NORWALK

The Sound of Connecticut

To: Norwalk Municipal Employees' Pension Board

From: Geri M. DiStefano, Benefits Manager

Date: March 2, 2023

Subject: Pension Board Meeting – Wednesday, March 8, 2023 - Hybrid meeting

A meeting of the Norwalk Municipal Employees' Pension Board will be held on **Wednesday, March 8, 2023 at 6:00 p.m.,** via zoom / Room 220.

To allow public access, anyone may access a meeting by telephone, Zoom, and/or the City of Norwalk YouTube channel. Specific instructions and links can be found at norwalkct.org/meetings

AGENDA

1. Call to Order and Approval of Minutes from February 8, 2023
2. Public Comments
3. Approval of Pension Applications
4. Asset Allocation Review
5. Performance Review
6. Cash Needs Discussion
7. Adjourn

Next meeting scheduled for April 12, 2023.

cc: Mayor Harry Rilling
Irene Dixon, City Clerk
Jordan Schantz, Assistant City Clerk
Britton Murdoch, Callan Associates Inc.
Kevin Schmidt, Callan Associates Inc.
Billy Ireland, Fire Union President
Al Palumbo, NASA President

CITY OF NORWALK
NORWALK MUNICIPAL EMPLOYEES PENSION BOARD
REGULAR MEETING
FEBRUARY 8, 2023
VIA TELECONFERENCE

ATTENDANCE: Frank Nash, Chair; Richard Baskin, James Hendrickson, Charlie Pirro, Eileen Romeo

OTHERS: Chitsamay Lam, Comptroller; Brian Downey, Geri DiStefano, Tina Fogell, Britton Murdoch, Callan LLC; Kevin Schmidt, Callan LLC; Thomas Kelley, ABS; Laurence Russian, ABS

CALL TO ORDER

Mr. Nash called the meeting to order at 6:00 p.m. A quorum was present.

APPROVAL OF MINUTES

- **January 11, 2023 Minutes**

**** MR. HENDRICKSON MOVED TO APPROVE THE JANUARY 11, 2023 MINUTES AS AMENDED.**
**** MR. PIRRO SECONDED.**
**** THE MOTION TO APPROVE THE January 11, 2023,MINUTES AS AMENDED PASSED UNANIMOUSLY.**

PUBLIC COMMENT

There was no one from the public who wished to comment.

APPROVAL OF PENSION APPLICATIONS

Michael Yeosock	Early Retirement	Option 1
Claribel Fontan Torres	Early Retirement	Option III

**** MR. PIRRO MOVED TO APPROVE THE FOLLOWING PENSION APPLICATION AS PRESENTED:**

MICHAEL YEOSOCK	**EARLY RETIREMENT**	**OPTION 1**

CLARIBEL FONTAN TORRES EARLY RETIREMENT OPTION III

**** MR. HENDRICKSON SECONDED.**
**** THE MOTION PASSED UNANIMOUSLY.**

ABS PRESENTATION

Mr. Murdoch said that Kevin Schmidt had joined the Callen LLC Team in January.

Mr. Kelley greeted the Board Members and introduced Mr. Russian. Mr. Russian presented his report to the Board and answered the Board Members' questions.

PERFORMANCE REVIEW.

Mr. Schmidt gave a brief overview of his previous investment experience. Mr. Schmidt and Mr. Murdoch reviewed the asset allocation and performance of the pension plan as of 12/31/22. Questions and comments from the Board were fielded throughout the discussion. ~~and presented his report to the Board and answered the Board Members' questions.~~

Mr. Nash stated that the next meeting will be in person at City Hall if they are able to secure a room. There are also some vacancies on the Board that needs to be filled. Mr. Nash said that the Board ~~should~~ plans to issue an RFP for an investment consultant~~investment managers~~. Discussion followed.

ADJOURNMENT

**** MR. BASKIN MOVED TO ADJOURN.**
**** MR. PIRRO SECONDED.**
**** THE MOTION PASSED UNANIMOUSLY.**

The meeting adjourned at 7:47 p.m.

Respectfully submitted,

S. L. Soltes
Telesco Secretarial Services

APPROVAL OF PENSION APPLICATIONS

MEETING OF **March 8, 2023**

Name	Years of Service	Type of Pension	Option Selected
Alicia Ayme Board of Education Bilingual Instructor Commencement Date	22 Years, 4 Months March 4, 2023	Regular	Standard
Sheri McCready-Brown Board of Education Public Affairs Officer Commencement Date	8 Years, 9 Months April 1, 2023	Regular	Option III
James Santomassimo Board of Education Head Monitor/Security Commencement Date	7 Years, 9 Months April 1, 2023	Regular	Standard

NORWALK
The Sound of Connecticut

To: Norwalk Municipal Employees' Pension Board

From: Geri M. DiStefano, Benefits Manager

Date: March 2, 2023

Subject: OPEB Committee Meeting – Wednesday, March 8, 2023 – Hybrid meeting

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A meeting of the Norwalk Municipal Employees' Pension Board's OPEB Committee will be held on **Wednesday, March 8, 2023 at 6:30 p.m.,** via zoom / Room 220.

To allow public access, anyone may access a meeting by telephone, Zoom, and/or the City of Norwalk YouTube channel. Specific instructions and links can be found at norwalkct.org/meetings

AGENDA

1. Call to Order and Approval of Minutes from December 14, 2022
2. Performance Review
3. Adjourn

cc: Mayor Harry Rilling
Irene Dixon, City Clerk
Jordan Schantz, Assistant City Clerk
Kevin Schmidt, Callan Associates, Inc.
Britton Murdoch, Callan Associates Inc.
Billy Ireland, Fire Union President

City of Norwalk
Municipal Employees' Pension Board
OPEB Asset Allocation Review
December 14, 2022

Attendance: Frank Nash, Chairman; James Hendrickson, Eileen Romeo, Charles Pirro, Richard Baskin

Staff: Chitsamay Lam, Comptroller

Other: Britt Murdoch, Ric Ford, Callan LLC

Call to Order

Chairman Nash called the meeting to order at 7:35. A quorum was present.

1) Acceptance of minutes from Sep 14, 2022

******Mr. Hendrickson moved to accept the minutes of the last meeting.**
******Mr. Baskin seconded the motion.**
******The motion passed unanimously.**

2) Public Comments

There were no public comments.

3) OPEB Asset Allocation Review

Mr. Murdoch introduced Ric Ford. The asset allocation is reviewed every three year, and Mr. Ford gave a review of the ~~status~~ OPEB asset allocation and any adjustments that may be needed.

Currently, the allocation is ~~80~~68% equity, 12% liquid real assets and 20% core fixed income. Current assets are about $110 million dollars. The 10 year forecast looks strong, and ~~Mr. Ford~~Callan does not recommend any changes to the asset allocation going forward.

~~Because pension payouts are greater than employee contributions, Mr. Ford suggests allocating some assets to cash each month to cover this shortfall.~~

Ms. Lam estimates that there will be a $1 million shortfall per month in fiscal year 2023. The contributions have dropped because the fund is well funded.

Mr. Ford reviewed the assumptions used to create these calculations. Mr. Nash asked about the inflation rates used in the calculations. 2.5% was used in the analysis, but current rates are about 7%.

~~Mr. Murdoch reiterated that~~ Ms. Lam will need $6million dollars to cover pension payouts in the first quarter of 2023. Callan suggested~~He suggests~~ taking $4 million from domestic equity, $1 million from core fixed income and $1 million from Plimco. Mr. Hendrickson suggested taking $2 million from US equity and $2 million from international equity.

******Mr. Baskin moved to take $2 million from US equity, $2 million from international equity, $1 million from core fixed income and $1 million from Plimco.**
******Mr. Hendrickson seconded the motion with a note that the fixed income is coming out of Prudential.**
******The motion passed unanimously.**

4) ADJOURNMENT

******Mr. Pirro moved to adjourn the meeting.**
******Mr. Hendrickson seconded the motion.**
******The motion passed unanimously.**

Chairman Nash adjourned the meeting at 8:05.

Respectfully submitted,

Amy Chaple
Telesco Secretarial Services

City of Norwalk - Pension Rebalancing Analysis

	Preliminary Market Values (as of 1/31/23)	Asset Allocation (as of 1/31/23)	Target Asset Allocation	Target Asset Allocation Ranges	Rebalance Amount	Updated Market Values	Updated Asset Allocation	Difference to Target
Total Equity	**$ 321,868,970**	**67.1%**	**69%**	**60% - 75%**	**$ -**	**$ 321,868,970.00**	**67.1%**	**-1.9%**
US Equity	**$ 158,937,929**	**33.2%**	**35%**	**27% - 40%**	**$ -**	**$ 158,937,929**	**33.2%**	**-1.8%**
BlackRock R1000 Index	$ 113,961,265	23.8%			$ -	$ 113,961,265	23.8%	
LSV	$ 23,669,512	4.9%			$ -	$ 23,669,512	4.9%	
Columbus Circle	$ 21,307,152	4.4%			$ -	$ 21,307,152	4.4%	
International Equity	**$ 109,447,058**	**22.8%**	**23%**	**18% - 28%**	**$ -**	**$ 109,447,058**	**22.8%**	**-0.2%**
Artisan	$ 33,146,142	6.9%			$ -	$ 33,146,142	6.9%	
Silchester	$ 56,815,522	11.9%			$ -	$ 56,815,522	11.9%	
BlackRock EM	$ 19,485,394	4.1%			$ -	$ 19,485,394	4.1%	
Global Equity/Long Short	**$ 30,088,535**	**6.3%**	**8%**	**4% - 12%**	**$ -**	**$ 30,088,535**	**6.3%**	**-1.7%**
ABS	$ 19,860,969	4.1%			$ -	$ 19,860,969	4.1%	
Blackstone	$ 10,227,566	2.1%			$ -	$ 10,227,566	2.1%	
Private Equity	**$ 23,395,449**	**4.9%**	**3%**	**0% - 6%**	**$ -**	**$ 23,395,449**	**4.9%**	**1.9%**
Domestic Fixed Income	**$ 85,311,355**	**17.8%**	**19%**	**14% - 24%**	**$ -**	**$ 85,311,355.00**	**17.8%**	**-1.2%**
Prudential	$ 37,763,672	7.9%			$ -	$ 37,763,672	7.9%	
MetWest	$ 47,547,683	9.9%			$ -	$ 47,547,683	9.9%	
Absolute Return - UBS	**$ 27,381,184**	**5.7%**	**4%**	**0% - 6%**	**$ -**	**$ 27,381,184**	**5.7%**	**1.7%**
Real Assets - PIMCO	**$ 35,905,714**	**7.5%**	**6%**	**4% - 10%**	**$ (3,000,000)**	**$ 32,905,714.00**	**6.9%**	**0.9%**
Cash*	**$ 8,881,273**	**1.9%**	**2%**	**0% - 4%**	**$ 3,000,000**	**$ 11,881,273**	**2.5%**	**0.5%**
TOTAL	**$ 479,348,496**	**100%**	**100%**		**$ -**	**$ 479,348,497.00**	**100%**	

*Cash does not take into account benefit payments paid in February and March which reduce the current cash balance by ~$3mm per month (total ~$6mm)
Blackstone redemption proceeds of ~$4.9mm are expected to be distributed on 4/30/23

Callan

January 31, 2023

City of Norwalk
OPEB Monthly Report

Investment Measurement Service
Monthly Review

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City of Norwalk
January 31, 2023

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Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of January 31, 2023, with the distribution as of December 31, 2022. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	January 31, 2023					December 31, 2022		
	Market Value	**Weight**	**Target**	**Net New Inv.**	**Inv. Return**	**Market Value**	**Weight**	**Target**
Total Equity	**$82,743,812**	**65.56%**	**68.00%**	**$(4,000,000)**	**$5,797,245**	**$80,946,568**	**68.08%**	**68.00%**
Domestic Equity	**$51,398,064**	**40.72%**	**41.00%**	**$(2,000,000)**	**$3,323,346**	**$50,074,718**	**42.12%**	**41.00%**
Vanguard Total Stock Market	51,398,064	40.72%		(2,000,000)	3,323,346	50,074,718	42.12%	
International Equity	**$31,345,748**	**24.84%**	**27.00%**	**$(2,000,000)**	**$2,473,899**	**$30,871,849**	**25.97%**	**27.00%**
Vanguard Total Int'l. Stock	31,345,748	24.84%		(2,000,000)	2,473,899	30,871,849	25.97%	
Fixed Income	**$22,839,167**	**18.10%**	**20.00%**	**$(1,004,405)**	**$765,905**	**$23,077,668**	**19.41%**	**20.00%**
Metropolitan West Fund	8,657,685	6.86%		0	310,579	8,347,106	7.02%	
Prudential Cons Core Bond Fnd	14,181,482	11.24%		(1,004,405)	455,325	14,730,562	12.39%	
Liquid Real Assets	**$14,614,209**	**11.58%**	**12.00%**	**$(1,000,000)**	**$747,782**	**$14,866,427**	**12.50%**	**12.00%**
PIMCO All Assets	14,614,209	11.58%		(1,000,000)	747,782	14,866,427	12.50%	
Cash	**$6,017,833**	**4.77%**	**0.00%**	**$6,000,000**	**$15,075**	**$2,758**	**0.00%**	**0.00%**
Residual Cash	6,017,833	4.77%		6,000,000	15,075	2,758	0.00%	
Total Fund	**$126,215,022**	**100.0%**	**100.0%**	**$(4,405)**	**$7,326,006**	**$118,893,421**	**100.0%**	**100.0%**

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended January 31, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended January 31, 2023

	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months	Last 84 Months
Total Equity	**10.15%**	**(7.61%)**	**7.47%**	**6.18%**	**10.74%**
Domestic Equity	**9.44%**	**(8.44%)**	**9.41%**	**9.05%**	**12.98%**
Vanguard Total Stock Market (2)	9.44%	(8.44%)	9.41%	9.05%	12.98%
CRSP U.S. Total Market Index	9.45%	(8.42%)	9.42%	9.05%	12.99%
Russell 3000 Index	9.45%	(8.24%)	9.51%	9.12%	13.03%
International Equity	**11.30%**	**(6.25%)**	**4.45%**	**1.66%**	**7.16%**
Vanguard Total Int'l. Stock (3)	11.30%	(6.25%)	4.45%	1.66%	7.16%
Gl All Cap ex US Index	11.38%	(5.45%)	4.37%	1.88%	7.58%
Fixed Income	**0.28%**	**(8.82%)**	**(2.22%)**	**1.01%**	**1.48%**
Metropolitan West Fund	0.08%	(9.69%)	(2.15%)	1.11%	1.34%
Prudential Cons Core Bond Fnd	0.38%	(8.32%)	(2.25%)	0.96%	1.22%
Blmbg Aggregate Index	0.02%	(8.36%)	(2.35%)	0.86%	1.13%
Liquid Real Assets	**6.04%**	**(5.34%)**	**5.84%**	**3.99%**	**-**
PIMCO All Asset Fund	6.04%	(5.34%)	5.84%	3.99%	7.23%
Blmbg US TIPS 1-10	(1.05%)	(4.95%)	2.02%	2.93%	2.63%
Cash	**1.44%**	**1.59%**	**0.85%**	**1.21%**	**1.06%**
Residual Cash	1.44%	1.59%	0.85%	1.21%	1.06%
3-month Treasury Bill	1.63%	1.78%	0.78%	1.30%	1.11%
Total Fund	**7.33%**	**(7.82%)**	**5.46%**	**5.03%**	**8.18%**
Total Fund Benchmark (1)	6.97%	(6.84%)	5.25%	5.14%	7.82%
Annual Discount Rate:6.5%					

*Fiscal year starts 7/1 and ends 6/30.
(1) Current Total Fund Custom Benchmark = 41.0% Russell 3000 Index, 27.0% MSCI ACWI xUS, 20.0% Blmbg Aggregate and 12.0% Blmbg TIPS 1-10 Yr.
(2) On October 27, 2014 switched from Signal Shares to Admiral Shares, On November 14th, 2014 switched to Institutional Shares
(3) On November 14, 2014 switched from Admiral Shares to Institutional Shares

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Callan

December 31, 2022

City of Norwalk
OPEB

Investment Measurement Service
Quarterly Review

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Fourth Quarter 2022

Capital Markets Review

Is a Recession Inevitable in 2023?

ECONOMY

2 PAGE

The bond market is convinced a recession is inevitable in 2023, as shown by an inverted yield curve. Perhaps bond investors do not believe that we will achieve a "soft landing" from the current economic expansion. Robust current economic indicators conflict with this market expectation.

First Full-year Drop in Returns Since 2018

INSTITUTIONAL INVESTORS

4 PAGE

All investor types finished 2022 with steep declines. The S&P 500 and Bloomberg Aggregate were down together for three straight quarters (through 3Q22), and for the year, the first time since 1969. But most investors performed better than a 60% stocks/40% bonds benchmark.

4Q Gains Can't Stem Big Losses in 2022

EQUITY

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Stocks gained in 4Q but saw sharp drops over the full year. The drop for U.S. equities was broad-based, and almost every sector experienced negative returns. Global equities also rose in 4Q, as lower-than-expected U.S. inflation data buoyed market optimism at year-end.

Rebound in 4Q for U.S., Global Bonds

FIXED INCOME

8 PAGE

Bonds rose in 4Q but 2022 results remained negative. The gain for the Aggregate was driven by coupon income and spread tightening. The Municipal Bond Index 2022 return was the worst since 1981. Global fixed income 4Q gains were driven largely by U.S. dollar weakness.

NPI Falls 3.5% and REITs Lag Equities

REAL ESTATE/REAL ASSETS

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The NCREIF Property Index fell 3.5% during 4Q. The NCREIF ODCE Index dropped 5.2%. The FTSE EPRA Nareit Developed REIT Index rose 6.9% compared to a 9.8% gain for MSCI World. The FTSE Nareit Equity REITs Index increased 5.2%, compared to 7.6% for the S&P 500.

Deceleration in 2022; 2023 Very Unclear

PRIVATE EQUITY

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After a record-shattering 2021, private equity activity fell throughout 2022. On average, year-over-year transaction activity fell by about 20% and dollar volumes by 30%. However, fundraising and company investment and exit activity remain comparable to pre-pandemic levels.

Appetite Continues, but Strategies Shift

PRIVATE CREDIT

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Investors took a new look at upper-middle-market direct lending as all-in spreads have widened and lenders are able to get tighter terms. On average, the asset class has generated net IRRs of 8% to 10% for trailing periods ended Sept. 30, 2022.

Year Ends on a High Note After Tough Start

HEDGE FUNDS/MACs

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The median Callan Institutional Hedge Fund Peer rose 1.3%. Within the HFRI indices, the best-performing strategy was the emerging market index (+5.1%). Across the Callan Hedge FOF Database, all managers showed gains. The Callan MAC Style Groups also rose.

DC Index Falls 4.6%, Third Straight Decline

DEFINED CONTRIBUTION

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The Callan DC Index™ fell 4.6% in 3Q22 and 16.7% for the trailing one year. Balances within the Index declined by 4.7% after a 12.3% decrease the previous quarter. TDFs reclaimed the top spot in terms of quarterly net flows, garnering 73.6% of flows.

Broad Market Quarterly Returns

U.S. Equity
Russell 3000

▲ **7.2%**

Global ex-U.S. Equity
MSCI ACWI ex USA

▲ **14.3%**

U.S. Fixed Income
Bloomberg Agg

▲ **1.9%**

Global ex-U.S. Fixed Income
Bloomberg Global Agg ex US

▲ **6.8%**

Sources: Bloomberg, FTSE Russell, MSCI

Is a Recession Inevitable in 2023?

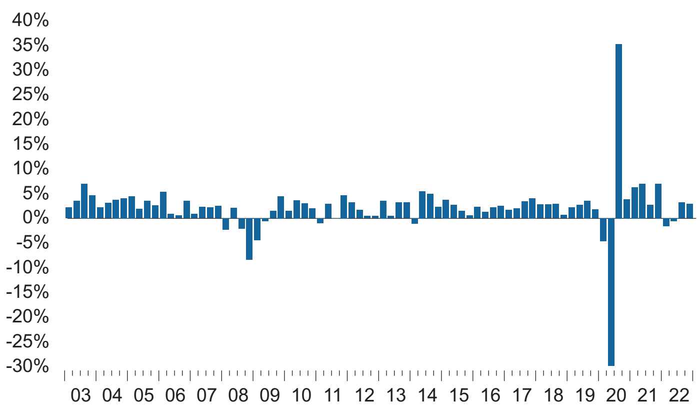
ECONOMY | Jay Kloepfer

The bond market is convinced a recession is inevitable in 2023. The yield curve is inverted, and this phenomenon has preceded every recession in modern history. This inversion occurs when yields on the short end of the curve are higher than yields on the long end. A normal yield curve is upward sloping, with higher yields offered for taking on debt with greater maturities. An inverted yield curve implies that investors expect interest rates to fall, and that holding longer-dated debt will provide a greater return as rates drop. Why would investors expect interest rates to fall? They believe that a recession is coming, and the Federal Reserve will cut interest rates to stimulate economic growth.

Last year was anything but normal for almost all measures of the capital markets, interest rates, inflation, and the economy. It may be reasonable to be a bit skeptical that the bond market has called this recession correctly. First, the U.S. economy suffered two quarters in a row of GDP loss "way back" in 1Q and 2Q22! A consecutive quarterly decline in GDP is often the rule of thumb used to invoke recession, but last year, such was not the case. The economy resumed robust growth with a solid 3.2% annualized gain in 3Q, and a 2.9% increase in 4Q. As a result, GDP advanced 2.1% for the year, following a strong 5.9% jump in 2021. Where was the growth in 4Q22 and for the year? Consumer spending on services, led by international travel, food services, accommodation, and health care. We also re-built inventories and increased investment in software and equipment. The one large drag was a decline in home construction, as mortgage rates shot up from the low 2% range to over 7% in a matter of months.

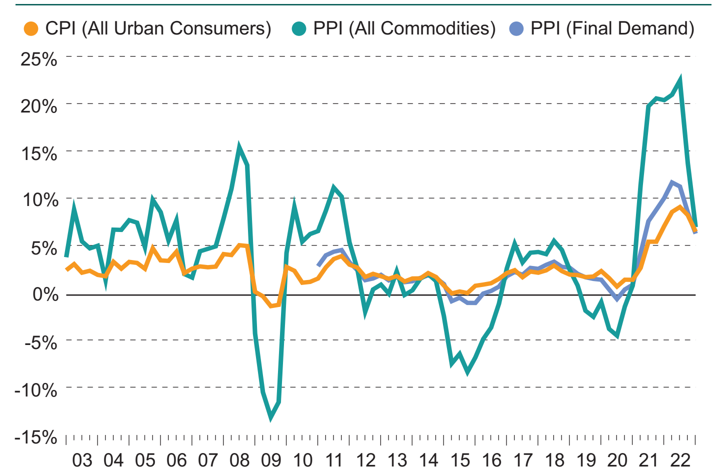
Inflation burned out of control by mid-year 2022. Faced with huge increases in the price of daily staples and durable goods like autos, consumers quickly redirected their spending away from goods suffering steep inflation, and spending on such goods within GDP actually declined during the year. This wasn't always captured in the CPI; one of its failings as a measure of inflation is that it assumes a certain basket of goods will continue to be purchased at fixed weights even when prices shoot up. Clearly, higher prices for food staples and rent are impossible to avoid, but consumers substitute budget expenditures with great skill to

Quarterly Real GDP Growth (20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

counter price hikes. Inflation measured by the CPI-U rose sharply year-over-year, cresting at 9% by June, but the rate of increase in prices flattened completely in the second half of the year. So while the year-over-year increase for 4Q CPI hit 6.5%, the quarterly CPI for 4Q came in at 0% (change over 3Q). The problem for consumers and businesses is that even though CPI has stopped rising, prices are now "permanently" higher.

While a disconnect remains in the job market between those looking for work and the jobs offered by employers, the job market notched serious gains in net new jobs throughout the year, adding over 4.5 million. The level of employment finally surpassed the pre-pandemic peak in August 2022. Additions to the unemployment roll measured by weekly jobless claims continued to stay historically low, while continuing unemployment claims dropped from over 5 million at the start of 2021 to 1.7 million in December. Calendar year 2022 saw the lowest level of continuing claims in more than two decades.

With continued economic strength suggested by the robust job market and solid GDP growth, where is the concern over recession coming from in the bond market? The answer is a logic puzzle that can seem like a circular argument. The Fed raised rates quickly and by a large amount starting last March to battle the surge in inflation. The surge stemmed from supply chain dislocations as we emerged from the pandemic lockdown; from a surge in demand for workers, which drove wage growth; from a surge in demand from consumers; and then layered on top of these trends the disruption from the Russian invasion of Ukraine. The bond market suddenly “believed” in the Fed’s stated plans for interest rates through 2022, and yields moved quickly toward long-term equilibrium by mid-year 2022. The Fed’s primary tool to battle inflation is the Fed Funds rate. The premise is that higher rates cool demand for goods and services from all actors in the economy and wring inflation out of the economy. The reality is that higher rates appear to be working as advertised, as demand has lessened and inflation stopped rising month-to-month in the summer of 2022. The inverted yield curve says the bond market believes the very success of the Fed’s inflation policy is now certain to cause recession, and then a reversal of interest rate policy to fight said recession. Perhaps the bond market does not believe that we will achieve the holy grail of Fed policy, which is to engineer a “soft landing” from the current economic expansion.

The Long-Term View

Index	4Q22	1 Yr	5 Yrs	10 Yrs	25 Yrs
		Periods Ended 12/31/22			
U.S. Equity					
Russell 3000	7.2	-19.2	8.8	12.1	7.7
S&P 500	7.6	-18.1	9.4	12.6	7.6
Russell 2000	6.2	-20.4	4.1	9.0	7.1
Global ex-U.S. Equity					
MSCI EAFE	17.3	-14.5	1.5	4.7	4.5
MSCI ACWI ex USA	14.3	-16.0	0.9	3.8	--
MSCI Emerging Markets	9.7	-20.1	-1.4	1.4	--
MSCI ACWI ex USA Small Cap	13.3	-20.0	0.7	5.2	6.9
Fixed Income					
Bloomberg Agg	1.9	-13.0	0.0	1.1	4.0
90-Day T-Bill	0.8	1.5	1.3	0.8	1.9
Bloomberg Long G/C	2.6	-27.1	-1.2	1.6	5.4
Bloomberg Gl Agg ex US	6.8	-18.7	-3.1	-1.6	2.7
Real Estate					
NCREIF Property	-3.5	5.5	7.5	8.8	9.0
FTSE Nareit Equity	5.2	-24.4	3.7	6.5	7.9
Alternatives					
CS Hedge Fund	0.9	1.1	4.2	4.2	5.8
Cambridge PE*	-1.8	-3.8	16.8	15.3	14.3
Bloomberg Commodity	2.2	16.1	6.4	-1.3	1.9
Gold Spot Price	9.2	-0.1	6.9	0.9	7.6
Inflation – CPI-U	0.0	6.5	3.8	2.6	2.5

*Data for most recent period lags. Data as of 9/30/22.
Sources: Bloomberg, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, Refinitiv/Cambridge, S&P Dow Jones Indices

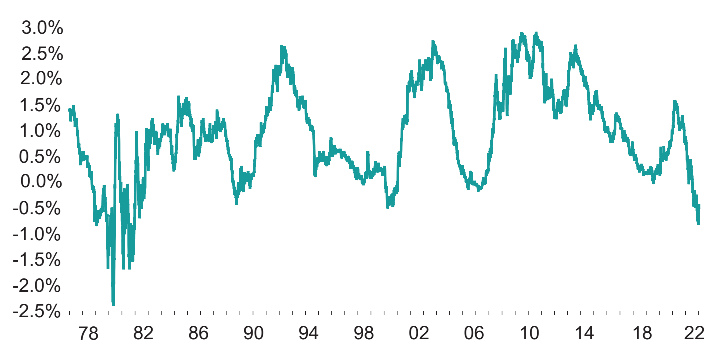
It is true that we have never achieved a soft landing in the past, so the bond market may be justified in expecting that the Fed will overshoot and tip the U.S. into recession. Robust current economic indicators, especially in the labor market outside of technology, conflict with this market expectation.

Recent Quarterly Economic Indicators

	4Q22	3Q22	2Q22	1Q22
Employment Cost: Total Compensation Growth	5.1%	5.0%	5.1%	4.5%
Nonfarm Business: Productivity Growth	3.0%	1.4%	-4.1%	-5.9%
GDP Growth	2.9%	3.2%	-0.9%	-1.6%
Manufacturing Capacity Utilization	78.5%	79.2%	79.5%	79.1%
Consumer Sentiment Index (1966=100)	58.8	56.1	57.8	63.1

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

10-Year Treasury vs. 2-Year Treasury Spread



Source: Federal Reserve Bank of St. Louis

Worst Year Since 2018 as Both Stocks and Bonds Fall

INSTITUTIONAL INVESTORS

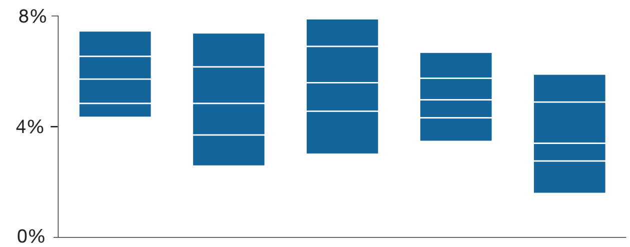
Double-digit declines mark the end of a tough year

– All investor types finished 2022 with double-digit declines, as both equities and fixed income fell.
– Insurance assets fared the best during the year, while corporate plans saw the lowest returns.
– Most plan types performed better than a benchmark consisting of 60% S&P 500/40% Bloomberg Aggregate, but they had a harder time matching that benchmark over longer time periods.
– The declines in 2022 were far higher than those in 2018, which was the last year that saw drops in the value of portfolios for institutional investors.

Inflation and interest rates are top client concerns

– CPI-U was up more than 8% year-over-year in each month from March through September.
– The Fed has raised rates 425 bps since March, from 0.0%-0.25% to 4.25%-4.50% in December 2022.
– The S&P 500 and Bloomberg Aggregate were down together for three consecutive quarters (through 3Q22), and for the year, the first time since 1969.
– And there was no place to hide in 2022; every asset class except cash was down. It was the worst year for a 60/40 portfolio in decades.
– However, lower asset values but higher returns expected going forward is a silver lining for investors.
– Institutional investors have a greater chance of hitting return targets and can even reduce risk, after years of risking up to chase return.
– There are rising expectations for a recession; the yield curve is inverted.
– Geopolitical risk surrounding China was another area of focus as institutional investors try to understand how its COVID re-opening and tensions regarding Taiwan could impact markets.

Quarterly Returns, Callan Database Groups (12/31/22)



	Public	Corporate	Nonprofit	Taft-Hartley	Insurance Assets
10th Percentile	7.5	7.4	7.9	6.7	5.9
25th Percentile	6.5	6.2	6.9	5.8	4.9
Median	5.7	4.8	5.6	5.0	3.4
75th Percentile	4.8	3.7	4.6	4.3	2.8
90th Percentile	4.3	2.6	3.0	3.5	1.6

Source: Callan

Callan Database Median and Index Returns* for Periods Ended 12/31/22

Database Group	Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
Public Database	**5.7**	**-12.7**	**4.3**	**5.3**	**7.3**	**7.5**
Corporate Database	**4.8**	**-17.4**	**0.5**	**3.0**	**5.8**	**7.0**
Nonprofit Database	**5.6**	**-13.1**	**3.6**	**4.8**	**6.8**	**7.4**
Taft-Hartley Database	**5.0**	**-10.6**	**4.7**	**5.7**	**7.7**	**7.3**
Insurance Assets Database	**3.4**	**-10.0**	**1.0**	**2.6**	**4.0**	**5.0**
All Institutional Investors	**5.2**	**-13.3**	**3.4**	**4.7**	**6.9**	**7.3**
Large (>$1 billion)	**4.9**	**-12.4**	**4.1**	**5.1**	**7.0**	**7.6**
Medium ($100mm - $1bn)	**5.2**	**-13.8**	**3.3**	**4.7**	**7.0**	**7.2**
Small (<$100 million)	**5.5**	**-13.6**	**3.2**	**4.5**	**6.7**	**7.0**
60% S&P 500/40% Bloomberg Agg	5.3	-15.9	4.0	6.1	8.1	7.4

*Returns less than one year are not annualized.

Source: Callan. Callan's database includes the following groups: public defined benefit (DB) plans, corporate DB plans, nonprofits, insurance assets, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. Reference to or inclusion in this report of any product, service, or entity should not be construed as a recommendation, approval, affiliation, or endorsement of such product, service, or entity by Callan.

Return to normal in bonds

- The role of core bonds in portfolios was restored; cash is viable again as a liquidity tool.
- A 4.5% yield may change the demand for yield substitutes: IG credit, bank loans, high yield, private credit, even real estate and infrastructure?

Private markets: now over target allocations

- Downward marks are coming, gradually.
- Interest remains strong in all private assets.

Public defined benefit (DB) plan priorities

- Public DB plans are analyzing how the changes to Callan's Capital Markets Assumptions will affect their portfolios.
- Returns in 2022 gave back some of the funded status gains from 2020-21. But downward pressure on actuarial discount rates may now abate as capital markets expectations are higher following the market decline.

Corporate DB plan priorities

- Corporate DB plans focused on de-risking.
- The experience of 2022 has these plans questioning what they are doing with LDI, and why. Funded status no longer translates directly to contributions, or expense.
- Higher interest rates may increase discussions about pension risk transfer. Corporate DB plans appear to be inclined to keep the plan on the balance sheet.

Defined contribution (DC) plan priorities

- New regulations such as SECURE 2.0 and the U.S. Department of Labor's environmental, social, and governance (ESG) rule were on the minds of many sponsors.
- In investment manager searches, DC-friendly vehicles with competitive pricing are a key criterion.

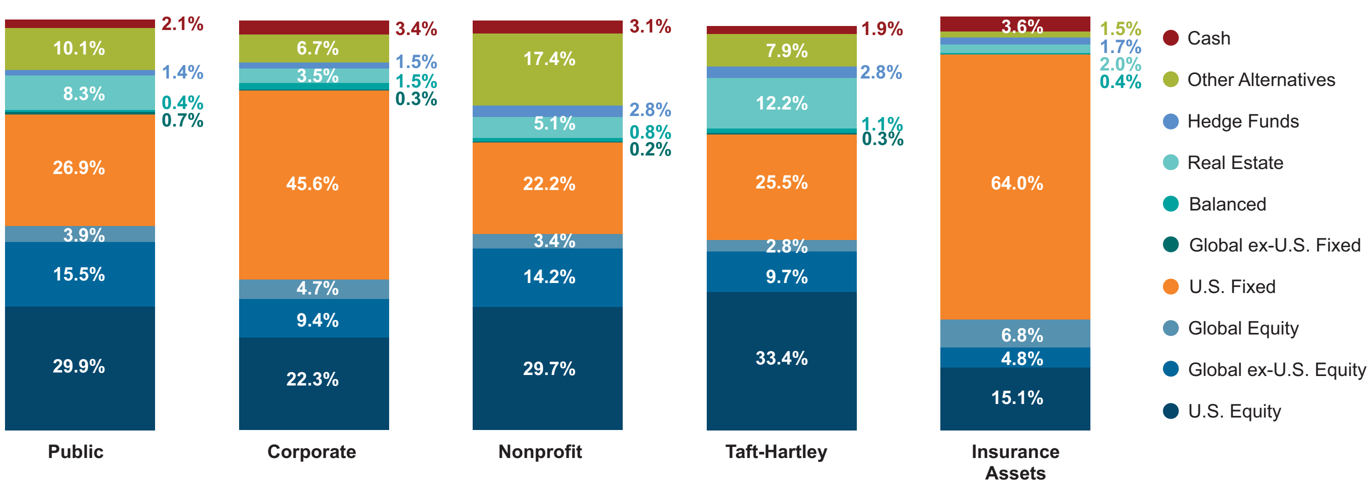
Nonprofit priorities

- Reviews of asset-allocation structures were likely in light of the changed market environment.

Insurance companies' priorities

- They are one of the few investors that "enjoyed" the spike in yields during 2022. Typically invested to match short-term liabilities, they are focused on investment income and use it to offset operating expenses.
- As interest rates rose, insurers sold bonds with lower book yields and took losses, then re-invested at much higher book yields.

Average Asset Allocation, Callan Database Groups



Note: charts may not sum to 100% due to rounding. Other alternatives include but is not limited to: diversified multi-asset, private credit, private equity, and real assets.
Source: Callan

Equity

U.S. Equities

Markets fall in final month of quarter after gains

- The S&P 500 Index posted positive returns in both October and November but fell in December. The index was up 7.6% during 4Q22 but ended 2022 down 18.1%.
- Energy was the best-performing sector during the quarter and 2022, returning 23% and 66% respectively. Consumer Discretionary and Communication Services were the only two sectors that posted negative returns in 4Q.
- Value stocks outperformed growth across the market capitalization spectrum, and for both 4Q and the full year.
- Large cap stocks (Russell 1000) outperformed small caps (Russell 2000) last quarter and for the year.
- Continued macroeconomic concerns (e.g., inflation, potential recession, geopolitical issues) led to higher volatility and a down-year for U.S. equities.

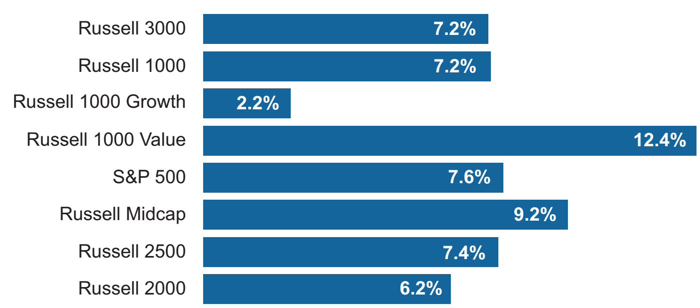
Market valuations have reset with the broad-based sell-off

- The drop for equities in 2022 was broad-based, and almost every sector experienced negative returns. Higher interest rates impacted the growth-oriented sectors the most (e.g., Technology, Communication Services).
- Mega-cap technology stocks have underperformed, ending an extended period of market leadership.
- Large cap stocks are now trading around their average P/E ratio, but they are not yet "cheap."
- Despite the recent outperformance of value stocks, value still looks attractive relative to growth heading into 2023.

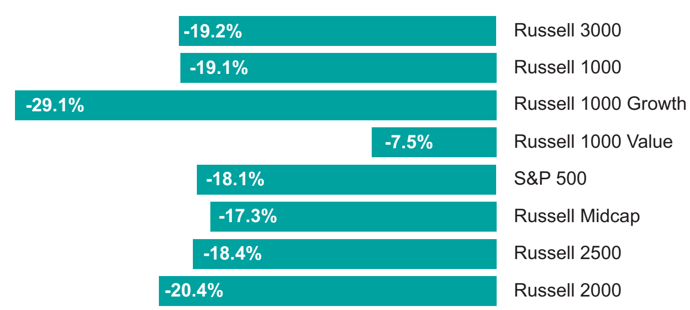
Small cap valuations are attractive relative to large cap

- During 4Q22, the Russell 2000 was trading at a 30% discount to its historical P/E average.
- Relative to large caps, the Russell 2000's forward 12 months P/E is trading at the lowest level versus large cap stocks since the Dot-Com Bubble.
- Relative to large and mid caps, small caps have looked significantly cheaper on various valuation metrics recently.

U.S. Equity: Quarterly Returns (12/31/22)

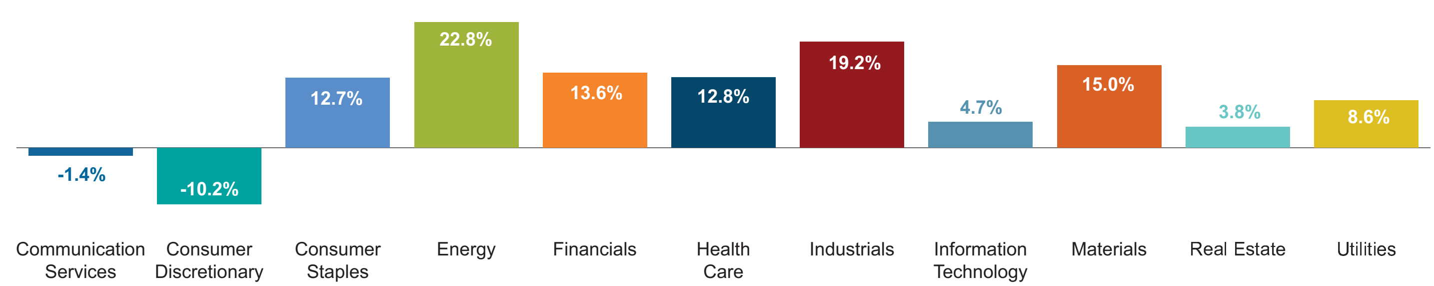


U.S. Equity: One-Year Returns (12/31/22)



Sources: FTSE Russell and S&P Dow Jones Indices

Quarterly Performance of Industry Sectors (12/31/22)



Source: S&P Dow Jones Indices

Global Equity

Ending on a high note

4Q22 was a bright spot during a tough calendar year in global and global ex-U.S. equity markets.

Encouraging signs

– Lower-than-expected U.S. inflation data buoyed market optimism at the end of the year.
– The Fed slowed its pace of tightening, with further slowing expected in 2023.
– China reversed its zero-COVID policies, prompting exuberance from investors.

Value outpaces growth

– Value outpaced growth in developed and emerging markets.
– Economically sensitive sectors (e.g., Financials and Industrials) benefited from the anticipation of improved growth; Energy was the largest outperformer.

U.S. dollar vs. other currencies

– After reaching a multi-decade high, the dollar fell against all major currencies with signs of inflation easing.
– Despite the 7.7% decline in 4Q22, the dollar still gained nearly 8% over the full year.
– Global central banks' rate hikes and the U.S. Federal Reserve's slowing pace of tightening could prolong U.S. dollar decline.
– Continued weakening of the U.S. dollar would be a tailwind for non-U.S. equities.

What about style?

– A sustained shift to value after the recent prolonged growth cycle would likely favor non-U.S. equities over U.S. equities given the higher representation of traditional value sectors in global ex-U.S. equity universes.

China's reopening spurs hopes for emerging markets

– In addition to pivoting from its zero-COVID policy, Chinese regulators shifted to supportive policies to stabilize the property sector and tech/platform industry.

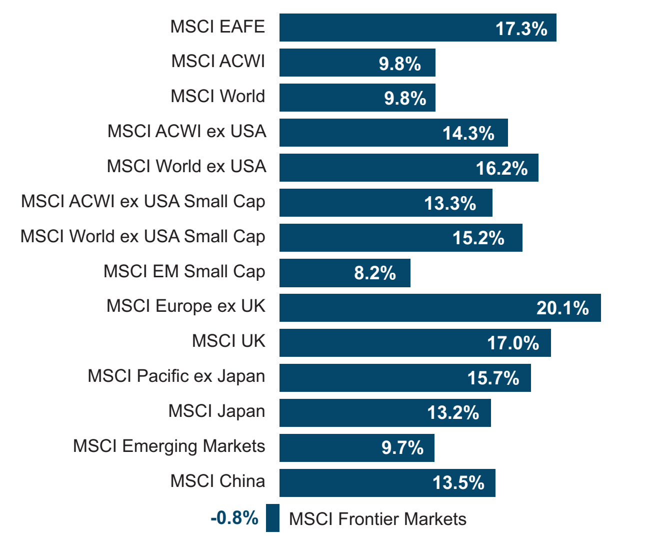
Reopening is expected to jump-start Chinese economy

– China's real GDP growth is estimated to reach 5.5% in 2023 and nearly 7% on a 4Q/4Q basis.
– Real consumption is projected to grow by 8.5% in 2023 as Chinese households have amassed $2.6 trillion in savings.

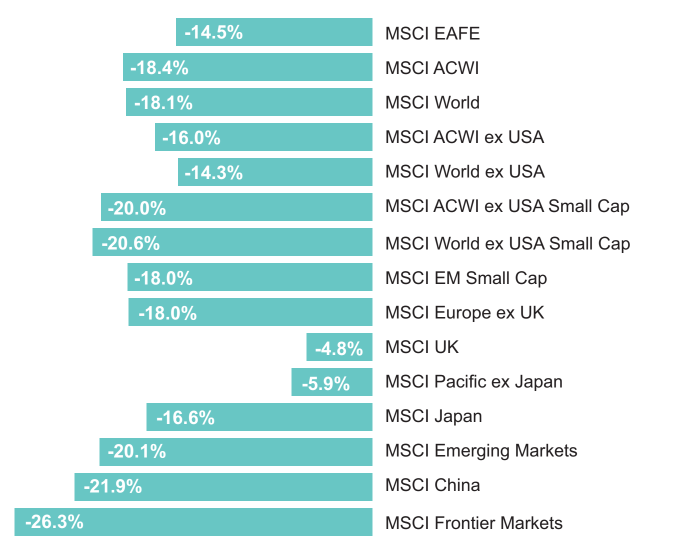
Recovery in China will spill over to other EM regions

– Growth in Chinese consumption is expected to have positive impact on tourism in Southeast Asia; goods exports in Europe, the Middle East, and Africa; and commodities in Latin America.

Global ex-U.S. Equity: Quarterly Returns (U.S. Dollar, 12/31/22)



Global ex-U.S. Equity: One-Year Returns (U.S. Dollar, 12/31/22)



Source: MSCI

Fixed Income

U.S. Fixed Income

Bonds were up in 4Q but 2022 results remain negative

– Gain for the Bloomberg US Aggregate Bond Index driven by coupon income and spread tightening; interest rates rose modestly

Rates were volatile intra-quarter

– U.S. Treasury 10-year yield: high 4.22% on 11/7; low 3.42% on 12/7
– Curve remained inverted at quarter-end: 10-year yield 3.88% and 2-year yield 4.41%; most since 1981

Fed raised rates bringing target to 4.25%-4.50%

– Median expectation from Fed is 5.1% for year-end 2023.
– Inflation showed signs of moderating but job market remained tight with solid wage growth.

Corporates and mortgages outperformed Treasuries in 4Q

– 4Q: Corporates +289 bps excess return; residential mortgage-backed securities (RMBS) +110 bps
– 2022: Corporates -125 bps excess return; RMBS -223 bps
– RMBS had worst month ever (September: -191 bps) and best month ever (November: +135 bps) in excess returns

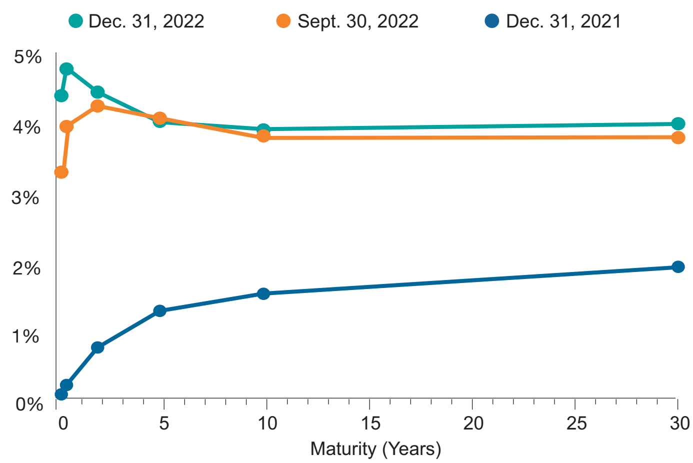
Valuations fair

– While absolute yields are higher, spreads have not widened materially, and most are close to historical averages.
– An economic slowdown could impact credit spreads.
– Higher yields have boosted forward-looking returns across sectors.

Economic slowdown clouds the corporate credit picture

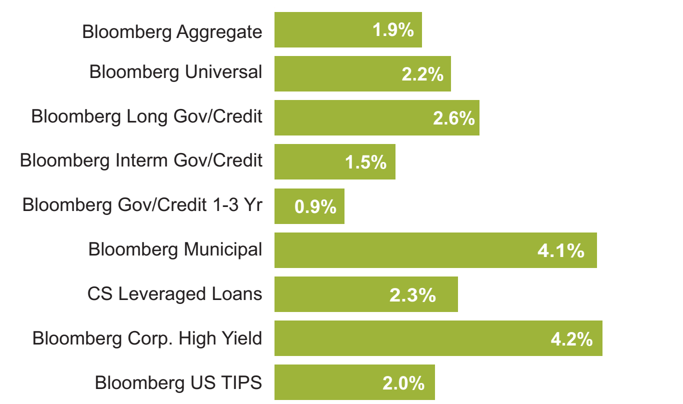
– Despite prospects for an economic slowdown in 2023, fundamental credit metrics for many issuers are strong.
– Default rates are expected to tick up, albeit not to the same extent as in previous recessions.
– Investors may be biased toward higher-quality investment grade issuers as they weigh the threat of a looming recession and potential implications for increased volatility in lower-quality corporate credit markets.

U.S. Treasury Yield Curves



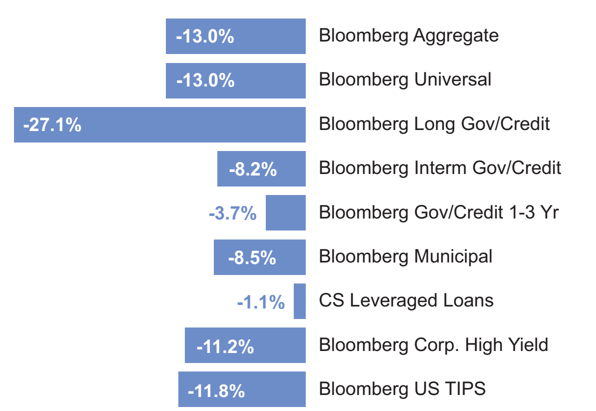
Source: Bloomberg

U.S. Fixed Income: Quarterly Returns (12/31/22)



Sources: Bloomberg and Credit Suisse

U.S. Fixed Income: One-Year Returns (12/31/22)



Sources: Bloomberg and Credit Suisse

TIPS: Beware of duration

- Despite a rise in inflation, TIPS saw marked declines in 2022 amid rising interest rates.
- TIPS, like nominal Treasuries, are sensitive to changes in interest rates, and as a result, shorter-duration TIPS fared better than full spectrum TIPS in 2022.
- Shorter-term TIPS exhibit a higher correlation to realized inflation but also provide a similar risk-adjusted return as that of full spectrum TIPS.

Municipal Bonds

Gains in 4Q but most 2022 results remain negative

- Municipal Bond Index calendar year return worst since 1981
- Higher quality outperformed in 4Q (AAA: +4.3%; AA: +4.1%; A: +4.0%; BBB: +3.9%; High Yield: +3.5%) and in 2022
- Munis outperformed most other fixed income sectors in 4Q and in 2022

Valuations relative to U.S. Treasuries on the rich side

- 10-year AAA Muni/10-year U.S. Treasury yield ratio 68%; below 10-year average of 88%
- After-tax yield of Muni Bond Index = 6.0% (Source: Eaton Vance)

Supply/demand

- Mutual fund outflows hit a record $122 billion in 2022, with tax loss harvesting being a key driver.
- ETFs saw inflows as some investors reinvested in them.
- Supply also down; $71 billion in 4Q and the lowest in 13 years; 2022 issuance off roughly 20% from 2021

Credit quality remained stable

- State and local tax collections robust and reserves elevated; state revenues up 16% on average vs. 2021

Global Fixed Income

4Q returns driven largely by U.S. dollar weakness

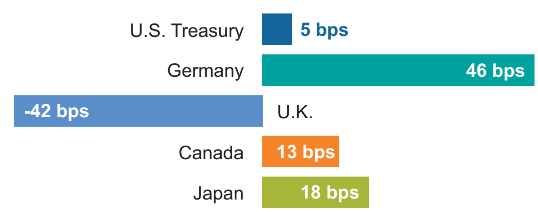
- U.S. dollar down 9% vs. euro, 10% vs. yen, 8% vs. pound
- For the year, dollar up 6% vs. euro, 13% vs. yen, and 11% vs. pound
- Rates up across most of Europe and in Japan
- Rates fell in the U.K.

Emerging market debt also did well

- Returns varied across countries but most were positive

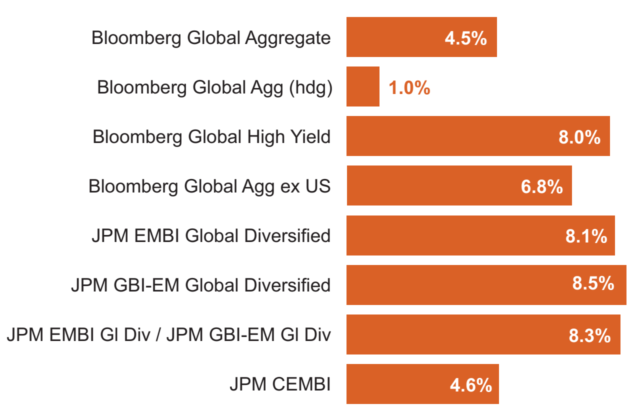
Change in 10-Year Global Government Bond Yields

3Q22 to 4Q22



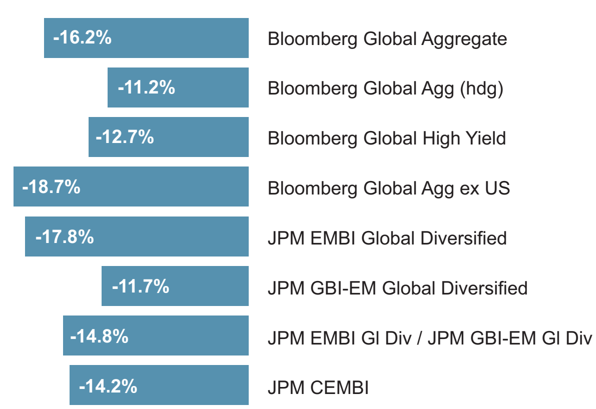
Source: Bloomberg

Global Fixed Income: Quarterly Returns (12/31/22)



Sources: Bloomberg and JPMorgan Chase

Global Fixed Income: One-Year Returns (12/31/22)



Sources: Bloomberg and JPMorgan Chase

NPI Falls 3.5% and REITs Lag Equities

REAL ESTATE/REAL ASSETS | Kristin Bradbury, Munir Iman, and Aaron Quach

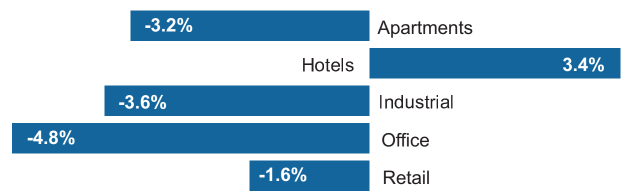
Negative appreciation in four major sectors

– The NCREIF Property Index, a measure of U.S. institutional real estate assets, fell 3.5% during 4Q22. The income return was 1.0% while the appreciation return was -4.5%.
– Hotels, which represent a small portion of the index, led property sector performance with a gain of 3.4%. Office finished last with a loss of 4.8%.
– Regionally, the South led with a loss of 2.5%, while the East was the worst performer with a loss of 3.9%.
– All major property sectors and regions, except for Hotel, experienced negative appreciation.
– The NCREIF Open-End Diversified Core Equity (ODCE) Index, representing equity ownership positions in U.S. core real estate, fell 5.2% during 4Q, with an income return of 0.59% and an appreciation return of -5.76%.

REITs lagged equity indices

– The FTSE EPRA Nareit Developed REIT Index, a measure of global real estate securities, rose 6.9% during 4Q22 compared to a 9.8% rise for global equities (MSCI World).
– U.S. REITs, as measured by the FTSE Nareit Equity REITs Index, rose 5.2%, in contrast with the S&P 500 Index, which gained 7.6%.
– Despite strong earnings, forward REIT earnings estimates continued to weaken, reflecting the potential for an economic slowdown as well as financing cost pressures.

Sector Quarterly Returns by Property Type (12/31/22)



Source: NCREIF

– The FTSE EPRA Nareit Asia Index (USD), representing the Asia/Pacific region, rose 9.0%, lifted by a rally in rate-sensitive Australian REITs.
– European REITs, as measured by the FTSE EPRA Nareit Europe Index (USD), rose 13.9%, driven by currency tailwinds in both the euro and the pound.

Real assets held up in the quarter

– Real assets as a group performed well in 4Q.
– The S&P GSCI Index rose 3.4%; Gold (S&P Gold Spot Price Index: +9.2%), REITs (MSCI US REIT: +5.2%), infrastructure (DJB Global Infrastructure: +9.6%), and TIPS (Bloomberg TIPS: +2.0%) all posted solid returns.
– Full year results remained poor, however, for most real assets outside of those related to energy. The Alerian MLP Index gained 30.9% as it benefited from higher energy prices.

Callan Database Median and Index Returns* for Periods Ended 12/31/22

Private Real Assets	Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	15 Years
Real Estate ODCE Style	**1.1**	**11.3**	**11.3**	**10.2**	**8.3**	**9.5**	**5.4**
NFI-ODCE (value-weighted, net)	-5.2	6.5	6.5	9.0	7.7	9.1	5.3
NCREIF Property	-3.5	5.5	5.5	8.1	7.5	8.8	6.5
NCREIF Farmland	2.0	9.5	9.5	6.8	6.4	8.8	10.1
NCREIF Timberland	4.9	12.9	12.9	7.5	5.4	5.8	4.7
Public Real Estate							
Global Real Estate Style	**7.0**	**-25.1**	**-25.1**	**-2.3**	**2.3**	**5.1**	**4.1**
FTSE EPRA Nareit Developed	6.9	-25.1	-25.1	-4.9	-0.2	3.0	2.1
Global ex-U.S. Real Estate Style	**11.0**	**-25.9**	**-25.9**	**-6.8**	**-0.9**	**3.9**	**2.1**
FTSE EPRA Nareit Dev ex US	10.3	-24.3	-24.3	-8.7	-3.0	0.9	0.1
U.S. REIT Style	**4.3**	**-24.9**	**-24.9**	**1.0**	**5.0**	**7.4**	**7.2**
FTSE EPRA Nareit Equity REITs	5.2	-24.4	-24.4	-0.1	3.7	6.5	6.2

*Returns less than one year are not annualized. Sources: Callan, FTSE Russell, NCREIF

Deceleration in 2022, with Trends for 2023 Very Unclear

PRIVATE EQUITY | Gary Robertson

Private equity showed a gradual decline in 2022, but fundraising and company investment and exit activity remain comparable to the pre-pandemic levels seen in 2018 and 2019.

Fundraising ▶ In 2022 private equity partnerships holding final closes raised $870 billion across 2,211 partnerships (unless otherwise noted, all data is from PitchBook and 4Q numbers are very preliminary). The dollar amount is 16% lower than 2021, but partnerships plunged by 47%. 4Q had final closes totaling $166 billion, down 21% from 3Q. The number of funds totaled 407, down 20%.

Buyouts ▶ New buyout investments for 2022 totaled 12,985, down 14% from 2021. Dollar volume fell 9% to $837 billion. 4Q saw 2,625 new investments, a 20% decrease from 3Q, but dollar volume rose 27% to $239 billion.

VC Investments ▶ The year produced 51,020 rounds of new investment in venture capital (VC) companies, down 16% from 2021. Announced volume of $509 billion was down 31%. 4Q saw 9,280 new rounds, a 20% decline from 3Q, and dollar volume fell 21% to just $81 billion.

Exits ▶ Last year saw 2,901 buyout-backed private M&A exits, down 23% from 2021, with proceeds of $590 billion, down 26%. 4Q had 551 private exits, down 22% from 3Q, with proceeds of $132 billion, down 2%. The year's 201 buyout-backed IPOs dropped 55% from 2021, with proceeds of $33 billion, down 75%. 4Q IPOs numbered 50, down 21% from 3Q, and proceeds of $8 billion declined 27%. Venture-backed M&A exits for the year totaled 2,625, down 24% from 2021. Announced dollar volume of $110 billion fell 57%. The final quarter had 462 exits, down 20% from 3Q, and value of only $7 billion, plunging 72%. The year's 317 venture-backed IPOs sank 51% from 2021, with proceeds of $41 billion, falling 75%. There were 106 in 4Q, up 33% from 3Q, but the $8 billion of proceeds fell 47%.

Returns ▶ In 3Q, and in the two prior quarters, private equity fell by only about 35% of the public equity market's decline. With the upcoming 4Q valuations being subject to annual audits, continued moderate declines are likely.

Funds Closed 1/1/22 to 12/31/22

Strategy	No. of Funds	Amt ($mm)	Share
Venture Capital	1,369	259,199	30%
Growth Equity	156	117,800	14%
Buyouts	477	362,629	42%
Mezzanine Debt	17	26,998	3%
Distressed/Special Credit	40	50,955	6%
Energy	7	2,340	0%
Secondary and Other	116	41,703	5%
Fund-of-funds	29	8,808	1%
Totals	**2,211**	**870,432**	**100%**

Source: PitchBook (Figures may not total due to rounding.)

Private Equity Performance (%) (Pooled Horizon IRRs through 9/30/22*)

Strategy	Quarter	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years
All Venture	-2.7	-9.1	28.4	23.8	19.4	13.6	12.4	20.6
Growth Equity	-1.8	-9.4	20.8	18.4	15.7	12.8	14.3	14.5
All Buyouts	-1.9	-1.5	18.5	16.1	15.3	10.6	14.7	13.1
Mezzanine	0.2	5.0	11.8	11.1	11.3	10.3	11.1	10.0
Credit Opportunities	0.7	3.9	8.4	7.2	8.3	8.6	9.9	9.5
Control Distressed	-0.2	11.3	19.4	13.8	12.7	10.5	11.9	11.9
All Private Equity	**-1.8**	**-3.7**	**20.2**	**17.3**	**15.5**	**11.3**	**13.7**	**13.8**
S&P 500	-4.9	-15.5	8.2	9.2	11.7	8.0	9.8	7.5
Russell 3000	-4.5	-17.6	7.7	8.6	11.4	7.9	9.9	7.5

Note: Private equity returns are net of fees. Sources: Refinitiv/Cambridge and S&P Dow Jones Indices
*Most recent data available at time of publication

Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of the *Capital Markets Review* and other Callan publications.

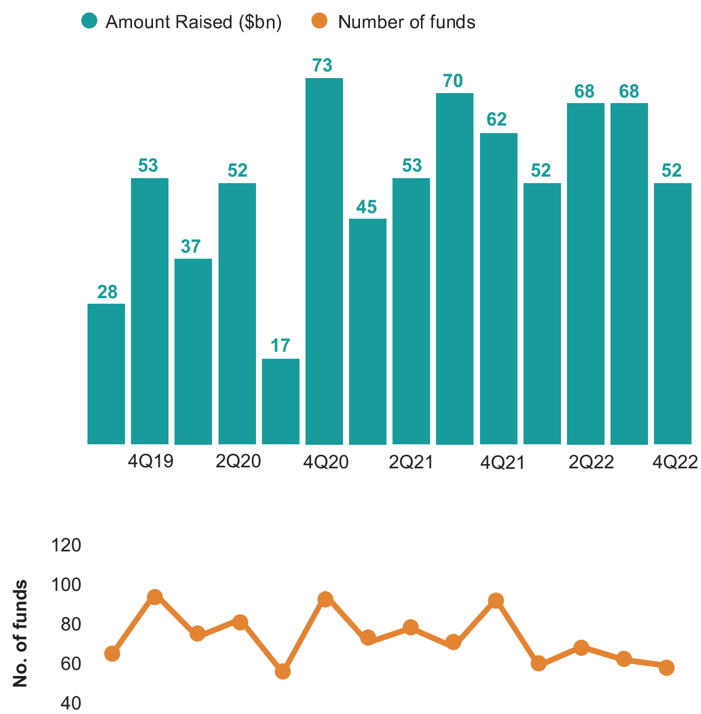
Investor Appetite Continues, but Strategies of Interest Shift

PRIVATE CREDIT | Catherine Beard

Upper-middle-market direct lending gets a new look

- During 4Q22, clients took a new look at upper-middle-market direct lending as all-in spreads have widened by over 400 bps and lenders are able to get tighter terms. Strong deal volume was driven partially by a shift from public to private market debt financings in the recent market environment.
- As economic headwinds are expected to create stress on over-levered companies, there is a renewed interest in stressed and distressed investment opportunities.
- Demand continued to be strong for less-competitive areas of private credit with high barriers to entry and attractive risk/reward opportunities such as specialty finance, non-sponsor, lower-middle-market, and opportunistic lending.
- LPs are seeking alternative structures designed to streamline the investment process while improving underlying liquidity. A number of GPs are launching evergreen structures and private, non-tradeable business development companies as a response to LP interest.
- Private credit performance varies across sub-asset class and underlying return drivers. On average, the asset class has generated net IRRs of 8% to 10% for trailing periods ended Sept. 30, 2022. Higher-risk strategies performed better than lower-risk strategies.
- As interest rates declined after the GFC, private credit attracted increased interest from institutional investors.
- Private credit fundraising was robust leading into the COVID dislocation, with a particular focus on direct lending, asset-based lending, and distressed strategies.
- In the current rising rate environment, a renewed focus has been placed on relative value, downside protection, and managers' internal workout resources.

Private Credit Fundraising ($bn)



Source: Preqin

- There is also interest in strategies with strong collateral protection such as asset-based lending as well as capital solutions and distressed strategies.
- Larger sponsor-backed lending is seeing a new focus due to the disintermediation of high yield/broadly syndicated loans by private debt

Private Credit Performance (%) (Pooled Horizon IRRs through 9/30/22*)

Strategy	Quarter	1 Year	3 Years	5 Years	8 Years	10 Years	15 Years	20 Years
Senior Debt	-2.4	-3.5	4.6	5.1	5.7	5.9	6.3	6.1
Mezzanine	0.2	5.0	11.8	11.1	10.8	11.3	10.5	11.3
Credit Opportunities	0.7	3.9	8.4	7.2	6.6	8.3	8.6	9.7
Total Private Credit	-0.1	2.6	8.4	7.7	7.4	8.6	8.8	9.7

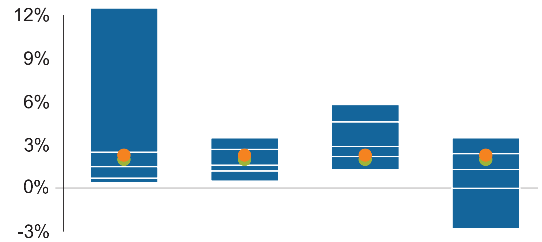
Source: Refinitiv/Cambridge
*Most recent data available at time of publication

Managers See Declines but Outpace Benchmarks

HEDGE FUNDS/MACs | Joe McGuane

- Risk assets rallied in 4Q22, as U.S. inflation showed a steady decline from the peak over summer, boosting hopes for fewer rate increases heading into 2023. In addition, corporate earnings were generally better than expected, and China announced the lifting of its zero-COVID policy.
- As the quarter wore on, the Federal Reserve remained committed to tighter monetary conditions, signaling more rate hikes in 2023 in addition to the 50 basis point increase at its December meeting.
- Despite a December sell-off, the S&P 500 gained 8% for the quarter. Value significantly outperformed growth, and stocks across most sectors rebounded, with the energy sector notably higher for the quarter. Global ex-U.S. equities outperformed U.S. equities, as cooling energy prices dragged down inflation. China's reopening and easing of the zero-COVID policy led to Asian equities recovering their initial losses from October.

Hedge Fund Style Group Returns (12/31/22)



	Absolute Return FOF	Core Div. FOF	Long/Short Equity FOF	Institutional Hedge Funds
10th Percentile	12.5	3.5	5.8	3.5
25th Percentile	2.5	2.7	4.6	2.4
Median	1.5	1.6	2.9	1.3
75th Percentile	0.7	1.2	2.2	0.0
90th Percentile	0.4	0.5	1.3	-2.8
HFRI Fund Weighted ●	2.3	2.3	2.3	2.3
90-Day T-Bill +5% ●	2.0	2.0	2.0	2.0

Sources: Callan, Credit Suisse, Federal Reserve

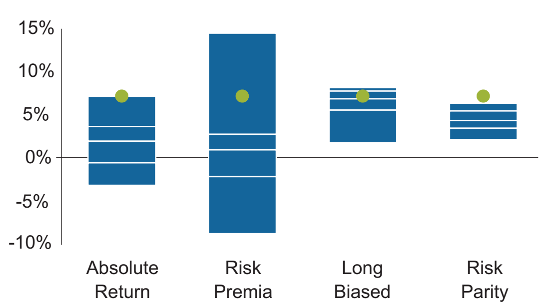
Callan Peer Group Median and Index Returns* for Periods Ended 12/31/22

Hedge Fund Universe	Quarter	1 Year	3 Years	5 Years	10 Years	15 Years
Callan Institutional Hedge Fund Peer Group	**1.3**	**4.8**	**6.4**	**6.0**	**6.2**	**6.7**
Callan Fund-of-Funds Peer Group	**1.9**	**-1.3**	**4.9**	**4.2**	**4.7**	**3.5**
Callan Absolute Return FOF Style	**1.5**	**4.0**	**5.6**	**4.8**	**5.1**	**3.9**
Callan Core Diversified FOF Style	**1.6**	**-1.2**	**5.0**	**4.1**	**4.4**	**3.4**
Callan Long/Short Equity FOF Style	**2.9**	**-10.4**	**2.2**	**3.5**	**4.8**	**3.6**
HFRI Fund-Weighted Index	2.3	-4.2	5.7	4.4	4.7	3.6
HFRI Fixed Convertible Arbitrage	3.1	-1.2	6.3	5.1	5.1	4.9
HFRI Distressed/Restructuring	2.0	-3.1	7.8	4.9	4.8	4.2
HFRI Emerging Markets	5.1	-12.7	1.7	0.9	2.9	1.4
HFRI Equity Market Neutral	1.1	1.6	2.8	1.9	3.0	1.9
HFRI Event-Driven	3.3	-4.6	5.4	4.3	4.9	4.2
HFRI Relative Value	1.3	-0.8	3.3	3.4	4.0	4.3
HFRI Macro	-1.3	9.0	7.3	4.8	3.1	2.9
HFRI Equity Hedge	4.2	-10.2	5.7	4.5	5.6	3.6
HFRI Multi-Strategy	1.1	-9.8	3.7	1.8	2.9	2.8
HFRI Merger Arbitrage	2.5	2.9	6.2	5.7	4.6	4.0
90-Day T-Bill + 5%	2.0	6.5	5.7	6.3	5.8	5.7

*Net of fees. Sources: Callan, Credit Suisse, Hedge Fund Research

- Hedge funds ended the final quarter on a positive note, as equity hedge managers clawed back some of their negative performance. Those with a focus on real estate, energy, and industrials saw positive gains while growth-focused managers continued to lag.
- Event-driven strategies had a nice quarter, driven primarily by their event equities that moved higher with the broader markets.
- Relative value strategies finished out the year on a strong note, as managers continued to benefit from elevated rate volatility levels, the convergence of key relative value relationships, global quantitative tightening, and uncertainty surrounding central bank actions.
- Macro strategies ended the quarter slightly lower, as losses were taken in short U.S. equities themes, along with short positions in the Chinese renminbi versus the U.S. dollar.
- The median Callan Institutional Hedge Fund Peer Group rose 1.3%.
- Within the HFRI indices, the best-performing strategy last quarter was the emerging market index (+5.1%), as Asian equities rallied in November and December.
- Across the Callan Hedge FOF Database, the median Absolute Return FOF rose 1.5%, as their allocations to multi-strategy managers put up solid returns on the year.
- The median Callan Long-Short Equity FOF increased 2.9%, as managers benefited from an equity rally in October and November.
- The Callan Core Diversified FOF gained 1.6%, as equity hedge exposure drove performance, offsetting some negative performance from macro managers.
- Within Callan's database of liquid alternative solutions, the median Long Biased MAC manager generated a gain of 6.9%, as long equity exposure drove performance for the peer group.
- The Callan Risk Parity MAC index, which typically targets an equally risk-weighted allocation to the major asset classes with leverage, was up 4.4%.
- The Callan Absolute Return MAC peer returned a positive 2.0%, as a bias toward value equities and credit helped performance on the quarter.
- The Callan Risk Premia MAC peer rose 1.0%, as equity performance was slightly offset by currency exposure.

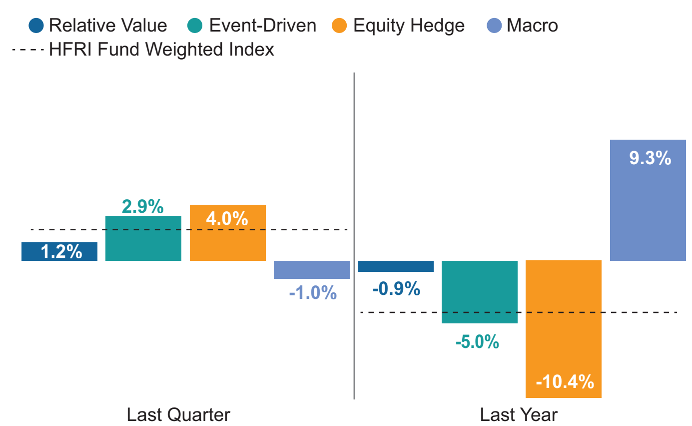
MAC Style Group Returns (12/31/22)



	Absolute Return	Risk Premia	Long Biased	Risk Parity
10th Percentile	7.2	14.5	8.2	6.4
25th Percentile	3.7	2.8	7.8	5.5
Median	2.0	1.0	6.9	4.4
75th Percentile	-0.5	-2.1	5.6	3.5
90th Percentile	-3.1	-8.7	1.8	2.2
60% MSCI ACWI/ 40% Bloomberg Agg	6.6	6.6	6.6	6.6

Sources: Bloomberg, Callan, Eurekahedge, S&P Dow Jones Indices

HFRI Hedge Fund-Weighted Strategy Returns (12/31/22)



Source: HFRI

Third Straight Drop for DC Index

DEFINED CONTRIBUTION | Patrick Wisdom

Performance: Index dips for third straight quarter

- The Callan DC Index™ fell 4.6% in 3Q22, its third straight quarterly decline, which brought the Index's trailing one-year loss to 16.7%.
- The Age 45 Target Date Fund fell 6.1% in the quarter.

Growth Sources: Another decline in balances

- Balances within the DC Index declined by 4.7% after a 12.3% decrease the second quarter.

Turnover: Net transfers well below average

- Turnover (i.e., net transfer activity levels within DC plans) in the DC Index decreased to 0.14% from the previous quarter's 0.37%. With the decrease, the Index's historical average (0.56%) fell slightly.

Net Cash Flow Analysis: TDFs reclaim top spot

- After taking a back seat to stable value in 2Q22, TDFs reclaimed the top spot, garnering 73.6% of net flows.
- Investors withdrew assets from U.S. large cap equity (-33.1%); global ex-U.S. equity saw net inflows (+9.2%).

Equity Allocation: Drop in exposure

- The Index's overall allocation to equity (69.3%) fell slightly from the previous quarter's level (69.8%).

Asset Allocation: Capital preservation gains

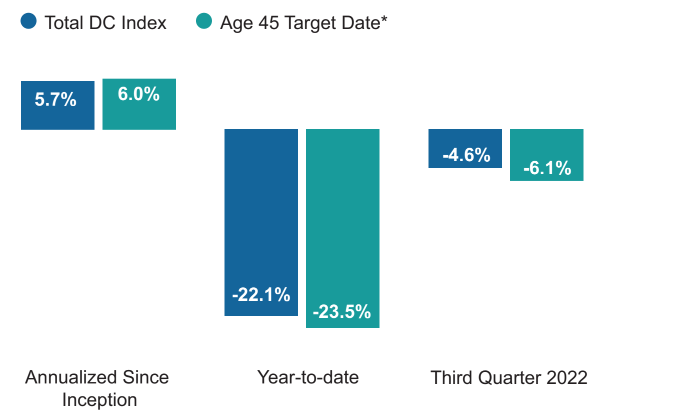
- Stable value (10.0%) and U.S. fixed income (5.9%) were among the asset classes with the largest percentage increases in allocation.

Prevalence of Asset Class: Balanced funds dip

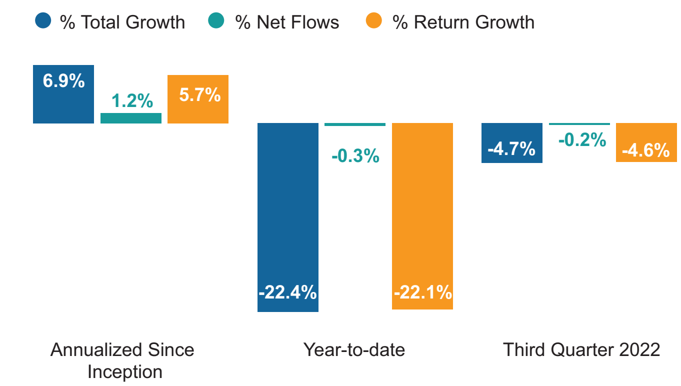
- The prevalence of a balanced fund (40.9%) decreased again to its lowest level since the inception of the Index in 2006.

Underlying fund performance, asset allocation, and cash flows of more than 100 large defined contribution plans representing approximately $400 billion in assets are tracked in the Callan DC Index.

Investment Performance (9/30/22)



Growth Sources (9/30/22)



Net Cash Flow Analysis (3Q22)
(Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	73.6%
Brokerage Window	13.8%
U.S. Small/Mid Cap	-25.3%
U.S. Large Cap	-33.1%
Total Turnover**	**0.1%**

Data provided here is the most recent available at time of publication.

Source: Callan DC Index

Note: DC Index inception date is January 2006.

* The Age 45 Fund transitioned from the average 2035 TDF to the 2040 TDF in June 2018.

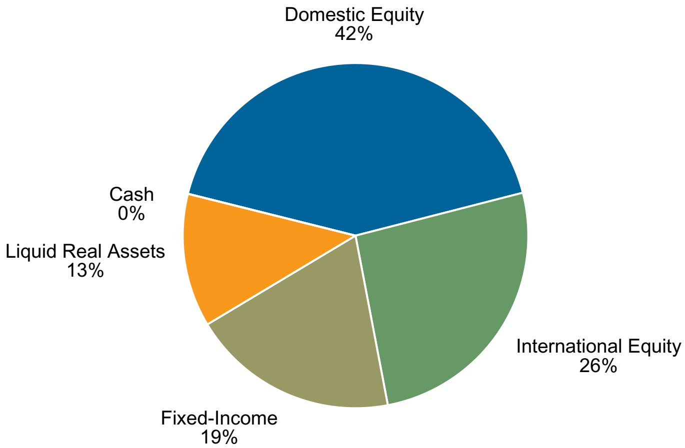
** Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.

Asset Allocation
and Performance

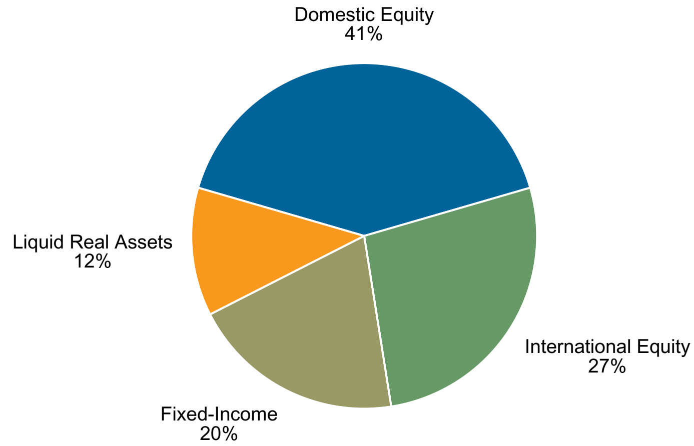
Actual vs Target Asset Allocation
As of December 31, 2022

The top left chart shows the Fund's asset allocation as of December 31, 2022. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Spons - Sm DB (<100M).

Actual Asset Allocation

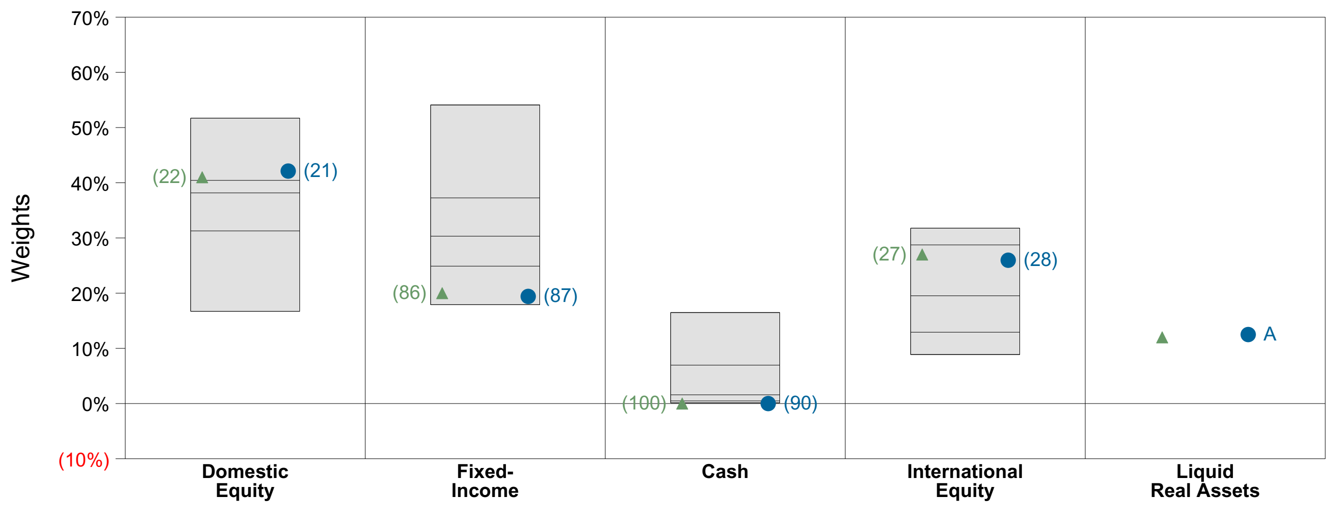


Target Asset Allocation



Asset Class	$000s Actual	Weight Actual	Target	Percent Difference	$000s Difference
Domestic Equity	50,075	42.1%	41.0%	1.1%	1,328
International Equity	30,872	26.0%	27.0%	(1.0%)	(1,229)
Fixed-Income	23,078	19.4%	20.0%	(0.6%)	(701)
Liquid Real Assets	14,866	12.5%	12.0%	0.5%	599
Cash	3	0.0%	0.0%	0.0%	3
Total	118,893	100.0%	100.0%		

Asset Class Weights vs Callan Public Fund Spons - Sm DB (<100M)



	Domestic Equity	Fixed-Income	Cash	International Equity	Liquid Real Assets
10th Percentile	51.70	54.10	16.48	31.77	-
25th Percentile	40.43	37.26	6.96	28.74	-
Median	38.16	30.33	1.58	19.52	-
75th Percentile	31.28	24.89	0.48	12.93	-
90th Percentile	16.71	17.91	0.13	8.88	-
Fund ●	42.12	19.41	0.00	25.97	12.50
Target ▲	41.00	20.00	0.00	27.00	12.00
% Group Invested	100.00%	100.00%	62.50%	100.00%	0.00%

* Current Quarter Target = 41.0% Russell 3000 Index, 27.0% MSCI ACWI xUS, 20.0% Blmbg Aggregate and 12.0% Blmbg TIPS 1-10 Yr.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund’s investment managers as of December 31, 2022, with the distribution as of September 30, 2022. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	December 31, 2022				September 30, 2022	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Total Equity	**$80,946,568**	**68.08%**	**$0**	**$7,304,702**	**$73,641,865**	**66.87%**
Domestic Equity	**$50,074,718**	**42.12%**	**$0**	**$3,344,142**	**$46,730,576**	**42.43%**
Vanguard Total Stock Mrkt	50,074,718	42.12%	0	3,344,142	46,730,576	42.43%
International Equity	**$30,871,849**	**25.97%**	**$0**	**$3,960,560**	**$26,911,289**	**24.43%**
Vanguard Total Intl Stock	30,871,849	25.97%	0	3,960,560	26,911,289	24.43%
Fixed Income	**$23,077,668**	**19.41%**	**$(4,579)**	**$453,706**	**$22,628,541**	**20.55%**
Metropolitan West Fund	8,347,106	7.02%	0	148,249	8,198,857	7.44%
Prudential Cons Core Bond Fnd	14,730,562	12.39%	(4,579)	305,458	14,429,684	13.10%
Liquid Real Assets	**$14,866,427**	**12.50%**	**$0**	**$1,009,410**	**$13,857,017**	**12.58%**
PIMCO All Assets	14,866,427	12.50%	0	1,009,410	13,857,017	12.58%
Cash	**$2,758**	**0.00%**	**$(4,310)**	**$52**	**$7,016**	**0.01%**
Short Term Fund	2,758	0.00%	(4,310)	52	7,016	0.01%
Total Fund	**$118,893,421**	**100.0%**	**$(8,889)**	**$8,767,871**	**$110,134,439**	**100.0%**

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of December 31, 2022, with the distribution as of September 30, 2022.

Asset Distribution Across Investment Managers

	December 31, 2022					September 30, 2022		
	Market Value	**Weight**	**(min)**	**Target**	**(max)**	**Market Value**	**Weight**	**Target**
Total Equity	**$80,946,568**	**68.08%**	**53.00%**	**68.00%**	**83.00%**	**$73,641,865**	**66.87%**	**68.00%**
Domestic Equity	**$50,074,718**	**42.12%**	**31.00%**	**41.00%**	**51.00%**	**$46,730,576**	**42.43%**	**41.00%**
Vanguard Total Stock Mkt	50,074,718	42.12%				46,730,576	42.43%	
International Equity	**$30,871,849**	**25.97%**	**20.00%**	**27.00%**	**34.00%**	**$26,911,289**	**24.43%**	**27.00%**
Vanguard Total Int'l. Stock	30,871,849	25.97%				26,911,289	24.43%	
Fixed Income	**$23,077,668**	**19.41%**	**15.00%**	**20.00%**	**25.00%**	**$22,628,541**	**20.55%**	**20.00%**
Metropolitan West Fund	8,347,106	7.02%				8,198,857	7.44%	
Prudential Cons Core Bond	14,730,562	12.39%				14,429,684	13.10%	
Liquid Real Assets	**$14,866,427**	**12.50%**	**0.00%**	**12.00%**	**20.00%**	**$13,857,017**	**12.58%**	**12.00%**
PIMCO All Assets	14,866,427	12.50%				13,857,017	12.58%	
Cash	**$2,758**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**$7,016**	**0.01%**	**0.00%**
Short Term Fund	2,758	0.00%				7,016	0.01%	
Total Fund	**$118,893,421**	**100.0%**		**100.0%**		**$110,134,439**	**100.0%**	**100.0%**

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended December 31, 2022. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended December 31, 2022

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years
Total Equity	**9.92%**	**(18.20%)**	**4.47%**	**5.77%**	**8.69%**
Domestic Equity	**7.16%**	**(19.51%)**	**6.98%**	**8.72%**	**10.98%**
Vanguard Total Stock Market (1)	7.16%	(19.51%)	6.98%	8.72%	10.98%
Vanguard Total Stock Benchmark (2)	7.15%	(19.49%)	6.99%	8.73%	10.99%
Russell 3000 Index	7.18%	(19.21%)	7.07%	8.79%	11.04%
International Equity	**14.72%**	**(15.98%)**	**0.53%**	**1.12%**	**5.05%**
Vanguard Total Int'l. Stock (3)	14.72%	(15.98%)	0.53%	1.12%	5.05%
Vanguard International Benchmark (4)	14.19%	(15.83%)	0.81%	1.40%	5.34%
MSCI ACWI ex US	14.28%	(16.00%)	0.07%	0.88%	4.80%
Fixed-Income	**2.01%**	**(13.69%)**	**(2.70%)**	**0.10%**	**1.09%**
Prudential Conservative Core Bond (5)	2.09%	(13.23%)	(2.81%)	(0.06%)	0.82%
Metropolitan West Fund	1.81%	(14.69%)	(2.71%)	0.17%	0.98%
Blmbg Aggregate Index	1.87%	(13.01%)	(2.71%)	0.02%	0.89%
Liquid Real Assets	**7.28%**	**(11.53%)**	**3.49%**	**3.40%**	**-**
PIMCO All Asset	7.28%	(11.53%)	3.49%	3.40%	6.23%
Blmbg US TIPS 1-10	1.64%	(7.34%)	2.01%	2.50%	2.63%
Cash	**0.76%**	**1.32%**	**0.80%**	**1.18%**	**1.02%**
Short Term Fund	0.76%	1.32%	0.80%	1.18%	1.02%
3-month Treasury Bill	0.84%	1.46%	0.72%	1.26%	1.07%
Total Fund	**7.96%**	**(16.57%)**	**3.24%**	**4.51%**	**6.75%**
Total Fund Benchmark*	7.44%	(15.44%)	3.28%	4.57%	6.45%

Annual Discount Rate:6.5%

* Current Quarter Target = 41.0% Russell 3000 Index, 27.0% MSCI ACWI xUS, 20.0% Blmbg Aggregate and 12.0% Blmbg TIPS 1-10 Yr.

(1) Vanguard Total Stock Market switched to Admiral Shares from Signal Shares in October 2014. In November 2014 switched to institutional shares.

