives, not paid from plan assets, to boost employee participation in retirement plans (e.g., low-dollar gift cards).
2023	Qualified birth or adoption distributions (QBAD) repayment	No	The payback period for distributions made to participants under the qualified birth or adoption provision is restricted from no time limit to 3 years. Effective immediately and (to a degree) retroactively.



Starting	Topic	Optional	Summary	Starting	Topic	Optional	Summary
2024	Student Loan Matching	Yes	Employees making “qualified student loan payments” can have those payments matched in the retirement plan without hurting the employer’s nondiscrimination testing starting in 2024.	2025	Catch-up Limit	No	Catch-up contributions have increased for participants aged 60-63 (i.e., attained age for the entire tax year is at least 60 and not yet 64) to the greater of \$10,000 or 150% of the regular 2024 catch up amount, indexed for inflation.
2024	“Sidecar” emergency savings accounts (ESA)	Yes	Employers may automatically opt NHCEs into emergency savings accounts at no more than 3% of salary with a \$2,500 cap. Contributions over the limit can be directed to a Roth account or stopped. Contributions are treated as Roth elective deferrals and may be matched up to the cap. Up to four (4) no-fee, no-tax withdrawals available per year. Upon separation from service, account balance may be taken as cash or rolled into a Roth plan or IRA. If matched, matching would not be placed into the ESA.	2025	Auto-Enrollment	No	Auto-enroll is mandatory for new plans at 3-10%...auto escalation to 10-15%...for employers with 11+ employees in business for 3+ years.
2024	529 Rollover to Roth IRAs	No	Beneficiaries of 529 college savings accounts are permitted tax and penalty free rollovers of up to \$35,000 over their lifetime from 529 accounts to ROTH IRAs under certain conditions.	2027	Saver’s Match	No	Does not have to be placed in an employer sponsored plan and is claimed on personal tax returns. The nonrefundable credit for contributions to IRAs, employer retirement plans, and ABLE accounts is replaced by a federal matching contribution deposited into the taxpayer’s plan by the Treasury (somehow). The match would be a maximum 50% of up to \$2,000 in contributions to a qualifying account (so a maximum \$1,000 match per individual). The match would be reduced at modified AGI of: <ul style="list-style-type: none"> • \$41,000 to \$71,000 for married couples filing a joint tax return • \$30,750 to \$53,250 for head of household filers • \$20,500 to \$35,500 for single taxpayers
2025	Rollover Simplification	No	The Treasury Secretary shall simplify and standardize the rollover process and issue sample forms for direct rollovers to be released no later than January 1, 2025.	Coming	403(b) Collective Investment Trusts (CIT)	Yes	403(b) plans are permitted to participate in collective investment trusts with other qualified plans...sort of. There are still securities law issues to overcome that did not make it into the final Bill, so CITs will remain unavailable in 403(b)s for now.
2025	Long-term, parttime workers	No	The 3-year LTPT rule is reduced to 2 years (i.e., employees working 500+ hours in 2 consecutive years must be eligible to defer). LTPT rules are also extended to ERISA 403(b) plans. Begins 2025 (vs. 2024 under SECURE 1.0).				

Sources:

Secure 2.0, A Quick Reference Guide, Group Plan Systems, Chapman, Cherisha and Swisher, Pete. December 23, 2022.

Secure 2.0 Act of 2022, Retirement Plan Advisory Group (RPAG). December 2022.

SECURE 2.0 Act enacted into law: What it means for plan sponsors and employees

As of March 2023

Securing a Strong Retirement Act (SECURE 2.0 Act of 2022) is an important piece of retirement legislation that was signed into law on December 29, 2022. This Act includes provisions intended to make retirement plans more widely accessible; reinforces the importance of saving; and offers many American workers the opportunity for greater financial security in retirement.

Now is the time for plan sponsors and consultants to understand how the provisions of the new law may impact their retirement plans. We've assembled this summary as a starting point for helping you to build a deeper understanding of the provisions within the bill. We expect additional guidance regarding the implementation of the provisions and will provide timely updates to you.

This SECURE 2.0 provision summary guide is organized into four sections:

1. Near-term provisions to focus on
2. Beyond 2023: additional provisions to consider
3. Provisions specific to IRAs only
4. Additional provisions

Within the first two sections, the provisions are divided into two categories: *mandatory* and *other / optional*. We've updated these two categories and recategorized provisions, as applicable. 'Mandatory' means either employers are required to implement the SECURE 2.0 provision for their plan, or the provision is applicable by law but does not require a plan change. 'Other / optional' means either the SECURE 2.0 provision may, but is not required, be implemented by a plan sponsor or there are other applicability considerations.

For each provision, we've included a high-level description, the impacted plan type(s), effective date and the Act section number. Note the effective date for the provisions vary—some start immediately (12/29/22 SECURE 2.0 enactment) and others start in years to come.

Plan sponsors should review all provisions with their legal counsel to determine how a provision may impact their plan(s).

Near-term provisions to focus on today

The provisions in this section are likely to impact retirement plans now. Some of these provisions are effective 12/29/22—the date of SECURE 2.0 enactment—and other provisions are effective in 2023.

The provisions are divided into two categories: *mandatory* and *other / optional*. We've updated these two categories and reorganized provisions, as applicable. 'Mandatory' means either employers are required to implement the SECURE 2.0 provision for their plan, or the provision is applicable by law but does not require a plan change. 'Other / optional' means either the SECURE 2.0 provision may, but is not required, be implemented by a plan sponsor or there are other applicability considerations.

MANDATORY PROVISIONS

Provision (bill section number)	Description	Effective date
Required minimum distribution (RMD) age increase (§107)	<p>Increases the age for RMDs from 72 to 73 starting in 2023, and then to 75 starting in 2033. Federal guidance is needed to determine the RMD age for individuals born in 1959.</p> <p>Affected plan types: 401(a), 401(k), 403(b), 457(b), other defined contribution plans, traditional IRAs, simplified employee pensions (SEPs), SIMPLE IRAs</p>	Distributions required to be made after 12/31/22, then distributions required to be made after 12/31/32
Reduction in excise tax (§302)	<p>The penalty for failure to take required minimum distributions is reduced from 50% to 25%. The excise tax may be reduced to 10% if corrected in a timely manner. A taxpayer may need to seek the reduction in the penalty tax in his or her tax filing.</p> <p>Affected plan types: 401(a), 401(k), 403(b), 457(b) and other defined contribution plans, traditional IRAs, SEP IRAs, SIMPLE IRAs, Roth IRA beneficiary accounts</p>	Taxable years beginning after 12/29/22
Distribution to firefighters (§308)	<p>The special rule for “qualified public safety employees” in governmental plans, under which age 50 is substituted for age 55 for purposes of this exception from the 10% tax, now extends to private sector firefighters. The taxpayer may need to seek the exception to the penalty tax in his or her tax filing.</p> <p>Affected plan types: 401(a), 401(k), 403(a), 403(b) plans sponsored by private entities</p>	Distributions made after 12/29/22
Substantially equal periodic payment rule (§323)	<p>The exception to the 10% equal periodic payment continues to apply in the case of a rollover of the account, an exchange of an annuity providing the payments, or an annuity that satisfies the required minimum distribution rules. The taxpayer may need to seek the exception to the penalty tax in his or her tax filing.</p> <p>Affected plan types: 401(a), 401(k), 403(a), 403(b), IRAs</p>	<p>12/29/22 for annuity distributions</p> <p>12/31/23 for transfers, rollovers and exchanges</p>

Near-term provisions > MANDATORY (Cont'd)

Provision (bill section number)	Description	Effective date
Exception to penalty for individuals with a terminal illness (§326)	<p>An exception to the 10% early withdrawal tax is provided in the case of a distribution to a terminally ill individual. The taxpayer may need to seek the exception to the penalty tax in his or her tax filing.</p> <p>Affected plan types: 401(a), 401(k), 403(a), 403(b), IRAs</p>	Distributions made after 12/29/22
Repeal of direct payment requirement on exclusion from gross income of distributions from governmental plans for health and long-term care insurance (§328)	<p>There is no longer a requirement for a governmental plan to pay health insurance premiums directly for a public safety officer to receive the \$3,000 exclusion from gross income. The taxpayer may need to seek the exclusion in his or her tax filing.</p> <p>Affected plan types: Governmental 401(a), 401(k) 403(a), 403(b), 457(b)</p>	Distributions made after 12/29/22
Modify eligible age for exemption from early withdrawal penalty (§329)	<p>The exemption from the 10% tax on early distributions which applies to a distribution from a governmental plan to a public safety officer who is at least age 50 is extended to include public safety officers with at least 25 years of service with the employer sponsoring the plan. The taxpayer may need to seek the exception to the penalty tax exception in his or her tax filing.</p> <p>Affected plan types: Governmental. 401(a), 401(k), 403(a), 403(b)</p>	Distributions made after 12/29/22
Exemption from penalty for corrections employees (§330)	<p>The public safety officer exemption to the 10% penalty on early distributions is also extended to corrections officers who are employees of state and local governments. The taxpayer may need to seek the penalty tax exception in his or her tax filing.</p> <p>Affected plan types: Governmental. 401(a), 401(k), 403(a), 403(b)</p>	Distributions made after 12/29/22
Corrections of mortality tables (§335)	<p>For purposes of the minimum funding rules, a pension plan is not required to assume beyond the plan's valuation date future mortality improvements at any age greater than 0.78%.</p> <p>Affected plan types: 401(a) defined benefit plans</p>	2/29/22

Near-term provisions > MANDATORY (Cont'd)

Provision (bill section number)	Description	Effective date
Recognition of tribal government domestic relations orders (§339)	<p>Tribal courts are added to the list of courts authorized under federal law to issue qualified domestic relations orders (QDRO). This applies to domestic relations orders received by plan administrators after the effective date, including any submitted for reconsideration after such date.</p> <p>Affected plan types: 401(a), 401(k), 403(b), 457(b)</p>	QDRO received by plan administrators after 12/31/22
Information needed for financial options risk mitigation act (§342)	<p>Pension plan administrators must provide plan participants and retirees with critical information that would allow people considering what is best for their financial futures to compare between benefits offered under the plan and the lump sum, and would explain how the lump sum was calculated, the ramifications of accepting a lump sum, such as the loss of certain federal protections, details about the election period, where to follow up with questions and other information.</p> <p>Affected plan types: ERISA 401(a) defined benefit plans</p>	The DOL must issue regulations not earlier than 12/29/23, which may not be effective earlier than 1 year after a final rule
Cash balance (§348)	<p>For plan sponsors of a hybrid plan that use a variable crediting rate, the interest crediting rate that is treated as in effect and as the projected interest crediting rate is a reasonable projection of such variable interest rate, subject to a maximum of 6 percent.</p> <p>Affected plan types: 401(a) defined benefit plans</p>	Plan years beginning after 12/29/22
Termination of variable rate premium indexing (§349)	<p>The “applicable dollar amount” language is now a flat \$52 for each \$1,000 of unfunded vested benefits for determining the premium fund target for purposes of unfunded vested benefits.</p> <p>Affected plan types: 401(a) defined benefit plans</p>	12/29/22
Plan amendments (§501)	<p>Plan amendments are allowed on or before the last day of the first plan year beginning on or after January 1, 2025 (2027 in the case of governmental plans), as long as the plan operates in accordance with such amendments as of the effective date of a bill requirement or amendment.</p> <p>Plan amendment dates are aligned under the SECURE Act, the CARES Act, and the Taxpayer Certainty and Disaster Tax Relief Act of 2020 to these new dates (instead of 2022 and 2025).</p> <p>Affected plan types: 401(a), 401(k), 403(b), 457(b)</p>	12/29/22
Enhancing retiree health benefits in pension plans (§606)	<p>The sunset date is extended to the end of 2032 for employers to use assets from an overfunded pension plan to pay retiree health and life insurance benefits, subject to specific requirements.</p> <p>Affected plan types: 401(a) defined benefit plans</p>	Transfers made on or after 12/29/22

Near-term provisions > OTHER / OPTIONAL

OTHER / OPTIONAL PROVISIONS

Provision (bill section number)	Description	Effective date
Modification of credit for small employer pension plan startup costs (§102)	<p>Increases the small business startup credit from 50% to 100% for employers with up to 50 employees. Except in the case of defined benefit plans, an additional credit is provided, generally a percentage of the amount contributed by the employer on behalf of employees, up to a per-employee cap of \$1,000.</p> <p>Affected plan types: 401(a), 403(a), SEPs, SIMPLE retirement accounts</p>	Taxable years beginning after 12/31/22
Pooled employer plan modification (§105)	<p>Allows a pooled employer plan (PEP) to designate a named fiduciary other than an employer in the plan to collect contributions to the plan.</p> <p>Affected plan types: 401(a), 401(k), 403(b) PEPs</p>	Plan years beginning after 12/31/22
Multiple employer plans (MEPs) (§106)	<p>Permits 403(b) plan sponsors to join together under a single, multiple employer plan (MEP) or pooled employer plan (PEP). Relief from the “one bad apple” rule is included, protecting the tax treatment of compliant employers from the violations of any one employer in the group.</p> <p>Affected plan type: 403(b)</p>	Plan years beginning after 12/31/22
Clarifies start-up credit for MEPs (§111)	<p>The start-up credit for small businesses joining a multiple employer plan (MEP) or pooled employer plan (PEP) is available for 3 years based on the date the employer joins the MEP/PEP. Employers with up to 100 employees are generally eligible for the annual tax credit.</p> <p>Affected plan types: 401(a), 401(k), 403(b) MEPs and PEPs</p>	Retroactively for taxable years beginning after 12/31/19
Military spouse retirement plan eligibility credit for small employers (§112)	<p>Small employers are eligible for a tax credit with respect to their defined contribution plans if they (1) make military spouses immediately eligible for plan participation within 2 months of hire, (2) upon plan eligibility, make the military spouse eligible for any matching or nonelective contribution that they would have been eligible for otherwise at 2 years of service, and (3) make the military spouse 100% immediately vested in all employer contributions.</p> <p>Affected plan types: Defined contribution plans sponsored by for-profit entities</p>	Taxable years beginning after 12/31/22
Small, immediate financial incentives for contributing to a plan (§113)	<p>Allows employers to offer employees de minimis financial incentives (such as gift cards in small amounts) for making deferrals to a retirement plan, provided plan assets are not used to fund the incentives.</p> <p>Affected plan types: 401(k), 403(b)</p>	Plan years beginning after 12/29/22