(2) Vanguard Total Stock Market Benchmark was US Broad Market Index switched to CRSP U.S. Total Market Index Jun. 2013

(3) Vanguard Total Int'l. Stock switched to Institutional Shares from Investor Shares on November 30, 2014

(4) Vanguard Total International Benchmark was MSCI ACWI exUS IMI switched to FTSE Global All Cap exUS Index Jun. 2013.

(5) February 8, 2017 fund switched to Institutional Trust.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	6/2022-12/2022	FY 2022	FY 2021	FY 2020	FY 2019
Total Equity	**2.49%**	**(16.08%)**	**41.24%**	**2.43%**	**5.80%**
Domestic Equity	**2.38%**	**(14.24%)**	**44.33%**	**6.47%**	**9.00%**
Vanguard Total Stock Market (1)	2.38%	(14.24%)	44.33%	6.47%	9.00%
Vanguard Total Stock Benchmark (2)	2.39%	(14.22%)	44.35%	6.47%	9.00%
Russell 3000 Index	2.40%	(13.87%)	44.16%	6.53%	8.98%
International Equity	**2.66%**	**(18.92%)**	**36.54%**	**(4.07%)**	**0.62%**
Vanguard Total Int'l. Stock (3)	2.66%	(18.92%)	36.54%	(4.07%)	0.62%
Vanguard International Benchmark (4)	3.24%	(19.01%)	37.55%	(4.16%)	0.81%
MSCI ACWI ex US	2.96%	(19.42%)	35.72%	(4.80%)	1.29%
Fixed-Income	**(3.07%)**	**(10.95%)**	**0.45%**	**8.94%**	**8.04%**
Prudential Cons Core Bond Fnd (5)	(2.88%)	(10.70%)	(0.16%)	8.65%	7.80%
Metropolitan West Fund	(3.51%)	(11.56%)	1.36%	9.18%	8.23%
Blmbg Aggregate Index	(2.97%)	(10.29%)	(0.33%)	8.74%	7.87%
Liquid Real Assets	**0.68%**	**(9.85%)**	**29.55%**	**(2.23%)**	**5.03%**
PIMCO All Asset	0.68%	(9.85%)	29.55%	(2.23%)	5.03%
Blmbg US TIPS 1-10	(2.36%)	(2.03%)	6.60%	5.75%	4.67%
Cash	**1.17%**	**0.16%**	**0.09%**	**1.78%**	**2.00%**
Short Term Fund	1.17%	0.16%	0.09%	1.78%	2.00%
3-month Treasury Bill	1.31%	0.17%	0.09%	1.63%	2.31%
Total Fund	**1.13%**	**(14.34%)**	**31.50%**	**3.26%**	**6.24%**
Total Fund Benchmark*	1.11%	(13.16%)	27.43%	4.85%	6.71%

Annual Discount Rate:6.5%

* Current Quarter Target = 41.0% Russell 3000 Index, 27.0% MSCI ACWI xUS, 20.0% Blmbg Aggregate and 12.0% Blmbg TIPS 1-10 Yr.
(1) Vanguard Total Stock Market switched to Admiral Shares from Signal Shares in October 2014. In November 14th, 2014 switched to Institutional shares.
(2) Vanguard Total Stock Market Benchmark was US Broad Market Index switched to CRSP U.S. Total Market Index Jun. 2013
(3) Vanguard Total Int'l. Stock switched to Institutional Shares from Investor Shares in November 30, 2014
(4) Vanguard Total International Benchmark was MSCI ACWI exUS IMI switched to FTSE Global All Cap exUS Index Jun. 2013.
(5) February 8, 2017 fund switched to Institutional Trust.

Total Fund
Period Ended December 31, 2022

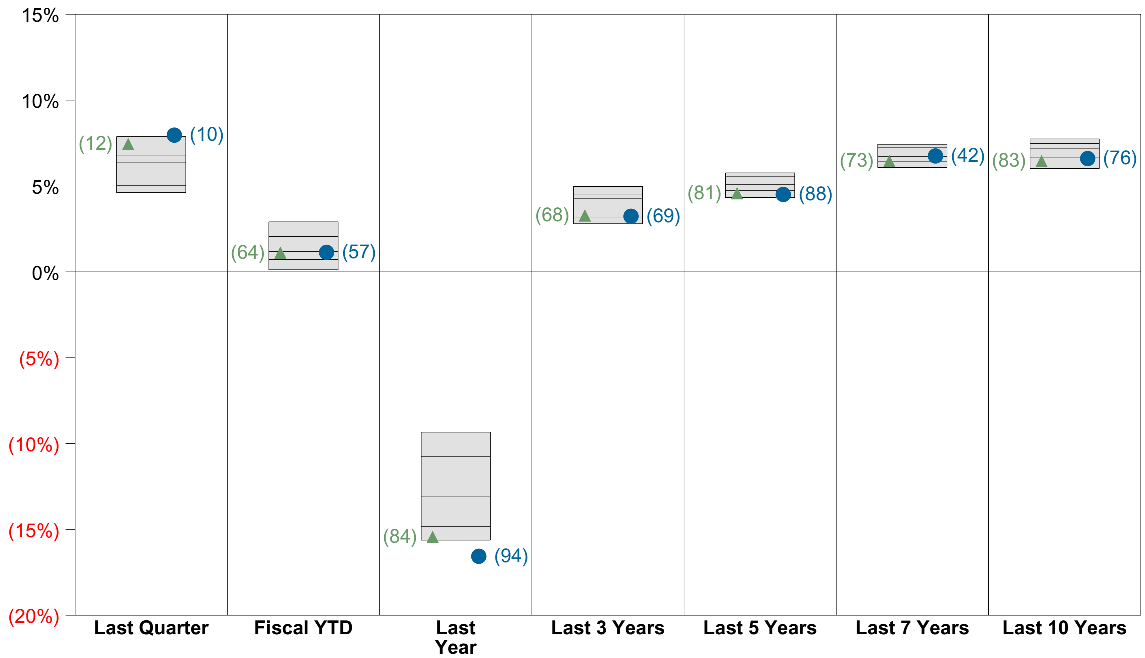
Quarterly Summary and Highlights

- Total Fund's portfolio posted a 7.96% return for the quarter placing it in the 10 percentile of the Callan Public Fund Spons - Sm DB (<100M) group for the quarter and in the 94 percentile for the last year.
- Total Fund's portfolio outperformed the Target Benchmark by 0.52% for the quarter and underperformed the Target Benchmark for the year by 1.12%.

Quarterly Asset Growth

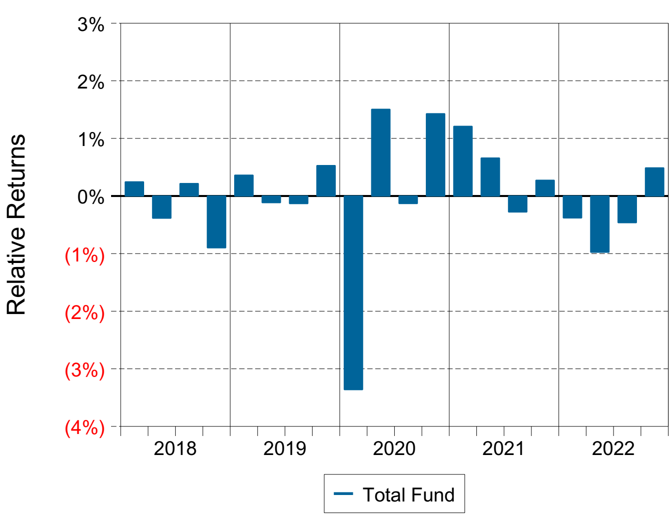
Beginning Market Value	$110,134,439
Net New Investment	$-8,889
Investment Gains/(Losses)	$8,767,871
Ending Market Value	$118,893,421

Performance vs Callan Public Fund Spons - Sm DB (<100M) (Gross)

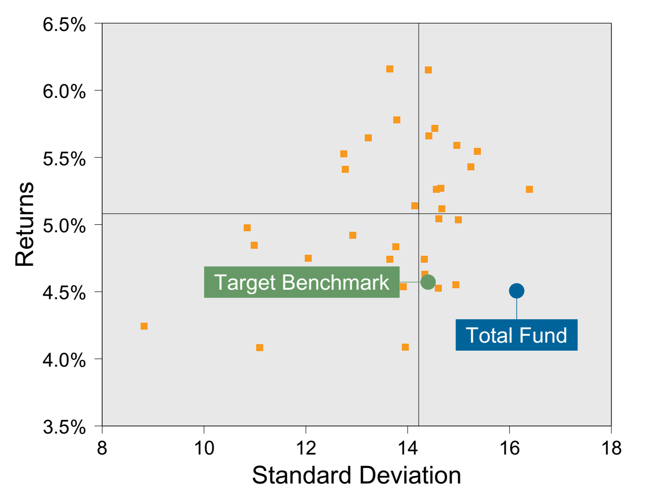


	Last Quarter	Fiscal YTD	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	7.87	2.91	(9.33)	4.97	5.76	7.43	7.74
25th Percentile	6.75	2.06	(10.76)	4.48	5.54	7.23	7.48
Median	6.35	1.18	(13.10)	4.26	5.08	6.71	7.20
75th Percentile	5.04	0.72	(14.84)	3.14	4.74	6.41	6.64
90th Percentile	4.61	0.12	(15.62)	2.80	4.33	6.08	6.02
Total Fund ●	7.96	1.13	(16.57)	3.24	4.51	6.75	6.60
Target Benchmark ▲	7.44	1.11	(15.44)	3.28	4.57	6.45	6.44

Relative Return vs Target Benchmark



Callan Public Fund Spons - Sm DB (<100M) (Gross)
Annualized Five Year Risk vs Return

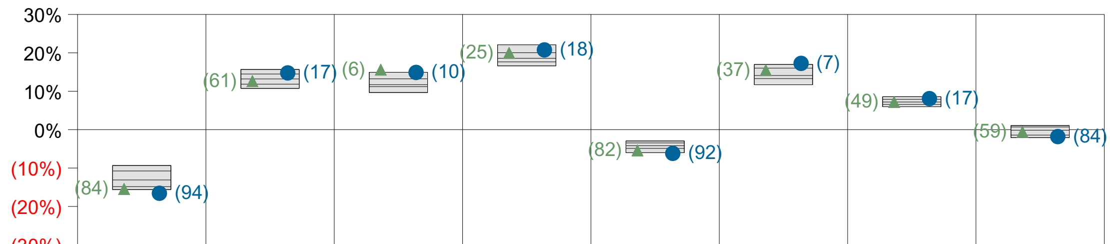


Total Fund
Return Analysis Summary

Return Analysis

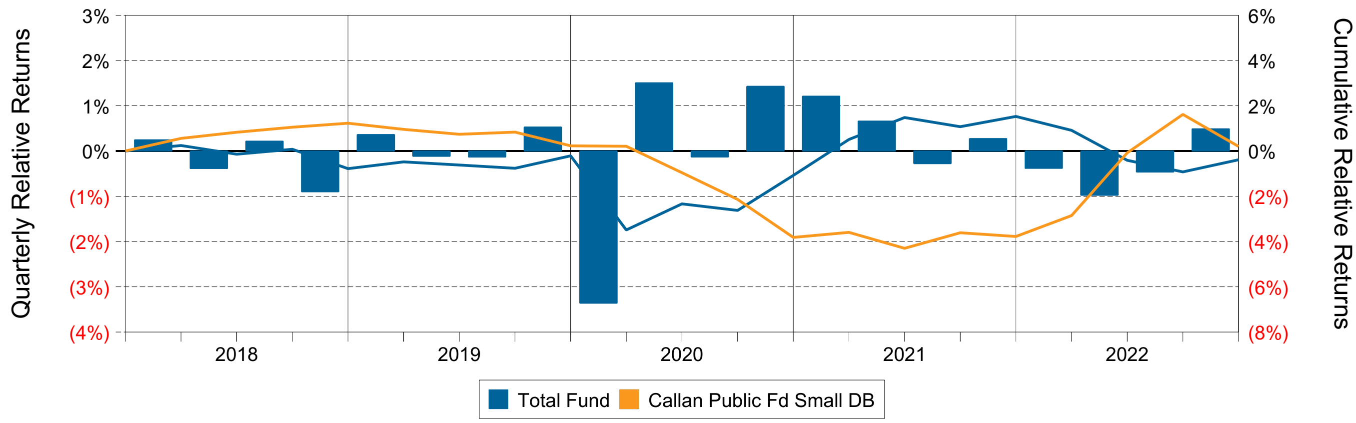
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Public Fund Spons - Sm DB (<100M) (Gross)

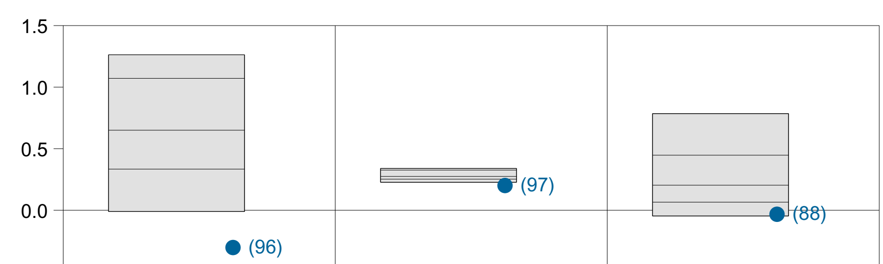


	2022	2021	2020	2019	2018	2017	2016	2015
10th Percentile	(9.33)	15.68	14.94	22.10	(2.94)	16.99	8.59	1.06
25th Percentile	(10.76)	14.48	13.23	20.03	(3.46)	16.02	7.89	0.70
Median	(13.10)	13.20	11.71	18.58	(4.18)	14.09	7.20	(0.15)
75th Percentile	(14.84)	11.85	11.19	17.64	(4.88)	13.30	6.55	(1.41)
90th Percentile	(15.62)	10.74	9.66	16.61	(6.01)	11.68	5.97	(2.08)
Total Fund ●	(16.57)	14.77	14.90	20.77	(6.18)	17.26	8.08	(1.81)
Total Fund Benchmark ▲	(15.44)	12.66	15.63	20.00	(5.40)	15.50	7.21	(0.58)

Cumulative and Quarterly Relative Returns vs Total Fund Benchmark



Risk Adjusted Return Measures vs Total Fund Benchmark
Rankings Against Callan Public Fund Spons - Sm DB (<100M) (Gross)
Five Years Ended December 31, 2022

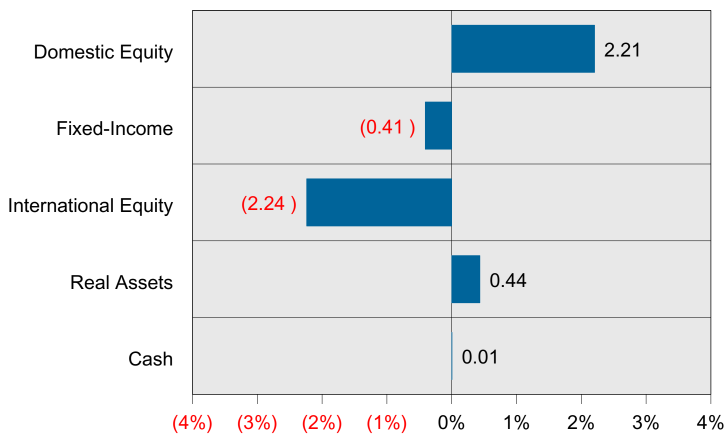


	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.26	0.34	0.78
25th Percentile	1.07	0.33	0.45
Median	0.65	0.27	0.20
75th Percentile	0.33	0.25	0.07
90th Percentile	(0.01)	0.23	(0.05)
Total Fund ●	(0.30)	0.20	(0.03)

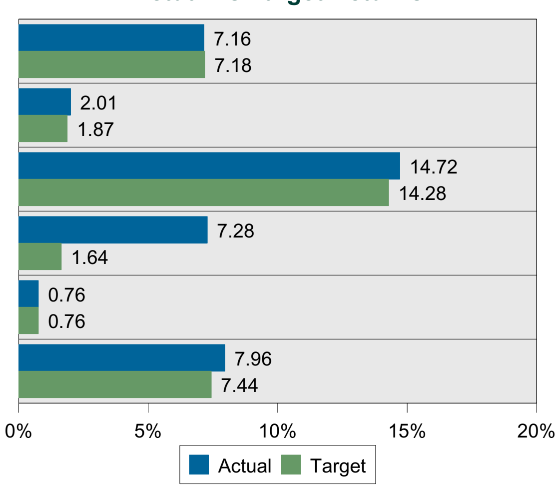
Quarterly Total Fund Relative Attribution - December 31, 2022

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

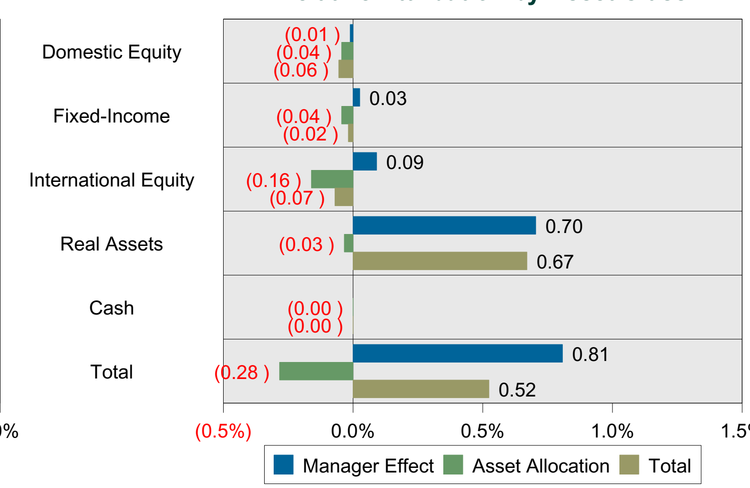
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended December 31, 2022

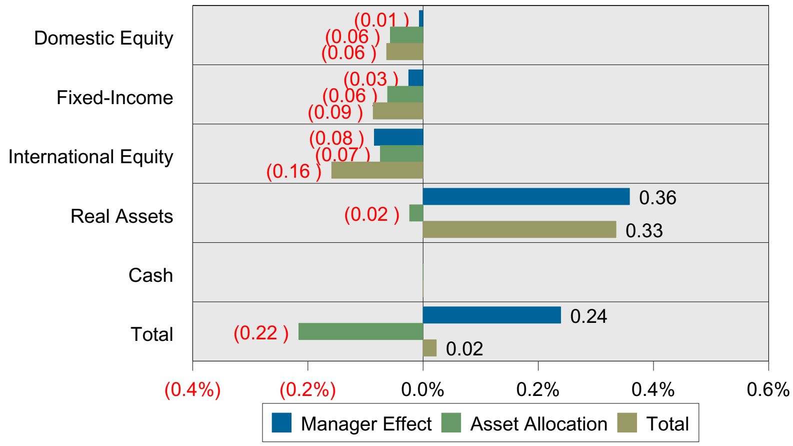
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	43%	41%	7.16%	7.18%	(0.01%)	(0.04%)	(0.06%)
Fixed-Income	20%	20%	2.01%	1.87%	0.03%	(0.04%)	(0.02%)
International Equity	25%	27%	14.72%	14.28%	0.09%	(0.16%)	(0.07%)
Real Assets	12%	12%	7.28%	1.64%	0.70%	(0.03%)	0.67%
Cash	0%	0%	0.76%	0.76%	0.00%	(0.00%)	(0.00%)
Total			**7.96%** =	**7.44%** +	**0.81%** +	**(0.28%)**	**0.52%**

* Current Quarter Target = 41.0% Russell 3000 Index, 27.0% MSCI ACWI xUS, 20.0% Blmbg Aggregate and 12.0% Blmbg TIPS 1-10 Yr.

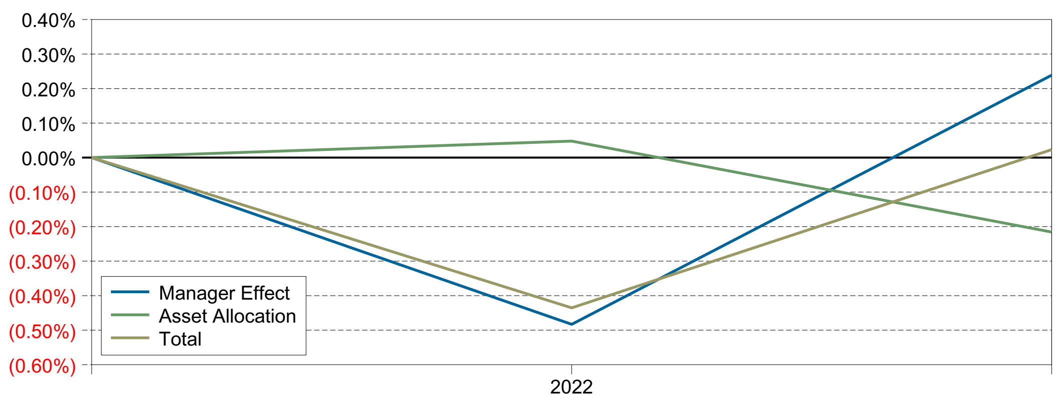
Cumulative Total Fund Relative Attribution - December 31, 2022

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Two Quarters Relative Attribution Effects



Cumulative Relative Attribution Effects



Two Quarters Relative Attribution Effects

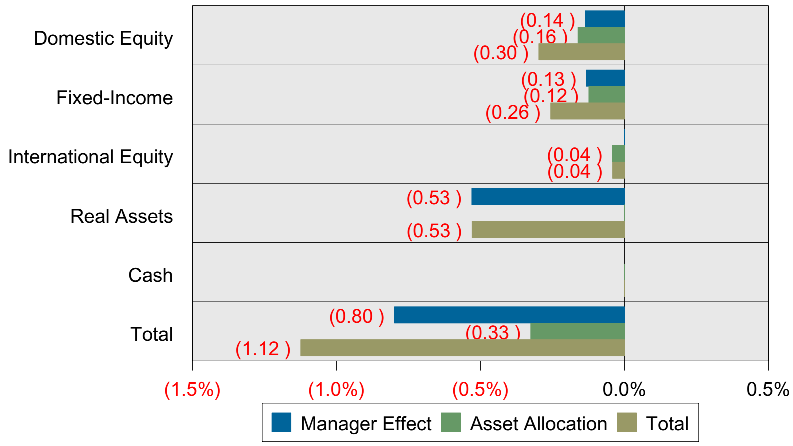
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	43%	41%	2.38%	2.40%	(0.01%)	(0.06%)	(0.06%)
Fixed-Income	20%	20%	(3.07%)	(2.97%)	(0.03%)	(0.06%)	(0.09%)
International Equity	25%	27%	2.66%	2.96%	(0.08%)	(0.07%)	(0.16%)
Real Assets	12%	12%	0.68%	(2.36%)	0.36%	(0.02%)	0.33%
Cash	0%	0%	1.17%	1.17%	0.00%	0.00%	0.00%
Total			**1.13% =**	**1.11% +**	**0.24% +**	**(0.22%)**	**0.02%**

* Current Quarter Target = 41.0% Russell 3000 Index, 27.0% MSCI ACWI xUS, 20.0% Blmbg Aggregate and 12.0% Blmbg TIPS 1-10 Yr.

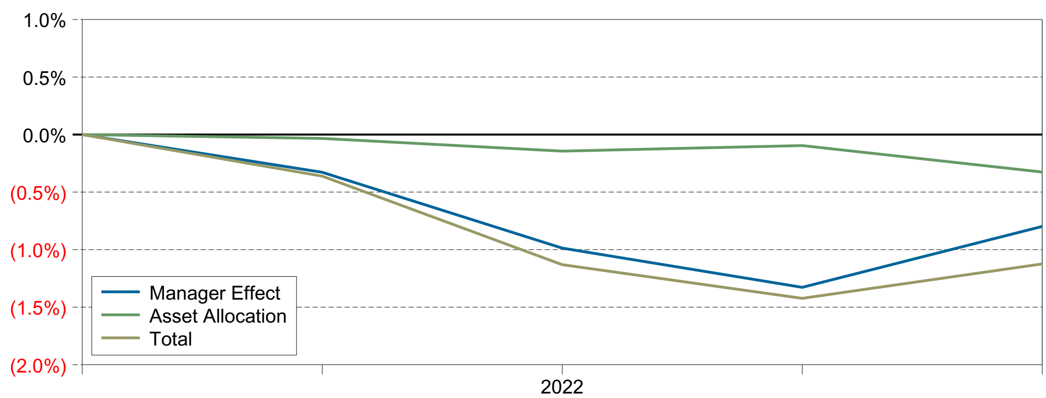
Cumulative Total Fund Relative Attribution - December 31, 2022

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

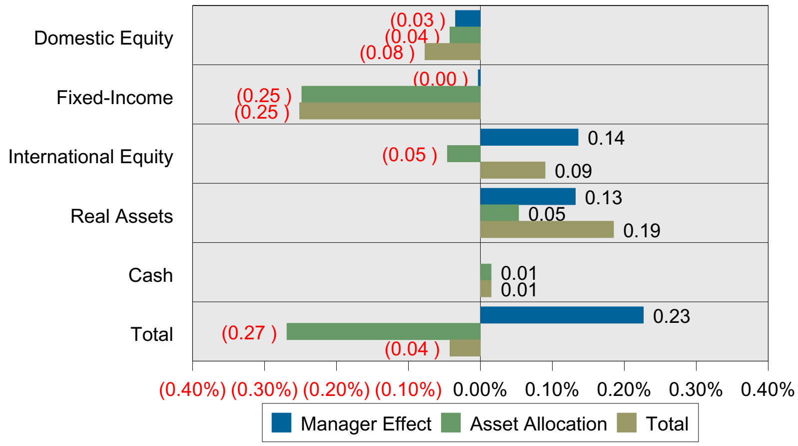
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	43%	41%	(19.51%)	(19.21%)	(0.14%)	(0.16%)	(0.30%)
Fixed-Income	19%	20%	(13.69%)	(13.01%)	(0.13%)	(0.12%)	(0.26%)
International Equity	25%	27%	(15.98%)	(16.00%)	0.00%	(0.04%)	(0.04%)
Real Assets	12%	12%	(11.53%)	(7.34%)	(0.53%)	0.00%	(0.53%)
Cash	0%	0%	1.32%	1.32%	0.00%	0.00%	0.00%
Total			**(16.57%) =**	**(15.44%) +**	**(0.80%) +**	**(0.33%)**	**(1.12%)**

* Current Quarter Target = 41.0% Russell 3000 Index, 27.0% MSCI ACWI xUS, 20.0% Blmbg Aggregate and 12.0% Blmbg TIPS 1-10 Yr.

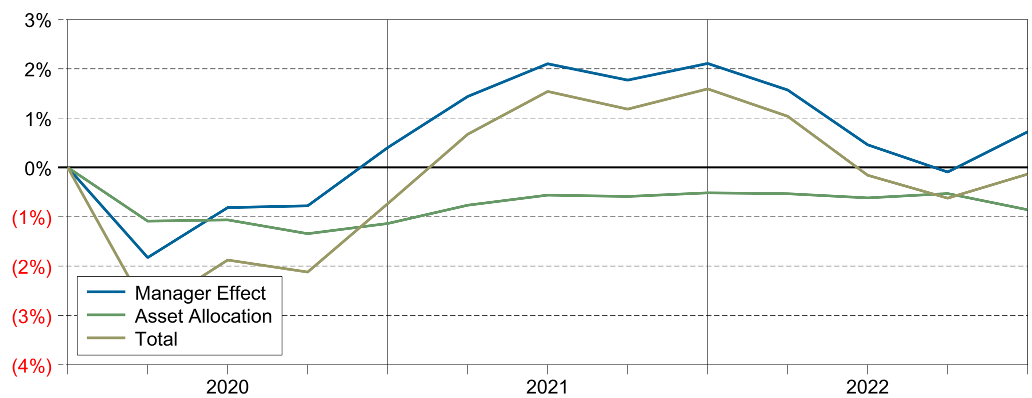
Cumulative Total Fund Relative Attribution - December 31, 2022

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

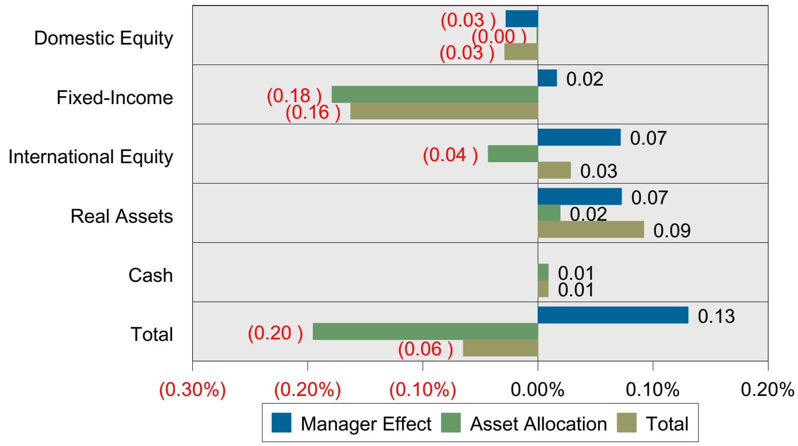
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	43%	41%	6.98%	7.07%	(0.03%)	(0.04%)	(0.08%)
Fixed-Income	20%	21%	(2.70%)	(2.71%)	(0.00%)	(0.25%)	(0.25%)
International Equity	26%	27%	0.53%	0.07%	0.14%	(0.05%)	0.09%
Real Assets	11%	12%	3.49%	2.01%	0.13%	0.05%	0.19%
Cash	0%	0%	0.80%	0.80%	0.00%	0.01%	0.01%
Total			**3.24% =**	**3.28% +**	**0.23% +**	**(0.27%)**	**(0.04%)**

* Current Quarter Target = 41.0% Russell 3000 Index, 27.0% MSCI ACWI xUS, 20.0% Blmbg Aggregate and 12.0% Blmbg TIPS 1-10 Yr.

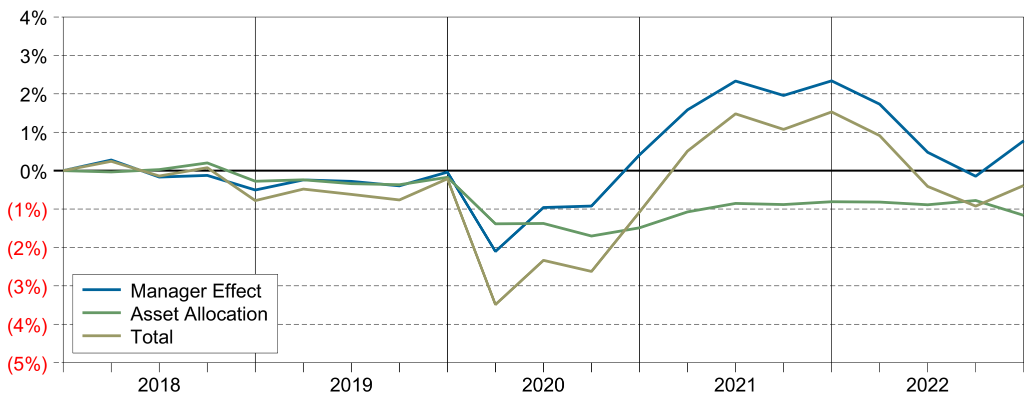
Cumulative Total Fund Relative Attribution - December 31, 2022

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	42%	39%	8.72%	8.79%	(0.03%)	(0.00%)	(0.03%)
Fixed-Income	22%	24%	0.10%	0.02%	0.02%	(0.18%)	(0.16%)
International Equity	26%	26%	1.12%	0.88%	0.07%	(0.04%)	0.03%
Real Assets	11%	11%	3.40%	2.50%	0.07%	0.02%	0.09%
Cash	0%	0%	1.18%	1.18%	0.00%	0.01%	0.01%
Total			**4.51% =**	**4.57% +**	**0.13% +**	**(0.20%)**	**(0.06%)**

* Current Quarter Target = 41.0% Russell 3000 Index, 27.0% MSCI ACWI xUS, 20.0% Blmbg Aggregate and 12.0% Blmbg TIPS 1-10 Yr.

Domestic Equity

Vanguard Total Stock Market
Period Ended December 31, 2022

Investment Philosophy

The Vanguard Total Stock Market Index Fund is passively managed using index sampling. It seeks to replicate the performance of the CRSP US Total Market Index. The first full quarter of actual performance is the fourth quarter of 2009, prior returns reflect manager reported composite performance. June, 2013 Benchmark switched from MSCI Broad to CRSP. *Vanguard Total Stock Market switched to Admiral Shares from Signal Shares on October 27, 2014. On November 14, 2014 switched to Institutional Shares.

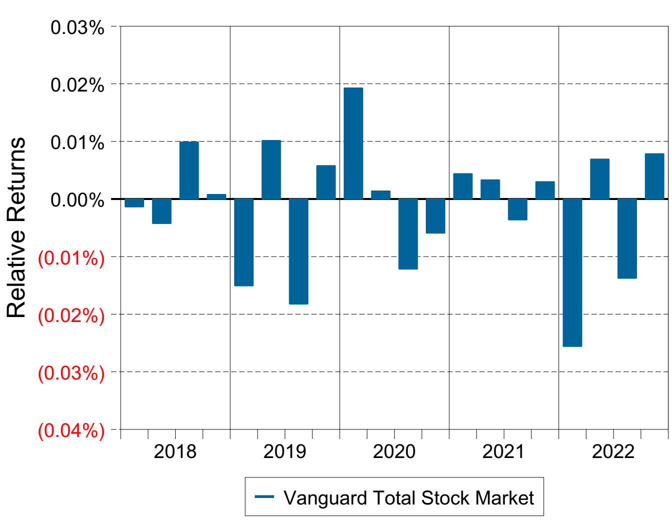
Quarterly Summary and Highlights

- Vanguard Total Stock Market's portfolio posted a 7.16% return for the quarter placing it in the 66 percentile of the Callan Large Cap Core Mutual Funds group for the quarter and in the 85 percentile for the last year.
- Vanguard Total Stock Market's portfolio outperformed the Vanguard Total Stk Mrkt Benchmrk by 0.01% for the quarter and underperformed the Vanguard Total Stk Mrkt Benchmrk for the year by 0.02%.

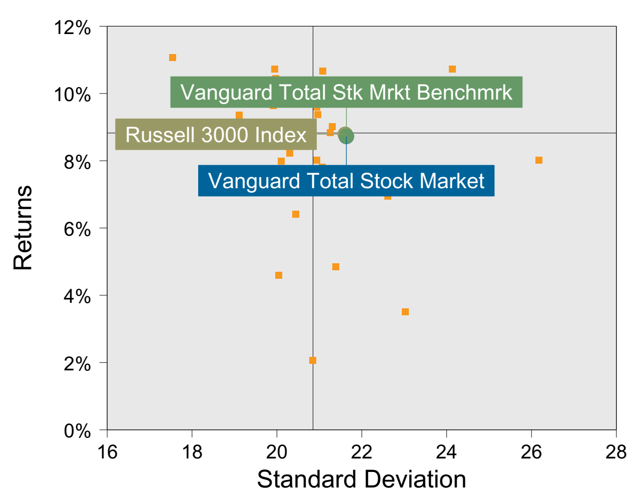
Performance vs Callan Large Cap Core Mutual Funds (Institutional Net)

	Last Quarter	Fiscal YTD	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	14.15	9.00	(4.72)	9.78	10.68	12.05	12.72
25th Percentile	11.30	5.05	(13.58)	8.48	9.91	11.37	12.28
Median	8.04	2.51	(17.10)	7.69	8.82	10.70	11.75
75th Percentile	6.84	1.57	(18.99)	6.54	7.46	9.70	11.08
90th Percentile	6.17	0.70	(20.06)	4.13	4.79	7.11	9.42
Vanguard Total Stock Market ● A	7.16	2.38	(19.51)	6.98	8.72	10.98	12.09
Russell 3000 Index ■ B	7.18	2.40	(19.21)	7.07	8.79	11.04	12.13
Vanguard Total Stk Mrkt Benchmrk ▲	7.15	2.39	(19.49)	6.99	8.73	10.99	12.09

Relative Returns vs Vanguard Total Stk Mrkt Benchmrk



Callan Large Cap Core Mutual Funds (Institutional Net) Annualized Five Year Risk vs Return

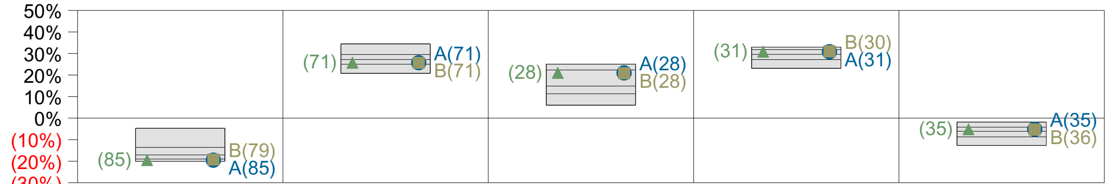


Vanguard Total Stock Market
Return Analysis Summary

Return Analysis

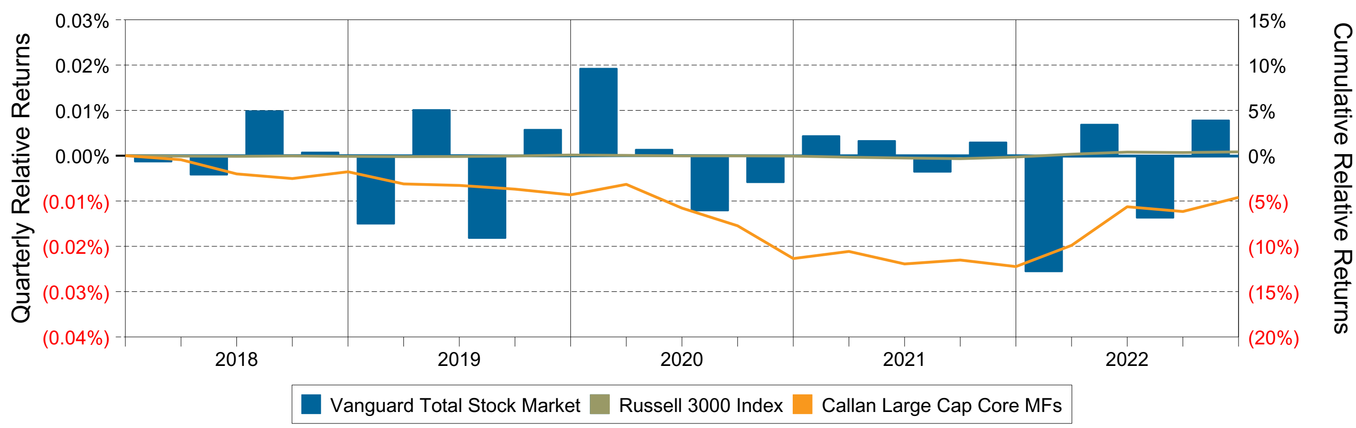
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Large Cap Core Mutual Funds (Institutional Net)

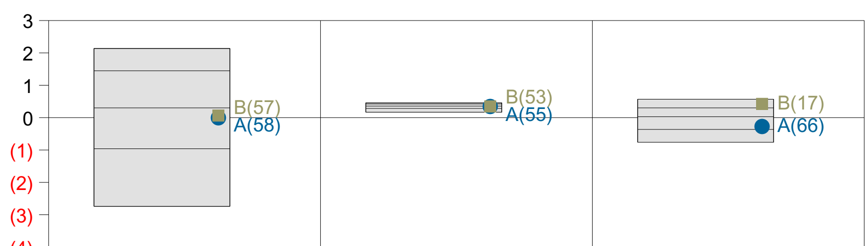


		2022	2021	2020	2019	2018
10th Percentile		(4.72)	34.46	25.07	32.96	(1.82)
25th Percentile		(13.58)	29.52	22.34	31.79	(4.21)
Median		(17.10)	27.20	14.87	29.58	(6.11)
75th Percentile		(18.99)	25.01	11.31	27.17	(8.71)
90th Percentile		(20.06)	20.78	6.01	23.12	(12.68)
Vanguard Total Stock Market	● A	(19.51)	25.73	21.00	30.81	(5.16)
Russell 3000 Index	■ B	(19.21)	25.66	20.89	31.02	(5.24)
Vanguard Total Stk Mrkt Benchmrk	▲	(19.49)	25.72	21.00	30.84	(5.17)

Cumulative and Quarterly Relative Returns vs Vanguard Total Stk Mrkt Benchmrk



Risk Adjusted Return Measures vs Vanguard Total Stk Mrkt Benchmrk
Rankings Against Callan Large Cap Core Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022



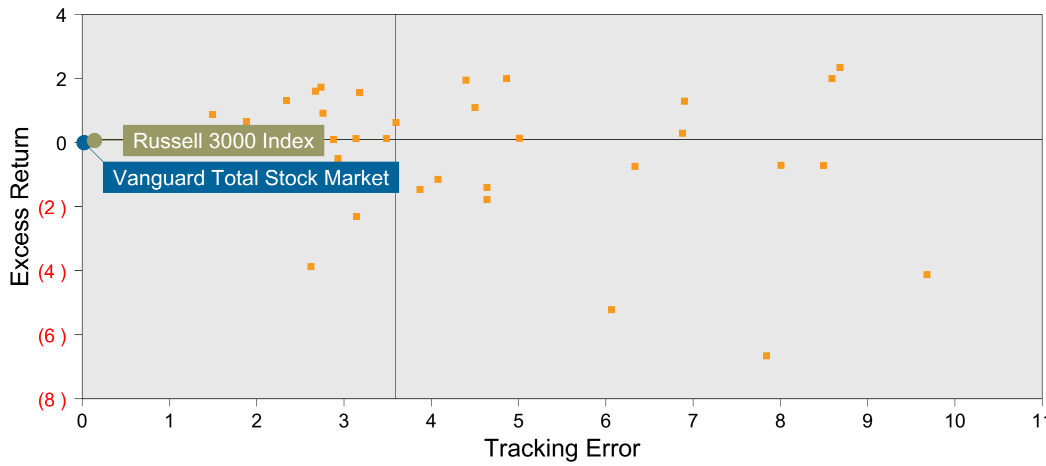
		Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile		2.14	0.46	0.57
25th Percentile		1.45	0.42	0.30
Median		0.30	0.36	0.03
75th Percentile		(0.96)	0.28	(0.36)
90th Percentile		(2.74)	0.17	(0.76)
Vanguard Total Stock Market	● A	(0.01)	0.34	(0.27)
Russell 3000 Index	■ B	0.06	0.35	0.43

Vanguard Total Stock Market
Risk Analysis Summary

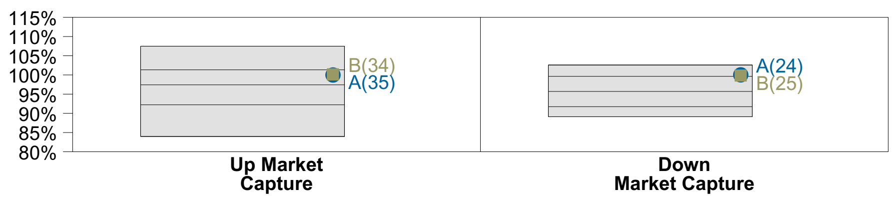
Risk Analysis

The graphs below analyze the risk or variation of a manager’s return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager’s risk statistics versus the peer group.

Risk Analysis vs Callan Large Cap Core Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022

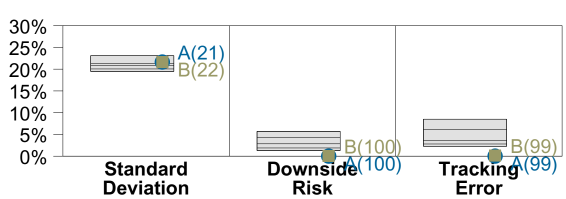


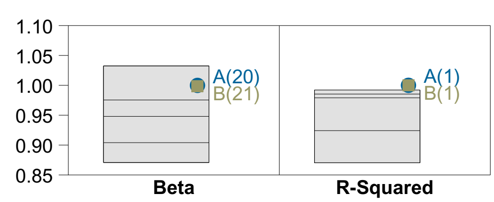
Market Capture vs Vanguard Total Stk Mrkt Benchmrk
Rankings Against Callan Large Cap Core Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022



		Up Market Capture	Down Market Capture
10th Percentile		107.48	102.59
25th Percentile		101.33	99.63
Median		97.43	95.70
75th Percentile		92.22	91.74
90th Percentile		83.97	89.11
Vanguard Total Stock Market	● A	99.99	100.02
Russell 3000 Index	■ B	100.18	99.84

Risk Statistics Rankings vs Vanguard Total Stk Mrkt Benchmrk
Rankings Against Callan Large Cap Core Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022





		Standard Deviation	Downside Risk	Tracking Error
10th Percentile		23.10	5.69	8.50
25th Percentile		21.33	4.27	6.19
Median		20.85	2.85	3.59
75th Percentile		20.05	1.89	2.81
90th Percentile		19.48	1.30	2.27
Vanguard Total Stock Market	● A	21.64	0.02	0.02
Russell 3000 Index	■ B	21.61	0.06	0.14

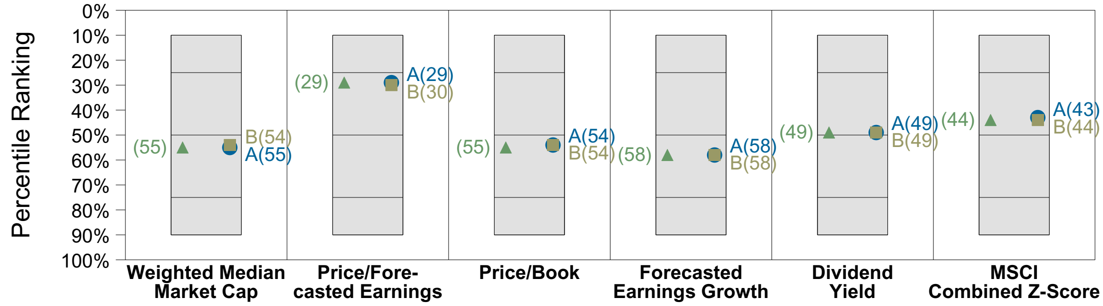
		Beta	R-Squared
10th Percentile		1.03	0.99
25th Percentile		0.98	0.99
Median		0.95	0.98
75th Percentile		0.90	0.92
90th Percentile		0.87	0.87
Vanguard Total Stock Market	● A	1.00	1.00
Russell 3000 Index	■ B	1.00	1.00

Vanguard Total Stock Market
Equity Characteristics Analysis Summary

Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings
Rankings Against Callan Large Cap Core Mutual Funds
as of December 31, 2022

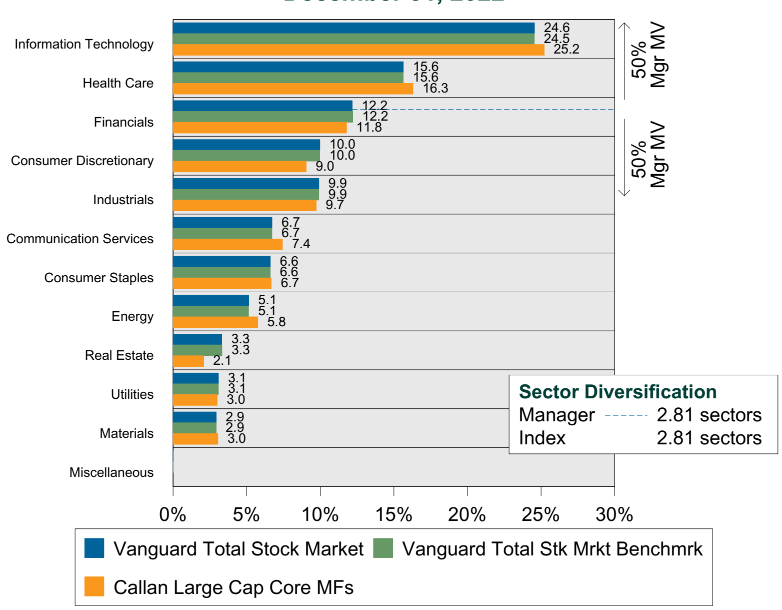


	Weighted Median Market Cap	Price/Fore-casted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
10th Percentile	178.02	18.19	4.12	13.55	2.23	0.27
25th Percentile	148.05	17.39	3.67	12.39	1.92	0.14
Median	123.28	15.43	3.32	11.26	1.70	(0.02)
75th Percentile	76.06	13.38	2.86	10.12	1.42	(0.21)
90th Percentile	45.65	12.78	2.19	8.94	1.29	(0.54)
Vanguard Total Stock Market ● A	110.13	17.24	3.19	10.87	1.71	(0.00)
Russell 3000 Index ■ B	111.77	17.12	3.19	10.89	1.72	(0.01)
Vanguard Total Stk Mrkt Benchmrk ▲	110.15	17.23	3.15	10.87	1.71	(0.01)

Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

Sector Allocation
December 31, 2022



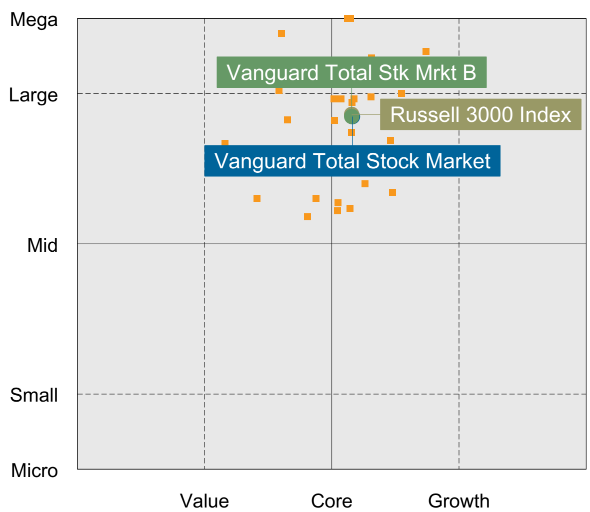
Diversification
December 31, 2022

	Number of Securities	Issue Diversification
10th Percentile	203	36
25th Percentile	136	23
Median	75	20
75th Percentile	49	15
90th Percentile	33	11
Vanguard Total Stock Market ●	3956	70
Vanguard Total Stk Mrkt Benchmrk ▲	3946	71

Current Holdings Based Style Analysis
Vanguard Total Stock Market
As of December 31, 2022

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization segments are dictated by capitalization decile breakpoints. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

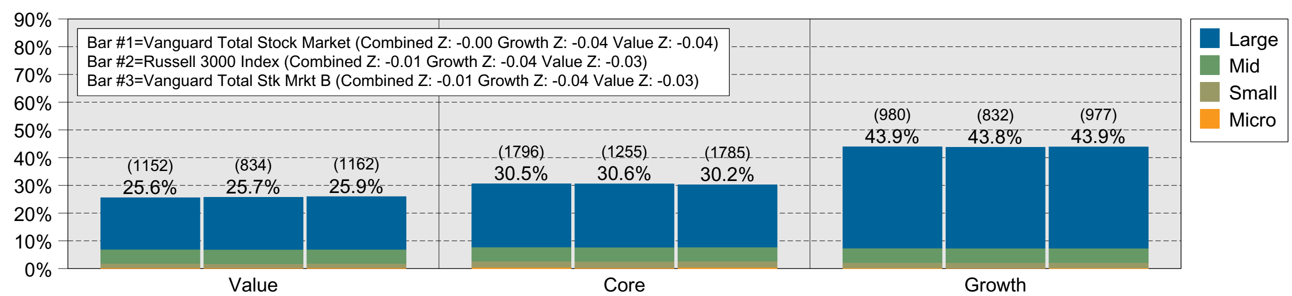
Style Map vs Callan Large Cap Core MFs
Holdings as of December 31, 2022



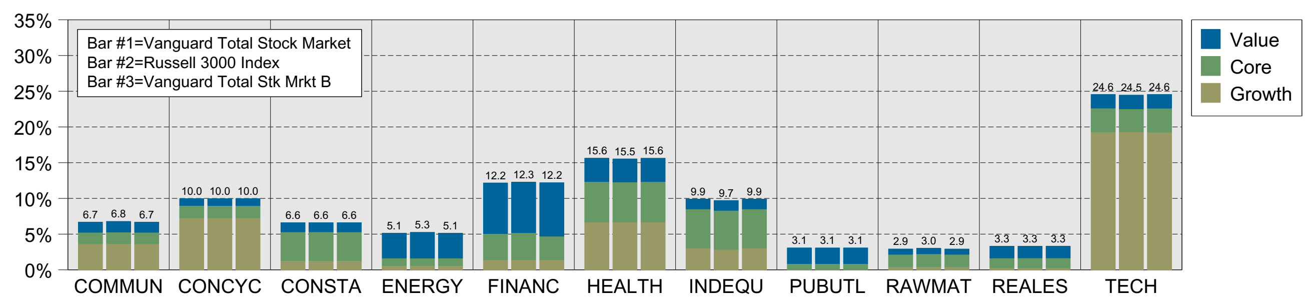
Style Exposure Matrix
Holdings as of December 31, 2022

	Value	Core	Growth	Total
Large	18.6% (92) 18.8% (91) 19.0% (92)	22.8% (95) 22.9% (95) 22.4% (95)	36.5% (108) 36.4% (106) 36.5% (108)	77.9% (295) 78.1% (292) 78.0% (295)
Mid	5.1% (171) 5.1% (173) 5.1% (171)	5.1% (212) 5.1% (213) 5.1% (212)	5.2% (197) 5.2% (198) 5.2% (197)	15.4% (580) 15.4% (584) 15.4% (580)
Small	1.5% (303) 1.6% (313) 1.5% (303)	2.3% (490) 2.3% (490) 2.3% (488)	2.0% (366) 2.0% (366) 2.0% (366)	5.8% (1159) 5.8% (1169) 5.8% (1157)
Micro	0.3% (586) 0.2% (257) 0.3% (596)	0.4% (999) 0.3% (457) 0.4% (990)	0.2% (309) 0.1% (162) 0.2% (306)	0.9% (1894) 0.7% (876) 0.9% (1892)
Total	**25.6% (1152)** **25.7% (834)** **25.9% (1162)**	**30.5% (1796)** **30.6% (1255)** **30.2% (1785)**	**43.9% (980)** **43.8% (832)** **43.9% (977)**	**100.0% (3928)** **100.0% (2921)** **100.0% (3924)**

Combined Z-Score Style Distribution
Holdings as of December 31, 2022



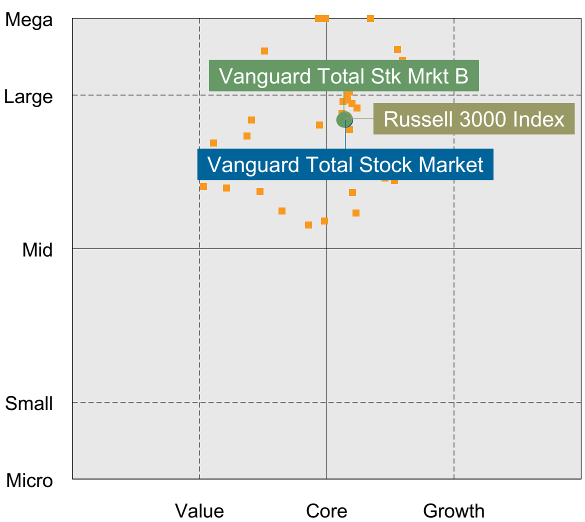
Sector Weights Distribution
Holdings as of December 31, 2022



Historical Holdings Based Style Analysis
Vanguard Total Stock Market
For Three Years Ended December 31, 2022

This page analyzes the historical investment style of a portfolio utilizing a detailed holdings-based style analysis to determine average actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization segments are dictated by capitalization decile breakpoints. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the average historical market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the average historical portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The next two style exposure charts illustrate the actual quarterly cap/style and style only segment exposures of the portfolio through history.

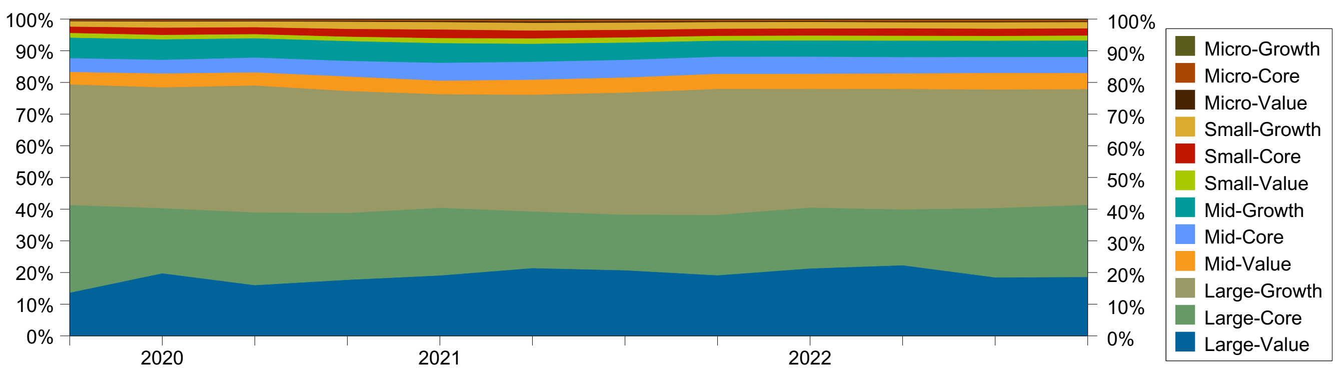
Average Style Map vs Callan Large Cap Core MFs
Holdings for Three Years Ended December 31, 2022



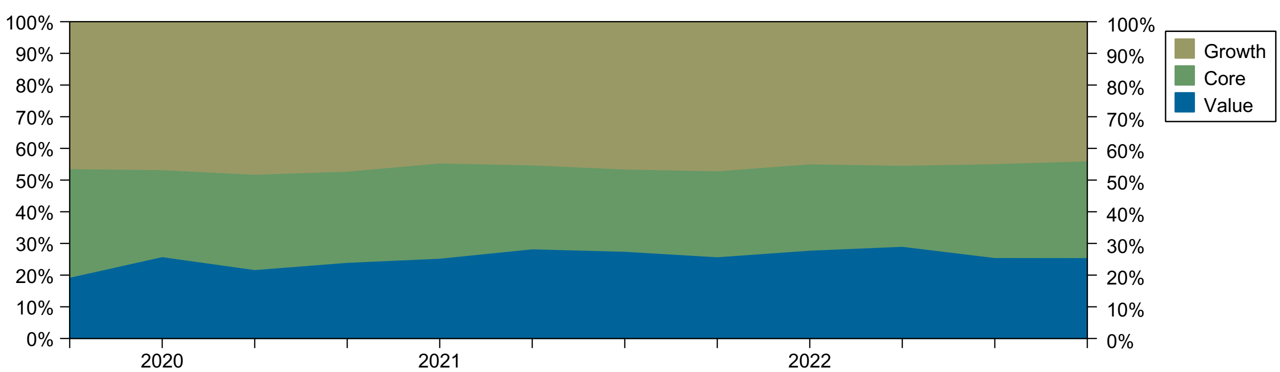
Average Style Exposure Matrix
Holdings for Three Years Ended December 31, 2022

	Value	Core	Growth	Total
Large	19.1% (98) 19.2% (96) 19.5% (98)	20.8% (100) 20.8% (97) 20.5% (99)	37.9% (106) 38.1% (105) 37.9% (106)	**77.8% (304)** **78.0% (298)** **77.9%** (303)
Mid	4.6% (163) 4.7% (165) 4.7% (163)	5.1% (210) 5.0% (206) 5.1% (207)	5.7% (226) 5.7% (227) 5.7% (225)	**15.4% (599)** **15.4% (598)** **15.4%** (595)
Small	1.5% (294) 1.5% (300) 1.5% (294)	2.3% (527) 2.3% (505) 2.3% (515)	2.1% (395) 2.1% (391) 2.1% (394)	**5.9% (1216)** **5.9% (1196)** **5.9%** (1203)
Micro	0.3% (636) 0.3% (321) 0.3% (653)	0.4% (800) 0.3% (420) 0.4% (807)	0.2% (245) 0.1% (157) 0.2% (247)	**0.9% (1681)** **0.7% (898)** **0.8%** (1707)
Total	**25.5% (1191)** **25.6% (882)** **26.0%** (1208)	**28.6% (1637)** **28.4% (1228)** **28.2%** (1628)	**45.9% (972)** **46.0% (880)** **45.8%** (972)	**100.0% (3800)** **100.0% (2990)** **100.0%** (3808)

Vanguard Total Stock Market Historical Cap/Style Exposures



Vanguard Total Stock Market Historical Style Only Exposures



Vanguard Total Int'l. Stock
Period Ended December 31, 2022

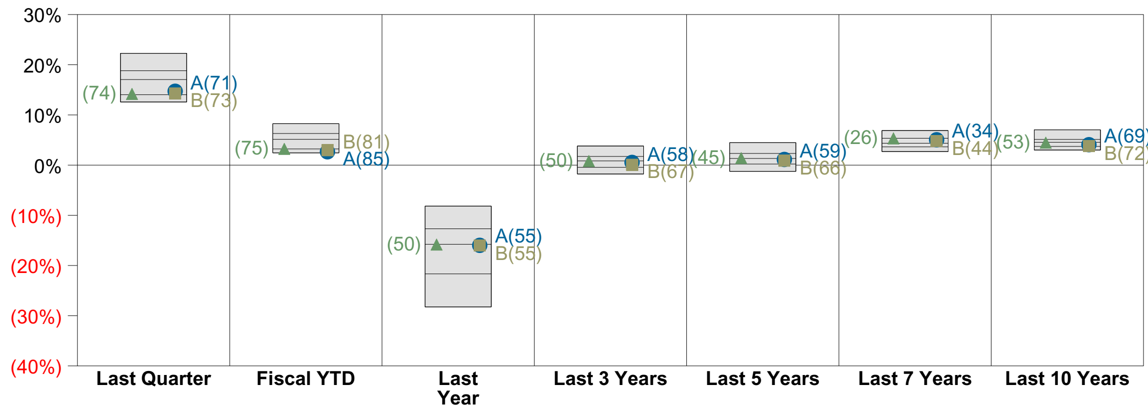
Investment Philosophy

The Vanguard Total International Stock open ended mutual fund is based on the FTSE Global All Cap ex U.S. Index. It contains more than 5,000 securities of both developed and emerging markets weighted by market capitalization and represents 98% of the universe. The fund's custom benchmark was the Total International Composite Index MSCI EAFE and MCSI Emerging Markets indices through December 15, 2010; MSCI ACWI ex US IMI Index until June 2013 and Global All Cap ex US Index thereafter. The first full quarter of actual performance is the fourth quarter of 2009, prior returns reflect manager reported composite performance. Vanguard Total Int'l. Stock switched to Institutional Shares from Investor Shares on November 30, 2014

Quarterly Summary and Highlights

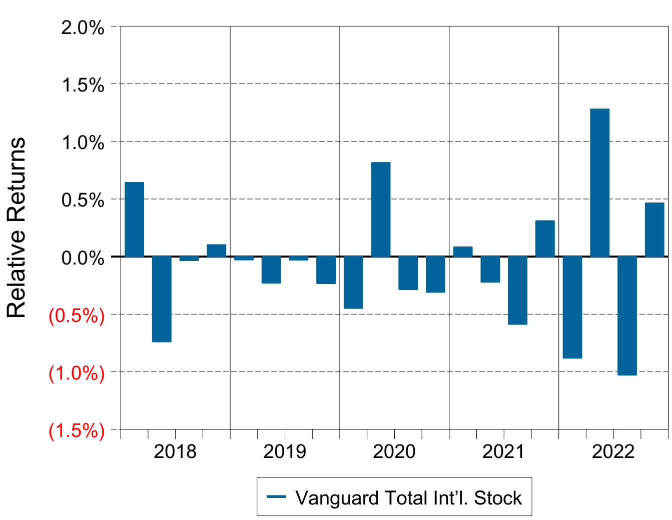
- Vanguard Total Int'l. Stock's portfolio posted a 14.72% return for the quarter placing it in the 71 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 55 percentile for the last year.
- Vanguard Total Int'l. Stock's portfolio outperformed the Vanguard Intl Benchmark by 0.53% for the quarter and underperformed the Vanguard Intl Benchmark for the year by 0.15%.

Performance vs Callan Non US Equity Mutual Funds (Institutional Net)

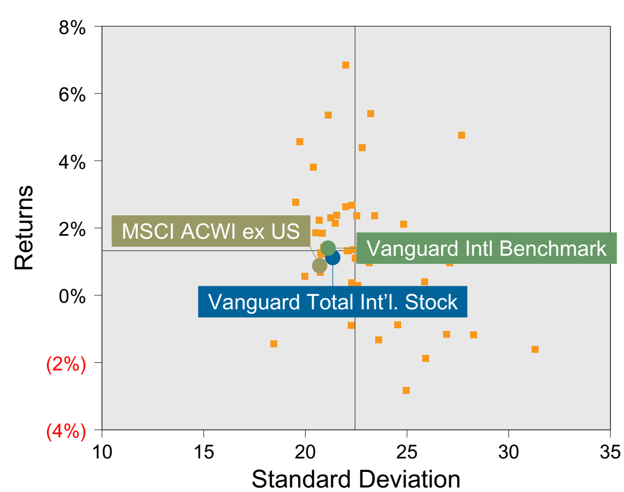


	Last Quarter	Fiscal YTD	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	22.27	8.26	(8.17)	3.81	4.48	6.89	7.04
25th Percentile	18.81	6.30	(12.68)	1.73	2.32	5.35	5.12
Median	17.05	5.14	(15.77)	0.84	1.33	4.36	4.55
75th Percentile	14.03	3.22	(21.67)	(0.44)	0.22	3.64	3.73
90th Percentile	12.58	2.44	(28.25)	(1.77)	(1.24)	2.70	3.00
Vanguard Total Int'l. Stock ● A	14.72	2.66	(15.98)	0.53	1.12	5.05	4.07
MSCI ACWI ex US ■ B	14.28	2.96	(16.00)	0.07	0.88	4.80	3.80
Vanguard Intl Benchmark ▲	14.19	3.24	(15.83)	0.81	1.40	5.34	4.48

Relative Return vs Vanguard Intl Benchmark



Callan Non US Equity Mutual Funds (Institutional Net) Annualized Five Year Risk vs Return

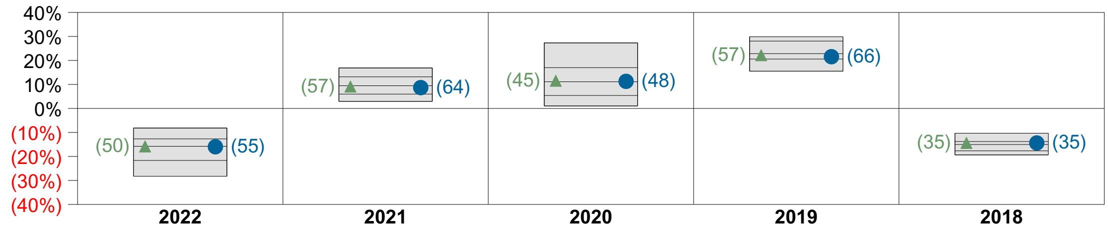


Vanguard Total Int'l. Stock
Return Analysis Summary

Return Analysis

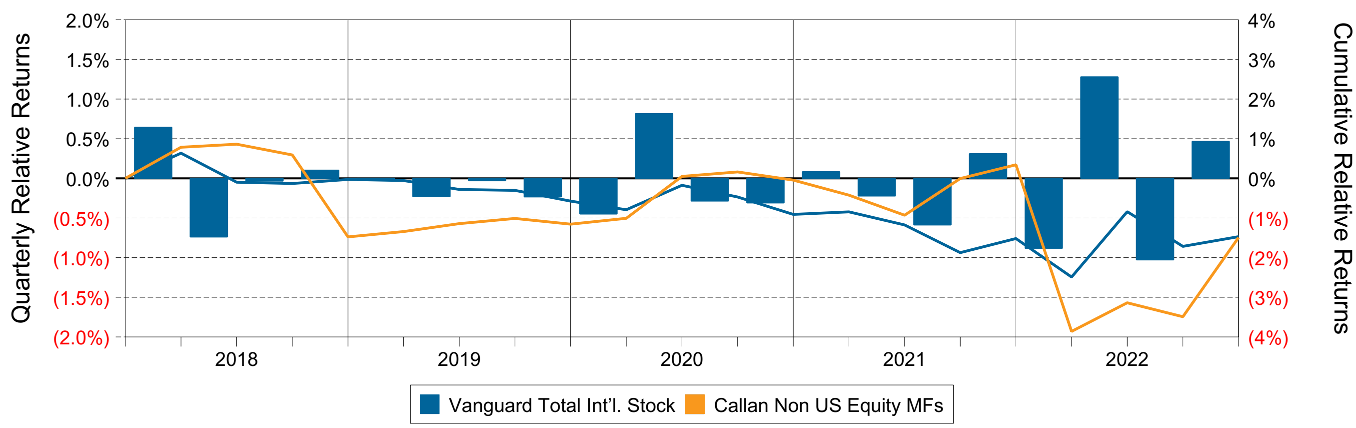
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Non US Equity Mutual Funds (Institutional Net)

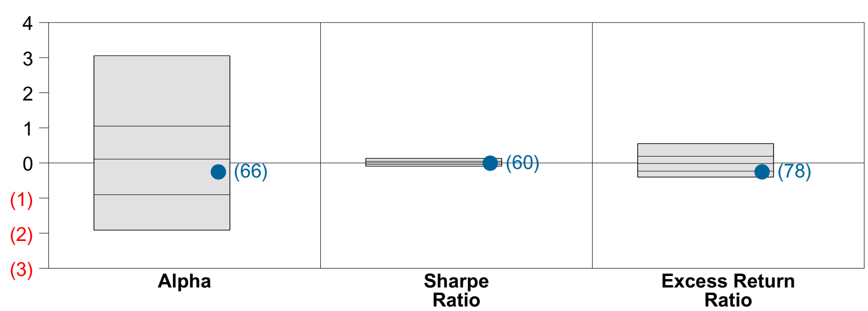


		2022	2021	2020	2019	2018
10th Percentile		(8.17)	16.88	27.31	29.86	(10.33)
25th Percentile		(12.68)	13.17	17.00	28.07	(13.79)
Median		(15.77)	9.47	11.12	22.83	(15.04)
75th Percentile		(21.67)	5.98	5.40	20.57	(17.67)
90th Percentile		(28.25)	2.94	1.05	15.53	(19.35)
Vanguard Total Int'l. Stock	●	(15.98)	8.68	11.28	21.56	(14.39)
Vanguard Intl Benchmark	▲	(15.83)	9.13	11.54	22.19	(14.36)

Cumulative and Quarterly Relative Returns vs Vanguard Intl Benchmark



Risk Adjusted Return Measures vs Vanguard Intl Benchmark
Rankings Against Callan Non US Equity Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022



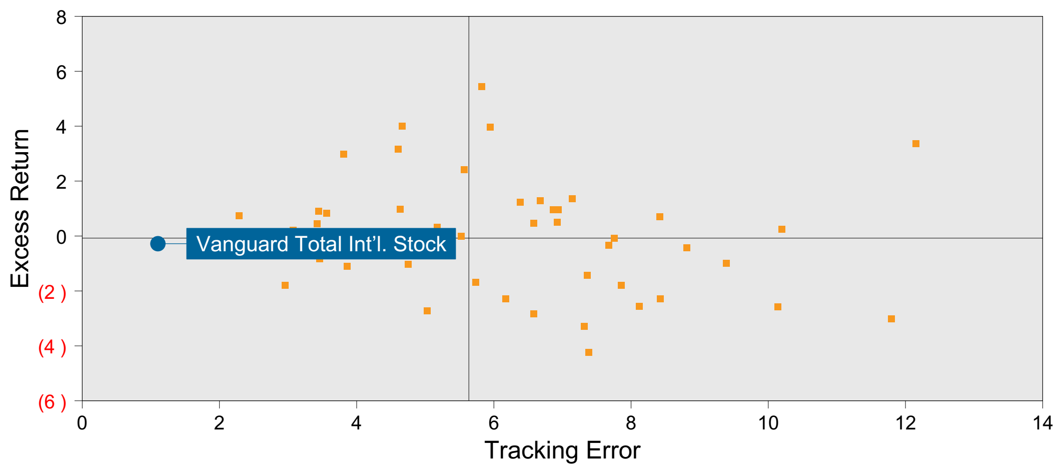
		Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile		3.05	0.13	0.55
25th Percentile		1.05	0.05	0.19
Median		0.11	0.00	(0.01)
75th Percentile		(0.90)	(0.05)	(0.23)
90th Percentile		(1.91)	(0.09)	(0.40)
Vanguard Total Int'l. Stock	●	(0.25)	(0.01)	(0.25)

Vanguard Total Int'l. Stock
Risk Analysis Summary

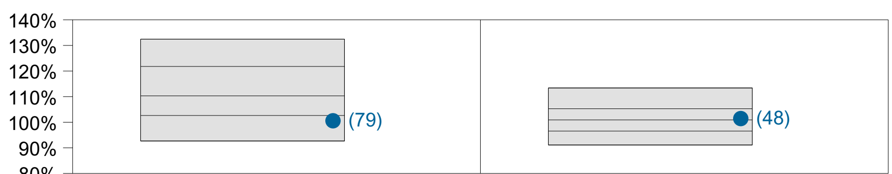
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

Risk Analysis vs Callan Non US Equity Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022

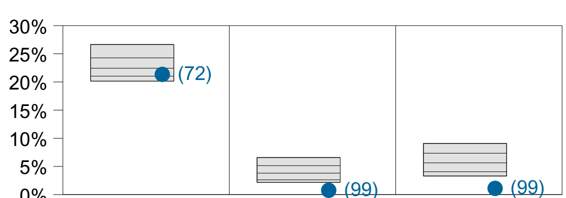


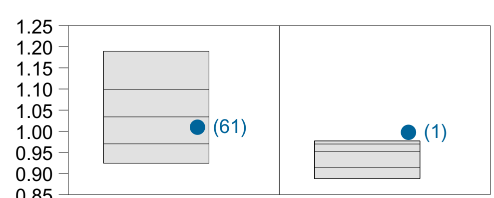
Market Capture vs Vanguard Intl Benchmark
Rankings Against Callan Non US Equity Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022



	Up Market Capture	Down Market Capture
10th Percentile	132.45	113.40
25th Percentile	121.79	105.27
Median	110.30	100.90
75th Percentile	102.63	96.55
90th Percentile	92.68	91.12
Vanguard Total Int'l. Stock ●	100.58	101.44

Risk Statistics Rankings vs Vanguard Intl Benchmark
Rankings Against Callan Non US Equity Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022





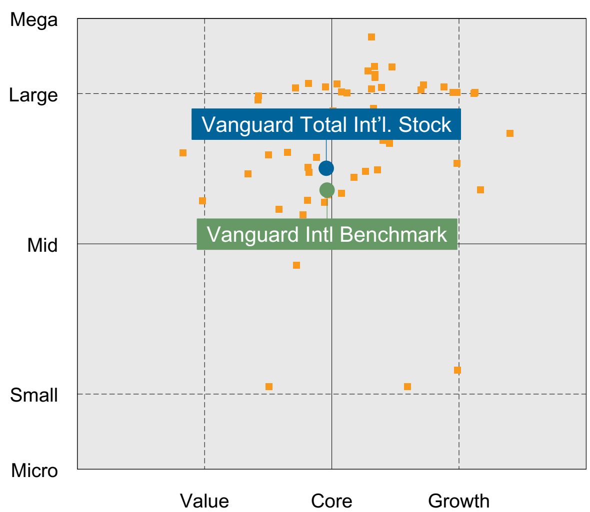
	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	26.66	6.58	9.09
25th Percentile	24.28	5.14	7.35
Median	22.44	3.81	5.64
75th Percentile	21.03	2.62	4.06
90th Percentile	20.14	2.17	3.30
Vanguard Total Int'l. Stock ●	21.35	0.76	1.10

	Beta	R-Squared
10th Percentile	1.19	0.98
25th Percentile	1.10	0.97
Median	1.03	0.95
75th Percentile	0.97	0.91
90th Percentile	0.92	0.89
Vanguard Total Int'l. Stock ●	1.01	1.00

Current Holdings Based Style Analysis
Vanguard Total Int'l. Stock
As of December 31, 2022

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

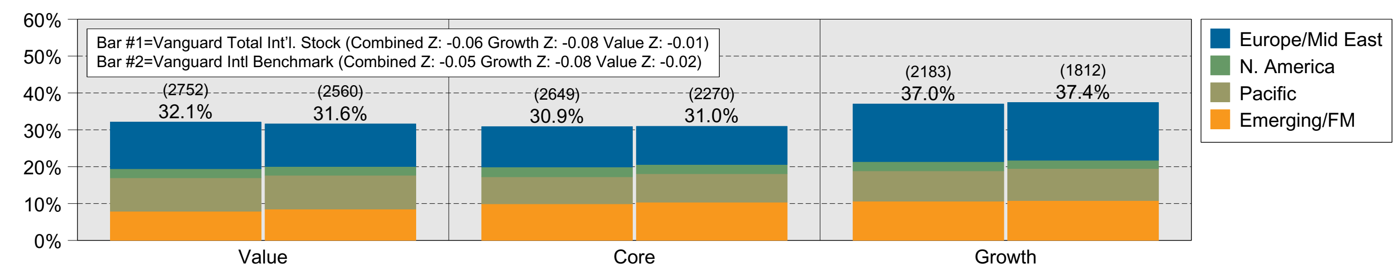
Style Map vs Callan Non US Equity MFs
Holdings as of December 31, 2022



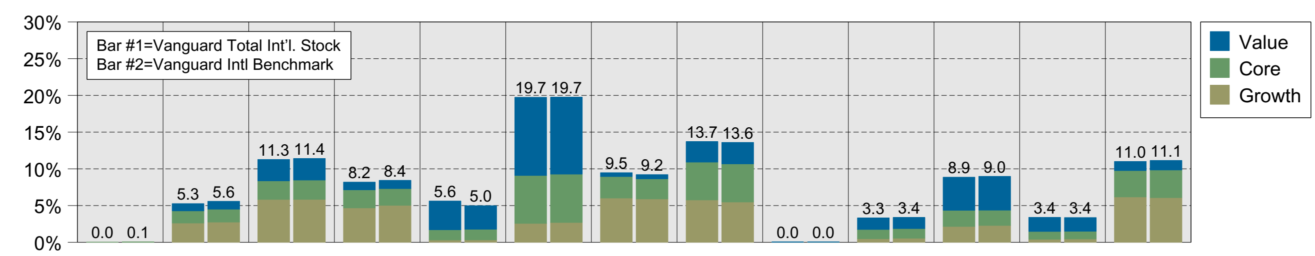
Style Exposure Matrix
Holdings as of December 31, 2022

	Value	Core	Growth	Total
Europe/ Mid East	12.7% (479) 11.6% (433)	11.0% (461) 10.4% (423)	15.7% (406) 15.7% (355)	**39.3% (1346)** **37.6% (1211)**
N. America	2.5% (64) 2.4% (60)	2.7% (75) 2.5% (61)	2.5% (60) 2.2% (47)	**7.6% (199)** **7.1% (168)**
Pacific	9.1% (768) 9.1% (754)	7.3% (645) 7.7% (633)	8.2% (537) 8.7% (530)	**24.6% (1950)** **25.6% (1917)**
Emerging/ FM	7.9% (1441) 8.5% (1313)	9.9% (1468) 10.4% (1153)	10.6% (1180) 10.8% (880)	**28.4% (4089)** **29.7% (3346)**
Total	**32.1% (2752)** **31.6% (2560)**	**30.9% (2649)** **31.0% (2270)**	**37.0% (2183)** **37.4% (1812)**	**100.0% (7584)** **100.0% (6642)**

Combined Z-Score Style Distribution
Holdings as of December 31, 2022



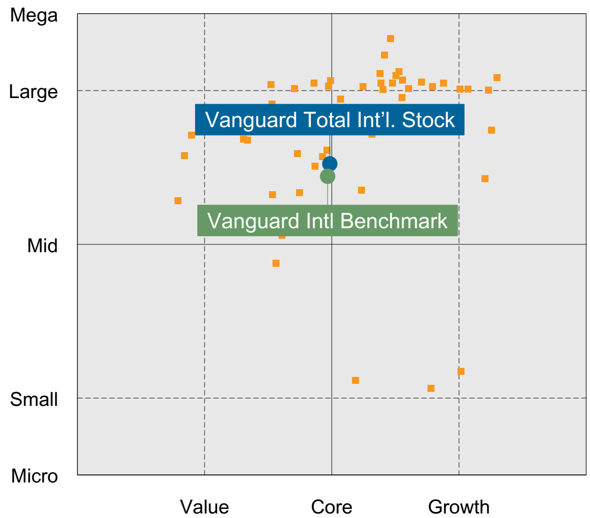
Sector Weights Distribution
Holdings as of December 31, 2022



Historical Holdings Based Style Analysis
Vanguard Total Int'l. Stock
For Three Years Ended December 31, 2022

This page analyzes the historical investment style of a portfolio utilizing a detailed holdings-based style analysis to determine average actual exposures to various region and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the average historical market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the average historical portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The next two style exposure charts illustrate the actual quarterly region/style and style only segment exposures of the portfolio through history.

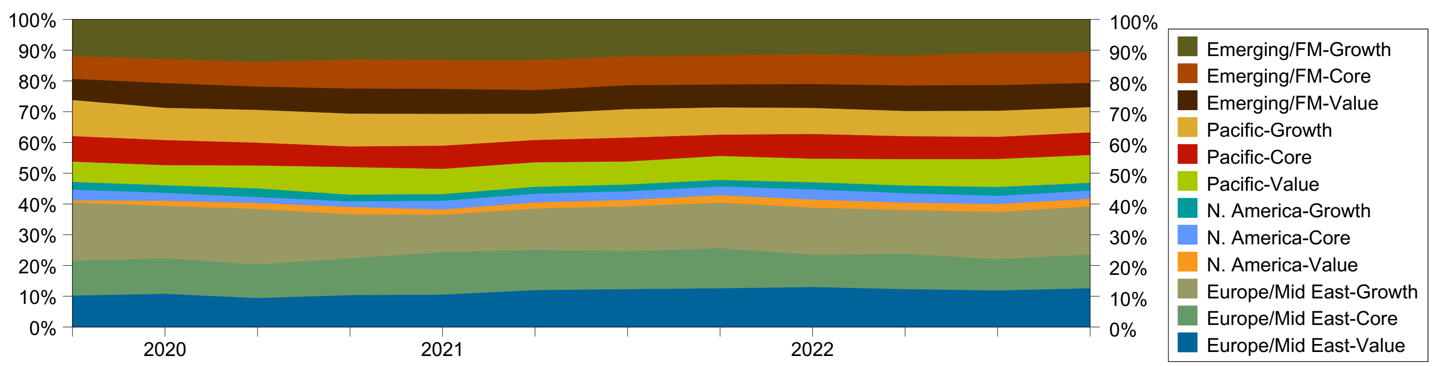
Average Style Map vs Callan Non US Equity MFs
Holdings for Three Years Ended December 31, 2022



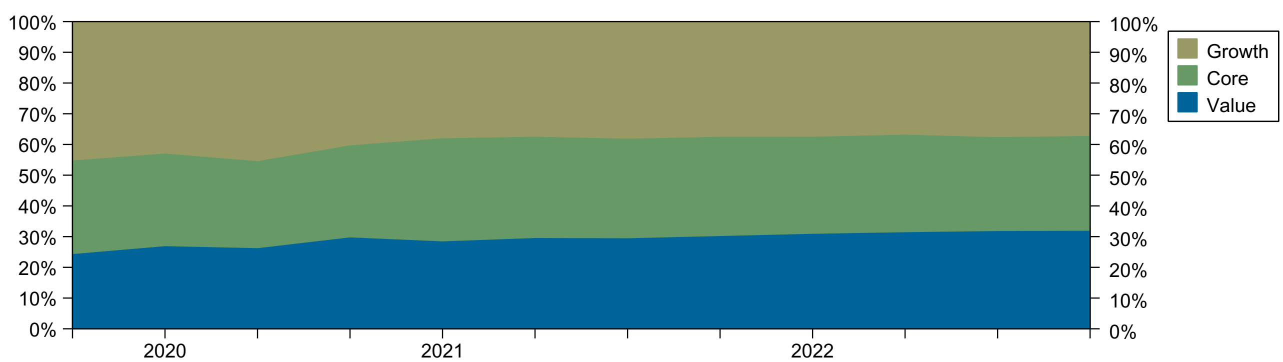
Average Style Exposure Matrix
Holdings for Three Years Ended December 31, 2022

	Value	Core	Growth	Total
Europe/ Mid East	11.6% (447) 11.1% (413)	11.8% (457) 11.7% (430)	15.3% (407) 14.9% (369)	**38.7% (1311)** **37.6% (1212)**
N. America	2.1% (64) 2.1% (61)	2.7% (73) 2.7% (68)	2.4% (55) 2.0% (47)	**7.2% (192)** **6.7% (176)**
Pacific	8.0% (738) 8.2% (729)	7.5% (635) 7.8% (629)	9.5% (545) 9.8% (542)	**25.0% (1918)** **25.8% (1900)**
Emerging/ FM	7.8% (1423) 8.2% (1293)	9.2% (1316) 9.5% (1087)	12.1% (1063) 12.2% (850)	**29.2% (3802)** **29.9% (3230)**
Total	**29.4% (2672)** **29.6% (2496)**	**31.2% (2481)** **31.6% (2214)**	**39.3% (2070)** **38.8% (1808)**	**100.0% (7223)** **100.0% (6518)**

Vanguard Total Int'l. Stock Historical Region/Style Exposures



Vanguard Total Int'l. Stock Historical Style Only Exposures

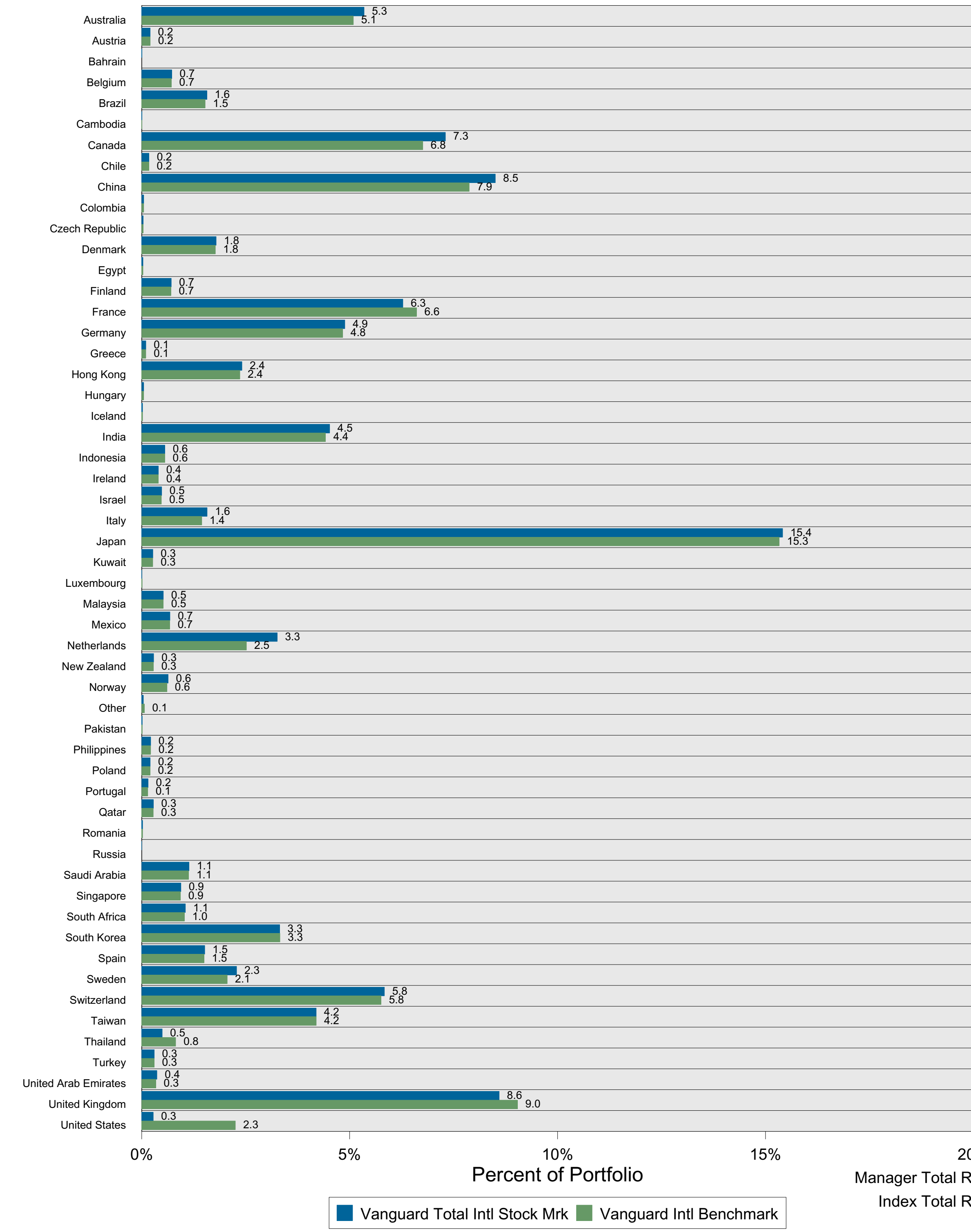


Country Allocation
Vanguard Total Intl Stock Mrk VS Vanguard Intl Benchmark

Country Allocation

The chart below contrasts the portfolio's country allocation with that of the index as of December 31, 2022. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent quarter. To the extent that the portfolio allocation is similar to the index, the portfolio should experience more "index-like" performance. In order to illustrate the performance effect on the portfolio and index of these country allocations, the individual index country returns are also shown.

Country Weights as of December 31, 2022



Country	Index Rtns
Australia	15.73%
Austria	31.07%
Bahrain	2.35%
Belgium	22.69%
Brazil	2.51%
Cambodia	-
Canada	7.65%
Chile	7.17%
China	19.75%
Colombia	19.97%
Czech Republic	7.30%
Denmark	31.64%
Egypt	28.60%
Finland	16.37%
France	22.30%
Germany	24.69%
Greece	29.18%
Hong Kong	18.21%
Hungary	36.33%
Iceland	6.45%
India	2.06%
Indonesia	(3.51%)
Ireland	21.49%
Israel	0.57%
Italy	26.62%
Japan	13.37%
Kuwait	5.75%
Luxembourg	-
Malaysia	14.03%
Mexico	12.65%
Netherlands	21.03%
New Zealand	24.56%
Norway	17.29%
Other	-
Pakistan	1.77%
Philippines	21.15%
Poland	47.75%
Portugal	17.23%
Qatar	(15.29%)
Romania	18.17%
Russia	-
Saudi Arabia	(7.43%)
Singapore	10.46%
South Africa	18.49%
South Korea	18.47%
Spain	23.14%
Sweden	18.28%
Switzerland	10.41%
Taiwan	9.69%
Thailand	16.12%
Turkey	62.89%
United Arab Emirates	(1.51%)
United Kingdom	16.98%
United States	9.87%

Manager Total Return: 14.72%
Index Total Return: 14.19%

Prudential Conservative Core Bond
Period Ended December 31, 2022

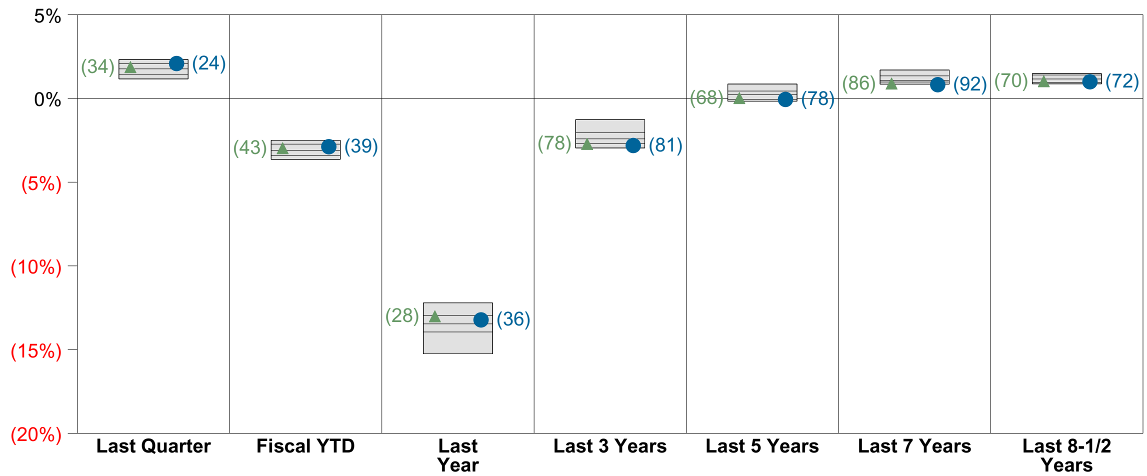
Investment Philosophy

PGIM Fixed Income's Core Conservative strategy is a benchmark-focused, investment grade-only, risk-controlled core strategy that seeks +25 bps over the Bloomberg Barclays Aggregate Index with index-like risk. The strategy seeks to generate virtually all of its excess return from just two activities: bottom-up subsector rotation within the corporate and mortgage/structured product sectors, and research-based security selection in all sectors. Top-down decisions such as duration, yield curve, and sector allocation are tightly constrained to benchmark weightings at all times. Initial investment in fund occured in June 2014. On February 8, 2017 fund switched to Institutional Trust.

Quarterly Summary and Highlights

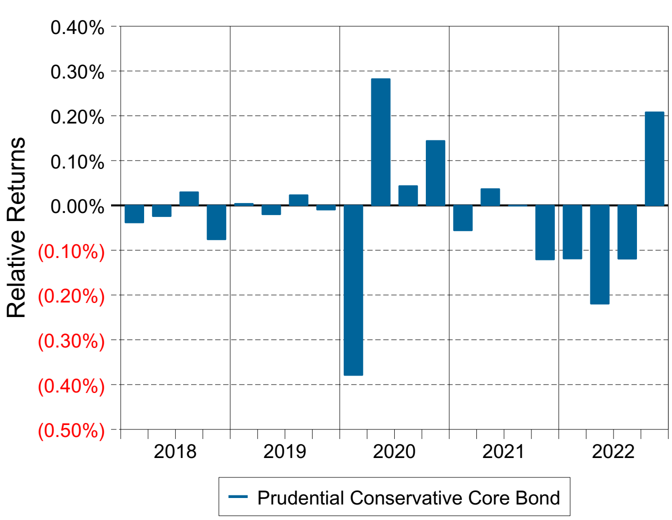
- Prudential Conservative Core Bond's portfolio posted a 2.09% return for the quarter placing it in the 24 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 36 percentile for the last year.
- Prudential Conservative Core Bond's portfolio outperformed the Blmbg Aggregate by 0.21% for the quarter and underperformed the Blmbg Aggregate for the year by 0.22%.

Performance vs Callan Core Bond Mutual Funds (Institutional Net)

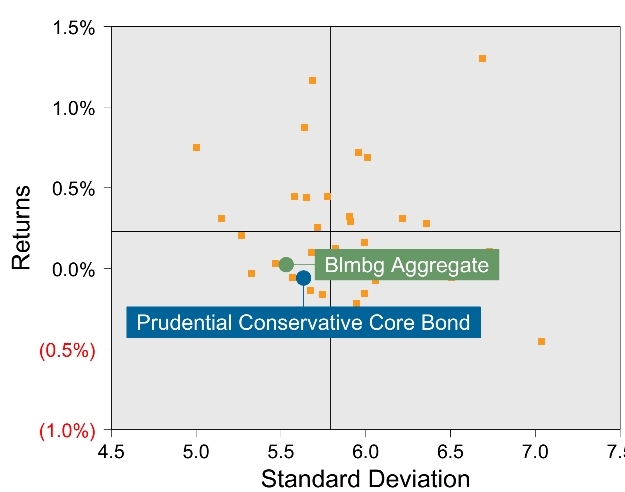


	Last Quarter	Fiscal YTD	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 8-1/2 Years
10th Percentile	2.32	(2.50)	(12.21)	(1.26)	0.86	1.70	1.49
25th Percentile	2.08	(2.73)	(12.96)	(2.05)	0.44	1.35	1.40
Median	1.77	(3.10)	(13.47)	(2.41)	0.23	1.09	1.16
75th Percentile	1.45	(3.41)	(13.95)	(2.70)	(0.06)	0.98	0.97
90th Percentile	1.17	(3.64)	(15.25)	(2.96)	(0.16)	0.85	0.87
Prudential Conservative Core Bond ●	2.09	(2.88)	(13.23)	(2.81)	(0.06)	0.82	1.00
Blmbg Aggregate ▲	1.87	(2.97)	(13.01)	(2.71)	0.02	0.89	1.03

Relative Return vs Blmbg Aggregate



Callan Core Bond Mutual Funds (Institutional Net) Annualized Five Year Risk vs Return

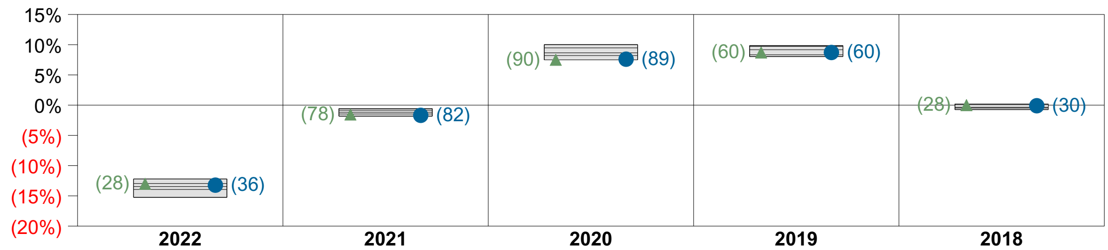


Prudential Cons Core Bond Fnd
Return Analysis Summary

Return Analysis

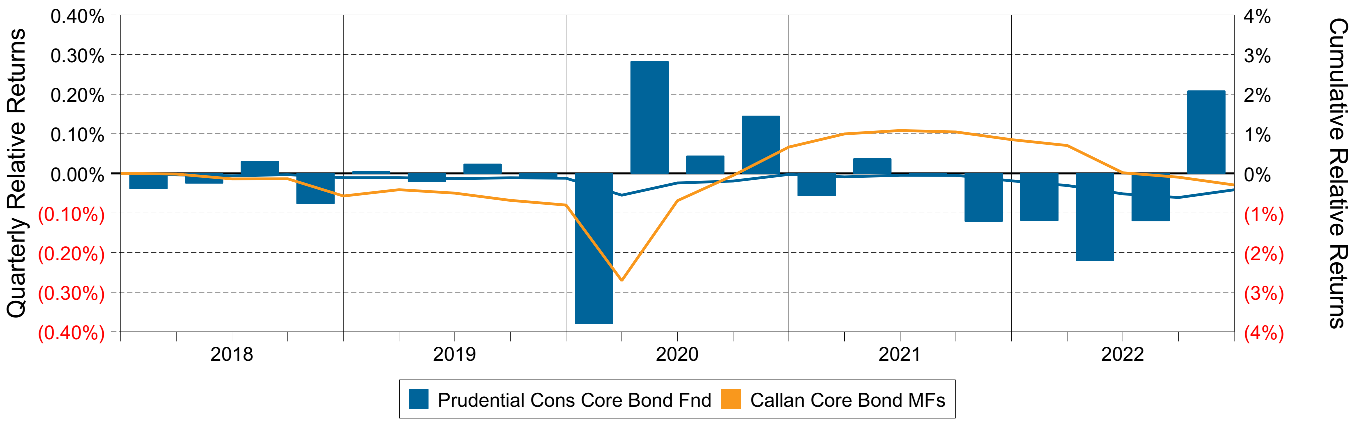
The graphs below analyze the manager’s return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager’s ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager’s ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Core Bond Mutual Funds (Institutional Net)

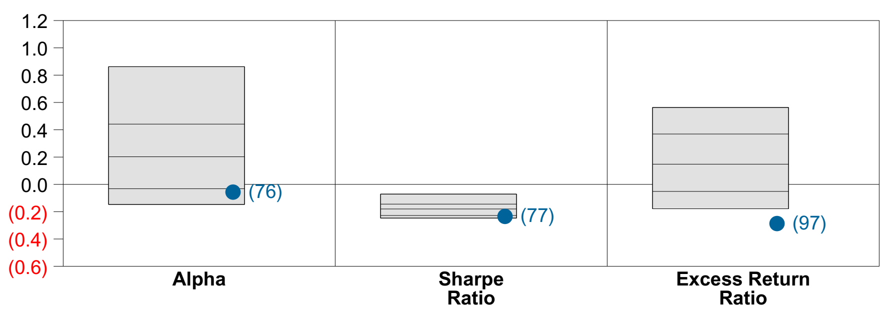


	2022	2021	2020	2019	2018
10th Percentile	(12.21)	(0.57)	10.01	9.85	0.20
25th Percentile	(12.96)	(0.84)	9.47	9.72	0.09
Median	(13.47)	(1.17)	8.65	9.17	(0.35)
75th Percentile	(13.95)	(1.46)	8.21	8.33	(0.49)
90th Percentile	(15.25)	(1.82)	7.49	8.04	(0.73)
Prudential Cons Core Bond Fnd ●	(13.23)	(1.68)	7.60	8.71	(0.10)
Blmbg Aggregate ▲	(13.01)	(1.54)	7.51	8.72	0.01

Cumulative and Quarterly Relative Returns vs Blmbg Aggregate



Risk Adjusted Return Measures vs Blmbg Aggregate
Rankings Against Callan Core Bond Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022



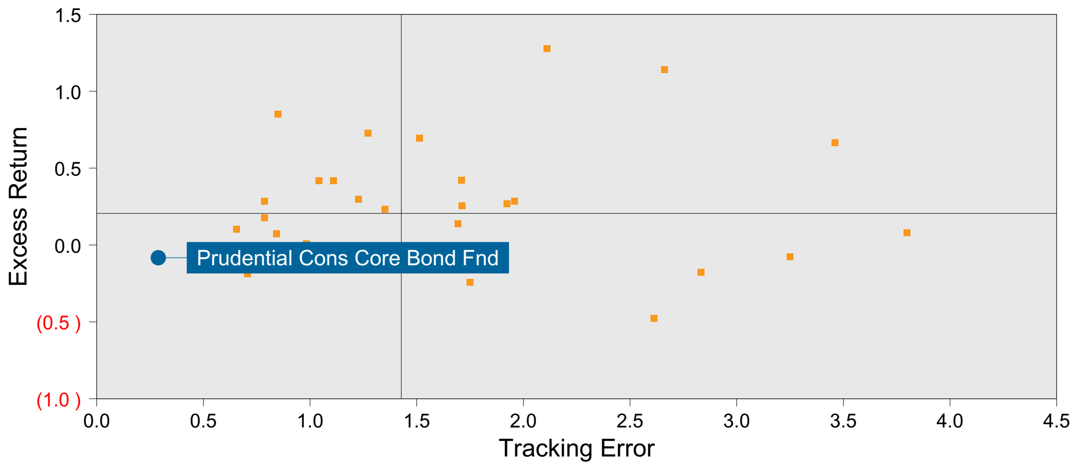
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.86	(0.07)	0.56
25th Percentile	0.44	(0.14)	0.37
Median	0.20	(0.18)	0.15
75th Percentile	(0.03)	(0.23)	(0.05)
90th Percentile	(0.15)	(0.25)	(0.18)
Prudential Cons Core Bond Fnd ●	(0.06)	(0.23)	(0.29)

Prudential Cons Core Bond Fnd
Risk Analysis Summary

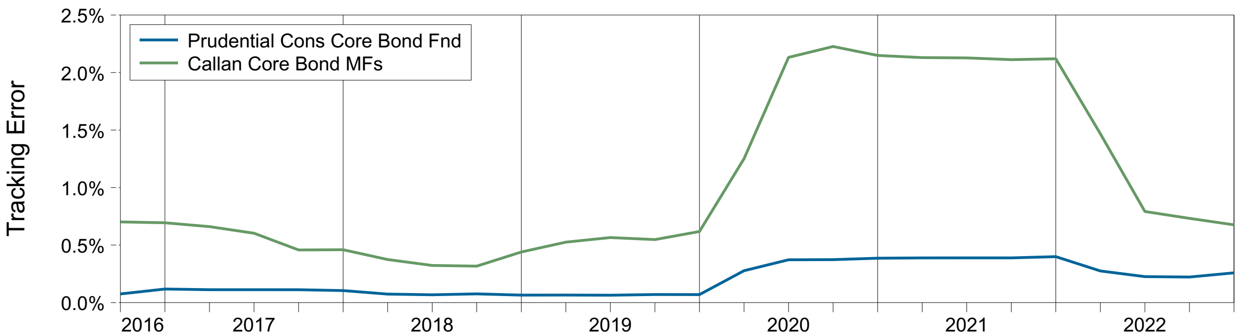
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows tracking error patterns versus the benchmark over time. The last two charts show the ranking of the manager's risk statistics versus the peer group.

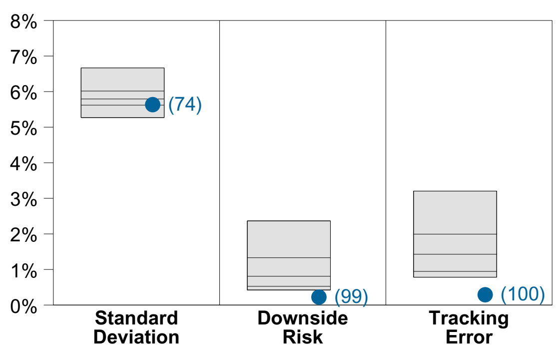
Risk Analysis vs Callan Core Bond Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022



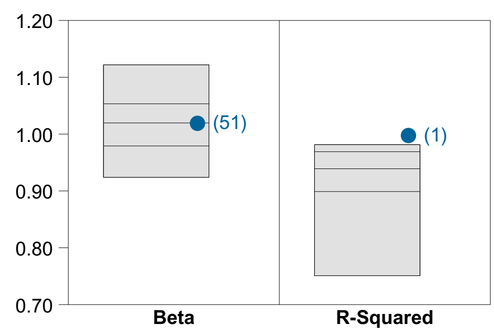
Rolling 8 Quarter Tracking Error vs Bloomberg Aggregate



Risk Statistics Rankings vs Bloomberg Aggregate
Rankings Against Callan Core Bond Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022



	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	6.67	2.37	3.20
25th Percentile	6.02	1.33	1.99
Median	5.79	0.81	1.43
75th Percentile	5.62	0.53	0.95
90th Percentile	5.27	0.42	0.78
Prudential Cons Core Bond Fnd ●	5.63	0.22	0.29



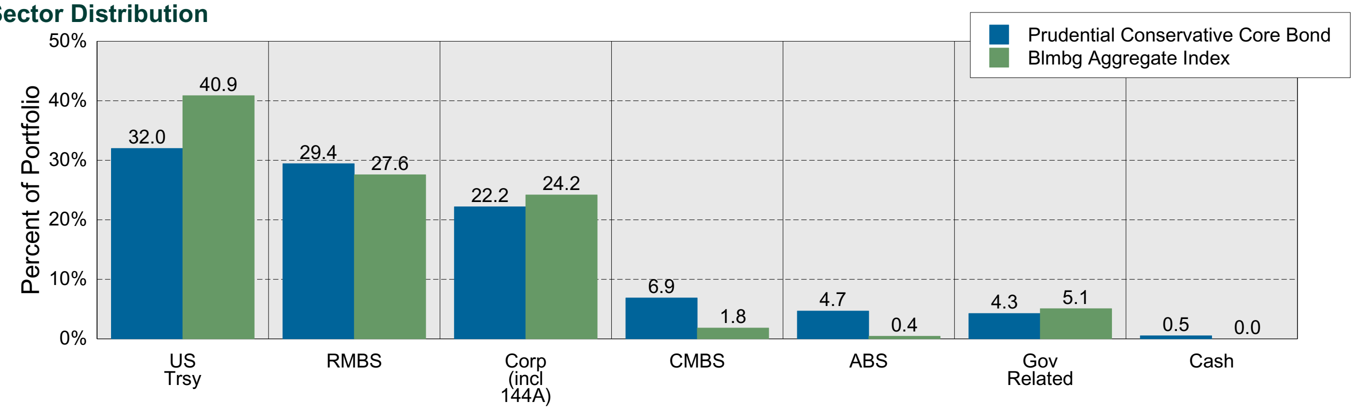
	Beta	R-Squared
10th Percentile	1.12	0.98
25th Percentile	1.05	0.97
Median	1.02	0.94
75th Percentile	0.98	0.90
90th Percentile	0.92	0.75
Prudential Cons Core Bond Fnd ●	1.02	1.00

Prudential Conservative Core Bond
Portfolio Characteristics Summary
As of December 31, 2022

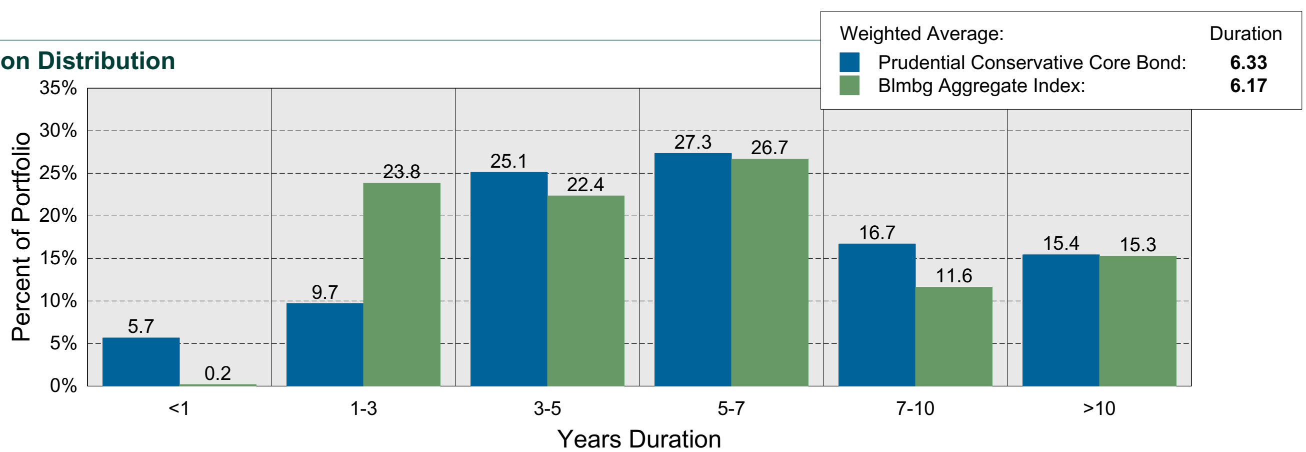
Portfolio Structure Comparison

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.

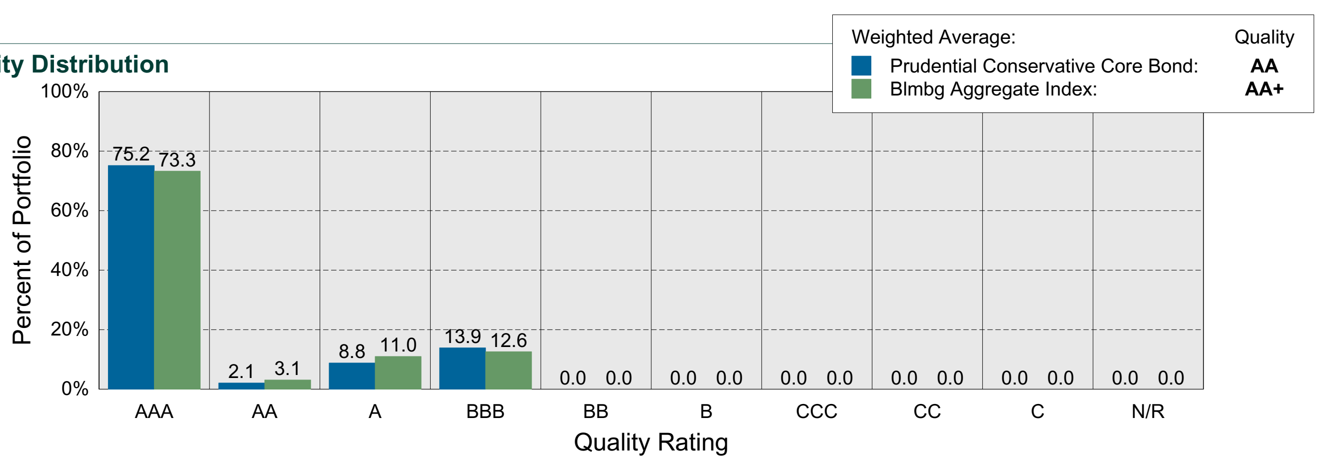
Sector Distribution



Duration Distribution



Quality Distribution

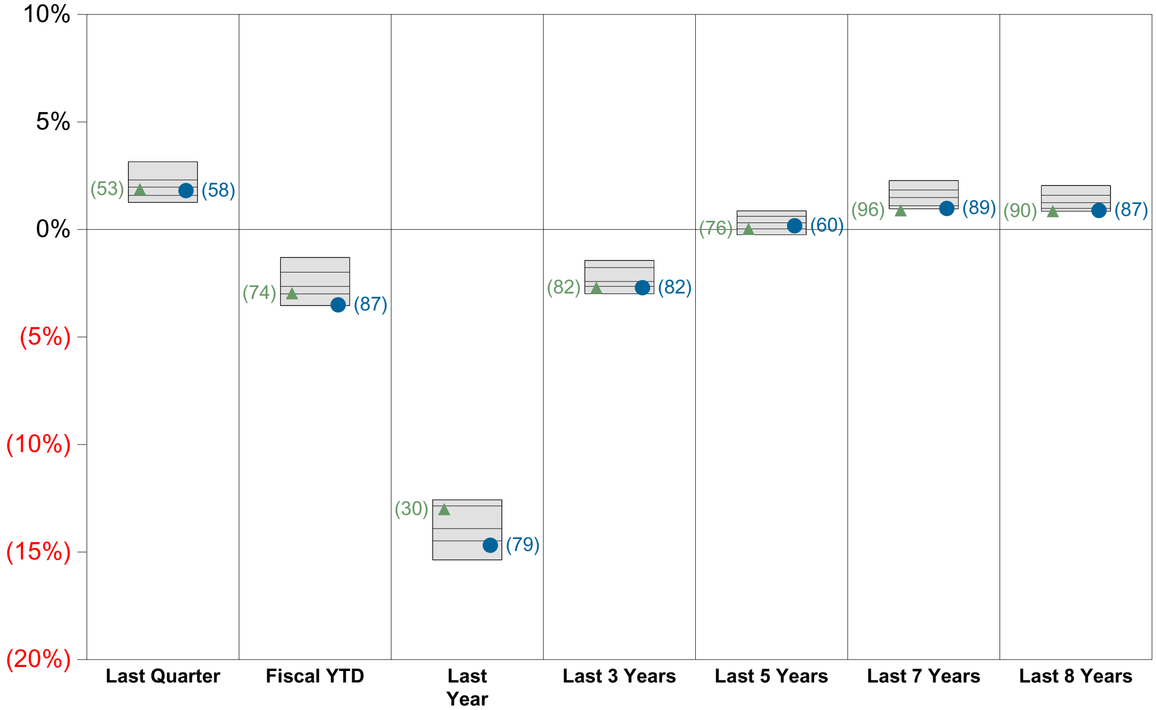


Metropolitan West Fund
Period Ended December 31, 2022

Quarterly Summary and Highlights

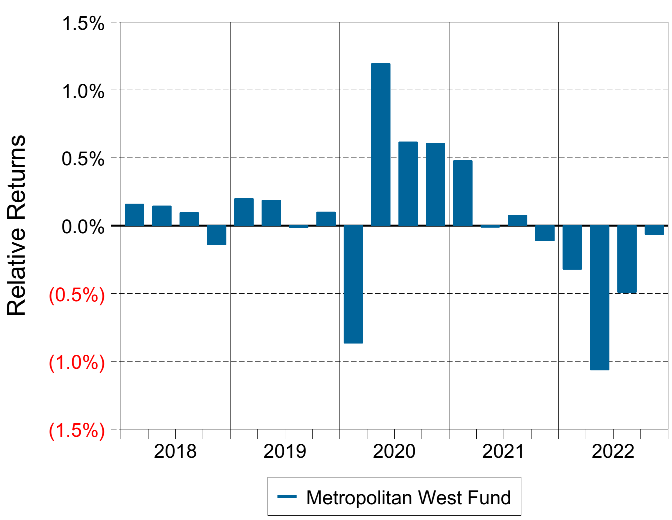
- Metropolitan West Fund’s portfolio posted a 1.81% return for the quarter placing it in the 58 percentile of the Callan Core Plus Mutual Funds group for the quarter and in the 79 percentile for the last year.
- Metropolitan West Fund’s portfolio underperformed the Blmbg Aggregate by 0.06% for the quarter and underperformed the Blmbg Aggregate for the year by 1.68%.

Performance vs Callan Core Plus Mutual Funds (Institutional Net)

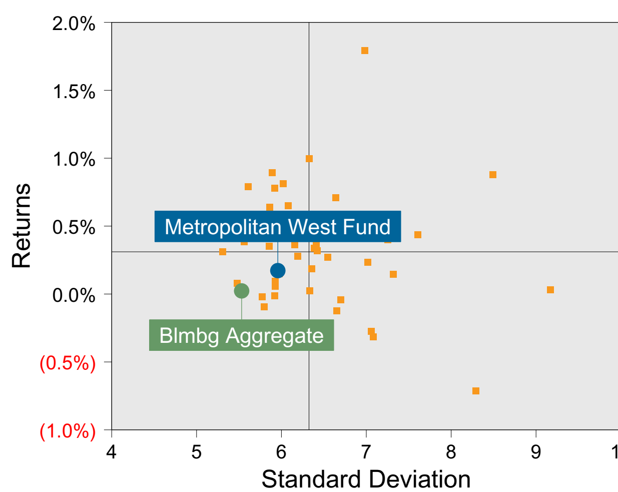


	Last Quarter	Fiscal YTD	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 8 Years
10th Percentile	3.15	(1.30)	(12.57)	(1.44)	0.87	2.27	2.04
25th Percentile	2.30	(1.99)	(12.86)	(1.77)	0.61	1.84	1.59
Median	1.97	(2.65)	(13.91)	(2.42)	0.31	1.49	1.25
75th Percentile	1.58	(2.99)	(14.48)	(2.65)	0.03	1.10	0.98
90th Percentile	1.26	(3.54)	(15.36)	(2.99)	(0.25)	0.96	0.85
Metropolitan West Fund ●	1.81	(3.51)	(14.69)	(2.71)	0.17	0.98	0.88
Blmbg Aggregate ▲	1.87	(2.97)	(13.01)	(2.71)	0.02	0.89	0.85

Relative Return vs Blmbg Aggregate



Callan Core Plus Mutual Funds (Institutional Net)
Annualized Five Year Risk vs Return

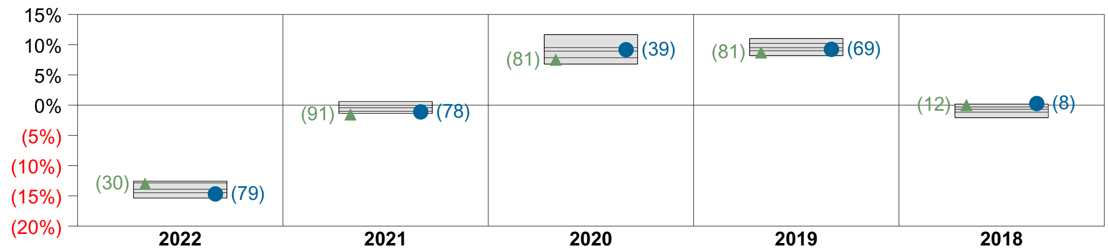


Metropolitan West Fund
Return Analysis Summary

Return Analysis

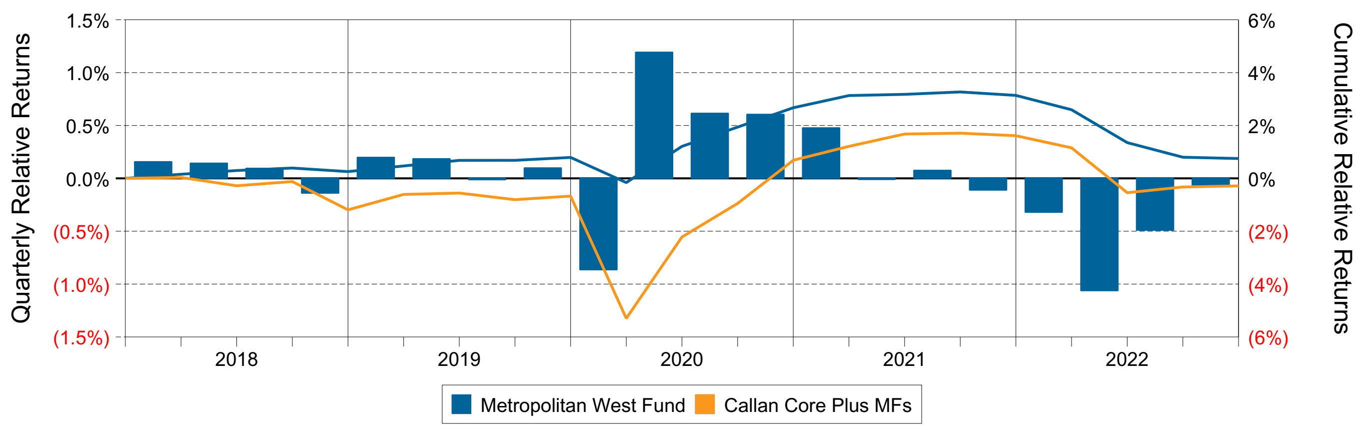
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Core Plus Mutual Funds (Institutional Net)

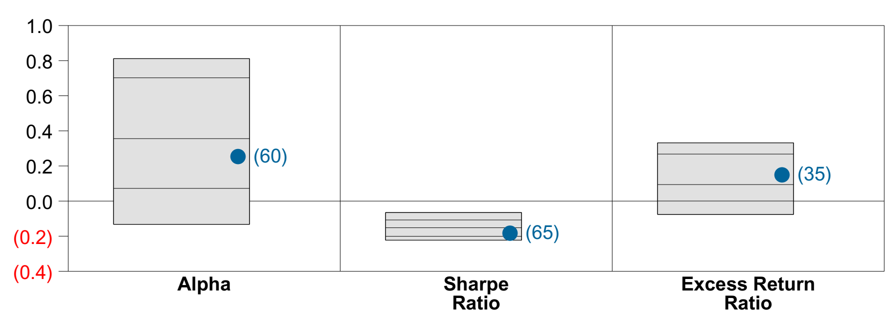


	2022	2021	2020	2019	2018
10th Percentile	(12.57)	0.62	11.67	11.02	0.17
25th Percentile	(12.86)	(0.02)	9.52	10.22	(0.29)
Median	(13.91)	(0.42)	8.94	9.50	(0.68)
75th Percentile	(14.48)	(1.02)	7.85	9.00	(1.15)
90th Percentile	(15.36)	(1.37)	6.80	8.18	(2.07)
Metropolitan West Fund ●	(14.69)	(1.12)	9.17	9.23	0.27
Blmbg Aggregate ▲	(13.01)	(1.54)	7.51	8.72	0.01

Cumulative and Quarterly Relative Returns vs Blmbg Aggregate



Risk Adjusted Return Measures vs Blmbg Aggregate
Rankings Against Callan Core Plus Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022



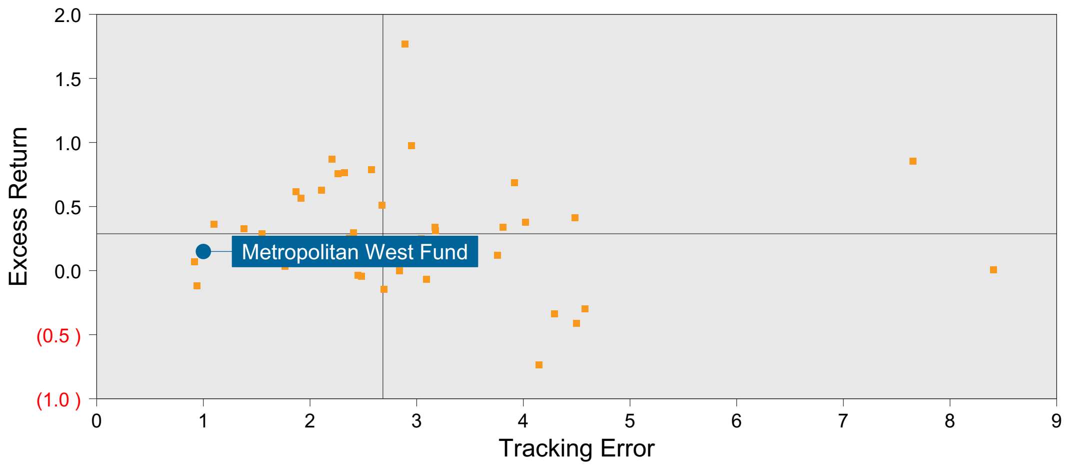
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.81	(0.07)	0.33
25th Percentile	0.70	(0.11)	0.27
Median	0.36	(0.15)	0.09
75th Percentile	0.07	(0.20)	0.00
90th Percentile	(0.13)	(0.22)	(0.08)
Metropolitan West Fund ●	0.25	(0.18)	0.15

Metropolitan West Fund
Risk Analysis Summary

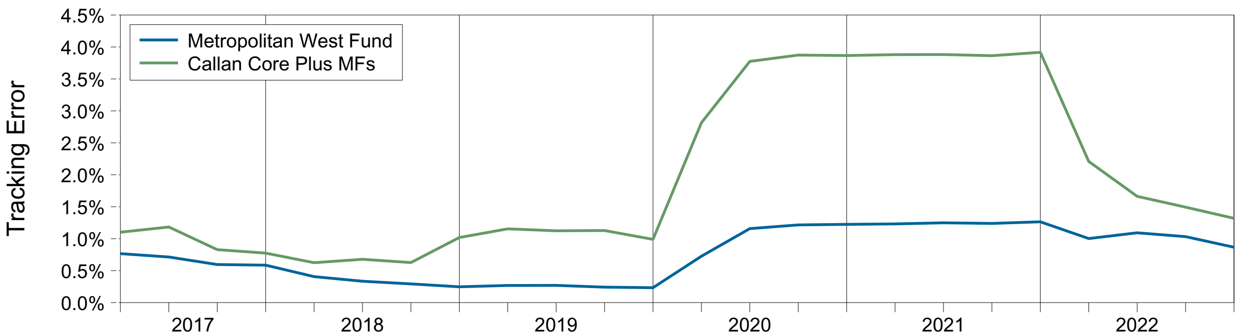
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows tracking error patterns versus the benchmark over time. The last two charts show the ranking of the manager's risk statistics versus the peer group.

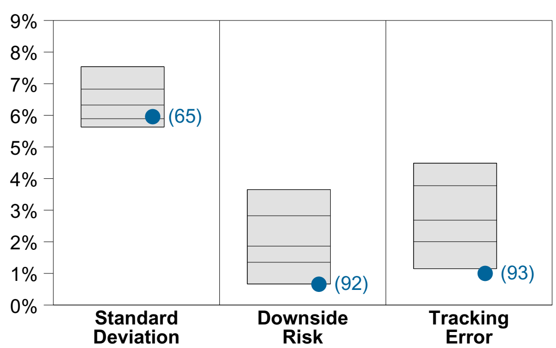
Risk Analysis vs Callan Core Plus Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022



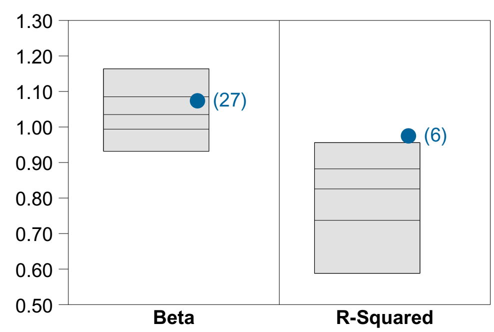
Rolling 8 Quarter Tracking Error vs Bloomberg Aggregate



Risk Statistics Rankings vs Bloomberg Aggregate
Rankings Against Callan Core Plus Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022



	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	7.54	3.65	4.49
25th Percentile	6.83	2.82	3.77
Median	6.32	1.86	2.68
75th Percentile	5.89	1.35	2.00
90th Percentile	5.63	0.67	1.15
Metropolitan West Fund ●	5.96	0.66	1.00



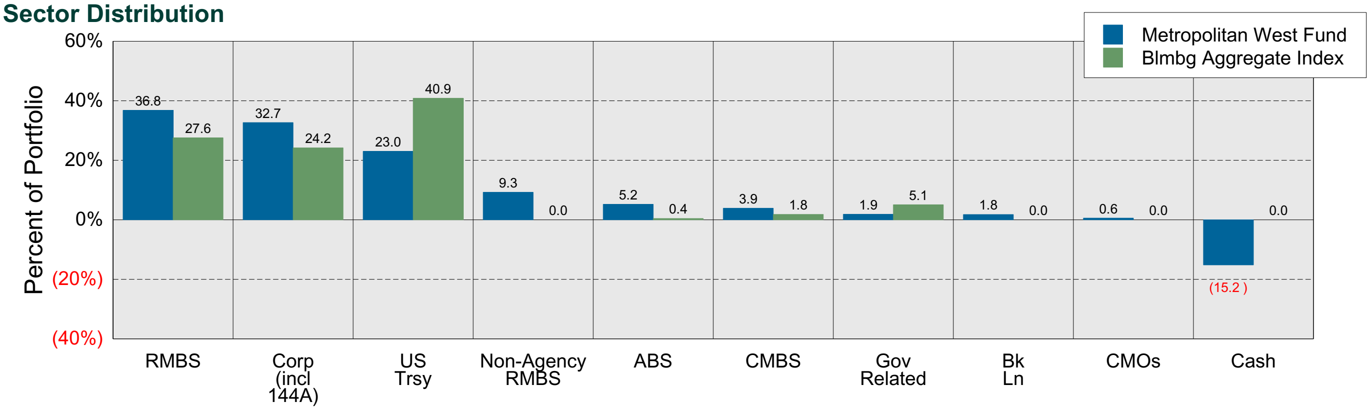
	Beta	R-Squared
10th Percentile	1.16	0.96
25th Percentile	1.09	0.88
Median	1.04	0.83
75th Percentile	0.99	0.74
90th Percentile	0.93	0.59
Metropolitan West Fund ●	1.07	0.97

Metropolitan West Fund
Portfolio Characteristics Summary
As of December 31, 2022

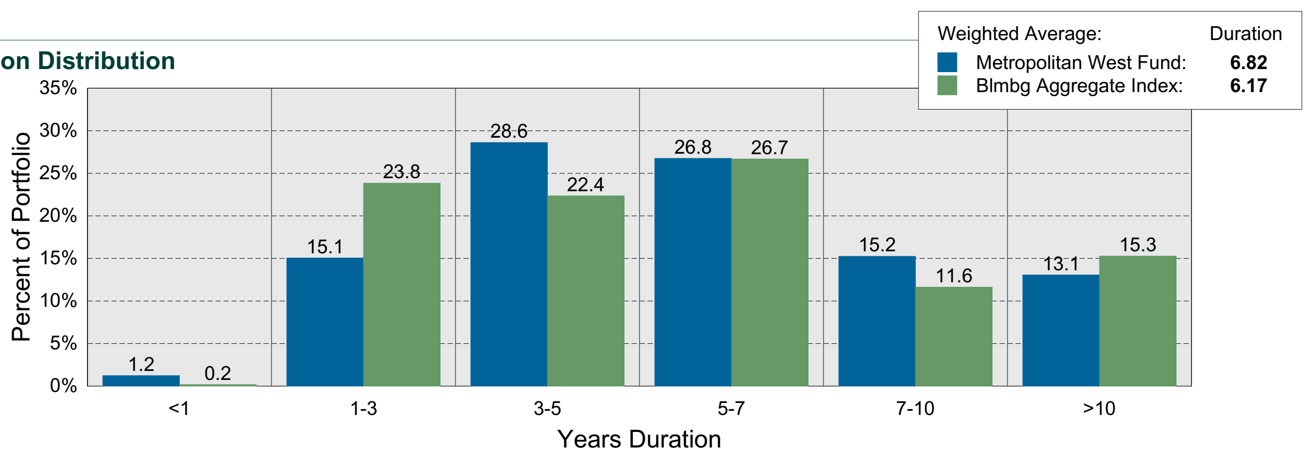
Portfolio Structure Comparison

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.

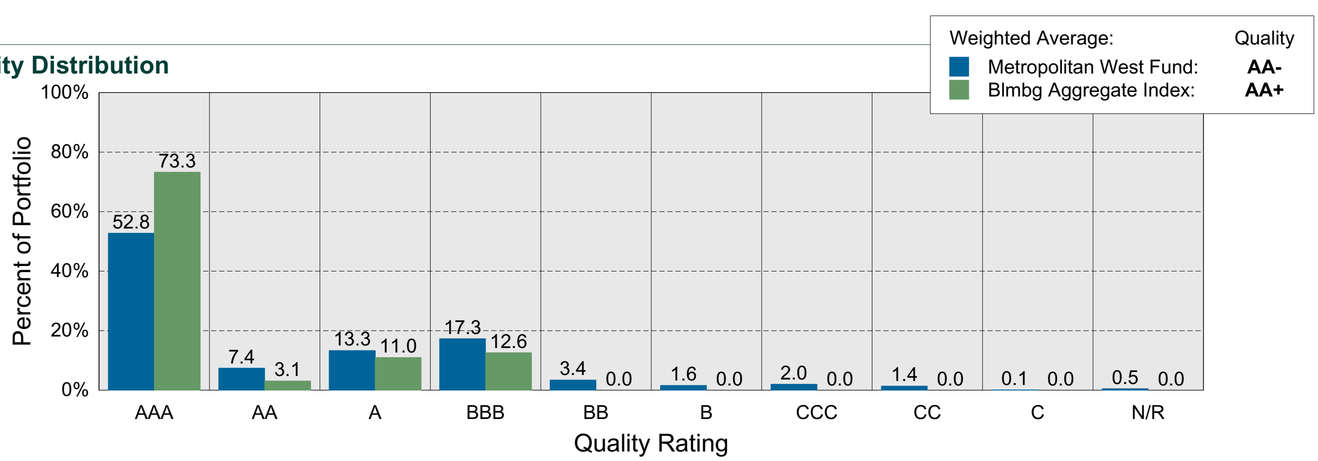
Sector Distribution



Duration Distribution



Quality Distribution



PIMCO All Asset Fund
Period Ended December 31, 2022

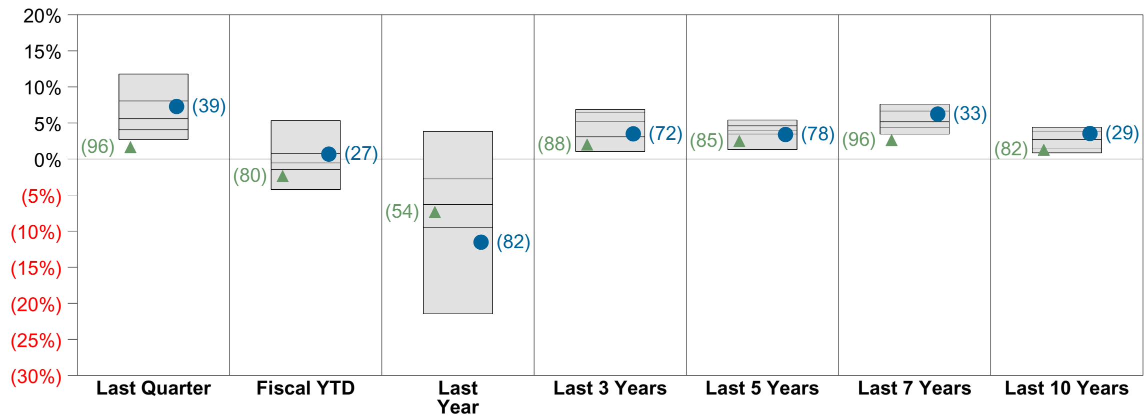
Investment Philosophy

The PIMCO All Asset Strategy is a real return-oriented, global tactical asset allocation strategy that seeks to provide three concurrent investor benefits: inflation protection, diversification and compelling long-term returns. Specifically, the All Asset Strategy has a primary benchmark of the Bloomberg Barclays Capital U.S. TIPS 1-10 Year Index and a secondary benchmark of the Consumer Price Index (CPI)+5%. PIMCO believes that this secondary benchmark reflects the Funds long-term investment strategy more accurately than the Bloomberg Barclays Capital U.S. TIPS 1-10 Year Index. As a result, the Strategy may be an attractive solution for investors seeking returns that track and meaningfully exceed inflation in a manner that also helps diversify equity risk. The first full quarter of actual performance is the first quarter of 2011, prior returns reflect manager reported composite performance.

Quarterly Summary and Highlights

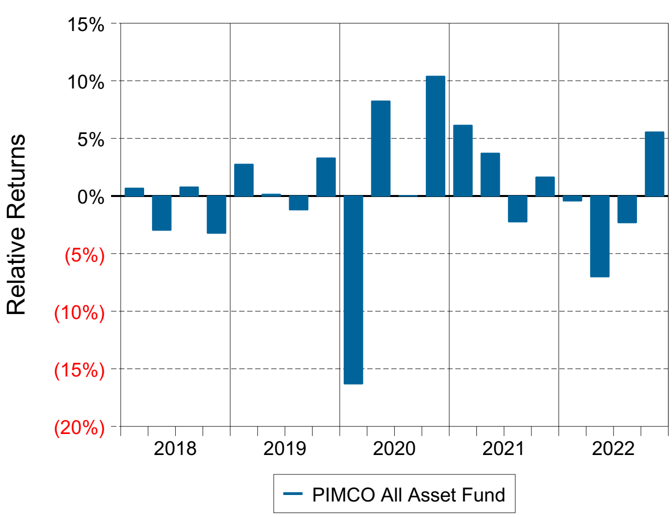
- PIMCO All Asset Fund's portfolio posted a 7.28% return for the quarter placing it in the 39 percentile of the Callan Real Assets Mutual Funds group for the quarter and in the 82 percentile for the last year.
- PIMCO All Asset Fund's portfolio outperformed the Blmbg TIPS 1-10 Yr by 5.64% for the quarter and underperformed the Blmbg TIPS 1-10 Yr for the year by 4.19%.

Performance vs Callan Real Assets Mutual Funds (Institutional Net)

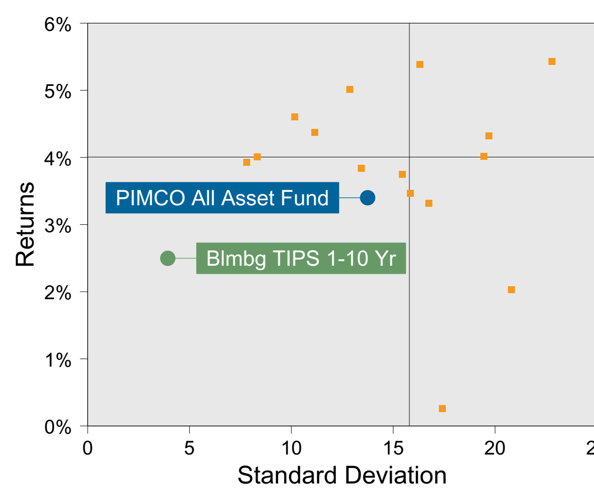


	Last Quarter	Fiscal YTD	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	11.78	5.33	3.84	6.88	5.40	7.61	4.41
25th Percentile	8.06	0.78	(2.75)	6.50	4.61	6.65	3.87
Median	5.60	(0.54)	(6.31)	5.24	4.01	5.17	2.71
75th Percentile	4.06	(1.45)	(9.46)	3.08	3.47	4.41	1.52
90th Percentile	2.73	(4.22)	(21.46)	1.05	1.32	3.45	0.85
PIMCO All Asset Fund ●	7.28	0.68	(11.53)	3.49	3.40	6.23	3.54
Blmbg TIPS 1-10 Yr ▲	1.64	(2.36)	(7.34)	2.01	2.50	2.63	1.29

Relative Return vs Blmbg TIPS 1-10 Yr



Callan Real Assets Mutual Funds (Institutional Net) Annualized Five Year Risk vs Return

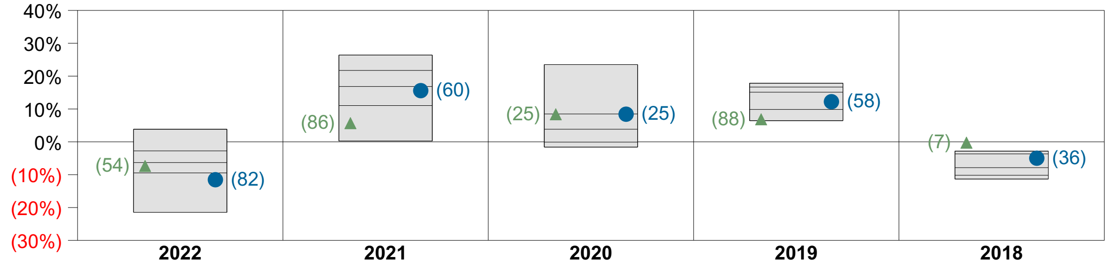


PIMCO All Asset Fund
Return Analysis Summary

Return Analysis

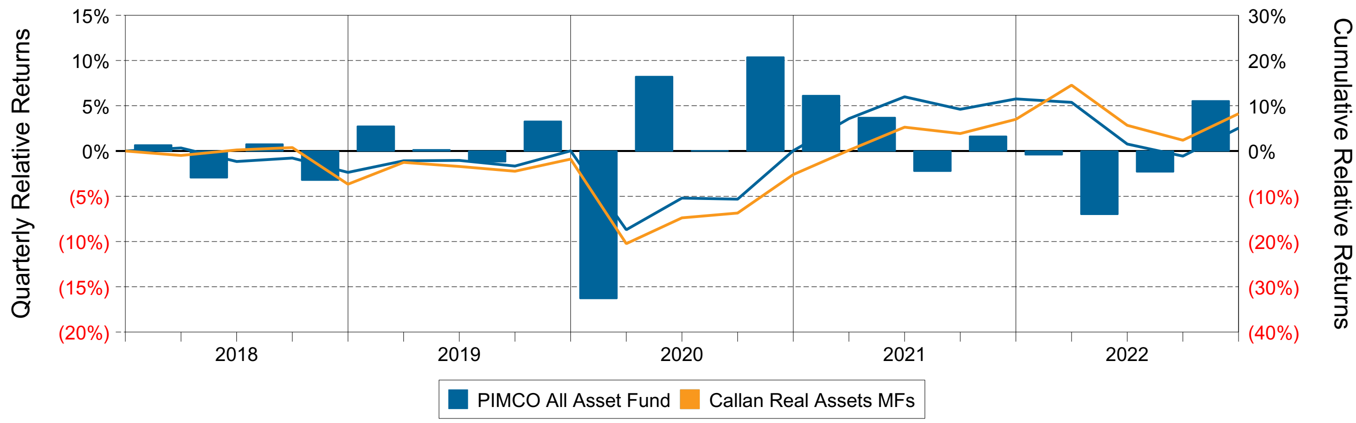
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Real Assets Mutual Funds (Institutional Net)

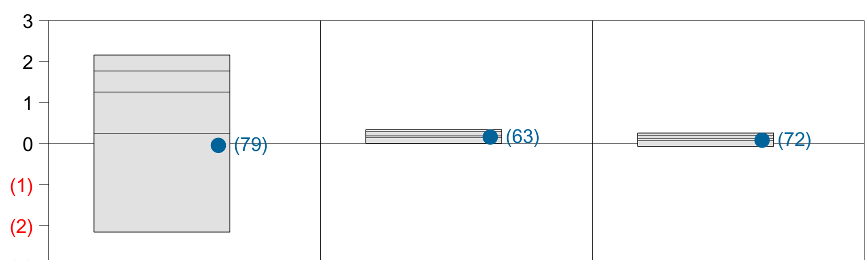


	2022	2021	2020	2019	2018
10th Percentile	3.84	26.41	23.51	17.84	(2.83)
25th Percentile	(2.75)	21.73	8.48	16.68	(3.67)
Median	(6.31)	16.83	3.84	15.10	(7.86)
75th Percentile	(9.46)	11.03	(0.09)	9.86	(10.17)
90th Percentile	(21.46)	0.26	(1.60)	6.44	(11.32)
PIMCO All Asset Fund ●	(11.53)	15.58	8.41	12.21	(4.98)
Blmbg TIPS 1-10 Yr ▲	(7.34)	5.69	8.39	6.85	(0.25)

Cumulative and Quarterly Relative Returns vs Blmbg TIPS 1-10 Yr



Risk Adjusted Return Measures vs Blmbg TIPS 1-10 Yr
Rankings Against Callan Real Assets Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022



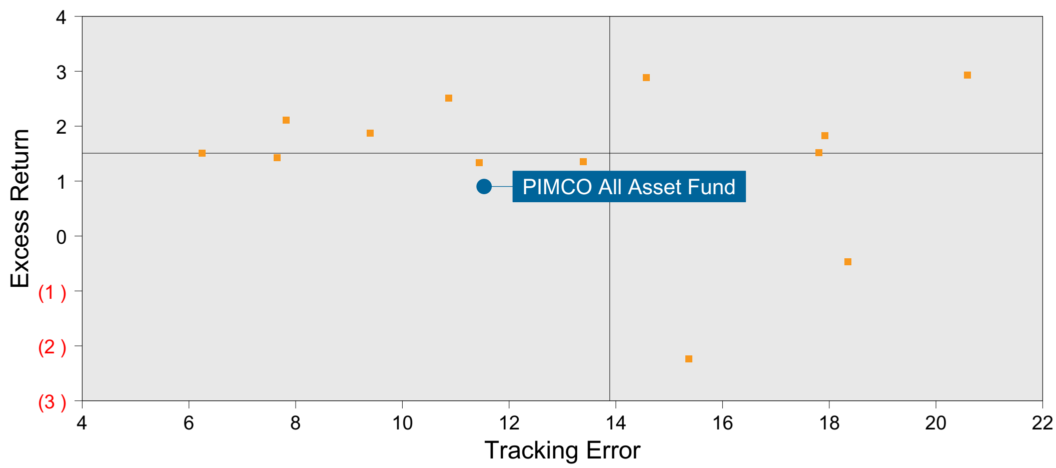
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	2.16	0.34	0.25
25th Percentile	1.77	0.29	0.20
Median	1.25	0.18	0.12
75th Percentile	0.24	0.14	0.07
90th Percentile	(2.16)	(0.00)	(0.07)
PIMCO All Asset Fund ●	(0.05)	0.16	0.08

PIMCO All Asset Fund
Risk Analysis Summary

Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

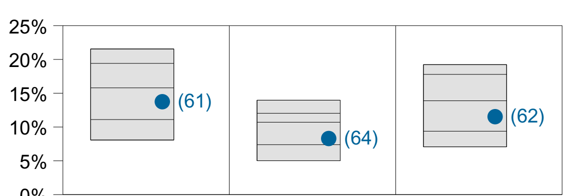
Risk Analysis vs Callan Real Assets Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022

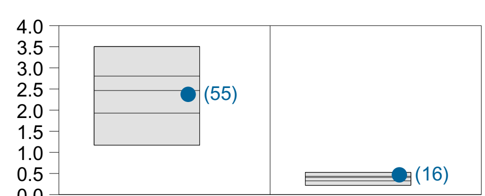


Market Capture vs Bloomberg TIPS 1-10 Yr
Rankings Against Callan Real Assets Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022

	Up Market Capture	Down Market Capture
10th Percentile	371.26	381.44
25th Percentile	227.16	258.39
Median	209.60	200.32
75th Percentile	168.66	137.94
90th Percentile	120.80	67.73
PIMCO All Asset Fund ●	187.71	205.04

Risk Statistics Rankings vs Bloomberg TIPS 1-10 Yr
Rankings Against Callan Real Assets Mutual Funds (Institutional Net)
Five Years Ended December 31, 2022





	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	21.55	13.97	19.23
25th Percentile	19.42	12.03	17.79
Median	15.79	10.71	13.89
75th Percentile	11.10	7.39	9.38
90th Percentile	8.07	5.01	7.07
PIMCO All Asset Fund ●	13.74	8.30	11.53

	Beta	R-Squared
10th Percentile	3.51	0.53
25th Percentile	2.81	0.43
Median	2.46	0.41
75th Percentile	1.93	0.33
90th Percentile	1.17	0.22
PIMCO All Asset Fund ●	2.37	0.47

Callan Institute

Education

4th Quarter 2022

Quarterly Highlights

The Callan Institute provides research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/research-library to see all of our publications, and www.callan.com/blog to view our blog. For more information contact Barb Gerraty at 415-274-3093 / institute@callan.com.

New Research from Callan's Experts

2022 ESG Survey | Callan's 10th annual survey assesses the status of environmental, social, and governance (ESG) investing in the U.S. institutional investment market.

Considering Currency: A Guide for Institutional Investors | This guide to currency trends over time provides institutional investors with multiple ways to benchmark and analyze their portfolios.

2022 Nuclear Decommissioning Funding Study | Julia Moriarty offers key insights into the status of nuclear decommissioning funding to make peer comparisons more accurate and relevant.

Blog Highlights

What DC Plan Sponsors Should Know About Recent Litigation Trends | Callan reviewed lawsuits filed against DC plans between January 2019 and August 2022, to provide an analysis of trends in litigation centered on the fiduciary duties outlined in ERISA.

How Does Your Public DB Plan Measure Up? | Most public DB plans saw sharp losses for the fiscal year ended 6/30/22. However, plan returns for fiscal year 2021 were the strongest in three decades.

Index Selection Within TDF Benchmarks Can Make a Big Difference | Most TDF providers build a custom benchmark for performance comparisons. While this approach is useful, it does not capture differences in glidepath design and asset allocation that are the major drivers of relative performance.

Webinar Replays

Callan's 2023-2032 Capital Markets Assumptions | During this webinar, Jay Kloepfer, Kevin Machiz, and Adam Lozinski described our 2023-2032 Capital Markets Assumptions, discussed the process and rationale behind these long-term assumptions, and explained the potential implications for strategic recommendations.

Corporate Pension Hibernation | Callan specialists explore why closed and frozen plans might wish to hibernate in the current market, thereby deferring the decision to fully terminate until the future.

Research Cafe: ESG Interview Series | During this interview, Tom Shingler of Callan discusses with Sara Rosner, director of environment research and engagement for AllianceBernstein's responsible investing team, carbon emissions and why they matter to investors.

Quarterly Periodicals

Private Equity Update, 3Q22 | A high-level summary of private equity activity in the quarter through all the investment stages

Active vs. Passive Charts, 3Q22 | A comparison of active managers alongside relevant benchmarks over the long term

Market Pulse, 3Q22 | A quarterly market reference guide covering trends in the U.S. economy, developments for institutional investors, and the latest data on the capital markets

Capital Markets Review, 3Q22 | Analysis and a broad overview of the economy and public and private markets activity each quarter across a wide range of asset classes

Hedge Fund Update, 3Q22 | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

Real Assets Update, 3Q22 | A summary of market activity for real assets and private real estate during the quarter

Private Credit Update, 3Q22 | A review of performance and fundraising activity for private credit during the quarter

Events

A complete list of all upcoming events can be found on our website: callan.com/events-education.

Please mark your calendar and look forward to upcoming invitations:

2023 National Conference
April 2-4, 2023 – Scottsdale, AZ

2023 June Workshops
June 27, 2023 – New York
June 29, 2023 – Chicago

For more information about events, please contact Barb Gerraty: 415-274-3093 / gerraty@callan.com

Education: By the Numbers

50+	Unique pieces of research the Institute generates each year
525	Attendees (on average) of the Institute's annual National Conference
3,700	Total attendees of the "Callan College" since 1994

Education

Founded in 1994, the "Callan College" offers educational sessions for industry professionals involved in the investment decision-making process.

Introduction to Investments
March 1-2 – Chicago
May 23-25 – Virtual

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. Our virtual session is held over three days with virtual modules of 2.5-3 hours, while the in-person session lasts one-and-a-half days. This course is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. Virtual tuition is $950 per person and includes instruction and digital materials. In-person tuition is $2,350 per person and includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

Additional information including registration can be found at: callan.com/events-education

"Research is the foundation of all we do at Callan, and sharing our best thinking with the investment community is our way of helping to foster dialogue to raise the bar across the industry."

Greg Allen, CEO and Chief Research Officer

Disclosures

Callan

Quarterly List as of December 31, 2022

List of Callan's Investment Manager Clients

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Callan takes its fiduciary and disclosure responsibilities to clients very seriously. We recognize that there are numerous potential conflicts of interest encountered in the investment consulting industry, and that it is our responsibility to manage those conflicts effectively and in the best interest of our clients. At Callan, we employ a robust process to identify, manage, monitor, and disclose potential conflicts on an ongoing basis.

The list below is an important component of our conflicts management and disclosure process. It identifies those investment managers that pay Callan fees for educational, consulting, software, database, or reporting products and services. We update the list quarterly because we believe that our fund sponsor clients should know the investment managers that do business with Callan, particularly those investment manager clients that the fund sponsor clients may be using or considering using. Please note that if an investment manager receives a product or service on a complimentary basis (e.g., attending an educational event), they are not included in the list below. Callan is committed to ensuring that we do not consider an investment manager's business relationship with Callan, or lack thereof, in performing evaluations for or making suggestions or recommendations to its other clients. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group, and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our list.

Fund sponsor clients may request a copy of the most currently available list at any time. Fund sponsor clients may also request specific information regarding the fees paid to Callan by particular fund manager clients. Per company policy, information requests regarding fees are handled exclusively by Callan's Compliance department.

Manager Name
abrdn (Aberdeen Standard Investments)
Acadian Asset Management LLC
Adams Street Partners, LLC
AEGON USA Investment Management Inc.
AllianceBernstein
Allianz
Allspring Global Investments
American Century Investments
Amundi US, Inc.
Antares Capital LP
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Aristotle Capital Management, LLC
Arrowmark Partners
ARS Investment Partners LLC
Atlanta Capital Management Co., LLC
AXA Investment Managers

Manager Name
Baillie Gifford International, LLC
Baird Advisors
Barings LLC
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
Belle Haven Investments
BentallGreenOak
BlackRock
Blackstone Group (The)
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
Brookfield Asset Management Inc.
Brown Brothers Harriman & Company
Capital Group
Carillon Tower Advisers
Carlyle Group

Manager Name
CastleArk Management, LLC
Chartwell Investment Partners
ClearBridge Investments, LLC
Clearlake Capital
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments North America
Conestoga Capital Advisors
Credit Suisse Asset Management, LLC
Crescent Capital Group LP
D.E. Shaw Investment Management, LLC
DePrince, Race & Zollo, Inc.
Diamond Hill Capital Management, Inc.
Dimensional Fund Advisors L.P.
Doubleline
Duff & Phelps Investment Management Co.
DWS
EARNEST Partners, LLC
Epoch Investment Partners, Inc.
Fayez Sarofim & Company
Federated Hermes, Inc.
Fidelity Institutional Asset Management
Fiera Capital Corporation
First Hawaiian Bank Wealth Management Division
First Sentier Investors
Fisher Investments
Franklin Templeton
Fred Alger Management, LLC
GAM (USA) Inc.
GlobeFlex Capital, L.P.
GoldenTree Asset Management, LP
Goldman Sachs
Golub Capital
Guggenheim Investments
GW&K Investment Management
Harbor Capital Advisors
HarbourVest Partners, LLC
Hardman Johnston Global Advisors LLC
Heitman LLC
HPS Investment Partners, LLC
Hotchkis & Wiley Capital Management, LLC

Manager Name
Impax Asset Management LLC
Income Research + Management
Insight Investment
Intech Investment Management LLC
Intercontinental Real Estate Corporation
Invesco
J.P. Morgan
Janus
Jennison Associates LLC
J O Hambro Capital Management Limited
Jobs Peak Advisors
Johnson Asset Management
KeyCorp
Kohlberg Kravis Roberts & Co. (KKR)
Lazard Asset Management
LGIM America
Lighthouse Investment Partners, LLC
Lincoln National Corporation
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
LSV Asset Management
MacKay Shields LLC
Macquarie Asset Management
Man Group
Manning & Napier Advisors, LLC
Manulife Investment Management
Marathon Asset Management, L.P.
McKinley Capital Management, LLC
Mellon
MetLife Investment Management
MFS Investment Management
MidFirst Bank
MLC Asset Management
Mondrian Investment Partners Limited
Monroe Capital LLC
Montag & Caldwell, LLC
Morgan Stanley Investment Management
MUFG Union Bank, N.A.
Napier Park Global Capital

Manager Name
Natixis Investment Managers
Neuberger Berman
Newton Investment Management
Ninety One North America, Inc.
Northern Trust Asset Management
Nuveen
Oaktree Capital Management, L.P.
P/E Investments
Pacific Investment Management Company
Pantheon Ventures
Parametric Portfolio Associates LLC
Partners Group (USA) Inc.
Pathway Capital Management, LP
Peregrine Capital Management, LLC
PFM Asset Management LLC
PGIM Fixed Income
PGIM Quantitative Solutions LLC
Pictet Asset Management
PineBridge Investments
Polen Capital Management, LLC
Principal Asset (formerly Principal Global)
Pugh Capital Management Inc.
Putnam Investments, LLC
Pzena Investment Management, LLC
Raymond James Investment Management
RBC Global Asset Management
Regions Financial Corporation
Richard Bernstein Advisors LLC
Robeco Institutional Asset Management, US Inc.

Manager Name
Rothschild & Co. Asset Management US
S&P Dow Jones Indices
Schroder Investment Management North America Inc.
Segall Bryant & Hamill
SLC Management
Smith Graham & Co. Investment Advisors, L.P.
State Street Global Advisors
Strategic Global Advisors, LLC
Strategic Value Partners, LLC
T. Rowe Price Associates, Inc.
The TCW Group, Inc.
Thompson, Siegel & Walmsley LLC
Thornburg Investment Management, Inc.
Tri-Star Trust Bank
UBS Asset Management
ULLICO Investment Advisors, Inc.
VanEck
Versus Capital Group
Victory Capital Management Inc.
Virtus Investment Partners, Inc.
Vontobel Asset Management
Voya
Walter Scott & Partners Limited
WCM Investment Management
Wellington Management Company, LLP
Western Asset Management Company LLC
Westfield Capital Management Company, LP
Westwood Global Investments
William Blair & Company LLC

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Callan

January 31, 2023

City of Norwalk
Monthly Report

Investment Measurement Service
Monthly Review

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City of Norwalk
January 31, 2023

Asset Distribution 1

Manager Performance Table 2

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of January 31, 2023, with the distribution as of December 31, 2022. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	January 31, 2023					December 31, 2022		
	Market Value	Weight	Target	Net New Inv.	Inv. Return	Market Value	Weight	Target
Total Equity	**$321,868,970**	**67.15%**	**69.00%**	**$(8,058,256)**	**$19,582,245**	**$310,344,980**	**67.57%**	**69.00%**
U.S. Equity	**$158,937,928**	**33.16%**	**35.00%**	**$(3,084,015)**	**$10,734,417**	**$151,287,525**	**32.94%**	**35.00%**
BR Russell 1000 Index Non-Lend	113,961,265	23.77%		(3,000,000)	7,173,543	109,787,721	23.90%	
LSV	23,669,512	4.94%		(68,517)	1,843,470	21,894,558	4.77%	
Columbus Circle Investors	21,307,152	4.45%		(15,498)	1,717,403	19,605,246	4.27%	
International Equity	**$109,447,058**	**22.83%**	**23.00%**	**$(35,763)**	**$8,046,824**	**$101,435,997**	**22.09%**	**23.00%**
Developed Markets	**$89,961,664**	**18.77%**	**-**	**$(35,763)**	**$6,477,799**	**$83,519,628**	**18.19%**	**-**
Artisan Trust	33,146,142	6.91%		0	2,654,966	30,491,176	6.64%	
Silchester	56,815,522	11.85%		(35,763)	3,822,832	53,028,453	11.55%	
Emerging Markets	**$19,485,394**	**4.06%**	**-**	**$0**	**$1,569,026**	**$17,916,368**	**3.90%**	**-**
BlackRock EM Alpha Tilts	19,485,394	4.06%		0	1,569,026	17,916,368	3.90%	
Global Equity/Long Short	**$30,088,535**	**6.28%**	**8.00%**	**$(4,938,478)**	**$801,004**	**$34,226,009**	**7.45%**	**8.00%**
ABS Global	19,860,969	4.14%		0	520,036	19,340,933	4.21%	
Blackstone Park Ave. NT	10,227,566	2.13%		(4,938,478)	303,735	14,862,309	3.24%	
Private Equity*	**$23,395,449**	**4.88%**	**3.00%**	**$0**	**$0**	**$23,395,449**	**5.09%**	**3.00%**
Pantheon USA IV	181,010	0.04%		0	0	181,010	0.04%	
Pantheon USA VI	148,341	0.03%		0	0	148,341	0.03%	
Pantheon USA VII	749,439	0.16%		0	0	749,439	0.16%	
Pantheon Europe Fund V A	444,368	0.09%		0	0	444,368	0.10%	
Pantheon Global Fund III	59,086	0.01%		0	0	59,086	0.01%	
Pantheon US Select 2014	21,813,205	4.55%		0	0	21,813,205	4.75%	
Domestic Fixed-Income	**$85,311,355**	**17.80%**	**19.00%**	**$(10,934)**	**$2,717,582**	**$82,604,706**	**17.99%**	**19.00%**
Prudential Cons Core Bond	37,763,672	7.88%		(10,934)	1,190,822	36,583,784	7.97%	
Metropolitan West CIT	47,547,683	9.92%		0	1,526,760	46,020,923	10.02%	
Absolute Return	**$27,381,184**	**5.71%**	**4.00%**	**$0**	**$318,135**	**$27,063,048**	**5.89%**	**4.00%**
UBS AIS	27,381,184	5.71%		0	318,135	27,063,048	5.89%	
Real Assets	**$35,905,714**	**7.49%**	**6.00%**	**$(3,000,000)**	**$1,819,220**	**$37,086,493**	**8.08%**	**6.00%**
PIMCO All Asset	35,905,714	7.49%	6.00%	(3,000,000)	1,819,220	37,086,493	8.08%	6.00%
Cash	**$8,881,273**	**1.85%**	**2.00%**	**$6,692,386**	**$17,048**	**$2,171,840**	**0.47%**	**2.00%**
Cash Account	8,881,273	1.85%		6,692,386	17,048	2,171,840	0.47%	
Total Fund	**$479,348,496**	**100.0%**	**100.0%**	**$(4,376,803)**	**$24,454,231**	**$459,271,068**	**100.0%**	**100.0%**

*Market values are preliminary and adjust for asset flows.

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended January 31, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended January 31, 2023

	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months	Last 84 Months
Total Equity	**9.75%**	**(5.05%)**	**7.80%**	**6.18%**	**9.53%**
U.S. Long Equity	**10.50%**	**(6.96%)**	**10.71%**	**9.30%**	**13.07%**
Russell 3000 Index	9.45%	(8.24%)	9.51%	9.12%	13.03%
BR Russell 1000 Index Non-Lendable	9.16%	(8.54%)	9.66%	9.39%	-
Russell 1000 Index	9.16%	(8.55%)	9.66%	9.38%	13.19%
LSV	17.73%	7.04%	13.07%	5.84%	10.55%
Russell 2000 Value Index	13.29%	(0.52%)	9.94%	5.78%	10.74%
Columbus Circle Investors	10.27%	(11.01%)	14.80%	12.80%	17.63%
Russell 2500 Growth Index	15.06%	(6.49%)	6.16%	6.97%	12.13%
International Equity	**12.87%**	**(4.45%)**	**3.26%**	**1.46%**	**6.95%**
MSCI ACWI ex US Index	11.54%	(5.22%)	4.12%	1.85%	7.56%
Developed Markets	**14.53%**	**(2.56%)**	**3.75%**	**2.21%**	**7.17%**
MSCI EAFE Index	14.97%	(2.83%)	4.25%	2.13%	6.83%
Artisan Trust	16.24%	(6.53%)	0.96%	2.08%	6.27%
MSCI EAFE Gr w/ gr div	14.31%	(6.28%)	3.76%	3.60%	7.68%
Silchester	13.50%	0.58%	5.99%	2.22%	7.96%
MSCI EAFE Val Idx	15.73%	0.66%	4.45%	0.61%	6.05%
Emerging Markets	**5.64%**	**(12.52%)**	**1.08%**	**(1.76%)**	**6.01%**
BlackRock EM Alpha Tilts	5.64%	(12.52%)	1.08%	-	-
MSCI Emerging Mkts Idx	4.95%	(11.73%)	1.77%	(1.10%)	7.74%
Global Equity/Long Short	**3.83%**	**(4.50%)**	**2.76%**	**3.01%**	**4.10%**
HFRI FOF: Strategic Index	4.55%	(3.88%)	3.73%	2.27%	4.25%
ABS Global	4.04%	(2.72%)	3.40%	3.06%	4.51%
MSCI World Index	10.26%	(7.45%)	7.58%	6.50%	10.56%
Blackstone Park Ave. NT	3.50%	(6.28%)	1.86%	2.67%	3.64%
S&P 500 Index	8.74%	(8.22%)	9.88%	9.54%	13.28%
Private Equity(1)	**(0.74%)**	**1.86%**	**22.96%**	**17.40%**	**14.33%**
Pantheon USA IV	0.00%	-	-	-	-
Pantheon USA VI	(2.47%)	-	-	-	-
Pantheon USA VII	(2.29%)	-	-	-	-
Pantheon Europe Fund V A	(2.30%)	-	-	-	-
Pantheon Global Secondary Fund III	(1.10%)	-	-	-	-
Pantheon US Select 2014	(0.69%)	-	-	-	-
Private Equity Benchmark(2)	(0.74%)	1.86%	22.96%	17.40%	14.33%

*Fiscal year starts 7/1 and ends 6/30.
(1) Private Equity has a 1 quarter lag in valuation.
(2) Private Equity benchmark is a composite of Private Equity performance.

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended January 31, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended January 31, 2023

	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months	Last 84 Months
Domestic Fixed Income	**0.19%**	**(9.11%)**	**(2.26%)**	**1.00%**	**1.27%**
Prudential Cons Core Bond	0.44%	(8.28%)	(2.46%)	0.83%	1.16%
Metropolitan West Fund (2)	(0.00%)	(9.77%)	(2.18%)	1.10%	1.33%
Blmbg Aggregate Index	0.02%	(8.36%)	(2.35%)	0.86%	1.13%
Absolute Return	**3.91%**	**6.56%**	**7.63%**	**5.78%**	**4.99%**
UBS AIS	3.91%	6.56%	7.63%	5.78%	4.99%
HFRI FOF: Conservative Index	2.88%	1.57%	4.92%	3.84%	3.99%
Real Assets	**6.04%**	**(5.34%)**	**5.83%**	**4.41%**	**8.05%**
PIMCO All Asset Fund	6.04%	(5.34%)	5.84%	3.99%	7.23%
Blmbg US TIPS 1-10	(1.05%)	(4.95%)	2.02%	2.93%	2.63%
Cash	**1.95%**	**2.21%**	**0.99%**	**1.52%**	**1.32%**
Cash	1.95%	2.21%	0.99%	1.52%	1.32%
3-month Treasury Bill	1.63%	1.78%	0.78%	1.30%	1.11%
Total Fund	**7.28%**	**(5.05%)**	**5.81%**	**5.00%**	**7.45%**
Total Fund Custom Benchmark (1)	6.43%	(5.91%)	5.40%	5.09%	7.35%

Annual Discount Rate:6.625%

*Fiscal year starts 7/1 and ends 6/30.
(1) The Total Fund Custom Benchmark is 35.0% Russell 3000 Index, 23.0% MSCI ACWI ex-US, 19.0% Bloomberg Aggregate Index 3.0% Norwalk Private Equity, 8.0% HFRI FOF Strategic, 6.0% Bloomberg US TIPS 1-10 Year Index, 4.0% HFRI FOF Conservative, 2% 3-month Treasury Bill.
(2) On August 24, 2022 switched from Mutual Fund to CIT.

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Callan

December 31, 2022

City of Norwalk

Investment Measurement Service
Quarterly Review

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Fourth Quarter 2022

Capital Markets Review

Is a Recession Inevitable in 2023?

ECONOMY

2 PAGE

The bond market is convinced a recession is inevitable in 2023, as shown by an inverted yield curve. Perhaps bond investors do not believe that we will achieve a "soft landing" from the current economic expansion. Robust current economic indicators conflict with this market expectation.

First Full-year Drop in Returns Since 2018

INSTITUTIONAL INVESTORS

4 PAGE

All investor types finished 2022 with steep declines. The S&P 500 and Bloomberg Aggregate were down together for three straight quarters (through 3Q22), and for the year, the first time since 1969. But most investors performed better than a 60% stocks/40% bonds benchmark.

4Q Gains Can't Stem Big Losses in 2022

EQUITY

6 PAGE

Stocks gained in 4Q but saw sharp drops over the full year. The drop for U.S. equities was broad-based, and almost every sector experienced negative returns. Global equities also rose in 4Q, as lower-than-expected U.S. inflation data buoyed market optimism at year-end.

Rebound in 4Q for U.S., Global Bonds

FIXED INCOME

8 PAGE

Bonds rose in 4Q but 2022 results remained negative. The gain for the Aggregate was driven by coupon income and spread tightening. The Municipal Bond Index 2022 return was the worst since 1981. Global fixed income 4Q gains were driven largely by U.S. dollar weakness.

NPI Falls 3.5% and REITs Lag Equities

REAL ESTATE/REAL ASSETS

10 PAGE

The NCREIF Property Index fell 3.5% during 4Q. The NCREIF ODCE Index dropped 5.2%. The FTSE EPRA Nareit Developed REIT Index rose 6.9% compared to a 9.8% gain for MSCI World. The FTSE Nareit Equity REITs Index increased 5.2%, compared to 7.6% for the S&P 500.

Deceleration in 2022; 2023 Very Unclear

PRIVATE EQUITY

11 PAGE

After a record-shattering 2021, private equity activity fell throughout 2022. On average, year-over-year transaction activity fell by about 20% and dollar volumes by 30%. However, fundraising and company investment and exit activity remain comparable to pre-pandemic levels.

Appetite Continues, but Strategies Shift

PRIVATE CREDIT

12 PAGE

Investors took a new look at upper-middle-market direct lending as all-in spreads have widened and lenders are able to get tighter terms. On average, the asset class has generated net IRRs of 8% to 10% for trailing periods ended Sept. 30, 2022.

Year Ends on a High Note After Tough Start

HEDGE FUNDS/MACs

13 PAGE

The median Callan Institutional Hedge Fund Peer rose 1.3%. Within the HFRI indices, the best-performing strategy was the emerging market index (+5.1%). Across the Callan Hedge FOF Database, all managers showed gains. The Callan MAC Style Groups also rose.

DC Index Falls 4.6%, Third Straight Decline

DEFINED CONTRIBUTION

15 PAGE

The Callan DC Index™ fell 4.6% in 3Q22 and 16.7% for the trailing one year. Balances within the Index declined by 4.7% after a 12.3% decrease the previous quarter. TDFs reclaimed the top spot in terms of quarterly net flows, garnering 73.6% of flows.

Broad Market Quarterly Returns

U.S. Equity
Russell 3000

▲ 7.2%

Global ex-U.S. Equity
MSCI ACWI ex USA

▲ 14.3%

U.S. Fixed Income
Bloomberg Agg

▲ 1.9%

Global ex-U.S. Fixed Income
Bloomberg Global Agg ex US

▲ 6.8%

Sources: Bloomberg, FTSE Russell, MSCI

Is a Recession Inevitable in 2023?

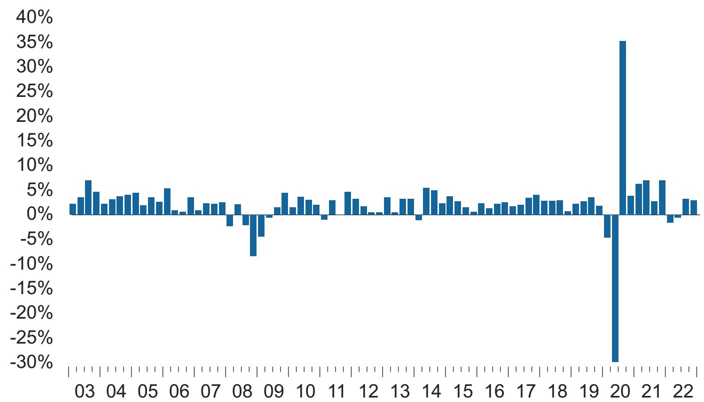
ECONOMY | Jay Kloepfer

The bond market is convinced a recession is inevitable in 2023. The yield curve is inverted, and this phenomenon has preceded every recession in modern history. This inversion occurs when yields on the short end of the curve are higher than yields on the long end. A normal yield curve is upward sloping, with higher yields offered for taking on debt with greater maturities. An inverted yield curve implies that investors expect interest rates to fall, and that holding longer-dated debt will provide a greater return as rates drop. Why would investors expect interest rates to fall? They believe that a recession is coming, and the Federal Reserve will cut interest rates to stimulate economic growth.

Last year was anything but normal for almost all measures of the capital markets, interest rates, inflation, and the economy. It may be reasonable to be a bit skeptical that the bond market has called this recession correctly. First, the U.S. economy suffered two quarters in a row of GDP loss "way back" in 1Q and 2Q22! A consecutive quarterly decline in GDP is often the rule of thumb used to invoke recession, but last year, such was not the case. The economy resumed robust growth with a solid 3.2% annualized gain in 3Q, and a 2.9% increase in 4Q. As a result, GDP advanced 2.1% for the year, following a strong 5.9% jump in 2021. Where was the growth in 4Q22 and for the year? Consumer spending on services, led by international travel, food services, accommodation, and health care. We also re-built inventories and increased investment in software and equipment. The one large drag was a decline in home construction, as mortgage rates shot up from the low 2% range to over 7% in a matter of months.

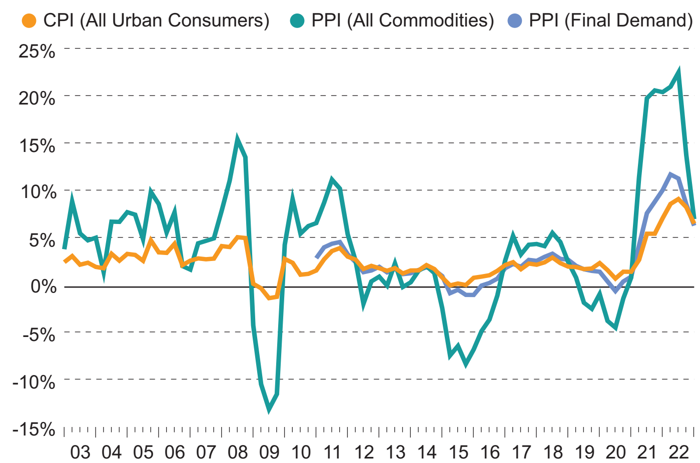
Inflation burned out of control by mid-year 2022. Faced with huge increases in the price of daily staples and durable goods like autos, consumers quickly redirected their spending away from goods suffering steep inflation, and spending on such goods within GDP actually declined during the year. This wasn't always captured in the CPI; one of its failings as a measure of inflation is that it assumes a certain basket of goods will continue to be purchased at fixed weights even when prices shoot up. Clearly, higher prices for food staples and rent are impossible to avoid, but consumers substitute budget expenditures with great skill to

Quarterly Real GDP Growth (20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

counter price hikes. Inflation measured by the CPI-U rose sharply year-over-year, cresting at 9% by June, but the rate of increase in prices flattened completely in the second half of the year. So while the year-over-year increase for 4Q CPI hit 6.5%, the quarterly CPI for 4Q came in at 0% (change over 3Q). The problem for consumers and businesses is that even though CPI has stopped rising, prices are now "permanently" higher.

While a disconnect remains in the job market between those looking for work and the jobs offered by employers, the job market notched serious gains in net new jobs throughout the year, adding over 4.5 million. The level of employment finally surpassed the pre-pandemic peak in August 2022. Additions to the unemployment roll measured by weekly jobless claims continued to stay historically low, while continuing unemployment claims dropped from over 5 million at the start of 2021 to 1.7 million in December. Calendar year 2022 saw the lowest level of continuing claims in more than two decades.

With continued economic strength suggested by the robust job market and solid GDP growth, where is the concern over recession coming from in the bond market? The answer is a logic puzzle that can seem like a circular argument. The Fed raised rates quickly and by a large amount starting last March to battle the surge in inflation. The surge stemmed from supply chain dislocations as we emerged from the pandemic lockdown; from a surge in demand for workers, which drove wage growth; from a surge in demand from consumers; and then layered on top of these trends the disruption from the Russian invasion of Ukraine. The bond market suddenly “believed” in the Fed’s stated plans for interest rates through 2022, and yields moved quickly toward long-term equilibrium by mid-year 2022. The Fed’s primary tool to battle inflation is the Fed Funds rate. The premise is that higher rates cool demand for goods and services from all actors in the economy and wring inflation out of the economy. The reality is that higher rates appear to be working as advertised, as demand has lessened and inflation stopped rising month-to-month in the summer of 2022. The inverted yield curve says the bond market believes the very success of the Fed’s inflation policy is now certain to cause recession, and then a reversal of interest rate policy to fight said recession. Perhaps the bond market does not believe that we will achieve the holy grail of Fed policy, which is to engineer a “soft landing” from the current economic expansion.