Near-term provisions > OTHER / OPTIONAL (Cont'd)

Provision (bill section number)	Description	Effective date
Tax treatment of certain nontrade or business SEP contributions (§118)	Employers of domestic employees (e.g., nannies) are permitted to provide retirement benefits for such employees under a Simplified Employee Pension (SEP). Affected plan types: SEPs	Taxable years beginning after 12/29/22
Section 415 limit for employees of rural electric cooperatives (§119)	The compensation-based limit for participants who are non-highly compensated employees and participate in a rural electric cooperative retirement plan is eliminated. Affected plan types: Rural electric cooperative retirement plans	Limitation years ending after 12/29/22
Enhancement of 403(b) plans (§128)	Congress enhanced the federal tax code to allow 403(b) plans to offer Collective Investment Trusts (CITs). However, federal securities laws still need to be amended for 403(b) plans to include CITs. As a result, CITs are still unavailable in 403(b) plans. Affected plan type: 403(b)	Investments after 12/29/22, but pending further amendment
Eliminate partial annuitization penalty (§204)	When a portion of a participant's defined contribution plan account is distributed in the form of annuity payments, and the annuity payments exceed the amount that would be required to be distributed under the individual account rules based on the value of the annuity, the excess annuity payment amount for a year can be applied towards the RMD due for the year from the remaining portion of the plan account. Regulatory guidance is needed to effectuate. Affected plan types: 401(a), 401(k), 403(b), 457(b), other defined contribution plans, traditional IRAs, SEP IRAs, SIMPLE IRAs, Roth IRA beneficiary accounts	Plan years beginning after 12/29/22
Recovery of retirement plan overpayments (§301)	Retirement plan fiduciaries are given the latitude to decide not to recoup overpayments that were mistakenly made to retirees. If plan fiduciaries choose to recoup overpayments, limitations and protections apply to safeguard retirees. Affected plan types: 401(a), 401(k), ERISA 403(b)	12/29/22
Expansion of Employee Plans Compliance Resolution System (§305)	The Employee Plans Compliance Resolution System (EPCRS) is expanded to: <ul style="list-style-type: none"> ▪ Allow more types of errors to be corrected internally through self-correction ▪ Apply to inadvertent IRA errors ▪ Exempt certain failures to make required minimum distributions from the otherwise applicable excise tax Affected plan types: 401(a), 403(a), 403(b), SEPs, SIMPLE retirement accounts	12/29/22

Near-term provisions > OTHER / OPTIONAL (Cont'd)

Provision (bill section number)	Description	Effective date
Eliminate the “first day of the month” requirement for governmental section 457(b) plans (§306)	<p>Eliminates the “first day of the month” rule for governmental 457(b) plans allowing participants to change their salary deferrals at any time in the month so long as the compensation has not yet been made available to them.</p> <p>Affected plan type: Governmental 457(b)</p>	Tax years beginning after 12/29/22
Employee certifying hardship (§312)	<p>Under certain circumstances, employees are permitted to self-certify that they have had an event that constitutes a hardship (or unforeseeable emergency for governmental 457(b) plans) for purposes of taking a hardship withdrawal.</p> <p>Affected plan types: 401(k), 403(b), governmental 457(b)</p>	Plan years beginning after 12/29/22
Retroactive first year elective deferrals for sole proprietors (§317)	<p>An employer may establish a new 401(k) plan after the end of the taxable year, but before the tax filing date, and treat the plan as having been established on the last day of the taxable year. Such plans may be funded by employer contributions up to the employer’s tax filing date. When the plan is sponsored by a sole proprietor or single member LLC, it may receive employee contributions up to the date of the employee’s tax return filing date for the initial year.</p> <p>Affected plan types: 401(k)</p>	Plan years beginning after 12/29/22
“Unenrolled” participant disclosures (§320)	<p>Plan sponsors are no longer required to distribute certain otherwise-required notices under ERISA and the Code to employees who are not enrolled as participants in their retirement plan. However, the plan is required to send an annual reminder notice of the participant’s eligibility to participate in the plan and any other required notice requested by the participant.</p> <p>Affected plan types: 401(a), 401(k), 403(a), ERISA 403(b)</p>	Plan years beginning after 12/31/22
Use of retirement funds in connection with federally declared disasters (§331)	<p>Participants affected by a federally declared disaster occurring on or after January 26, 2021, are permitted to take a penalty-free withdrawal up to a limited amount from their retirement plan or IRA. Such distributions are considered gross income over 3 years. Distributions can be repaid.</p> <p>Affected plan types: 401(a), 403(a), 403(b), governmental 457(b), IRAs</p>	For disasters occurring on or after 01/26/21
RMD rules for special needs trust (§337)	<p>In the case of a special needs trust established for a beneficiary with a disability, the trust may provide for a charitable organization as the remainder beneficiary.</p> <p>Affected plan types: 401(a), 401(k), 403(a), 403(b), 457(b), IRAs</p>	Calendar years beginning after 12/29/22

Near-term provisions > OTHER / OPTIONAL (Cont'd)

Provision (bill section number)	Description	Effective date
SIMPLE and SEP Roth IRAs (§601)	SIMPLE IRAs are now allowed to accept Roth contributions. In addition, employers are now allowed to offer employees the ability to treat employee and employer SEP contributions as Roth (in whole or in part). Affected plan types: SIMPLE IRAs, SEPs	Taxable years beginning after 12/31/22
Optional treatment of employer matching contributions as Roth contributions (§604)	Permits 401(a), 403(b), or governmental 457(b) plan participants to designate employer-matching contributions as Roth contributions. Affected plan types: 401(k), 403(b), governmental 457(b)	Contributions made after 12/29/22

Beyond 2023: additional provisions to consider

The provisions in this section are effective 12/31/23, and beyond. Although the effective dates for these provisions may not impact a plan immediately, we encourage you to evaluate them and plan accordingly.

The provisions are divided into two categories: *mandatory* and *other / optional*. We've updated these two categories and reclassified provisions, as applicable. 'Mandatory' means either employers are required to implement the SECURE 2.0 provision for their plan, or the provision is applicable by law but does not require a plan change. 'Other / optional' means either the SECURE 2.0 provision may, but is not required, be implemented by a plan sponsor or there are other applicability considerations.

MANDATORY PROVISIONS

Provision (bill section number)	Description	Effective date
Auto-enrollment in new retirement plans (§101)	A newly established 401(k) or 403(b) plan must automatically enroll participants in the respective plan upon becoming eligible and include auto-escalation provisions unless an exception is met. Affected plan types: 401(k), 403(b)	Plan years beginning after 12/31/24
Penalty-free withdrawals for certain emergency expenses (§115)	The 10% early withdrawal penalty tax is waived for withdrawals from a retirement plan account for personal or family emergency expenses. The taxpayer may need to seek an exception to the penalty tax in his or her tax filing. Affected plan types: 401(a), 401(k), 403(b), 403(c), traditional IRAs	Distributions made after 12/31/23
Improving coverage for part-time workers (§125)	Reduces the service requirement for part-time workers to 2 years—down from 3 years—to enroll in ERISA 401(k) and 403(b) plans. Service for 12-month periods beginning before January 1, 2023, are not taken into account for purposes the new participation and vesting rules. Pre-2021 service is disregarded for vesting purposes (retroactive to plan years beginning after 12/31/20) for 401(k) plans. Affected plan types: ERISA 401(k) and 403(b) plans	Plan years beginning after 12/31/24
Retirement savings “lost and found” (§303)	Establishes a national online searchable database to allow individuals to locate the plan administrator of any plan in which they have been a participant or beneficiary. Affected plan types: ERISA 401(a), 401(k), and 403(b) plans	No later than 2 years after 12/29/22

Beyond 2023 > MANDATORY (Cont'd)

Provision (bill section number)	Description	Effective date
Reform of family attribution rule (§315)	<p>Stock attribution rules:</p> <ul style="list-style-type: none"> ▪ Address inequities where spouses with separate businesses reside in a community property state when compared to spouses who reside in separate property states. ▪ Modifies the attribution of stock between parents and minor children. <p>Affected plan types: 401(a), 401(k), 403(b)</p>	Plan years beginning after 12/31/23
Roth plan distribution rules (§325)	<p>Pre-death required minimum distributions for Roth accounts in employer plans are eliminated. Minimum distributions due in 2023 but which may be taken in 2024 are still required to be paid.</p> <p>Affected plan types: 401(a), 401(k), 403(a), 403(b), governmental 457(b)</p>	Taxable years beginning after 12/31/23
Paper benefit statement requirement (§338)	<p>Plans are required to deliver paper retirement account statements to participants at least once a year for defined contribution plans, and once every three years for defined benefit plans. Participants may elect to receive all statements electronically.</p> <p>The other three quarterly statements required for ERISA-covered plans can be provided electronically.</p> <p>Affected plan types: ERISA 401(a), 401(k), and 403(b) defined contribution plans, 401(a) defined benefit plans</p>	The Labor Secretary must update the relevant sections of their regulations and corresponding guidance by 12/31/24, and the annual paper statement is effective for plan years beginning after 12/31/25
Defined benefit annual funding notices (§343)	<p>A defined benefit pension plan must more clearly define its funding issues on the plan's annual funding notice.</p> <p>Affected plan types: ERISA 401(a) defined benefit plans</p>	Plan years beginning after 12/31/23

Beyond 2023 > OTHER / OPTIONAL

OTHER / OPTIONAL PROVISIONS

Provision (bill section number)	Description	Effective date
Saver's match (§103/104)	<p>Replaces the previous tax credit for IRA and retirement plan contributions with a federal matching contribution to the taxpayer's IRA or retirement plan.</p> <p>The Treasury Department is directed to promote this provision to increase awareness and participation.</p> <p>Affected plan types: 401(k), 403(b), governmental 457(b), traditional IRAs</p>	Taxable years beginning after 12/31/26; no later than 7/1/26
Higher catch-up contributions for ages 60-63 (§109)	<p>Raises the annual age-based catch-up contribution amount to the greater of \$10,000 or 150% of regular age 50+ catch-up limit for 401(k), 403(b) and governmental 457(b) plans, and to the greater of \$5,000 or 150% of regular age 50+ catch-up limit for SIMPLE IRA and SIMPLE 401(k) plans. The higher catch-up amount applies at ages 60, 61, 62, and 63.</p> <p>Affected plan types: 401(k), 403(b), governmental 457(b), SIMPLE retirement accounts</p>	Taxable years beginning after 12/31/24
Student loan payments eligible for matching contributions (§110)	<p>Permits a plan sponsor to make matching contributions based on the employee's qualified student loan payments.</p> <p>Affected plan types: 401(k), 403(b) governmental, 457(b), SIMPLE retirement accounts</p>	Plan years beginning after 12/31/23
Allow additional nonelective contributions to SIMPLE plans (§116)	<p>Employers are permitted to make additional nonelective contributions to each employee of the plan in a uniform manner.</p> <p>Affected plan types: SIMPLE plans</p>	Taxable years beginning after 12/31/23
Contribution limit for SIMPLE plans (§117)	<p>In the case of an employer with no more than 25 employees, the annual deferral limit and the catch-up contribution at age 50 are increased by 10%, as compared to the limit that would otherwise apply in the first year this change is effective. Employers with 26 to 100 employees are permitted to provide higher deferral limits, but only if the employer either provides a 4% matching contribution or a 3% employer contribution. Similar changes to contribution limits for SIMPLE 401(k) plans apply. An employer can limit the amount that an employee can contribute to the plan.</p> <p>Affected plan types: SIMPLE IRA qualified salary reduction arrangements, SIMPLE 401(k) plans</p>	Taxable years beginning after 12/31/23

Beyond 2023 > OTHER / OPTIONAL (Cont'd)

Provision (bill section number)	Description	Effective date
Exemption for certain automatic portability transactions (§120)	<p>A retirement plan service provider is permitted to provide employer plans with automatic portability services involving the automatic transfer of a participant's default IRA into the participant's new employer's retirement plan, unless the participant affirmatively elects otherwise.</p> <p>Affected plan types: Traditional IRAs</p>	For transactions occurring on or after the date, which is 12 months after 12/29/22
Starter 401(k) plans for employers with no retirement plan (§121)	<p>An employer that does not sponsor a retirement plan is permitted to offer a starter 401(k) plan (or safe harbor 403(b) plan).</p> <p>Affected plan types: 401(k), 403(b)</p>	Plan years beginning after 12/31/23
Emergency savings accounts linked to individual account plans (§127)	<p>Employers may offer to their non-highly compensated employees' pension-linked emergency savings accounts and may automatically opt employees into these accounts.</p> <p>Affected plan types: ERISA 401(k) and 403(b) plans</p>	Plan years beginning after 12/31/23
Updating dollar limit for mandatory distributions (§304)	<p>Increases the dollar threshold—from \$5,000 to \$7,000—at which a plan could transfer former employees' retirement accounts from a workplace retirement plan into an IRA without participant consent.</p> <p>Affected plan types: 401(a), 401(k), 403(b)</p>	Distributions made after 12/31/23
Exclusion of certain disability-related first responder treatment payments (§309)	<p>First responders may now exclude service-connected disability pension payments from gross income after reaching retirement age. The taxpayer may need to seek exclusion of such payments from gross income in his or her tax filing.</p> <p>Affected plan types: 401(a), 401(k), 403(a), 403(b), governmental 457(b)</p>	Amounts received in taxable years beginning after 12/31/26
Application of top-heavy rules covering excludable employees (§310)	<p>Allows an employer to perform the top-heavy test separately on the non-excludable and excludable employees.</p> <p>Affected plan types: 401(a), 401(k)</p>	Plan years beginning after 12/31/23
Penalty-free distributions for domestic abuse survivors (§314)	<p>Participants may self-certify that they experienced domestic abuse and are permitted to take a penalty-free withdrawal up to a limited amount. Such a distribution will not be subject to the 10% penalty tax on early distributions. Additionally, the participant may repay the withdrawn money over 3 years and will be refunded for income taxes on money that is repaid.</p> <p>Affected plan types: 401(a), 401(k), 403(b), 457(b), traditional IRAs</p>	Distributions made after 12/31/23

Beyond 2023 > OTHER / OPTIONAL (Cont'd)

Provision (bill section number)	Description	Effective date
Benefit accruals under previous plan year (§316)	Permits an employer to adopt a new retirement plan by the due date of the employer's tax return for the fiscal year in which the plan is effective. Also allows discretionary amendments that increase participants' benefits to be adopted by the due date of the employer's tax return. Affected plan types: 401(a), 401(k), 403(a)	Plan years beginning after 12/31/23
Surviving spouse election to be treated as employee (§327)	A surviving spouse may elect to be treated as the deceased employee for purposes of the required minimum distribution rules. Affected plan types: 401(a), 401(k), 403(a), 403(b), 457(b)	Calendar years beginning after 12/31/23
Replacing SIMPLE retirement accounts with safe harbor 401(k) plans (§332)	An employer is allowed to replace a SIMPLE IRA plan with a SIMPLE 401(k) plan or other 401(k) plan that requires mandatory employer contributions during a plan year. Affected plan types: SIMPLE IRAs, SIMPLE 401(k), 401(k)	Plan years beginning after 12/31/23
Long-term care contracts purchased with retirement plan distributions (§334)	Retirement plans can distribute up to \$2,500 per year for the payment of premiums for certain specified long-term care insurance contracts. These distributions are exempt from the additional tax on early distributions. Affected plan types: 401(a), 401(k), 403(a), 403(b), 457(b), IRAs	Effective 3 years after 12/29/2022
Consolidation of defined contribution plan notices (§341)	The Treasury and DOL will amend regulations to permit a plan to consolidate certain required plan notices. Affected plan types: ERISA 401(a), 401(k) and 403(b) plans	Not later than 2 years after 12/29/22
Safe harbor for correcting employee elective deferral failures (§350)	Provides a grace period for correcting "reasonable errors" associated with administering auto-enrollment and auto-escalation features, without penalty, subject to certain requirements. Errors must be corrected prior to 9½ months after the end of the plan year in which the errors were made. Affected plan types: 401(a), 401(k), 403(b), governmental 457(b)	Applicable to errors with a required correction date after 12/31/23

Beyond 2023 > OTHER / OPTIONAL (Cont'd)

Provision (bill section number)	Description	Effective date
Aligning 403(b) and 401(k) hardship distribution rules (§602)	<p>403(b) plan participants may now request a hardship distribution from certain employer contributions in addition to salary deferrals. Also, 403(b) plan participants are no longer required to take a plan loan prior to requesting a hardship distribution.</p> <p>Affected plan types: 403(b) plans</p>	Plan years beginning after 12/31/23
Elective deferrals generally limited to regular contribution limit (§603)	<p>Age 50+ catch-up contributions made to a retirement plan must be designated as Roth contributions for participants earning \$145,000 or more in the prior year from the employer sponsoring the plan. A plan will need to comply with the provision if age 50+ catch-up contributions remain a plan feature for taxable years beginning after 12/31/2023.</p> <p>Affected plan types: 401(k), 403(b), governmental 457(b) plans</p>	Taxable years beginning after 12/31/23

IRA Provisions

Provisions specific to IRAs

The provisions in this section are specific to IRAs only. However, if a provision affects both IRAs **and** retirement plans, refer to the above sections in this guide for additional IRA impacts.

Provision (bill section number)	Description	Effective date
Indexing IRA catch-up limit (§108)	The \$1,000 limit on IRA contributions for individuals who have attained age 50 is now indexed. Affected plan types: IRAs	Taxable years beginning after 12/31/23
529 plan to Roth IRA rollovers (§126)	Permits tax-and penalty-free rollovers of up to \$35,000 over the course of the 529 plan beneficiary's lifetime from 529 college savings plans to Roth IRAs, with limitations. Affected plan types: 529, Roth IRAs	Distributions made after 12/31/23
One-time election for qualified charitable distribution to split-interest entity; increase in qualified charitable distribution limitation (§307)	The IRA charitable distribution provision is expanded to allow for a one-time \$50,000 distribution to charities through charitable gift annuities, charitable remainder unitrusts, and charitable remainder annuity trusts. Section 307 also indexes for inflation the annual IRA charitable distribution limit of \$100,000. Affected plan types: IRAs	Distributions made in taxable years ending after 12/29/22
Individual retirement plan statute of limitations for excise tax on excess contributions and certain accumulations (§313)	The statute of limitations for excise taxes imposed on excess contributions or required minimum distribution failures start running as of the date that a specific excise tax return (Form 5329) is filed for the violation. A 3-year period of limitations begins when the taxpayer files an individual tax return (Form 1040) for the year of the violation, except in the case of excess contributions, in which case the period of limitations runs 6 years from the date Form 1040 is filed. Affected plan types: IRAs (other than Roth IRAs)	12/29/22
Tax treatment of IRA involved in a prohibited transaction (§322)	If an individual has multiple IRAs and engages in a prohibited transaction, only the IRA with respect to which the prohibited transaction occurred will be disqualified. Affected plan types: IRAs	Taxable years beginning after 12/29/22

IRA Provisions (Cont'd)

Provision (bill section number)	Description	Effective date
Elimination of additional tax on IRA corrective distributions of excess contributions (§333)	<p>IRA distributions due to excess contributions and earnings allocable to the excess contribution are exempted from the 10% additional tax on early distributions, depending on specific conditions.</p> <p>Affected plan types: IRAs</p>	12/29/22

Additional provisions

This last section includes provisions for which service providers need more guidance, as well as provisions that impact plan types/programs that TIAA does not offer. Timely updates will be provided as we receive more guidance.

Provision (bill section number)	Description	Effective date
Deferral of tax for certain sales of employer stock to employee stock ownership plan sponsored by S corporation (§114)	<p>The gain deferral provisions of Code section 1042 are expanded, limited to 10% on the deferral to sales of employer stock to S corporation ESOPs, if certain conditions are met.</p> <p>Affected plan types: ESOPs</p>	<p>Sales made after 12/31/27</p>
Assist states in locating owners of applicable savings bonds (§122)	<p>The Treasury Secretary must share certain relevant information with a state that relates to an applicable savings bond registered to an owner with a last known or registered address in that state to help locate the registered owner.</p> <p>Affected plan types: n/a</p>	<p>12/29/22</p>
Certain securities treated as publicly traded in case of employee stock ownership plans (§123)	<p>Certain ESOP rules are updated with respect to whether a security is a “publicly traded employer security” and “readily tradeable on an established securities market,” according to specific conditions.</p> <p>Highly regulated companies with 6 liquid securities that are quoted on non-exchange markets may now treat their stock as “public” for ESOP purposes, thus making it easier for these companies to offer ESOPs to their U.S. employees.</p> <p>Affected plan types: ESOPs</p>	<p>Plan years beginning after 12/31/27</p>
Modification of age requirement for qualified ABLE programs (§124)	<p>The age is increased by which blindness or disability must occur for an individual to be an eligible individual by reason of such blindness or disability for an ABLE program.</p> <p>Affected plan types: ABLE programs</p>	<p>Taxable years beginning after 12/31/25</p>
Qualifying longevity annuity contracts (§202)	<p>QLACs may be sold with spousal survival rights, and free-look periods are permitted up to 90 days with respect to contracts purchased or received in an exchange on or after July 2, 2014.</p> <p>Affected plan types: QLACs</p>	<p>Contracts generally purchased or received in an exchange on or after 12/29/22</p>

Additional provisions (Cont'd)

Provision (bill section number)	Description	Effective date
Insurance-dedicated exchange-traded funds (§203)	<p>The Treasury Department must update the regulations to reflect the ETF structure to provide that ownership of an ETF's shares by certain types of institutions that are necessary to the ETF's structure does not preclude look-through treatment for the ETF, as long as it otherwise satisfies the current-law requirements for look-through treatment, thus facilitating the creation of a new type of "insurance-dedicated" ETF.</p> <p>Affected plan types: 401(a), 401(k), 403(b), 457(b), IRAs</p>	Segregated asset account investments made on or after 7 years after 12/29/22
Performance benchmarks for asset allocation funds (§318)	<p>The Labor Secretary is directed to update the DOL's regulations so that an investment that uses a mix of asset classes can be benchmarked against a blend of broad-based securities market indices, subject to certain requirements, to allow better comparisons and aid participant decision making.</p> <p>Affected plan types: ERISA 401(a), 401(k) and 403(b) plans</p>	No later than 2 years after 12/29/22
Report to Congress on reporting and disclosure requirements (§319)	<p>The Treasury Department, DOL, and Pension Benefit Guaranty Corporation are directed to review reporting and disclosure requirements for pension plans and to make recommendations to Congress to consolidate, simplify, standardize, and improve such requirements.</p> <p>Affected plan types: 401(a), 401(k), 403(a), 403(b)</p>	No later than 3 years after 12/29/22
Review of pension risk transfer interpretive bulletin (§321)	<p>The DOL must review the current interpretive bulletin governing pension risk transfers to determine whether amendments are warranted and to report to Congress its finding, including an assessment of any risk to participants.</p> <p>Affected plan types: ERISA 401(a) defined benefit plans</p>	Not later than 1 year after 12/29/22
Treasury guidance on rollovers (§324)	<p>The Treasury Secretary is required to simplify and standardize the rollover process by issuing sample forms for direct rollovers that may be used by both the incoming and outgoing retirement plans or IRAs.</p> <p>Affected plan types: 401(a), 401(k), 403(a), 403(b), governmental 457(b), IRAs</p>	No later than 1/1/25
Report to Congress on section 402(f) notices (§336)	<p>The Government Accountability Office is required to issue a report to Congress on the effectiveness of section 402(f) notices.</p> <p>Affected plan types: 401(a), 401(k), 403(b), governmental 457(b), IRAs</p>	No later than 18 months after 12/29/22
Defined contribution plan fee disclosure improvements (§340)	<p>The DOL must review its fiduciary disclosure requirements in participant-directed individual account plan regulations.</p> <p>Affected plan types: ERISA 401(a), 401(k) and 403(b) plans</p>	No later than 3 years after 12/29/22

Additional provisions (Cont'd)

Provision (bill section number)	Description	Effective date
Report on pooled employer plans (§344)	<p>The Labor Secretary must conduct a study on the new and growing pooled employer plan industry.</p> <p>Affected plan types: ERISA 401(a), 401(k) and 403(b) PEPs</p>	<p>Within 5 years of 12/29/22 and every 5 years thereafter</p>
Worker Ownership, Readiness and Knowledge (WORK) Act (§346)	<p>Requires Department of Labor to establish a program to foster employee ownership programs through existing and new state programs.</p> <p>Affected plan types: Employee ownership programs</p>	<p>No later than 180 days after 12/29/22</p>
Report by the Secretary of Labor on the impact of inflation on retirement savings (§347)	<p>The DOL Secretary, in consultation with the Treasury Secretary, must report on the impact of inflation on retirement savings.</p> <p>Affected plan types: n/a</p>	<p>Not later than 90 days after 12/29/22</p>
Amendments relating to Setting Every Community Up for Retirement Enhancement Act of 2019 (§401)	<p>Technical and clerical amendments to effectuate SECURE Act 1.0 of 2019. These amendments do not change the substance of the provisions.</p> <p>Affected plan types: 401(k), 403(b), IRAs (including Roth IRAs)</p>	<p>Retroactively effective as if included in SECURE Act of 2019, enacted 12/20/19</p>
Charitable conservation easements (§605)	<p>Charitable deductions are no longer allowed for a qualified conservation contribution if the deduction claimed exceeds two-and-one-half times the sum of each partner's relevant basis in the contributing partnership, subject to specific conditions.</p> <p>Taxpayers now have the opportunity to correct certain defects in an easement deed (excluding easements involved in abusive transactions).</p> <p>Affected plan types: n/a</p>	<p>Contributions made after 12/29/22</p>
Relating to judges of the Tax Court (§701)	<p>Changes to pension annuity provisions for U.S. Tax Court judges include pensions of the surviving spouses and dependent children of judges who have been assassinated.</p> <p>Affected plan types: Retirement plans for U.S. Tax Court judges</p>	<p>Generally, 12/29/22</p>
Special judges of the Tax Court (§702)	<p>Providing parity between special trial judges of the Tax Court and other federal judges, a retirement plan is established under which a special trial judge may elect to receive retired pay in a similar manner and under similar rules to regular judges.</p> <p>Affected plan types: Retirement plans for federal special trial judges</p>	<p>180 days after 12/29/22</p>



TIAA remains committed to helping you better understand the new SECURE 2.0 Act provisions—whether mandatory or optional.

Visit and bookmark [TIAA.org/SecureAct2](https://www.tiaa.org/SecureAct2) for regular updates and information. We are here to support you every step of the way.

Contact your TIAA relationship manager or consultant relations director if you have any questions or would like to discuss the SECURE 2.0 Act in more detail. If you are served exclusively by the Administrator Telephone Center, call **888-842-7782**, weekdays, 8 a.m. to 8 p.m. (ET).

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SECURE 2.0 Act enacted into law: frequently asked questions

The Securing a Strong Retirement Act (SECURE 2.0 Act of 2022), an important piece of retirement legislation, was signed into law on December 29, 2022. This legislation includes provisions intended to make retirement plans more widely accessible; reinforces the importance of saving; and offers many American workers the opportunity for greater financial security in retirement. Now is the time for plan sponsors and consultants to understand how the provisions of the new law may impact retirement plans. As a supplement to the [provision summary guide](#), included in this document are answers to frequently asked questions (FAQ) to provide you with a deeper understanding of the provisions.

We expect to receive and provide continued guidance regarding the implementation of the provisions and will share this information with you through timely updates. Plan sponsors should review all provisions with their legal counsel to determine how a provision may impact their plan(s).

Important information about required plan amendments

As described in Section 501 of the Act, plan amendments are allowed on or before the last day of the first plan year beginning on or after January 1, 2025 (2027 in the case of governmental plans), as long as the plan operates in accordance with such amendments as of the effective date of a requirement or amendment. Plan amendment dates are aligned under the SECURE 2.0 Act, the CARES Act, and the Taxpayer Certainty and Disaster Tax Relief Act of 2020 to these new dates (instead of 2022 and 2025).

This SECURE 2.0 Act FAQ is organized into three sections:

1. Near-term provisions to focus on today
2. Beyond 2023: Additional provisions to consider
3. Provision specific to IRAs only

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Frequently asked questions – Near-term provisions to focus on today

The provisions in this section are likely to impact retirement plans within the next year. Some of these near-term provisions became effective on 12/29/22—the date of SECURE 2.0 Act enactment—and other provisions became effective shortly thereafter.