The Long-Term View

Index	4Q22	Periods Ended 12/31/22 1 Yr	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	7.2	-19.2	8.8	12.1	7.7
S&P 500	7.6	-18.1	9.4	12.6	7.6
Russell 2000	6.2	-20.4	4.1	9.0	7.1
Global ex-U.S. Equity					
MSCI EAFE	17.3	-14.5	1.5	4.7	4.5
MSCI ACWI ex USA	14.3	-16.0	0.9	3.8	--
MSCI Emerging Markets	9.7	-20.1	-1.4	1.4	--
MSCI ACWI ex USA Small Cap	13.3	-20.0	0.7	5.2	6.9
Fixed Income					
Bloomberg Agg	1.9	-13.0	0.0	1.1	4.0
90-Day T-Bill	0.8	1.5	1.3	0.8	1.9
Bloomberg Long G/C	2.6	-27.1	-1.2	1.6	5.4
Bloomberg Gl Agg ex US	6.8	-18.7	-3.1	-1.6	2.7
Real Estate					
NCREIF Property	-3.5	5.5	7.5	8.8	9.0
FTSE Nareit Equity	5.2	-24.4	3.7	6.5	7.9
Alternatives					
CS Hedge Fund	0.9	1.1	4.2	4.2	5.8
Cambridge PE*	-1.8	-3.8	16.8	15.3	14.3
Bloomberg Commodity	2.2	16.1	6.4	-1.3	1.9
Gold Spot Price	9.2	-0.1	6.9	0.9	7.6
Inflation – CPI-U	0.0	6.5	3.8	2.6	2.5

*Data for most recent period lags. Data as of 9/30/22.
Sources: Bloomberg, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, Refinitiv/Cambridge, S&P Dow Jones Indices

It is true that we have never achieved a soft landing in the past, so the bond market may be justified in expecting that the Fed will overshoot and tip the U.S. into recession. Robust current economic indicators, especially in the labor market outside of technology, conflict with this market expectation.

Recent Quarterly Economic Indicators

	4Q22	3Q22	2Q22	1Q22
Employment Cost: Total Compensation Growth	5.1%	5.0%	5.1%	4.5%
Nonfarm Business: Productivity Growth	3.0%	1.4%	-4.1%	-5.9%
GDP Growth	2.9%	3.2%	-0.9%	-1.6%
Manufacturing Capacity Utilization	78.5%	79.2%	79.5%	79.1%
Consumer Sentiment Index (1966=100)	58.8	56.1	57.8	63.1

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

10-Year Treasury vs. 2-Year Treasury Spread

Source: Federal Reserve Bank of St. Louis

Worst Year Since 2018 as Both Stocks and Bonds Fall

INSTITUTIONAL INVESTORS

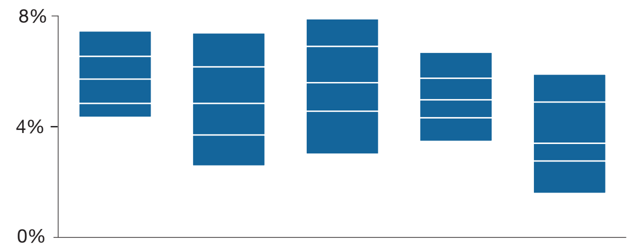
Double-digit declines mark the end of a tough year

- All investor types finished 2022 with double-digit declines, as both equities and fixed income fell.
- Insurance assets fared the best during the year, while corporate plans saw the lowest returns.
- Most plan types performed better than a benchmark consisting of 60% S&P 500/40% Bloomberg Aggregate, but they had a harder time matching that benchmark over longer time periods.
- The declines in 2022 were far higher than those in 2018, which was the last year that saw drops in the value of portfolios for institutional investors.

Inflation and interest rates are top client concerns

- CPI-U was up more than 8% year-over-year in each month from March through September.
- The Fed has raised rates 425 bps since March, from 0.0%-0.25% to 4.25%-4.50% in December 2022.
- The S&P 500 and Bloomberg Aggregate were down together for three consecutive quarters (through 3Q22), and for the year, the first time since 1969.
- And there was no place to hide in 2022; every asset class except cash was down. It was the worst year for a 60/40 portfolio in decades.
- However, lower asset values but higher returns expected going forward is a silver lining for investors.
- Institutional investors have a greater chance of hitting return targets and can even reduce risk, after years of risking up to chase return.
- There are rising expectations for a recession; the yield curve is inverted.
- Geopolitical risk surrounding China was another area of focus as institutional investors try to understand how its COVID re-opening and tensions regarding Taiwan could impact markets.

Quarterly Returns, Callan Database Groups (12/31/22)



	Public	Corporate	Nonprofit	Taft-Hartley	Insurance Assets
10th Percentile	7.5	7.4	7.9	6.7	5.9
25th Percentile	6.5	6.2	6.9	5.8	4.9
Median	5.7	4.8	5.6	5.0	3.4
75th Percentile	4.8	3.7	4.6	4.3	2.8
90th Percentile	4.3	2.6	3.0	3.5	1.6

Source: Callan

Callan Database Median and Index Returns* for Periods Ended 12/31/22

Database Group	Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
Public Database	**5.7**	**-12.7**	**4.3**	**5.3**	**7.3**	**7.5**
Corporate Database	**4.8**	**-17.4**	**0.5**	**3.0**	**5.8**	**7.0**
Nonprofit Database	**5.6**	**-13.1**	**3.6**	**4.8**	**6.8**	**7.4**
Taft-Hartley Database	**5.0**	**-10.6**	**4.7**	**5.7**	**7.7**	**7.3**
Insurance Assets Database	**3.4**	**-10.0**	**1.0**	**2.6**	**4.0**	**5.0**
All Institutional Investors	**5.2**	**-13.3**	**3.4**	**4.7**	**6.9**	**7.3**
Large (>$1 billion)	**4.9**	**-12.4**	**4.1**	**5.1**	**7.0**	**7.6**
Medium ($100mm - $1bn)	**5.2**	**-13.8**	**3.3**	**4.7**	**7.0**	**7.2**
Small (<$100 million)	**5.5**	**-13.6**	**3.2**	**4.5**	**6.7**	**7.0**
60% S&P 500/40% Bloomberg Agg	5.3	-15.9	4.0	6.1	8.1	7.4

*Returns less than one year are not annualized.

Source: Callan. Callan's database includes the following groups: public defined benefit (DB) plans, corporate DB plans, nonprofits, insurance assets, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. Reference to or inclusion in this report of any product, service, or entity should not be construed as a recommendation, approval, affiliation, or endorsement of such product, service, or entity by Callan.

Return to normal in bonds

– The role of core bonds in portfolios was restored; cash is viable again as a liquidity tool.
– A 4.5% yield may change the demand for yield substitutes: IG credit, bank loans, high yield, private credit, even real estate and infrastructure?

Private markets: now over target allocations

– Downward marks are coming, gradually.
– Interest remains strong in all private assets.

Public defined benefit (DB) plan priorities

– Public DB plans are analyzing how the changes to Callan's Capital Markets Assumptions will affect their portfolios.
– Returns in 2022 gave back some of the funded status gains from 2020-21. But downward pressure on actuarial discount rates may now abate as capital markets expectations are higher following the market decline.

Corporate DB plan priorities

– Corporate DB plans focused on de-risking.
– The experience of 2022 has these plans questioning what they are doing with LDI, and why. Funded status no longer translates directly to contributions, or expense.
– Higher interest rates may increase discussions about pension risk transfer. Corporate DB plans appear to be inclined to keep the plan on the balance sheet.

Defined contribution (DC) plan priorities

– New regulations such as SECURE 2.0 and the U.S. Department of Labor's environmental, social, and governance (ESG) rule were on the minds of many sponsors.
– In investment manager searches, DC-friendly vehicles with competitive pricing are a key criterion.

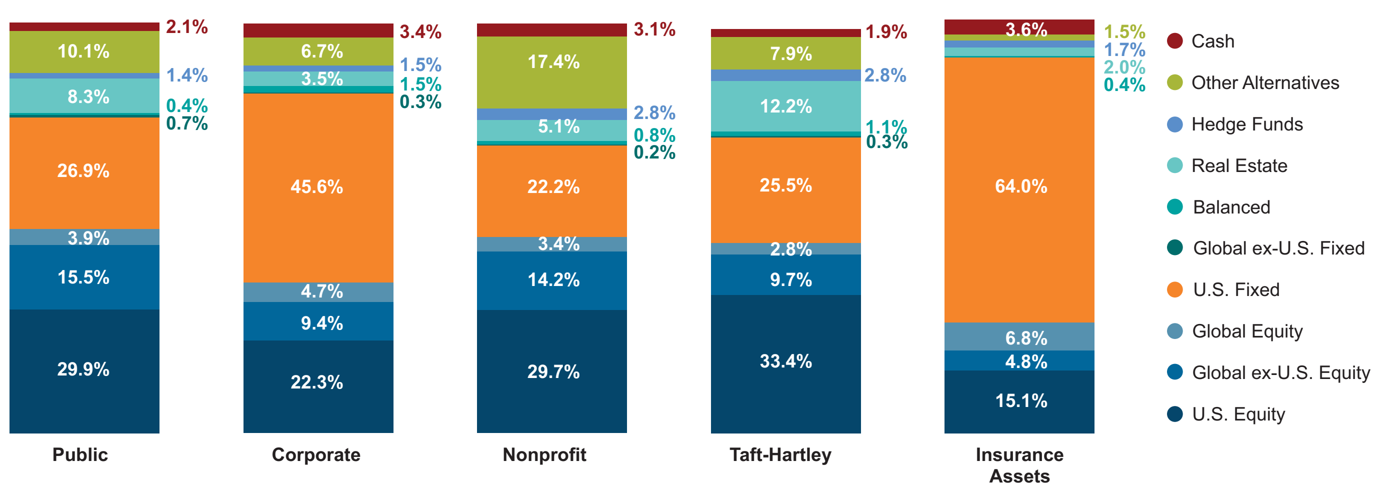
Nonprofit priorities

– Reviews of asset-allocation structures were likely in light of the changed market environment.

Insurance companies' priorities

– They are one of the few investors that "enjoyed" the spike in yields during 2022. Typically invested to match short-term liabilities, they are focused on investment income and use it to offset operating expenses.
– As interest rates rose, insurers sold bonds with lower book yields and took losses, then re-invested at much higher book yields.

Average Asset Allocation, Callan Database Groups



Note: charts may not sum to 100% due to rounding. Other alternatives include but is not limited to: diversified multi-asset, private credit, private equity, and real assets.
Source: Callan

Equity

U.S. Equities

Markets fall in final month of quarter after gains

– The S&P 500 Index posted positive returns in both October and November but fell in December. The index was up 7.6% during 4Q22 but ended 2022 down 18.1%.
– Energy was the best-performing sector during the quarter and 2022, returning 23% and 66% respectively. Consumer Discretionary and Communication Services were the only two sectors that posted negative returns in 4Q.
– Value stocks outperformed growth across the market capitalization spectrum, and for both 4Q and the full year.
– Large cap stocks (Russell 1000) outperformed small caps (Russell 2000) last quarter and for the year.
– Continued macroeconomic concerns (e.g., inflation, potential recession, geopolitical issues) led to higher volatility and a down-year for U.S. equities.

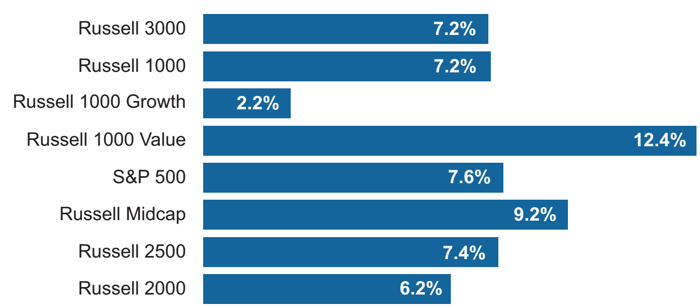
Market valuations have reset with the broad-based sell-off

– The drop for equities in 2022 was broad-based, and almost every sector experienced negative returns. Higher interest rates impacted the growth-oriented sectors the most (e.g., Technology, Communication Services).
– Mega-cap technology stocks have underperformed, ending an extended period of market leadership.
– Large cap stocks are now trading around their average P/E ratio, but they are not yet "cheap."
– Despite the recent outperformance of value stocks, value still looks attractive relative to growth heading into 2023.

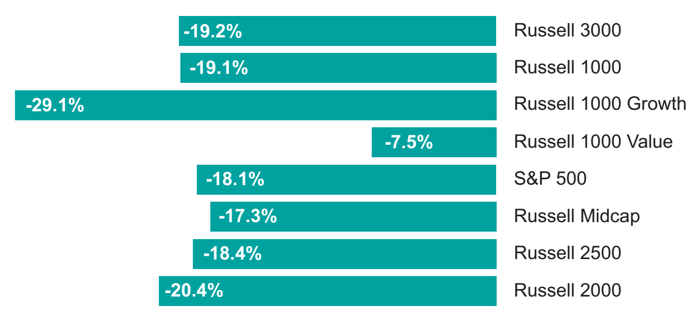
Small cap valuations are attractive relative to large cap

– During 4Q22, the Russell 2000 was trading at a 30% discount to its historical P/E average.
– Relative to large caps, the Russell 2000's forward 12 months P/E is trading at the lowest level versus large cap stocks since the Dot-Com Bubble.
– Relative to large and mid caps, small caps have looked significantly cheaper on various valuation metrics recently.

U.S. Equity: Quarterly Returns (12/31/22)

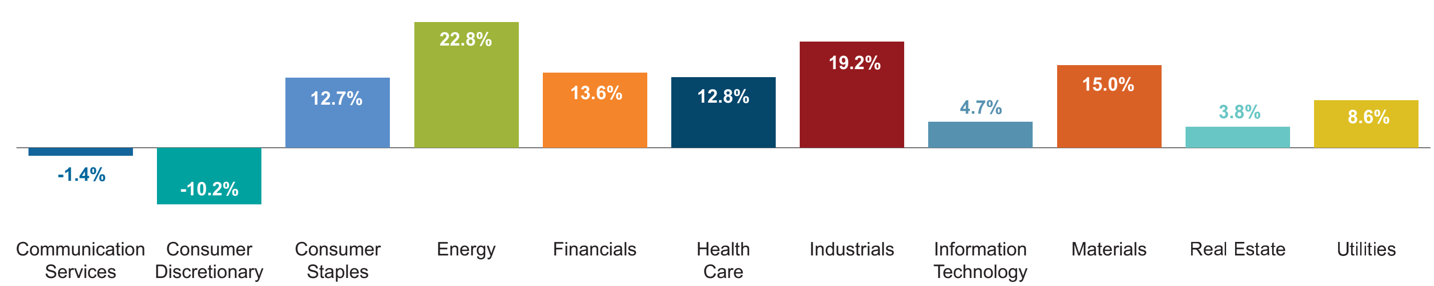


U.S. Equity: One-Year Returns (12/31/22)



Sources: FTSE Russell and S&P Dow Jones Indices

Quarterly Performance of Industry Sectors (12/31/22)



Source: S&P Dow Jones Indices

Global Equity

Ending on a high note

4Q22 was a bright spot during a tough calendar year in global and global ex-U.S. equity markets.

Encouraging signs

- Lower-than-expected U.S. inflation data buoyed market optimism at the end of the year.
- The Fed slowed its pace of tightening, with further slowing expected in 2023.
- China reversed its zero-COVID policies, prompting exuberance from investors.

Value outpaces growth

- Value outpaced growth in developed and emerging markets.
- Economically sensitive sectors (e.g., Financials and Industrials) benefited from the anticipation of improved growth; Energy was the largest outperformer.

U.S. dollar vs. other currencies

- After reaching a multi-decade high, the dollar fell against all major currencies with signs of inflation easing.
- Despite the 7.7% decline in 4Q22, the dollar still gained nearly 8% over the full year.
- Global central banks' rate hikes and the U.S. Federal Reserve's slowing pace of tightening could prolong U.S. dollar decline.
- Continued weakening of the U.S. dollar would be a tailwind for non-U.S. equities.

What about style?

- A sustained shift to value after the recent prolonged growth cycle would likely favor non-U.S. equities over U.S. equities given the higher representation of traditional value sectors in global ex-U.S. equity universes.

China's reopening spurs hopes for emerging markets

- In addition to pivoting from its zero-COVID policy, Chinese regulators shifted to supportive policies to stabilize the property sector and tech/platform industry.

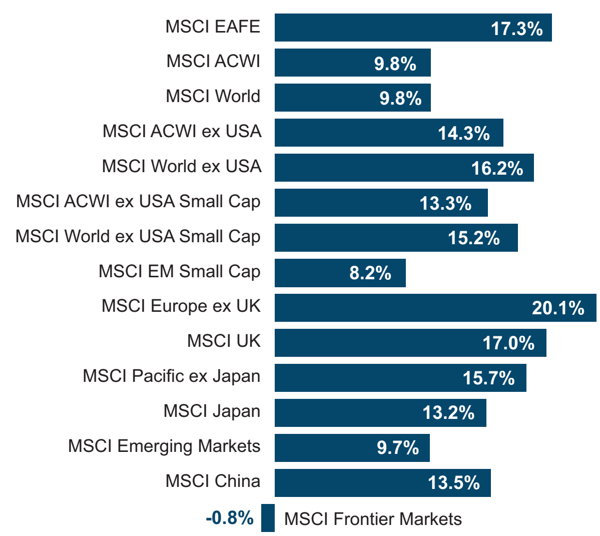
Reopening is expected to jump-start Chinese economy

- China's real GDP growth is estimated to reach 5.5% in 2023 and nearly 7% on a 4Q/4Q basis.
- Real consumption is projected to grow by 8.5% in 2023 as Chinese households have amassed $2.6 trillion in savings.

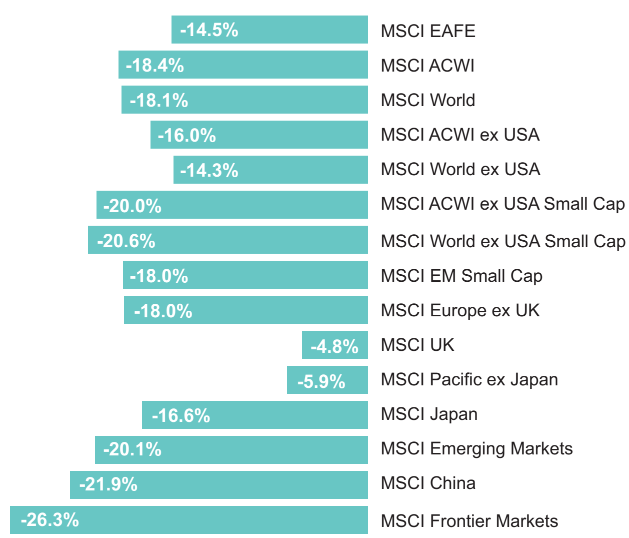
Recovery in China will spill over to other EM regions

- Growth in Chinese consumption is expected to have positive impact on tourism in Southeast Asia; goods exports in Europe, the Middle East, and Africa; and commodities in Latin America.

Global ex-U.S. Equity: Quarterly Returns (U.S. Dollar, 12/31/22)



Global ex-U.S. Equity: One-Year Returns (U.S. Dollar, 12/31/22)



Source: MSCI

Fixed Income

U.S. Fixed Income

Bonds were up in 4Q but 2022 results remain negative

- Gain for the Bloomberg US Aggregate Bond Index driven by coupon income and spread tightening; interest rates rose modestly

Rates were volatile intra-quarter

- U.S. Treasury 10-year yield: high 4.22% on 11/7; low 3.42% on 12/7
- Curve remained inverted at quarter-end: 10-year yield 3.88% and 2-year yield 4.41%; most since 1981

Fed raised rates bringing target to 4.25%-4.50%

- Median expectation from Fed is 5.1% for year-end 2023.
- Inflation showed signs of moderating but job market remained tight with solid wage growth.

Corporates and mortgages outperformed Treasuries in 4Q

- 4Q: Corporates +289 bps excess return; residential mortgage-backed securities (RMBS) +110 bps
- 2022: Corporates -125 bps excess return; RMBS -223 bps
- RMBS had worst month ever (September: -191 bps) and best month ever (November: +135 bps) in excess returns

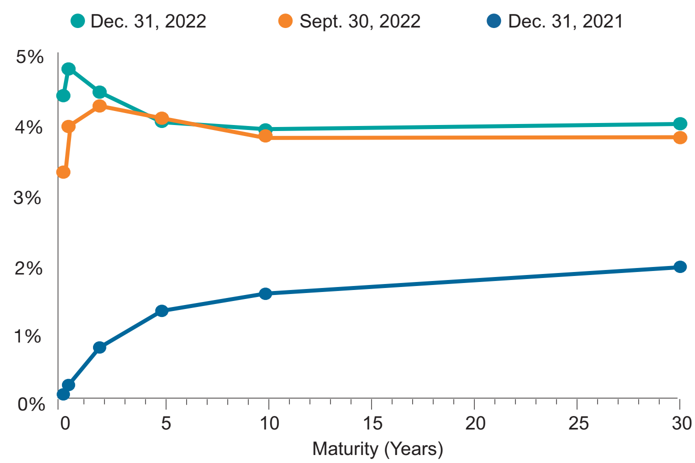
Valuations fair

- While absolute yields are higher, spreads have not widened materially, and most are close to historical averages.
- An economic slowdown could impact credit spreads.
- Higher yields have boosted forward-looking returns across sectors.

Economic slowdown clouds the corporate credit picture

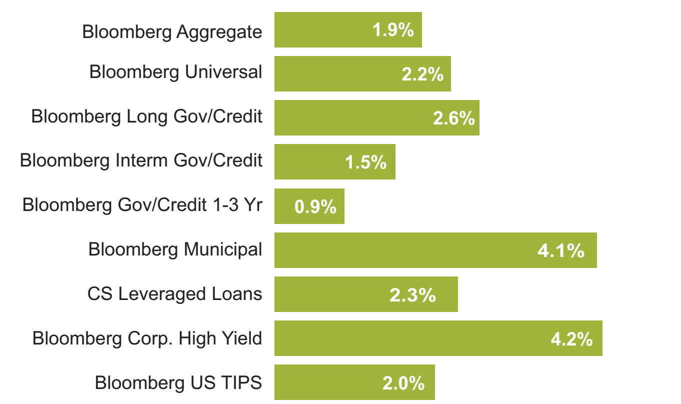
- Despite prospects for an economic slowdown in 2023, fundamental credit metrics for many issuers are strong.
- Default rates are expected to tick up, albeit not to the same extent as in previous recessions.
- Investors may be biased toward higher-quality investment grade issuers as they weigh the threat of a looming recession and potential implications for increased volatility in lower-quality corporate credit markets.

U.S. Treasury Yield Curves



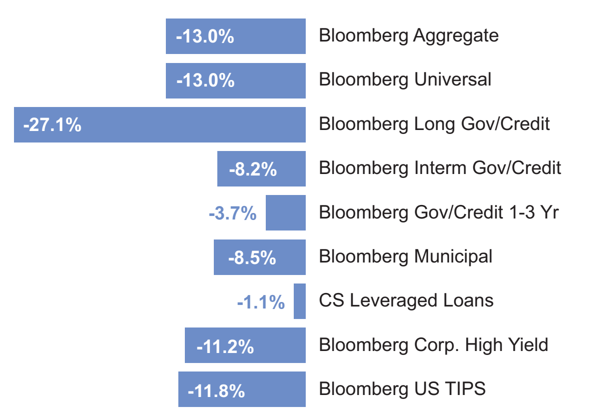
Source: Bloomberg

U.S. Fixed Income: Quarterly Returns (12/31/22)



Sources: Bloomberg and Credit Suisse

U.S. Fixed Income: One-Year Returns (12/31/22)



Sources: Bloomberg and Credit Suisse

TIPS: Beware of duration

- Despite a rise in inflation, TIPS saw marked declines in 2022 amid rising interest rates.
- TIPS, like nominal Treasuries, are sensitive to changes in interest rates, and as a result, shorter-duration TIPS fared better than full spectrum TIPS in 2022.
- Shorter-term TIPS exhibit a higher correlation to realized inflation but also provide a similar risk-adjusted return as that of full spectrum TIPS.

Municipal Bonds

Gains in 4Q but most 2022 results remain negative

- Municipal Bond Index calendar year return worst since 1981
- Higher quality outperformed in 4Q (AAA: +4.3%; AA: +4.1%; A: +4.0%; BBB: +3.9%; High Yield: +3.5%) and in 2022
- Munis outperformed most other fixed income sectors in 4Q and in 2022

Valuations relative to U.S. Treasuries on the rich side

- 10-year AAA Muni/10-year U.S. Treasury yield ratio 68%; below 10-year average of 88%
- After-tax yield of Muni Bond Index = 6.0% (Source: Eaton Vance)

Supply/demand

- Mutual fund outflows hit a record $122 billion in 2022, with tax loss harvesting being a key driver.
- ETFs saw inflows as some investors reinvested in them.
- Supply also down; $71 billion in 4Q and the lowest in 13 years; 2022 issuance off roughly 20% from 2021

Credit quality remained stable

- State and local tax collections robust and reserves elevated; state revenues up 16% on average vs. 2021

Global Fixed Income

4Q returns driven largely by U.S. dollar weakness

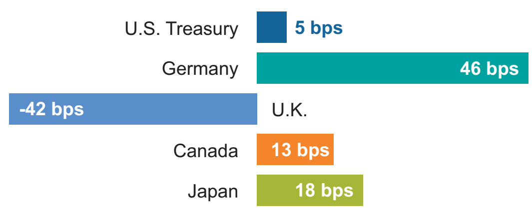
- U.S. dollar down 9% vs. euro, 10% vs. yen, 8% vs. pound
- For the year, dollar up 6% vs. euro, 13% vs. yen, and 11% vs. pound
- Rates up across most of Europe and in Japan
- Rates fell in the U.K.

Emerging market debt also did well

- Returns varied across countries but most were positive

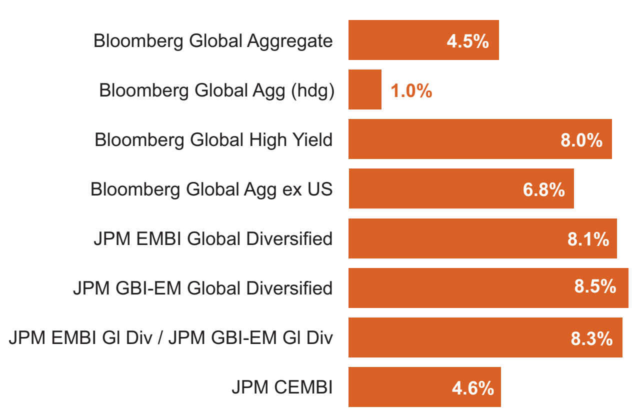
Change in 10-Year Global Government Bond Yields

3Q22 to 4Q22



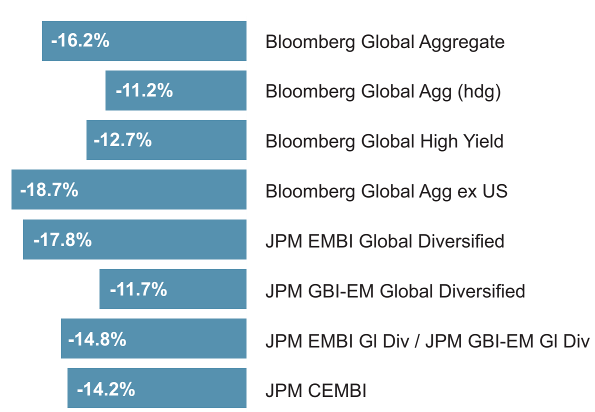
Source: Bloomberg

Global Fixed Income: Quarterly Returns (12/31/22)



Sources: Bloomberg and JPMorgan Chase

Global Fixed Income: One-Year Returns (12/31/22)



Sources: Bloomberg and JPMorgan Chase

NPI Falls 3.5% and REITs Lag Equities

REAL ESTATE/REAL ASSETS | Kristin Bradbury, Munir Iman, and Aaron Quach

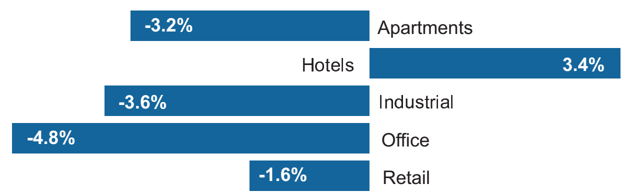
Negative appreciation in four major sectors

– The NCREIF Property Index, a measure of U.S. institutional real estate assets, fell 3.5% during 4Q22. The income return was 1.0% while the appreciation return was -4.5%.
– Hotels, which represent a small portion of the index, led property sector performance with a gain of 3.4%. Office finished last with a loss of 4.8%.
– Regionally, the South led with a loss of 2.5%, while the East was the worst performer with a loss of 3.9%.
– All major property sectors and regions, except for Hotel, experienced negative appreciation.
– The NCREIF Open-End Diversified Core Equity (ODCE) Index, representing equity ownership positions in U.S. core real estate, fell 5.2% during 4Q, with an income return of 0.59% and an appreciation return of -5.76%.

REITs lagged equity indices

– The FTSE EPRA Nareit Developed REIT Index, a measure of global real estate securities, rose 6.9% during 4Q22 compared to a 9.8% rise for global equities (MSCI World).
– U.S. REITs, as measured by the FTSE Nareit Equity REITs Index, rose 5.2%, in contrast with the S&P 500 Index, which gained 7.6%.
– Despite strong earnings, forward REIT earnings estimates continued to weaken, reflecting the potential for an economic slowdown as well as financing cost pressures.

Sector Quarterly Returns by Property Type (12/31/22)



Source: NCREIF

– The FTSE EPRA Nareit Asia Index (USD), representing the Asia/Pacific region, rose 9.0%, lifted by a rally in rate-sensitive Australian REITs.
– European REITs, as measured by the FTSE EPRA Nareit Europe Index (USD), rose 13.9%, driven by currency tailwinds in both the euro and the pound.

Real assets held up in the quarter

– Real assets as a group performed well in 4Q.
– The S&P GSCI Index rose 3.4%; Gold (S&P Gold Spot Price Index: +9.2%), REITs (MSCI US REIT: +5.2%), infrastructure (DJB Global Infrastructure: +9.6%), and TIPS (Bloomberg TIPS: +2.0%) all posted solid returns.
– Full year results remained poor, however, for most real assets outside of those related to energy. The Alerian MLP Index gained 30.9% as it benefited from higher energy prices.

Callan Database Median and Index Returns* for Periods Ended 12/31/22

Private Real Assets	Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	15 Years
Real Estate ODCE Style	**1.1**	**11.3**	**11.3**	**10.2**	**8.3**	**9.5**	**5.4**
NFI-ODCE (value-weighted, net)	-5.2	6.5	6.5	9.0	7.7	9.1	5.3
NCREIF Property	-3.5	5.5	5.5	8.1	7.5	8.8	6.5
NCREIF Farmland	2.0	9.5	9.5	6.8	6.4	8.8	10.1
NCREIF Timberland	4.9	12.9	12.9	7.5	5.4	5.8	4.7
Public Real Estate							
Global Real Estate Style	**7.0**	**-25.1**	**-25.1**	**-2.3**	**2.3**	**5.1**	**4.1**
FTSE EPRA Nareit Developed	6.9	-25.1	-25.1	-4.9	-0.2	3.0	2.1
Global ex-U.S. Real Estate Style	**11.0**	**-25.9**	**-25.9**	**-6.8**	**-0.9**	**3.9**	**2.1**
FTSE EPRA Nareit Dev ex US	10.3	-24.3	-24.3	-8.7	-3.0	0.9	0.1
U.S. REIT Style	**4.3**	**-24.9**	**-24.9**	**1.0**	**5.0**	**7.4**	**7.2**
FTSE EPRA Nareit Equity REITs	5.2	-24.4	-24.4	-0.1	3.7	6.5	6.2

*Returns less than one year are not annualized. Sources: Callan, FTSE Russell, NCREIF

Deceleration in 2022, with Trends for 2023 Very Unclear

PRIVATE EQUITY | Gary Robertson

Private equity showed a gradual decline in 2022, but fundraising and company investment and exit activity remain comparable to the pre-pandemic levels seen in 2018 and 2019.

Fundraising ▶ In 2022 private equity partnerships holding final closes raised $870 billion across 2,211 partnerships (unless otherwise noted, all data is from PitchBook and 4Q numbers are very preliminary). The dollar amount is 16% lower than 2021, but partnerships plunged by 47%. 4Q had final closes totaling $166 billion, down 21% from 3Q. The number of funds totaled 407, down 20%.

Buyouts ▶ New buyout investments for 2022 totaled 12,985, down 14% from 2021. Dollar volume fell 9% to $837 billion. 4Q saw 2,625 new investments, a 20% decrease from 3Q, but dollar volume rose 27% to $239 billion.

VC Investments ▶ The year produced 51,020 rounds of new investment in venture capital (VC) companies, down 16% from 2021. Announced volume of $509 billion was down 31%. 4Q saw 9,280 new rounds, a 20% decline from 3Q, and dollar volume fell 21% to just $81 billion.

Exits ▶ Last year saw 2,901 buyout-backed private M&A exits, down 23% from 2021, with proceeds of $590 billion, down 26%. 4Q had 551 private exits, down 22% from 3Q, with proceeds of $132 billion, down 2%. The year's 201 buyout-backed IPOs dropped 55% from 2021, with proceeds of $33 billion, down 75%. 4Q IPOs numbered 50, down 21% from 3Q, and proceeds of $8 billion declined 27%. Venture-backed M&A exits for the year totaled 2,625, down 24% from 2021. Announced dollar volume of $110 billion fell 57%. The final quarter had 462 exits, down 20% from 3Q, and value of only $7 billion, plunging 72%. The year's 317 venture-backed IPOs sank 51% from 2021, with proceeds of $41 billion, falling 75%. There were 106 in 4Q, up 33% from 3Q, but the $8 billion of proceeds fell 47%.

Returns ▶ In 3Q, and in the two prior quarters, private equity fell by only about 35% of the public equity market's decline. With the upcoming 4Q valuations being subject to annual audits, continued moderate declines are likely.

Funds Closed 1/1/22 to 12/31/22

Strategy	No. of Funds	Amt ($mm)	Share
Venture Capital	1,369	259,199	30%
Growth Equity	156	117,800	14%
Buyouts	477	362,629	42%
Mezzanine Debt	17	26,998	3%
Distressed/Special Credit	40	50,955	6%
Energy	7	2,340	0%
Secondary and Other	116	41,703	5%
Fund-of-funds	29	8,808	1%
Totals	**2,211**	**870,432**	**100%**

Source: PitchBook (Figures may not total due to rounding.)

Private Equity Performance (%) (Pooled Horizon IRRs through 9/30/22*)

Strategy	Quarter	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years
All Venture	-2.7	-9.1	28.4	23.8	19.4	13.6	12.4	20.6
Growth Equity	-1.8	-9.4	20.8	18.4	15.7	12.8	14.3	14.5
All Buyouts	-1.9	-1.5	18.5	16.1	15.3	10.6	14.7	13.1
Mezzanine	0.2	5.0	11.8	11.1	11.3	10.3	11.1	10.0
Credit Opportunities	0.7	3.9	8.4	7.2	8.3	8.6	9.9	9.5
Control Distressed	-0.2	11.3	19.4	13.8	12.7	10.5	11.9	11.9
All Private Equity	**-1.8**	**-3.7**	**20.2**	**17.3**	**15.5**	**11.3**	**13.7**	**13.8**
S&P 500	-4.9	-15.5	8.2	9.2	11.7	8.0	9.8	7.5
Russell 3000	-4.5	-17.6	7.7	8.6	11.4	7.9	9.9	7.5

Note: Private equity returns are net of fees. Sources: Refinitiv/Cambridge and S&P Dow Jones Indices
*Most recent data available at time of publication

Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of the *Capital Markets Review* and other Callan publications.

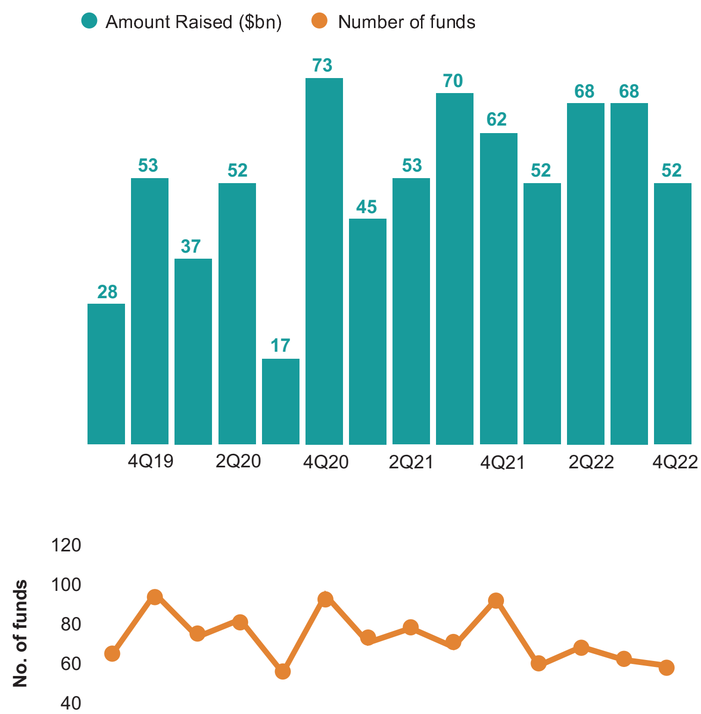
Investor Appetite Continues, but Strategies of Interest Shift

PRIVATE CREDIT | Catherine Beard

Upper-middle-market direct lending gets a new look

- During 4Q22, clients took a new look at upper-middle-market direct lending as all-in spreads have widened by over 400 bps and lenders are able to get tighter terms. Strong deal volume was driven partially by a shift from public to private market debt financings in the recent market environment.
- As economic headwinds are expected to create stress on over-levered companies, there is a renewed interest in stressed and distressed investment opportunities.
- Demand continued to be strong for less-competitive areas of private credit with high barriers to entry and attractive risk/reward opportunities such as specialty finance, non-sponsor, lower-middle-market, and opportunistic lending.
- LPs are seeking alternative structures designed to streamline the investment process while improving underlying liquidity. A number of GPs are launching evergreen structures and private, non-tradeable business development companies as a response to LP interest.
- Private credit performance varies across sub-asset class and underlying return drivers. On average, the asset class has generated net IRRs of 8% to 10% for trailing periods ended Sept. 30, 2022. Higher-risk strategies performed better than lower-risk strategies.
- As interest rates declined after the GFC, private credit attracted increased interest from institutional investors.
- Private credit fundraising was robust leading into the COVID dislocation, with a particular focus on direct lending, asset-based lending, and distressed strategies.
- In the current rising rate environment, a renewed focus has been placed on relative value, downside protection, and managers' internal workout resources.

Private Credit Fundraising ($bn)



Source: Preqin

- There is also interest in strategies with strong collateral protection such as asset-based lending as well as capital solutions and distressed strategies.
- Larger sponsor-backed lending is seeing a new focus due to the disintermediation of high yield/broadly syndicated loans by private debt

Private Credit Performance (%) (Pooled Horizon IRRs through 9/30/22*)

Strategy	Quarter	1 Year	3 Years	5 Years	8 Years	10 Years	15 Years	20 Years
Senior Debt	-2.4	-3.5	4.6	5.1	5.7	5.9	6.3	6.1
Mezzanine	0.2	5.0	11.8	11.1	10.8	11.3	10.5	11.3
Credit Opportunities	0.7	3.9	8.4	7.2	6.6	8.3	8.6	9.7
Total Private Credit	-0.1	2.6	8.4	7.7	7.4	8.6	8.8	9.7

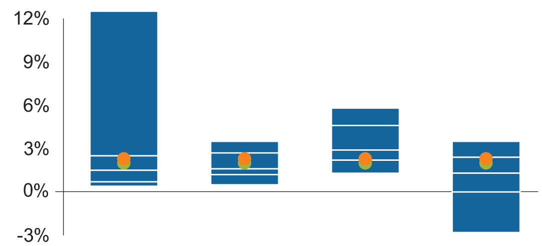
Source: Refinitiv/Cambridge
*Most recent data available at time of publication

Managers See Declines but Outpace Benchmarks

HEDGE FUNDS/MACs | Joe McGuane

- Risk assets rallied in 4Q22, as U.S. inflation showed a steady decline from the peak over summer, boosting hopes for fewer rate increases heading into 2023. In addition, corporate earnings were generally better than expected, and China announced the lifting of its zero-COVID policy.
- As the quarter wore on, the Federal Reserve remained committed to tighter monetary conditions, signaling more rate hikes in 2023 in addition to the 50 basis point increase at its December meeting.
- Despite a December sell-off, the S&P 500 gained 8% for the quarter. Value significantly outperformed growth, and stocks across most sectors rebounded, with the energy sector notably higher for the quarter. Global ex-U.S. equities outperformed U.S. equities, as cooling energy prices dragged down inflation. China's reopening and easing of the zero-COVID policy led to Asian equities recovering their initial losses from October.

Hedge Fund Style Group Returns (12/31/22)



	Absolute Return FOF	Core Div. FOF	Long/Short Equity FOF	Institutional Hedge Funds
10th Percentile	12.5	3.5	5.8	3.5
25th Percentile	2.5	2.7	4.6	2.4
Median	1.5	1.6	2.9	1.3
75th Percentile	0.7	1.2	2.2	0.0
90th Percentile	0.4	0.5	1.3	-2.8
HFRI Fund Weighted	2.3	2.3	2.3	2.3
90-Day T-Bill +5%	2.0	2.0	2.0	2.0

Sources: Callan, Credit Suisse, Federal Reserve

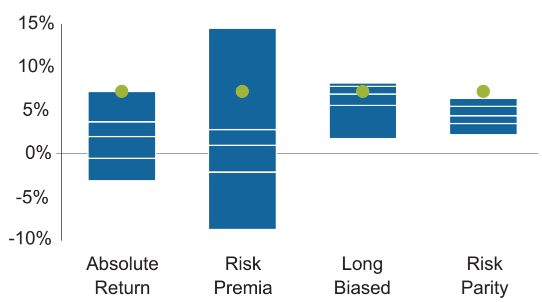
Callan Peer Group Median and Index Returns* for Periods Ended 12/31/22

Hedge Fund Universe	Quarter	1 Year	3 Years	5 Years	10 Years	15 Years
Callan Institutional Hedge Fund Peer Group	**1.3**	**4.8**	**6.4**	**6.0**	**6.2**	**6.7**
Callan Fund-of-Funds Peer Group	**1.9**	**-1.3**	**4.9**	**4.2**	**4.7**	**3.5**
Callan Absolute Return FOF Style	**1.5**	**4.0**	**5.6**	**4.8**	**5.1**	**3.9**
Callan Core Diversified FOF Style	**1.6**	**-1.2**	**5.0**	**4.1**	**4.4**	**3.4**
Callan Long/Short Equity FOF Style	**2.9**	**-10.4**	**2.2**	**3.5**	**4.8**	**3.6**
HFRI Fund-Weighted Index	2.3	-4.2	5.7	4.4	4.7	3.6
HFRI Fixed Convertible Arbitrage	3.1	-1.2	6.3	5.1	5.1	4.9
HFRI Distressed/Restructuring	2.0	-3.1	7.8	4.9	4.8	4.2
HFRI Emerging Markets	5.1	-12.7	1.7	0.9	2.9	1.4
HFRI Equity Market Neutral	1.1	1.6	2.8	1.9	3.0	1.9
HFRI Event-Driven	3.3	-4.6	5.4	4.3	4.9	4.2
HFRI Relative Value	1.3	-0.8	3.3	3.4	4.0	4.3
HFRI Macro	-1.3	9.0	7.3	4.8	3.1	2.9
HFRI Equity Hedge	4.2	-10.2	5.7	4.5	5.6	3.6
HFRI Multi-Strategy	1.1	-9.8	3.7	1.8	2.9	2.8
HFRI Merger Arbitrage	2.5	2.9	6.2	5.7	4.6	4.0
90-Day T-Bill + 5%	2.0	6.5	5.7	6.3	5.8	5.7

*Net of fees. Sources: Callan, Credit Suisse, Hedge Fund Research

- Hedge funds ended the final quarter on a positive note, as equity hedge managers clawed back some of their negative performance. Those with a focus on real estate, energy, and industrials saw positive gains while growth-focused managers continued to lag.
- Event-driven strategies had a nice quarter, driven primarily by their event equities that moved higher with the broader markets.
- Relative value strategies finished out the year on a strong note, as managers continued to benefit from elevated rate volatility levels, the convergence of key relative value relationships, global quantitative tightening, and uncertainty surrounding central bank actions.
- Macro strategies ended the quarter slightly lower, as losses were taken in short U.S. equities themes, along with short positions in the Chinese renminbi versus the U.S. dollar.
- The median Callan Institutional Hedge Fund Peer Group rose 1.3%.
- Within the HFRI indices, the best-performing strategy last quarter was the emerging market index (+5.1%), as Asian equities rallied in November and December.
- Across the Callan Hedge FOF Database, the median Absolute Return FOF rose 1.5%, as their allocations to multi-strategy managers put up solid returns on the year.
- The median Callan Long-Short Equity FOF increased 2.9%, as managers benefited from an equity rally in October and November.
- The Callan Core Diversified FOF gained 1.6%, as equity hedge exposure drove performance, offsetting some negative performance from macro managers.
- Within Callan's database of liquid alternative solutions, the median Long Biased MAC manager generated a gain of 6.9%, as long equity exposure drove performance for the peer group.
- The Callan Risk Parity MAC index, which typically targets an equally risk-weighted allocation to the major asset classes with leverage, was up 4.4%.
- The Callan Absolute Return MAC peer returned a positive 2.0%, as a bias toward value equities and credit helped performance on the quarter.
- The Callan Risk Premia MAC peer rose 1.0%, as equity performance was slightly offset by currency exposure.

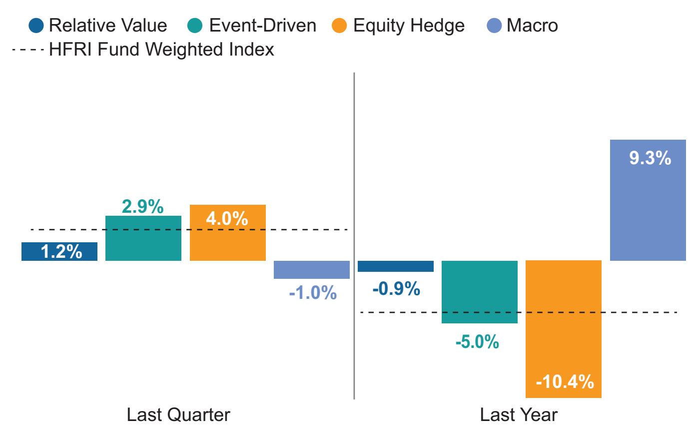
MAC Style Group Returns (12/31/22)



	Absolute Return	Risk Premia	Long Biased	Risk Parity
10th Percentile	7.2	14.5	8.2	6.4
25th Percentile	3.7	2.8	7.8	5.5
Median	2.0	1.0	6.9	4.4
75th Percentile	-0.5	-2.1	5.6	3.5
90th Percentile	-3.1	-8.7	1.8	2.2
60% MSCI ACWI/ 40% Bloomberg Agg	6.6	6.6	6.6	6.6

Sources: Bloomberg, Callan, Eurekahedge, S&P Dow Jones Indices

HFRI Hedge Fund-Weighted Strategy Returns (12/31/22)



Source: HFRI

Third Straight Drop for DC Index

DEFINED CONTRIBUTION | Patrick Wisdom

Performance: Index dips for third straight quarter

- The Callan DC Index™ fell 4.6% in 3Q22, its third straight quarterly decline, which brought the Index's trailing one-year loss to 16.7%.
- The Age 45 Target Date Fund fell 6.1% in the quarter.

Growth Sources: Another decline in balances

- Balances within the DC Index declined by 4.7% after a 12.3% decrease the second quarter.

Turnover: Net transfers well below average

- Turnover (i.e., net transfer activity levels within DC plans) in the DC Index decreased to 0.14% from the previous quarter's 0.37%. With the decrease, the Index's historical average (0.56%) fell slightly.

Net Cash Flow Analysis: TDFs reclaim top spot

- After taking a back seat to stable value in 2Q22, TDFs reclaimed the top spot, garnering 73.6% of net flows.
- Investors withdrew assets from U.S. large cap equity (-33.1%); global ex-U.S. equity saw net inflows (+9.2%).

Equity Allocation: Drop in exposure

- The Index's overall allocation to equity (69.3%) fell slightly from the previous quarter's level (69.8%).

Asset Allocation: Capital preservation gains

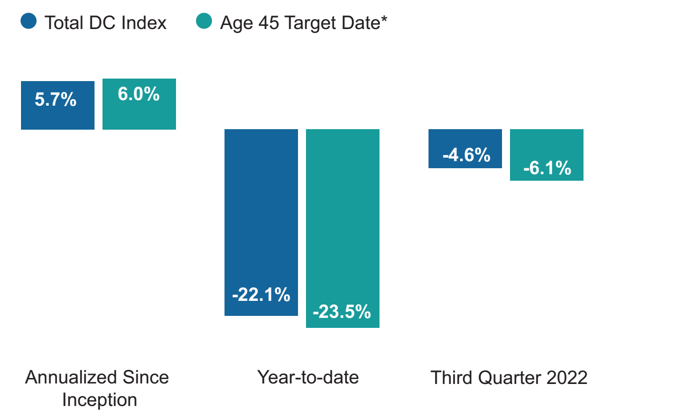
- Stable value (10.0%) and U.S. fixed income (5.9%) were among the asset classes with the largest percentage increases in allocation.

Prevalence of Asset Class: Balanced funds dip

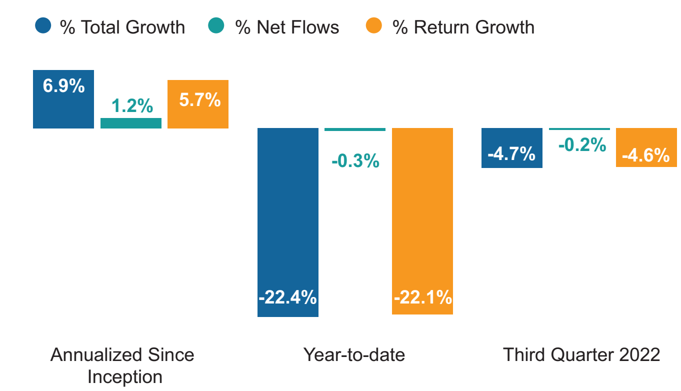
- The prevalence of a balanced fund (40.9%) decreased again to its lowest level since the inception of the Index in 2006.

Underlying fund performance, asset allocation, and cash flows of more than 100 large defined contribution plans representing approximately $400 billion in assets are tracked in the Callan DC Index.

Investment Performance (9/30/22)



Growth Sources (9/30/22)



Net Cash Flow Analysis (3Q22)
(Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	73.6%
Brokerage Window	13.8%
U.S. Small/Mid Cap	-25.3%
U.S. Large Cap	-33.1%
Total Turnover**	**0.1%**

Data provided here is the most recent available at time of publication.

Source: Callan DC Index

Note: DC Index inception date is January 2006.

* The Age 45 Fund transitioned from the average 2035 TDF to the 2040 TDF in June 2018.

** Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.

Asset Allocation
and Performance

Asset Allocation and Performance

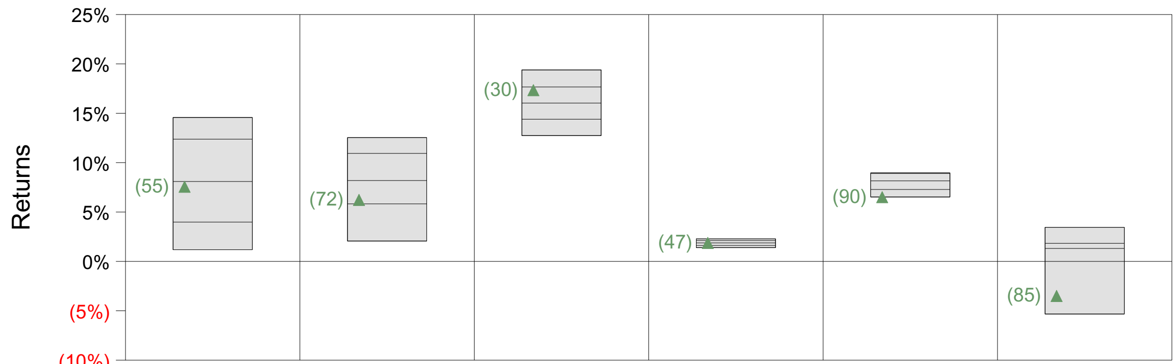
This section begins with an overview of the fund’s asset allocation at the broad asset class level. This is followed by a top down performance attribution analysis which analyzes the fund’s performance relative to the performance of the fund’s policy target asset allocation. The fund’s historical performance is then examined relative to funds with similar objectives. Performance of each asset class is then shown relative to the asset class performance of other funds. Finally, a summary is presented of the holdings of the fund’s investment managers, and the returns of those managers over various recent periods.

Market Overview
Active Management vs Index Returns

Market Overview

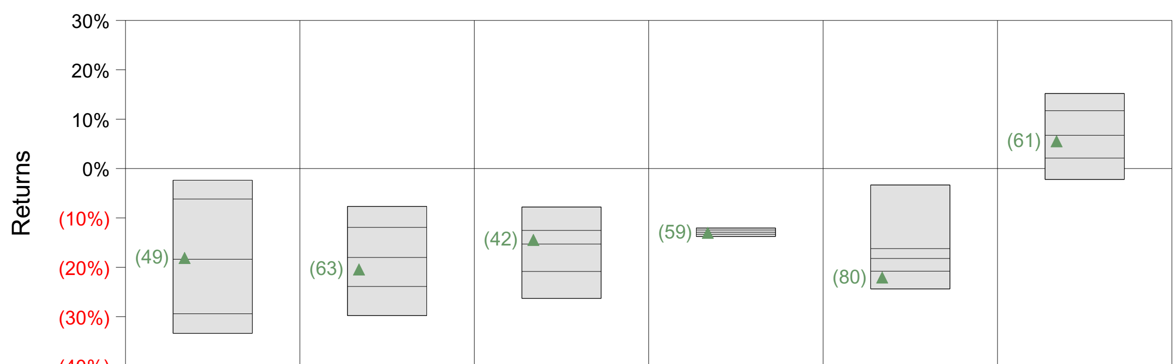
The charts below illustrate the range of returns across managers in Callan's Separate Account database over the most recent one quarter and one year time periods. The database is broken down by asset class to illustrate the difference in returns across those asset classes. An appropriate index is also shown for each asset class for comparison purposes. As an example, the first bar in the upper chart illustrates the range of returns for domestic equity managers over the last quarter. The triangle represents the S&P 500 return. The number next to the triangle represents the ranking of the S&P 500 in the Large Cap Equity manager database.

Range of Separate Account Manager Returns by Asset Class
One Quarter Ended December 31, 2022



	Large Cap Equity vs S&P 500	Small Cap Equity vs Russell 2000	Non-US Equity vs MSCI EAFE	Domestic Fixed Income vs Blmbg Aggr Bd	Non-US Fixed Income vs Citi Non-US Govt	Real Estate vs NCREIF Index
10th Percentile	14.58	12.54	19.39	2.28	8.96	3.45
25th Percentile	12.38	10.94	17.66	2.11	8.91	1.83
Median	8.09	8.19	16.03	1.87	8.16	1.31
75th Percentile	3.98	5.82	14.40	1.62	7.28	0.00
90th Percentile	1.18	2.06	12.74	1.39	6.52	(5.33)
Index ▲	7.56	6.23	17.34	1.87	6.51	(3.50)

Range of Separate Account Manager Returns by Asset Class
One Year Ended December 31, 2022

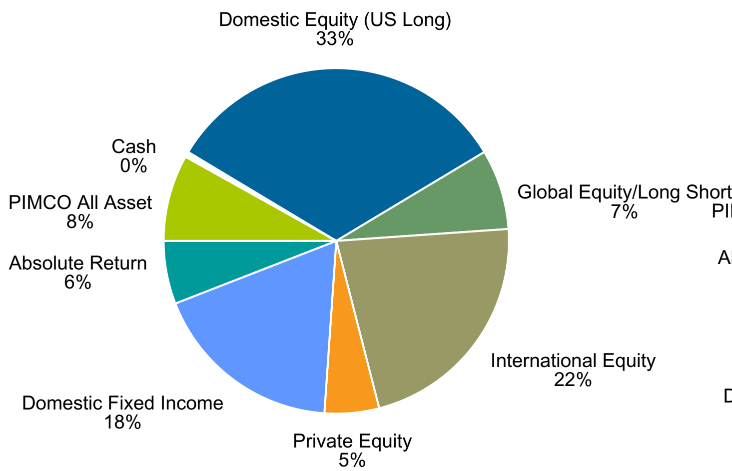


	Large Cap Equity vs S&P 500	Small Cap Equity vs Russell 2000	Non-US Equity vs MSCI EAFE	Domestic Fixed Income vs Blmbg Aggr Bd	Non-US Fixed Income vs Citi Non-US Govt	Real Estate vs NCREIF Index
10th Percentile	(2.37)	(7.67)	(7.79)	(12.04)	(3.33)	15.21
25th Percentile	(6.17)	(11.92)	(12.53)	(12.45)	(16.22)	11.72
Median	(18.37)	(18.01)	(15.29)	(12.90)	(18.21)	6.74
75th Percentile	(29.41)	(23.88)	(20.84)	(13.30)	(20.79)	2.12
90th Percentile	(33.38)	(29.78)	(26.29)	(13.75)	(24.38)	(2.21)
Index ▲	(18.11)	(20.44)	(14.45)	(13.01)	(22.07)	5.53

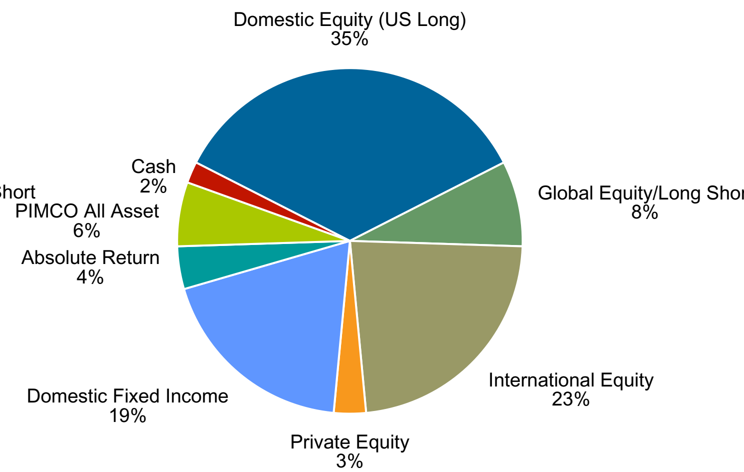
Actual vs Target Asset Allocation
As of December 31, 2022

The top left chart shows the Fund's asset allocation as of December 31, 2022. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Spons- Mid (100M-1B).

Actual Asset Allocation

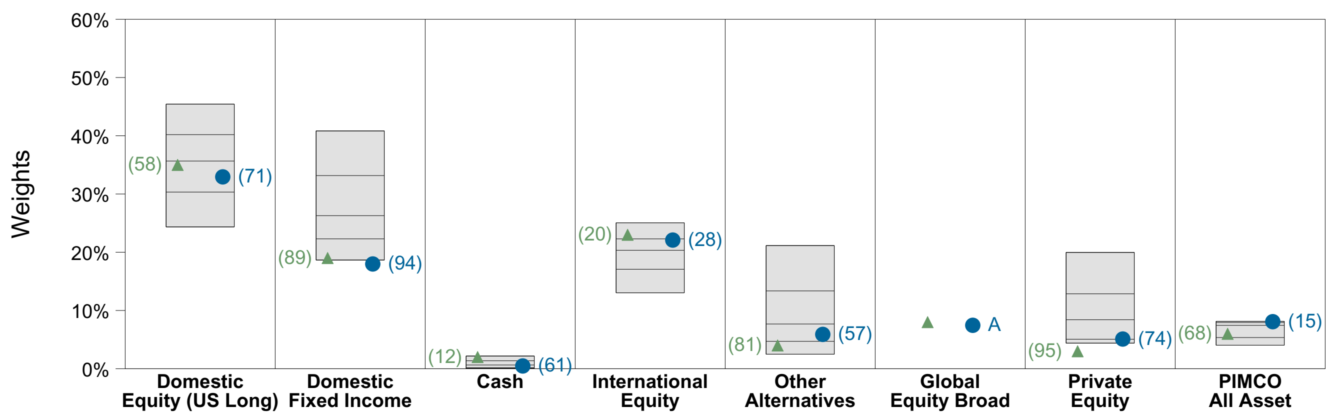


Target Asset Allocation



Asset Class	$000s Actual	Weight Actual	Target	Percent Difference	$000s Difference
Domestic Equity (US Long)	151,288	32.9%	35.0%	(2.1%)	(9,457)
Global Equity/Long Short	34,226	7.5%	8.0%	(0.5%)	(2,516)
International Equity	101,436	22.1%	23.0%	(0.9%)	(4,196)
Private Equity	23,395	5.1%	3.0%	2.1%	9,617
Domestic Fixed Income	82,605	18.0%	19.0%	(1.0%)	(4,657)
Absolute Return	27,063	5.9%	4.0%	1.9%	8,692
PIMCO All Asset	37,086	8.1%	6.0%	2.1%	9,530
Cash	2,172	0.5%	2.0%	(1.5%)	(7,014)
Total	459,271	100.0%	100.0%		

Asset Class Weights vs Callan Public Fund Spons- Mid (100M-1B)



	Domestic Equity (US Long)	Domestic Fixed Income	Cash	International Equity	Other Alternatives	Global Equity Broad	Private Equity	PIMCO All Asset
10th Percentile	45.43	40.83	2.18	25.05	21.15	-	19.97	8.14
25th Percentile	40.19	33.17	1.37	22.29	13.36	-	12.86	7.94
Median	35.66	26.28	0.64	20.33	7.68	-	8.41	7.44
75th Percentile	30.33	22.30	0.18	17.08	4.70	-	5.06	5.35
90th Percentile	24.35	18.66	0.04	13.04	2.49	-	4.39	4.03
Fund ●	32.94	17.99	0.47	22.09	5.89	7.45	5.09	8.08
Target ▲	35.00	19.00	2.00	23.00	4.00	8.00	3.00	6.00
% Group Invested	100.00%	100.00%	72.41%	96.55%	34.48%	0.00%	17.24%	20.69%

* Current Quarter Target = 35.0% Russell 3000 Index, 23.0% MSCI ACWI xUS, 19.0% Blmbg Aggregate, 8.0% HFRI FOF: Strategic Index, 6.0% Blmbg TIPS 1-10 Yr, 4.0% HFRI FOF: Conservative In, 3.0% Private Equity and 2.0% 3-month Treasury Bill.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of December 31, 2022, with the distribution as of September 30, 2022. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	December 31, 2022				September 30, 2022	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Total Equity	**$310,344,980**	**67.57%**	**$(5,446,026)**	**$25,360,266**	**$290,430,740**	**66.25%**
U.S. Equity	**$151,287,525**	**32.94%**	**$(151,561)**	**$9,654,850**	**$141,784,236**	**32.34%**
BR Russell 1000 Index Non-Lendable	109,787,721	23.90%	0	7,414,939	102,372,782	23.35%
LSV	21,894,558	4.77%	(148,403)	2,423,011	19,619,950	4.48%
Columbus Circle Investors	19,605,246	4.27%	(3,158)	(183,100)	19,791,504	4.51%
International Equity	**$101,435,997**	**22.09%**	**$(99,072)**	**$14,249,099**	**$87,285,970**	**19.91%**
Developed Markets	**$83,519,628**	**18.19%**	**$(99,072)**	**$12,625,361**	**$70,993,340**	**16.19%**
Artisan Trust	30,491,176	6.64%	0	4,222,215	26,268,961	5.99%
Silchester	53,028,453	11.55%	(99,072)	8,403,146	44,724,379	10.20%
Emerging Markets	**$17,916,368**	**3.90%**	**$0**	**$1,623,738**	**$16,292,630**	**3.72%**
BlackRock EM Alpha Tilts	17,916,368	3.90%	0	1,623,738	16,292,630	3.72%
Global Equity Long/Short	**$34,226,009**	**7.45%**	**$(4,765,393)**	**$1,456,317**	**$37,535,085**	**8.56%**
ABS Global	19,340,933	4.21%	0	867,420	18,473,514	4.21%
Blackstone Park Ave. NT	14,885,076	3.24%	(4,765,393)	588,898	19,061,571	4.35%
Private Equity (1)	**$23,395,449**	**5.09%**	**$(430,000)**	**$0**	**$23,825,449**	**5.43%**
Pantheon USA IV	181,010	0.04%	0	0	181,010	0.04%
Pantheon USA VI	148,341	0.03%	0	0	148,341	0.03%
Pantheon USA VII	749,439	0.16%	(40,000)	0	789,439	0.18%
Pantheon Europe Fund V A	444,368	0.10%	0	0	444,368	0.10%
Pantheon Global Secondary Fund III	59,086	0.01%	0	0	59,086	0.01%
Pantheon US Select 2014	21,813,205	4.75%	(390,000)	0	22,203,205	5.06%
Domestic Fixed Income	**$82,604,706**	**17.99%**	**$(11,363)**	**$1,749,479**	**$80,866,590**	**18.45%**
Prudential Cons Core Bond Fund	36,583,784	7.97%	(11,363)	789,801	35,805,346	8.17%
Metropolitan West Fund	46,020,923	10.02%	0	959,678	45,061,245	10.28%
Absolute Return	**$27,063,048**	**5.89%**	**$0**	**$555,825**	**$26,507,224**	**6.05%**
UBS AIS	27,063,048	5.89%	0	555,825	26,507,224	6.05%
Real Assets	**$37,086,493**	**8.08%**	**$0**	**$2,518,122**	**$34,568,371**	**7.89%**
PIMCO All Asset	37,086,493	8.08%	0	2,518,122	34,568,371	7.89%
Cash	**$2,171,840**	**0.47%**	**$(3,881,475)**	**$44,945**	**$6,008,370**	**1.37%**
Cash Account	2,171,840	0.47%	(3,881,475)	44,945	6,008,370	1.37%
Total Fund	**$459,271,068**	**100.0%**	**$(9,338,864)**	**$30,228,638**	**$438,381,295**	**100.0%**

(1) Market Values have a one quarter lag and are adjusted for asset flows.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of December 31, 2022, with the distribution as of September 30, 2022.

Asset Distribution Across Investment Managers

	December 31, 2022					September 30, 2022		
	Market Value	Weight	(min)	Target	(max)	Market Value	Weight	Target
Total Equity	**$310,344,980**	**67.57%**	**60.00%**	**69.00%**	**75.00%**	**$290,430,740**	**66.25%**	**69.00%**
U.S. Equity	**$151,287,525**	**32.94%**	**27.00%**	**35.00%**	**40.00%**	**$141,784,236**	**32.34%**	**35.00%**
BR Russell 1000 Idx Non-Lendable	109,787,721	23.90%				102,372,782	23.35%	
LSV	21,894,558	4.77%				19,619,950	4.48%	
Columbus Circle Investors	19,605,246	4.27%				19,791,504	4.51%	
International Equity	**$101,435,997**	**22.09%**	**18.00%**	**23.00%**	**28.00%**	**$87,285,970**	**19.91%**	**23.00%**
Developed Markets	**$83,519,628**	**18.19%**	**-**	**-**	**-**	**$70,993,340**	**16.19%**	**-**
Artisan Trust	30,491,176	6.64%				26,268,961	5.99%	
Silchester	53,028,453	11.55%				44,724,379	10.20%	
Emerging Markets	**$17,916,368**	**3.90%**	**-**	**-**	**-**	**$16,292,630**	**3.72%**	**-**
BlackRock EM Alpha Tilts	17,916,368	3.90%				16,292,630	3.72%	
Global Equity/Long Short	**$34,226,009**	**7.45%**	**4.00%**	**8.00%**	**12.00%**	**$37,535,085**	**8.56%**	**8.00%**
ABS Global	19,340,933	4.21%				18,473,514	4.21%	
Blackstone Park Ave. NT	14,885,076	3.24%				19,061,571	4.35%	
Private Equity (1)	**$23,395,449**	**5.09%**	**0.00%**	**3.00%**	**6.00%**	**$23,825,449**	**5.43%**	**3.00%**
Pantheon USA IV	181,010	0.04%				181,010	0.04%	
Pantheon USA VI	148,341	0.03%				148,341	0.03%	
Pantheon USA VII	749,439	0.16%				789,439	0.18%	
Pantheon Europe Fund V A	444,368	0.10%				444,368	0.10%	
Pantheon Global Fund III	59,086	0.01%				59,086	0.01%	
Pantheon US Select 2014	21,813,205	4.75%				22,203,205	5.06%	
Domestic Fixed Income	**$82,604,706**	**17.99%**	**14.00%**	**19.00%**	**24.00%**	**$80,866,590**	**18.45%**	**19.00%**
Prudential Cons Core Bond Fund	36,583,784	7.97%				35,805,346	8.17%	
Metropolitan West Fund CIT	46,020,923	10.02%				45,061,245	10.28%	
Absolute Return	**$27,063,048**	**5.89%**	**0.00%**	**4.00%**	**6.00%**	**$26,507,224**	**6.05%**	**4.00%**
UBS AIS	27,063,048	5.89%				26,507,224	6.05%	
Real Assets	**$37,086,493**	**8.08%**	**4.00%**	**6.00%**	**12.00%**	**$34,568,371**	**7.89%**	**6.00%**
PIMCO All Asset	37,086,493	8.08%	4.00%	6.00%	10.00%	34,568,371	7.89%	6.00%
Cash	**$2,171,840**	**0.47%**	**0.00%**	**2.00%**	**4.00%**	**$6,008,370**	**1.37%**	**2.00%**
Cash Account	2,171,840	0.47%				6,008,370	1.37%	
Total Fund	**$459,271,068**	**100.0%**		**100.0%**		**$438,381,295**	**100.0%**	**100.0%**

(1) Market Values have a one quarter lag and are adjusted for asset flows.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended December 31, 2022. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended December 31, 2022

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years
Total Equity	**8.88%**	**(14.84%)**	**5.11%**	**5.86%**	**7.68%**
U.S. Long Equity	**6.81%**	**(18.99%)**	**7.93%**	**8.83%**	**10.89%**
Pure US Equity Composite	**6.81%**	**(18.99%)**	**7.99%**	**8.84%**	**10.99%**
Russell 3000 Index	7.18%	(19.21%)	7.07%	8.79%	11.04%
Russell 1000 Index Non-Lendable	7.24%	(19.13%)	7.35%	9.13%	-
Russell 1000 Index	7.24%	(19.13%)	7.35%	9.13%	11.26%
LSV	12.35%	(4.21%)	7.36%	4.47%	8.15%
Russell 2000 Value Index	8.42%	(14.48%)	4.70%	4.13%	8.23%
Columbus Circle Investors	(0.93%)	(29.86%)	12.48%	12.09%	14.20%
Russell 2500 Growth Index	4.72%	(26.21%)	2.88%	5.97%	8.98%
International Equity	**16.33%**	**(13.35%)**	**(0.20%)**	**1.12%**	**4.85%**
MSCI ACWI ex US	14.28%	(16.00%)	0.07%	0.88%	4.80%
Developed Markets	**17.80%**	**(11.64%)**	**0.48%**	**1.84%**	**5.02%**
MSCI EAFE Index	17.34%	(14.45%)	0.87%	1.54%	4.53%
Artisan Trust	16.07%	(19.16%)	(1.81%)	1.84%	3.88%
MSCI EAFE Growth Idx	15.05%	(22.95%)	0.47%	2.49%	5.06%
Silchester	18.81%	(5.42%)	2.16%	1.66%	6.02%
MSCI EAFE Val Idx	19.64%	(5.58%)	0.65%	0.17%	3.66%
Emerging Markets	**9.97%**	**(20.68%)**	**(3.18%)**	**(2.01%)**	**4.10%**
MSCI Emerging Mkts Idx Net	9.70%	(20.09%)	(2.69%)	(1.39%)	5.17%
BlackRock EM Alpha Tilts	9.97%	(20.68%)	(3.18%)	-	-
MSCI Emerging Mkts Idx Net	9.70%	(20.09%)	(2.69%)	(1.39%)	5.17%
Global Equity/Long Short	**4.44%**	**(12.37%)**	**1.65%**	**3.10%**	**3.01%**
HFRI FOF: Strategic Index	2.72%	(11.82%)	2.41%	2.07%	3.02%
ABS Global	4.70%	(8.50%)	2.49%	3.07%	3.31%
MSCI ACWI Idx	9.88%	(17.96%)	4.49%	5.75%	8.66%
Blackstone Park Ave. NT	4.12%	(15.90%)	0.63%	2.76%	2.60%
S&P 500 Index	7.56%	(18.11%)	7.66%	9.42%	11.48%
Private Equity (1)	**0.00%**	**4.02%**	**22.67%**	**17.94%**	**14.39%**
Pantheon USA IV	0.00%	0.00%	2.58%	2.01%	0.54%
Pantheon USA VI	0.00%	(8.84%)	(11.68%)	(9.18%)	(4.64%)
Pantheon USA VII	0.00%	(2.82%)	14.35%	11.08%	11.41%
Pantheon Europe Fund V A	0.00%	(13.76%)	12.13%	14.68%	10.26%
Pantheon Global Secondary Fund III	0.00%	(7.26%)	(1.15%)	1.18%	1.92%
Pantheon US Select 2014	0.00%	4.99%	25.61%	22.23%	19.16%

(1) Current 0% return due to a one quarter lag in valuation.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended December 31, 2022. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended December 31, 2022

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years
Domestic Fixed Income	**2.16%**	**(13.81%)**	**(2.68%)**	**0.13%**	**0.98%**
Prudential Core Bond	2.21%	(13.02%)	(2.87%)	(0.04%)	0.89%
Metropolitan West Fund*	2.13%	(14.43%)	(2.61%)	0.23%	1.02%
Blmbg Aggregate Index	1.87%	(13.01%)	(2.71%)	0.02%	0.89%
Absolute Return	**2.10%**	**6.06%**	**7.45%**	**5.91%**	**4.80%**
UBS AIS	2.10%	6.06%	7.45%	5.91%	4.80%
HFRI FOF: Conservative In	1.46%	0.09%	4.67%	3.86%	3.61%
Real Assets	**7.28%**	**(11.53%)**	**3.50%**	**3.82%**	**7.22%**
PIMCO All Asset	7.28%	(11.53%)	3.49%	3.40%	6.23%
Blmbg US TIPS 1-10	1.64%	(7.34%)	2.01%	2.50%	2.63%
Cash	**1.00%**	**1.87%**	**0.93%**	**1.47%**	**1.28%**
Cash Account	1.00%	1.87%	0.93%	1.47%	1.28%
3-month Treasury Bill	0.84%	1.46%	0.72%	1.26%	1.07%
Total Fund	**6.97%**	**(13.09%)**	**3.77%**	**4.59%**	**6.15%**
Target Benchmark (1)	6.55%	(13.97%)	3.55%	4.59%	6.10%
Annual Discount Rate:6.625%					

(1) The Total Fund Custom Benchmark is 35.0% Russell 3000 Index, 23.0% MSCI ACWI ex-US, 19.0% Bloomberg Aggregate Index 3.0% Private Equity, 8.0% HFRI FOF Strategic, 6.0% Blmbg US TIPS 1-10 Year Index, 2.0% TBIL, 4.0% HFRI FOF Conservative.
* On August 24, 2022 switched from Mutual Fund to CIT.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	6/2022-12/2022	FY 2022	FY 2021	FY 2020	FY 2019
Total Equity	**3.08%**	**(14.13%)**	**39.04%**	**1.53%**	**5.50%**
U.S. Long Equity	**3.05%**	**(14.69%)**	**48.45%**	**5.18%**	**7.04%**
Russell 3000 Index	2.40%	(13.87%)	44.16%	6.53%	8.98%
Russell 1000 Index Non-Lendable	2.30%	(13.03%)	43.08%	7.47%	10.04%
Russell 1000 Index	2.30%	(13.04%)	43.07%	7.48%	10.02%
LSV	8.57%	(6.00%)	71.06%	(23.09%)	(8.73%)
Russell 2000 Value Index	3.42%	(16.28%)	73.28%	(17.48%)	(6.24%)
Columbus Circle Investors	1.38%	(28.37%)	63.07%	22.10%	8.96%
Russell 2500 Growth Index	4.59%	(31.81%)	49.63%	9.21%	6.13%
International Equity	**4.57%**	**(18.54%)**	**32.22%**	**(4.70%)**	**2.95%**
MSCI ACWI ex US	2.96%	(19.42%)	35.72%	(4.80%)	1.29%
Developed Markets	**6.29%**	**(16.32%)**	**29.77%**	**(5.04%)**	**3.07%**
MSCI EAFE Index	6.36%	(17.77%)	32.35%	(5.13%)	1.08%
Artisan Trust	6.93%	(22.58%)	23.98%	(0.20%)	9.09%
MSCI EAFE Growth Idx	5.27%	(23.76%)	30.97%	4.15%	4.24%
Silchester	5.87%	(11.34%)	35.22%	(9.35%)	(1.71%)
MSCI EAFE Val Idx	7.43%	(11.95%)	33.50%	(14.48%)	(2.10%)
Emerging Markets	**(2.86%)**	**(27.08%)**	**42.61%**	**(3.22%)**	**2.06%**
MSCI Emerging Mkts Idx Net	(2.99%)	(25.28%)	40.90%	(3.39%)	1.22%
BlackRock EM Alpha Tilts	(2.86%)	(27.08%)	42.61%	(3.22%)	-
MSCI Emerging Mkts Idx Net	(2.99%)	(25.28%)	40.90%	(3.39%)	1.22%
Global Equity/Long Short	**0.98%**	**(13.73%)**	**22.51%**	**4.25%**	**2.71%**
HFRI FOF: Strategic Index	0.76%	(11.92%)	23.82%	0.40%	0.01%
ABS Global	1.32%	(9.66%)	19.76%	5.07%	0.01%
MSCI ACWI Idx	2.51%	(15.37%)	39.87%	2.64%	6.33%
Blackstone Park Ave. NT	0.58%	(17.37%)	24.45%	3.92%	4.03%
S&P 500 Index	2.31%	(10.62%)	40.79%	7.51%	10.42%
Private Equity	**(0.74%)**	**12.77%**	**55.16%**	**5.82%**	**14.80%**
Pantheon USA IV	0.00%	(4.88%)	13.48%	0.00%	(4.04%)
Pantheon USA VI	(2.47%)	(22.03%)	(7.18%)	(21.95%)	6.24%
Pantheon USA VII	(2.29%)	4.03%	47.49%	(0.99%)	5.11%
Pantheon Europe Fund V A	(2.30%)	(12.57%)	59.73%	11.81%	15.86%
Pantheon Global Secondary Fund III	(1.10%)	(19.00%)	8.19%	0.15%	6.28%
Pantheon US Select 2014	(0.69%)	15.05%	59.99%	12.67%	21.80%

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

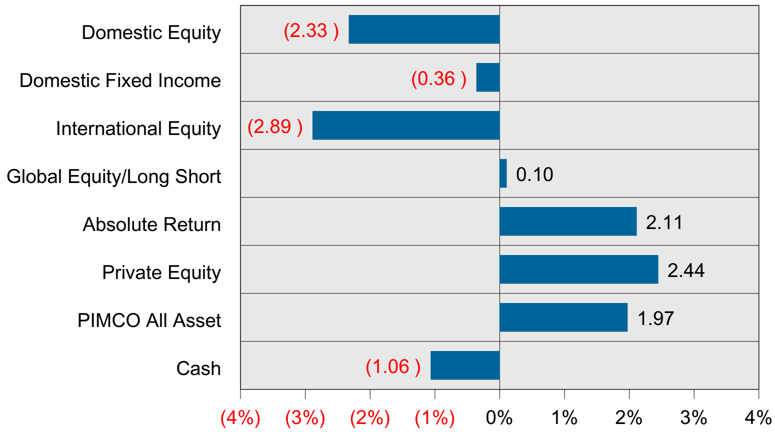
	6/2022-12/2022	FY 2022	FY 2021	FY 2020	FY 2019
Domestic Fixed Income	**(3.00%)**	**(11.14%)**	**0.72%**	**8.89%**	**8.07%**
Prudential Cons Core Bond Fund	(2.73%)	(10.60%)	(0.02%)	8.11%	7.90%
Metropolitan West Fund	(3.21%)	(11.56%)	1.36%	9.18%	8.24%
Blmbg Aggregate Index	(2.97%)	(10.29%)	(0.33%)	8.74%	7.87%
Absolute Return	**2.71%**	**7.95%**	**10.18%**	**4.05%**	**1.79%**
UBS AIS	2.71%	7.95%	10.18%	4.05%	1.79%
HFRI FOF: Conservative In	1.67%	0.10%	15.01%	(0.48%)	2.06%
Real Assets	**0.68%**	**(9.86%)**	**29.53%**	**(2.18%)**	**5.97%**
PIMCO All Asset	0.68%	(9.85%)	29.55%	(2.23%)	5.03%
Blmbg US TIPS 1-10	(2.36%)	(2.03%)	6.60%	5.75%	4.67%
Cash	**1.61%**	**0.35%**	**0.26%**	**1.75%**	**2.52%**
Cash Account	1.61%	0.35%	0.26%	1.75%	2.52%
3-month Treasury Bill	1.31%	0.17%	0.09%	1.63%	2.31%
Total Fund	**1.77%**	**(11.98%)**	**28.40%**	**2.76%**	**5.51%**
Total Fund Custom Benchmark*	1.07%	(11.91%)	25.66%	4.63%	6.36%
Annual Discount Rate:6.625%					

* Current Quarter Target = 35.0% Russell 3000 Index, 23.0% MSCI ACWI xUS, 19.0% Blmbg Aggregate, 8.0% HFRI FOF: Strategic Index, 6.0% Blmbg TIPS 1-10 Yr, 4.0% HFRI FOF: Conservative In, 3.0% Private Equity and 2.0% 3-month Treasury Bill.

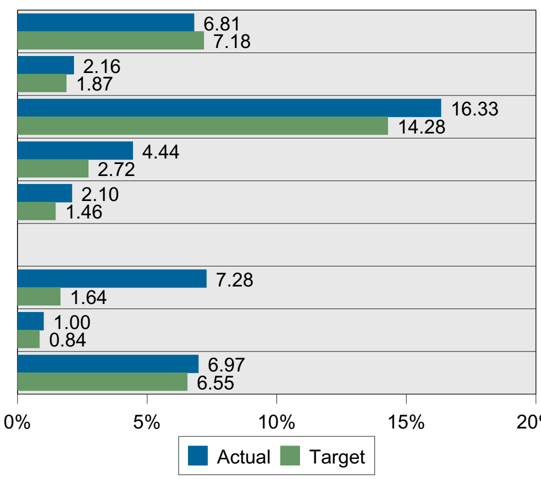
Quarterly Total Fund Relative Attribution - December 31, 2022

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

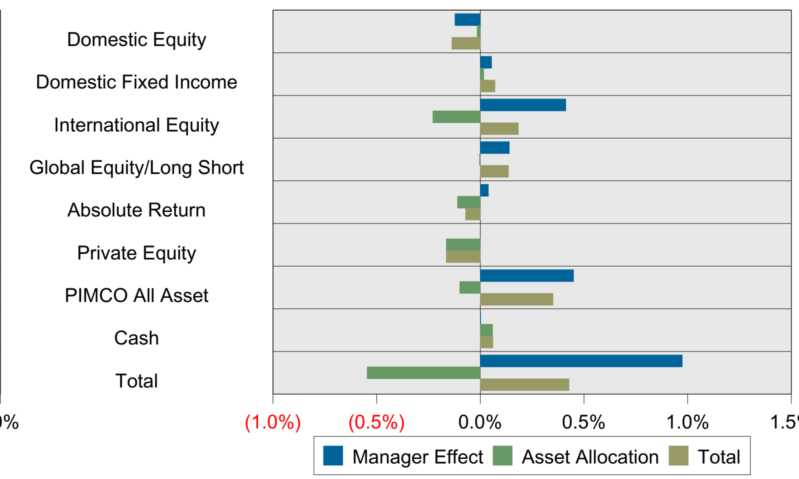
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended December 31, 2022

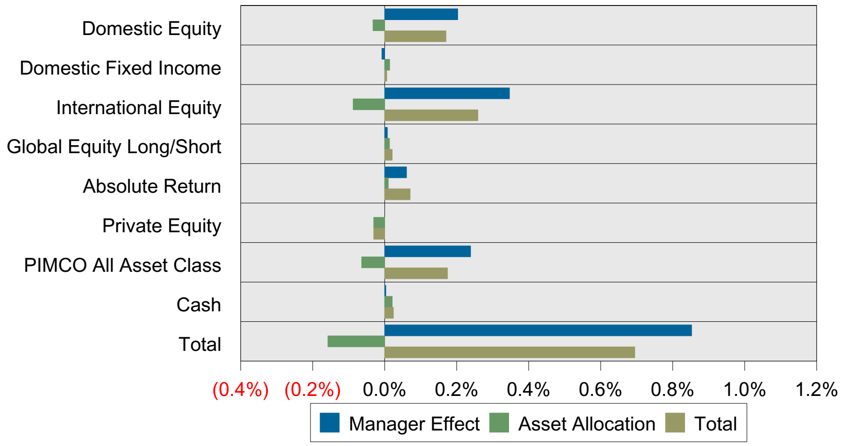
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	33%	35%	6.81%	7.18%	(0.12%)	(0.02%)	(0.14%)
Domestic Fixed Income	19%	19%	2.16%	1.87%	0.05%	0.02%	0.07%
International Equity	20%	23%	16.33%	14.28%	0.41%	(0.23%)	0.18%
Global Equity/Long Short	8%	8%	4.44%	2.72%	0.14%	(0.00%)	0.14%
Absolute Return	6%	4%	2.10%	1.46%	0.04%	(0.11%)	(0.07%)
Private Equity	5%	3%	0.00%	0.00%	0.00%	(0.16%)	(0.16%)
PIMCO All Asset	8%	6%	7.28%	1.64%	0.45%	(0.10%)	0.35%
Cash	1%	2%	1.00%	0.84%	0.00%	0.06%	0.06%
Total			**6.97% =**	**6.55% +**	**0.97% +**	**(0.55%)**	**0.43%**

* Current Quarter Target = 35.0% Russell 3000 Index, 23.0% MSCI ACWI xUS, 19.0% Blmbg Aggregate, 8.0% HFRI FOF: Strategic Index, 6.0% Blmbg TIPS 1-10 Yr, 4.0% HFRI FOF: Conservative In, 3.0% Private Equity and 2.0% 3-month Treasury Bill.

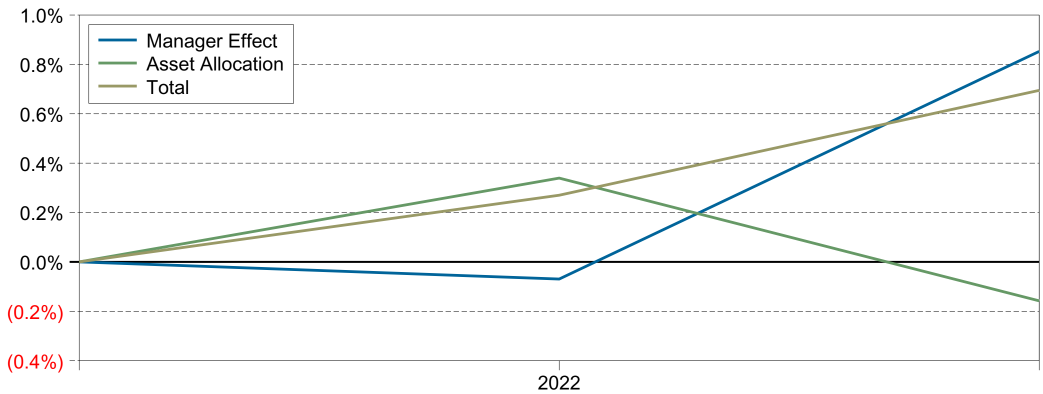
Cumulative Total Fund Relative Attribution - December 31, 2022

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Two Quarters Relative Attribution Effects



Cumulative Relative Attribution Effects



Two Quarters Relative Attribution Effects

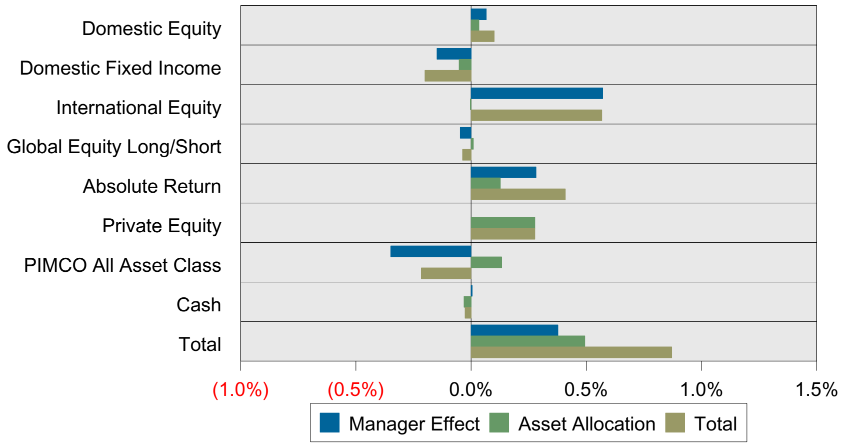
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	32%	35%	3.05%	2.40%	0.20%	(0.03%)	0.17%
Domestic Fixed Income	19%	19%	(3.00%)	(2.97%)	(0.01%)	0.01%	0.01%
International Equity	20%	23%	4.57%	2.96%	0.35%	(0.09%)	0.26%
Global Equity Long/Short	8%	8%	0.98%	0.76%	0.01%	0.01%	0.02%
Absolute Return	6%	4%	2.71%	1.67%	0.06%	0.01%	0.07%
Private Equity	5%	3%	(0.74%)	(0.74%)	0.00%	(0.03%)	(0.03%)
PIMCO All Asset Class	8%	6%	0.68%	(2.36%)	0.24%	(0.06%)	0.17%
Cash	1%	2%	1.61%	1.31%	0.00%	0.02%	0.02%
Total			**1.77% =**	**1.07% +**	**0.85% +**	**(0.16%)**	**0.69%**

* Current Quarter Target = 35.0% Russell 3000 Index, 23.0% MSCI ACWI xUS, 19.0% Blmbg Aggregate, 8.0% HFRI FOF: Strategic Index, 6.0% Blmbg TIPS 1-10 Yr, 4.0% HFRI FOF: Conservative In, 3.0% Private Equity and 2.0% 3-month Treasury Bill.

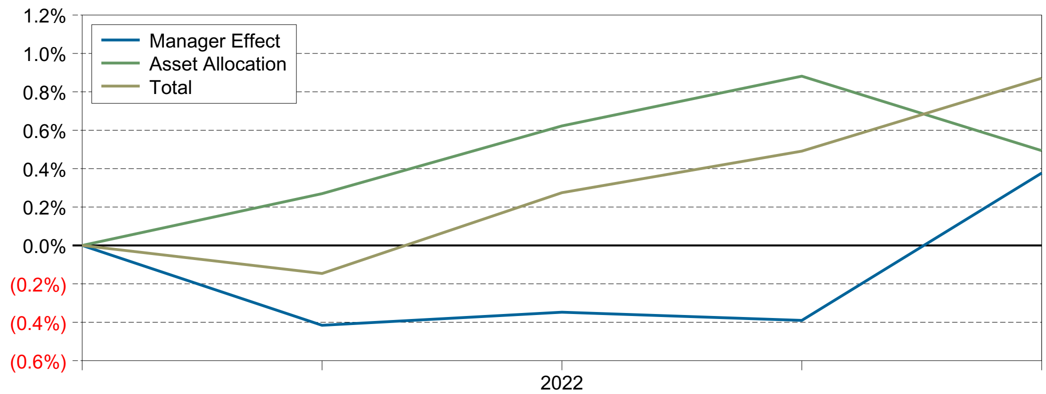
Cumulative Total Fund Relative Attribution - December 31, 2022

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

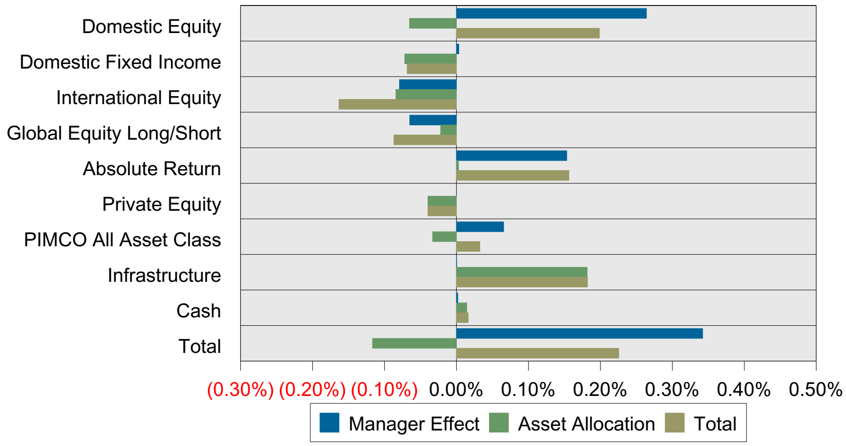
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	33%	35%	(18.99%)	(19.21%)	0.07%	0.03%	0.10%
Domestic Fixed Income	18%	19%	(13.81%)	(13.01%)	(0.15%)	(0.05%)	(0.20%)
International Equity	21%	23%	(13.35%)	(16.00%)	0.57%	(0.00%)	0.57%
Global Equity Long/Short	8%	8%	(12.37%)	(11.82%)	(0.05%)	0.01%	(0.04%)
Absolute Return	5%	4%	6.06%	0.09%	0.28%	0.13%	0.41%
Private Equity	5%	3%	4.02%	4.02%	0.00%	0.28%	0.28%
PIMCO All Asset Class	8%	6%	(11.53%)	(7.34%)	(0.35%)	0.13%	(0.22%)
Cash	1%	2%	1.87%	1.46%	0.00%	(0.03%)	(0.03%)
Total			**(13.09%) =**	**(13.97%) +**	**0.38% +**	**0.49%**	**0.87%**

* Current Quarter Target = 35.0% Russell 3000 Index, 23.0% MSCI ACWI xUS, 19.0% Blmbg Aggregate, 8.0% HFRI FOF: Strategic Index, 6.0% Blmbg TIPS 1-10 Yr, 4.0% HFRI FOF: Conservative In, 3.0% Private Equity and 2.0% 3-month Treasury Bill.

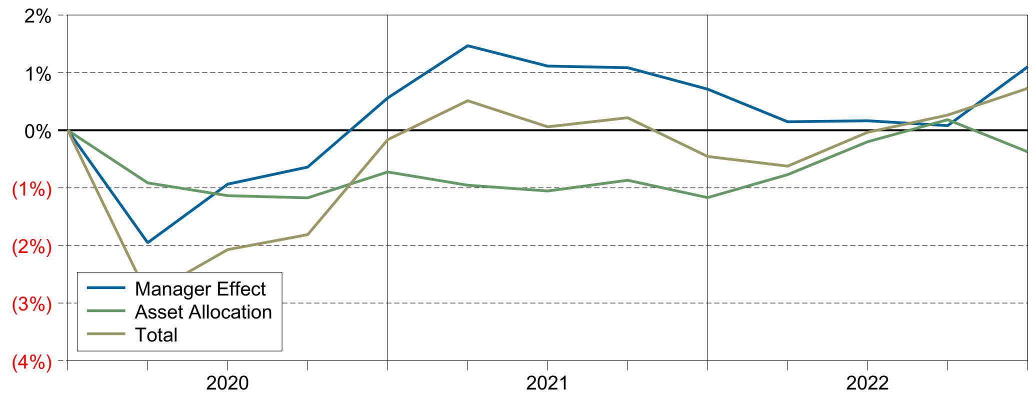
Cumulative Total Fund Relative Attribution - December 31, 2022

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

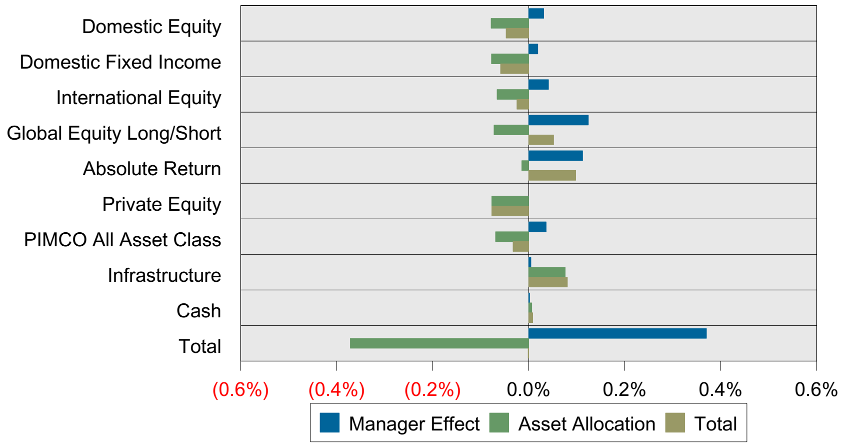
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	31%	32%	7.93%	7.07%	0.26%	(0.07%)	0.20%
Domestic Fixed Income	19%	20%	(2.68%)	(2.71%)	0.00%	(0.07%)	(0.07%)
International Equity	22%	23%	(0.20%)	0.07%	(0.08%)	(0.08%)	(0.16%)
Global Equity Long/Short	9%	8%	1.65%	2.41%	(0.06%)	(0.02%)	(0.09%)
Absolute Return	5%	4%	7.45%	4.67%	0.15%	0.00%	0.16%
Private Equity	4%	4%	22.67%	22.67%	0.00%	(0.04%)	(0.04%)
PIMCO All Asset Class	8%	6%	3.49%	2.01%	0.07%	(0.03%)	0.03%
Infrastructure	0%	2%	-	-	0.00%	0.18%	0.18%
Cash	1%	1%	0.93%	0.72%	0.00%	0.01%	0.02%
Total			**3.77% =**	**3.54% +**	**0.34% +**	**(0.12%)**	**0.23%**

* Current Quarter Target = 35.0% Russell 3000 Index, 23.0% MSCI ACWI xUS, 19.0% Blmbg Aggregate, 8.0% HFRI FOF: Strategic Index, 6.0% Blmbg TIPS 1-10 Yr, 4.0% HFRI FOF: Conservative In, 3.0% Private Equity and 2.0% 3-month Treasury Bill.

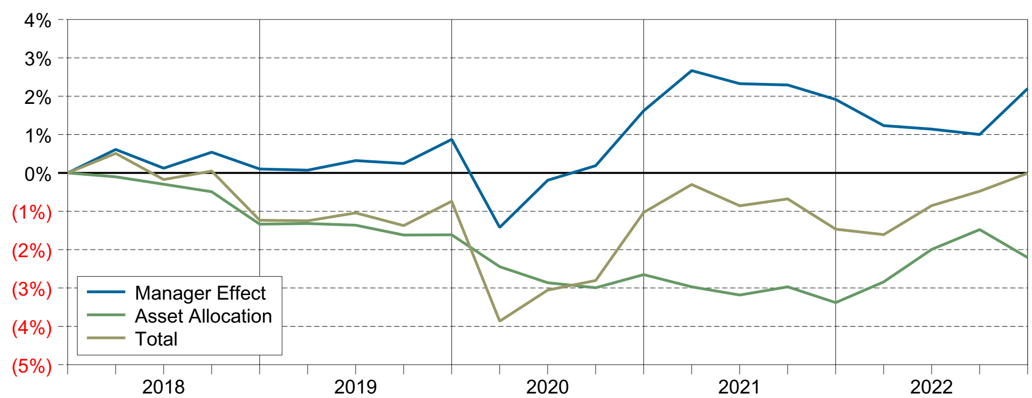
Cumulative Total Fund Relative Attribution - December 31, 2022

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Five Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Five Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	30%	30%	8.83%	8.79%	0.03%	(0.08%)	(0.05%)
Domestic Fixed Income	19%	20%	0.13%	0.02%	0.02%	(0.08%)	(0.06%)
International Equity	22%	22%	1.12%	0.88%	0.04%	(0.07%)	(0.02%)
Global Equity Long/Short	10%	8%	3.10%	2.07%	0.12%	(0.07%)	0.05%
Absolute Return	5%	4%	5.91%	3.86%	0.11%	(0.01%)	0.10%
Private Equity	4%	5%	17.94%	17.94%	0.00%	(0.08%)	(0.08%)
PIMCO All Asset Class	9%	6%	3.40%	2.50%	0.04%	(0.07%)	(0.03%)
Infrastructure	0%	4%	-	-	0.00%	0.08%	0.08%
Cash	1%	1%	1.47%	1.26%	0.00%	0.01%	0.01%
Total			**4.59% =**	**4.59% +**	**0.37% +**	**(0.37%)**	**(0.00%)**

* Current Quarter Target = 35.0% Russell 3000 Index, 23.0% MSCI ACWI xUS, 19.0% Blmbg Aggregate, 8.0% HFRI FOF: Strategic Index, 6.0% Blmbg TIPS 1-10 Yr, 4.0% HFRI FOF: Conservative In, 3.0% Private Equity and 2.0% 3-month Treasury Bill.

Total Fund
Period Ended December 31, 2022

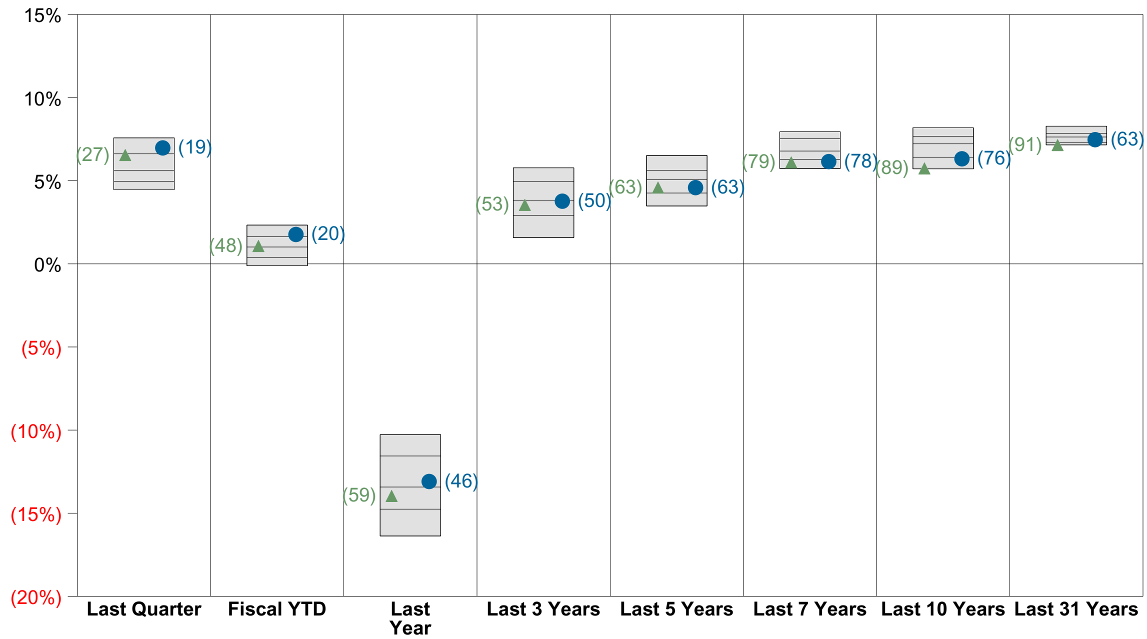
Quarterly Summary and Highlights

- Total Fund's portfolio posted a 6.97% return for the quarter placing it in the 19 percentile of the Callan Public Fund Spons- Mid (100M-1B) group for the quarter and in the 46 percentile for the last year.
- Total Fund's portfolio outperformed the Total Fund Custom Benchmark by 0.43% for the quarter and outperformed the Total Fund Custom Benchmark for the year by 0.87%.

Quarterly Asset Growth

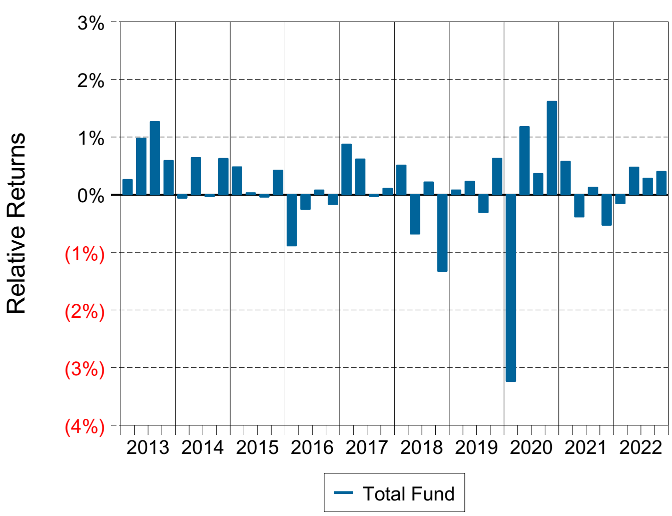
Beginning Market Value	$438,381,295
Net New Investment	$-9,338,864
Investment Gains/(Losses)	$30,228,638
Ending Market Value	$459,271,068

Performance vs Callan Public Fund Spons- Mid (100M-1B) (Gross)

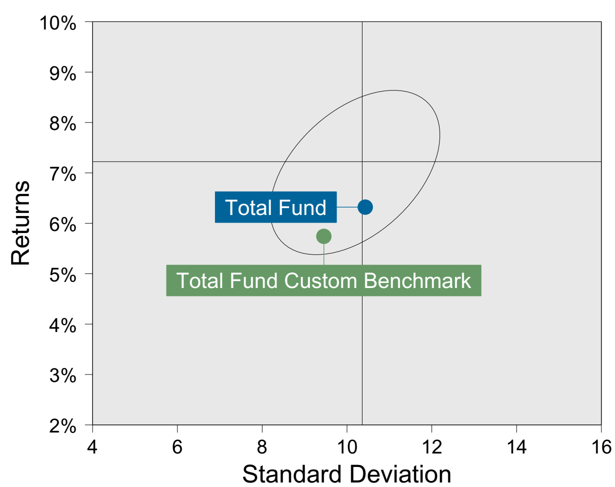


	Last Quarter	Fiscal YTD	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years	Last 31 Years
10th Percentile	7.58	2.33	(10.27)	5.78	6.52	7.95	8.19	8.28
25th Percentile	6.62	1.64	(11.56)	4.96	5.63	7.53	7.68	7.85
Median	5.63	1.01	(13.43)	3.79	5.06	6.79	7.22	7.63
75th Percentile	4.97	0.38	(14.76)	2.91	4.26	6.28	6.38	7.28
90th Percentile	4.46	(0.11)	(16.37)	1.58	3.48	5.73	5.72	7.16
Total Fund ●	6.97	1.77	(13.09)	3.77	4.59	6.15	6.32	7.47
Total Fund Custom Benchmark ▲	6.55	1.07	(13.97)	3.55	4.59	6.10	5.74	7.15

Relative Returns vs Total Fund Custom Benchmark



Callan Public Fund Spons- Mid (100M-1B) (Gross) Annualized Ten Year Risk vs Return

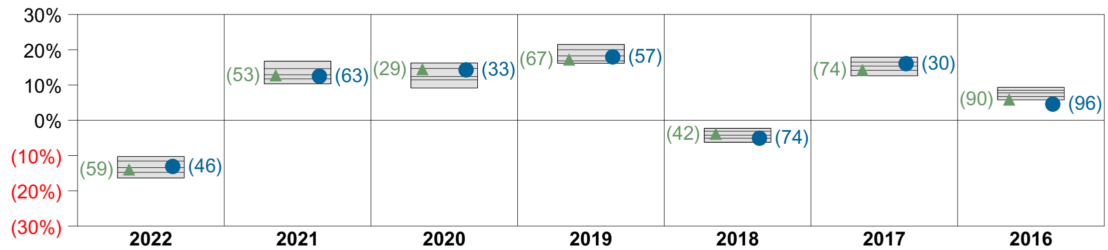


Total Fund
Return Analysis Summary

Return Analysis

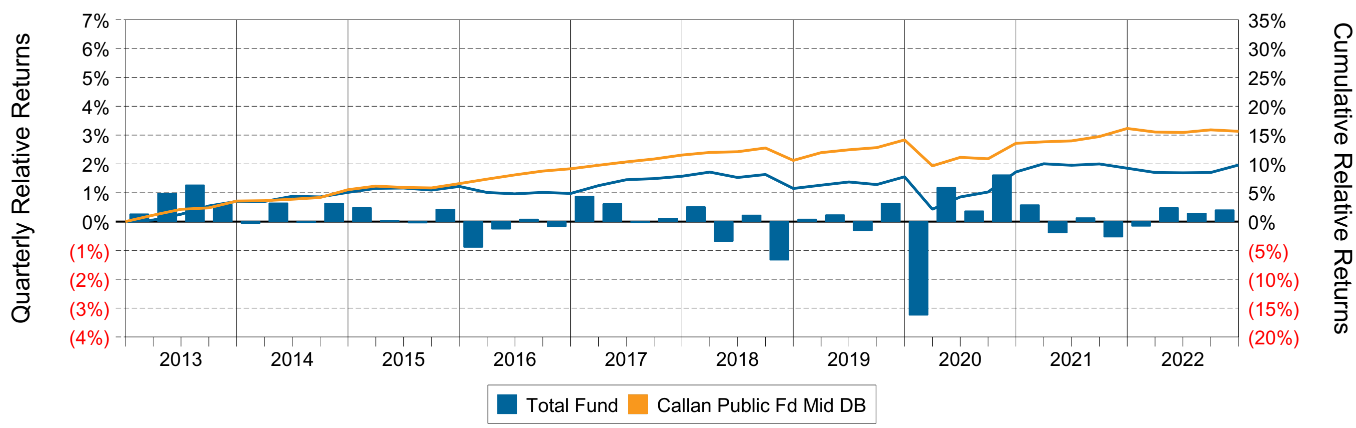
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Public Fund Spons- Mid (100M-1B) (Gross)

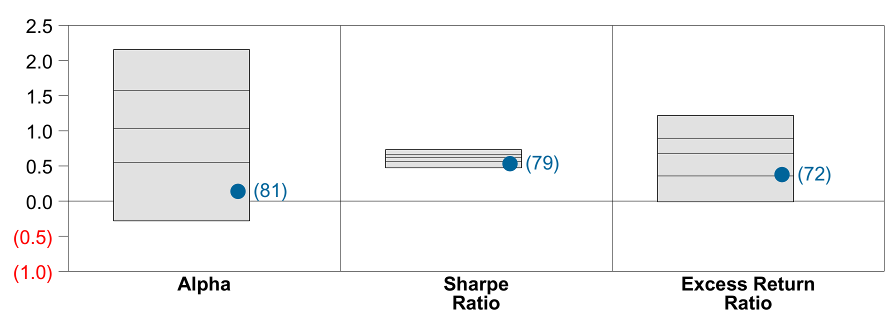


	2022	2021	2020	2019	2018	2017	2016
10th Percentile	(10.27)	16.75	16.25	21.50	(2.28)	17.88	9.34
25th Percentile	(11.56)	14.64	14.69	20.00	(3.10)	16.49	8.51
Median	(13.43)	12.90	12.40	18.26	(4.23)	15.37	7.77
75th Percentile	(14.76)	11.74	11.47	16.85	(5.09)	14.16	6.72
90th Percentile	(16.37)	10.34	9.16	16.15	(6.23)	12.60	5.77
Total Fund ●	(13.09)	12.50	14.30	17.97	(5.08)	16.05	4.58
Total Fund Custom Benchmark ▲	(13.97)	12.73	14.47	17.23	(3.84)	14.25	5.88

Cumulative and Quarterly Relative Returns vs Total Fund Custom Benchmark



Risk Adjusted Return Measures vs Total Fund Custom Benchmark
Rankings Against Callan Public Fund Spons- Mid (100M-1B) (Gross)
Ten Years Ended December 31, 2022

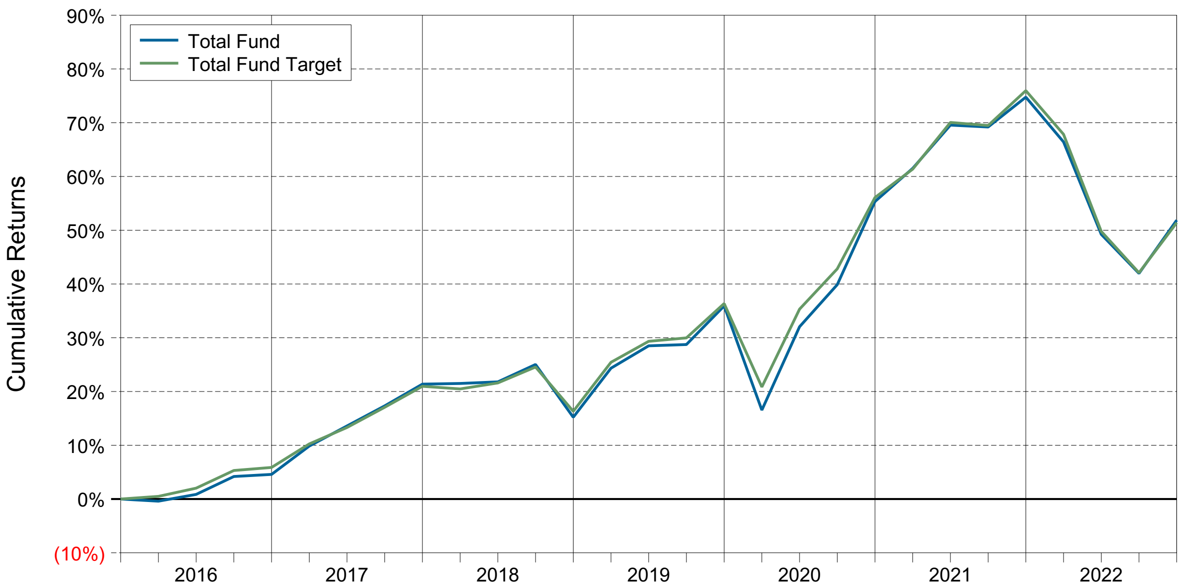


	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	2.16	0.73	1.22
25th Percentile	1.58	0.67	0.89
Median	1.03	0.62	0.68
75th Percentile	0.55	0.56	0.36
90th Percentile	(0.28)	0.47	(0.01)
Total Fund ●	0.14	0.53	0.38

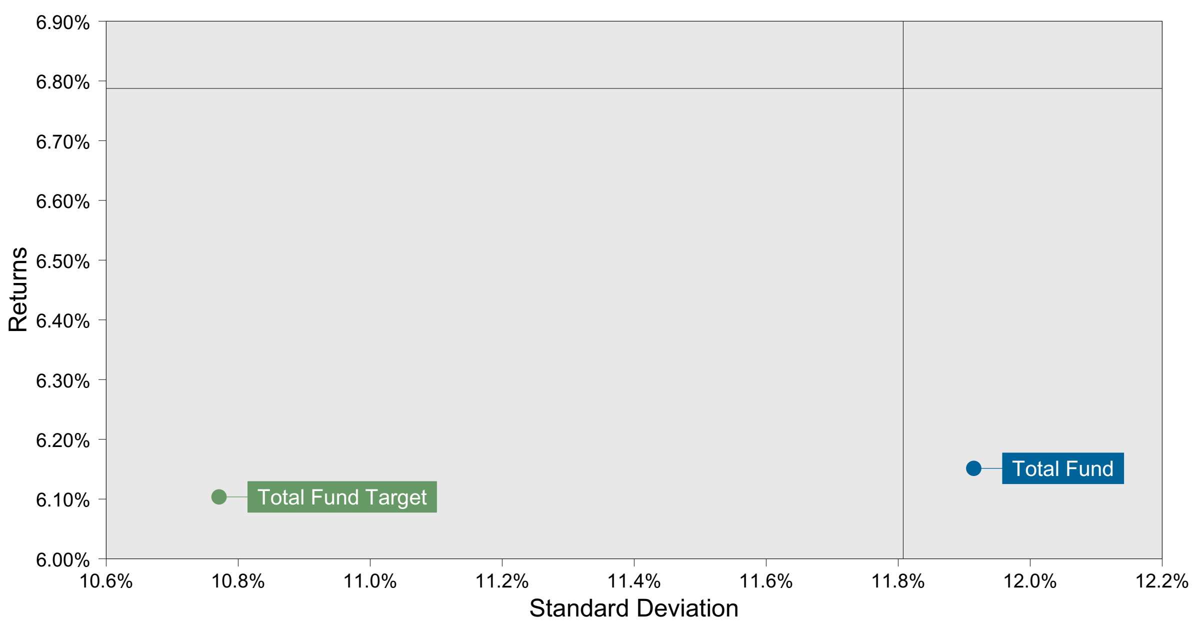
Cumulative Performance Relative to Target

The first chart below illustrates the cumulative performance of the Total Fund relative to the cumulative performance of the Fund's Target Asset Mix. The Target Mix is assumed to be rebalanced each quarter with no transaction costs. The second chart below shows the return and the risk of the Total Fund and the Target Mix, contrasted with the returns and risks of the funds in the Callan Public Fund Spons- Mid (100M-1B).

Cumulative Returns Actual vs Target



Seven Year Annualized Risk vs Return



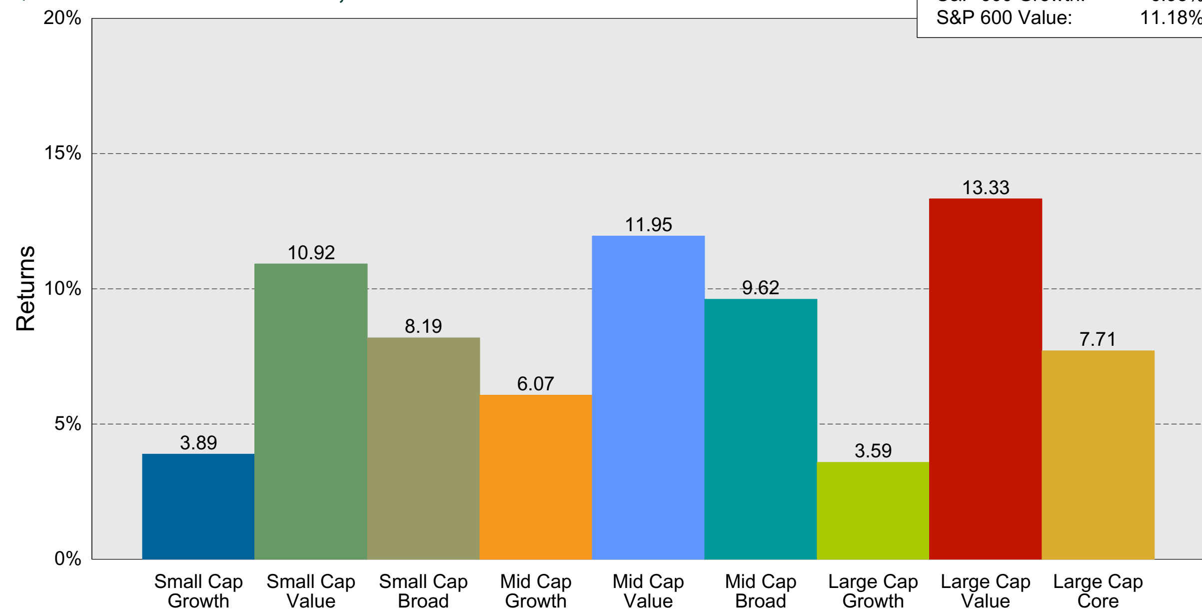
* Current Quarter Target = 35.0% Russell 3000 Index, 23.0% MSCI ACWI xUS, 19.0% Blmbg Aggregate, 8.0% HFRI FOF: Strategic Index, 6.0% Blmbg TIPS 1-10 Yr, 4.0% HFRI FOF: Conservative In, 3.0% Private Equity and 2.0% 3-month Treasury Bill.

Domestic Equity
Active Management Overview

U.S. stock indices posted positive returns in 4Q as investor sentiment improved, but the YTD results remained dismal with most indices posting double-digit declines. The S&P 500 Index rose 7.6% for the quarter, lowering its YTD loss to 18.1%. Returns were quite mixed across sectors with Energy (+22.8%) being the best and Consumer Discretionary (-10.2%) faring the worst. Value stocks trounced growth for the quarter (Russell 1000 Value: +12.4%; Russell 1000 Growth: +2.2%) and the year (Russell 1000 Value: -7.5%; Russell 1000 Growth: -29.1%). In 4Q, the Growth Index was hurt by relative underweights in Health Care, Financials, and Energy as well as significant underperformance from Tesla (-54%) and Amazon (-26%). Small cap stocks exhibited the same pattern in 4Q (Russell 2000 Value: +8.4%; Russell 2000 Growth: +4.1%) but values full year margin is smaller in the small cap space (Russell 2000 Value: -14.5%; Russell 2000 Growth: -26.4%).

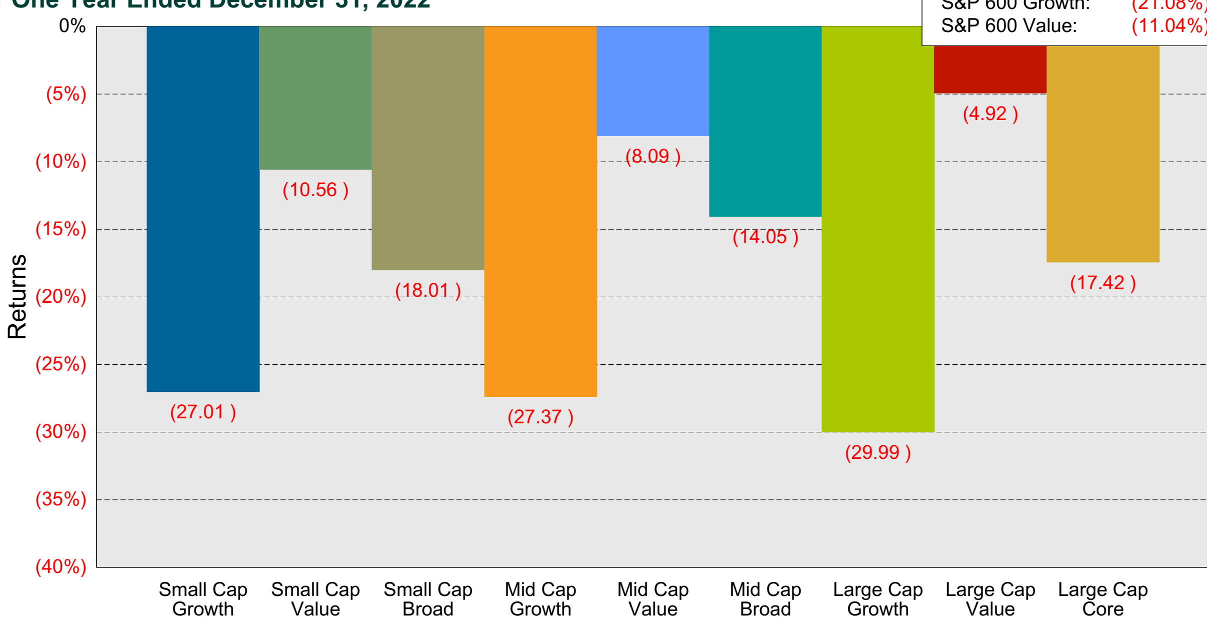
S&P 500:	7.56%
S&P 500 Growth:	1.45%
S&P 500 Value:	13.59%
S&P Mid Cap:	10.78%
S&P 600:	9.19%
S&P 600 Growth:	6.98%
S&P 600 Value:	11.18%

Separate Account Style Group Median Returns for Quarter Ended December 31, 2022



S&P 500:	(18.11%)
S&P 500 Growth:	(29.41%)
S&P 500 Value:	(5.22%)
S&P Mid Cap:	(13.06%)
S&P 600:	(16.10%)
S&P 600 Growth:	(21.08%)
S&P 600 Value:	(11.04%)

Separate Account Style Group Median Returns for One Year Ended December 31, 2022



Domestic Equity
Period Ended December 31, 2022

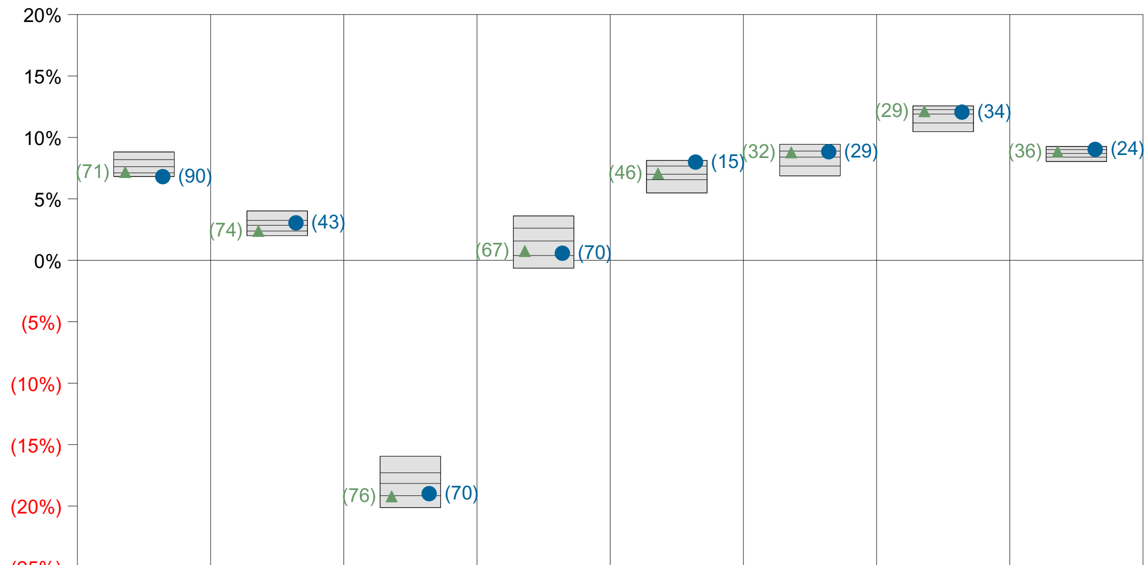
Composite Construction

The Pure US Equity composite is comprised of the BR Russell 1000 Index Non-Lendable, the LSV account and the Columbus Circle Investors Fund.

Quarterly Summary and Highlights

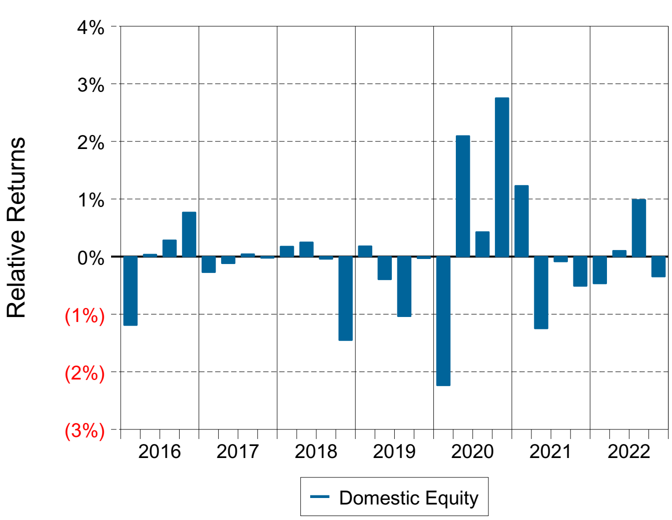
- Domestic Equity's portfolio posted a 6.81% return for the quarter placing it in the 90 percentile of the Public Fund - Domestic Equity group for the quarter and in the 70 percentile for the last year.
- Domestic Equity's portfolio underperformed the Russell 3000 Index by 0.37% for the quarter and outperformed the Russell 3000 Index for the year by 0.22%.

Performance vs Public Fund - Domestic Equity (Gross)

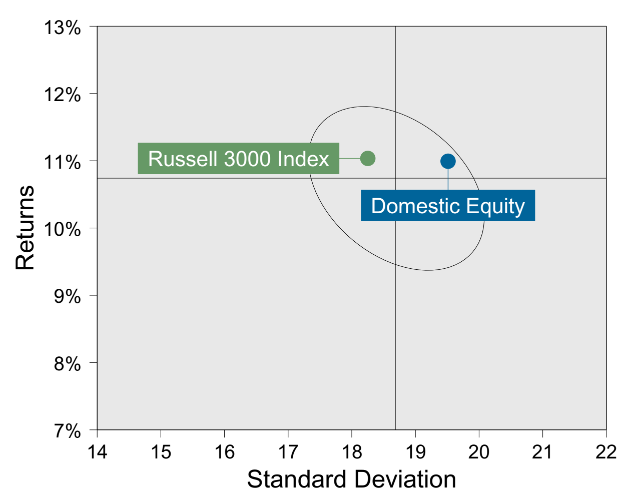


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years	Last 17-1/4 Years
10th Percentile	8.82	4.02	(15.94)	3.61	8.13	9.44	12.57	9.27
25th Percentile	8.19	3.25	(17.29)	2.62	7.67	8.89	12.26	9.00
Median	7.62	2.85	(18.16)	1.57	7.00	8.40	11.90	8.69
75th Percentile	7.11	2.38	(19.16)	0.39	6.56	7.67	11.18	8.40
90th Percentile	6.82	2.00	(20.13)	(0.64)	5.48	6.87	10.46	8.04
Domestic Equity ●	6.81	3.05	(18.99)	0.57	7.99	8.84	12.06	9.03
Russell 3000 Index ▲	7.18	2.40	(19.21)	0.76	7.07	8.79	12.13	8.85

Relative Return vs Russell 3000 Index



Public Fund - Domestic Equity (Gross)
Annualized Seven Year Risk vs Return



Domestic Equity
Equity Characteristics Analysis Summary

Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

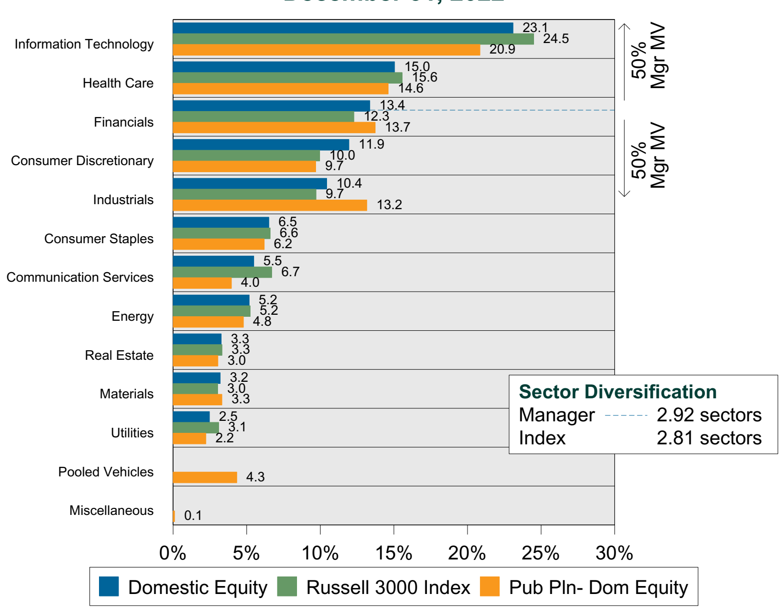
Portfolio Characteristics Percentile Rankings
Rankings Against Public Fund - Domestic Equity
as of December 31, 2022

	Weighted Median Market Cap	Price/Fore-casted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
10th Percentile	148.72	16.94	3.49	12.64	1.76	0.08
25th Percentile	109.89	16.89	3.42	12.10	1.75	0.03
Median	75.85	16.35	3.00	11.57	1.66	(0.01)
75th Percentile	53.60	15.51	2.73	10.35	1.56	(0.04)
90th Percentile	38.34	14.31	2.43	10.00	1.52	(0.19)
Domestic Equity ●	52.21	15.48	2.78	12.99	1.69	(0.00)
Russell 3000 Index ▲	111.77	17.12	3.19	10.89	1.72	(0.01)

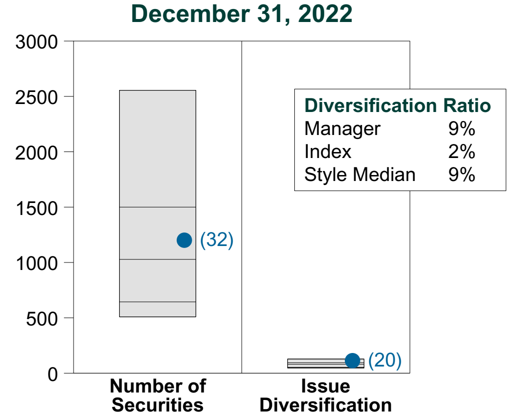
Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

Sector Allocation
December 31, 2022



Diversification
December 31, 2022



	Number of Securities	Issue Diversification
10th Percentile	2555	128
25th Percentile	1500	94
Median	1028	81
75th Percentile	644	53
90th Percentile	509	47
Domestic Equity ●	1201	113
Russell 3000 Index ▲	2959	69

Domestic Equity
Top 10 Portfolio Holdings Characteristics
as of December 31, 2022

10 Largest Holdings

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Apple Inc	Information Technology	$6,059,743	4.0%	(5.83)%	2066.94	20.48	0.71%	8.54%
Microsoft Corp	Information Technology	$5,568,491	3.7%	3.26%	1787.73	23.13	1.13%	12.50%
Amazon.Com	Consumer Discretionary	$2,316,544	1.5%	(25.66)%	856.94	51.16	0.00%	26.00%
Berkshire Hathaway Inc Del Cl B New	Financials	$1,728,508	1.1%	15.68%	401.92	20.19	0.00%	14.40%
Alphabet Inc Cl A	Communication Services	$1,647,581	1.1%	(8.09)%	527.00	16.97	0.00%	8.95%
Unitedhealth Group	Health Care	$1,539,122	1.0%	5.30%	495.37	21.25	1.24%	14.09%
Alphabet Inc Cl C	Communication Services	$1,471,906	1.0%	(7.72)%	540.01	16.99	0.00%	8.95%
Johnson & Johnson	Health Care	$1,441,806	1.0%	8.83%	461.85	17.02	2.56%	3.60%
Exxon Mobil Corp	Energy	$1,409,718	0.9%	27.35%	454.22	9.86	3.30%	25.42%
JPMorgan Chase & Co	Financials	$1,215,713	0.8%	29.49%	393.34	10.43	2.98%	(1.33)%

10 Best Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Horizon Therapeutics Pub Ltd Shs	Health Care	$80,259	0.1%	83.88%	25.83	21.03	0.00%	12.00%
Burlington Stores Inc	Consumer Discretionary	$40,619	0.0%	81.22%	13.22	32.68	0.00%	0.50%
Halliburton Co	Energy	$108,955	0.1%	60.38%	35.73	13.41	1.22%	52.95%
Universal Hlth Svcs Inc Cl B	Health Care	$27,027	0.0%	60.02%	9.04	13.02	0.57%	2.92%
Quad / Graphics Inc Com Cl A	Industrials	$13,056	0.0%	59.40%	0.16	12.00	0.00%	-
Pvh Corp	Consumer Discretionary	$112,805	0.1%	57.66%	4.47	7.91	0.21%	(0.40)%
Spectrum Brands Hldgs Inc Ne	Consumer Staples	$8,095	0.0%	57.39%	2.48	28.32	2.76%	(1.14)%
Boeing Co	Industrials	$323,695	0.2%	57.33%	113.53	80.17	0.00%	(31.46)%
Modine Mfg Co	Consumer Discretionary	$202,572	0.1%	53.48%	1.03	9.68	0.00%	(1.71)%
Under Armour Inc Cl A	Consumer Discretionary	$5,997	0.0%	52.79%	1.92	17.28	0.00%	3.11%

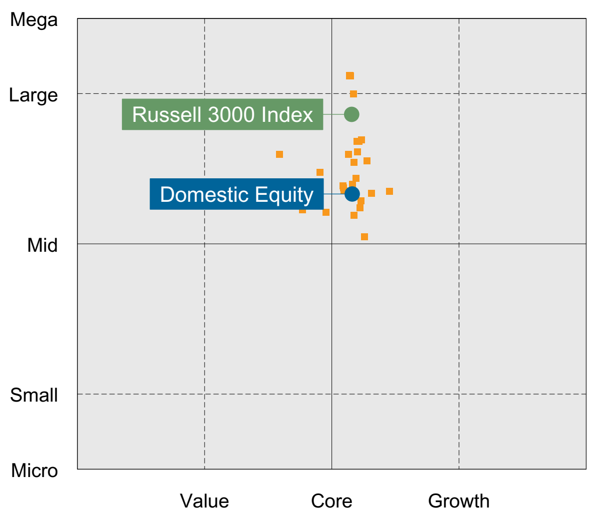
10 Worst Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Carvana Co Cl A	Consumer Discretionary	$1,464	0.0%	(76.65)%	0.50	(0.63)	0.00%	-
Opendoor Technologies Inc	Real Estate	$1,526	0.0%	(62.70)%	0.74	(0.77)	0.00%	-
Tesla Mtrs Inc	Consumer Discretionary	$988,540	0.7%	(53.56)%	388.97	22.89	0.00%	39.91%
Lucid Group Inc	Consumer Discretionary	$10,587	0.0%	(51.11)%	11.48	(5.72)	0.00%	(62.30)%
Guardant Health Inc	Health Care	$8,106	0.0%	(49.47)%	2.79	(5.17)	0.00%	-
Affirm Holdings Inc	Information Technology	$4,932	0.0%	(48.48)%	2.22	(3.14)	0.00%	(33.37)%
Wework Inc Cl A	Real Estate	$513	0.0%	(46.04)%	1.01	(1.27)	0.00%	-
Applovin Corp	Information Technology	$6,698	0.0%	(45.97)%	3.09	28.23	0.00%	100.30%
Ginkgo Bioworks Holdings Inc Cl A Sh	Health Care	$4,188	0.0%	(45.83)%	1.93	(4.68)	0.00%	-
Olaplex Holdings	Consumer Discretionary	$2,037	0.0%	(45.44)%	3.38	12.68	0.00%	27.90%

Current Holdings Based Style Analysis
Domestic Equity
As of December 31, 2022

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization segments are dictated by capitalization decile breakpoints. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

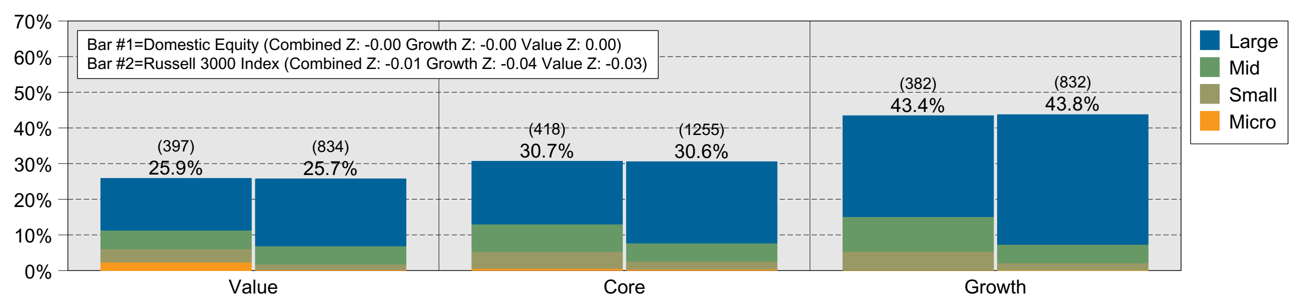
Style Map vs Pub Pln- Dom Equity
Holdings as of December 31, 2022



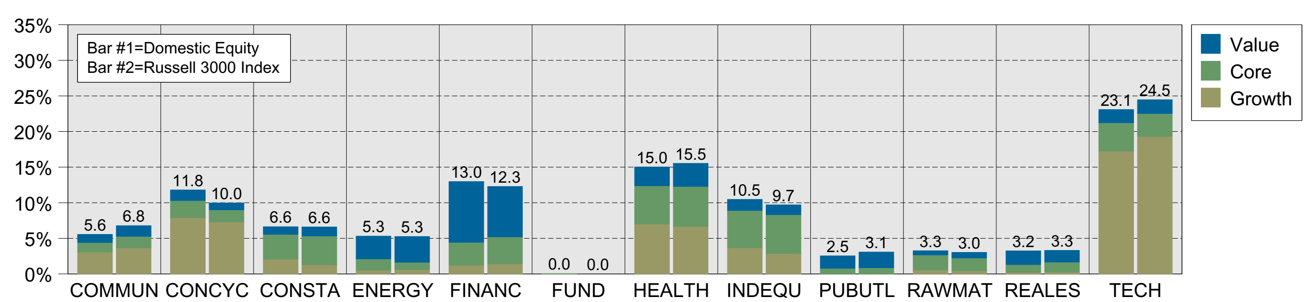
Style Exposure Matrix
Holdings as of December 31, 2022

	Value	Core	Growth	Total
Large	14.6% (91) 18.8% (91)	17.7% (95) 22.9% (95)	28.3% (105) 36.4% (106)	**60.6% (291)** **78.1% (292)**
Mid	5.2% (164) 5.1% (173)	7.7% (202) 5.1% (213)	9.7% (184) 5.2% (198)	**22.7% (550)** **15.4% (584)**
Small	3.7% (94) 1.6% (313)	4.8% (106) 2.3% (490)	5.3% (88) 2.0% (366)	**13.7% (288)** **5.8% (1169)**
Micro	2.4% (48) 0.2% (257)	0.6% (15) 0.3% (457)	0.1% (5) 0.1% (162)	**3.0% (68)** **0.7% (876)**
Total	**25.9% (397)** **25.7% (834)**	**30.7% (418)** **30.6% (1255)**	**43.4% (382)** **43.8% (832)**	**100.0% (1197)** **100.0% (2921)**

Combined Z-Score Style Distribution
Holdings as of December 31, 2022



Sector Weights Distribution
Holdings as of December 31, 2022



Russell 1000 Index Non-Lendable
Period Ended December 31, 2022

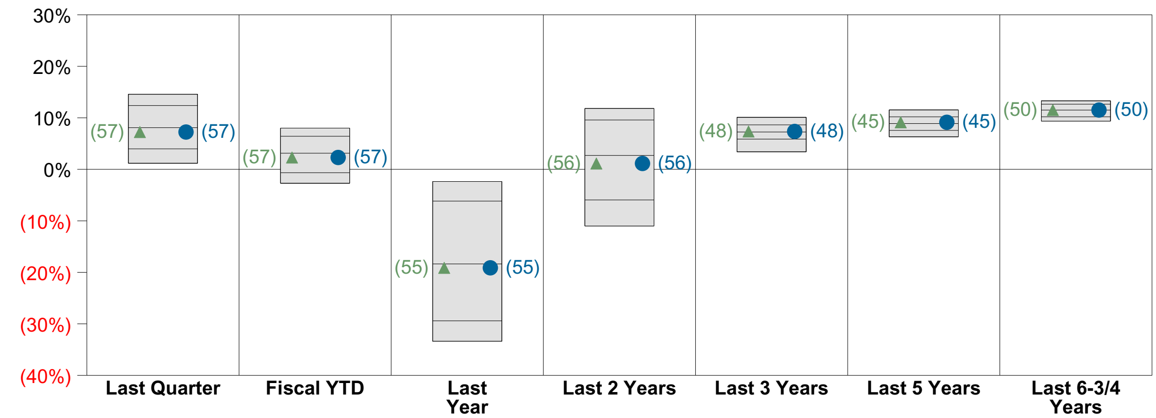
Investment Philosophy

As with all indexing strategies, the objective of the Russell 1000 Index Fund is to track the performance of its benchmark, the Russell 1000 Index. To manage the fund effectively, BlackRock focuses on three objectives: minimizing transaction costs, minimizing tracking error and minimizing risk. The Fund fully replicates the Russell 1000 Index, holding every stock in the index in its market capitalization weight to ensure close tracking and minimize transaction costs. As a fully replicating strategy, the only necessary trading is for dividend reinvestments, index changes, and to implement client contributions and redemptions, so costs can be controlled. BlackRock produces significant economies of scale for further minimizing transaction costs to clients, as the team has the ability to "cross" a majority of trades among funds tracking related US equity security universes.

Quarterly Summary and Highlights

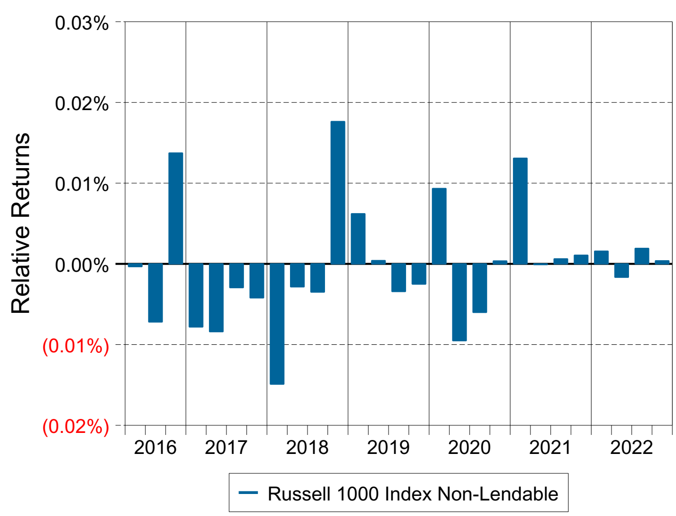
- Russell 1000 Index Non-Lendable's portfolio posted a 7.24% return for the quarter placing it in the 57 percentile of the Callan Large Capitalization group for the quarter and in the 55 percentile for the last year.
- Russell 1000 Index Non-Lendable's portfolio outperformed the Russell 1000 Index by 0.00% for the quarter and outperformed the Russell 1000 Index for the year by 0.00%.

Performance vs Callan Large Capitalization (Gross)

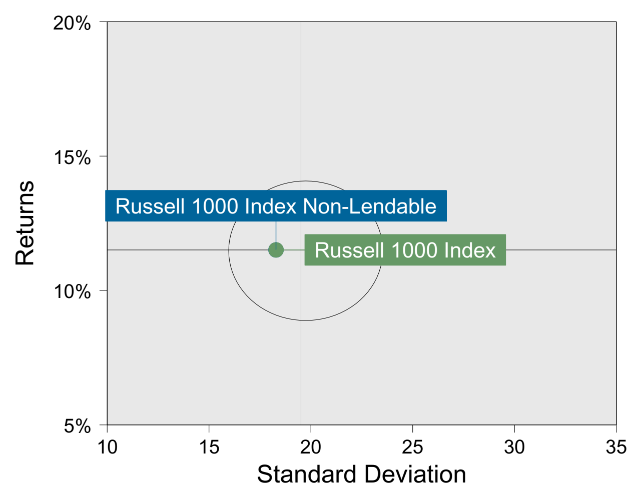


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 6-3/4 Years
10th Percentile	14.58	8.00	(2.37)	11.82	10.09	11.54	13.30
25th Percentile	12.38	6.42	(6.17)	9.58	8.64	10.19	12.65
Median	8.09	3.13	(18.37)	2.70	7.25	8.88	11.51
75th Percentile	3.98	(0.65)	(29.41)	(5.94)	5.87	7.56	10.20
90th Percentile	1.18	(2.71)	(33.38)	(11.01)	3.41	6.32	9.35
Russell 1000 Index Non-Lendable ●	7.24	2.30	(19.13)	1.14	7.35	9.13	11.51
Russell 1000 Index ▲	7.24	2.30	(19.13)	1.13	7.35	9.13	11.51

Relative Return vs Russell 1000 Index



Callan Large Capitalization (Gross)
Annualized Six and Three-Quarter Year Risk vs Return

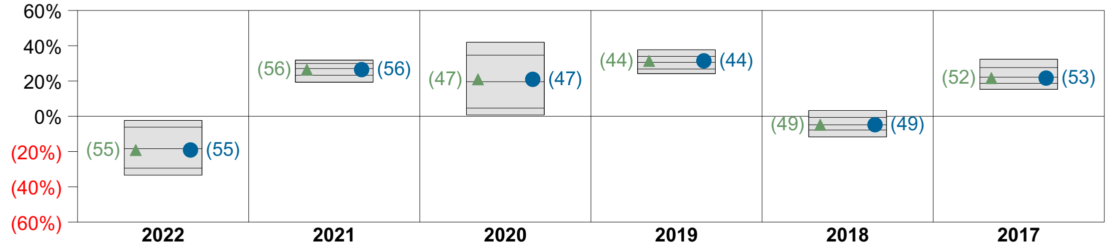


Russell 1000 Index Non-Lendable
Return Analysis Summary

Return Analysis

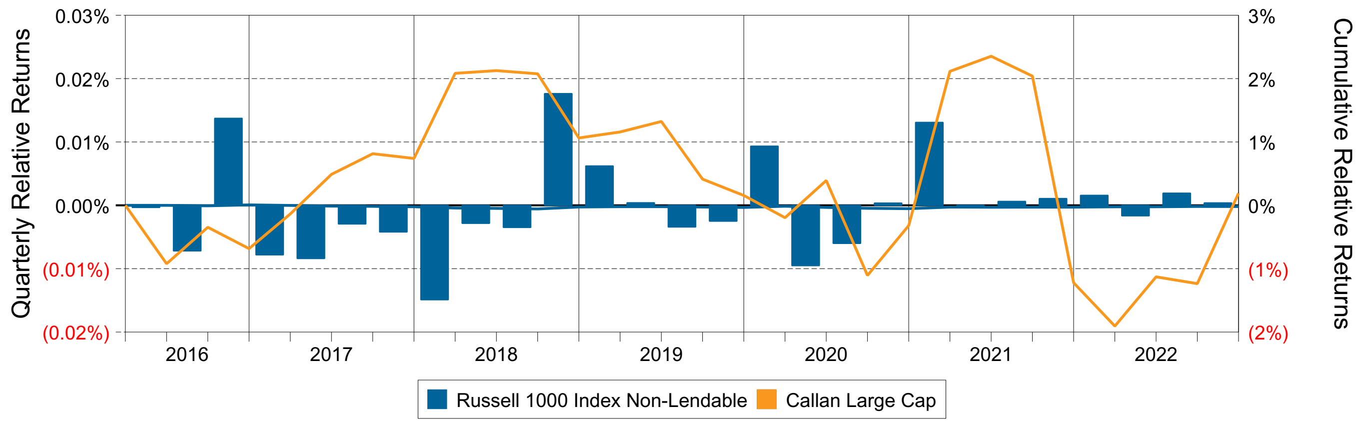
The graphs below analyze the manager’s return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager’s ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager’s ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Large Capitalization (Gross)

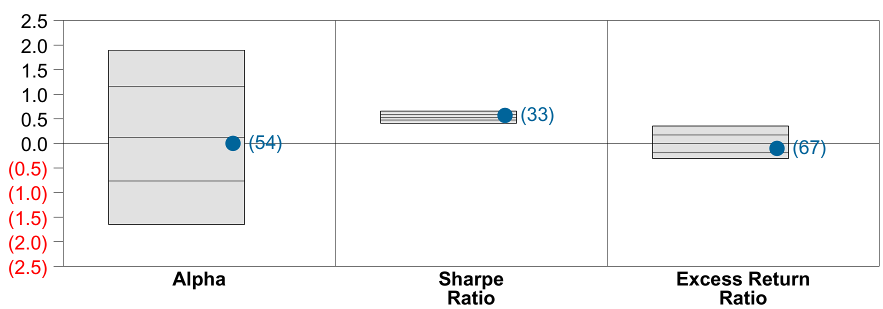


	2022	2021	2020	2019	2018	2017
10th Percentile	(2.37)	31.86	41.97	37.69	3.28	32.34
25th Percentile	(6.17)	29.93	34.65	33.97	(0.63)	27.61
Median	(18.37)	27.05	19.61	30.58	(4.85)	22.16
75th Percentile	(29.41)	23.26	4.64	26.81	(7.79)	18.68
90th Percentile	(33.38)	19.32	0.73	24.17	(11.73)	15.27
Russell 1000 Index Non-Lendable ●	(19.13)	26.47	20.96	31.43	(4.79)	21.66
Russell 1000 Index ▲	(19.13)	26.45	20.96	31.43	(4.78)	21.69

Cumulative and Quarterly Relative Returns vs Russell 1000 Index



Risk Adjusted Return Measures vs Russell 1000 Index
Rankings Against Callan Large Capitalization (Gross)
Six and Three-Quarter Years Ended December 31, 2022



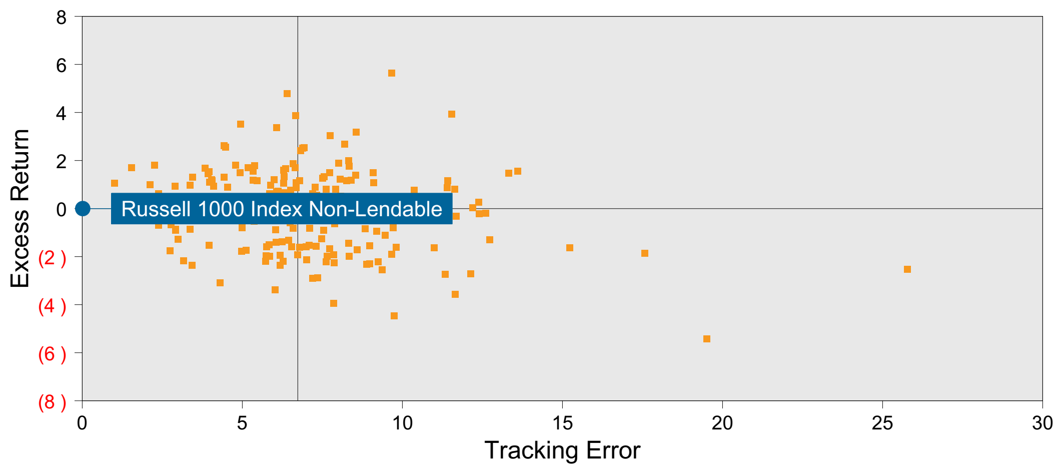
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.90	0.66	0.35
25th Percentile	1.16	0.59	0.17
Median	0.12	0.53	(0.00)
75th Percentile	(0.76)	0.48	(0.19)
90th Percentile	(1.65)	0.41	(0.31)
Russell 1000 Index Non-Lendable ●	0.00	0.57	(0.10)

Russell 1000 Index Non-Lendable
Risk Analysis Summary

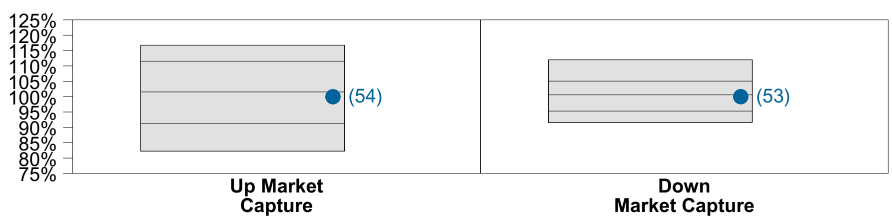
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

Risk Analysis vs Callan Large Capitalization (Gross)
Six and Three-Quarter Years Ended December 31, 2022

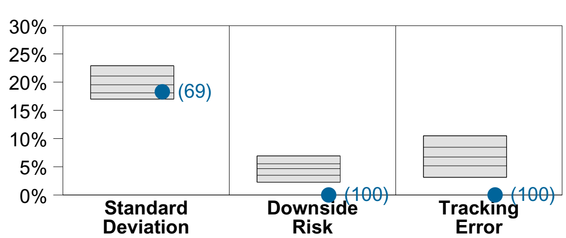


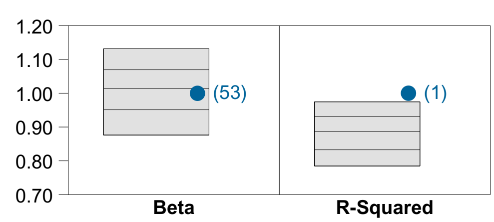
Market Capture vs Russell 1000 Index
Rankings Against Callan Large Capitalization (Gross)
Six and Three-Quarter Years Ended December 31, 2022



	Up Market Capture	Down Market Capture
10th Percentile	116.75	111.98
25th Percentile	111.53	105.05
Median	101.53	100.59
75th Percentile	91.20	95.30
90th Percentile	82.26	91.60
Russell 1000 Index Non-Lendable ●	99.97	99.99

Risk Statistics Rankings vs Russell 1000 Index
Rankings Against Callan Large Capitalization (Gross)
Six and Three-Quarter Years Ended December 31, 2022





	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	22.91	6.93	10.49
25th Percentile	21.08	5.53	8.46
Median	19.53	4.67	6.73
75th Percentile	18.10	3.50	5.17
90th Percentile	16.99	2.27	3.13
Russell 1000 Index Non-Lendable ●	18.29	0.01	0.01

	Beta	R-Squared
10th Percentile	1.13	0.97
25th Percentile	1.07	0.93
Median	1.01	0.89
75th Percentile	0.95	0.83
90th Percentile	0.88	0.78
Russell 1000 Index Non-Lendable ●	1.00	1.00

Russell 1000 Index Non-Lendable
Equity Characteristics Analysis Summary

Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

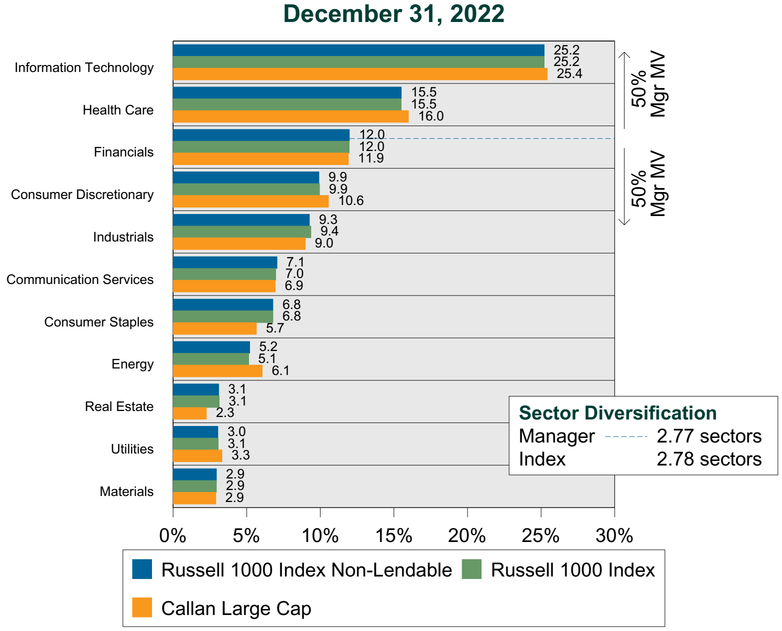
Portfolio Characteristics Percentile Rankings
Rankings Against Callan Large Capitalization
as of December 31, 2022

	Weighted Median Market Cap	Price/Fore-casted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
10th Percentile	234.84	25.48	7.10	15.65	2.63	0.98
25th Percentile	153.99	22.00	6.07	13.71	2.16	0.80
Median	109.30	16.69	3.59	11.62	1.54	0.14
75th Percentile	64.97	13.14	2.35	9.21	0.89	(0.61)
90th Percentile	45.80	11.56	1.94	7.09	0.66	(0.94)
Russell 1000 Index Non-Lendable ●	127.33	16.98	3.36	10.69	1.73	(0.00)
Russell 1000 Index ▲	127.31	17.00	3.36	10.67	1.73	(0.00)

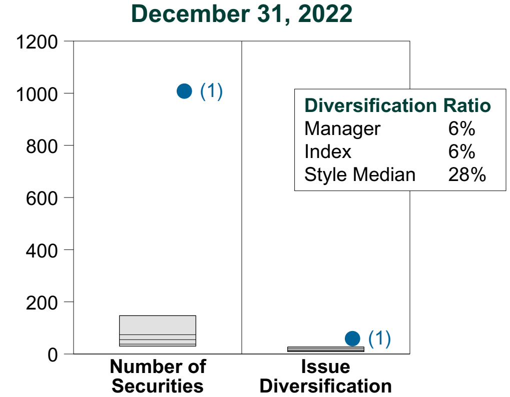
Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

Sector Allocation
December 31, 2022



Diversification
December 31, 2022



	Number of Securities	Issue Diversification
10th Percentile	147	27
25th Percentile	74	20
Median	55	14
75th Percentile	38	11
90th Percentile	30	9
Russell 1000 Index Non-Lendable ●	1008	59
Russell 1000 Index ▲	1010	59

Russell 1000 Index Non-Lendable
Top 10 Portfolio Holdings Characteristics
as of December 31, 2022

10 Largest Holdings

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Apple Inc	Information Technology	$6,059,743	5.5%	(5.83)%	2066.94	20.48	0.71%	8.54%
Microsoft Corp	Information Technology	$5,568,491	5.1%	3.26%	1787.73	23.13	1.13%	12.50%
Amazon.Com	Consumer Discretionary	$2,316,544	2.1%	(25.66)%	856.94	51.16	0.00%	26.00%
Berkshire Hathaway Inc Del Cl B New	Financials	$1,728,508	1.6%	15.68%	401.92	20.19	0.00%	14.40%
Alphabet Inc Cl A	Communication Services	$1,647,581	1.5%	(8.09)%	527.00	16.97	0.00%	8.95%
Unitedhealth Group	Health Care	$1,539,122	1.4%	5.30%	495.37	21.25	1.24%	14.09%
Alphabet Inc Cl C	Communication Services	$1,471,906	1.3%	(7.72)%	540.01	16.99	0.00%	8.95%
Johnson & Johnson	Health Care	$1,441,806	1.3%	8.83%	461.85	17.02	2.56%	3.60%
Exxon Mobil Corp	Energy	$1,409,718	1.3%	27.35%	454.22	9.86	3.30%	25.42%
JPMorgan Chase & Co	Financials	$1,215,713	1.1%	29.49%	393.34	10.43	2.98%	(1.33)%

10 Best Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Horizon Therapeutics Pub Ltd Shs	Health Care	$80,259	0.1%	83.88%	25.83	21.03	0.00%	12.00%
Burlington Stores Inc	Consumer Discretionary	$40,619	0.0%	81.22%	13.22	32.68	0.00%	0.50%
Halliburton Co	Energy	$108,955	0.1%	60.38%	35.73	13.41	1.22%	52.95%
Universal Hlth Svcs Inc Cl B	Health Care	$27,027	0.0%	60.02%	9.04	13.02	0.57%	2.92%
Pvh Corp	Consumer Discretionary	$13,979	0.0%	57.66%	4.47	7.91	0.21%	(0.40)%
Spectrum Brands Hldgs Inc Ne	Consumer Staples	$8,095	0.0%	57.39%	2.48	28.32	2.76%	(1.14)%
Boeing Co	Industrials	$323,695	0.3%	57.33%	113.53	80.17	0.00%	(31.46)%
Under Armour Inc Cl A	Consumer Discretionary	$5,997	0.0%	52.79%	1.92	17.28	0.00%	3.11%
Exact Sciences Corp	Health Care	$26,152	0.0%	52.38%	8.80	(18.95)	0.00%	-
Moderna Inc	Health Care	$185,872	0.2%	51.90%	69.01	40.05	0.00%	(49.65)%

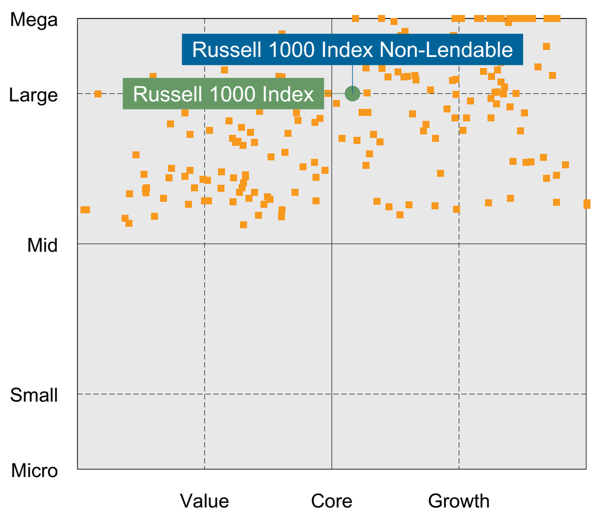
10 Worst Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Carvana Co Cl A	Consumer Discretionary	$1,464	0.0%	(76.65)%	0.50	(0.63)	0.00%	-
Opendoor Technologies Inc	Real Estate	$1,526	0.0%	(62.70)%	0.74	(0.77)	0.00%	-
Tesla Mtrs Inc	Consumer Discretionary	$988,540	0.9%	(53.56)%	388.97	22.89	0.00%	39.91%
Lucid Group Inc	Consumer Discretionary	$10,587	0.0%	(51.11)%	11.48	(5.72)	0.00%	(62.30)%
Guardant Health Inc	Health Care	$8,106	0.0%	(49.47)%	2.79	(5.17)	0.00%	-
Affirm Holdings Inc	Information Technology	$4,932	0.0%	(48.48)%	2.22	(3.14)	0.00%	(33.37)%
Wework Inc Cl A	Real Estate	$513	0.0%	(46.04)%	1.01	(1.27)	0.00%	-
Applovin Corp	Information Technology	$6,698	0.0%	(45.97)%	3.09	28.23	0.00%	100.30%
Ginkgo Bioworks Holdings Inc Cl A Sh	Health Care	$4,188	0.0%	(45.83)%	1.93	(4.68)	0.00%	-
Olaplex Holdings	Consumer Discretionary	$2,037	0.0%	(45.44)%	3.38	12.68	0.00%	27.90%

Current Holdings Based Style Analysis
Russell 1000 Index Non-Lendable
As of December 31, 2022

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization segments are dictated by capitalization decile breakpoints. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

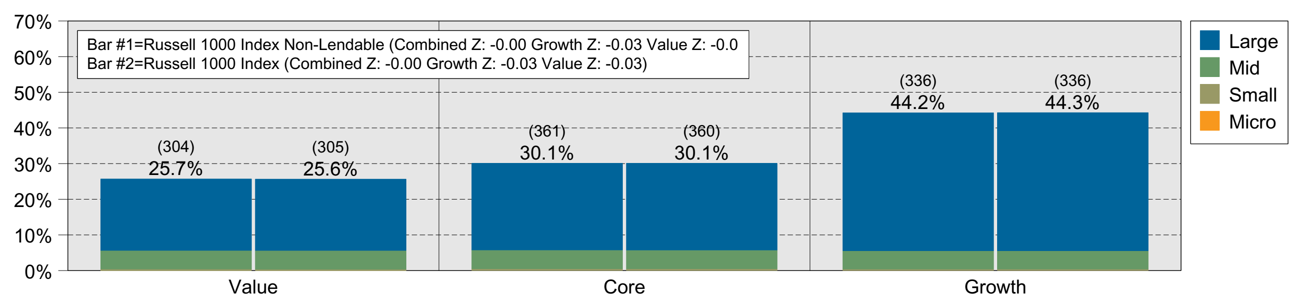
Style Map vs Callan Large Cap
Holdings as of December 31, 2022



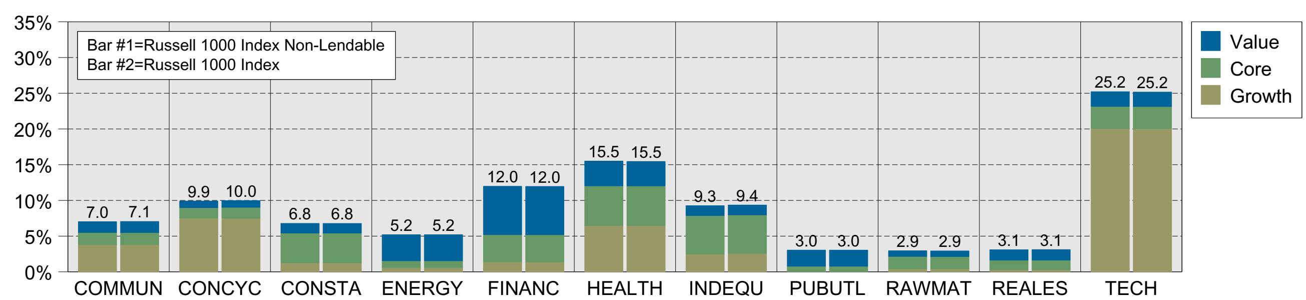
Style Exposure Matrix
Holdings as of December 31, 2022

	Value	Core	Growth	Total
Large	20.0% (91) 20.0% (91)	24.3% (95) 24.3% (95)	38.7% (105) 38.7% (106)	**83.0% (291)** **83.0% (292)**
Mid	5.2% (161) 5.2% (162)	5.3% (197) 5.2% (197)	5.2% (174) 5.1% (173)	**15.7% (532)** **15.6% (532)**
Small	0.4% (52) 0.4% (52)	0.5% (69) 0.5% (68)	0.4% (57) 0.4% (57)	**1.4% (178)** **1.4% (177)**
Micro	0.0% (0) 0.0% (0)	0.0% (0) 0.0% (0)	0.0% (0) 0.0% (0)	**0.0% (0)** **0.0% (0)**
Total	**25.7% (304)** **25.6% (305)**	**30.1% (361)** **30.1% (360)**	**44.2% (336)** **44.3% (336)**	**100.0% (1001)** **100.0% (1001)**

Combined Z-Score Style Distribution
Holdings as of December 31, 2022



Sector Weights Distribution
Holdings as of December 31, 2022

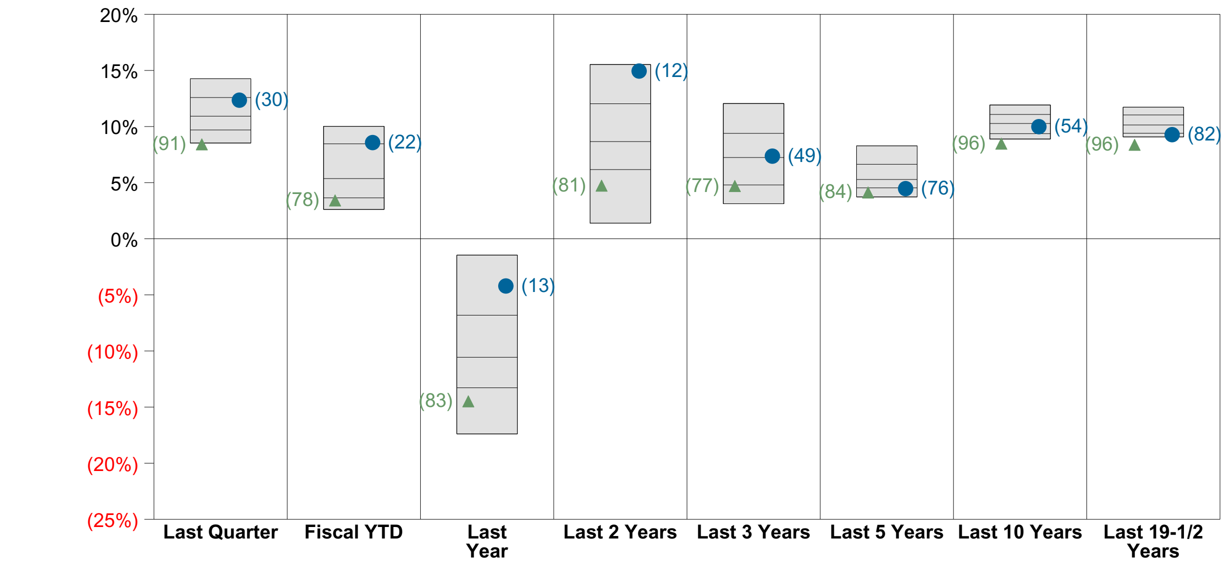


LSV
Period Ended December 31, 2022

Investment Philosophy
LSV Asset Management seeks to systematically exploit the judgmental biases and behavioral weaknesses that influence the market. The strategy's primary emphasis is the use of quantative techniques to select individual securities in what would be considered a bottom-up approach.

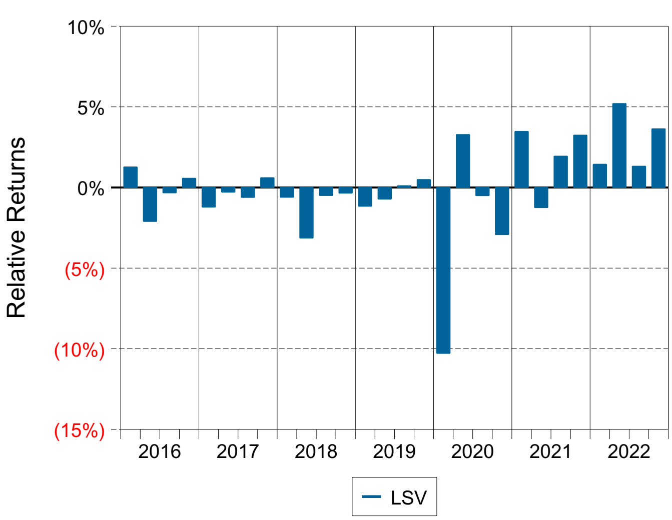
Quarterly Summary and Highlights
- LSV's portfolio posted a 12.35% return for the quarter placing it in the 30 percentile of the Callan Small Cap Value group for the quarter and in the 13 percentile for the last year.
- LSV's portfolio outperformed the Russell 2000 Value Index by 3.93% for the quarter and outperformed the Russell 2000 Value Index for the year by 10.27%.