Provision: Required minimum distribution (RMD) age increase (§107)

1. If an employee reaches RMD age while working for the plan sponsor, can the employee suspend his or her RMD from the sponsor's retirement plan?

Generally, an employee is required to take an RMD by April 1 following the later of the calendar year in which the employee reaches the RMD Applicable Age or retires (if the sponsor's retirement plan allows this). An employee's RMD Applicable Age is:

- 70 ½ if the participant was born before 7/1/1949;
- 72 if the participant born on or after 7/1/1949 or in 1950;
- 73 if the participant was born between 1951 and 1958;
- 75 if the participant was born in 1960 or after

Federal guidance is needed to determine the RMD Applicable Age for participants born in 1959.

If a participant turned 72 in 2022 but is still actively employed at the plan sponsor and the plan uses the "later of age 73 or retirement" approach; the participant is not due an RMD in 2022.

Provision: Small, immediate financial incentives for contributing to a plan (§113)

1. Are employers allowed to offer de minimis incentives such as low dollar amount gift cards to employees who contribute to a plan?

Yes. The provision exempts de minimis financial incentives made by the employer to its employees from prohibited transaction and contingent benefit rules applicable to 401(a), 401(k) and 403(b) plans, provided such incentives are not paid for with plan assets and are provided to employees who elect to have the employer make contributions under the arrangement instead of receiving cash.

2. Is a gift card taxable to the employee and reportable on their W2?

Generally, yes. Participants should consult their tax advisor.

3. Can plan sponsors use plan assets to cover or offset the cost of this incentive?

No. The provision only allows employers to provide de minimis incentives to their employees. Also, employers are prohibited from using plan assets to provide the incentives.

Provision: Enhancement of 403(b) plans (§128)

1. Does SECURE 2.0 Act permit CITs in 403(b) plans?

The practical implication is that CITs are not permitted in 403(b) plans until federal securities law changes are made. While SECURE 2.0 Act amended the federal tax code to permit CITs in 403(b) plans, federal securities laws still need to be amended to allow 403(b) plans to invest in CITs.

2. When will the federal securities law change be made?

TIAA does not have an estimated timeframe for whether or when federal securities laws may be amended.

Provision: Eliminate the “first day of the month” requirement for governmental section 457(b) plans (§306)

1. What is the impact of the elimination of the “first day of the month” rule in SECURE 2.0 Act?

SECURE 2.0 Act amended the rule to allow participants in governmental 457(b) plans to defer compensation in a current month as long as the deferral agreement is entered into before the compensation is made available (subject to plan terms). The provision does not modify the deferral timing rules for 457(b) plans of non-governmental tax-exempt entities.

2. Is this a mandatory provision and does it apply to all employees in governmental section 457(b) plans?

Plan sponsors have the option to adopt this provision. If the plan adopts this provision, it allows participants in governmental 457(b) plans to defer compensation in a current month as long as the deferral agreement is entered into before the compensation is made available. This change brings governmental 457(b) elective deferral timing in alignment with 401(k) and 403(b) plans.

Provision: Treatment of employer matching contributions or nonelective contributions as Roth contributions (§604)

1. Is this a mandatory provision?

No, it appears that plans have the option to permit employees to designate employer matching and/or nonelective contributions as designated Roth contributions.

2. Are Roth-designated employer matching contributions and/or nonelective contributions required to be vested?

Yes. This option is only available if employer contributions are fully vested.

3. Are employer matching and/or nonelective contributions, designated as Roth, taxable to participants?

If a plan allows, and a participant elects to have matching contributions and/or employer nonelective contributions made to the plan as Roth contributions, the contributions are taxable income for the participant. Note: Sponsors should review their payroll procedures or talk with their payroll provider to determine if system changes may be needed.

Frequently asked questions – Beyond 2023: Additional provisions to consider

The provisions in this section become effective on 12/31/23, and beyond. Although the effective dates for these provisions may not impact a plan immediately, we encourage you to evaluate them and plan accordingly.

Provision: Auto-enrollment in new retirement plans (§101)

1. Will new 401(k) or 403(b) plans be required to include automatic enrollment and auto-escalation?

Yes, it is a mandatory provision that applies to new 401(k) and ERISA 403(b) plans with a start date after 12/31/24. Plans established before 12/31/24 are not required to provide auto enrollment and auto escalation.

2. If a plan that was implemented prior to 12/31/24 has automatic enrollment, is it possible to eliminate the automatic enrollment provision?

Yes, an existing plan may generally be amended to eliminate the automatic enrollment feature subject to certain notice and disclosure requirements.

Provision: Saver's match (§103/104)

1. What triggers the saver's match?

The provision provides for a straight 50% match percentage that applies until the taxpayer reaches the threshold modified adjusted gross income ("MAGI") under the provision (\$41,000 for joint filers, for example) (indexed), at which point the 50% figure phases out over a phaseout amount (\$30,000 for joint filers). Thus, at \$71,000 or higher for a joint filer, the match percentage is zero. Participants should consult with their tax advisor to determine if they can take advantage of this provision.

Provision: Catch-up contributions (§109)

1. Did SECURE 2.0 Act increase the age 50+ catch-up contribution limit?

Effective 1/1/24, this provision allows employers to raise the annual catch-up contribution amount to \$10,000 for 401(k), 403(b) and governmental 457(b) plans, and to \$5,000 for SIMPLE IRA or SIMPLE 401(k) plans. The higher catch-up amount applies at ages 60, 61, 62, and 63.

2. If someone turns ages 60 through 63 during the year, can they make a mid-year election for the extra catch-up contribution?

A participant is eligible to make increased age 50+ catch-up contributions to the plan in the year they will attain ages 60 through 63. A participant does not need to wait until their actual birthday in the year to make increased catch-up contributions.

Provision: Student loan payments eligible for matching contributions (§110)

1. What is a student loan match?

The student loan match feature permits an employer to make matching contributions under a 401(k) plan, 403(b) plan, governmental 457(b) plan, or SIMPLE IRA based on "qualified student loan payments." A qualified student loan payment is defined as payment made by an employee in repayment of a qualified educational loan incurred by the employee solely to pay qualified higher education expenses of the employee, but only up to the lesser of the 402(g) limit or the employee's compensation.

2. Can employees have an employer match on elective deferrals and on qualified student loan repayments or does it have to be one or the other?

A match can be made on elective deferrals and student loan payments. For this purpose, a qualified student loan payment is not treated as an elective contribution to the plan, but any matching contribution made with respect to such payment is treated as a matching contribution. The following rules apply:

- The amount of student loan payments considered for this purpose cannot exceed the applicable current law limit on the employee’s elective contributions to the plan, reduced by the employee’s actual elective contributions.
- The employee must certify (annually, except with respect to a SIMPLE IRA) to the employer that payment has been made on a qualified education loan (the provision provides that employers may rely on employee certifications).
- Matching contributions on student loan payments may only be made if all of the following conditions are met:
 - on behalf of employees otherwise eligible to receive matching contributions on account of elective deferrals;
 - at the same rate as matching contributions on elective contributions;
 - if all employees eligible for matches on elective contributions are also eligible for matches on student loan payments; and
 - if the plan provides matching contributions on student loan payments, they are required to vest in the same manner as matches on elective contributions.

3. Does the qualified student loan match apply to federal and private loans?

The term “qualified education loan” means any indebtedness incurred by the taxpayer solely to pay qualified higher education expenses that are:

- Incurred on behalf of the taxpayer, the taxpayer’s spouse, or any dependent of the taxpayer as of the time the indebtedness was incurred;
- Paid or incurred within a reasonable period of time before or after the indebtedness is incurred; and
- Attributable to education furnished during a period during which the recipient was an eligible student.

Qualified education loans include indebtedness used to refinance indebtedness which qualifies as a qualified education loan. The term “qualified education loan” does not include any indebtedness owed to a person who is related to the taxpayer or to any person by reason of a loan under any qualified employer plan.

4. What documentation is required to qualify for the qualified student loan match? Can the employer require employees to provide proof of their student loan payment?

An employer can require (but is not so required) for an employee to provide documented proof of student loan payments. Regardless, if the employee provides documented proof, the employee must certify annually to the employer that payment has been made on a qualified education loan.

5. How often would the qualified student loan match need to be made?

The provision requires the IRS to issue regulations that permit plans to make matching contributions for qualified student loan payments at a different frequency than matching contributions are otherwise made to the plan, provided that the frequency is not less than annually.

6. Is the matching contribution on a student loan repayment counted for purposes of the Actual Contribution Percentage test (ACP)?

Yes, but for purposes of the nondiscrimination test applicable to elective contributions, the student loan payment match provision permits a plan to test separately the employees who receive matching contributions on student loan repayments.

7. How would this impact a parent-employee helping to repay their child's loans?

Parents making payments on behalf of the employee would not be eligible for match. The provision permits employers to make matching contributions under a 401(k) plan, 403(b) plan, governmental 457(b) plan, or SIMPLE IRA with respect to "qualified student loan payments," which are generally defined as a payment **made by an employee** in repayment of indebtedness incurred by the employee solely to pay qualified higher education expenses.

Provision: Penalty-free withdrawals for certain emergency expenses (§115)

1. What is the maximum aggregate distribution amount that may be treated as a personal emergency or family emergency expenses?

The maximum aggregate amount that may be treated as an emergency personal expense distribution by any individual in any calendar year cannot exceed the lesser of 1) \$1,000, or 2) an amount equal to the excess of the individual's total nonforfeitable accrued benefit under the plan or IRA, determined as of the date of each such distribution, over \$1,000. (For example, if an individual has a total nonforfeitable account balance of \$1,500, the maximum distribution would be \$500.)

Provision: Improving coverage for part-time workers (§125)

1. Does the long-term part-time rule apply to 403(b) plans?

Yes, SECURE 2.0 Act expanded coverage to ERISA 403(b) plans and shortened the years of service requirement from three to two years for 403(b) plans beginning in 2025.

2. Are plan sponsors required to make employer contributions to long-term part-time employees eligible to participate?

The provision applies to eligibility for making elective deferrals and vesting of employer contributions. The provision does not require a plan to change its eligibility requirements for employer contributions. The provision allows employers to exclude such employees for purposes of 401(a)(4) general nondiscrimination testing, 401(k)(12)/(13) safe harbor requirements, and 401(m)(2) Actual Contribution Percentage (ACP) testing and 410(b) coverage testing.

3. How does this new provision affect vesting?

In the case of employees who are eligible solely by reason of the rule for long-term, part-time employees, each 12-month period for which the employee has at least 500 hours of service is treated as a year of service for vesting purposes and is not treated as a one-year break in service. For 401(k) plans, service for 12-month periods beginning before January 1, 2021 (January 1, 2023, for 403(b) plans), is generally not required to be considered.

4. Are the two years for purposes of eligibility required to be two consecutive years?

Yes, ERISA-covered 401(k) and 403(b) plans are prohibited from requiring, as a condition of participation, a period of service extending beyond: (a) one year of service (using the 1,000-hour rule); or (b) two *consecutive* years of service where the employee completes at least 500 hours of service. This rule does not prevent such plans from excluding employees before they attain the age of 21.

5. When do plan sponsors need to begin tracking the hours to comply with this provision?

For ERISA 403(b) plans, employers need to begin tracking hours of service in 2023. For 401(k) plans, employers should have begun tracking hours of service in 2021.

The SECURE Act 1.0 permits employers to disregard 12-month periods beginning before January 1, 2021, for purposes of the 3-year rule for long-term, part-time employees in 401(k) plans.

SECURE 2.0 Act permits employers to disregard 12-month periods beginning before January 1, 2023, for purposes of the 2-year rule for long-term, part-time employees (impacts ERISA 401(k) and 403(b) plans).

Employers must comply with both rules.

6. How does the long-term part-time (LTPT) rule coordinate with the universal availability rule for 403(b)?

ERISA 403(b) plans are required to comply with both universal availability and the LTPT rule. If a plan sponsor allows all employees (with no exclusions) to make elective deferrals, the long-term, part-time rule does not practically impact the plan sponsor because the sponsor is not excluding anyone based on hours worked. The provision will impact years of service credited for vesting purposes of employer contributions.

7. How does the LTPT rule effect the status of student teachers and/or seasonal workers?

SECURE 2.0 Act amended ERISA to provide that ERISA-covered 401(k) and 403(b) plans are prohibited from requiring, as a condition of participation, a period of service extending beyond: (a) one year of service (using the 1,000-hour rule); or (b) two consecutive years of service where the employee completes at least 500 hours of service each year.

A 403(b) plan may not exclude employees based on a generic classification such as:

- Part-time
- Temporary
- Seasonal
- Substitute teacher
- Adjunct professor
- Collectively bargained employee

The federal tax code allows a 403(b) plan to exclude certain employees, including: (i) employees who normally work less than 20 hours per week; (ii) students performing services described in IRC Section 3121(b)(10); (iii) non-resident aliens described in IRC Section 410(b)(3)(C); and (iv) employees who are eligible to make elective deferrals under another 401(k), 403(b) or 457(b) plans sponsored by the same employer. The SECURE 2.0 Act provision does not address whether students who work more than 500 hours of service in two consecutive years can continue to be excluded under the federal tax code “student” exclusion.

An ERISA 403(b) plan must comply with both the federal tax code and ERISA rules simultaneously. Complying with both rules may result in employees who normally work less than 20 hours per week becoming eligible to make elective deferrals because they satisfy the ERISA “two consecutive years of service where the employee completes at least 500 hours of service each year” test.

401(a)/(k) plans may be able to exclude employees based on a job classification subject to annual nondiscrimination testing.

TIAA recommends plan sponsors consult with legal counsel to determine if an exclusion is permissible.

Provision: Retirement savings “lost and found” (§303)

1. Does the retirement lost and found eliminate the requirement for a plan sponsor to file Form 8895?

No. The provision requires the creation of a new online searchable database to help participants search for their own retirement accounts.

Provision: Roth plan distribution rules (§325)

1. If a plan has both pretax and Roth contributions, is an RMD required only from the pretax source?

For 2023, RMDs are due on a participant's entire plan account balance, including any Roth sources. For 2024 and beyond, plan Roth sources in a participant's account are not subject to RMDs.

Provision: Aligning 403(b) and 401(k) hardship distribution rules (§602)

1. If a plan does not currently allow for hardship distributions, is the plan sponsor now required to allow them in the plan?

Hardship distributions are optional. A plan sponsor does not have to offer hardship distributions in its plan.

2. If a 403(b) plan currently limits hardships to deferrals only, are they now "required" to permit distributions from other sources?

No, the provision permits, but does not require, a plan to allow 403(b) plan participants to receive hardship distributions from: (1) salary reduction contributions; (2) QNECs; (3) QMACs; and (4) the earnings on any salary reduction contributions, QNECs, and QMACs.

Provision: Elective deferrals generally limited to regular contribution limit (§603)

1. If a plan allows age 50+ catch-up contributions, must such contributions made by employees who make more than \$145,000 be designated as Roth?

Yes. If a plan allows age 50+ catch-up contributions and has employees who make more than \$145,000 per year (as indexed), age 50+ catch-up contributions are required to be Roth for those employees who made more than \$145,000 in the prior calendar year. Note: Plans are not required to permit age 50+ catch-up contributions, and this provision does not apply to the 403(b) 15-year special catch up or the 457(b) 3-year special catch up.

2. Can a plan limit age 50+ catch-up contributions to Roth only for all employees, regardless of an employee's compensation?

The legislation does not directly address whether a plan could require all catch-up contributions to be made on a Roth basis, including for those with wages of \$145,000 or less. However, participants are generally required to have a choice of pretax and/or Roth for elective deferrals in general and cannot limit deferrals to Roth only. Also, the legislative text prohibits catch-up contributions from being offered unless all eligible participants *may* make the participant's additional elective deferrals as designated Roth contributions. The legislative text seems to require that participants who make \$145,000 or less are given the option to make pretax or Roth age 50+ catch-up contributions.

3. If an employee has more than one job is the \$145,000 per year compensation threshold based on their aggregate compensation?

No, compensation is determined by looking back at compensation earned in the prior calendar year from the employer sponsoring the plan only. Compensation from unrelated employers does not count for purposes of this provision.

4. Is an amendment required to add Roth by 1/1/23 necessary to accommodate the new catch-up rule (i.e. amendment prior to the delayed amendment period set by the SECURE 2.0 Act)?

Plans and IRAs are generally allowed to amend their plan up to the last day of the first plan year that begins on or after January 1, 2025 (January 1, 2027, for governmental and union plans), with respect to any amendment that is made to a plan or IRA pursuant to any changes made by SECURE 2.0 Act or regulations issued thereunder. However, adding a designated Roth source alone is not a SECURE 2.0 Act amendment (e.g., adding a designated Roth source to allow participant to make regular elective deferrals and age 50+ catch-up contributions as Roth). Therefore, a sponsor would need to amend their plan document before adding a designated Roth source.

Frequently asked questions - Provision specific to IRAs only

The provision in this section is specific to IRAs only. However, if a provision affects both IRAs **and** retirement plans, refer to the above sections in this FAQ for additional IRA impacts.

Provision: 529 plan to Roth IRA rollovers (§126)

1. Does the 529 have to have the same beneficiary for 15 years in order to direct a rollover of a remaining balance to a Roth IRA?

Although a 529 beneficiary generally may be changed to a member of the family of the prior beneficiary (subject to any restrictions imposed by the state), the legislation does not address whether the same beneficiary or subsequent beneficiary is eligible to roll over amounts from the 529 plan account (assuming the account has been in existence for at least 15 years). This being said, the intent of the legislation appears to place a lifetime limit on transfers from a specific 529 plan account to a Roth IRA of \$35,000, regardless of who is the beneficiary of that 529 plan account.

2. If the account beneficiary for the 529 is over 50, can the beneficiary take advantage of age 50+ catch-up contributions to the Roth IRA?

The beneficiary of the 529 is the person who can roll over amounts from the 529 plan to a Roth IRA, not the 529 account owner. Each year, the maximum amount that may be transferred tax-free cannot exceed the Roth IRA contribution limit for the designated beneficiary for that year (including any catch-up limit), reduced by the aggregate amount of contributions made for the designated beneficiary for all traditional and Roth IRAs during the year. Thus, the amount that can be transferred cannot exceed either the Roth IRA dollar limit or the amount of compensation the designated beneficiary earned that year. In addition, a distribution is not eligible for this special treatment to the extent that the aggregate amount of such distributions with respect to the designated beneficiary for all years exceeds \$35,000.



TIAA remains committed to helping you better understand the new SECURE 2.0 Act provisions. Visit and bookmark [TIAA.org/SecureAct2](https://www.tiaa.org/SecureAct2) for regular updates and information. We are here to support you every step of the way.

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SECURE 2.0: Key Provisions*

Voya applauds the passing of Secure Act 2.0 into law. This new legislation aligns with Voya's mission to make a secure financial future possible for all by providing workers an opportunity for greater access to retirement savings.

SECURE 2.0 includes many provisions related to retirement plans and IRAs that expand participant coverage, help participants preserve income and simplify plan rules and administrative procedures. This summary includes highlights but is not intended to be an exhaustive list.

Immediate mandatory changes effective in 2023

What's changing	What it means
<p>Required Minimum Distributions (RMD) Age Increases</p> <p>The required age for an RMD beginning date is increased for participants and spousal beneficiaries of a participant that died prior to reaching the RMD beginning date.</p> <p>New RMD ages are:</p> <ul style="list-style-type: none">• 73 for an individual who attains age 72 after December 31, 2022, and age 73 before January 1, 2033• 75 for an individual who attains age 74 after December 31, 2032	<p>Impact: Mandatory</p> <p>It allows participants to keep their savings in their retirement plan for a longer period.</p> <p>Effective date: Calendar years after December 31, 2022</p> <p>Applicable plans: 401(a), 401(k), 403(b), 457(b) plans and traditional IRAs</p>
<p>RMD Excise Tax Reduction</p> <p>The Internal Revenue Code currently imposes a 50% excise tax on RMD's that are not taken in a timely manner. SECURE 2.0 reduces the excise tax from 50% to 25% (and to 10% if the correction is made in a timely manner).</p>	<p>Impact: Mandatory</p> <p>Lower penalties allow participants to preserve more of their retirement income.</p> <p>Effective for taxable years beginning after December 29, 2022</p> <p>Applicable plans: 401(a), 401(k), 403(b), 457(b) plans and traditional IRAs</p>
<p>Broadened Internal Revenue Service (IRS) 10% Premature Distribution Tax Penalty Exemption for Public Safety Employees and New Exemption for Private Sector Firefighters</p> <p>"Qualified public safety employees" in governmental plans who are age 50 or older have an exemption from the IRS 10% premature distribution penalty tax. This provision adds the exemption for private sector firefighters and broadens exemption for governmental employers to earlier of age 50 or 25 years of service under the plan.</p>	<p>Impact: Mandatory</p> <p>Income preservation for a broader group of public safety employees and private firefighters.</p> <p>Effective for distributions made after December 29, 2022</p> <p>Applicable plans: 401(a), 401(k) and 403(b) plans</p>

Optional changes effective in 2023

What's changing

Credit for Small Employer Startup Costs

1. **Start-up credit** – Increases the startup credit for employers with between 1 and 50 employees from fifty (50%) percent to one hundred (100%) percent up to \$5,000. Note: The increase does not apply to plans of employers with between 51 and 100 employees and that credit remains at fifty (50%).
2. **Employer Contribution Credit** – An additional credit is provided for employer contributions (except in the case of defined benefit plans) equal to 100% in the year in which the plan is established. This credit excludes contributions made for employees earning \$100,000 or more in wages.

(a) Credit for employers with 50 or fewer employees

The amount of the additional credit generally will be a percentage of the amount contributed by the employer on behalf of employees, up to a per-employee cap of \$1,000.

Taxable year beginning after the taxable year during which plan is established	Applicable Percentage
Year 1	100%
Year 2	75%
Year 3	50%
Year 4	25%
Year 5	0%

(b) Credit Phase-in for employers with between 51 and 100 employees

The credit is reduced by an amount equal to the product of (i) the amount otherwise so determined under paragraph (2), multiplied by (ii) a percentage equal to 2 percentage points for each employee of the employer for the preceding taxable year in excess of 50 employees.

* The startup tax credit is available to employers starting a new plan by joining a MEP or PEP. The credit will be available for the first three years an employer starts a plan under a MEP or PEP regardless of how long the MEP or PEP has been in existence.

Designation of a Fiduciary for a Pooled Employer Plan (PEP)

Permits a PEP to designate a named fiduciary (other than a PEP employer) to collect employer contributions provided the fiduciary implements written contribution collection procedures that are reasonable, diligent, and systematic.

What it means

Impact: Optional

Provides an additional financial incentive for small employers to offer a retirement plan

Effective for taxable years beginning after December 31, 2022

Applicable plans: Section 401 defined contribution plans, SEPs, and SIMPLE IRAs

Impact: Optional

Creates new options for PEP sponsors

Effective date: Plan years after December 31, 2022

Applicable plans: 401(a), 401(k), and 403(b) plans

What's changing

What it means

Extension of Multiple Employer Plans (MEPs) to 403(b) Plans

Permits 403(b) plans to participate in a MEP, (provided that the MEP is only comprised of either governmental or non-governmental employers). Additionally, 403(b) plans subject to ERISA may participate in a 403(b) pooled employer plan ("PEP").

Impact: Optional

Opportunity to consider innovations in 403(b) plan structures

Effective date: Plan years after December 31, 2022

Applicable plans: 403(b) plans

Qualified Birth and Adoption Distributions (QBAD)

A participant who has taken a QBAD may repay that distribution to an eligible retirement plan accepting rollovers during the three-year period beginning on the day after the date on which the QBAD was received.

Impact: Optional

Establishes time limit for repayment of QBADs for those participants who wish to repay

Effective date: Retroactive effective date – QBADs made after December 31, 2019

Applicable plans: 401(a), 401(k), 403(b), governmental 457(b) plans and traditional IRAs

Self-certification of Hardships and Unforeseen Emergency Withdrawals

A plan administrator may rely on an employee certification that a hardship withdrawal or unforeseen emergency distribution is based upon an immediate and heavy financial need, as described in the Treasury regulations, and that the amount requested is no more than is necessary.

Impact: Optional

Allows plan sponsors the choice to accept self-certification for hardships and unforeseen emergency distributions

Effective date: Plan years beginning after December 29, 2022

Applicable plans: 401(k) and 403(b) plans (hardship withdrawals); governmental 457(b) plans (unforeseeable emergency distributions)

Eliminating Unnecessary Plan Requirements for Unenrolled Participants

Provided a participant has received a summary plan description and documents related to eligibility, a defined contribution plan is not required to provide disclosures or notices to employees who are eligible but have not enrolled in the plan, other than an annual reminder notice of eligibility and applicable deadlines, as well as any required documents upon a participant's request.

Impact: Optional

Evaluate compliance notice and communication practices for efficiency

Effective date: Plan years after December 31, 2022

Applicable plans: 401(a), 401(k), and 403(b) defined contribution plans

What's changing

What it means

Treatment of Employer Contributions as Roth

An employer may designate matching contributions or nonelective contributions as Roth contributions, provided that the participant is fully vested in such Roth employer contributions.

*As drafted, SECURE 2.0 created pending questions regarding the Employer FICA obligations for such contributions.

Impact: Optional

Effective date: Contributions made after December 29, 2022

Applicable plans: 401(k), 403(b) or governmental 457(b) plans

Qualified Disaster Distributions and Loans

Permits participants who meet certain criteria to take a distribution up to \$22,000 (aggregated across all of a participant's plan accounts, including IRAs) due to a federal disaster declaration. Distributions are not subject to the IRS 10% premature distribution penalty tax and can be amortized as income over a three-year period. Amounts distributed prior to the disaster to purchase a home can be recontributed. The employer is responsible for monitoring the \$22,000 limit for each of the plans within its controlled group.

Increases the loan limit due to a federal disaster declaration from \$50,000 to \$100,000 and delays the repayment for up to a year.

Impact: Optional

Effective date: Retroactive application to disasters occurring on or after January 26, 2021

Applicable plans: 401(a), 401(k), 403(b), or governmental 457(b) plans (distributions and loans), traditional IRAs (distributions only)

Modification of "first day of the month" Requirement for Governmental 457(b) Plans

Currently, governmental 457(b) plan participants must make a deferral election in the month prior to the month in which compensation is paid. SECURE 2.0 changes this rule to deferral elections effective with respect to compensation not yet paid or made available.

Impact: Optional

Aligns deferral timing of deferral elections in a governmental 457(b) plan with elections under 401(k) and 403(b) plans

Effective for taxable years beginning after December 29, 2022

Applicable plans: governmental 457(b) plans

What's changing

What it means

Roth Catch-up

If a participant's prior year FICA wages from the employer sponsoring the plan exceeded \$145,000, then a participant's Age 50+ Catch-up deferrals can only be made as a Roth contribution. The \$145,000 threshold is subject to IRS annual cost of living adjustments in \$5,000 increments.

Impact: Mandatory (for plans that allow Age 50+ Catch-up Contributions)

If the plan allows Age 50+ Catch up contributions, it will also need to allow for Roth contributions.

Effective date: Tax years after December 31, 2023

Applicable plans: 401(k), 403(b) and governmental 457(b) plans

Separate Top-Heavy Testing of Excludable Employees

Currently, separate non-discrimination testing permits employees under 21 years of with less than 1 year of service to be excluded (the "Excludable Employees") since the Internal Revenue Code does not require them to be eligible for plan participation.

Separate non-discrimination testing incentivizes plan sponsors to include these Excludable Employees in the plan since their deferral rates will have no impact on non-discrimination tests. The same is not true for Top-Heavy testing. Including the Excludable Employees could cause Top-Heavy Test failures and be expensive for plan sponsors.

Impact: Optional

SECURE 2.0 eliminates the incentive to exclude these formerly excluded employees from the plan.

Effective date: Plan years after December 31, 2023

Applicable plans: 401(a) and 401(k) plans

Clarification of Substantially Equal Periodic Payment Rule

A substantially equal periodic payment is not subject to an IRS 10% premature distribution penalty tax. SECURE 2.0 clarifies that the exception still applies if the amount is rolled over or exchanged for an annuity that satisfies RMD requirements.

Impact: Mandatory

Effective date: Transfers, rollovers, exchanges, and distributions (as applicable) occurring on or after December 31, 2023, and effective for annuity distributions beginning after December 29, 2022

Applicable plans: 401(a), 401(k), 403(b) plans and traditional IRAs

What's changing

What it means

Roth Plan Distribution Rules

Under current law, RMDs to a plan participant must consider all amounts (both non-Roth and Roth) from that participant's account from an employer-sponsored retirement plan. SECURE 2.0 eliminates this requirement so that the designated Roth account under a plan is not subject to RMD during the participant's lifetime.