Performance vs Callan Small Cap Value (Gross)

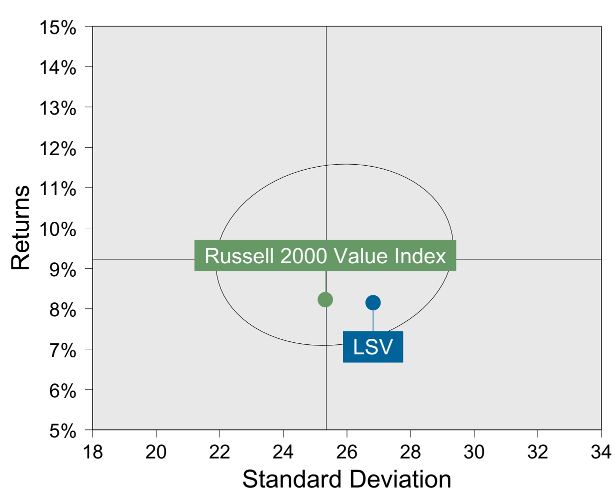


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years	Last 19-1/2 Years
10th Percentile	14.26	10.02	(1.46)	15.53	12.05	8.28	11.92	11.73
25th Percentile	12.59	8.46	(6.81)	12.03	9.39	6.64	11.08	11.03
Median	10.92	5.36	(10.56)	8.66	7.24	5.28	10.27	10.14
75th Percentile	9.70	3.65	(13.28)	6.16	4.80	4.54	9.37	9.41
90th Percentile	8.53	2.61	(17.39)	1.39	3.12	3.73	8.89	9.08
LSV ●	12.35	8.57	(4.21)	14.94	7.36	4.47	9.99	9.28
Russell 2000 Value Index ▲	8.42	3.42	(14.48)	4.73	4.70	4.13	8.48	8.38

Relative Return vs Russell 2000 Value Index



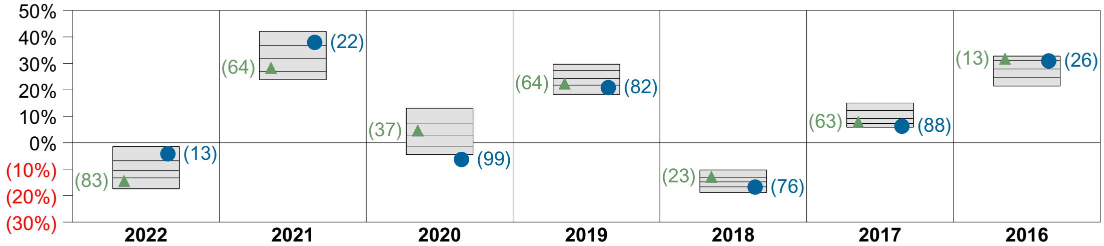
Callan Small Cap Value (Gross)
Annualized Seven Year Risk vs Return



Return Analysis

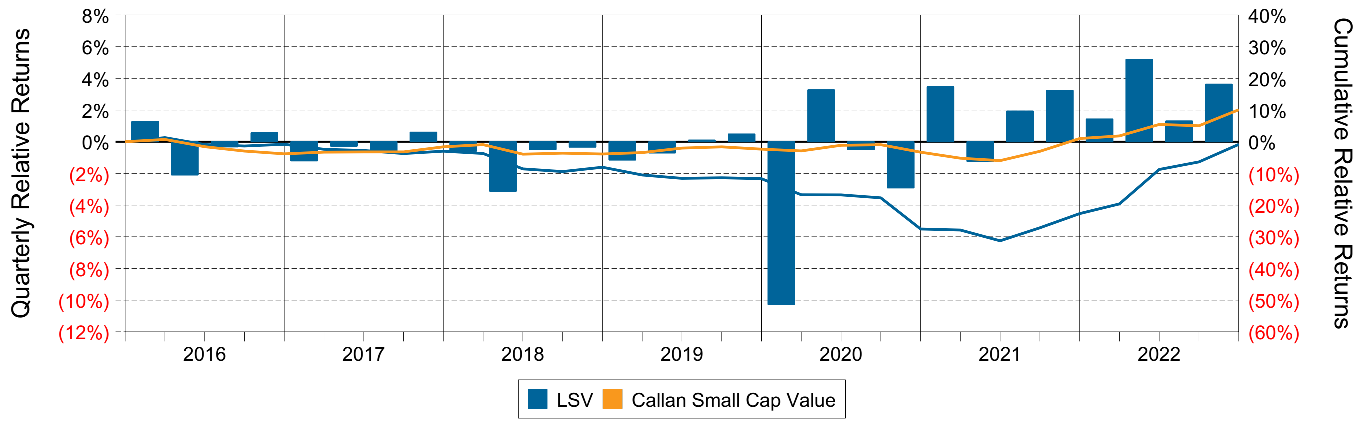
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Small Cap Value (Gross)

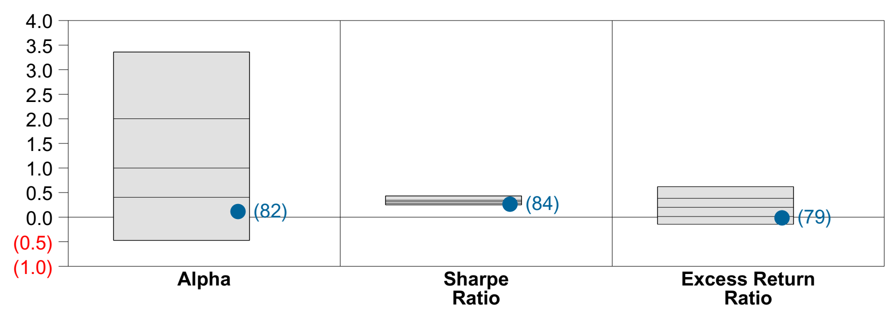


	2022	2021	2020	2019	2018	2017	2016
10th Percentile	(1.46)	42.10	13.07	29.67	(10.31)	15.02	32.76
25th Percentile	(6.81)	36.79	7.41	27.31	(13.10)	12.21	31.15
Median	(10.56)	31.82	2.88	24.31	(14.79)	9.18	27.88
75th Percentile	(13.28)	26.90	(1.30)	21.75	(16.68)	7.28	24.62
90th Percentile	(17.39)	23.81	(4.50)	18.32	(18.80)	5.88	21.43
LSV ●	(4.21)	37.93	(6.34)	20.83	(16.78)	6.23	30.92
Russell 2000 Value Index ▲	(14.48)	28.27	4.63	22.39	(12.86)	7.84	31.74

Cumulative and Quarterly Relative Returns vs Russell 2000 Value Index



Risk Adjusted Return Measures vs Russell 2000 Value Index
Rankings Against Callan Small Cap Value (Gross)
Seven Years Ended December 31, 2022

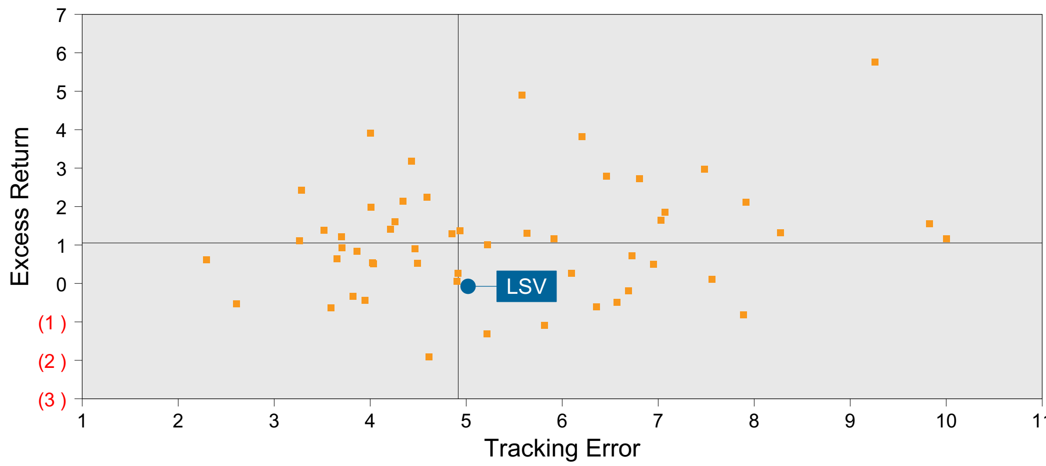


	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	3.36	0.43	0.62
25th Percentile	2.00	0.35	0.38
Median	1.00	0.31	0.20
75th Percentile	0.40	0.28	0.01
90th Percentile	(0.47)	0.25	(0.14)
LSV ●	0.11	0.26	(0.02)

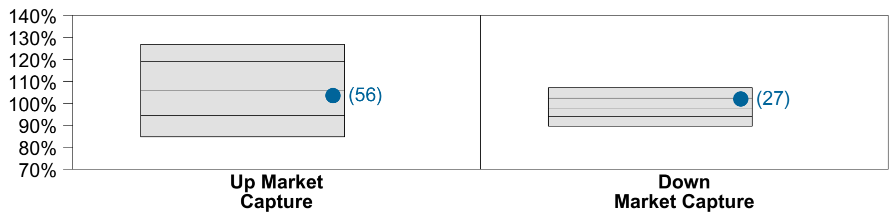
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

Risk Analysis vs Callan Small Cap Value (Gross)
Seven Years Ended December 31, 2022

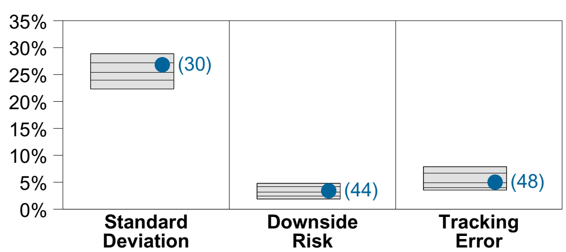


Market Capture vs Russell 2000 Value Index
Rankings Against Callan Small Cap Value (Gross)
Seven Years Ended December 31, 2022

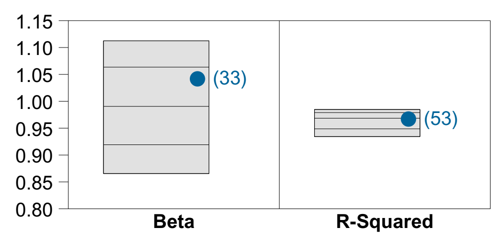


	Up Market Capture	Down Market Capture
10th Percentile	126.78	107.10
25th Percentile	119.06	102.36
Median	105.70	97.85
75th Percentile	94.43	94.06
90th Percentile	84.78	89.62
LSV ●	103.53	101.99

Risk Statistics Rankings vs Russell 2000 Value Index
Rankings Against Callan Small Cap Value (Gross)
Seven Years Ended December 31, 2022



	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	28.86	4.81	7.89
25th Percentile	27.18	4.19	6.69
Median	25.41	3.18	4.92
75th Percentile	23.96	2.44	4.00
90th Percentile	22.32	1.89	3.55
LSV ●	26.82	3.42	5.02



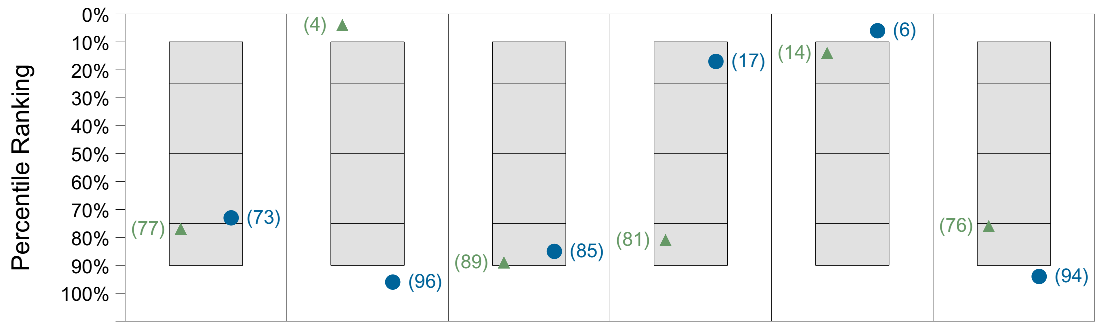
	Beta	R-Squared
10th Percentile	1.11	0.98
25th Percentile	1.06	0.98
Median	0.99	0.97
75th Percentile	0.92	0.95
90th Percentile	0.87	0.93
LSV ●	1.04	0.97

LSV
Equity Characteristics Analysis Summary

Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings
Rankings Against Callan Small Cap Value
as of December 31, 2022

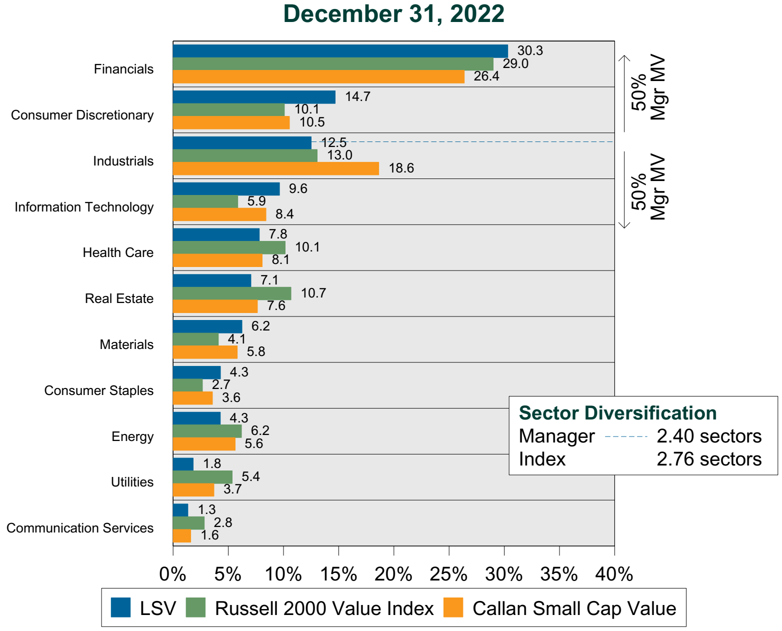


	Weighted Median Market Cap	Price/Fore-casted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
10th Percentile	3.68	13.43	1.78	17.58	2.46	(0.34)
25th Percentile	3.43	12.44	1.68	15.00	2.01	(0.44)
Median	2.75	11.44	1.57	13.86	1.81	(0.55)
75th Percentile	2.16	10.33	1.33	11.14	1.63	(0.66)
90th Percentile	1.52	9.44	1.15	7.00	1.51	(0.81)
LSV ●	2.17	8.62	1.28	15.71	2.84	(0.86)
Russell 2000 Value Index ▲	2.07	15.89	1.25	9.66	2.23	(0.67)

Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

Sector Allocation
December 31, 2022



Diversification
December 31, 2022

	Number of Securities	Issue Diversification
10th Percentile	386	73
25th Percentile	142	49
Median	101	32
75th Percentile	68	22
90th Percentile	45	15
LSV ●	210	63
Russell 2000 Value Index ▲	1383	203

LSV
Top 10 Portfolio Holdings Characteristics
as of December 31, 2022

10 Largest Holdings

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
National Fuel Gas Co N J	Utilities	$322,830	1.5%	3.61%	5.79	8.97	3.00%	12.92%
Ironwood Pharmaceuticals Inc Com Cl	Health Care	$298,599	1.4%	19.59%	1.90	11.85	0.00%	20.11%
Atkore Intl Group Inc	Industrials	$294,892	1.3%	45.76%	4.52	7.74	0.00%	72.50%
Cno Finl Group Inc	Financials	$265,060	1.2%	27.94%	2.61	9.84	2.45%	9.71%
Greif Inc Cl A	Materials	$261,534	1.2%	13.42%	1.72	10.62	2.98%	19.82%
Ingles Mkts Inc Cl A	Consumer Staples	$260,442	1.2%	22.02%	1.39	6.72	0.68%	57.21%
Comstock Res Inc	Energy	$257,748	1.2%	(20.16)%	3.80	3.10	3.65%	50.73%
Prestige Consumer Health	Health Care	$256,660	1.2%	25.63%	3.10	14.23	0.00%	11.60%
United Therapeutics Corp	Health Care	$250,281	1.1%	32.82%	12.67	14.24	0.00%	(6.93)%
Pdc Energy Inc	Energy	$241,224	1.1%	11.61%	5.85	3.83	2.21%	116.19%

10 Best Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Quad / Graphics Inc Com Cl A	Industrials	$13,056	0.1%	59.40%	0.16	12.00	0.00%	-
Pvh Corp	Consumer Discretionary	$98,826	0.5%	57.66%	4.47	7.91	0.21%	(0.40)%
Modine Mfg Co	Consumer Discretionary	$202,572	0.9%	53.48%	1.03	9.68	0.00%	(1.71)%
Genworth Financial A	Financials	$43,378	0.2%	51.14%	2.63	6.18	0.00%	3.21%
Super Micro Computer Inc	Information Technology	$61,575	0.3%	49.08%	4.34	8.66	0.00%	57.68%
Wabash National Corp	Industrials	$115,260	0.5%	45.94%	1.08	9.45	1.42%	(11.90)%
Atkore Intl Group Inc	Industrials	$294,892	1.3%	45.76%	4.52	7.74	0.00%	72.50%
Collegium Pharmaceutical Inc Common	Health Care	$83,520	0.4%	44.82%	0.78	14.94	0.00%	(8.54)%
Service Pptys Tr Com Sh Ben Int	Real Estate	$36,450	0.2%	44.20%	1.21	(10.12)	10.97%	(33.52)%
Amkor Technology Inc	Information Technology	$215,820	1.0%	41.03%	5.87	8.53	1.25%	7.49%

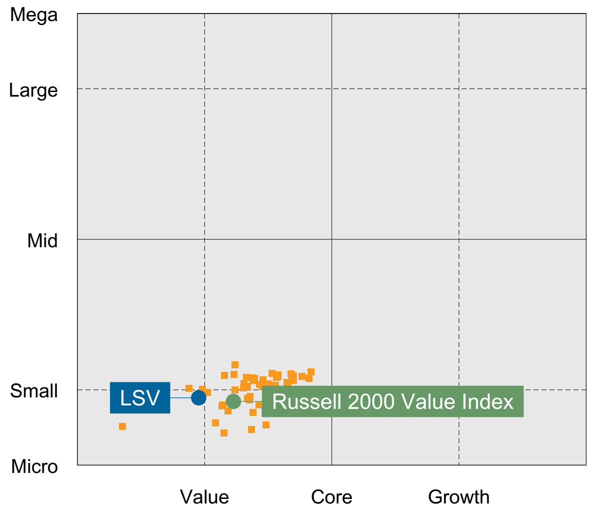
10 Worst Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Emergent Biosolutions Inc	Health Care	$19,132	0.1%	(43.73)%	0.59	15.08	0.00%	(25.30)%
Audacy Inc Cl A	Communication Services	$4,615	0.0%	(41.74)%	0.03	(9.00)	0.00%	(30.76)%
Industrial Logistics Pptys T Com Shs	Real Estate	$11,994	0.1%	(40.44)%	0.21	(1.99)	1.22%	7.37%
Ashford Hospitality Tr Inc Com Shs	Real Estate	$885	0.0%	(34.42)%	0.15	(0.95)	0.00%	57.69%
Amc Networks Inc Cl A	Communication Services	$36,041	0.2%	(22.82)%	0.49	2.32	0.00%	(0.60)%
Gray Television Inc	Communication Services	$24,170	0.1%	(21.32)%	0.96	11.02	2.86%	10.43%
Altice USA Inc Cl A	Communication Services	$21,620	0.1%	(21.10)%	1.25	5.67	0.00%	(18.89)%
Comstock Res Inc	Energy	$257,748	1.2%	(20.16)%	3.80	3.10	3.65%	50.73%
Qurate Retail Inc	Consumer Discretionary	$11,247	0.1%	(18.90)%	0.61	3.27	0.00%	(8.20)%
Nacco Industries A	Energy	$57,000	0.3%	(18.83)%	0.22	4.61	2.18%	16.93%

Current Holdings Based Style Analysis
LSV
As of December 31, 2022

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization segments are dictated by capitalization decile breakpoints. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

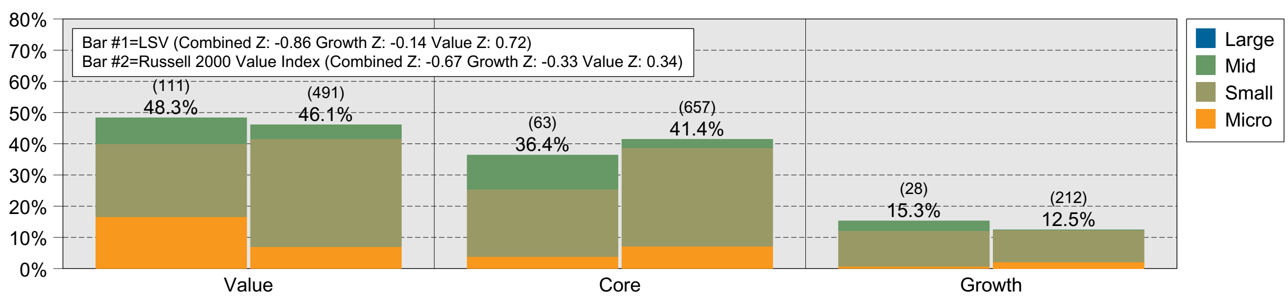
Style Map vs Callan Small Cap Value
Holdings as of December 31, 2022



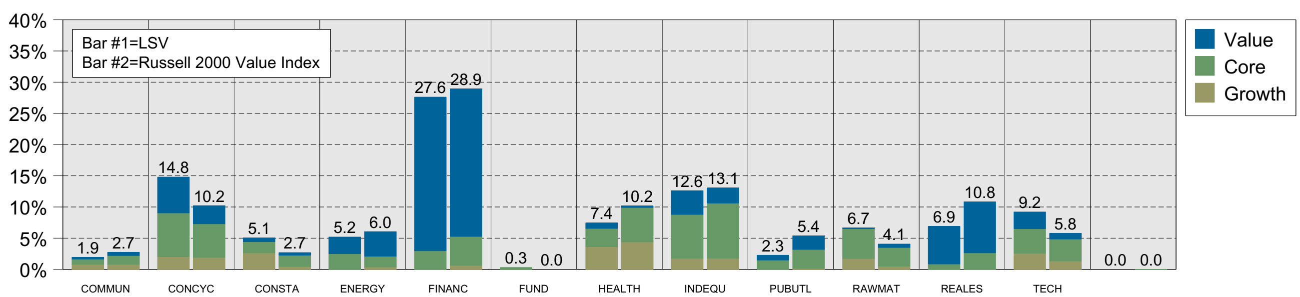
Style Exposure Matrix
Holdings as of December 31, 2022

	Value	Core	Growth	**Total**
Large	0.0% (0) 0.0% (0)	0.0% (0) 0.0% (0)	0.0% (0) 0.0% (0)	**0.0% (0)** **0.0% (0)**
Mid	8.3% (14) 4.5% (11)	11.0% (16) 2.7% (8)	3.1% (5) 0.1% (2)	**22.4% (35)** **7.4% (21)**
Small	23.4% (50) 34.6% (239)	21.6% (34) 31.6% (295)	11.5% (19) 10.2% (122)	**56.4% (103)** **76.4% (656)**
Micro	16.6% (47) 7.0% (241)	3.8% (13) 7.1% (354)	0.7% (4) 2.1% (88)	**21.1% (64)** **16.2% (683)**
Total	**48.3% (111)** **46.1% (491)**	**36.4% (63)** **41.4% (657)**	**15.3% (28)** **12.5% (212)**	**100.0% (202)** **100.0% (1360)**

Combined Z-Score Style Distribution
Holdings as of December 31, 2022



Sector Weights Distribution
Holdings as of December 31, 2022



Columbus Circle Investors
Period Ended December 31, 2022

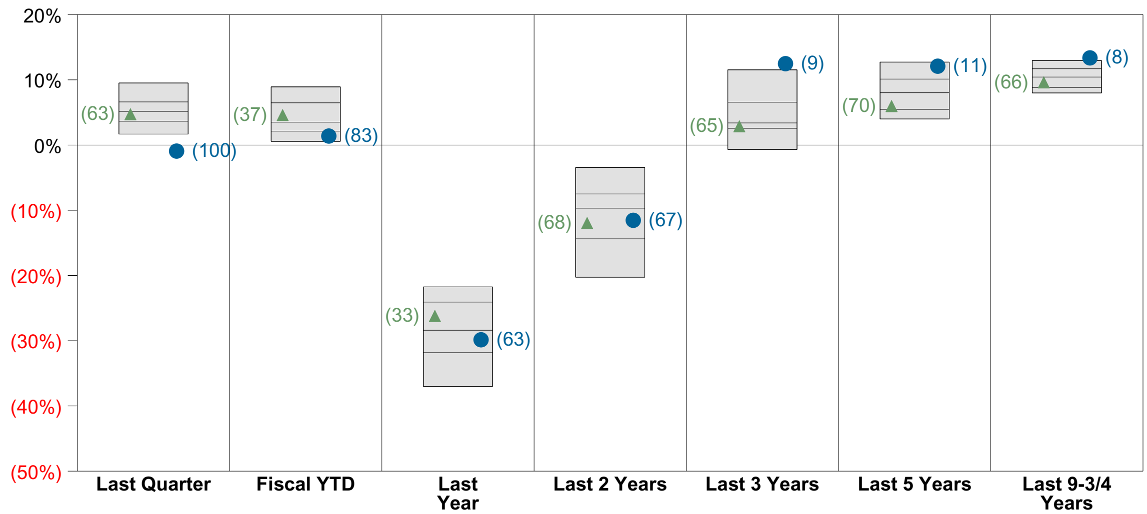
Investment Philosophy

The investment philosophy of Columbus Circle Investors (CCI) is based on the premise that companies doing better than expected will have rising securities prices, while companies producing less than expected results will not. They refer to their discipline as Positive Momentum & Positive Surprise. Analysis of company's fundamentals in the context of the prevailing economic environment allows CCI to measure and select companies based on the criteria of this discipline.

Quarterly Summary and Highlights

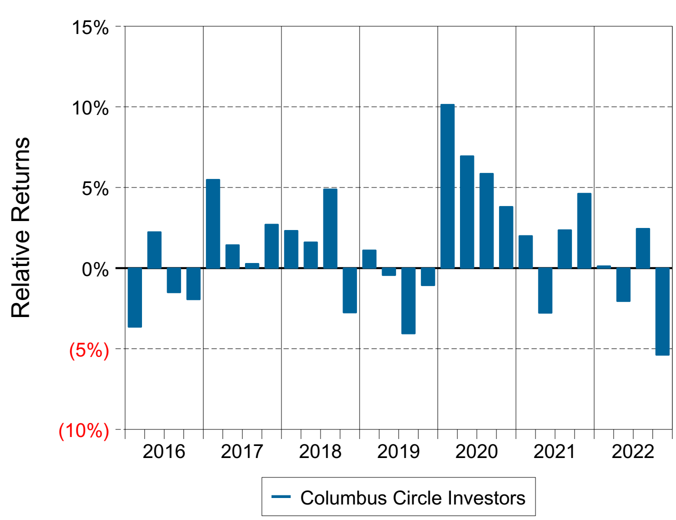
- Columbus Circle Investors's portfolio posted a (0.93)% return for the quarter placing it in the 100 percentile of the Callan Small/MidCap Growth group for the quarter and in the 63 percentile for the last year.
- Columbus Circle Investors's portfolio underperformed the Russell 2500 Growth Index by 5.64% for the quarter and underperformed the Russell 2500 Growth Index for the year by 3.65%.

Performance vs Callan Small/MidCap Growth (Gross)

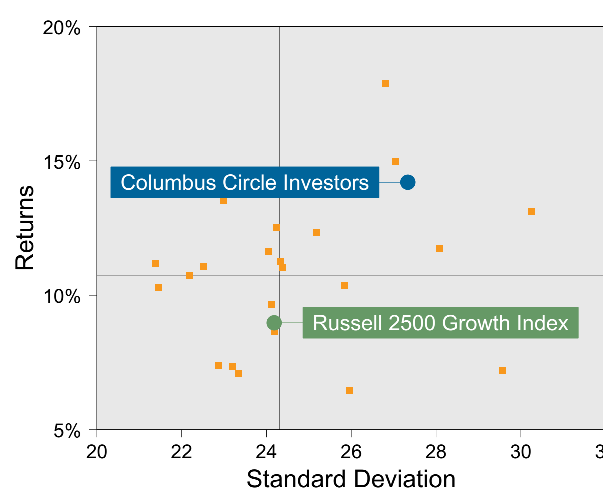


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 9-3/4 Years
10th Percentile	9.52	8.92	(21.75)	(3.44)	11.54	12.72	12.97
25th Percentile	6.62	6.48	(24.08)	(7.50)	6.57	10.12	11.70
Median	5.17	3.51	(28.40)	(9.68)	3.39	8.02	10.43
75th Percentile	3.65	2.13	(31.83)	(14.38)	2.57	5.47	8.83
90th Percentile	1.68	0.57	(37.01)	(20.26)	(0.67)	4.00	7.99
Columbus Circle Investors ●	(0.93)	1.38	(29.86)	(11.54)	12.48	12.09	13.37
Russell 2500 Growth Index ▲	4.72	4.59	(26.21)	(11.96)	2.88	5.97	9.60

Relative Return vs Russell 2500 Growth Index



Callan Small/MidCap Growth (Gross)
Annualized Seven Year Risk vs Return

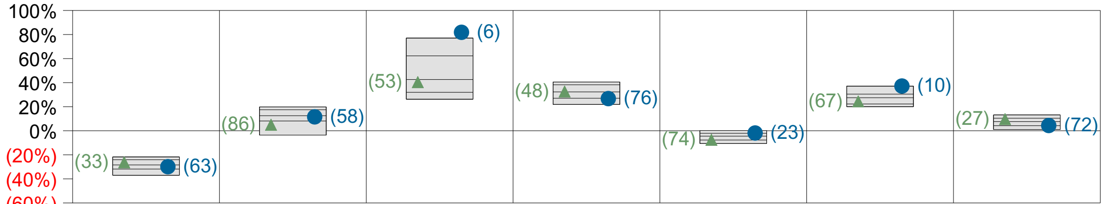


Columbus Circle Investors
Return Analysis Summary

Return Analysis

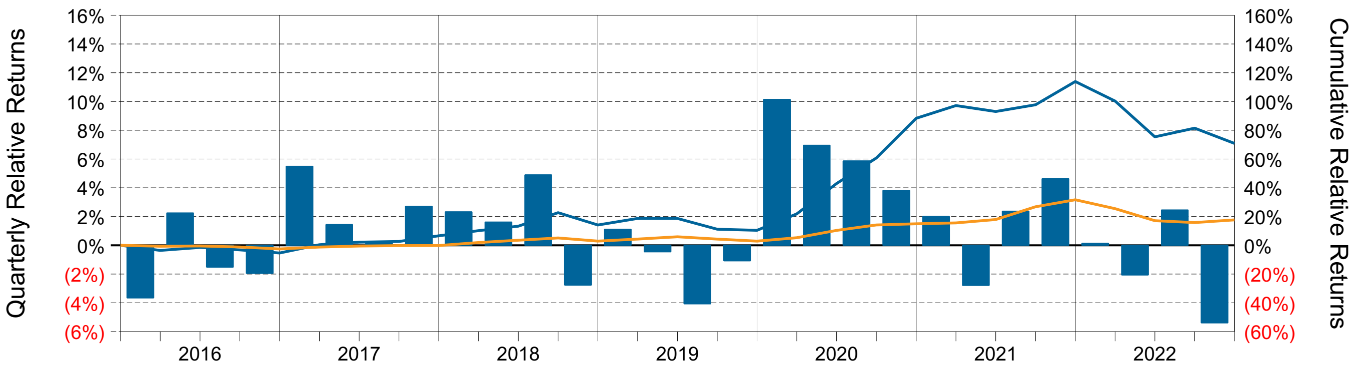
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Small/MidCap Growth (Gross)

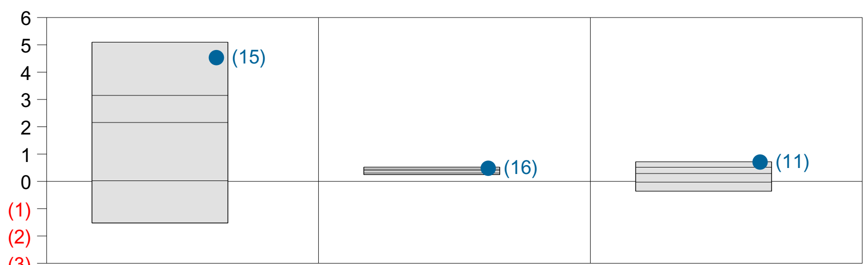


	2022	2021	2020	2019	2018	2017	2016
10th Percentile	(21.75)	19.80	77.07	40.53	0.15	37.09	13.19
25th Percentile	(24.08)	17.49	62.26	38.24	(2.12)	30.44	10.40
Median	(28.40)	12.52	42.60	32.31	(4.49)	27.46	7.59
75th Percentile	(31.83)	8.13	31.96	27.02	(7.68)	22.26	4.22
90th Percentile	(37.01)	(3.59)	26.20	21.88	(10.62)	20.01	1.00
Columbus Circle Investors ●	(29.86)	11.56	81.85	26.73	(1.87)	37.17	4.38
Russell 2500 Growth Index ▲	(26.21)	5.04	40.47	32.65	(7.47)	24.46	9.73

Cumulative and Quarterly Relative Returns vs Russell 2500 Growth Index



Risk Adjusted Return Measures vs Russell 2500 Growth Index
Rankings Against Callan Small/MidCap Growth (Gross)
Seven Years Ended December 31, 2022



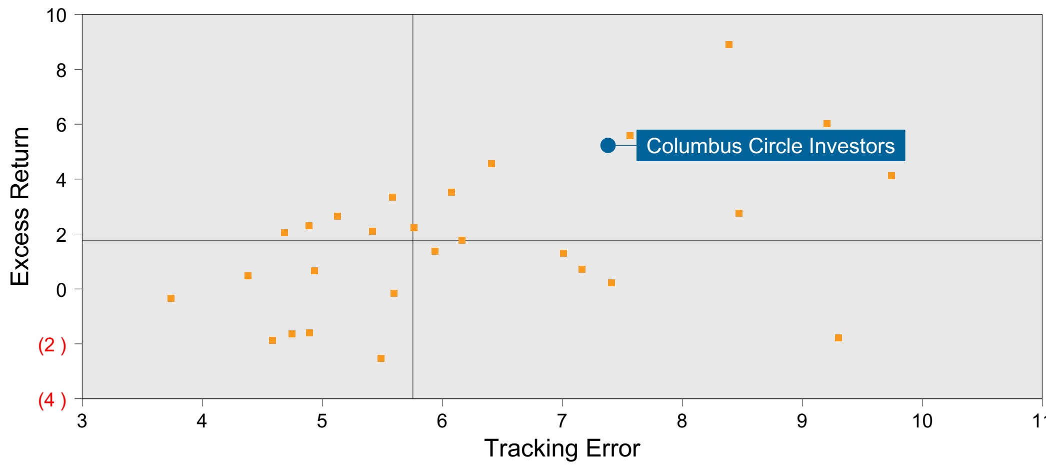
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	5.10	0.52	0.72
25th Percentile	3.15	0.45	0.52
Median	2.16	0.40	0.29
75th Percentile	0.02	0.31	(0.03)
90th Percentile	(1.52)	0.25	(0.36)
Columbus Circle Investors ●	4.53	0.48	0.71

Columbus Circle Investors
Risk Analysis Summary

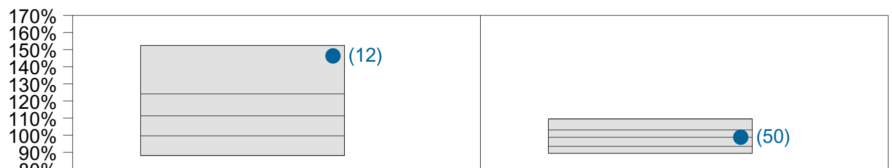
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

Risk Analysis vs Callan Small/MidCap Growth (Gross)
Seven Years Ended December 31, 2022

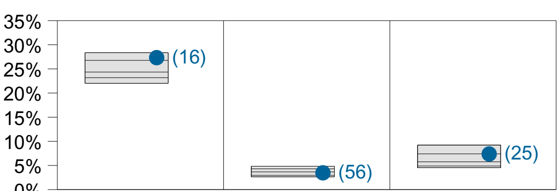


Market Capture vs Russell 2500 Growth Index
Rankings Against Callan Small/MidCap Growth (Gross)
Seven Years Ended December 31, 2022

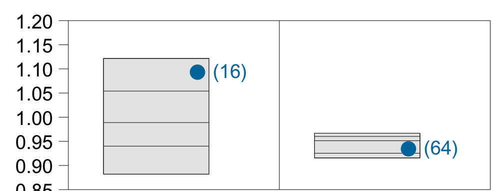


	Up Market Capture	Down Market Capture
10th Percentile	152.43	109.51
25th Percentile	124.14	103.07
Median	111.32	98.80
75th Percentile	99.60	93.51
90th Percentile	88.10	89.44
Columbus Circle Investors ●	146.33	98.83

Risk Statistics Rankings vs Russell 2500 Growth Index
Rankings Against Callan Small/MidCap Growth (Gross)
Seven Years Ended December 31, 2022



	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	28.36	4.84	9.22
25th Percentile	26.78	4.30	7.40
Median	24.35	3.67	5.76
75th Percentile	23.19	2.95	4.89
90th Percentile	22.02	2.64	4.54
Columbus Circle Investors ●	27.33	3.48	7.38



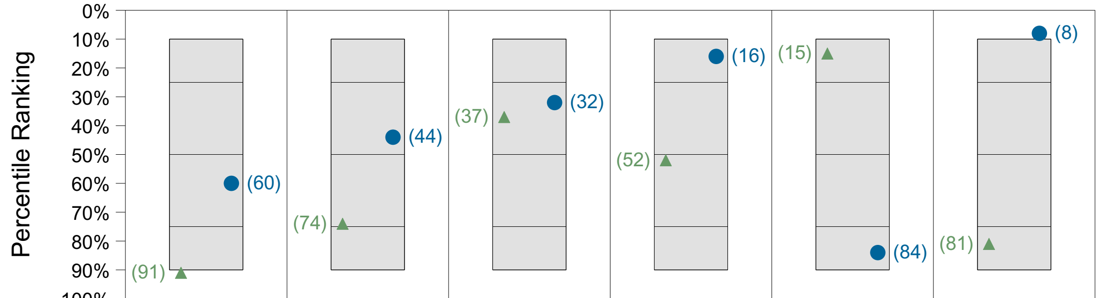
	Beta	R-Squared
10th Percentile	1.12	0.97
25th Percentile	1.05	0.96
Median	0.99	0.95
75th Percentile	0.94	0.93
90th Percentile	0.88	0.92
Columbus Circle Investors ●	1.09	0.93

Columbus Circle Investors
Equity Characteristics Analysis Summary

Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings
Rankings Against Callan Small/MidCap Growth
as of December 31, 2022

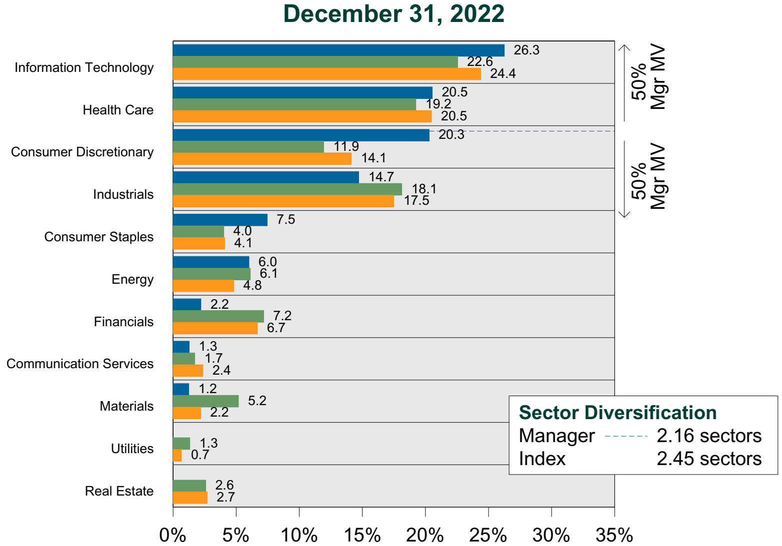


		Weighted Median Market Cap	Price/Fore-casted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
10th Percentile		10.19	38.66	4.55	24.63	0.94	0.88
25th Percentile		8.49	28.45	4.31	23.90	0.62	0.81
Median		7.04	24.39	3.73	20.85	0.49	0.71
75th Percentile		5.67	21.62	3.35	17.50	0.32	0.57
90th Percentile		4.51	18.18	2.83	14.77	0.23	0.48
Columbus Circle Investors	●	6.63	24.77	3.92	24.60	0.24	0.89
Russell 2500 Growth Index	▲	4.37	21.95	3.89	20.25	0.83	0.54

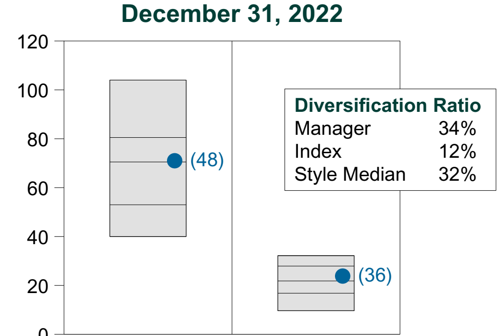
Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

Sector Allocation
December 31, 2022



Diversification
December 31, 2022



		Number of Securities	Issue Diversification
10th Percentile		104	32
25th Percentile		81	28
Median		71	22
75th Percentile		53	17
90th Percentile		40	10
Columbus Circle Investors	●	71	24
Russell 2500 Growth Index	▲	1339	166

Columbus Circle Investors
Top 10 Portfolio Holdings Characteristics
as of December 31, 2022

10 Largest Holdings

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
United Therapeutics Corp	Health Care	$594,597	3.0%	32.82%	12.67	14.24	0.00%	(6.93)%
Matador Res Co	Energy	$584,524	3.0%	17.19%	6.76	6.19	0.70%	57.35%
Inspire Med Sys Inc	Health Care	$519,494	2.6%	42.01%	7.28	(101.93)	0.00%	-
Celsius Holdings Inc	Consumer Staples	$518,762	2.6%	14.73%	7.93	100.33	0.00%	103.68%
Quanta Services Common	Industrials	$512,396	2.6%	11.92%	20.36	20.41	0.22%	17.86%
Calix Inc	Information Technology	$492,503	2.5%	11.92%	4.48	56.04	0.00%	20.00%
Deckers Outdoor Corp	Consumer Discretionary	$491,428	2.5%	27.69%	10.56	19.28	0.00%	18.00%
Willscot Mobil Mini Hldng Co Com Cl	Industrials	$487,951	2.5%	12.00%	9.44	26.35	0.00%	70.29%
Five Below Inc	Consumer Discretionary	$439,305	2.2%	28.47%	9.82	31.81	0.00%	12.44%
Etsy Inc	Consumer Discretionary	$438,277	2.2%	19.63%	15.05	42.57	0.00%	(1.70)%

10 Best Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Exact Sciences Corp	Health Care	$301,837	1.5%	52.38%	8.80	(18.95)	0.00%	-
Championx Corporation	Energy	$143,780	0.7%	48.64%	5.78	15.78	1.03%	52.80%
E L F Beauty Inc	Consumer Staples	$191,632	1.0%	46.99%	2.93	45.78	0.00%	12.45%
Ambarella Inc Shs	Information Technology	$207,120	1.1%	46.37%	3.19	116.64	0.00%	(17.20)%
Halozyme Therapeutics Inc	Health Care	$340,238	1.7%	43.90%	7.69	19.61	0.00%	65.52%
Inspire Med Sys Inc	Health Care	$519,494	2.6%	42.01%	7.28	(101.93)	0.00%	-
Allegro Microsystems Inc	Information Technology	$219,145	1.1%	37.39%	5.74	24.39	0.00%	-
Impinj Inc	Information Technology	$209,950	1.1%	36.42%	2.83	86.38	0.00%	31.88%
United Therapeutics Corp	Health Care	$594,597	3.0%	32.82%	12.67	14.24	0.00%	(6.93)%
Lattice Semiconductor	Information Technology	$294,667	1.5%	31.84%	8.89	32.20	0.00%	15.00%

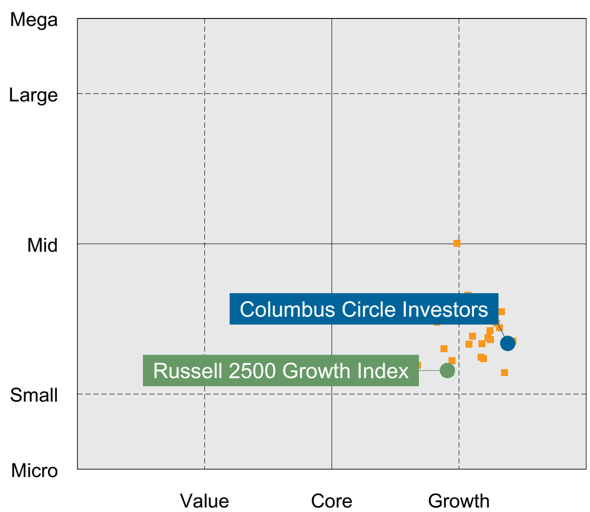
10 Worst Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Apellis Pharmaceuticals Inc	Health Care	$122,070	0.6%	(24.29)%	5.72	(9.73)	0.00%	-
Doubleverify Holdings Inc	Information Technology	$301,205	1.5%	(19.70)%	3.62	58.10	0.00%	30.20%
Paylocity Hldg Corp	Information Technology	$289,959	1.5%	(19.59)%	10.82	43.14	0.00%	36.76%
Hashicorp A	Information Technology	$146,188	0.7%	(15.07)%	2.24	(40.87)	0.00%	-
Gitlab Inc Cl A	Information Technology	$113,684	0.6%	(11.29)%	4.14	(82.92)	0.00%	29.40%
Axonics Modulation Tech Inc	Health Care	$295,683	1.5%	(11.23)%	3.10	(65.20)	0.00%	-
Manhattan Associates	Information Technology	$297,073	1.5%	(8.74)%	7.57	46.76	0.00%	7.81%
Healthequity Inc	Health Care	$104,225	0.5%	(8.23)%	5.22	35.32	0.00%	27.60%
Cytokinetics Inc	Health Care	$162,429	0.8%	(5.44)%	4.34	(9.61)	0.00%	-
Procore Technologies Inc	Information Technology	$378,917	1.9%	(4.65)%	6.51	(90.56)	0.00%	-

Current Holdings Based Style Analysis
Columbus Circle Investors
As of December 31, 2022

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization segments are dictated by capitalization decile breakpoints. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

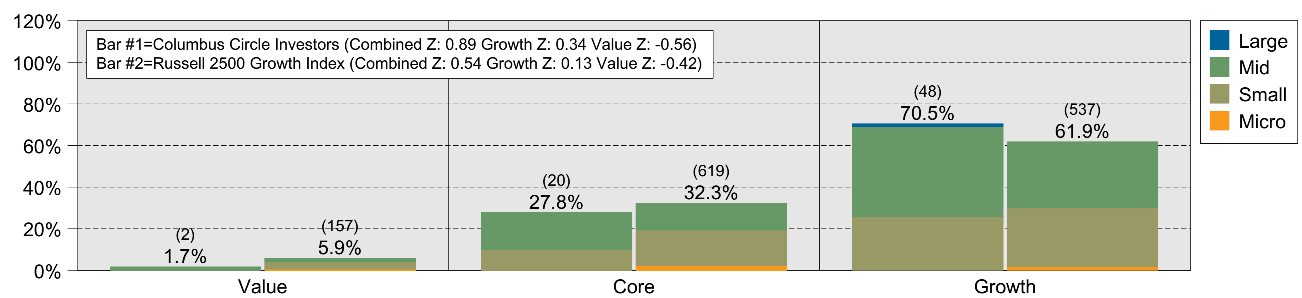
Style Map vs Callan Sm/MidCap Growth
Holdings as of December 31, 2022



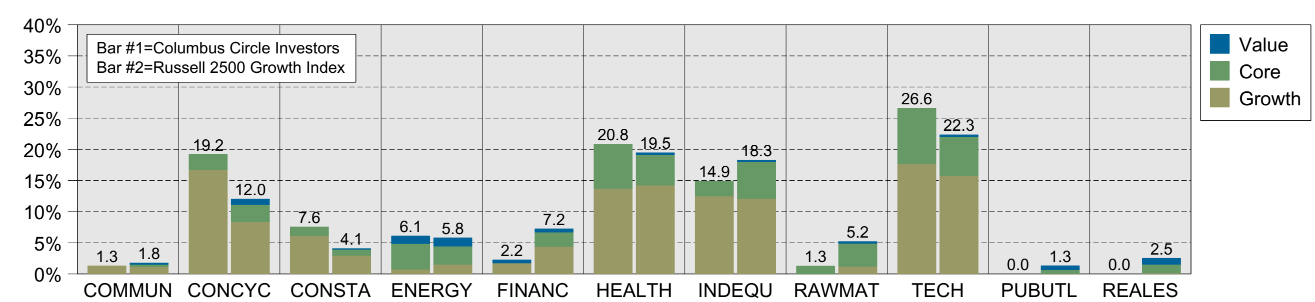
Style Exposure Matrix
Holdings as of December 31, 2022

	Value	Core	Growth	Total
Large	0.0% (0) 0.0% (0)	0.0% (0) 0.0% (0)	1.6% (1) 0.0% (0)	**1.6% (1)** **0.0% (0)**
Mid	1.7% (2) 1.8% (15)	17.9% (11) 13.0% (68)	43.1% (27) 31.9% (110)	**62.7% (40)** **46.7% (193)**
Small	0.0% (0) 3.5% (81)	9.9% (9) 17.1% (307)	25.9% (20) 28.3% (312)	**35.8% (29)** **49.0% (700)**
Micro	0.0% (0) 0.5% (61)	0.0% (0) 2.2% (244)	0.0% (0) 1.6% (115)	**0.0% (0)** **4.4% (420)**
Total	**1.7% (2)** **5.9% (157)**	**27.8% (20)** **32.3% (619)**	**70.5% (48)** **61.9% (537)**	**100.0% (70)** **100.0% (1313)**

Combined Z-Score Style Distribution
Holdings as of December 31, 2022



Sector Weights Distribution
Holdings as of December 31, 2022

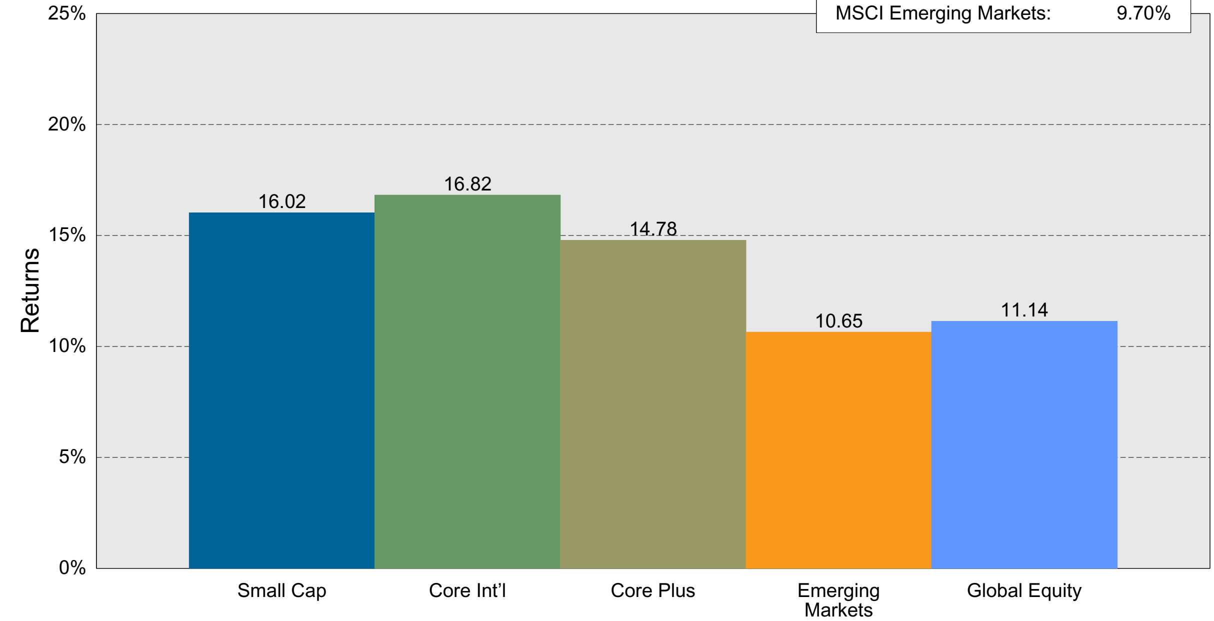


International Equity
Active Management Overview

Global ex-U.S. markets posted strong results, and currency appreciation vs. the U.S. dollar further bolstered returns. The MSCI ACWI ex USA Index gained 14.3% (Local: +7.8%), reducing its YTD loss to 16.0% (Local: -9.6%). Across developed market countries, gains were broad-based and value outpaced growth, but by a smaller margin than in the U.S. (MSCI ACWI ex USA Value: +15.7%; MSCI ACWI ex USA Growth: +12.9%). Unlike in the U.S., all sectors of the ACWI ex USA Index delivered a positive return in 4Q. Emerging markets (MSCI Emerging Markets: +9.7%; Local: +6.6%) also rebounded in 4Q, but returns were mixed across countries. While many countries were up double-digits, India (+2.0%) and Brazil (+2.4%) weighed on broad market returns. China (MSCI China: +13.5%) outperformed.

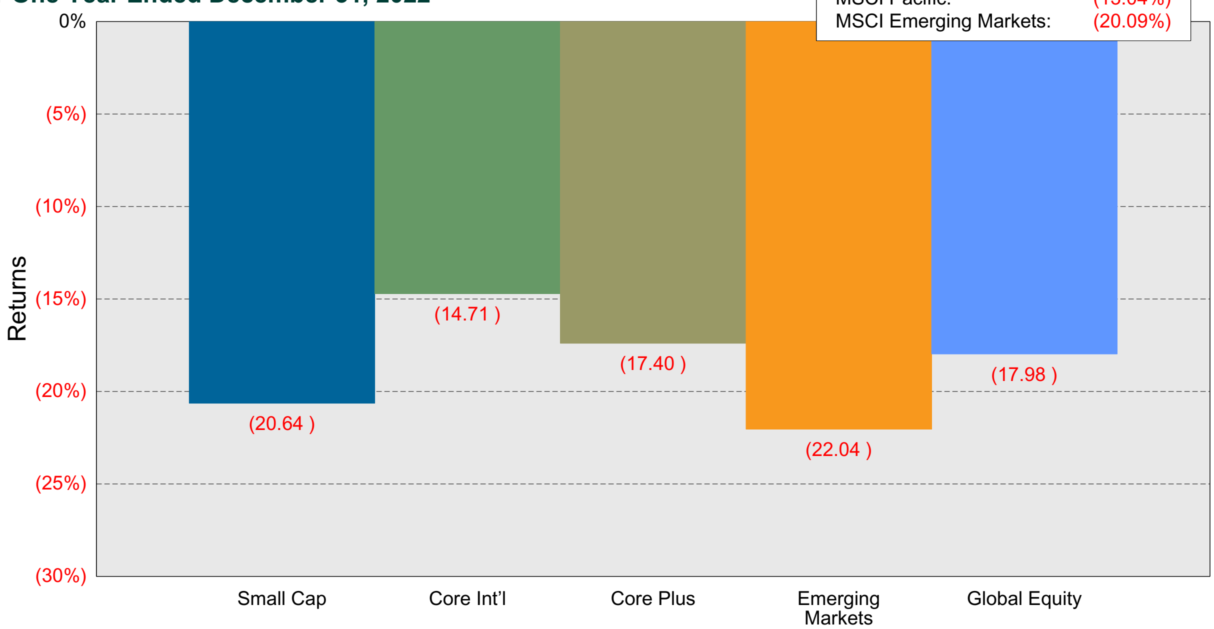
MSCI AC World Index	9.88%
MSCI ACW ex US Free:	14.28%
MSCI EAFE:	17.34%
MSCI Europe:	19.35%
MSCI Pacific:	14.13%
MSCI Emerging Markets:	9.70%

Separate Account Style Group Median Returns for Quarter Ended December 31, 2022



MSCI AC World Index	(17.96%)
MSCI ACW ex US Free:	(16.00%)
MSCI EAFE:	(14.45%)
MSCI Europe:	(15.06%)
MSCI Pacific:	(13.04%)
MSCI Emerging Markets:	(20.09%)

Separate Account Style Group Median Returns for One Year Ended December 31, 2022



International Equity
Period Ended December 31, 2022

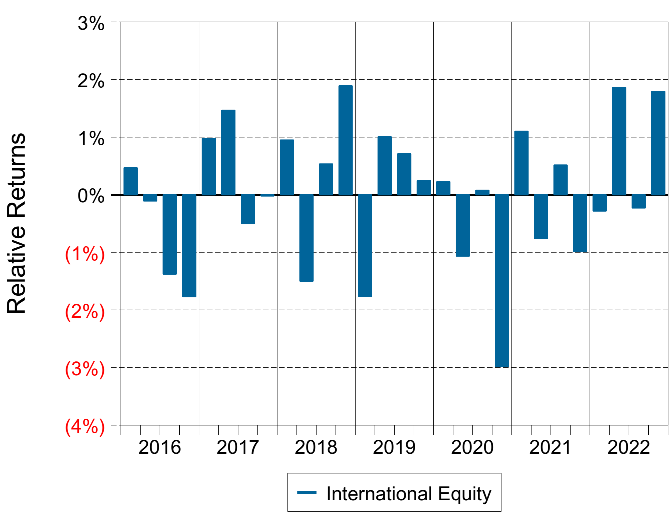
Composite Construction
The International Equity composite is comprised of the Artisan Fund, the Silchester Fund, and the BlackRock EM Tilts fund.

Quarterly Summary and Highlights
- International Equity's portfolio posted a 16.33% return for the quarter placing it in the 43 percentile of the Callan Non-US Equity group for the quarter and in the 33 percentile for the last year.
- International Equity's portfolio outperformed the MSCI ACWI xUS by 2.05% for the quarter and outperformed the MSCI ACWI xUS for the year by 2.65%.

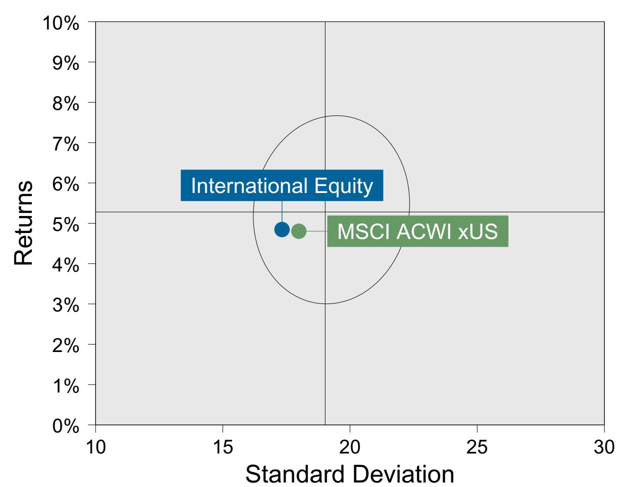
Performance vs Callan Non-US Equity (Gross)

	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 5 Years	Last 10 Years	Last 30-3/4 Years
10th Percentile	19.39	7.76	(7.79)	1.66	3.94	7.01	8.86
25th Percentile	17.66	6.46	(12.53)	(0.72)	3.00	6.17	8.26
Median	16.03	5.35	(15.29)	(3.38)	1.99	5.55	7.33
75th Percentile	14.40	3.75	(20.84)	(6.24)	0.98	4.75	6.71
90th Percentile	12.74	2.04	(26.29)	(9.61)	0.10	4.02	6.31
International Equity ●	16.33	4.57	(13.35)	(3.41)	1.12	4.69	7.46
MSCI ACWI xUS ▲	14.28	2.96	(16.00)	(4.83)	0.88	3.80	-

Relative Return vs MSCI ACWI xUS



Callan Non-US Equity (Gross)
Annualized Seven Year Risk vs Return

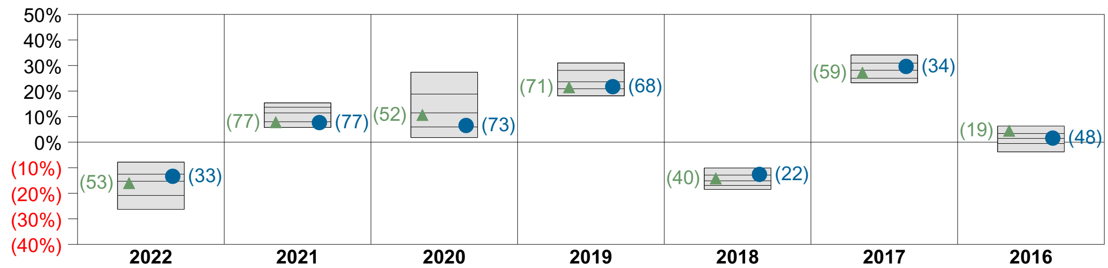


International Equity
Return Analysis Summary

Return Analysis

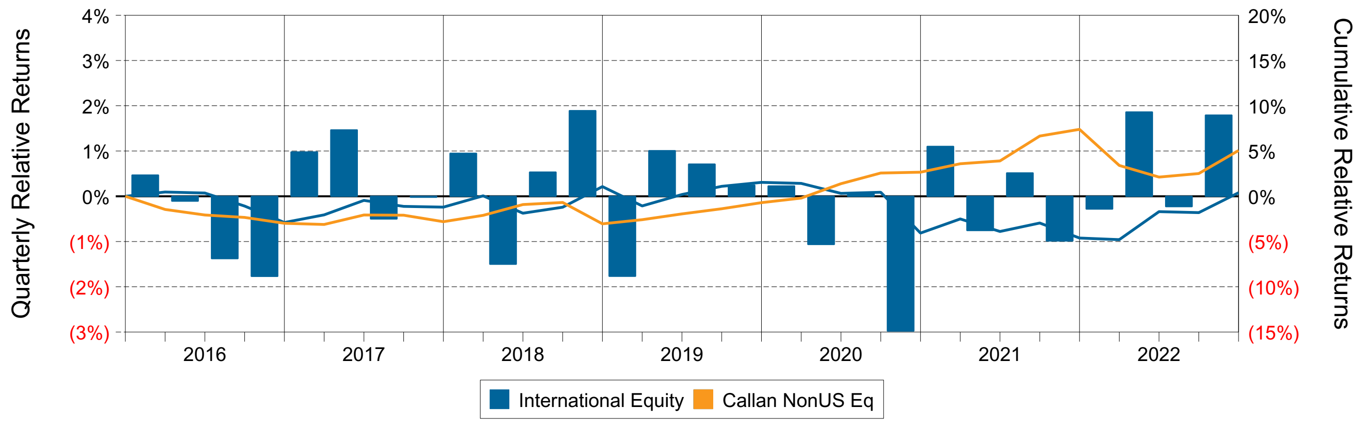
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Non-US Equity (Gross)

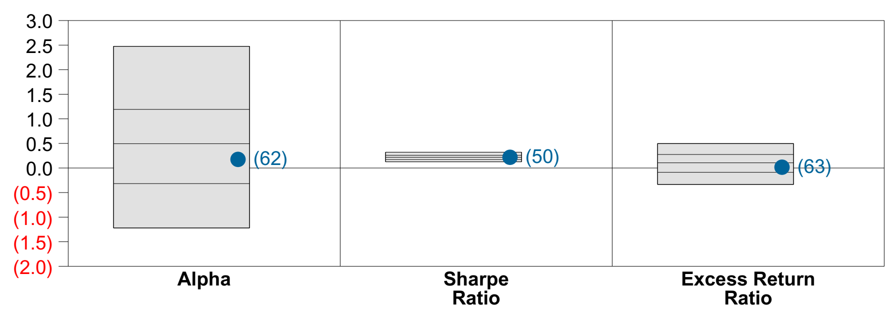


	2022	2021	2020	2019	2018	2017	2016
10th Percentile	(7.79)	15.38	27.38	30.99	(10.09)	34.13	6.32
25th Percentile	(12.53)	13.67	18.82	28.11	(12.88)	30.95	3.39
Median	(15.29)	11.45	11.47	23.64	(15.12)	28.15	1.47
75th Percentile	(20.84)	7.99	5.96	20.91	(16.91)	25.00	(0.53)
90th Percentile	(26.29)	5.76	1.81	18.13	(18.49)	23.25	(3.80)
International Equity ●	(13.35)	7.67	6.54	21.72	(12.60)	29.64	1.60
MSCI ACWI xUS ▲	(16.00)	7.82	10.65	21.51	(14.20)	27.19	4.50

Cumulative and Quarterly Relative Returns vs MSCI ACWI xUS



Risk Adjusted Return Measures vs MSCI ACWI xUS
Rankings Against Callan Non-US Equity (Gross)
Seven Years Ended December 31, 2022



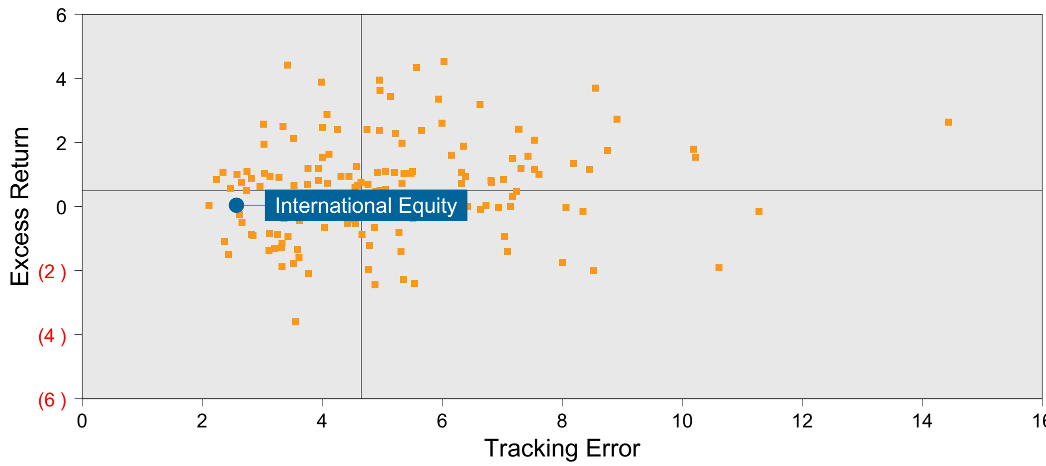
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	2.47	0.32	0.50
25th Percentile	1.19	0.26	0.27
Median	0.49	0.22	0.11
75th Percentile	(0.32)	0.17	(0.09)
90th Percentile	(1.22)	0.13	(0.34)
International Equity ●	0.18	0.22	0.02

International Equity
Risk Analysis Summary

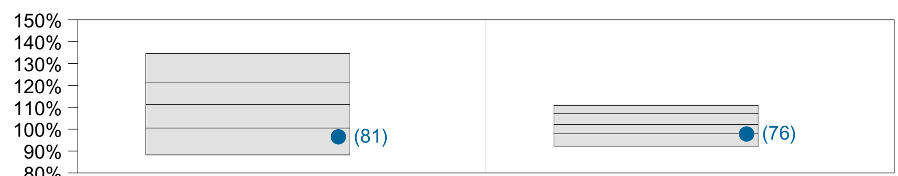
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

Risk Analysis vs Callan Non-US Equity (Gross)
Seven Years Ended December 31, 2022

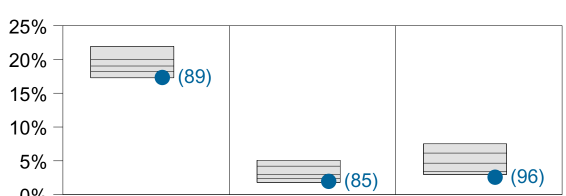


Market Capture vs MSCI ACWI xUS (Net)
Rankings Against Callan Non-US Equity (Gross)
Seven Years Ended December 31, 2022

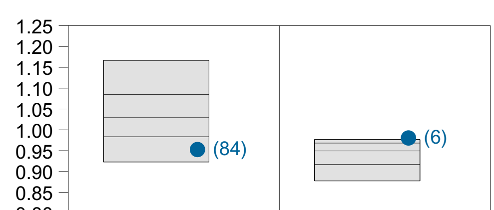


	Up Market Capture	Down Market Capture
10th Percentile	134.54	110.95
25th Percentile	121.19	107.13
Median	111.27	102.18
75th Percentile	100.52	97.96
90th Percentile	88.26	91.94
International Equity ●	96.53	97.82

Risk Statistics Rankings vs MSCI ACWI xUS (Net)
Rankings Against Callan Non-US Equity (Gross)
Seven Years Ended December 31, 2022



	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	21.94	5.08	7.52
25th Percentile	20.02	4.21	6.14
Median	19.03	2.99	4.65
75th Percentile	18.25	2.41	3.42
90th Percentile	17.28	1.80	2.97
International Equity ●	17.33	1.96	2.57



	Beta	R-Squared
10th Percentile	1.17	0.98
25th Percentile	1.08	0.97
Median	1.03	0.95
75th Percentile	0.98	0.92
90th Percentile	0.92	0.88
International Equity ●	0.95	0.98

International Equity
Equity Characteristics Analysis Summary

Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

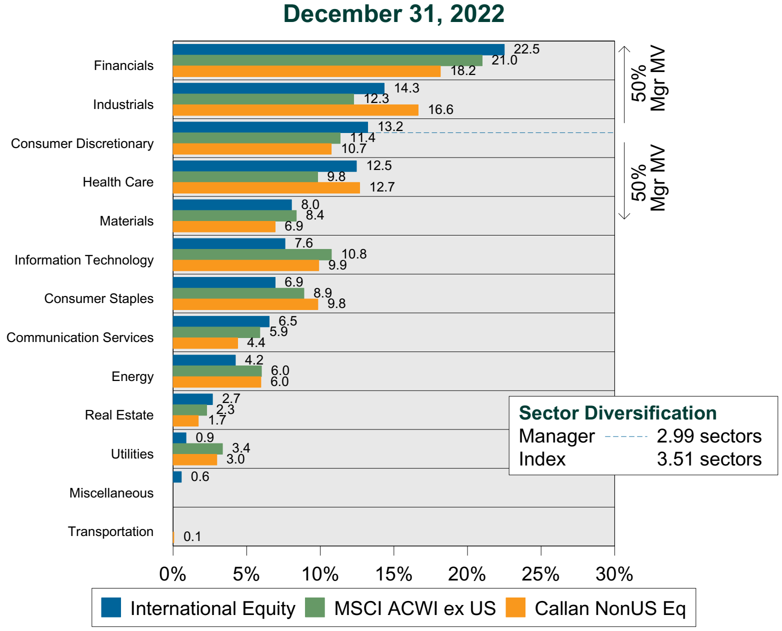
Portfolio Characteristics Percentile Rankings
Rankings Against Callan Non-US Equity
as of December 31, 2022

	Weighted Median Market Cap	Forecasted P/E	Price/ Book Value	Forecasted Growth in Earnings	Dividend Yield
10th Percentile	57.34	17.84	3.15	15.76	4.09
25th Percentile	44.42	15.63	2.47	13.79	3.32
Median	31.59	12.70	1.84	11.29	2.54
75th Percentile	24.08	10.14	1.33	8.91	2.00
90th Percentile	14.24	8.78	1.03	7.43	1.68
International Equity ●	16.91	10.38	0.96	7.77	3.48
MSCI ACWI ex US ▲	35.56	11.97	1.55	11.04	3.23

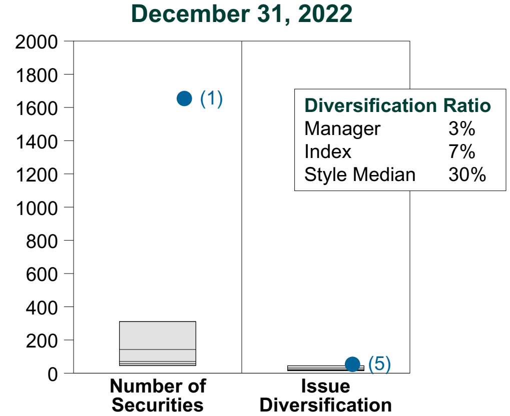
Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

Sector Allocation
December 31, 2022



Diversification
December 31, 2022



	Number of Securities	Issue Diversification
10th Percentile	311	45
25th Percentile	143	31
Median	71	22
75th Percentile	57	18
90th Percentile	46	15
International Equity ●	1654	53
MSCI ACWI ex US ▲	2259	165

International Equity
Top 10 Portfolio Holdings Characteristics
as of December 31, 2022

10 Largest Holdings

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Bnp Paribas Ord	Financials	$2,033,910	2.0%	32.30%	70.15	7.05	6.89%	10.54%
Honda Motor Co Ltd Shs	Consumer Discretionary	$1,704,592	1.7%	3.63%	41.63	6.30	4.12%	9.90%
Schlumberger	Energy	$1,652,515	1.6%	49.43%	75.81	17.88	1.31%	44.40%
Sanofi Shs	Health Care	$1,639,992	1.6%	20.55%	121.53	10.46	3.71%	12.30%
Tesco Plc Ord	Consumer Staples	$1,578,464	1.6%	12.23%	19.82	10.71	5.15%	1.26%
Ubs Ag Shs New	Financials	$1,541,872	1.5%	28.01%	65.55	8.36	1.35%	7.46%
Deutsche Boerse Ag Frank Mai Namen A	Financials	$1,371,943	1.4%	7.81%	33.11	18.03	1.96%	13.12%
Deutsche Telekom	Communication Services	$1,318,224	1.3%	16.98%	99.51	11.26	3.42%	16.97%
Novartis	Health Care	$1,297,985	1.3%	15.52%	217.18	14.08	3.71%	3.83%
Bmw Stamm	Consumer Discretionary	$1,287,001	1.3%	24.27%	53.56	5.95	6.96%	(13.19)%

10 Best Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Hektas Ticaret	Materials	$119	0.0%	125.37%	5.08	134.00	0.00%	19.18%
Longfor Properties	Real Estate	$305	0.0%	120.33%	19.56	5.44	8.22%	10.58%
Shai.Baosight Software B	Information Technology	$81	0.0%	116.99%	1.56	14.35	2.51%	52.41%
Tencent Music Entmt Group Spon Ads	Communication Services	$25,389	0.0%	116.02%	6.93	18.65	0.00%	(1.87)%
Aselsan	Industrials	$118	0.0%	111.13%	7.57	14.19	0.32%	38.75%
Iqiyi Inc Sponsored Ads	Communication Services	$94	0.0%	107.18%	2.06	44.17	0.00%	(8.00)%
Turk Hava Yollari Ao Shs	Industrials	$216	0.0%	97.65%	10.39	6.45	0.00%	6.70%
Meritz Secs.	Financials	$66	0.0%	92.11%	3.04	6.92	1.60%	19.02%
Meritz Fire & Marne Ins Co L Shs	Financials	$72	0.0%	90.62%	4.37	6.35	1.25%	(5.27)%
21 Cn Cybernet Corp.	Consumer Discretionary	$210	0.0%	90.34%	11.52	213.00	0.00%	9.78%

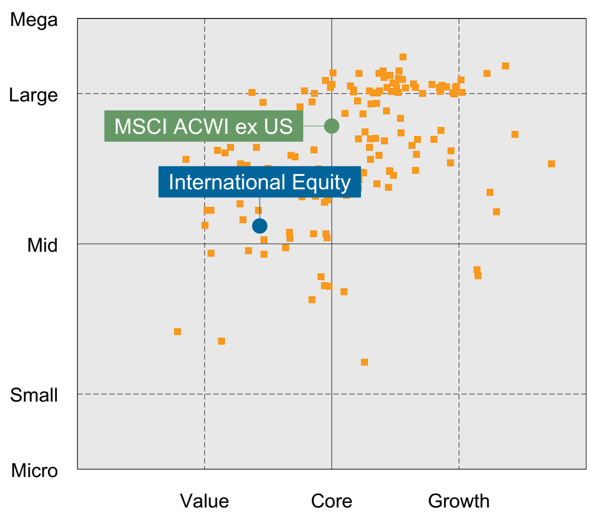
10 Worst Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Bank Artos Indonesia	Financials	$52	0.0%	(44.87)%	3.28	240.00	0.00%	-
Magazine Luiza Sa	Consumer Discretionary	$82	0.0%	(37.34)%	3.50	173.33	1.53%	15.06%
Goertek 'a'	Information Technology	$26	0.0%	(34.56)%	8.27	11.80	1.19%	7.66%
Nio Inc Ads	Consumer Discretionary	$5,400	0.0%	(34.50)%	14.84	(16.64)	0.00%	-
Perdigao S A Ord	Consumer Staples	$49	0.0%	(34.14)%	1.70	14.27	0.00%	45.42%
Sime Darby Berhad Ord	Industrials	$74	0.0%	(32.16)%	3.56	13.05	5.00%	4.48%
Kukje Precision	Health Care	$128	0.0%	(32.11)%	2.73	(394.04)	0.00%	-
China Ship.Dev.Co. A	Energy	$19	0.0%	(31.36)%	6.02	14.18	0.00%	(9.65)%
Hapvida Partp.E Invms.On	Health Care	$233	0.0%	(31.25)%	6.87	34.29	0.86%	21.33%
Dar Al Arkan Rl Est Dvlp	Real Estate	$85	0.0%	(31.19)%	3.34	22.39	0.00%	(7.65)%

Current Holdings Based Style Analysis
International Equity
As of December 31, 2022

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

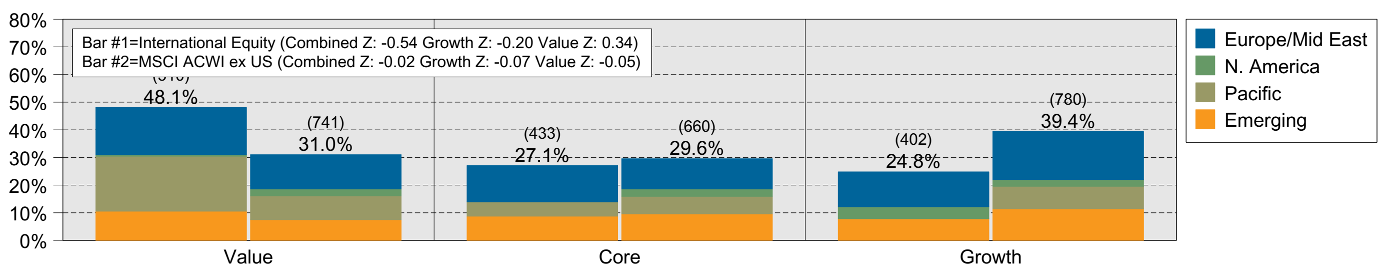
Style Map vs Callan NonUS Eq
Holdings as of December 31, 2022



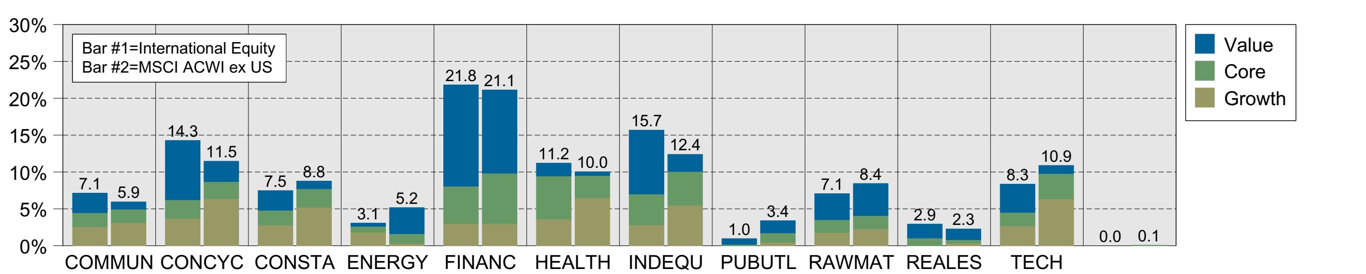
Style Exposure Matrix
Holdings as of December 31, 2022

	Value	Core	Growth	Total
Europe/ Mid East	17.0% (34) 12.4% (157)	13.2% (28) 11.0% (127)	12.7% (23) 17.4% (153)	**42.9% (85)** **40.8% (437)**
N. America	0.6% (1) 2.5% (28)	0.0% (1) 2.7% (24)	4.3% (5) 2.5% (35)	**4.9% (7)** **7.7% (87)**
Pacific	19.9% (48) 8.6% (137)	5.2% (22) 6.3% (99)	0.1% (2) 8.1% (120)	**25.2% (72)** **23.0% (356)**
Emerging	10.5% (427) 7.5% (419)	8.7% (382) 9.6% (410)	7.8% (372) 11.4% (472)	**27.1% (1181)** **28.5% (1301)**
Total	**48.1% (510)** **31.0% (741)**	**27.1% (433)** **29.6% (660)**	**24.8% (402)** **39.4% (780)**	**100.0% (1345)** **100.0% (2181)**

Combined Z-Score Style Distribution
Holdings as of December 31, 2022



Sector Weights Distribution
Holdings as of December 31, 2022

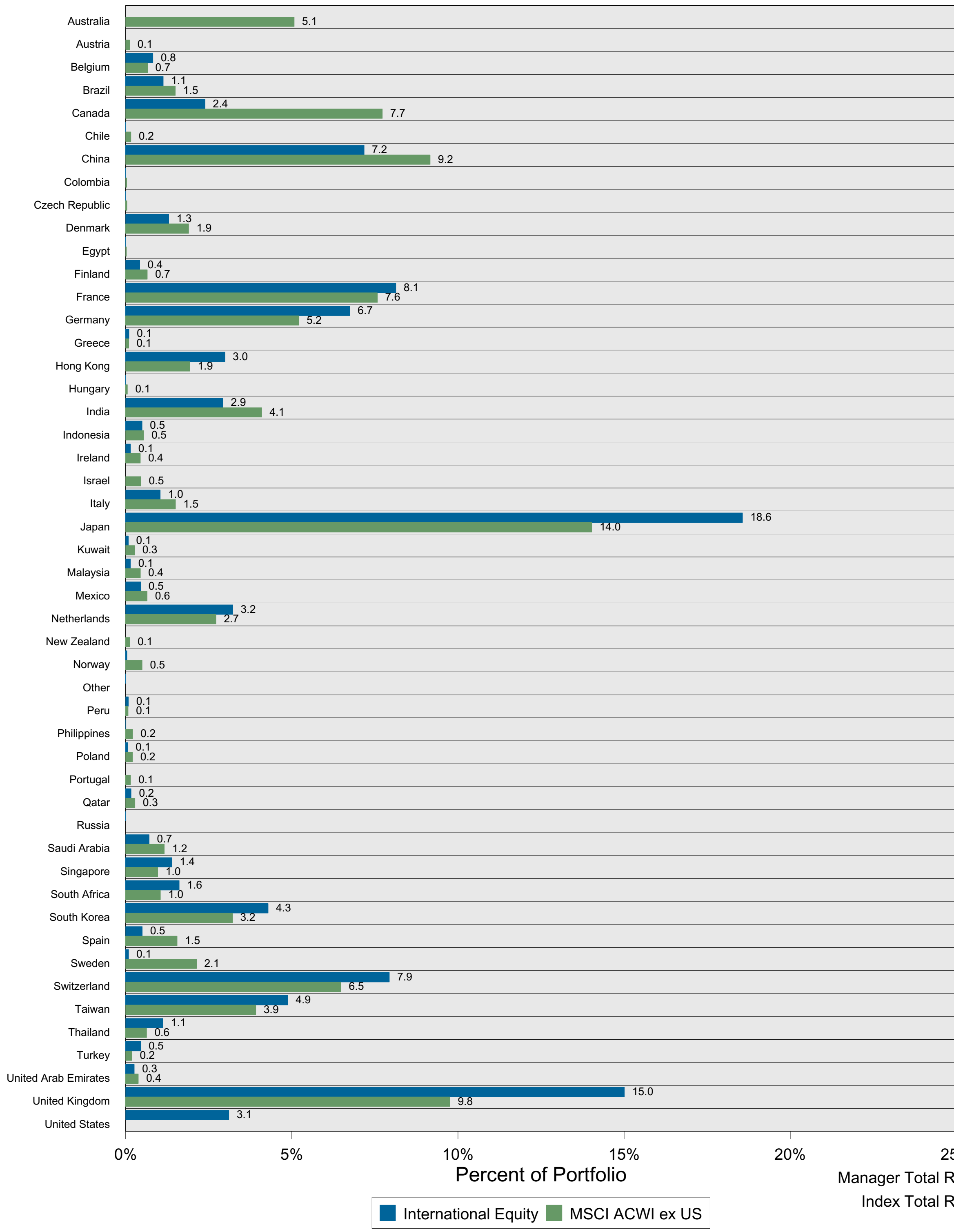


Country Allocation
International Equity VS MSCI ACWI ex US

Country Allocation

The chart below contrasts the portfolio's country allocation with that of the index as of December 31, 2022. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent quarter. To the extent that the portfolio allocation is similar to the index, the portfolio should experience more "index-like" performance. In order to illustrate the performance effect on the portfolio and index of these country allocations, the individual index country returns are also shown.

Country Weights as of December 31, 2022



Country	Index Rtns
Australia	15.68%
Austria	31.07%
Belgium	22.56%
Brazil	2.35%
Canada	7.42%
Chile	6.18%
China	19.72%
Colombia	19.71%
Czech Republic	6.55%
Denmark	31.60%
Egypt	28.51%
Finland	16.32%
France	22.19%
Germany	24.57%
Greece	29.14%
Hong Kong	18.21%
Hungary	36.33%
India	1.98%
Indonesia	(3.57%)
Ireland	21.47%
Israel	0.38%
Italy	26.36%
Japan	13.34%
Kuwait	5.75%
Malaysia	14.03%
Mexico	12.48%
Netherlands	21.01%
New Zealand	24.51%
Norway	16.92%
Other	-
Peru	17.35%
Philippines	21.09%
Poland	47.75%
Portugal	17.23%
Qatar	(15.29%)
Russia	-
Saudi Arabia	(7.44%)
Singapore	10.46%
South Africa	18.33%
South Korea	18.12%
Spain	22.90%
Sweden	18.14%
Switzerland	10.41%
Taiwan	9.63%
Thailand	16.10%
Turkey	62.86%
United Arab Emirates	(1.51%)
United Kingdom	16.98%
United States	9.87%

Manager Total Return: 16.33%
Index Total Return: 14.28%

Artisan Trust
Period Ended December 31, 2022

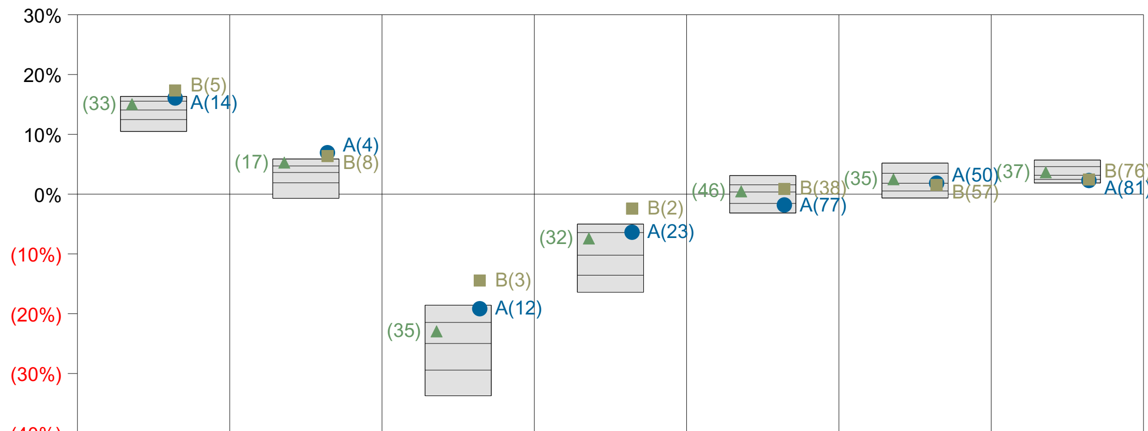
Investment Philosophy

Artisan Partners, founded in 1994, is a publicly traded company with 10 unique investment units that is headquartered in Milwaukee. The leadership of the strategy has been stable under Portfolio Manager Mark Yockey since inception in 1996. Yockey is supported by two co-portfolio managers and 10 dedicated analysts. The team employs a bottom-up, fundamental process to construct portfolios with growth companies benefiting from secular trends. The strategy typically consists of 50-100 securities with an expected annual turnover of around 40%. The strategy has consistently performed in-line with expectations.

Quarterly Summary and Highlights

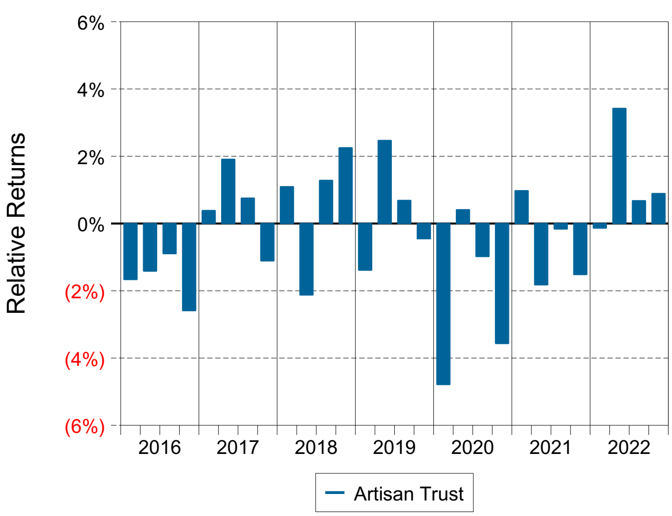
- Artisan Trust's portfolio posted a 16.07% return for the quarter placing it in the 14 percentile of the Callan Intl Large Cap Growth MFs group for the quarter and in the 12 percentile for the last year.
- Artisan Trust's portfolio outperformed the MSCI EAFE Growth by 1.03% for the quarter and outperformed the MSCI EAFE Growth for the year by 3.78%.