Impact: Mandatory (for plans with Roth feature)

Allows participants to preserve retirement account balances

Effective date: Tax years after December 31, 2023

Applicable plans: 401(k), 403(b), and governmental 457(b) plans with a designated Roth feature

Surviving Spouse Election to be Treated as Employee (for RMDs)

If a participant dies before his or her required beginning date and designated their spouse as the sole beneficiary, then the spouse may elect to defer RMD until the year in which that spouse attains that year's RMD age and the spouse's RMD will be calculated under the life expectancy table typically available only for a plan participant.

Impact: Mandatory

The spouse may elect to defer RMD to a later date and have RMD calculated under a potentially more favorable life expectancy table

Effective date: Calendar years after December 31, 2023

Applicable plans: 401(a), 401(k), 403(b) and 457(b) plans

Safe Harbor for Corrections of Employee Elective Deferral Failures

Currently, there is safe harbor guidance for correction of elective deferral issues, but it is slated to expire in 2023. SECURE 2.0 addresses the issue by providing a statutory safe harbor for the correction of a reasonable administrative error involving automatic contribution or automatic escalation.

Impact: Mandatory (treatment of corrections by Treasury)

To meet the safe harbor errors must be corrected prior to 9½ months after the end of the plan year in which the error occurred, corrected in a manner that is favorable to the participant, and consistently applied.

Effective date: Errors after December 31, 2023

Applicable plans: 401(k), 403(b), governmental 457(b) plans and traditional IRAs

What's changing

What it means

Starter 401(k) Plans for Employers

A starter 401(k) plan or 403(b) plan would generally require that:

- (1) All employees be default enrolled in the plan at a 3 to 15 percent of compensation deferral rate.
- (2) Only deferrals are permitted. The limit on annual deferrals is the same as the IRA contribution limit, (\$6,000 in 2022 and subject to IRA annual cost of living adjustments in \$500 increments) with an additional \$1,000 in catch-up contributions beginning at age 50

Impact: Optional

Permits an employer that does not sponsor a retirement plan to offer a starter 401(k) plan or 403(b) plan

Effective date: Plan years after December 31, 2023

Applicable plans: 401(k) and 403(b) plans

Student Loan Payments for Matching Purposes

Permits an employer to make matching contributions to a retirement plan with respect to "qualified student loan payments."

- Qualified student loan payment is broadly defined as any indebtedness incurred by the employee solely to pay qualified higher education expenses of the employee.
- Separate nondiscrimination testing for employees who receive matching contributions on student loan repayments.
- A retirement plan sponsor may rely on employee certification of payment.
- SECURE 2.0 directs Treasury to publish regulations relating to this provision.

Impact: Optional

Assists employees who may not be able to save for retirement because they are overwhelmed with student debt and miss out on available employer matching contributions

Effective date: Plan years after December 31, 2023

Applicable plans: 401(k), 403(b) and governmental 457(b) plans and SIMPLE IRAs

Withdrawal for Emergency Personal Expenses

Provides an exception to the IRS 10% premature distribution penalty tax for certain distributions for emergency expenses, which are unforeseeable or immediate financial needs relating to "personal or family emergency expenses."

- Only one distribution is permissible per calendar year of up to \$1,000
- Taxpayer has the option to repay the distribution within 3 years.
- No further emergency distributions are permissible during the 3-year repayment period unless direct repayment occurs, or aggregate elective deferrals are contributed to the plan in at least the amount that was distributed and not repaid.
- Plan administrator may rely on a participant's certification unless the plan administrator has actual knowledge to the contrary.

Impact: Optional

Reduce the tax penalty for participants taking a hardship distribution up to certain limitations

Effective date: Distributions made after December 31, 2023

Applicable plans: 401(a), 401(k), 403(b), governmental 457(b) plans and traditional IRAs

What's changing

What it means

Exemption for Certain Automatic Portability

Permits retirement plan recordkeepers and other firms to provide employer plans with automatic portability services. Such services involve the automatic transfer of a participant's default IRA (established in connection with a distribution from a former employer's plan) into the participant's new employer's retirement plan, unless the participant affirmatively elects otherwise.

Requirements: (1) must be an active participant in the new employer plan; and (2) the automatic portability provider acknowledges fiduciary status.

Impact: Optional

Creates a new option for plan sponsors to consider for small balance mandatory distributions with a goal to increase retirement savings by automatically transferring small balance mandatory distributions to a participant's new employer if applicable

Effective date: Transactions occurring on or after December 29, 2023

Applicable plans: defined contribution 401(a), 401(k), 403(b), and governmental 457(b) plans

Emergency Savings Accounts under Defined Contribution Plans

Retirement plans may offer their non-highly compensated employees plan-linked emergency savings accounts. (Once an individual becomes a highly compensated employee (as defined in the Internal Revenue Code), then contributions must stop).

- Plans may automatically enroll employees into these accounts at no more than 3 percent of their salary.
- The account is capped at \$2,500 (or lower as set by the employer). The \$2,500 cap is subject to IRS annual cost of living adjustments in \$100 increments.
- Once the cap is reached, the additional contributions can be directed to the employee's Roth defined contribution plan (if they have one) or stopped until the balance attributable to contributions falls below the cap.
- Contributions are made on a Roth-like basis
- Treated as elective deferrals for purposes of retirement matching contributions with an annual matching cap set at the maximum account balance of \$2,500 or lower.
- Allows at least one withdrawal per calendar month. The first four withdrawals from the account each plan year may not be subject to any fees or charges solely on the basis of such withdrawals.
- Exempt from IRS 10% premature withdrawal penalty tax.
- At separation from service emergency savings accounts can be distributed or rolled into a Roth source within a plan or IRA.

Impact: Optional

Provide an alternative source of money for participants when an emergency arises so they do not have to tap into their retirement savings

Effective date: Plan years after December 31, 2023

Applicable plans: 401(k), 403(b), and governmental 457(b) plans

What's changing

What it means

Increase in Small Balance Mandatory Distribution Threshold

The dollar amount which a plan may authorize a distribution of a terminated participant's vested account without the participant's consent increases from \$5,000 to \$7,000.

Impact: Optional

Increase the small balance mandatory distribution limit from \$5,000 to \$7,000 for inactive and dormant accounts in plans

Effective date: Distributions after December 31, 2023

Applicable plans: 401(a), 401(k), 403(b), and governmental 457(b) plans

Penalty-free withdrawal for domestic abuse cases

Permits participants who self-certify they experienced domestic abuse to obtain a withdrawal (the lesser of \$10,000, indexed for inflation, or 50 percent of the participant's account).

- The distribution is not subject to the IRS 10 percent penalty tax on premature distributions.
- Additionally, a participant can repay the withdrawn money from the retirement plan over 3 years and will be refunded for income taxes on money that is repaid.

Impact: Optional

Provide a domestic abuse survivor with access to their retirement account for various reasons, such as escaping an unsafe situation

Effective date: Distributions made after December 31, 2023

Applicable plans: 401(k) and 403(b) plans; governmental 457(b) plans

Modified Hardship Withdrawal Rules for 403(b) Plans

Currently, a hardship distribution from a 403(b) plan may be withdrawn from employee contributions and (if the plan's investment product is an annuity contract) from qualified matching contributions and qualified nonelective contributions. Earnings on contributions are not available for a hardship withdrawal.

SECURE 2.0 will permit a 403(b) plan to allow a hardship withdrawal from qualified matching contributions and qualified nonelective contributions (regardless of the 403(b) plan's investment product) and from earnings on contributions.

Impact: Optional

Aligns the 403(b) hardship rules with 401(k) hardship rules

Effective date: Plan years after December 31, 2023

Applicable plans: 403(b) plans

529 College Savings Account Portability

Permits a beneficiary under a 529 college savings account that has been maintained for at least 15 years to roll over up to \$35,000 (lifetime cap) to a Roth IRA (subject to Roth contribution limits) owned by the beneficiary of that 529 college savings account. Contributions rolled over cannot exceed the aggregate amount contributed (including earnings) before the five (5) year period ending on the date of the rollover.

Impact: Optional

Permits individuals with funds remaining in a 529 college savings account to preserve favorable tax treatment without a tax penalty via a rollover into a Roth IRA

Effective for distributions after December 31, 2023

Applicable plans: Roth IRAs

Longer-term considerations, effective 2025 or later

What's changing

Automatic Enrollment and Increase for New Plans

Eligible Automatic Contribution Arrangement is required for 401(k) and certain 403(b) plans established after December 29, 2022. Such plans must automatically enroll eligible participants using an initial 3% minimum and 10% maximum contribution rate.

Each year thereafter, that percentage must automatically increase by 1% up to at least 10% (but capped at 15% of compensation). A plan with an eligible automatic contribution arrangement operating under a nondiscrimination safe harbor has a 10% cap on permissible automatic escalation for plan years ending before January 1, 2025.

The plan must permit a participant to make withdrawals no later than 90 days after the date of the first contribution.

Eligible participants may opt out of the automatic contribution or elect another percentage to be deferred into the plan.

What it means for you

Impact: Mandatory

Exclusions: This provision does not apply to: (1) 401(k) and 403(b) plans that were adopted on or prior to December 29, 2022; (2) governmental or church plans; (3) SIMPLE 401(k) plans; (4) new businesses (in existence for less than three years); and (5) small employers (normally employing ten or fewer employees)

Effective date: Plan years after December 31, 2024

Applicable plans: 401(k) and 403(b)

Increased Catch-up Contribution Limits

Increases age-based catch-up contribution limits to the greater of \$10,000 or 50 percent more than the regular age 50 catch-up amount in 2025 (subject to IRS annual cost of living adjustments in \$500 increments) for participants not under a SIMPLE plan **who have reached ages 60, 61, 62 and 63.**

For participants who are between the ages of 60 and 63 and who participate in a SIMPLE 401(k) or SIMPLE IRA, the age-based catch-up contribution limit is increased to the greater of \$2,500 or 50 percent more than the regular age 50 catch-up amount in 2025 (subject to IRS annual cost of living adjustments in \$500 increments).

- After age 63, the standard age 50+ catch-up limits will apply
- For eligible governmental 457(b) plan participants, this catch-up cannot be used in the same tax year as the Special I 457 Catch-up.

Impact: Optional

If adopted by plan sponsor, allows participants ages 60, 61, 62 and 63 to make additional catch-up contributions

Effective date: Taxable years beginning after December 31, 2024

Applicable plans: 401(k), SIMPLE 401(k), 403(b), and governmental 457(b) plans and SIMPLE IRAs

What's changing

What it means for you

Coverage for Long-term Part-time Workers

Further reduces the minimum eligibility service requirements from three years (set forth in SECURE Act 1.0) to two years.

- Individuals will now be eligible as of the earlier of (1) one year of service, or (2) the completion of a 24-month period consisting of two consecutive 12-month periods with 500 hours of service and attainment of age 21 by the end of the calendar year.
- This reduction does not apply to employees subject to collective bargaining or nonresident aliens and the 12-month period beginning before January 1, 2023, is not taken into account.

Impact: Mandatory

Requires part-time workers to be eligible to join applicable retirement plans sooner

Effective date: Plan years after December 31, 2024

Applicable plans: ERISA 401(k) and ERISA 403(b) plans

Modification of Age for Qualified ABLÉ Accounts

Increases the age-based threshold at which an individual's disability must occur for contribution eligibility to an ABLÉ account from 26 to 46. Generally, distributions from an ABLÉ account are tax-free if used for qualified disability expenses of the account's designated beneficiary.

Impact: Mandatory (for ABLÉ Program eligibility treatment)

Effective for taxable years beginning after December 31, 2025

Applicable plans: ABLÉ Program

Saver's Match

Current law provides for a nonrefundable credit for certain individuals who make contributions to individual retirement accounts ("IRAs"), employer retirement plans (such as 401(k) plans), and ABLÉ accounts.

This rule change repeals and replaces the credit with respect to IRA and retirement plan contributions, changing it from a credit paid in cash as part of a tax refund into a federal matching contribution that must be deposited into a taxpayer's IRA or certain eligible retirement plan. The match is 50 percent of IRA or retirement plan contributions up to \$2,000 per individual. The match phases out between \$41,000 and \$71,000 in the case of taxpayers filing a joint federal individual income tax return (\$20,500 to \$35,500 for single taxpayers and married filing separate; \$30,750 to \$53,250 for head of household filers).

NOTE: Saver's Match cannot be withdrawn without incurring penalties, including repayment to the U.S. Treasury Department in some cases where the Saver's Match is withdrawn from an individual retirement account before retirement.

Impact: Mandatory (for credits received after the effective date)

Provides an incentive for individuals to save for retirement and ensure that the credit provided is invested for retirement

Effective for taxable years after December 31, 2026

Applicable plans: defined contribution 401(k), 403(b), governmental 457(b), SEP and SIMPLE plans and traditional IRAs

What's changing

What it means for you

Paper Benefit Statements

Amends ERISA to require that a defined contribution plan provide at least one paper benefit statement to participants annually and one paper benefit statement every three years to participants in a defined benefit plan, unless a participant in either plan type elects otherwise.

Impact: Mandatory

Effective date: Plan years after December 31, 2025

Applicable plans: ERISA 401(a), ERISA 401(k), and ERISA 403(b) plans

Plan Amendments

Plan amendments to satisfy SECURE 2.0 must be adopted no later than the end of the 2025 plan year for nongovernmental plans, and the end of the 2027 plan year for governmental plans and collectively bargained plans, unless the Secretary of the Treasury provides for a later date.

Impact: Mandatory

Plan sponsors must amend their plan documents no later than the dates set forth.

SECURE 2.0 also extends the plan amendment deadline for Setting Every Community Up for Retirement Enhancement Act of 2019 (SECURE), the Coronavirus Aid, Relief, and Economic Security Act (CARES) Act, and the Taxpayer Certainty and Disaster Tax Relief Act of 2020 to align with the plan amendment deadlines noted above.

403(b) Collective Investment Trusts (CIT)

Generally, 403(b) plans can only invest in annuity contracts and mutual funds. Prior to SECURE, CITs were not an available investment option under the Internal Revenue Code. SECURE 2.0 made the necessary Internal Revenue Code changes to permit 403(b) plan investments in CITs, but the corresponding securities law changes were not made (e.g., exemptions from registration). Accordingly, these changes will need to be made before CITs are a viable option for 403(b) plans.

Impact: Optional (Pending SEC Approval)

Effective date is to be determined. More information is expected when corresponding securities laws change.

Applicable plans: 403(b) plans

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Strategy – 1st Quarter 2023

When we look back on 2022, we cannot overestimate the damage the fixed-income markets inflicted on investors. Investment grade corporate bonds fell 16%. Long-term treasuries had a total return of -29%. High yield bonds fell 11%. Even very short-term treasuries declined 3%. It was the worst year for fixed-income investors in roughly 40 years. Equity markets also declined sharply. The S&P 500 fell 18% and the technology-heavy NASDAQ saw a decline of 32%. Diversifying provided few obvious benefits last year. We expect positive returns in 2023 as the Fed completes their tightening cycle and economic activity softens.

Fixed-income investors face a dilemma. Short-term yields are higher than longer-term yields. Why would an investor purchase a longer maturity security if they are going to receive a lower yield? It seems counterintuitive but that is exactly what an investor should do in this scenario. When short-term yields are higher than longer-term yields, the yield curve is “inverted.” Inverted yield curves generally precede falling interest rates. As rates fall, bond prices rise. Prices for longer maturity bonds rise more than for shorter maturity bonds. Investors in longer maturity bonds can get a 20% return for the year if rates fall whereas investors in shorter-term bonds will earn only 2% - 4%. So, there is the dilemma. Accept less yield today for the opportunity to earn a much higher return in the future.

Last quarter we discussed the importance of call protection and encouraged investors to begin to extend maturities/durations now and not wait for higher rates. It generally didn't matter which fixed-income sector you wanted to purchase, we felt interest rates were at a level that warranted action. Since that time, we have seen a large decline in longer-term yields. Intermediate yields are also lower. Short-term yields (6 -12 months) remain near their peak as they tend to follow expectations for Fed rate hikes very closely. Despite the fact the Fed is likely to raise short-term rates a bit further, longer-term yields have already begun to fall.

What should fixed-income investors do now? We remain committed to last quarter's strategy. Emphasize call protection. Emphasize longer maturities versus shorter maturities. Emphasize higher credit quality over lower credit quality because credit spreads are roughly “average” right now and in the face of an economic slowdown, it would seem the directional bias is toward spread widening in the next year. If you are looking at mortgage-backed securities, look for lower coupons versus higher coupons because the call protection is better with the lower coupons. Liquidity is also something to keep in mind. In the corporate bond market look at securities that have \$1.0B or more per issue. They trade much more frequently than smaller issues which provides narrower bid-asked spreads.

The ideas we presented in these pages look very similar to the ones we discussed last quarter. Inflation appears to have peaked, and the market seems content to see the Fed take the fed funds rate to 5% later this year. The drop in inflation across many different measures resulted in lower yields on longer maturity securities. The Consumer Price Index, for example, peaked at 9.1% and is expected to be reported around 6% in January. Economic data remains slightly positive but some of the employment statistics are beginning to soften, namely nonfarm payrolls and wages. Reality forced the Fed to tighten last year, and it may force the Fed to ease as soon as this year. The yield on the 2-year maturity Treasury has declined 60 basis points in the past few months. While we do not expect interest rates will fall sharply anytime soon, we do feel strongly that the ideas presented here made sense last quarter and continue to make sense in the current environment.

Our strategy for bonds at the asset class level is straight-forward and possibly more satisfying than the strategy that is specific to municipals. As it relates to Treasuries and bonds that trade on a spread to Treasuries basis, we encourage a barbell strategy (some exposure short and some long), with an emphasis on quality, and limited optionality/callability. Our internal analysis suggests in the second half of a Fed tightening cycle, high-quality and longer

duration often outperforms other fixed-income areas. We believe with strong conviction that the Fed is well over halfway through this tightening cycle. The reason for the addition of short exposure this time around has to do with the outsized degree of yield curve inversion, in concert with the expectation that the Fed will take short rates roughly 75 basis points to as much as 125 basis points higher. If we get to the point where 1-year and 2-year Treasuries offer yields of 5% to 6%, that is a lot of return for very little risk.

The strategy for munis incorporates the fact that the muni bond yield curve is generally not inverted, beyond the 2-year area. Last year in anticipation of short muni yields rising, we sold shorter muni bonds and extended to take advantage of the steepness of the muni yield curve and the historically high yields in the part of the curve beyond 10 years. Market liquidity and general quirkiness made that effort somewhat successful, but we were able to find acceptable bids on fewer than half the bonds we attempted to sell. As buyers have returned to the muni market, there may be an opportunity to attempt to sell some of the bonds that did not sell last year, but the yields on the long end of the municipal curve have fallen significantly from the levels we saw in late-October. To that end, the municipal strategy is somewhat “wait and see.” Wait to see if credit fears take longer muni yields higher, either for those with cash, or wait and see if the muni yield curve shape becomes such that selling some of the remaining short pieces and extending ahead of a recession becomes a possibility. This year our best hope for a compelling trade opportunity would center on an emerging fear of credit exposure.

Economic Observations and Interest Rate Outlook:

We can be sure of one thing in 2023, the Fed is determined to get the inflation rate much lower than where it is currently. Their main weapon for accomplishing this task is by raising short term interest rates to the point of possibly causing a recession. This is one of those exercises that one won't likely know if they have gone too far until it is too late. If history is a guide, we will be in a recession by the time the Fed figures out it raised rates too much. There is a small chance inflation comes down to a level that appeases the Fed without resulting in a recession. We expect a mild slowdown based on the fact there are not many areas of the economy showing significant excesses like we saw prior to the Great Recession.

Some prominent bond fund managers seem to think the Fed needs to start listening to the bond market. Specifically, longer-term bond yields have fallen from their high levels experienced in late-October and the yield curve has inverted (a situation where short-term yields are higher than the yields on longer-term bonds). Curve inversions often precede recessions, but they can give false signals. In recent history, an inversion of the 3-Month Treasury Bill and the 10-Year Treasury Note has been a good “tell” that a recession is imminent. Such an inversion may be signaling that the market's longer-term growth expectations are more subdued relative to where Fed policy is at the time (which the 3-Month bill may pick up better than the commonly referenced 2-year Treasury). We believe it is saying something that the 112-basis point inversion of the 3-Month Treasury Bill and the 10-Year Treasury note at the time of the writing of this piece, is greater than during the depths of the Great Recession in 2007. It may be the bond managers who need to hear the Fed. They have often cited that the problem in the 1970's and early 1980's was that the Fed at the time became accommodative too soon, and inflation expectations became “baked” into economic expectations, requiring additional tightening to induce an inflation-breaking recession (referred to as a double-dip recession). The Fed “apology tour” referenced in last quarter's Insights piece may not be for posterity, rather it could be because they know what is needed to bring inflation (and the cost of borrowing) down to a sustainable level. They may hold out hope that people who are living at the margin hear the message and add some



reserves or adjust their spending habits, but betting against the U.S. consumer's propensity to spend is typically a risky proposition.

The mistake that many market participants may be making is that they think part of the Fed's job is to deliver a "comfortable ride." It is reasonable to believe that orderly markets probably offer more stable functionality and growth, but stable may be different than pleasant. The "Fed put" (the idea that the Fed will step in to sooth the financial markets upon any meaningful turbulence) may have lulled the markets into thinking the Fed's mandate included financial market pleasure. Although the Fed has dabbled at expanding their mandate, such as identifying climate change as an economic risk, and expanding the "full employment" mandate to encourage real wage growth in economically disadvantaged communities, they have recently signaled their resolve to "stick to their knitting" and focus on full employment and price stability. Our interpretation of the recent Fed President and Chairman's comments is that they are mission-focused, wringing inflation out of the economy.

Markets expect the Fed will be in a position to cut rates by the end of the year. According to the CME FedWatch Tool, two-thirds of traders expect that the Fed Funds Rate will be at or below the current rate range (4.25% to 4.50%). That is greatly conflicting the Fed's outlook where no contributors to the Fed's "Dot Plot" indicate any cuts to rates in 2023. Job growth metrics are strong, and the Current Seasonally Adjusted Unemployment Rate for December was 3.5%. Against the generally accepted definition of "full employment" being a 5% unemployment rate, there is room for the Fed to tighten further and allow the lagged impact of past tightening actions to be more fully felt in the economy, before easing should be at the tip of the tongue of the market. As is often the case, markets think you have to go from somewhere to somewhere, with little weight given to the prospect of a pause. The pause, with modest but proactive adjustments may be the best hope for a soft landing, or even the victory of a shallow recession (provided it achieves the durable price stability goal). Since central bank policy is thought to have a lag of roughly a year (per Milton Friedman's estimate), the rate that may matter is the Fed's policy rate minus the rate of inflation in six months to a year. As measured by Consumer Price Index (CPI), the Fed has more room to hike but as compared to the Personal Consumption Expenditures (PCE) price gauge, the current dot plot path seems promising. CPI is thought to measure out-of-pocket costs for consumers, where PCE tries to measure the cost of everything we consume (for example health care costs/consumption, which may not be paid by the consumer, they are often paid for by employers or taxpayers). As Chairman Powell recently stated, speed is less important than the destination. That may suggest that a policy pause, and subsequent minor policy adjustments are the expected path (sorry to those who prefer certainty and immediate gratification).

The earlier-mentioned consumer probably holds our near-term destiny in their hands. The U.S. is a consumer-driven economy and the reaction to the weight of Fed-induced higher borrowing costs will manifest themselves in changing demand patterns. Big ticket items that are often financed have seen a dramatic swing in consumption. The formerly "white hot" used car market has seen a dramatic change. According to the Manheim Used Vehicle Value Index, 2022 saw a decrease in used car values of 14.9%, the largest drop in the 26-year history of the index. Last quarter we touched on the rapid change in the housing market. In December, homebuilder sentiment fell to the lowest level in more than a decade. The result of the past increase in single-family home prices, along with greatly increased financing costs has greatly impacted home affordability. Applications to build in November fell at an annualized rate of 11.2%. Permits for single family home construction fell 7.1%. Housing seems to have more downside. Recent durable goods readings have softened some and consumer sentiment numbers are weak by historic standards (but off the recent bottom). When the substitutions and abstention of purchases moves to smaller-ticket expenses, the Fed's work may be mostly done and the "slack" in consumer and labor demand should cool the stubbornly strong employment environment and cause wage growth to slump. According to a poll by Morning Consult, at the end of the third quarter, the share of sticker

shocked shoppers who walked away without making a purchase rose from 8.7% in August to 9.9% in September. Restaurant sales per customer are struggling to keep up with "food away from home" inflation, suggesting that restaurants are not able to pass along their increased costs to consumers. It is the substitutions, "trade downs", and cessation of purchases, for the small stuff that will telegraph that the Fed is making progress in their fight against inflation. According to the New York Fed, through the third quarter of 2022, due to increased credit card balances and mortgage balances, households increased debt at the fastest pace in 15 years. If real wage growth flatlines, or becomes negative on a real basis, it would appear the consumer will be a critical part of the Fed's plan.

Last quarter we detailed several areas where aspects of the economy could "break." Although our forecast is that the consumer will falter, followed by the strength of the employment environment, it is areas of the financing and credit markets that could break in a way that causes the Fed to have to step in to rescue orderly markets. That is not to say the Fed put is alive and well. Given what must be done to Mainstreet we expect that the central bank will be fine with run-of-the-mill pain on Wall Street. Heavily financed assets, that have seen a rapidly diminished value of the collateral, is an area we would watch. This can apply to homes, autos, closed-end bond funds, junk bonds and possibly debtor nations. According to the New York Times, more than \$110 billion of home mortgages have an average down payment of 6.6%, or less, and nearly half of that amount has a down payment equal to or less than 3.5%. More than \$250 billion of mortgages had a down payment of 9.3% or less. Certainly, many of these mortgages are for properties where some equity has built up, but if residential real estate values fell 10% to 15%, there would be a risk of a lot of underwater homeowners, stuck in their homes. Subprime auto loan defaults are up 36% year-over-year through October (which places delinquencies still at a historically low level - In the Great Recession delinquencies peaked at 15%, we hit 5.13% in October), and as mentioned earlier the collateral has experienced a dramatic drop in value. Some closed-end bonds funds that use leverage (they borrow in the short end of the market and use the funds to buy longer-term bonds) have seen their leverage work against them. As a result, some closed-end funds have slashed their dividend by nearly 50% (wait until the Fed hikes rates 75 basis points more). The timing of a looming recession may be just what the junk bond market does not need. Although maturities of junk issues are looking modest in 2023, the calendar of high-yield bonds maturing in 2024 is more substantial (and ideally the companies would arrange new financing well in advance of the maturing debt). Many junk issuers can't pay down the debt that they issued when yields were hundreds of basis points lower. Making matters worse, the spread (the incremental yield a corporate borrower pays over a like-term Treasury to access the capital markets) is currently in the range of 400 basis points to 500 basis points. In a typical recession, junk bonds spreads more toward 800 basis points over the comparable Treasury. There is an imminent scenario where the junk bond market becomes problematic, and such an environment can precipitate a situation where investors and even banks pull back on their interest in credit exposure. Although banks are generally well-capitalized, so we don't anticipate meaningful bank failures in the next recession, if their appetite to lend is cut off, it can contribute meaningfully to a credit crunch. Given the debt binge that world governments have been on since the Great Recession, and all the way through the pandemic experience, if credit freezes, large problems may arise. Since 2007, the G7 nations have seen their public debt as a percent of GDP move from 81% to 128% in 2022. Italy, who's debt service costs were 3% of GDP in 2019, is expected to see debt service costs hit 7% of GDP by 2030. Bailouts may be coming back into vogue because discipline and responsibility seems to be out of fashion.