Performance vs Callan Intl Large Cap Growth MFs (Net)

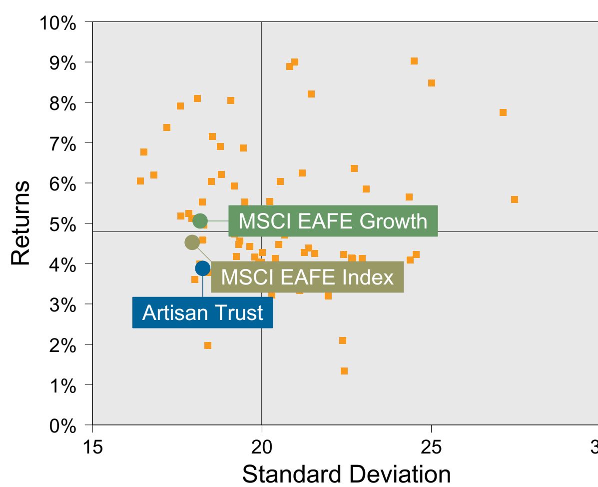


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 8-1/2 Years
10th Percentile	16.34	5.88	(18.57)	(5.01)	3.10	5.19	5.70
25th Percentile	15.55	4.71	(21.46)	(6.43)	1.56	3.49	4.60
Median	14.07	3.62	(24.98)	(10.21)	0.36	1.82	3.16
75th Percentile	12.46	1.89	(29.43)	(13.56)	(1.55)	0.53	2.46
90th Percentile	10.48	(0.70)	(33.73)	(16.41)	(3.16)	(0.65)	1.86
Artisan Trust ● A	16.07	6.93	(19.16)	(6.37)	(1.81)	1.84	2.28
MSCI EAFE Index ■ B	17.34	6.36	(14.45)	(2.44)	0.87	1.54	2.44
MSCI EAFE Growth ▲	15.05	5.27	(22.95)	(7.41)	0.47	2.49	3.66

Relative Return vs MSCI EAFE Growth



Callan Intl Large Cap Growth MFs (Net)
Annualized Seven Year Risk vs Return

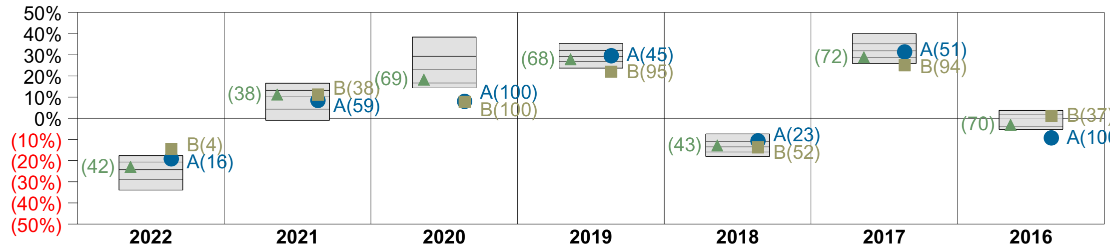


Artisan Trust
Return Analysis Summary

Return Analysis

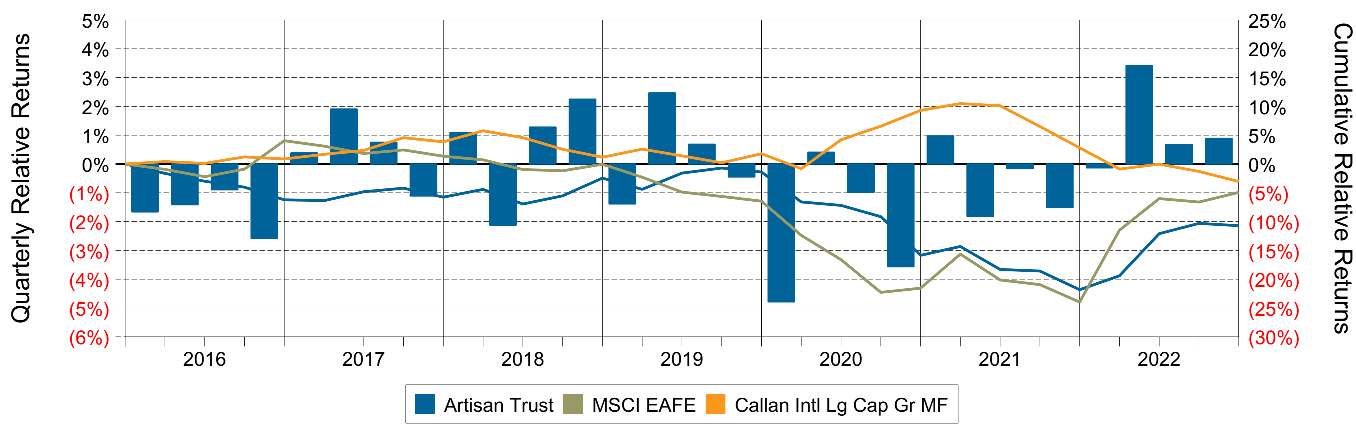
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Intl Large Cap Growth MFs (Gross)

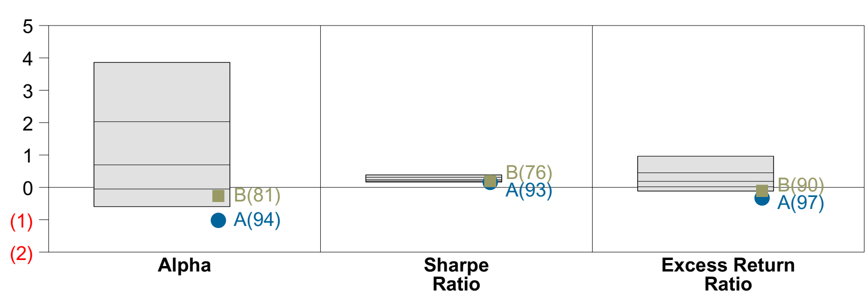


	2022	2021	2020	2019	2018	2017	2016
10th Percentile	(17.65)	16.58	38.38	35.29	(7.39)	39.98	3.73
25th Percentile	(20.69)	13.19	29.30	32.10	(10.87)	35.16	1.62
Median	(24.29)	10.12	22.91	29.19	(13.52)	31.84	(0.31)
75th Percentile	(28.84)	4.32	16.67	26.78	(15.93)	28.60	(3.73)
90th Percentile	(33.93)	(0.94)	14.35	23.72	(18.03)	25.93	(5.23)
Artisan Trust ● A	(19.16)	8.44	7.99	29.54	(10.67)	31.35	(9.26)
MSCI EAFE ■ B	(14.45)	11.26	7.82	22.01	(13.79)	25.03	1.00
MSCI EAFE Growth ▲	(22.95)	11.25	18.29	27.90	(12.83)	28.86	(3.04)

Cumulative and Quarterly Relative Returns vs MSCI EAFE Growth



Risk Adjusted Return Measures vs MSCI EAFE Growth
Rankings Against Callan Intl Large Cap Growth MFs (Gross)
Seven Years Ended December 31, 2022



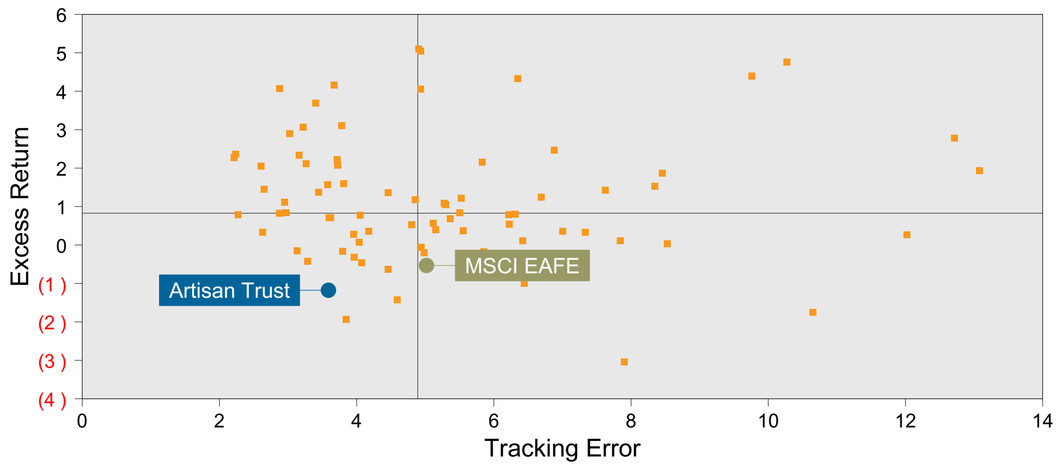
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	3.86	0.39	0.96
25th Percentile	2.03	0.31	0.45
Median	0.69	0.24	0.19
75th Percentile	(0.05)	0.20	0.02
90th Percentile	(0.60)	0.17	(0.11)
Artisan Trust ● A	(1.02)	0.15	(0.33)
MSCI EAFE ■ B	(0.27)	0.19	(0.11)

Artisan Trust
Risk Analysis Summary

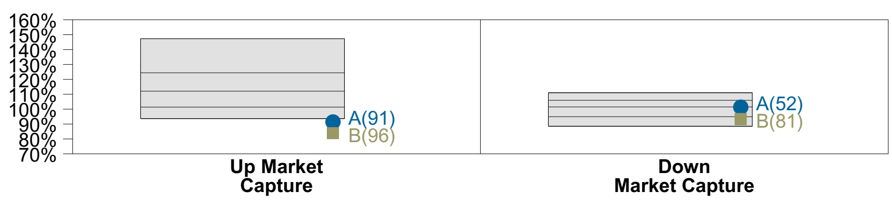
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

Risk Analysis vs Callan Intl Large Cap Growth MFs (Gross)
Seven Years Ended December 31, 2022

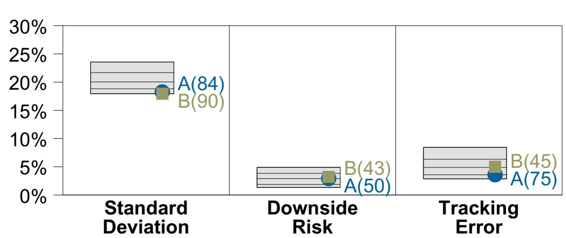


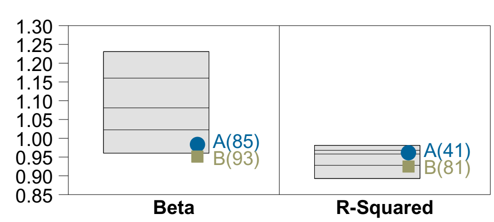
Market Capture vs MSCI EAFE Growth (Net)
Rankings Against Callan Intl Large Cap Growth MFs (Gross)
Seven Years Ended December 31, 2022



	Up Market Capture	Down Market Capture
10th Percentile	147.31	111.02
25th Percentile	124.41	105.96
Median	112.07	101.50
75th Percentile	101.38	94.94
90th Percentile	93.66	88.53
Artisan Trust ● A	91.43	101.33
MSCI EAFE ■ B	83.89	93.40

Risk Statistics Rankings vs MSCI EAFE Growth (Net)
Rankings Against Callan Intl Large Cap Growth MFs (Gross)
Seven Years Ended December 31, 2022





	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	23.56	4.90	8.44
25th Percentile	21.69	3.84	6.34
Median	20.04	2.90	4.89
75th Percentile	18.82	1.87	3.59
90th Percentile	17.95	1.34	2.87
Artisan Trust ● A	18.25	2.91	3.59
MSCI EAFE ■ B	17.94	3.21	5.02

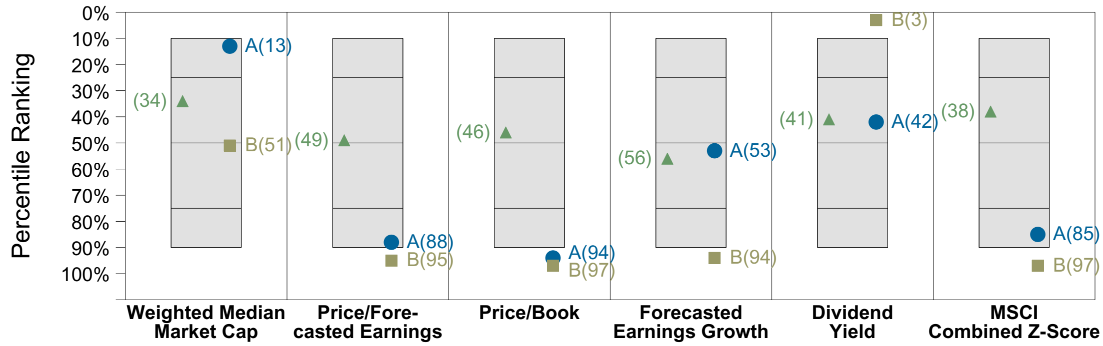
	Beta	R-Squared
10th Percentile	1.23	0.98
25th Percentile	1.16	0.97
Median	1.08	0.96
75th Percentile	1.02	0.93
90th Percentile	0.96	0.89
Artisan Trust ● A	0.98	0.96
MSCI EAFE ■ B	0.95	0.92

Artisan Trust
Equity Characteristics Analysis Summary

Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings
Rankings Against Callan Intl Large Cap Growth MFs
as of December 31, 2022

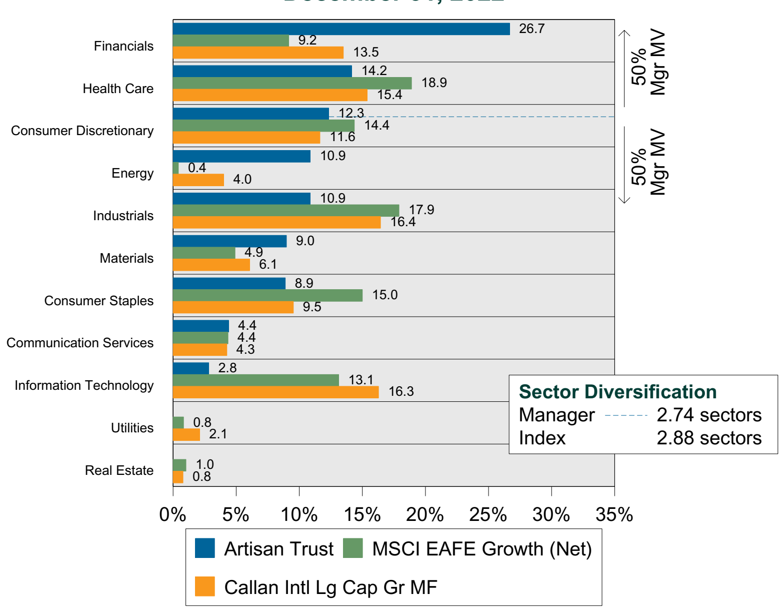


		Weighted Median Market Cap	Price/Forecasted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
10th Percentile		78.41	26.84	4.95	19.99	2.53	1.30
25th Percentile		53.27	22.41	3.97	16.07	2.07	1.03
Median		41.78	18.95	3.08	14.18	1.80	0.84
75th Percentile		33.33	15.86	2.65	12.52	1.48	0.59
90th Percentile		20.11	13.88	2.12	11.23	1.12	0.33
Artisan Trust	● A	67.99	14.00	1.94	13.96	1.93	0.40
MSCI EAFE Index	■ B	41.61	12.37	1.60	10.15	3.21	(0.02)
MSCI EAFE Growth (Net)	▲	46.83	19.11	3.34	13.85	1.95	0.91

Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

Sector Allocation
December 31, 2022



Diversification
December 31, 2022

		Number of Securities	Issue Diversification
10th Percentile		146	32
25th Percentile		83	24
Median		56	17
75th Percentile		37	12
90th Percentile		30	9
Artisan Trust	●	55	12
MSCI EAFE Growth (Net)	▲	424	42

Artisan Trust
Top 10 Portfolio Holdings Characteristics
as of December 31, 2022

10 Largest Holdings

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Schlumberger	Energy	$1,652,515	5.4%	49.43%	75.81	17.88	1.31%	44.40%
Bnp Paribas Ord	Financials	$1,426,567	4.7%	32.30%	70.15	7.05	6.89%	10.54%
Deutsche Boerse Ag Frank Mai Namen A	Financials	$1,371,943	4.5%	7.81%	33.11	18.03	1.96%	13.12%
Deutsche Telekom	Communication Services	$1,318,224	4.3%	16.98%	99.51	11.26	3.42%	16.97%
Air Liquide Sa	Materials	$1,133,324	3.7%	24.66%	73.96	20.75	1.99%	12.90%
Canadian Pac Ry Ltd	Industrials	$1,122,761	3.7%	11.93%	69.30	22.25	0.75%	11.77%
Aon Plc Shs Cl A	Financials	$1,002,965	3.3%	17.30%	62.08	20.64	0.75%	10.90%
Argenx Se Sponsored Ads	Health Care	$994,572	3.3%	15.87%	20.86	(38.31)	0.00%	-
Barclays Plc Shs	Financials	$900,593	3.0%	26.47%	30.26	4.91	3.94%	(4.32)%
Alibaba Group Hldg Ltd Sponsored Ads	Consumer Discretionary	$865,265	2.8%	16.66%	233.22	10.33	0.00%	2.59%

10 Best Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Schlumberger	Energy	$1,652,515	5.4%	49.43%	75.81	17.88	1.31%	44.40%
Novo-Nordisk A S Adr	Health Care	$165,027	0.5%	47.18%	234.58	30.63	1.19%	19.10%
Intesa Sanpaolo Spa Shs	Financials	$462,124	1.5%	39.76%	42.11	6.87	7.35%	16.97%
Cie Financiere Richemont Ag Units	Consumer Discretionary	$815,157	2.7%	38.10%	67.65	18.03	2.71%	26.26%
Safran Sa	Industrials	$173,983	0.6%	37.46%	53.31	22.98	0.43%	52.30%
Allianz Ag Muenchen Namen Akt Vink	Financials	$537,025	1.8%	35.57%	86.76	8.41	5.36%	10.03%
Airbus Se Shs	Industrials	$496,611	1.6%	34.70%	93.39	17.74	1.35%	22.30%
Essilor Luxottica Act	Health Care	$133,359	0.4%	33.39%	80.84	24.40	1.48%	1.65%
Novo Nordisk B	Health Care	$683,599	2.2%	33.29%	234.58	30.63	1.19%	19.10%
Aia Group Ltd Com Par Usd 1	Financials	$71,021	0.2%	32.68%	131.02	17.57	1.71%	5.55%

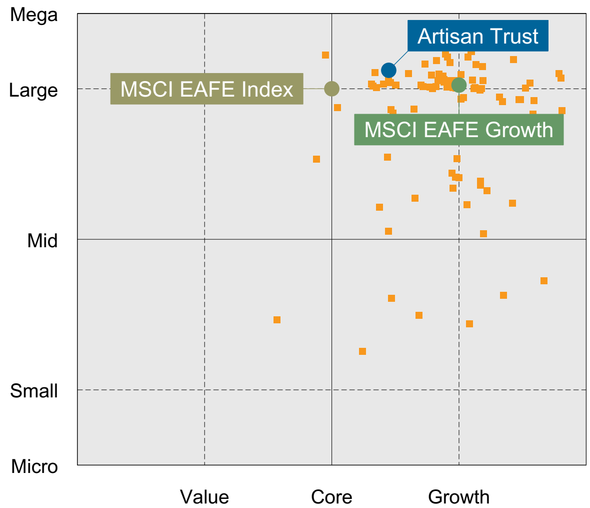
10 Worst Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Amazon.Com	Consumer Discretionary	$493,718	1.6%	(25.66)%	856.94	51.16	0.00%	26.00%
Ferrovial Sa Shs	Industrials	$368,180	1.2%	(5.61)%	19.00	56.77	2.78%	4.78%
Porsche Automobil Holding	Consumer Discretionary	$57,744	0.2%	(5.42)%	8.34	3.04	5.02%	4.40%
Diageo Plc Ord	Consumer Staples	$544,780	1.8%	2.09%	99.63	20.58	2.09%	11.19%
Argen-X	Health Care	$42,516	0.1%	2.97%	20.57	(38.43)	0.00%	-
Barry Callebaut Ag Zeurich N Ord	Consumer Staples	$246,518	0.8%	3.14%	10.85	21.12	1.53%	10.14%
Reliance Industries Ltd Shs Demateri	Energy	$448,266	1.5%	5.34%	202.30	20.97	0.31%	18.90%
Nestle S A Shs Nom New	Consumer Staples	$646,009	2.1%	7.74%	318.46	20.93	2.61%	8.26%
Deutsche Boerse Ag Frank Mai Namen A	Financials	$1,371,943	4.5%	7.81%	33.11	18.03	1.96%	13.12%
Adyen NV Common Stock	Information Technology	$138,502	0.5%	7.82%	42.60	49.05	0.00%	29.07%

Current Holdings Based Style Analysis
Artisan Trust
As of December 31, 2022

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

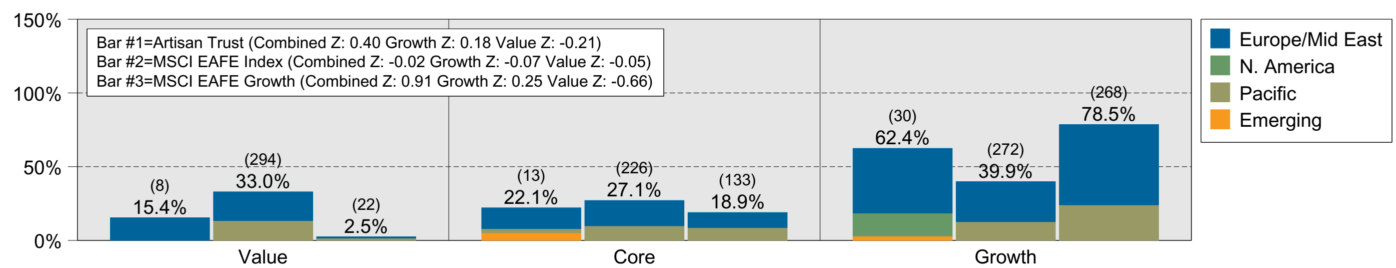
Style Map vs Callan Intl Lg Cap Gr MF
Holdings as of December 31, 2022



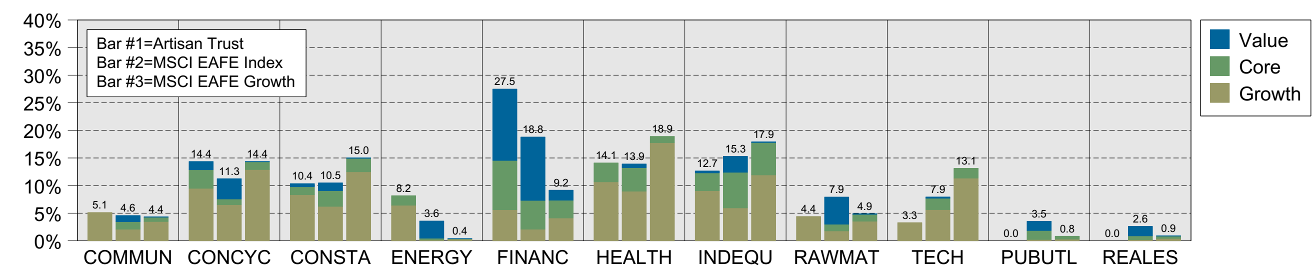
Style Exposure Matrix
Holdings as of December 31, 2022

	Value	Core	Growth	Total
Europe/ Mid East	15.4% (8) 19.5% (157) 1.0% (12)	14.2% (9) 17.2% (127) 10.3% (66)	43.9% (21) 27.3% (153) 54.5% (152)	**73.5% (38)** **64.0% (437)** **65.8% (230)**
N. America	0.0% (0) 0.0% (0) 0.0% (0)	0.0% (0) 0.0% (0) 0.0% (0)	15.4% (5) 0.0% (0) 0.0% (0)	**15.4% (5)** **0.0% (0)** **0.0% (0)**
Pacific	0.0% (0) 13.5% (137) 1.5% (10)	2.8% (2) 9.9% (99) 8.6% (67)	0.3% (1) 12.7% (119) 24.1% (116)	**3.1% (3)** **36.0% (355)** **34.2% (193)**
Emerging	0.0% (0) 0.0% (0) 0.0% (0)	5.1% (2) 0.0% (0) 0.0% (0)	2.8% (3) 0.0% (0) 0.0% (0)	**8.0% (5)** **0.0% (0)** **0.0% (0)**
Total	**15.4% (8)** **33.0% (294)** **2.5% (22)**	**22.1% (13)** **27.1% (226)** **18.9% (133)**	**62.4% (30)** **39.9% (272)** **78.5% (268)**	**100.0% (51)** **100.0% (792)** **100.0% (423)**

Combined Z-Score Style Distribution
Holdings as of December 31, 2022



Sector Weights Distribution
Holdings as of December 31, 2022

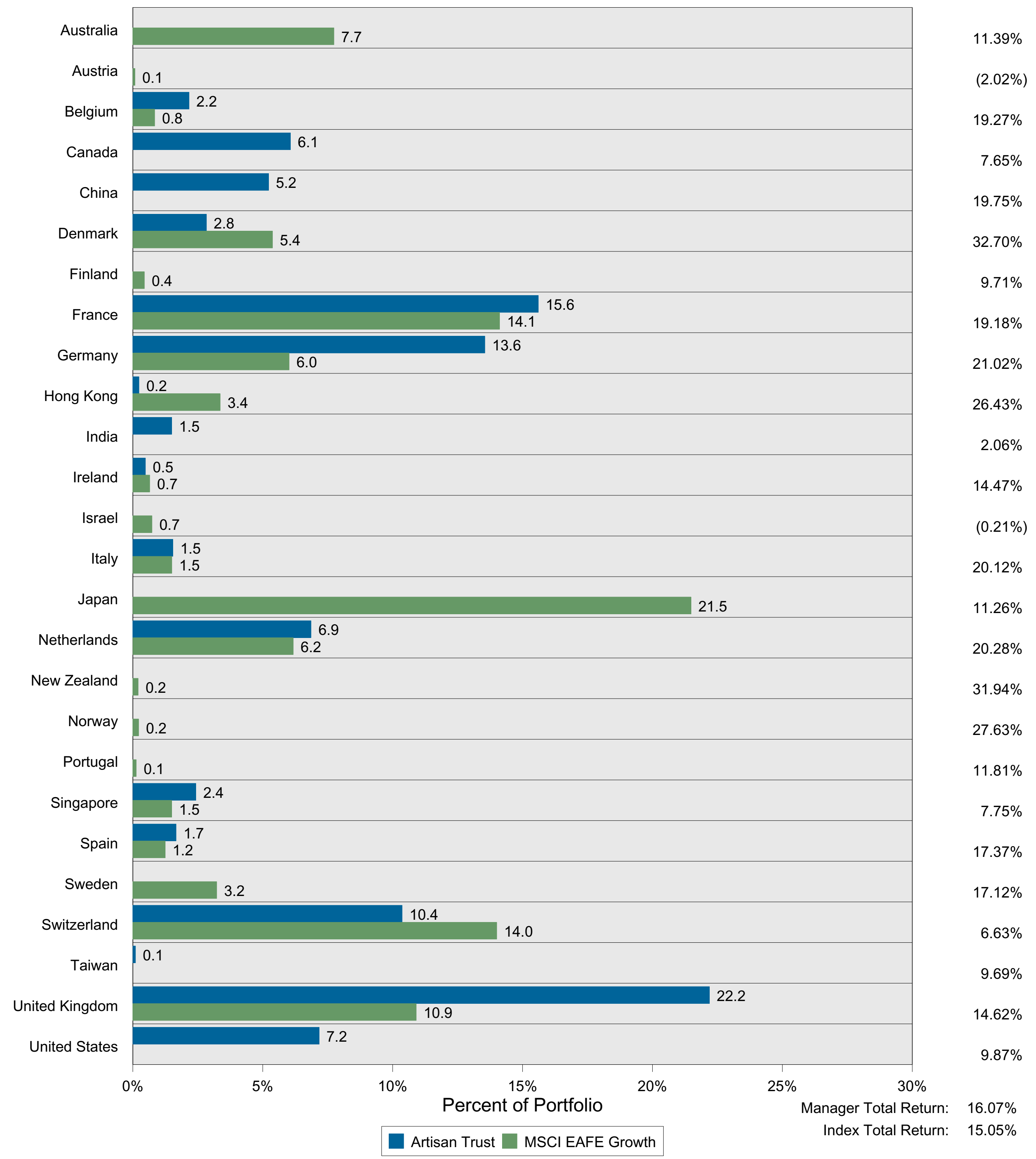


Country Allocation
Artisan Trust VS MSCI EAFE Growth (Net)

Country Allocation

The chart below contrasts the portfolio's country allocation with that of the index as of December 31, 2022. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent quarter. To the extent that the portfolio allocation is similar to the index, the portfolio should experience more "index-like" performance. In order to illustrate the performance effect on the portfolio and index of these country allocations, the individual index country returns are also shown.

Country Weights as of December 31, 2022

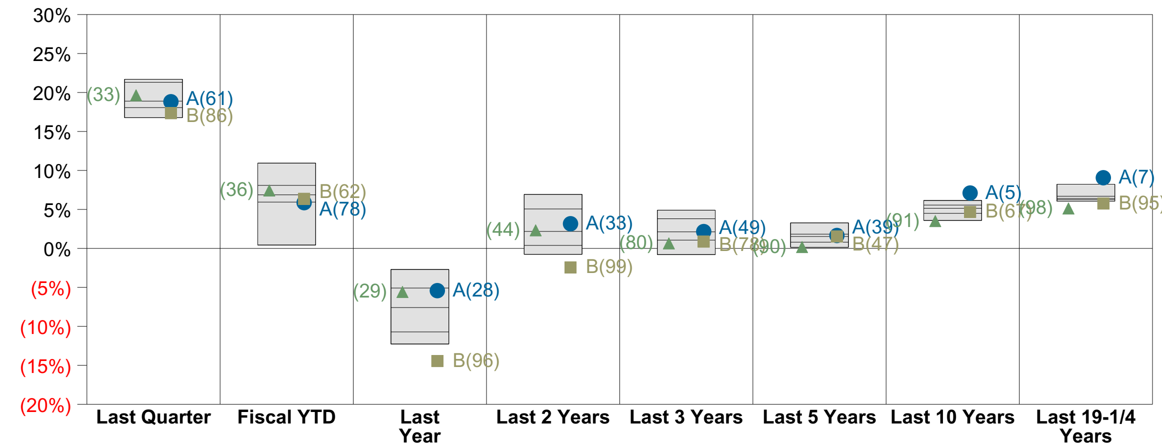


Silchester
Period Ended December 31, 2022

Investment Philosophy
Silchester is a London based, employee-owned, investment management firm focused on the International Value portfolio. The team is tenured and well resourced with 10 investment professionals responsible for decision making. The process is fundamentally based and seeks to maximize intrinsic value of the assets, earnings and dividends a company delivers to the investor, by focusing on price and quality. The International Equity strategy has historically exhibited value-tilted characteristics and smaller market capitalization than its international equity peers. Given the philosophy and construction process, the strategy can be expected to slightly trail or remain in-line with the index in strong up markets but provide the majority of outperformance through downside protection; it should be evaluated over a full market cycle.

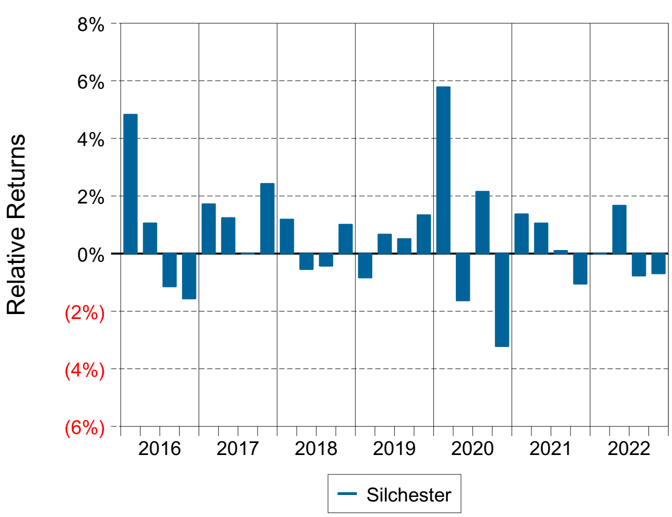
Quarterly Summary and Highlights
- Silchester's portfolio posted a 18.81% return for the quarter placing it in the 61 percentile of the Callan Non-US Developed Value Equity group for the quarter and in the 28 percentile for the last year.
- Silchester's portfolio underperformed the MSCI EAFE Value by 0.83% for the quarter and outperformed the MSCI EAFE Value for the year by 0.16%.

Performance vs Callan Non-US Developed Value Equity (Gross)

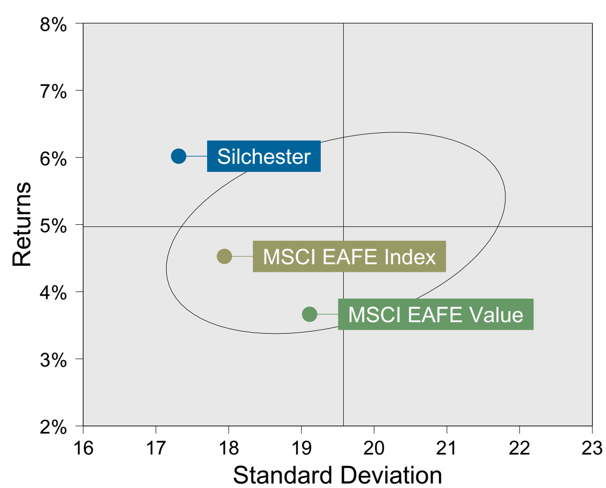


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years	Last 19-1/4 Years
10th Percentile	21.69	10.94	(2.70)	6.93	4.90	3.28	6.15	8.23
25th Percentile	21.31	8.08	(5.08)	5.06	3.80	1.83	5.56	6.69
Median	18.89	6.87	(7.59)	2.18	2.12	1.53	5.15	6.41
75th Percentile	18.06	5.94	(10.72)	0.38	1.06	0.80	4.50	6.25
90th Percentile	16.77	0.43	(12.26)	(0.76)	(0.80)	0.13	3.59	6.05
Silchester ● A	18.81	5.87	(5.42)	3.16	2.16	1.66	7.10	9.06
MSCI EAFE Index ■ B	17.34	6.36	(14.45)	(2.44)	0.87	1.54	4.67	5.76
MSCI EAFE Value ▲	19.64	7.43	(5.58)	2.32	0.65	0.17	3.51	5.13

Relative Return vs MSCI EAFE Value



Callan Non-US Developed Value Equity (Gross) Annualized Seven Year Risk vs Return

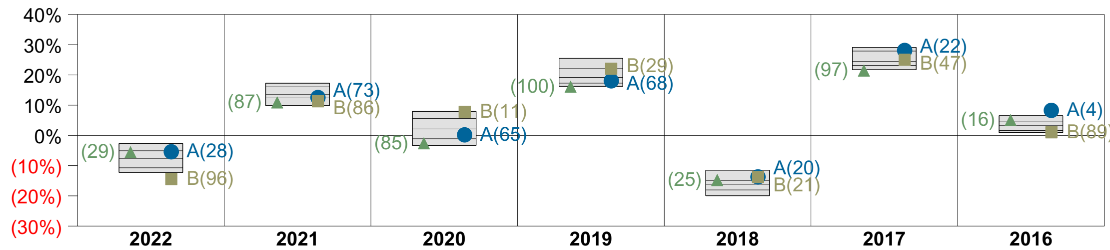


Silchester
Return Analysis Summary

Return Analysis

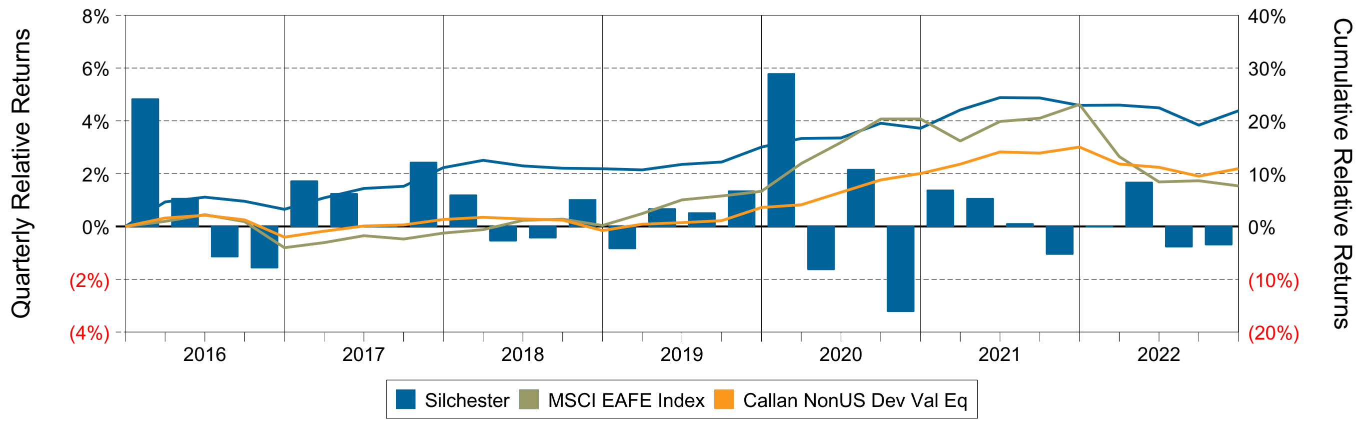
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Non-US Developed Value Equity (Gross)

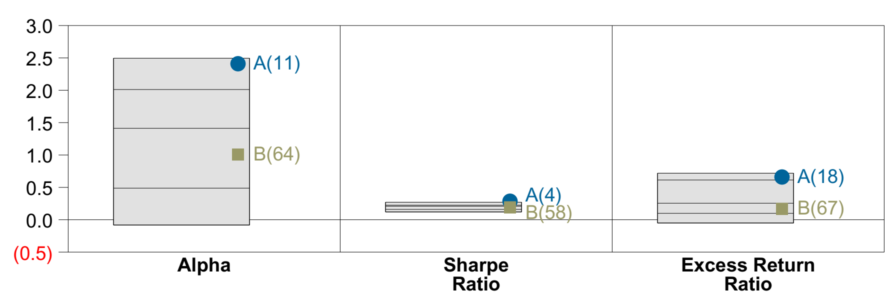


		2022	2021	2020	2019	2018	2017	2016
10th Percentile		(2.70)	17.27	7.94	25.50	(11.52)	29.10	6.52
25th Percentile		(5.08)	16.06	5.62	22.08	(14.88)	27.89	4.47
Median		(7.59)	13.48	2.13	19.18	(16.16)	24.44	3.34
75th Percentile		(10.72)	12.39	(1.11)	17.29	(18.04)	23.14	1.64
90th Percentile		(12.26)	9.85	(3.32)	16.23	(19.96)	21.73	0.93
Silchester	● A	(5.42)	12.52	0.17	18.05	(13.74)	28.09	8.27
MSCI EAFE Index	■ B	(14.45)	11.26	7.82	22.01	(13.79)	25.03	1.00
MSCI EAFE Value	▲	(5.58)	10.89	(2.63)	16.09	(14.78)	21.44	5.02

Cumulative and Quarterly Relative Returns vs MSCI EAFE Value



Risk Adjusted Return Measures vs MSCI EAFE Value
Rankings Against Callan Non-US Developed Value Equity (Gross)
Seven Years Ended December 31, 2022



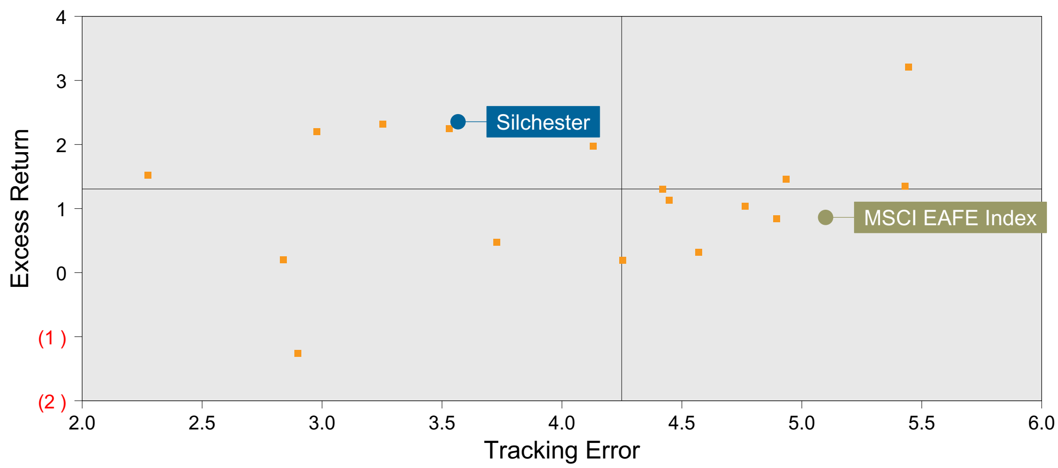
		Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile		2.49	0.27	0.72
25th Percentile		2.01	0.22	0.61
Median		1.41	0.21	0.25
75th Percentile		0.49	0.16	0.10
90th Percentile		(0.08)	0.12	(0.05)
Silchester	● A	2.41	0.29	0.66
MSCI EAFE Index	■ B	1.01	0.19	0.17

Silchester
Risk Analysis Summary

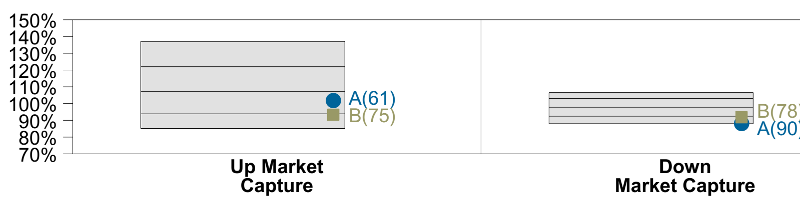
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

Risk Analysis vs Callan Non-US Developed Value Equity (Gross)
Seven Years Ended December 31, 2022

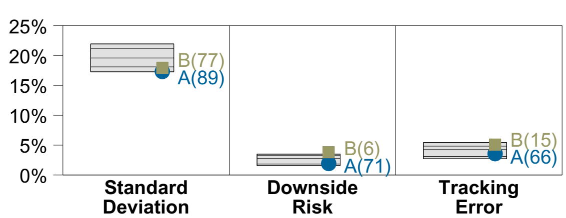


Market Capture vs MSCI EAFE Value (Net)
Rankings Against Callan Non-US Developed Value Equity (Gross)
Seven Years Ended December 31, 2022

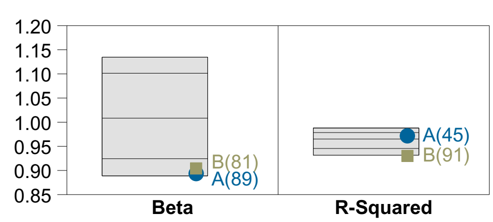


	Up Market Capture	Down Market Capture
10th Percentile	137.15	106.50
25th Percentile	122.01	103.00
Median	107.25	97.79
75th Percentile	93.90	92.46
90th Percentile	85.15	87.93
Silchester ● A	101.80	88.09
MSCI EAFE Index ■ B	93.43	91.78

Risk Statistics Rankings vs MSCI EAFE Value (Net)
Rankings Against Callan Non-US Developed Value Equity (Gross)
Seven Years Ended December 31, 2022



	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	21.93	3.50	5.43
25th Percentile	21.18	3.30	4.83
Median	19.58	2.75	4.25
75th Percentile	18.09	1.83	3.11
90th Percentile	17.26	1.57	2.72
Silchester ● A	17.31	1.92	3.57
MSCI EAFE Index ■ B	17.94	3.81	5.10



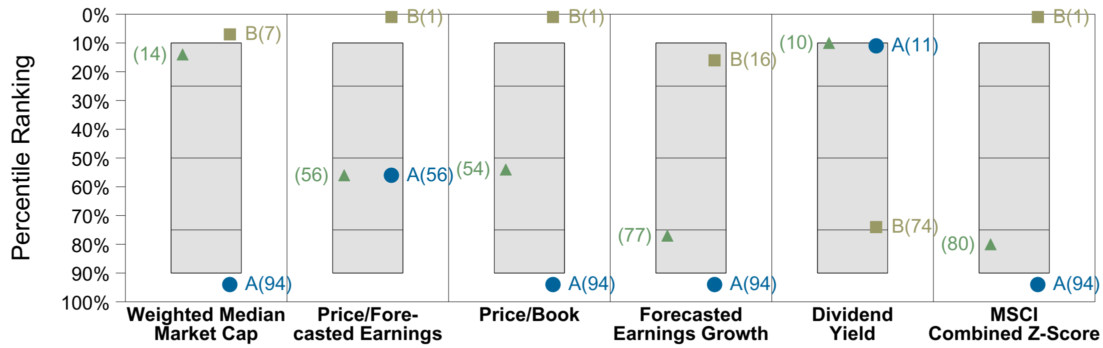
	Beta	R-Squared
10th Percentile	1.13	0.99
25th Percentile	1.10	0.98
Median	1.01	0.97
75th Percentile	0.92	0.95
90th Percentile	0.89	0.93
Silchester ● A	0.89	0.97
MSCI EAFE Index ■ B	0.90	0.93

Silchester
Equity Characteristics Analysis Summary

Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings
Rankings Against Callan Non-US Developed Value Equity
as of December 31, 2022

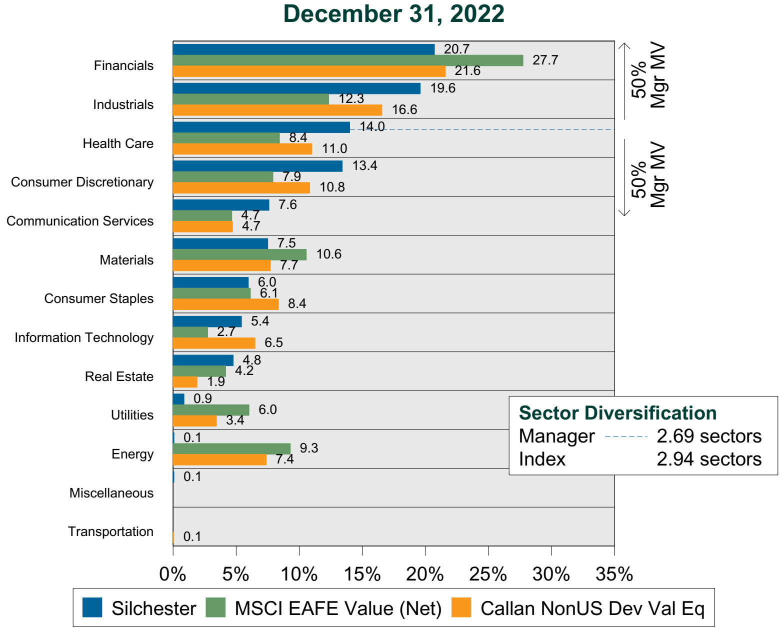


		Weighted Median Market Cap	Price/Fore-casted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
10th Percentile		38.78	10.89	1.34	11.86	4.43	(0.35)
25th Percentile		30.39	10.01	1.30	9.38	4.14	(0.49)
Median		27.42	9.20	1.18	8.72	3.89	(0.60)
75th Percentile		22.40	8.46	0.96	6.74	3.19	(0.90)
90th Percentile		11.63	7.78	0.88	3.53	3.00	(1.09)
Silchester	● A	6.96	9.18	0.73	2.01	4.37	(1.14)
MSCI EAFE Index	■ B	41.61	12.37	1.60	10.15	3.21	(0.02)
MSCI EAFE Value (Net)	▲	36.77	9.17	1.06	6.53	4.41	(0.94)

Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

Sector Allocation
December 31, 2022



Diversification
December 31, 2022

		Number of Securities	Issue Diversification
10th Percentile		570	55
25th Percentile		238	37
Median		116	24
75th Percentile		56	18
90th Percentile		45	16
Silchester	●	142	31
MSCI EAFE Value (Net)	▲	482	54

Silchester
Top 10 Portfolio Holdings Characteristics
as of December 31, 2022

10 Largest Holdings

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Honda Motor Co Ltd Shs	Consumer Discretionary	$1,704,592	3.2%	3.63%	41.63	6.30	4.12%	9.90%
Sanofi Shs	Health Care	$1,639,992	3.1%	20.55%	121.53	10.46	3.71%	12.30%
Tesco Plc Ord	Consumer Staples	$1,428,123	2.7%	12.23%	19.82	10.71	5.15%	1.26%
Novartis	Health Care	$1,297,985	2.4%	15.52%	217.18	14.08	3.71%	3.83%
Bmw Stamm	Consumer Discretionary	$1,287,001	2.4%	24.27%	53.56	5.95	6.96%	(13.19)%
Randstad Holding NV Ord	Industrials	$1,093,395	2.1%	34.99%	11.18	13.72	3.84%	(3.53)%
Mitsubishi Ufj Finl Group In Shs	Financials	$985,313	1.9%	41.38%	86.67	9.59	3.43%	7.50%
Adecco Sa Cheserex Ord	Industrials	$984,953	1.9%	(15.32)%	5.55	10.04	8.21%	(10.36)%
Ubs Ag Shs New	Financials	$978,084	1.8%	28.01%	65.55	8.36	1.35%	7.46%
Kingfisher Plc Shs	Consumer Discretionary	$886,520	1.7%	20.62%	5.51	9.28	5.25%	(1.35)%

10 Best Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Turkcell Iletisim Hizmet Ord	Communication Services	$347,650	0.7%	89.27%	4.45	7.92	1.51%	31.80%
Sydbank	Financials	$73,812	0.1%	52.79%	2.45	8.34	4.10%	8.25%
De Longhi	Consumer Discretionary	$10,343	0.0%	51.67%	3.38	15.19	3.96%	(0.90)%
Posco Shs	Materials	$413,088	0.8%	49.62%	18.49	5.56	6.51%	(8.33)%
Hysan Dev Ltd Ord	Real Estate	$404,591	0.8%	48.63%	3.33	11.54	5.69%	(1.20)%
Sangetsu Co Ltd Ord	Consumer Discretionary	$32,809	0.1%	47.63%	0.96	9.52	3.49%	13.42%
Tiger Brands	Consumer Staples	$532,599	1.0%	44.27%	2.23	12.25	4.63%	(18.42)%
Heidelbergcement Ag Shs	Materials	$65,491	0.1%	41.94%	11.05	7.75	4.48%	3.65%
Mitsubishi Ufj Finl Group In Shs	Financials	$985,313	1.9%	41.38%	86.67	9.59	3.43%	7.50%
Ryosan Co Ltd Shs	Information Technology	$134,468	0.3%	40.76%	0.54	12.55	5.10%	15.59%

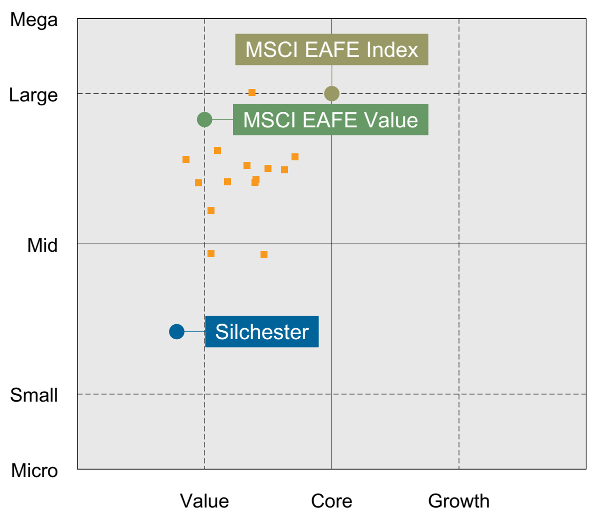
10 Worst Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Colruyt Sa Halle Strip Vvpr	Consumer Staples	$171,620	0.3%	(20.60)%	3.05	12.81	3.62%	(8.25)%
Credit Suisse Group Ord Cl D	Financials	$496,971	0.9%	(19.65)%	11.96	15.48	3.62%	23.71%
Adecco Sa Cheserex Ord	Industrials	$984,953	1.9%	(15.32)%	5.55	10.04	8.21%	(10.36)%
Dowa Holdings Co Ltd Shs	Materials	$429,349	0.8%	(13.57)%	1.95	7.00	2.41%	(6.20)%
Genomma Lab Interntntl Sab C Shs B	Health Care	$116,309	0.2%	(8.55)%	0.91	8.70	4.69%	15.00%
Television Broadcasts Ltd Ordinary S	Communication Services	$43,499	0.1%	(7.01)%	0.21	(7.28)	0.00%	-
Royal Philips NV Shs	Health Care	$84,657	0.2%	(6.05)%	13.29	13.20	6.07%	(1.65)%
Alfresa Holdings	Health Care	$425,644	0.8%	(4.32)%	2.58	13.44	3.28%	(14.54)%
Sumitomo Heavy Industries Lt Shs	Industrials	$456,889	0.9%	(2.92)%	2.46	8.58	4.73%	9.02%
Golden Agri Resources Ltd Shs	Consumer Staples	$353,217	0.7%	(2.49)%	2.39	6.00	7.20%	(53.39)%

Current Holdings Based Style Analysis
Silchester
As of December 31, 2022

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

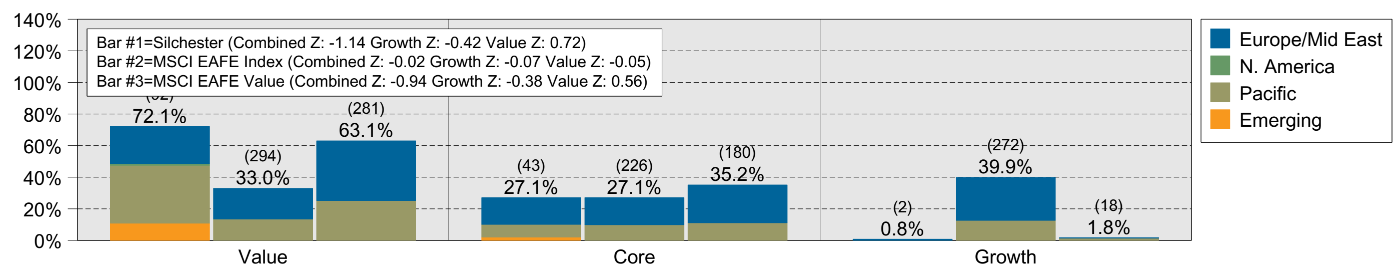
Style Map vs Callan NonUS Dev Val Eq
Holdings as of December 31, 2022



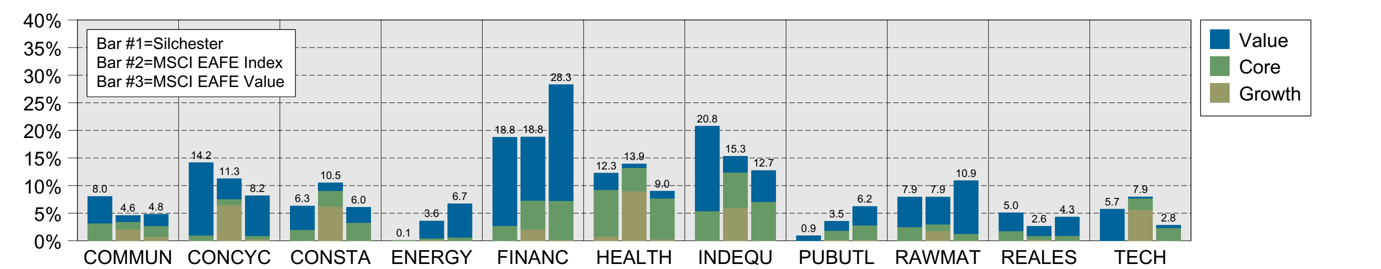
Style Exposure Matrix
Holdings as of December 31, 2022

	Value	Core	Growth	Total
Europe/ Mid East	23.5% (27) 19.5% (157) 37.8% (151)	17.0% (21) 17.2% (127) 24.0% (108)	0.8% (2) 27.3% (153) 0.4% (7)	**41.3% (50)** **64.0% (437)** **62.2% (266)**
N. America	1.1% (1) 0.0% (0) 0.0% (0)	0.0% (0) 0.0% (0) 0.0% (0)	0.0% (0) 0.0% (0) 0.0% (0)	**1.1% (1)** **0.0% (0)** **0.0% (0)**
Pacific	36.6% (48) 13.5% (137) 25.3% (130)	8.0% (18) 9.9% (99) 11.1% (72)	0.0% (0) 12.7% (119) 1.4% (11)	**44.7% (66)** **36.0% (355)** **37.8% (213)**
Emerging	10.8% (16) 0.0% (0) 0.0% (0)	2.1% (4) 0.0% (0) 0.0% (0)	0.0% (0) 0.0% (0) 0.0% (0)	**12.9% (20)** **0.0% (0)** **0.0% (0)**
Total	**72.1% (92)** **33.0% (294)** **63.1% (281)**	**27.1% (43)** **27.1% (226)** **35.2% (180)**	**0.8% (2)** **39.9% (272)** **1.8% (18)**	**100.0% (137)** **100.0% (792)** **100.0% (479)**

Combined Z-Score Style Distribution
Holdings as of December 31, 2022



Sector Weights Distribution
Holdings as of December 31, 2022

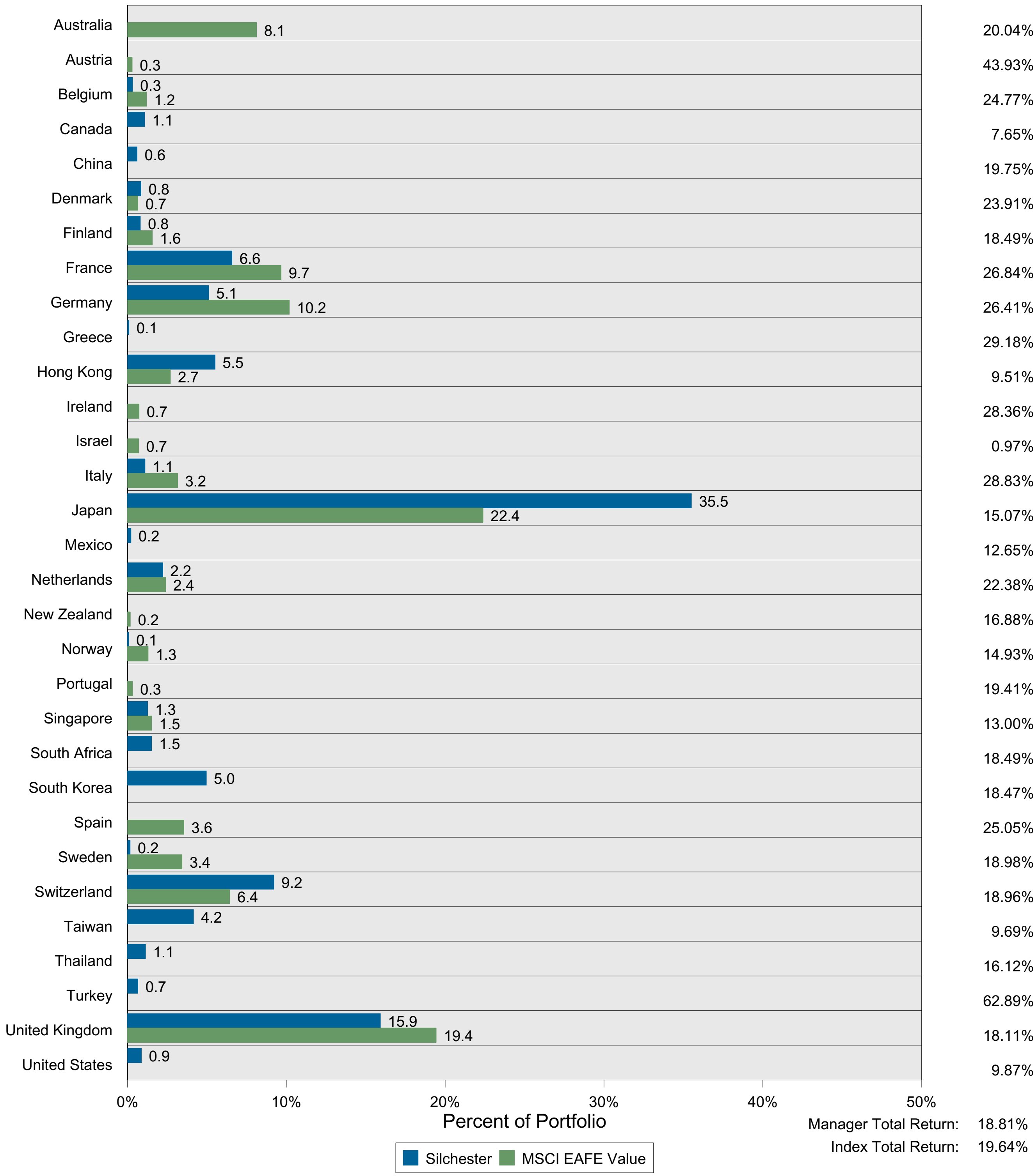


Country Allocation
Silchester VS MSCI EAFE Value (Net)

Country Allocation

The chart below contrasts the portfolio's country allocation with that of the index as of December 31, 2022. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent quarter. To the extent that the portfolio allocation is similar to the index, the portfolio should experience more "index-like" performance. In order to illustrate the performance effect on the portfolio and index of these country allocations, the individual index country returns are also shown.

Country Weights as of December 31, 2022 — Index Rtns



BlackRock EM Alpha Tilts
Period Ended December 31, 2022

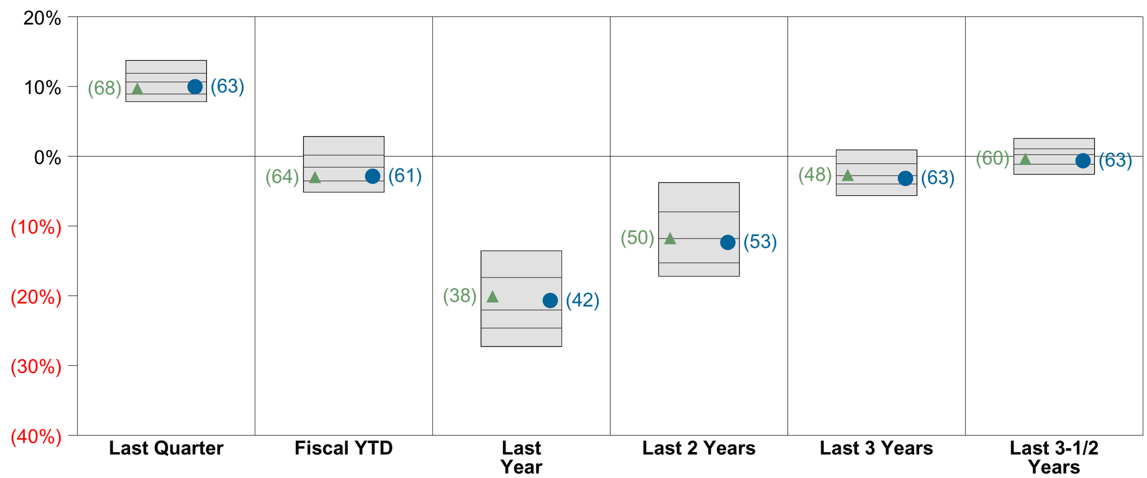
Investment Philosophy

BlackRock's Emerging Markets Opportunities Fund (EMOF), managed by BlackRock's Systematic Active Equity Team, offers investors active exposure to emerging markets equities as represented by the MSCI Emerging Markets Index. The EMOF strategy utilizes return forecasting techniques to identify opportunities across emerging markets. These opportunities are captured by over and underweighting securities and countries while managing the overall risk to the fund. The Fund's predicted alpha is 3-6% annualized over a market cycle, with 3-6% active risk. Overall, the strategy seeks to deliver absolute risk levels similar to that of the index

Quarterly Summary and Highlights

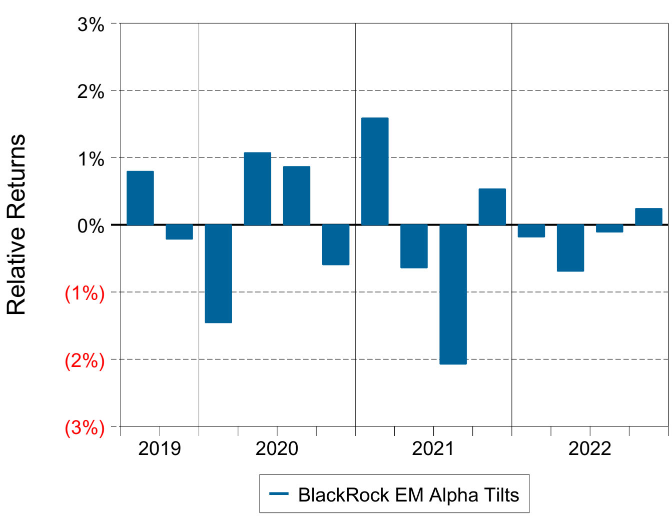
- BlackRock EM Alpha Tilts's portfolio posted a 9.97% return for the quarter placing it in the 63 percentile of the Callan Emerging Broad group for the quarter and in the 42 percentile for the last year.
- BlackRock EM Alpha Tilts's portfolio outperformed the MSCI EM by 0.26% for the quarter and underperformed the MSCI EM for the year by 0.59%.

Performance vs Callan Emerging Broad (Gross)

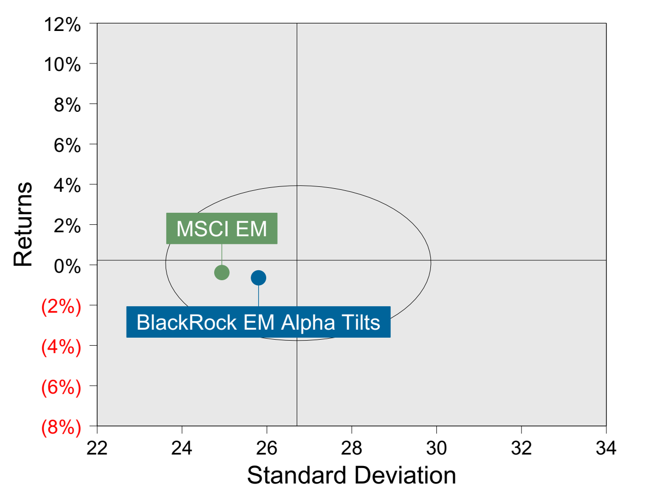


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 3-1/2 Years
10th Percentile	13.74	2.83	(13.55)	(3.77)	0.92	2.56
25th Percentile	11.90	0.16	(17.38)	(7.97)	(1.07)	1.06
Median	10.65	(1.57)	(22.04)	(11.79)	(2.78)	0.23
75th Percentile	8.92	(3.54)	(24.63)	(15.28)	(3.98)	(1.14)
90th Percentile	7.82	(5.15)	(27.28)	(17.20)	(5.65)	(2.60)
BlackRock EM Alpha Tilts ●	9.97	(2.86)	(20.68)	(12.35)	(3.18)	(0.64)
MSCI EM ▲	9.70	(2.99)	(20.09)	(11.75)	(2.69)	(0.38)

Relative Return vs MSCI EM



Callan Emerging Broad (Gross)
Annualized Three and One-Half Year Risk vs Return

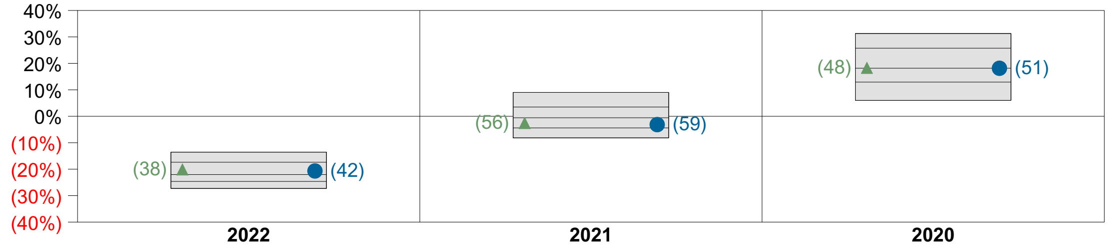


BlackRock EM Alpha Tilts
Return Analysis Summary

Return Analysis

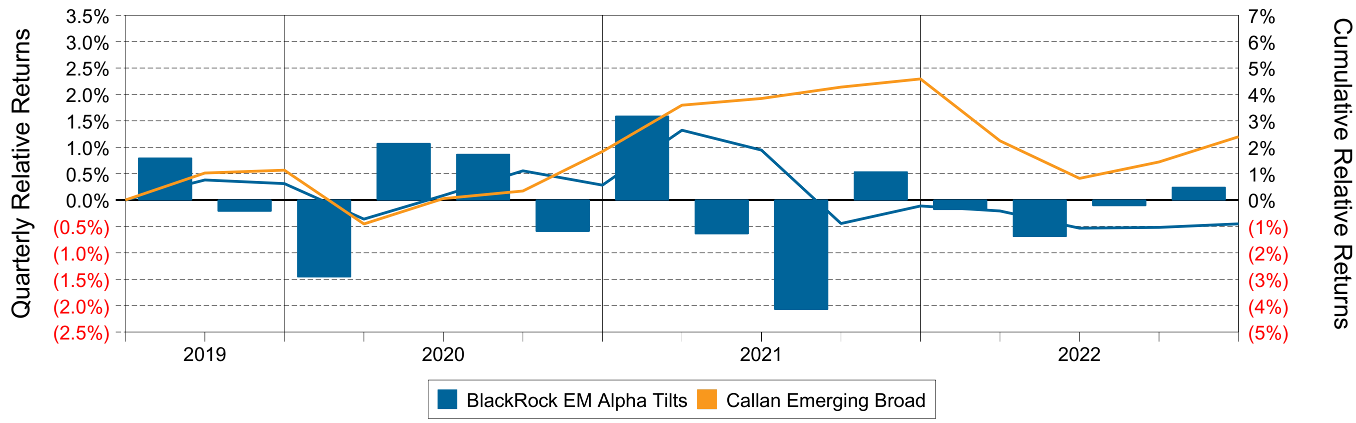
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Emerging Broad (Gross)

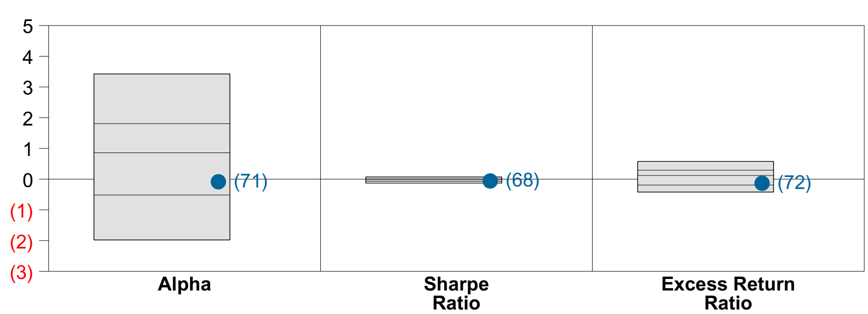


	2022	2021	2020
10th Percentile	(13.55)	9.02	31.29
25th Percentile	(17.38)	3.49	25.73
Median	(22.04)	(0.57)	18.17
75th Percentile	(24.63)	(4.40)	12.92
90th Percentile	(27.28)	(8.17)	6.00
BlackRock EM Alpha Tilts ●	(20.68)	(3.15)	18.15
MSCI EM ▲	(20.09)	(2.54)	18.31

Cumulative and Quarterly Relative Returns vs MSCI EM



Risk Adjusted Return Measures vs MSCI EM
Rankings Against Callan Emerging Broad (Gross)
Three and One-Half Years Ended December 31, 2022



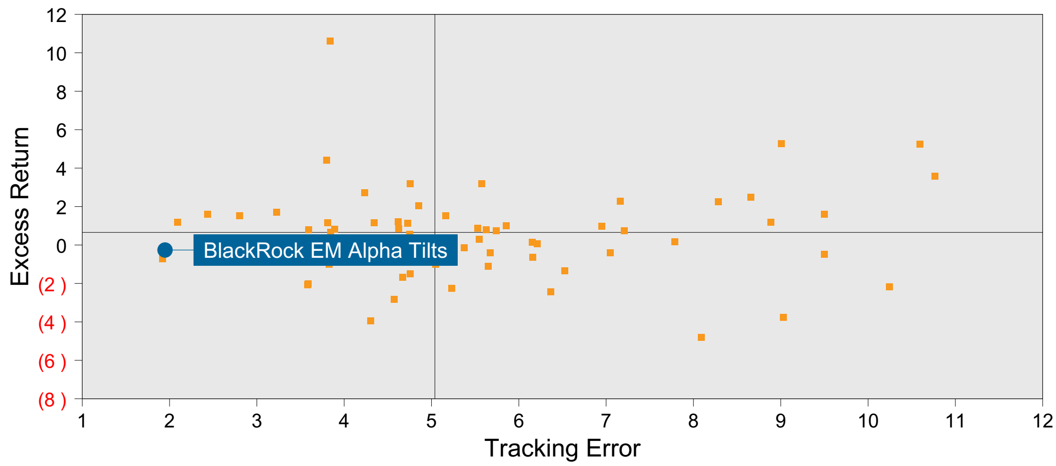
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	3.42	0.07	0.58
25th Percentile	1.81	0.01	0.29
Median	0.86	(0.02)	0.12
75th Percentile	(0.52)	(0.08)	(0.19)
90th Percentile	(1.98)	(0.13)	(0.42)
BlackRock EM Alpha Tilts ●	(0.09)	(0.06)	(0.13)

BlackRock EM Alpha Tilts
Risk Analysis Summary

Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

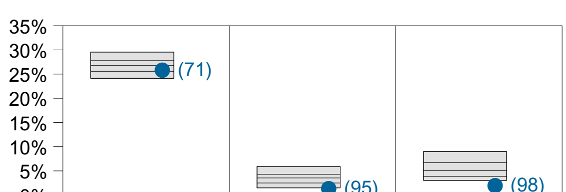
Risk Analysis vs Callan Emerging Broad (Gross)
Three and One-Half Years Ended December 31, 2022

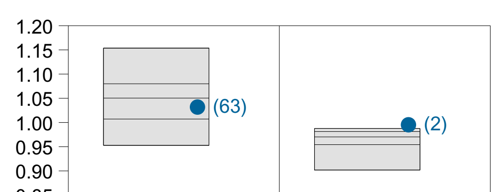


Market Capture vs MSCI Emerging Markets (Net)
Rankings Against Callan Emerging Broad (Gross)
Three and One-Half Years Ended December 31, 2022

	Up Market Capture	Down Market Capture
10th Percentile	127.64	111.88
25th Percentile	117.46	106.93
Median	107.18	101.89
75th Percentile	101.10	97.26
90th Percentile	94.62	93.73
BlackRock EM Alpha Tilts ●	104.55	102.96

Risk Statistics Rankings vs MSCI Emerging Markets (Net)
Rankings Against Callan Emerging Broad (Gross)
Three and One-Half Years Ended December 31, 2022





	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	29.55	5.94	9.01
25th Percentile	27.79	4.28	6.73
Median	26.77	3.55	5.04
75th Percentile	25.57	2.50	3.83
90th Percentile	24.13	1.50	3.04
BlackRock EM Alpha Tilts ●	25.80	1.34	1.95

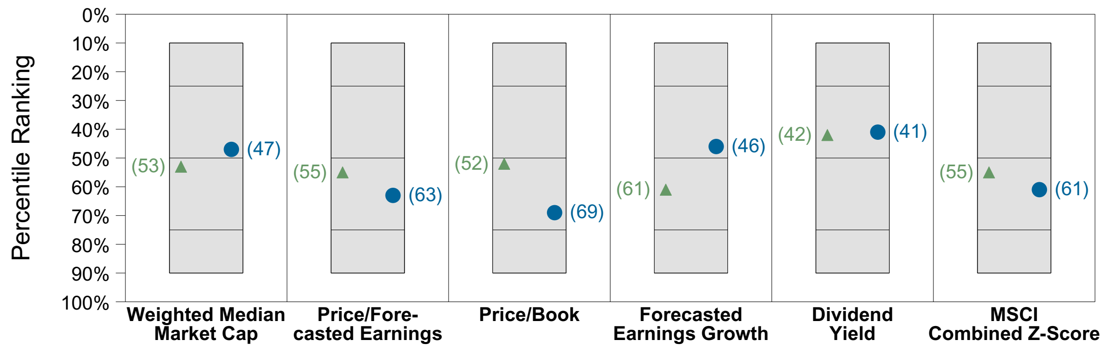
	Beta	R-Squared
10th Percentile	1.15	0.99
25th Percentile	1.08	0.98
Median	1.05	0.97
75th Percentile	1.01	0.95
90th Percentile	0.95	0.90
BlackRock EM Alpha Tilts ●	1.03	1.00

BlackRock EM Alpha Tilts
Equity Characteristics Analysis Summary

Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings
Rankings Against Callan Emerging Broad
as of December 31, 2022

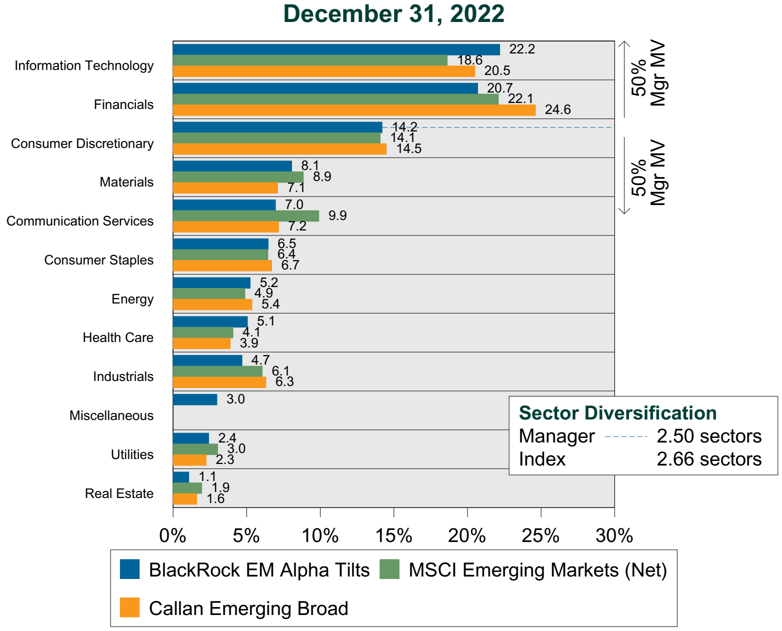


	Weighted Median Market Cap	Price/Fore-casted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
10th Percentile	45.79	16.43	2.57	18.60	6.22	0.53
25th Percentile	36.90	15.01	2.19	17.18	4.12	0.38
Median	25.03	11.98	1.47	15.61	2.90	0.09
75th Percentile	14.16	8.59	1.12	11.98	1.98	(0.31)
90th Percentile	8.60	7.06	0.84	9.78	1.63	(0.72)
BlackRock EM Alpha Tilts ●	25.87	10.30	1.21	16.23	3.44	(0.09)
MSCI Emerging Markets (Net) ▲	23.87	11.11	1.42	13.97	3.27	(0.02)

Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

Sector Allocation
December 31, 2022



Diversification
December 31, 2022

	Number of Securities	Issue Diversification
10th Percentile	372	47
25th Percentile	143	28
Median	78	18
75th Percentile	59	15
90th Percentile	48	12
BlackRock EM Alpha Tilts ●	1478	41
MSCI Emerging Markets (Net) ▲	1375	88

BlackRock EM Alpha Tilts
Top 10 Portfolio Holdings Characteristics
as of December 31, 2022

10 Largest Holdings

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Taiwan Semicond Manufac Co L Shs	Information Technology	$1,045,915	5.8%	10.41%	378.38	12.17	2.45%	20.84%
Tencent Holdings Limited Shs Par Hkd	Communication Services	$897,484	5.0%	32.08%	409.48	20.55	0.48%	10.10%
Samsung Electronics Co Ltd Ord	Information Technology	$564,889	3.2%	4.87%	261.07	14.84	2.61%	(5.00)%
Alibaba Group Holding Ltd	Consumer Discretionary	$516,732	2.9%	14.03%	234.11	10.69	0.00%	10.18%
Icici Bank Limited Shs Dematerial	Financials	$262,768	1.5%	1.62%	75.12	18.25	0.56%	19.86%
Al-Rajhi Bkg.&inv.	Financials	$253,986	1.4%	(8.87)%	80.04	15.91	1.58%	10.18%
Meituan Dianping Hk/03690	Consumer Discretionary	$250,428	1.4%	8.70%	124.19	75.87	0.00%	-
Ping An Insurance H	Financials	$237,598	1.3%	36.12%	49.29	5.72	6.35%	9.23%
Tata Consultancy	Information Technology	$237,404	1.3%	6.86%	144.04	25.82	1.38%	10.98%
China Merchants Bk 'h' Cny1	Financials	$205,754	1.1%	16.71%	25.68	6.50	4.29%	12.81%

10 Best Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Hektas Ticaret	Materials	$119	0.0%	125.37%	5.08	134.00	0.00%	19.18%
Longfor Properties	Real Estate	$305	0.0%	120.33%	19.56	5.44	8.22%	10.58%
Shai.Baosight Software B	Information Technology	$81	0.0%	116.99%	1.56	14.35	2.51%	52.41%
Tencent Music Entmt Group Spon Ads	Communication Services	$25,389	0.1%	116.02%	6.93	18.65	0.00%	(1.87)%
Aselsan	Industrials	$118	0.0%	111.13%	7.57	14.19	0.32%	38.75%
Iqiyi Inc Sponsored Ads	Communication Services	$94	0.0%	107.18%	2.06	44.17	0.00%	(8.00)%
Turk Hava Yollari Ao Shs	Industrials	$216	0.0%	97.65%	10.39	6.45	0.00%	6.70%
Meritz Secs.	Financials	$66	0.0%	92.11%	3.04	6.92	1.60%	19.02%
Meritz Fire & Marne Ins Co L Shs	Financials	$72	0.0%	90.62%	4.37	6.35	1.25%	(5.27)%
21 Cn Cybernet Corp.	Consumer Discretionary	$210	0.0%	90.34%	11.52	213.00	0.00%	9.78%

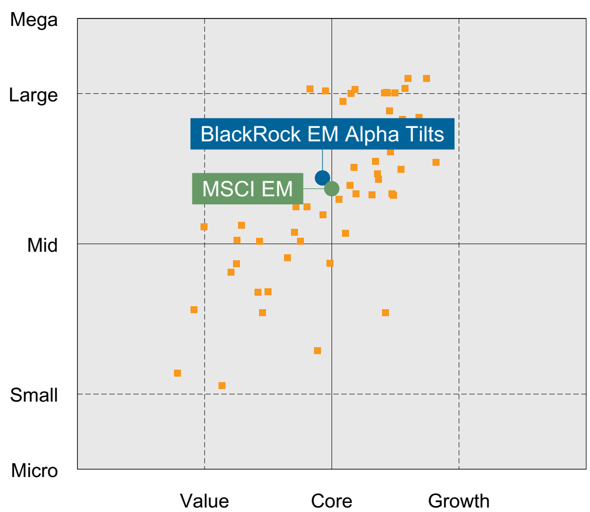
10 Worst Performers

Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Price/ Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
Bank Artos Indonesia	Financials	$52	0.0%	(44.87)%	3.28	240.00	0.00%	-
Magazine Luiza Sa	Consumer Discretionary	$82	0.0%	(37.34)%	3.50	173.33	1.53%	15.06%
Goertek 'a'	Information Technology	$26	0.0%	(34.56)%	8.27	11.80	1.19%	7.66%
Nio Inc Ads	Consumer Discretionary	$5,400	0.0%	(34.50)%	14.84	(16.64)	0.00%	-
Perdigao S A Ord	Consumer Staples	$49	0.0%	(34.14)%	1.70	14.27	0.00%	45.42%
Sime Darby Berhad Ord	Industrials	$74	0.0%	(32.16)%	3.56	13.05	5.00%	4.48%
Kukje Precision	Health Care	$128	0.0%	(32.11)%	2.73	(394.04)	0.00%	-
China Ship.Dev.Co. A	Energy	$19	0.0%	(31.36)%	6.02	14.18	0.00%	(9.65)%
Hapvida Partp.E Invms.On	Health Care	$233	0.0%	(31.25)%	6.87	34.29	0.86%	21.33%
Dar Al Arkan Rl Est Dvlp	Real Estate	$85	0.0%	(31.19)%	3.34	22.39	0.00%	(7.65)%

Current Holdings Based Style Analysis
BlackRock EM Alpha Tilts
As of December 31, 2022

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

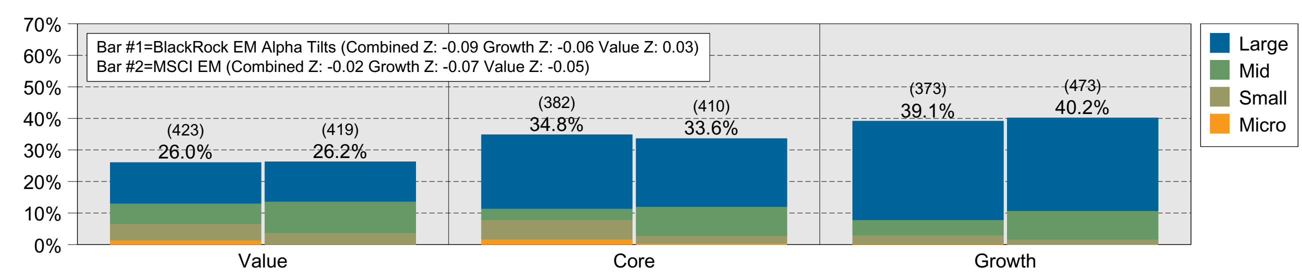
Style Map vs Callan Emerging Broad
Holdings as of December 31, 2022



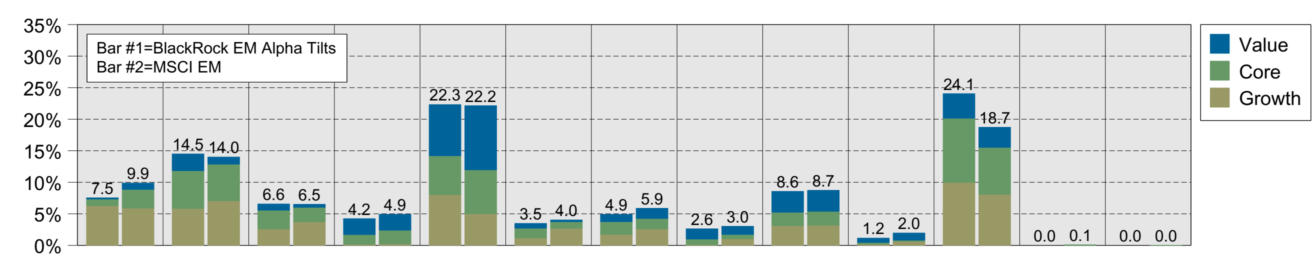
Style Exposure Matrix
Holdings as of December 31, 2022

	Value	Core	Growth	Total
Large	12.9% (77) 12.6% (87)	23.4% (77) 21.6% (77)	31.3% (93) 29.4% (105)	**67.7% (247)** **63.5% (269)**
Mid	6.5% (174) 10.0% (186)	3.6% (190) 9.3% (221)	4.8% (194) 9.1% (272)	**14.9% (558)** **28.3% (679)**
Small	5.2% (158) 3.6% (142)	6.1% (112) 2.4% (111)	2.8% (84) 1.6% (95)	**14.1% (354)** **7.7% (348)**
Micro	1.4% (14) 0.1% (4)	1.7% (3) 0.3% (1)	0.2% (2) 0.0% (1)	**3.3% (19)** **0.5% (6)**
Total	**26.0% (423)** **26.2% (419)**	**34.8% (382)** **33.6% (410)**	**39.1% (373)** **40.2% (473)**	**100.0% (1178)** **100.0% (1302)**

Combined Z-Score Style Distribution
Holdings as of December 31, 2022



Sector Weights Distribution
Holdings as of December 31, 2022

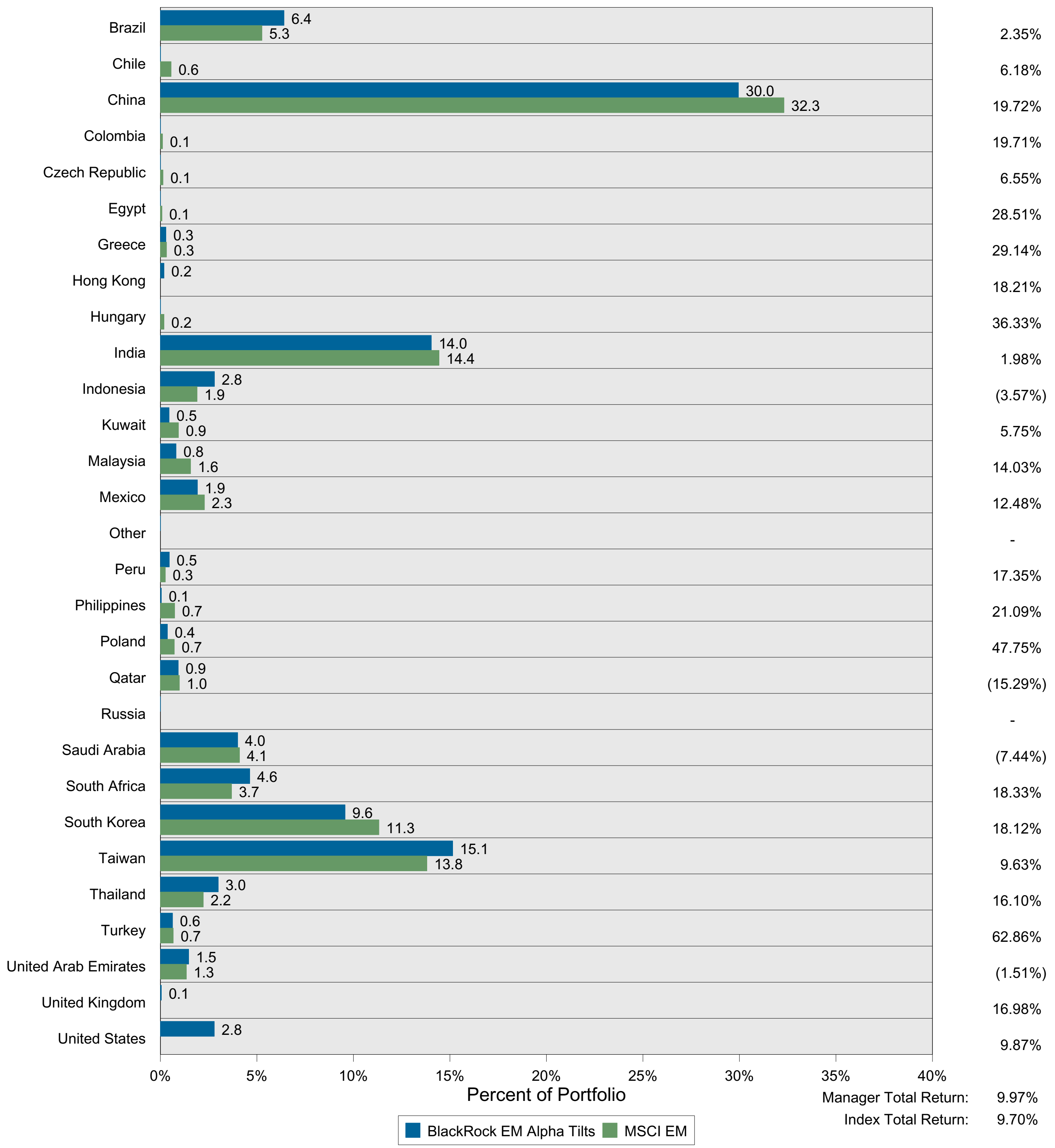


Country Allocation
BlackRock EM Alpha Tilts VS MSCI Emerging Markets (Net)

Country Allocation

The chart below contrasts the portfolio's country allocation with that of the index as of December 31, 2022. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent quarter. To the extent that the portfolio allocation is similar to the index, the portfolio should experience more "index-like" performance. In order to illustrate the performance effect on the portfolio and index of these country allocations, the individual index country returns are also shown.