Smart people have surmised that it may be possible that sticky wage inflation and other stubborn sources of inflation might mean the Fed would have to accept an inflation rate that exceeds 2%, perhaps something on the order of 3.5%. Something between 3% and 3.5% would be in line with long-term averages. As of December, more than 50% of CPI components were seeing annualized rates of inflation in excess of 4%. Our response is that due to the hardwired expectation of nearly free financing, a large percent of the population



will “do without” until reality moves in line with their expectations. If your \$2,500 monthly house payment budget used to buy you a \$750,000 house and now you would have to settle for a \$475,000 shack, you will simply keep renting until the market comes back to you. At a higher level, it may be easier for low-wage earners to maintain a standard of living if the rate of inflation is low (hopefully, they would have a better chance of experiencing real wage growth). During this inflationary episode, many workers saw wage gains that looked positive, but that were negative on an inflation-adjusted basis. We expect that is the primary motivator for the Fed. The people that were helped by the stimulus may have been harmed more than any other group. The pain of a recession, which is often felt by those at the bottom of the economic ladder, may eventually benefit them over the long run (and we don't say that flippantly). The crux of our basis for why elevated inflation is unlikely, is that in September, following a largely ignored policy meeting, the Fed revised down significantly the US potential output. Of note, the Fed's assumptions change due to disappointing productivity gains and slow improvement in labor force participation. We have mentioned the Output Gap in the past (the theoretical maximum output for an economy). Typically, the economy runs below the maximum output (a negative gap). Occasionally, the economy can run above the theoretical maximum output (a positive output gap), but typically this only happens for short periods of time and it almost always portends a recession. It may be the case that running the economy hot causes malinvestment or production costs for goods and services that are unprofitable. Do you pay a pizza delivery person \$50/hr., or do you offer customers \$3 per pizza as a discount to deliver it to themselves (turn a fixed cost into a variable cost)? The next revolution in productivity may come from the customers themselves, paying at the individual level for sources of utility that are specific to them, along with capital investments in automation and applications for artificial intelligence. From a Fed policy perspective, the reduction in the potential output means the economy was running even more overheated over the past two years than previously thought. For context, at the end of 2022 the positive output gap on a real basis was 0.66% and prior to the Great Recession it peaked out in 2006 at 1.13%. The average output gap for the past 20 years was roughly -2%. It might suggest that some output gap shrinkage is required to lower inflation expectations and stabilize the economy. Short rates will rise farther, and longer-term bond yields have farther to fall as an economic slowdown, and all the new uncertainties that go with that, become the reality.

The Fed must deflate the recent inflationary episode. They have recently sharpened their messaging to say what they have to do may be unpopular and that their focus is once again on their dual mandate of full employment and price stability. The main consternation of the market will likely be the fear of the unknown. Chairman Powell has said the speed of this journey is not a goal he expects, and speed may actually produce a result that is counter to their real goal, but the destination (full employment and average inflation of 2%) is the prize. That journey means millions of unfilled jobs will vanish, millions of people may lose their current job, and GDP will probably shrink in the near future. It will not be a comfortable ride, but rather it may be a trip that is required to achieve more lasting future comfort for many people. We expect the Fed will use the word “pause” in their post-meeting statements this year (and they may throw in a “data dependent” for good measure). So now we wait and see.

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Below are descriptions of a selection of commonly used broad market indices. Indices are unmanaged; you cannot invest directly in an index. Index returns do not include fees or expenses.

Domestic Equities

CRSP US Total Market Index: Consists of nearly 4000 companies across mega, large, small and micro capitalizations, representing nearly 100% of the US investible market.

CRSP US Large Cap Index: Consists of the top 85% of investable market capitalization in the US, including mega and large cap companies. Included in this market cap are the [CRSP US Large Cap Growth Index](#), which measures the performance of those companies with higher price-to-book ratios and higher forecasted growth values and the [CRSP US Large Cap Value Index](#), which measures the performance of those 3000 companies with lower price-to-book ratios and lower forecasted growth values.

CRSP US Mid Cap Index: Consists of US companies that fall between the top 70% - 85% of the investable market capitalization. Included in this market cap are the [CRSP US Mid Cap Growth Index](#) and [CRSP US Mid Cap Value Index](#).

CRSP US Small Cap Index: Includes US companies that fall between the bottom 2% - 15% of the investable market capitalization. There is no lower limit in market cap, other than what is specified by investability screens. Included in this market cap are the [CRSP US Small Cap Growth Index](#) and [CRSP US Small Cap Value Index](#).

Dow Jones US Total Stock Market Index: Measures all US equity issues with readily available prices.

Dow Jones US Completion Total Stock Market Index: Subindex of DJ US Total Stock Market Index that excludes components of the S&P 500.

MSCI US REIT Index: A free float-adjusted market capitalization index that is comprised of equity Real Estate Investment Trusts (REITs). The index is based on the MSCI US Investable Market Index (IMI), its parent index, which captures the large, mid and small cap segments of the US market. It represents about 99% of the US REIT universe.

Russell 3000 Index: Measures the performance of the 3000 largest US companies based on market capitalization. Subindices include the [Russell 3000 Growth Index](#) and the [Russell 3000 Value Index](#).

Russell 1000 Index: Measures the performance of the 1000 largest companies in the Russell 3000 Index, generally representing more than 90% of the investible US equity market. Included in this market cap are [Russell 1000 Growth Index](#) and the [Russell 1000 Value Index](#).

Russell 2000 Index: Measures the performance of the 2000 smallest companies in the Russell 3000 Index, representing less than 10% of the investible US equity market. Subindices include the [Russell 2000 Growth Index](#) and [Russell 2000 Value Index](#).

Russell MidCap Index: Measures the performance of the 800 smallest companies in the Russell 1000 Index. Included in this market cap are the [Russell MidCap Growth Index](#) and [Russell MidCap Value Index](#).

S&P 500 Index: Widely regarded as the best single gauge of the US equities market. The index includes a representative sample of the 500 leading companies in leading industries of the US economy. This index focuses on the large-cap segment of the market; however, since it includes a significant portion of the total value of the market, it also represents the market.

S&P 600 SmallCap Index: Measures the performance of a broad range of small-sized companies that meet specific liquidity and stability requirements as determined by S&P. Market cap must be between \$850 million and \$3.6 billion.

S&P 400 MidCap Index: Measures the performance of a broad range of mid-sized companies that meet specific liquidity and stability requirements as determined by S&P. Market cap to be included in this index is between \$3.7 billion and \$14.6 billion. Included in this market cap are the [S&P 400 MidCap Growth Index](#) and the [S&P 400 MidCap Value Index](#).

S&P Completion Index: Comprises all members of the S&P Total Market Index (TMI) except for the current constituents of the S&P 500.

S&P Total Market Index (TMI): Designed to track the broad equity market, including large, mid, small and micro cap stocks.

S&P Composite 1500 Index: Combines the S&P 500, S&P MidCap 400 and S&P SmallCap 600 indices to cover approximately 90% of US market capitalization. It is designed for investors seeking to replicate the performance of the US equity market. S&P Composite 1500 includes additional specific GICS Sector indices as well (i.e., Consumer Discretionary Index, Energy Index, Healthcare Index, etc.).

International Equities

FTSE Global All Cap ex US Index: Comprises large, mid and small cap stocks globally, excluding the US. The index is derived from the FTSE Global Equity Index Series which covers 98% of the world's investable market capitalization.

MSCI ACWI (All Country World Index): MSCI ACWI is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of large and midcap stocks across 23 developed and 24 emerging markets.

MSCI ACWI ex US: Consists of all companies in the MSCI ACWI with the exception of US companies. The index covers approximately 85% of the global equity opportunity set outside the US. Included in this market cap are the **MSCI ACWI ex US Growth Index**, which captures large and mid cap securities exhibiting overall growth style characteristics across the non US developed and emerging markets, and the **MSCI ACWI ex US Value Index**, which captures large and mid cap securities exhibiting overall value style characteristics across the non US developed and emerging markets. The MSCI ACWI ex US Index is also subdivided into the **MSCI ACWI ex US Smid Cap Index** and **MSCI ACWI ex US Small Cap Index** (including Growth and Value indices for each).

MSCI EAFE (Europe, Australasia, Far East): MSCI EAFE is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the US and Canada. It captures approximately 85% of the market in each country. **MSCI EAFE Growth Index** and **MSCI EAFE Value Index** are also available for this market capitalization. The MSCI EAFE Index is also subdivided into the **MSCI EAFE Smid Cap Index** (including Growth and Value Indices).

MSCI Emerging Markets Index: A free float-adjusted market capitalization index that is designed to measure the equity market performance in the global emerging markets.

Fixed Income

Bloomberg 1-3 Month US Treasury Bill Index: Includes all publicly issued zero-coupon US Treasury Bills that have a remaining maturity of less than 3 months and more than 1 months. They are rated investment grade and have \$250 million or more of outstanding face value. In addition, the securities must be denominated in US dollars and must be fixed rate and non-convertible. This index is also available in a 3-6 month offering: **Bloomberg 3-6 Month US Treasury Bill Index**.

Bloomberg Global Aggregate Index: Measures global investment grade debt from 28 local currency markets. This multi-currency index includes treasury, government-related, corporate, and securitized fixed-rate bonds from both developed and emerging markets issuers.

Bloomberg 1-5 Year US Govt/Credit Index: Tracks the market for investment grade, USD-denominated, fixed rate treasuries, government-related and corporate securities with maturities between 1 and 5 years.

Bloomberg Global Aggregate ex US Index: A subset of the Bloomberg Global Aggregate that does not include US countries.

Bloomberg US Aggregate Index: Represents the full range of investment grade bonds (rating of Baa or higher from Moody's rating of BBB- or higher from S&P) traded in the US. The index includes government, agency, and corporate credits.

Bloomberg US Corporate Bond Index: Measures the investment-grade fixed-rate, taxable corporate bond market. It includes USD-denominated securities publicly issued by US and non-US industrial, utility, and financial issuers.

Bloomberg Intermediate US Govt/Credit Bond Index: Measures the non-securitized component of the US Aggregate Index with less than 10 years to maturity. The index includes investment grade, USD-denominated fixed-rated treasuries, government-related, and corporate securities.

Bloomberg US TIPS Index: Consists of inflation-protection securities issued by the US Treasury.

Bloomberg US High Yield Index: Covers the universe of fixed rate, non-investment grade debt.

FTSE World Government Bond Index: Measures the performance of fixed-rate, local currency, investment-grade sovereign bonds from over 20 countries.

ICE BofAML Convertible Bond Index: Measures the performance of convertible bonds, which are a fixed-income corporate debt security that yields interest payments but can be converted into a predetermined amount of equity, cash or another security of equal value.

ICE BofAML US HY Master II: Represents the performance of below investment grade bonds (rated Ba1 or lower from Moody's, BB+ or lower from S&P) publicly issued in the US market.

Multi-Asset

Dow Jones Relative Risk Index Series: Designed to measure a total portfolio of US stocks, bonds, and cash, allocated to represent an investor's desired risk profile. The index used to benchmark a fund is dependent on the equity weighting of the fund.

Target Date Indices: Measures the performance of multi-asset portfolios that correspond to a particular target retirement date. Each index provides varying levels of exposure to equities and fixed income, and each target date allocation is created and retired according to a pre-determined schedule related to the respective target date. We use various target date indices dependent on the target date series it is being benchmarked against (i.e., Vanguard target date indices, DJ US target date indices, TRP target date indices, etc.).

% Assets in Top 10 Holdings: The aggregate assets, expressed as a percentage, of the fund's top 10 portfolio holdings.

Alpha: A measure of performance on a risk-adjusted basis. Alpha takes the volatility (price risk) of a mutual fund and compares its risk-adjusted performance to a benchmark index. The excess return of the fund relative to the return of the benchmark index is a fund's alpha.

Beta: A measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole.

Down Market Capture: Downside Capture Ratio measures manager's performance in down markets. A down-market is defined as those periods (months or quarters) in which market return is less than 0. In essence, it tells you what percentage of the down-market was captured by the manager. For example, if the ratio is 110%, the manager has captured 110% of the down-market and therefore underperformed the market on the downside.

Expense Ratio: A measure of what it costs an investment company to operate a mutual fund. An expense ratio is determined through an annual calculation, where a fund's operating expenses are divided by the average dollar value of its assets under management. Operating expenses are taken out of a fund's assets and lower the return to a fund's investors.

Information Ratio: A ratio of portfolio returns above the returns of a benchmark to the volatility of those returns. The information ratio (IR) measures a portfolio manager's ability to generate excess returns relative to a benchmark, but also attempts to identify the consistency of the investor. The higher the IR the more consistent a manager is.

PM Tenure: This represents the number of years that the current portfolio manager has been managing the fund. For funds with more than one manager, the average tenure is shown.

Price/Book Ratio: The price/book (P/B) ratio compares a stock's market price with its book value. (Book value is the equity balance on a firm's balance sheet divided by the number of shares outstanding.) Conservative investors often prefer the P/B ratio, because it offers a more tangible measure of a company's value than earnings do. Legendary investor Benjamin Graham, one of Warren Buffett's mentors, was a big advocate of book value and P/B in valuing stocks.

Price/Cash Flow Ratio: The price/cash flow (P/CF) ratio is not as commonly used or as well known as the other measures we've discussed. It's calculated similarly to P/E, except that it uses operating cash flow instead of net income as the denominator. Cash flow can be less subject to accounting shenanigans than earnings because it measures actual cash, not paper or accounting profits. P/CF can be helpful for firms such as utilities and cable companies, which can have more cash flow than reported earnings. P/CF can also be used in place of P/E when there are so many one-time expenses that reported earnings are negative.

Price/Earnings Ratio: The price/earnings (P/E) ratio is the most popular valuation ratio used by investors. It is equal to a stock's market price divided by the earnings per share for the most recent four quarters. The nice thing about P/E is that accounting earnings are a much better proxy for cash flow than sales. Moreover, earnings per share results and estimates about the future are easily available from just about any financial data source.

Sharpe Ratio: A ratio developed by Nobel Laureate William F. Sharpe to measure risk-adjusted performance. The Sharpe ratio is calculated by subtracting the risk-free rate (such as that of the 10-year U.S. Treasury bond) from the rate of return for a portfolio and dividing the result by the standard deviation of the portfolio returns.

Standard Deviation: A risk statistic that measures an investment's volatility around the mean return. A highly volatility investment will have a higher standard deviation. A fund's returns fell within 1 standard deviation of the average 68% of the time and within 2 standard deviations 95% of the time for the time period measured.

Upside Capture Ratio: This ratio measures a manager's performance in up markets relative to the market (benchmark) itself. It is calculated by taking the security's upside capture return and dividing it by the benchmark's upside capture return.

Weighted Average Market Cap: The average market capitalization of a fund's equity portfolio gives you a measure of the size of the companies in which the fund invests. Market capitalization is calculated by multiplying the number of a company's shares outstanding by its price per share.



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