Country Weights as of December 31, 2022



Manager Total Return: 9.97%
Index Total Return: 9.70%

ABS Global
Period Ended December 31, 2022

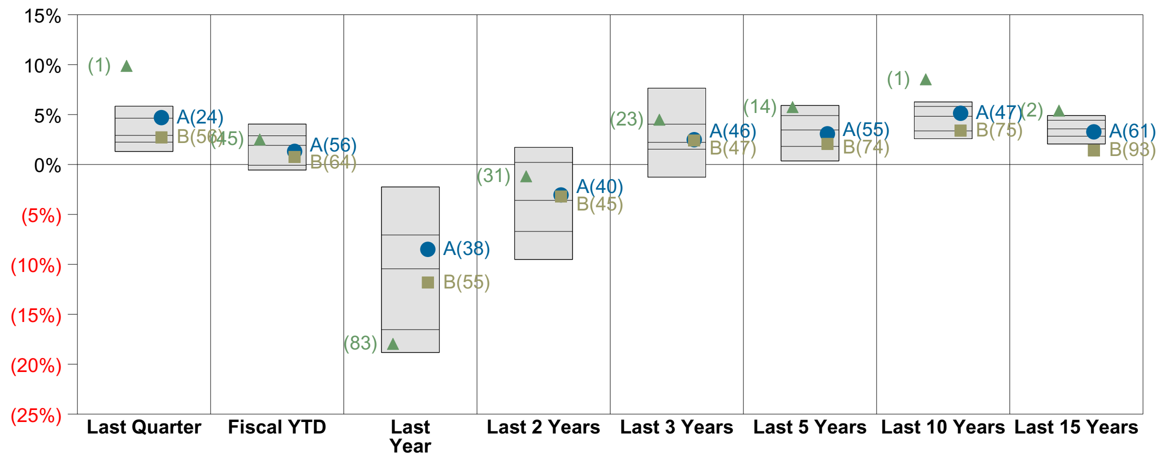
Investment Philosophy

ABS believes that equity long/short strategies provide an attractive long term risk reward profile in all market environments, making it not only an appealing alternative to long-only investing, but also an attractive approach to alternative asset investing. Coupled with their focus on equity long/short strategies, ABS believes that the FoHF portfolio framework enables investors the opportunity to invest in diversified portfolios with less volatility than the general equity markets. ABS manages portfolios employing a fundamental, global investment focus that target global equity market returns with significantly less volatility over a full market cycle.

Quarterly Summary and Highlights

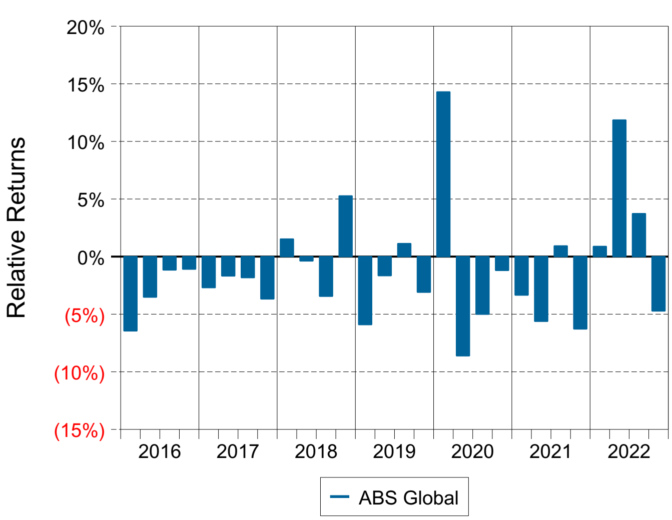
- ABS Global's portfolio posted a 4.70% return for the quarter placing it in the 24 percentile of the Callan Long/Short Equity Fund of Funds group for the quarter and in the 38 percentile for the last year.
- ABS Global's portfolio underperformed the MSCI ACWI GD by 5.19% for the quarter and outperformed the MSCI ACWI GD for the year by 9.46%.

Performance vs Callan Long/Short Equity Fund of Funds (Net)

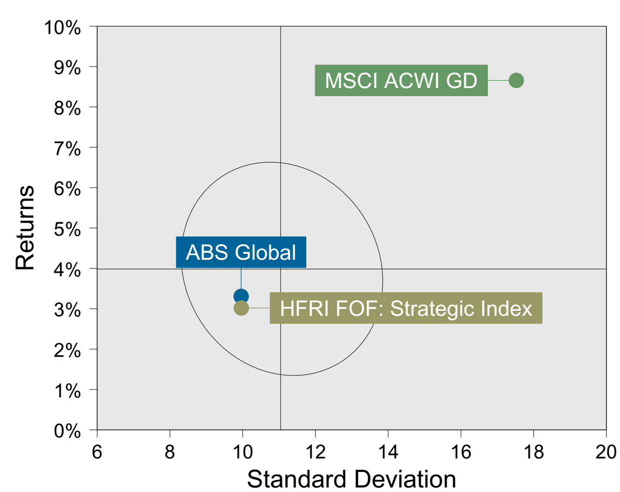


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years	Last 15 Years
10th Percentile	5.84	4.05	(2.25)	1.72	7.64	5.92	6.27	4.90
25th Percentile	4.64	2.88	(7.06)	0.21	4.04	4.90	5.82	4.43
Median	2.92	1.92	(10.45)	(3.59)	2.22	3.46	4.83	3.57
75th Percentile	2.24	(0.07)	(16.54)	(6.70)	1.53	1.81	3.36	2.84
90th Percentile	1.30	(0.55)	(18.83)	(9.52)	(1.27)	0.35	2.58	2.06
ABS Global ● A	4.70	1.32	(8.50)	(3.05)	2.49	3.07	5.13	3.27
HFRI FOF: Strategic Index ■ B	2.72	0.76	(11.82)	(3.20)	2.41	2.07	3.39	1.40
MSCI ACWI GD ▲	9.88	2.51	(17.96)	(1.18)	4.49	5.75	8.54	5.40

Relative Return vs MSCI ACWI GD



Callan Long/Short Equity Fund of Funds (Net)
Annualized Seven Year Risk vs Return

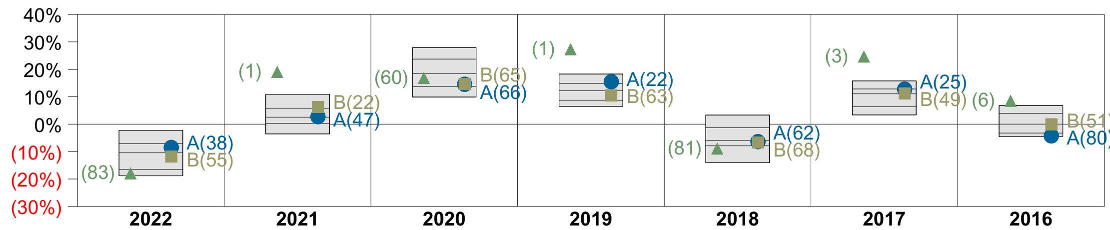


ABS Global
Return Analysis Summary

Return Analysis

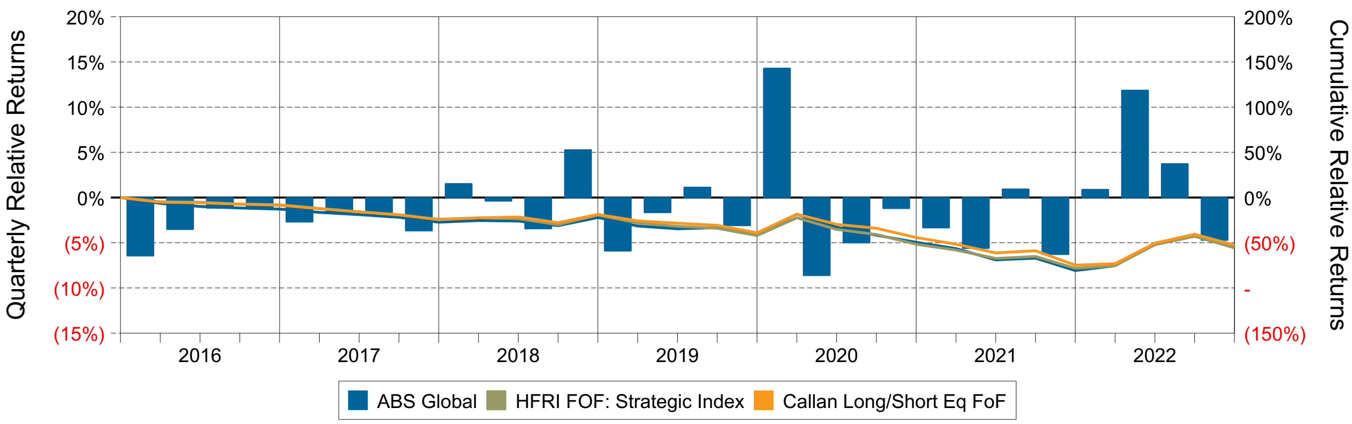
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Long/Short Equity Fund of Funds (Net)

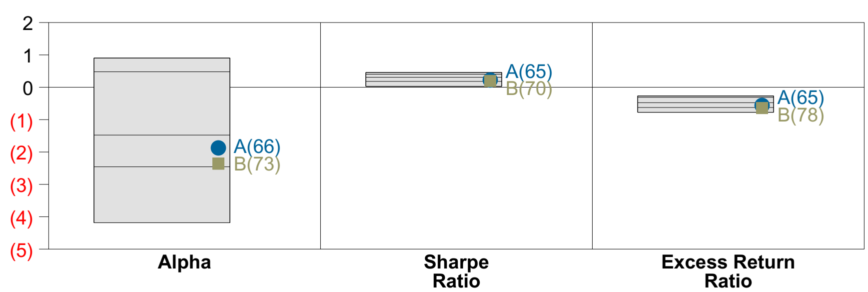


		2022	2021	2020	2019	2018	2017	2016
10th Percentile		(2.25)	10.89	27.92	18.28	3.33	15.77	6.80
25th Percentile		(7.06)	5.82	23.73	14.86	(1.31)	12.83	3.92
Median		(10.45)	2.55	18.44	12.20	(5.96)	11.06	0.02
75th Percentile		(16.54)	0.27	13.73	8.73	(7.90)	6.37	(3.25)
90th Percentile		(18.83)	(3.56)	9.89	6.49	(14.05)	3.37	(4.57)
ABS Global	● A	(8.50)	2.72	14.53	15.45	(6.37)	12.75	(4.28)
HFRI FOF: Strategic Index	■ B	(11.82)	6.26	14.62	10.52	(6.67)	11.22	(0.05)
MSCI ACWI GD	▲	(17.96)	19.04	16.82	27.30	(8.93)	24.62	8.48

Cumulative and Quarterly Relative Returns vs MSCI ACWI GD



Risk Adjusted Return Measures vs MSCI ACWI GD
Rankings Against Callan Long/Short Equity Fund of Funds (Net)
Seven Years Ended December 31, 2022



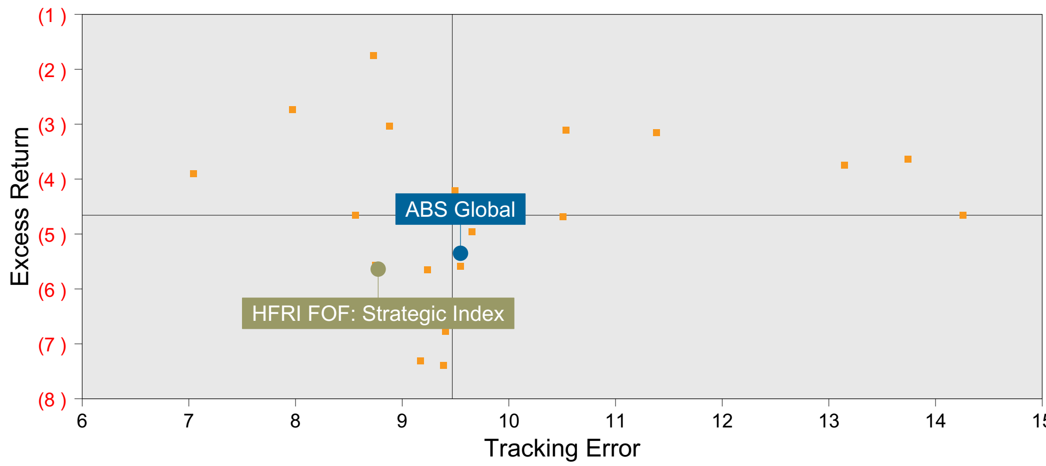
		Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile		0.90	0.46	(0.27)
25th Percentile		0.48	0.40	(0.31)
Median		(1.48)	0.31	(0.48)
75th Percentile		(2.46)	0.18	(0.63)
90th Percentile		(4.19)	0.03	(0.77)
ABS Global	● A	(1.87)	0.22	(0.56)
HFRI FOF: Strategic Index	■ B	(2.36)	0.20	(0.64)

ABS Global
Risk Analysis Summary

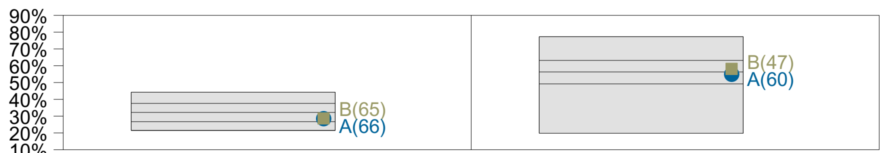
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

Risk Analysis vs Callan Long/Short Equity Fund of Funds (Net)
Seven Years Ended December 31, 2022

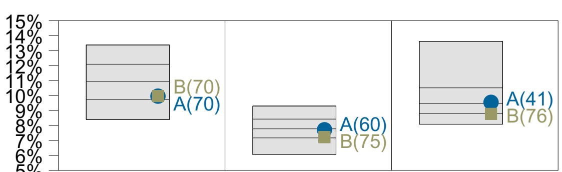


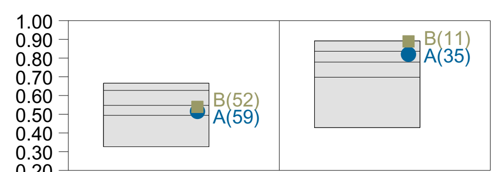
Market Capture vs MSCI ACWI (Gross)
Rankings Against Callan Long/Short Equity Fund of Funds (Net)
Seven Years Ended December 31, 2022



		Up Market Capture	Down Market Capture
10th Percentile		44.25	77.29
25th Percentile		37.59	63.17
Median		32.23	56.31
75th Percentile		26.70	49.19
90th Percentile		21.49	19.81
ABS Global	● A	28.49	54.90
HFRI FOF: Strategic Index	■ B	28.70	58.19

Risk Statistics Rankings vs MSCI ACWI (Gross)
Rankings Against Callan Long/Short Equity Fund of Funds (Net)
Seven Years Ended December 31, 2022





		Standard Deviation	Downside Risk	Tracking Error
10th Percentile		13.38	9.30	13.62
25th Percentile		12.09	8.43	10.51
Median		10.92	7.78	9.47
75th Percentile		9.75	7.17	8.81
90th Percentile		8.39	6.05	8.08
ABS Global	● A	9.96	7.71	9.55
HFRI FOF: Strategic Index	■ B	9.96	7.21	8.77

		Beta	R-Squared
10th Percentile		0.67	0.89
25th Percentile		0.63	0.84
Median		0.55	0.78
75th Percentile		0.49	0.70
90th Percentile		0.33	0.43
ABS Global	● A	0.52	0.82
HFRI FOF: Strategic Index	■ B	0.54	0.89

Blackstone Park Ave. NT
Period Ended December 31, 2022

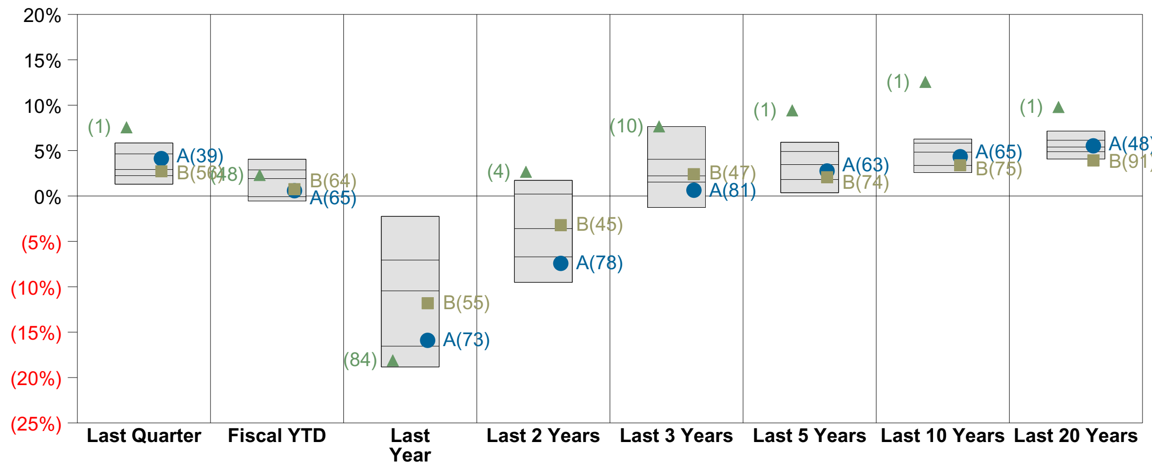
Investment Philosophy

BAAM's investment philosophy is to utilize leading non-traditional money managers to achieve attractive risk-adjusted returns with low volatility and low correlation to traditional asset classes. Their fund-of-hedge-funds offerings are designed to deliver a high degree of consistency in performance by being well diversified among a variety of outstanding managers whose strategies balance and complement each other. A focus on downside protection is a prominent theme across all strategies.

Quarterly Summary and Highlights

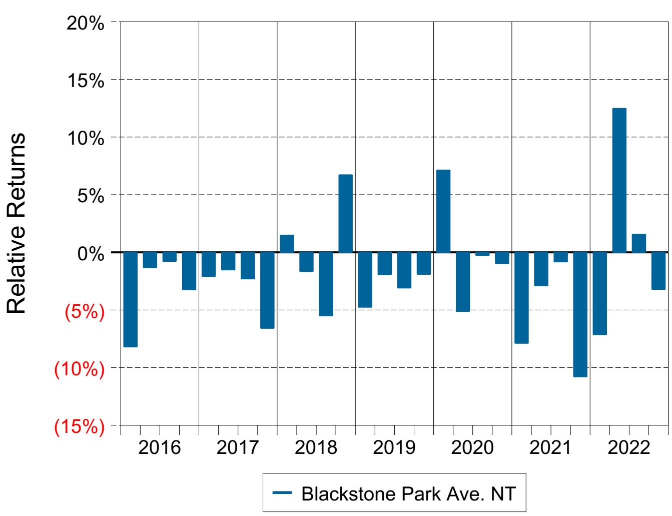
- Blackstone Park Ave. NT's portfolio posted a 4.12% return for the quarter placing it in the 39 percentile of the Callan Long/Short Equity Fund of Funds group for the quarter and in the 73 percentile for the last year.
- Blackstone Park Ave. NT's portfolio underperformed the S&P 500 Index by 3.44% for the quarter and outperformed the S&P 500 Index for the year by 2.21%.

Performance vs Callan Long/Short Equity Fund of Funds (Net)

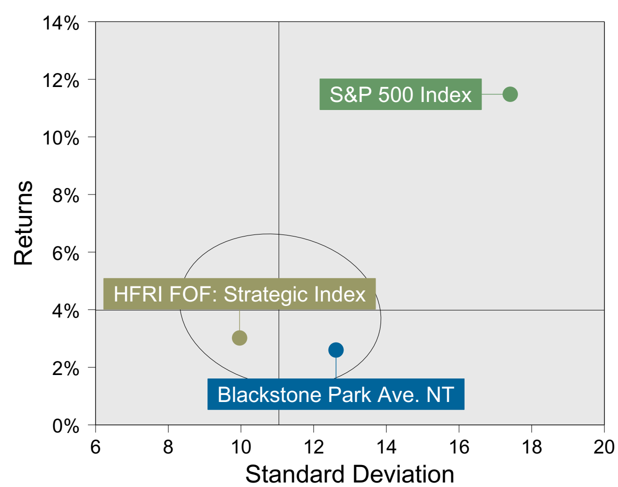


		Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years	Last 20 Years
10th Percentile		5.84	4.05	(2.25)	1.72	7.64	5.92	6.27	7.15
25th Percentile		4.64	2.88	(7.06)	0.21	4.04	4.90	5.82	6.14
Median		2.92	1.92	(10.45)	(3.59)	2.22	3.46	4.83	5.39
75th Percentile		2.24	(0.07)	(16.54)	(6.70)	1.53	1.81	3.36	4.88
90th Percentile		1.30	(0.55)	(18.83)	(9.52)	(1.27)	0.35	2.58	4.07
Blackstone Park Ave. NT	● A	4.12	0.58	(15.90)	(7.42)	0.63	2.76	4.33	5.52
HFRI FOF: Strategic Index	■ B	2.72	0.76	(11.82)	(3.20)	2.41	2.07	3.39	3.90
S&P 500 Index	▲	7.56	2.31	(18.11)	2.66	7.66	9.42	12.56	9.80

Relative Return vs S&P 500 Index



Callan Long/Short Equity Fund of Funds (Net) Annualized Seven Year Risk vs Return

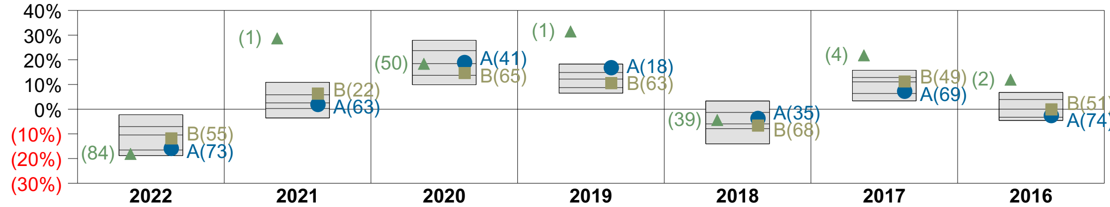


Blackstone Park Ave. NT
Return Analysis Summary

Return Analysis

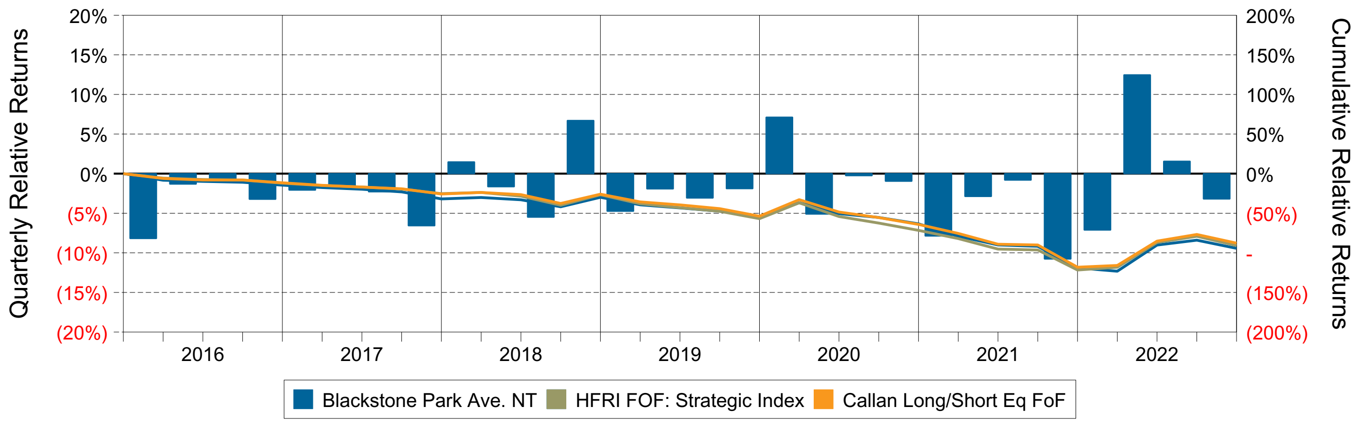
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Long/Short Equity Fund of Funds (Net)

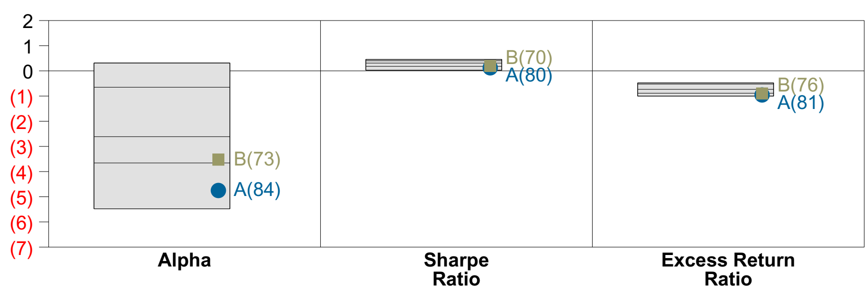


		2022	2021	2020	2019	2018	2017	2016
10th Percentile		(2.25)	10.89	27.92	18.28	3.33	15.77	6.80
25th Percentile		(7.06)	5.82	23.73	14.86	(1.31)	12.83	3.92
Median		(10.45)	2.55	18.44	12.20	(5.96)	11.06	0.02
75th Percentile		(16.54)	0.27	13.73	8.73	(7.90)	6.37	(3.25)
90th Percentile		(18.83)	(3.56)	9.89	6.49	(14.05)	3.37	(4.57)
Blackstone Park Ave. NT	● A	(15.90)	1.91	18.91	16.80	(3.76)	7.26	(2.60)
HFRI FOF: Strategic Index	■ B	(11.82)	6.26	14.62	10.52	(6.67)	11.22	(0.05)
S&P 500 Index	▲	(18.11)	28.71	18.40	31.49	(4.38)	21.83	11.96

Cumulative and Quarterly Relative Returns vs S&P 500 Index



Risk Adjusted Return Measures vs S&P 500 Index
Rankings Against Callan Long/Short Equity Fund of Funds (Net)
Seven Years Ended December 31, 2022



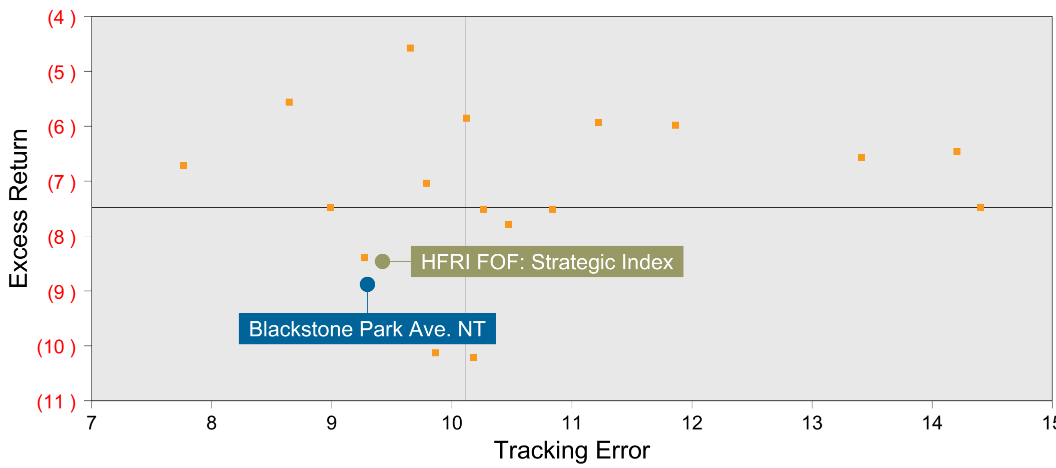
		Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile		0.31	0.46	(0.48)
25th Percentile		(0.65)	0.40	(0.52)
Median		(2.61)	0.31	(0.73)
75th Percentile		(3.66)	0.18	(0.89)
90th Percentile		(5.48)	0.03	(1.00)
Blackstone Park Ave. NT	● A	(4.75)	0.12	(0.96)
HFRI FOF: Strategic Index	■ B	(3.53)	0.20	(0.90)

Blackstone Park Ave. NT
Risk Analysis Summary

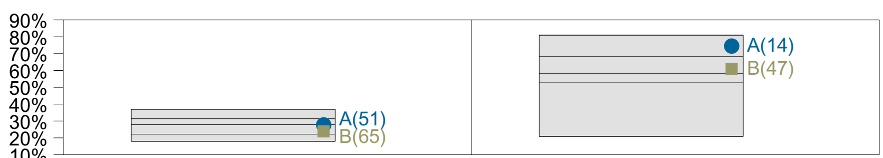
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

Risk Analysis vs Callan Long/Short Equity Fund of Funds (Net)
Seven Years Ended December 31, 2022

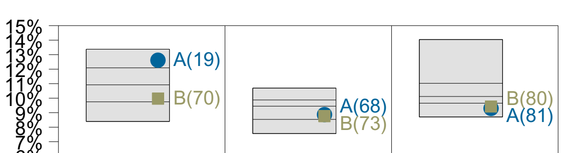


Market Capture vs S&P 500 Index
Rankings Against Callan Long/Short Equity Fund of Funds (Net)
Seven Years Ended December 31, 2022

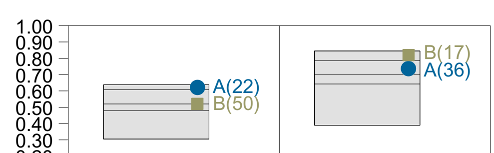


	Up Market Capture	Down Market Capture
10th Percentile	36.97	80.95
25th Percentile	31.36	68.22
Median	27.89	58.29
75th Percentile	22.20	53.01
90th Percentile	17.95	20.87
Blackstone Park Ave. NT ● A	27.69	74.46
HFRI FOF: Strategic Index ■ B	23.85	60.98

Risk Statistics Rankings vs S&P 500 Index
Rankings Against Callan Long/Short Equity Fund of Funds (Net)
Seven Years Ended December 31, 2022



	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	13.38	10.69	14.04
25th Percentile	12.09	9.88	11.02
Median	10.92	9.45	10.12
75th Percentile	9.75	8.54	9.65
90th Percentile	8.39	7.56	8.71
Blackstone Park Ave. NT ● A	12.62	8.87	9.30
HFRI FOF: Strategic Index ■ B	9.96	8.76	9.42

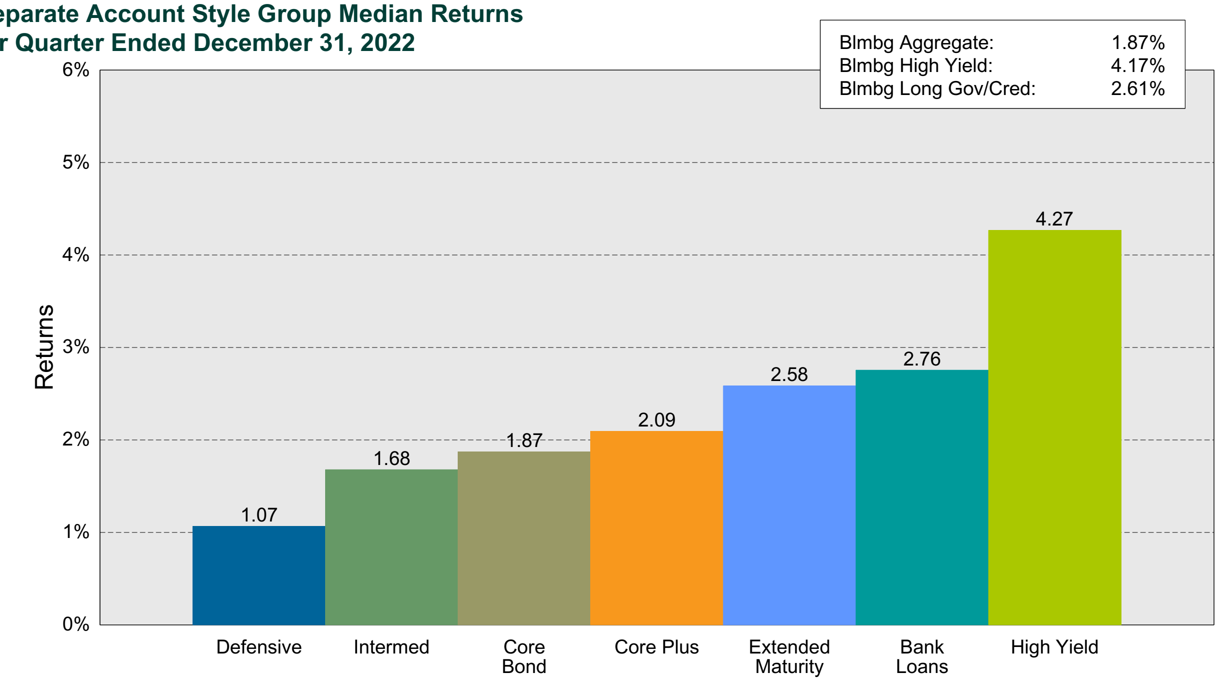


	Beta	R-Squared
10th Percentile	0.64	0.85
25th Percentile	0.61	0.79
Median	0.52	0.70
75th Percentile	0.48	0.64
90th Percentile	0.31	0.39
Blackstone Park Ave. NT ● A	0.62	0.74
HFRI FOF: Strategic Index ■ B	0.52	0.82

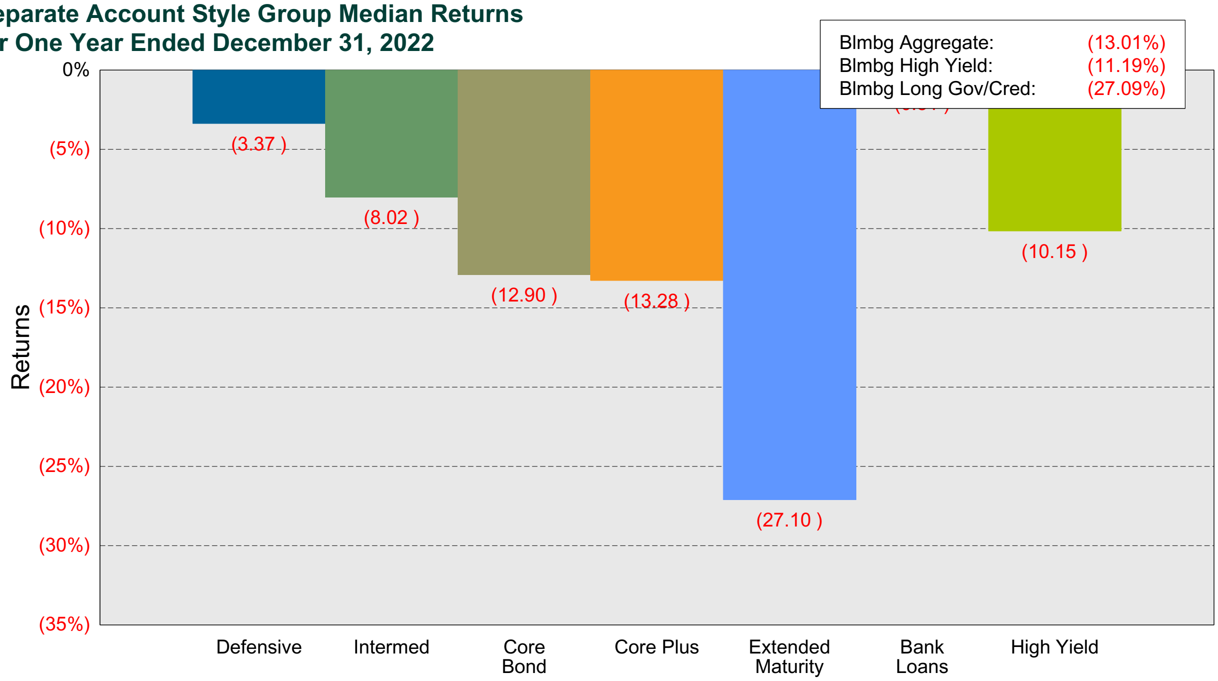
Domestic Fixed Income
Active Management Overview

U.S. fixed income experienced its worst year ever in 2022, by a wide margin. The Bloomberg US Aggregate Bond Index sank 13.0%; the next worst calendar year was 1994 when the Aggregate fell 2.9%. The silver lining lies in the 4.68% yield-to-worst for the Index, up from 1.75% at the beginning of the year. The yield curve remained inverted at year-end; the 10-year Treasury yield was 3.88% and the 2-year yield was 4.41%. The inversion reflects investor expectations for the economy to slow and an eventual need for the Fed to lower rates. The fourth quarter brought some relief to bond investors as longer rates fell modestly and most spread sectors outperformed Treasuries. The Aggregate gained 1.9%. High yield corporates (Bloomberg High Yield Index: +4.2%) were star performers, but this Index was down 11.2% for the year.

Separate Account Style Group Median Returns for Quarter Ended December 31, 2022



Separate Account Style Group Median Returns for One Year Ended December 31, 2022

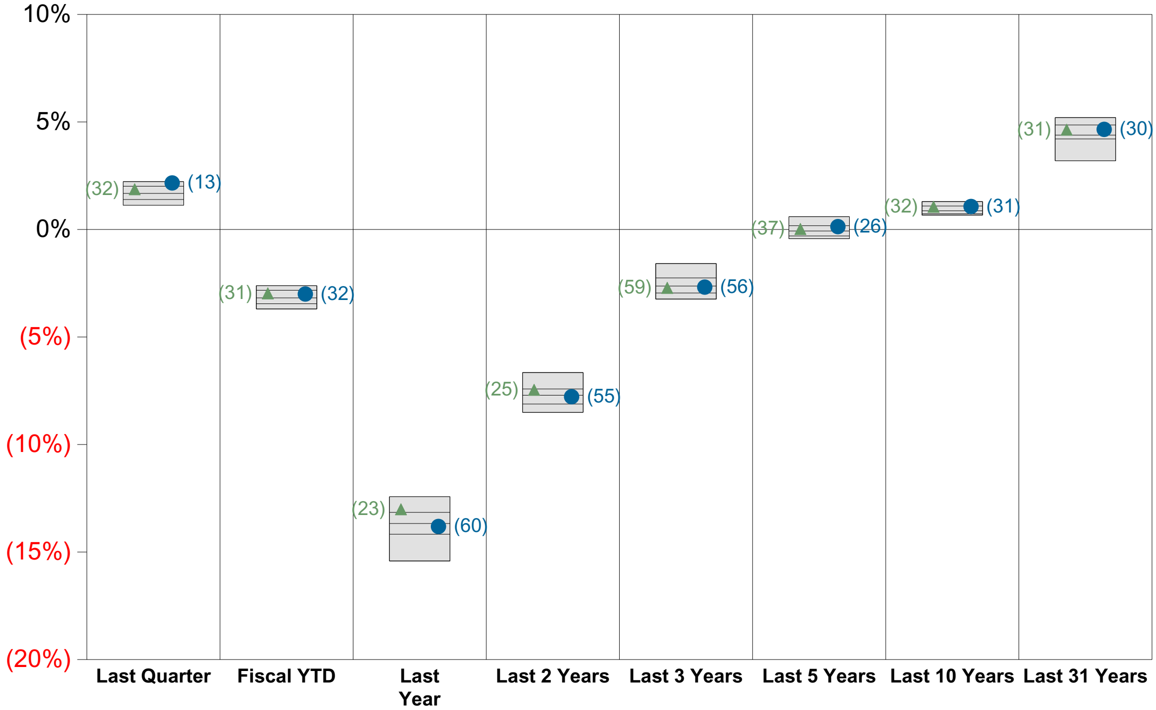


Domestic Fixed Income
Period Ended December 31, 2022

Quarterly Summary and Highlights

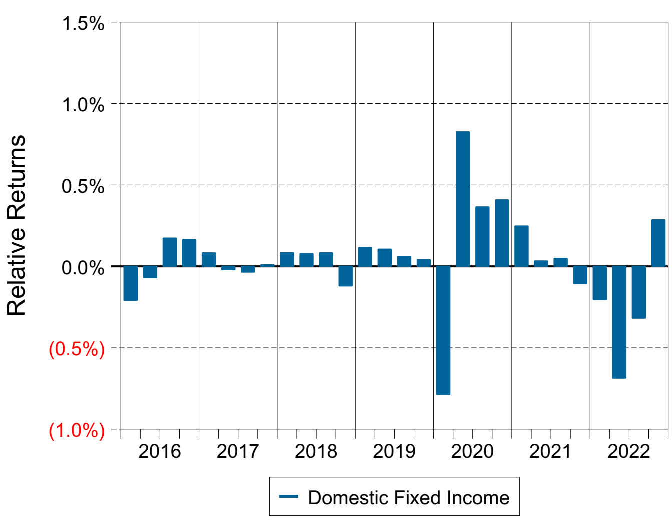
- Domestic Fixed Income's portfolio posted a 2.16% return for the quarter placing it in the 13 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 60 percentile for the last year.
- Domestic Fixed Income's portfolio outperformed the Blmbg Aggregate by 0.29% for the quarter and underperformed the Blmbg Aggregate for the year by 0.80%.

Performance vs Callan Core Bond Mutual Funds (Net)

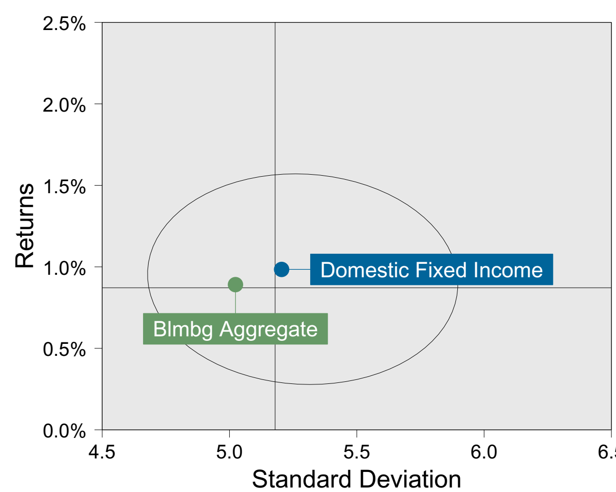


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years	Last 31 Years
10th Percentile	2.22	(2.61)	(12.43)	(6.65)	(1.59)	0.60	1.30	5.20
25th Percentile	2.01	(2.83)	(13.16)	(7.42)	(2.25)	0.18	1.09	4.86
Median	1.68	(3.18)	(13.67)	(7.71)	(2.63)	(0.07)	0.87	4.39
75th Percentile	1.39	(3.45)	(14.17)	(8.12)	(2.95)	(0.30)	0.73	4.21
90th Percentile	1.13	(3.70)	(15.42)	(8.50)	(3.24)	(0.43)	0.67	3.19
Domestic Fixed Income ●	2.16	(3.00)	(13.81)	(7.78)	(2.68)	0.13	1.07	4.66
Blmbg Aggregate ▲	1.87	(2.97)	(13.01)	(7.45)	(2.71)	0.02	1.06	4.64

Relative Return vs Blmbg Aggregate



Callan Core Bond Mutual Funds (Net)
Annualized Seven Year Risk vs Return

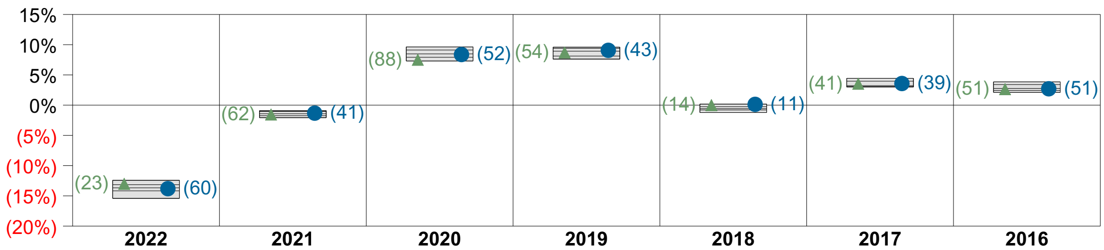


Domestic Fixed Income
Return Analysis Summary

Return Analysis

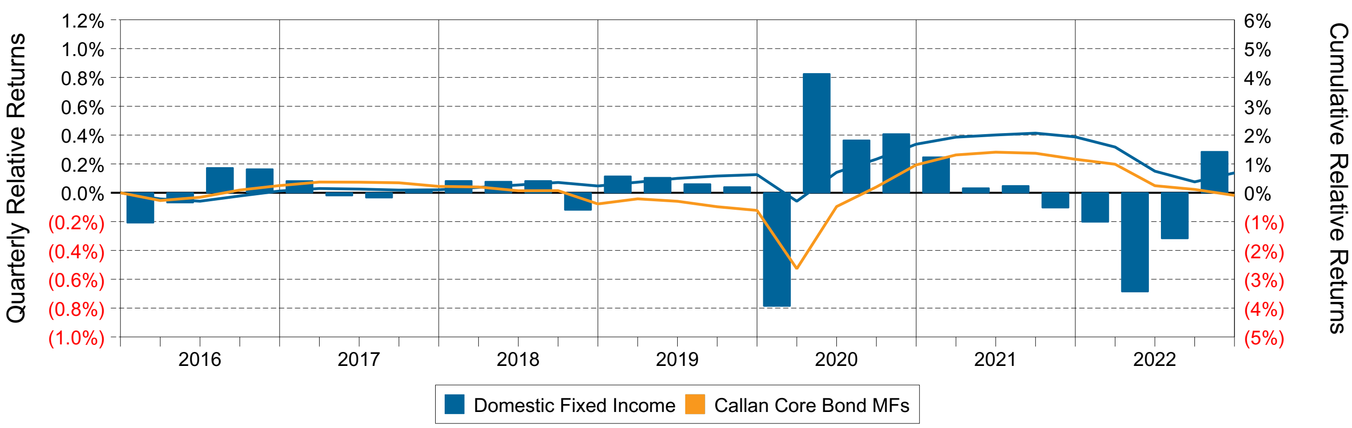
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Core Bond Mutual Funds (Net)

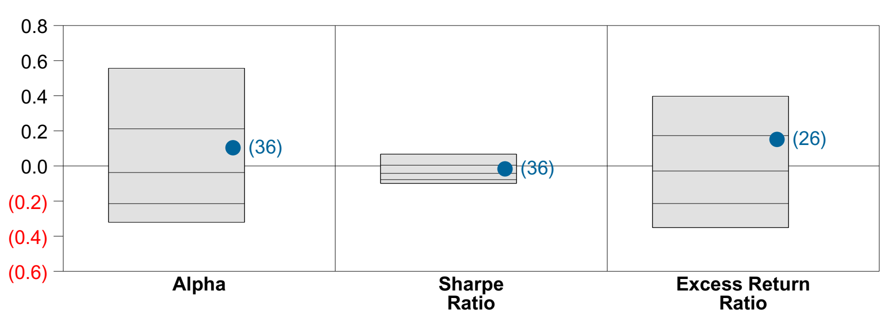


	2022	2021	2020	2019	2018	2017	2016
10th Percentile	(12.43)	(0.91)	9.63	9.58	0.18	4.43	3.85
25th Percentile	(13.16)	(1.05)	9.12	9.40	(0.24)	3.96	3.41
Median	(13.67)	(1.41)	8.48	8.93	(0.57)	3.23	2.77
75th Percentile	(14.17)	(1.74)	7.92	8.12	(0.79)	3.08	2.45
90th Percentile	(15.42)	(2.07)	7.30	7.62	(1.21)	3.00	2.12
Domestic Fixed Income ●	(13.81)	(1.32)	8.37	9.07	0.14	3.58	2.71
Blmbg Aggregate ▲	(13.01)	(1.54)	7.51	8.72	0.01	3.54	2.65

Cumulative and Quarterly Relative Returns vs Blmbg Aggregate



Risk Adjusted Return Measures vs Blmbg Aggregate
Rankings Against Callan Core Bond Mutual Funds (Net)
Seven Years Ended December 31, 2022



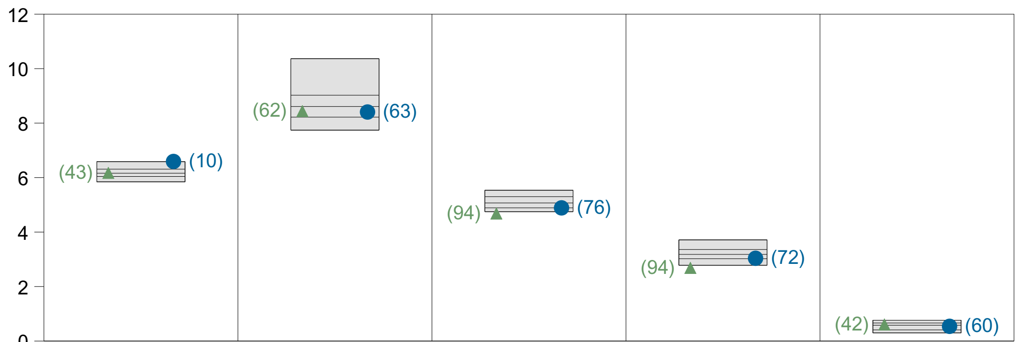
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.56	0.07	0.40
25th Percentile	0.21	0.00	0.17
Median	(0.04)	(0.04)	(0.03)
75th Percentile	(0.21)	(0.08)	(0.21)
90th Percentile	(0.32)	(0.10)	(0.35)
Domestic Fixed Income ●	0.10	(0.02)	0.15

Domestic Fixed Income
Bond Characteristics Analysis Summary

Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Fixed Income Portfolio Characteristics
Rankings Against Callan Core Bond Fixed Income
as of December 31, 2022

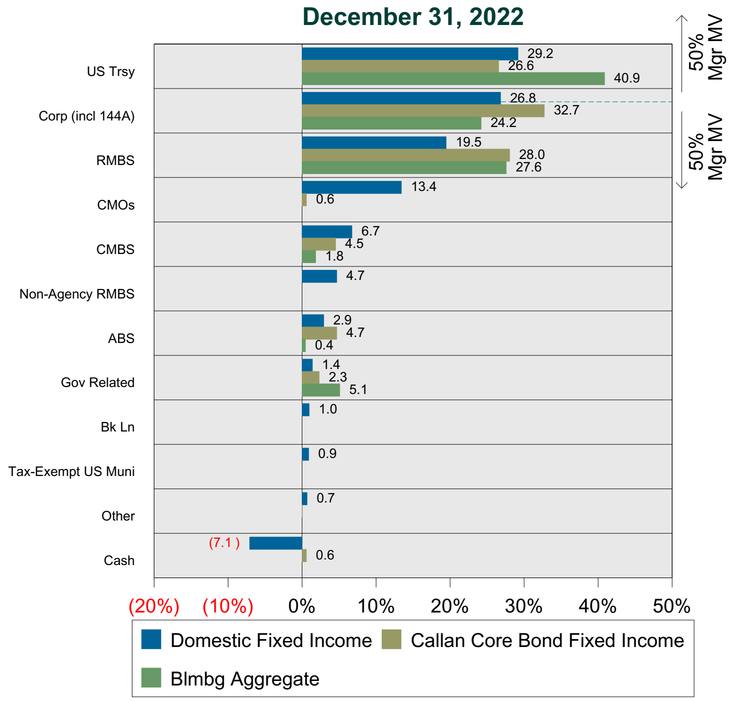


	Duration	Average Life	Effective Yield	Coupon Rate	OA Convexity
10th Percentile	6.59	10.37	5.54	3.71	0.76
25th Percentile	6.31	9.02	5.30	3.36	0.66
Median	6.16	8.61	5.07	3.18	0.58
75th Percentile	6.04	8.22	4.89	3.02	0.41
90th Percentile	5.84	7.74	4.75	2.78	0.30
Domestic Fixed Income ●	6.59	8.41	4.89	3.04	0.54
Blmbg Aggregate ▲	6.17	8.44	4.68	2.69	0.61

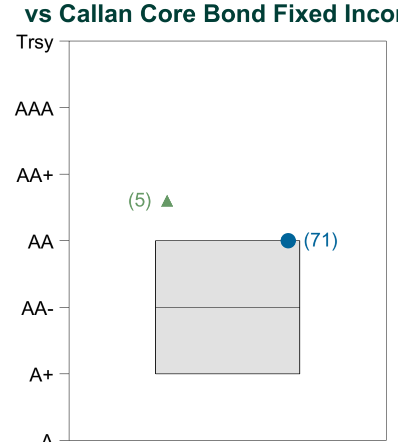
Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.

Sector Allocation
December 31, 2022



Quality Ratings
vs Callan Core Bond Fixed Income



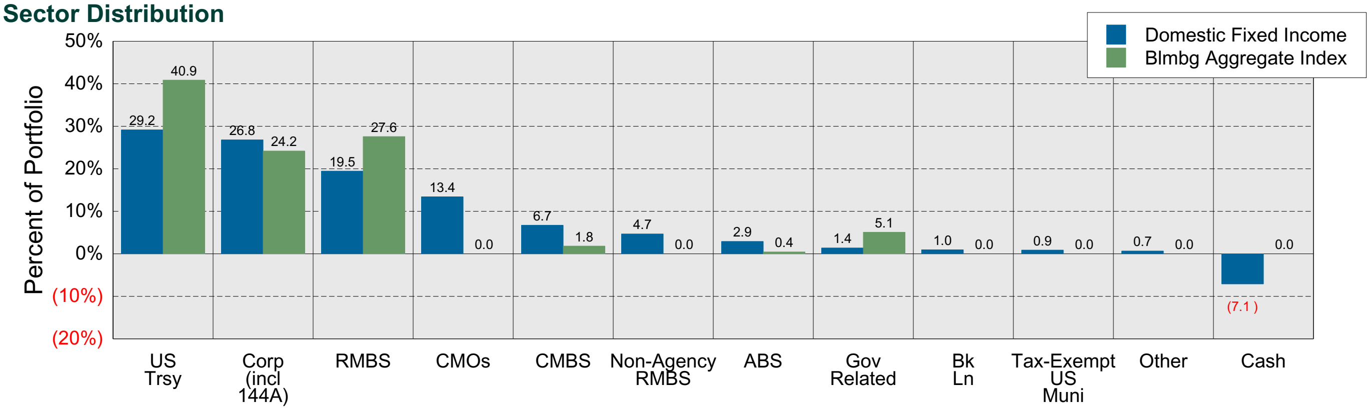
	Weighted Average Quality Rating
10th Percentile	AA
25th Percentile	AA
Median	AA
75th Percentile	AA-
90th Percentile	A+
Domestic Fixed Income ●	AA
Blmbg Aggregate ▲	AA+

Domestic Fixed Income
Portfolio Characteristics Summary
As of December 31, 2022

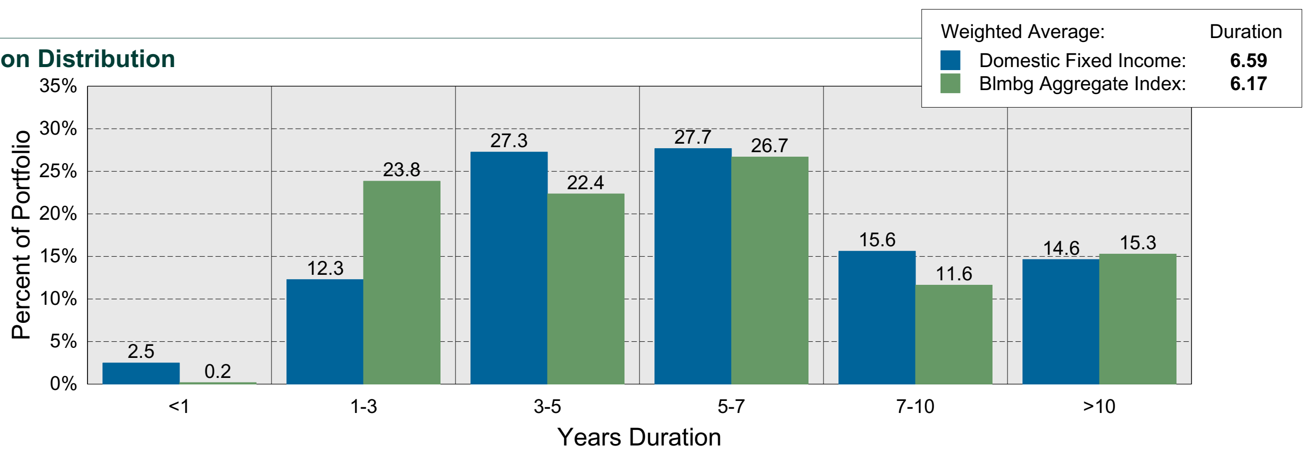
Portfolio Structure Comparison

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.

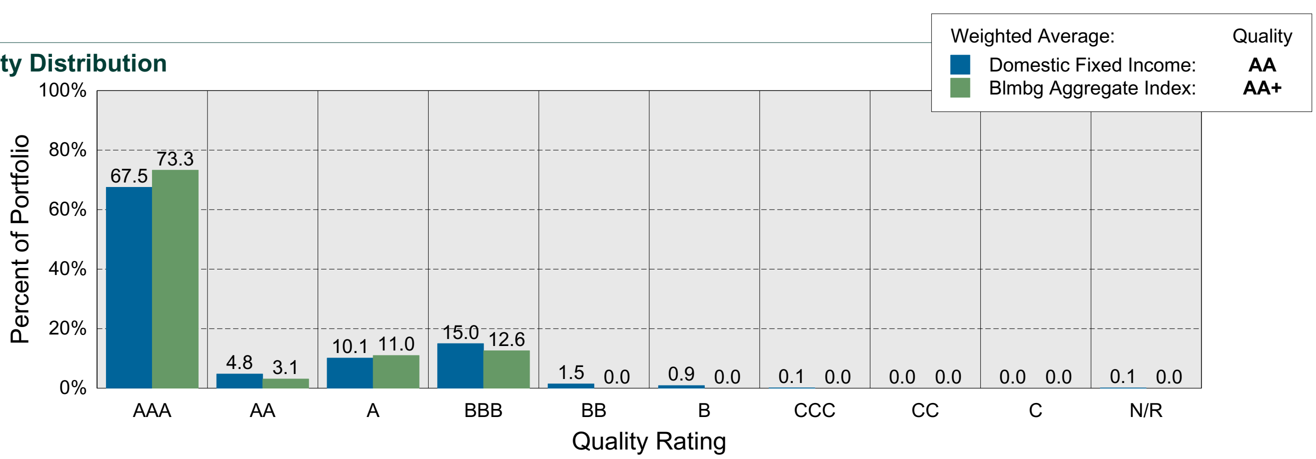
Sector Distribution



Duration Distribution



Quality Distribution



Prudential Cons Core Bond
Period Ended December 31, 2022

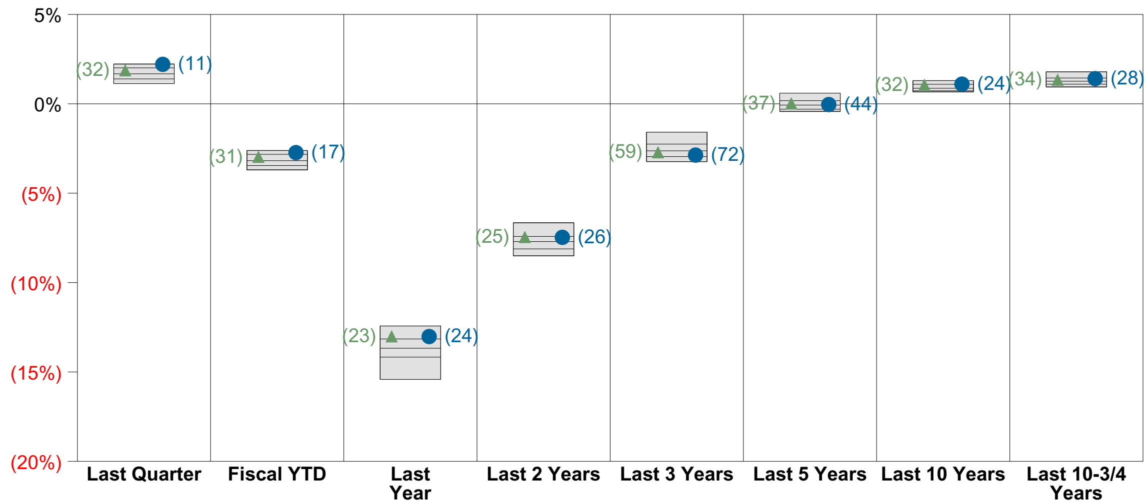
Investment Philosophy

PGIM Fixed Income's Core Conservative strategy is a benchmark-focused, investment grade-only, risk-controlled core strategy that seeks +25 bps over the Bloomberg Barclays Aggregate Index with index-like risk. The strategy seeks to generate virtually all of its excess return from just two activities: bottom-up subsector rotation within the corporate and mortgage/structured product sectors, and research-based security selection in all sectors. Top-down decisions such as duration, yield curve, and sector allocation are tightly constrained to benchmark weightings at all times.

Quarterly Summary and Highlights

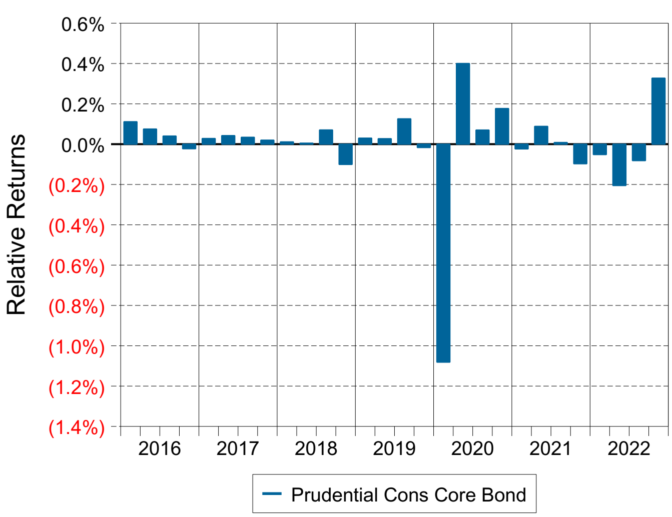
- Prudential Cons Core Bond's portfolio posted a 2.21% return for the quarter placing it in the 11 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 24 percentile for the last year.
- Prudential Cons Core Bond's portfolio outperformed the Blmbg Aggregate by 0.33% for the quarter and underperformed the Blmbg Aggregate for the year by 0.01%.

Performance vs Callan Core Bond Mutual Funds (Net)

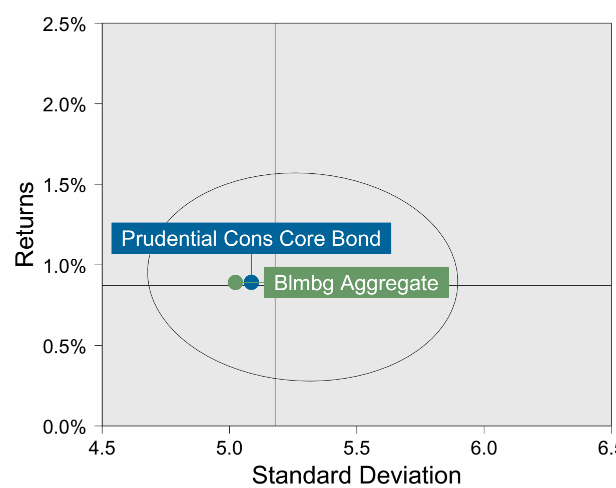


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years	Last 10-3/4 Years
10th Percentile	2.22	(2.61)	(12.43)	(6.65)	(1.59)	0.60	1.30	1.79
25th Percentile	2.01	(2.83)	(13.16)	(7.42)	(2.25)	0.18	1.09	1.44
Median	1.68	(3.18)	(13.67)	(7.71)	(2.63)	(0.07)	0.87	1.26
75th Percentile	1.39	(3.45)	(14.17)	(8.12)	(2.95)	(0.30)	0.73	1.10
90th Percentile	1.13	(3.70)	(15.42)	(8.50)	(3.24)	(0.43)	0.67	0.94
Prudential Cons Core Bond ●	2.21	(2.73)	(13.02)	(7.47)	(2.87)	(0.04)	1.10	1.41
Blmbg Aggregate ▲	1.87	(2.97)	(13.01)	(7.45)	(2.71)	0.02	1.06	1.34

Relative Return vs Blmbg Aggregate



Callan Core Bond Mutual Funds (Net)
Annualized Seven Year Risk vs Return

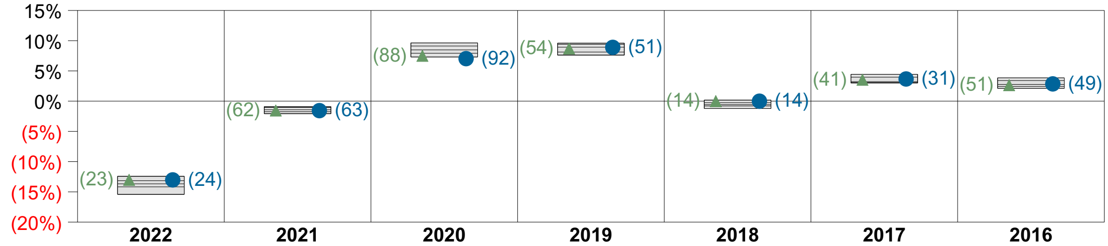


Prudential Cons Core Bond
Return Analysis Summary

Return Analysis

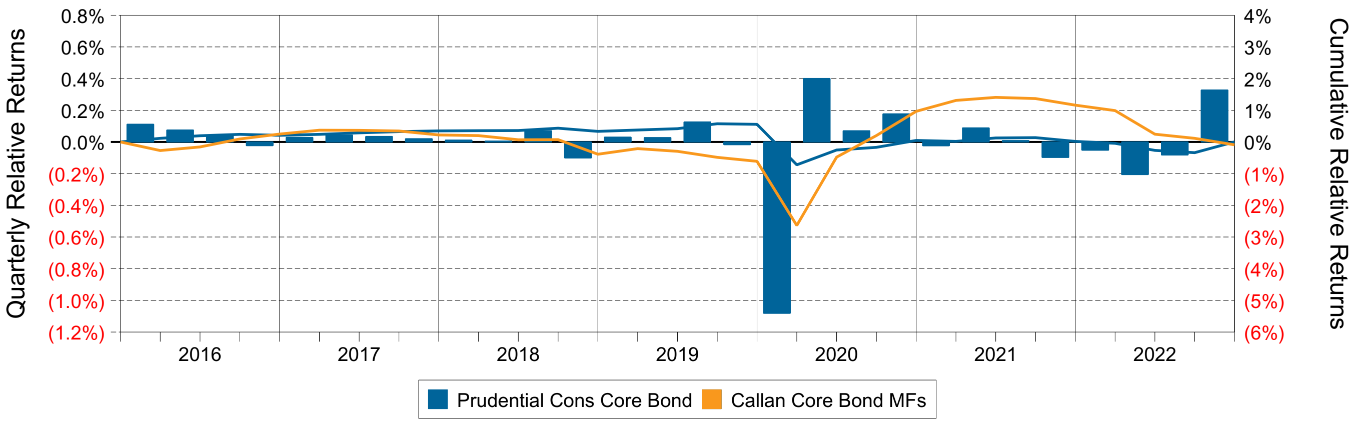
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Core Bond Mutual Funds (Net)

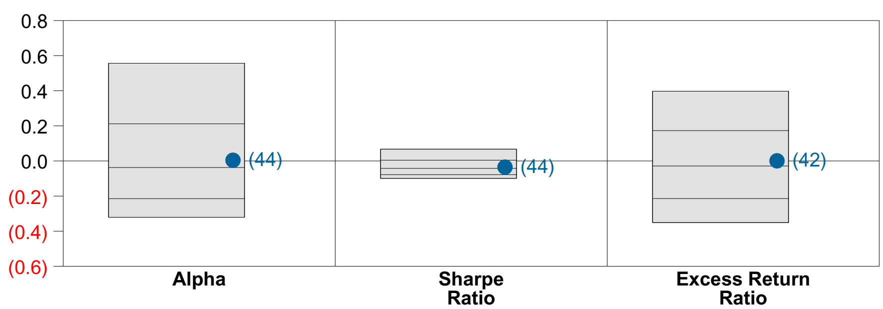


	2022	2021	2020	2019	2018	2017	2016
10th Percentile	(12.43)	(0.91)	9.63	9.58	0.18	4.43	3.85
25th Percentile	(13.16)	(1.05)	9.12	9.40	(0.24)	3.96	3.41
Median	(13.67)	(1.41)	8.48	8.93	(0.57)	3.23	2.77
75th Percentile	(14.17)	(1.74)	7.92	8.12	(0.79)	3.08	2.45
90th Percentile	(15.42)	(2.07)	7.30	7.62	(1.21)	3.00	2.12
Prudential Cons Core Bond ●	(13.02)	(1.57)	7.03	8.90	(0.00)	3.67	2.86
Blmbg Aggregate ▲	(13.01)	(1.54)	7.51	8.72	0.01	3.54	2.65

Cumulative and Quarterly Relative Returns vs Blmbg Aggregate



Risk Adjusted Return Measures vs Blmbg Aggregate
Rankings Against Callan Core Bond Mutual Funds (Net)
Seven Years Ended December 31, 2022



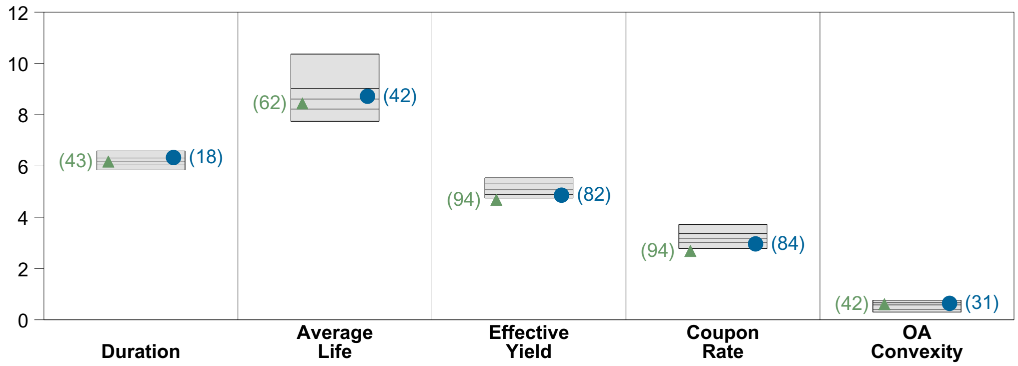
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	0.56	0.07	0.40
25th Percentile	0.21	0.00	0.17
Median	(0.04)	(0.04)	(0.03)
75th Percentile	(0.21)	(0.08)	(0.21)
90th Percentile	(0.32)	(0.10)	(0.35)
Prudential Cons Core Bond ●	0.00	(0.04)	0.00

Prudential Cons Core Bond Fund
Bond Characteristics Analysis Summary

Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Fixed Income Portfolio Characteristics
Rankings Against Callan Core Bond Fixed Income
as of December 31, 2022

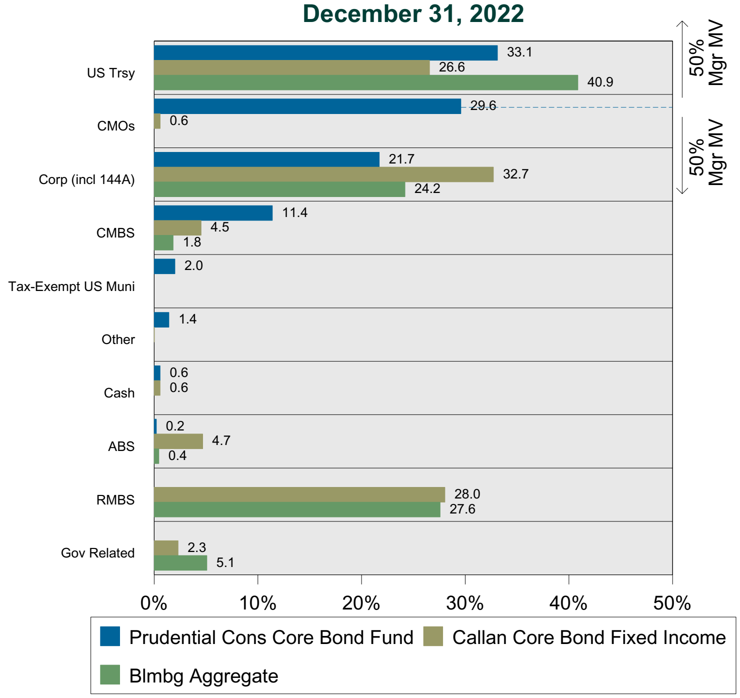


	Duration	Average Life	Effective Yield	Coupon Rate	OA Convexity
10th Percentile	6.59	10.37	5.54	3.71	0.76
25th Percentile	6.31	9.02	5.30	3.36	0.66
Median	6.16	8.61	5.07	3.18	0.58
75th Percentile	6.04	8.22	4.89	3.02	0.41
90th Percentile	5.84	7.74	4.75	2.78	0.30
Prudential Cons Core Bond Fund ●	6.33	8.72	4.86	2.96	0.64
Blmbg Aggregate ▲	6.17	8.44	4.68	2.69	0.61

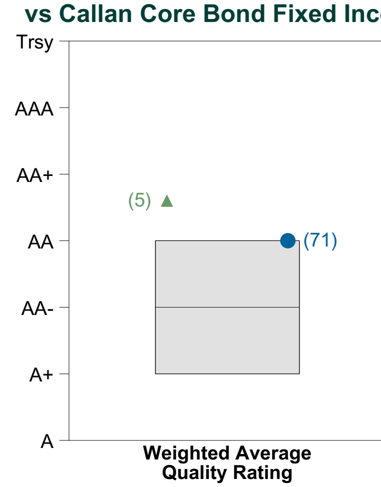
Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.

Sector Allocation
December 31, 2022



Quality Ratings
vs Callan Core Bond Fixed Income



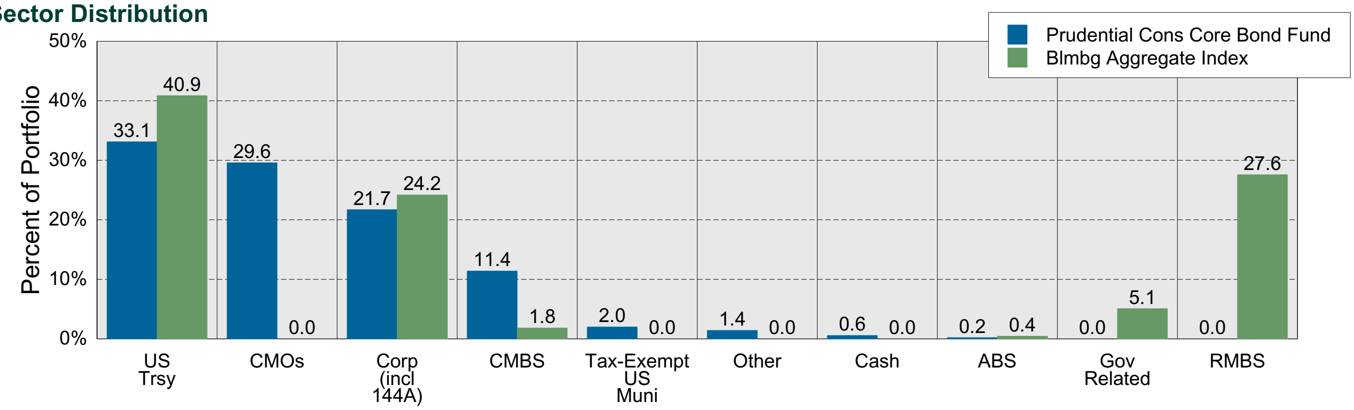
	Weighted Average Quality Rating
10th Percentile	AA
25th Percentile	AA
Median	AA
75th Percentile	AA-
90th Percentile	A+
Prudential Cons Core Bond Fund ●	AA
Blmbg Aggregate ▲	AA+

Prudential Cons Core Bond Fund
Portfolio Characteristics Summary
As of December 31, 2022

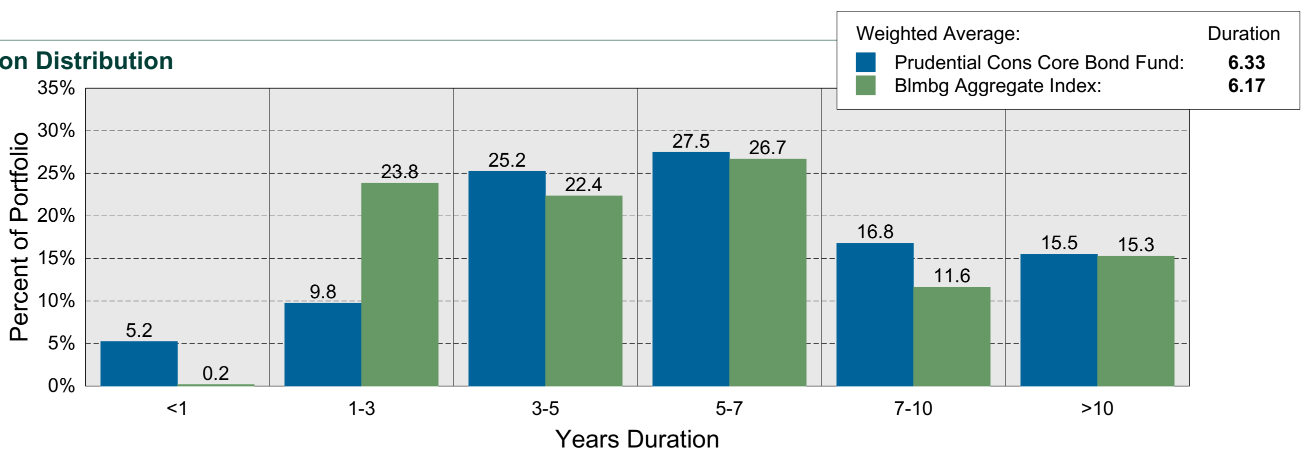
Portfolio Structure Comparison

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.

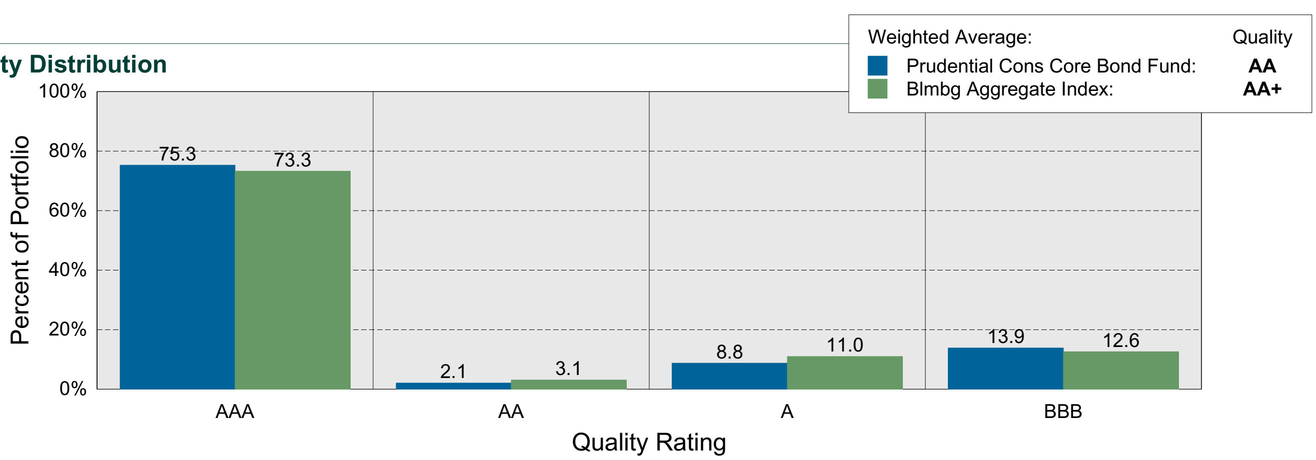
Sector Distribution



Duration Distribution



Quality Distribution

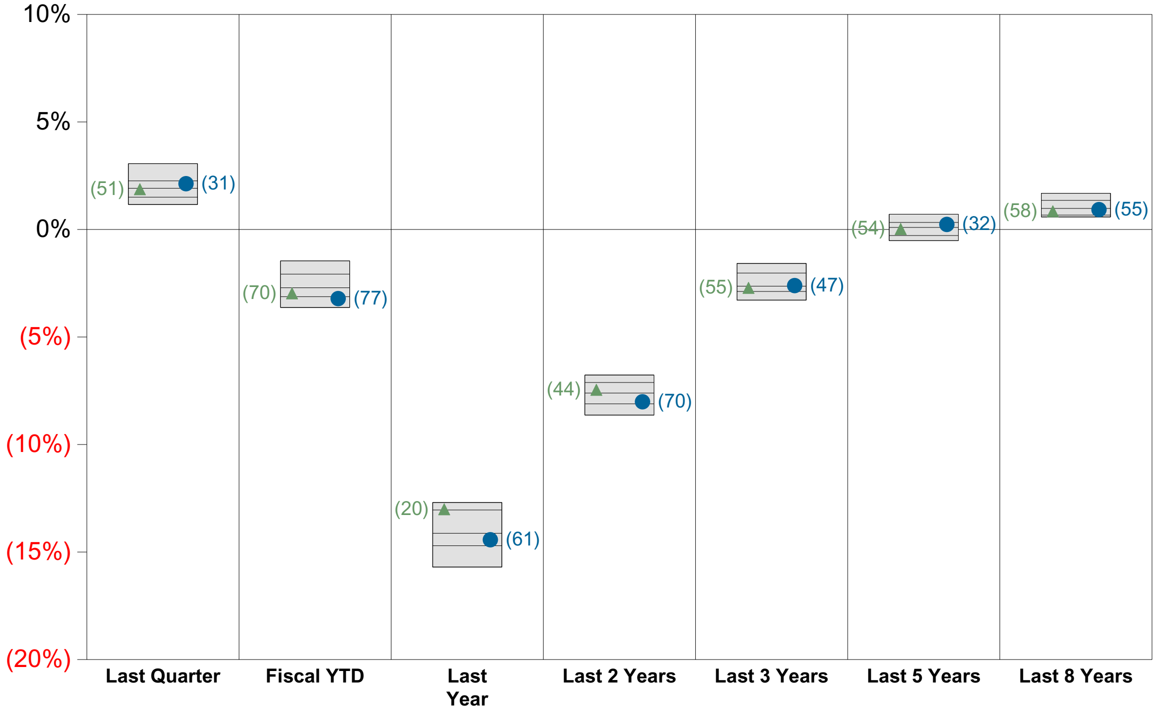


Metropolitan West Fund
Period Ended December 31, 2022

Quarterly Summary and Highlights

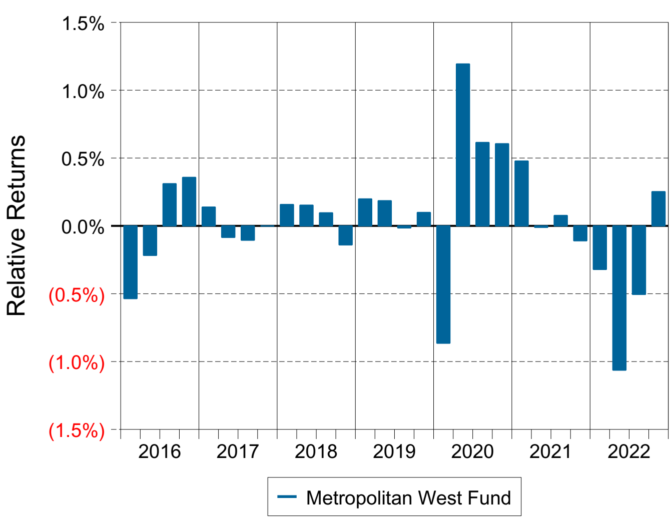
- Metropolitan West Fund's portfolio posted a 2.13% return for the quarter placing it in the 31 percentile of the Callan Core Plus Mutual Funds group for the quarter and in the 61 percentile for the last year.
- Metropolitan West Fund's portfolio outperformed the Blmbg Aggregate by 0.26% for the quarter and underperformed the Blmbg Aggregate for the year by 1.42%.

Performance vs Callan Core Plus Mutual Funds (Net)

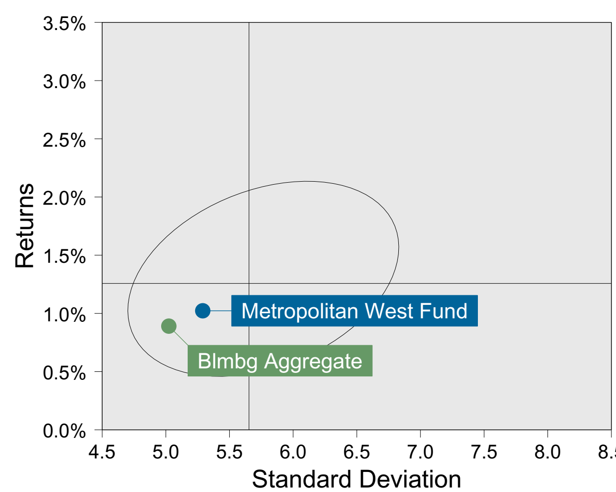


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 8 Years
10th Percentile	3.06	(1.46)	(12.70)	(6.77)	(1.58)	0.71	1.68
25th Percentile	2.26	(2.08)	(13.04)	(7.12)	(2.03)	0.33	1.35
Median	1.92	(2.71)	(14.13)	(7.61)	(2.64)	0.09	0.98
75th Percentile	1.50	(3.12)	(14.71)	(8.11)	(2.88)	(0.28)	0.67
90th Percentile	1.16	(3.63)	(15.70)	(8.63)	(3.29)	(0.52)	0.58
Metropolitan West Fund ●	2.13	(3.21)	(14.43)	(8.01)	(2.61)	0.23	0.92
Blmbg Aggregate ▲	1.87	(2.97)	(13.01)	(7.45)	(2.71)	0.02	0.85

Relative Return vs Blmbg Aggregate



Callan Core Plus Mutual Funds (Net) Annualized Seven Year Risk vs Return

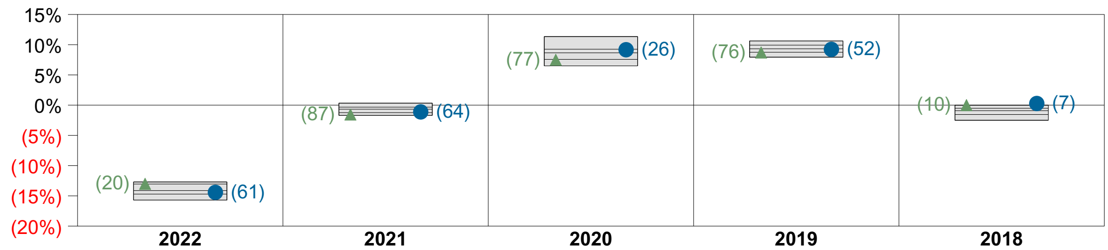


Metropolitan West Fund
Return Analysis Summary

Return Analysis

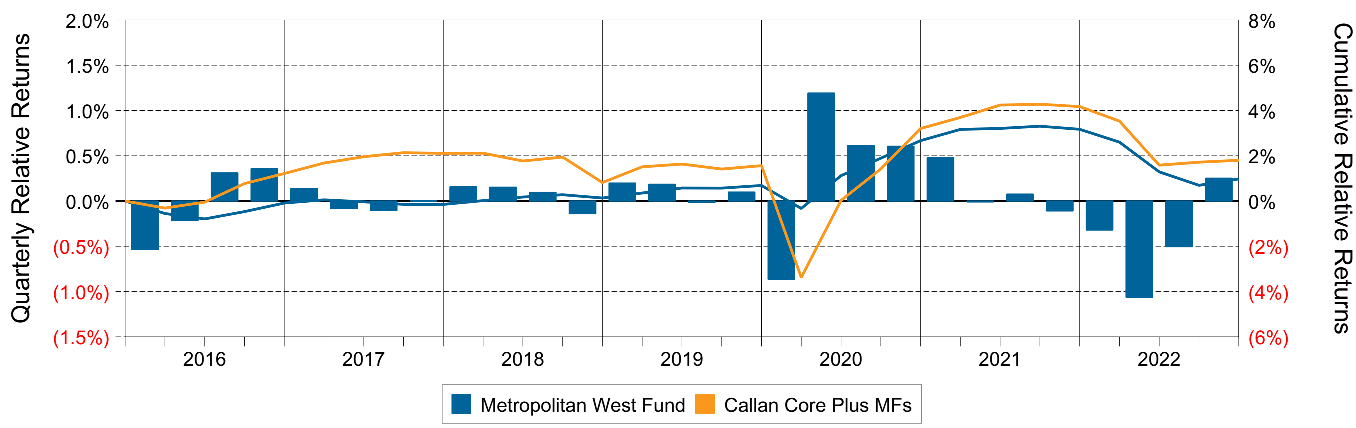
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Core Plus Mutual Funds (Net)

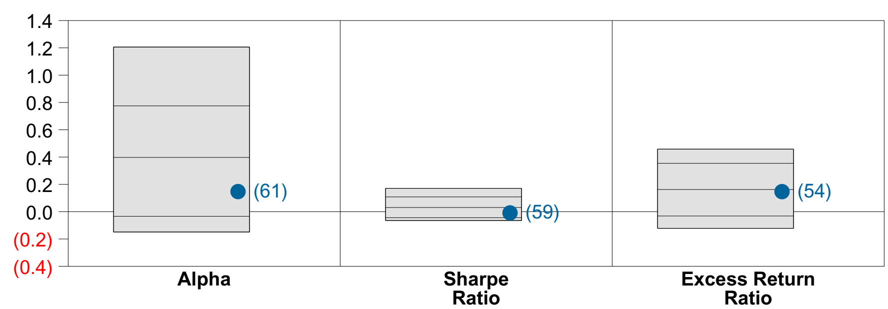


	2022	2021	2020	2019	2018
10th Percentile	(12.70)	0.34	11.34	10.63	(0.00)
25th Percentile	(13.04)	(0.33)	9.25	9.93	(0.52)
Median	(14.13)	(0.67)	8.65	9.32	(0.91)
75th Percentile	(14.71)	(1.24)	7.58	8.75	(1.55)
90th Percentile	(15.70)	(1.69)	6.50	7.94	(2.50)
Metropolitan West Fund ●	(14.43)	(1.12)	9.17	9.23	0.28
Blmbg Aggregate ▲	(13.01)	(1.54)	7.51	8.72	0.01

Cumulative and Quarterly Relative Returns vs Blmbg Aggregate



Risk Adjusted Return Measures vs Blmbg Aggregate
Rankings Against Callan Core Plus Mutual Funds (Net)
Seven Years Ended December 31, 2022



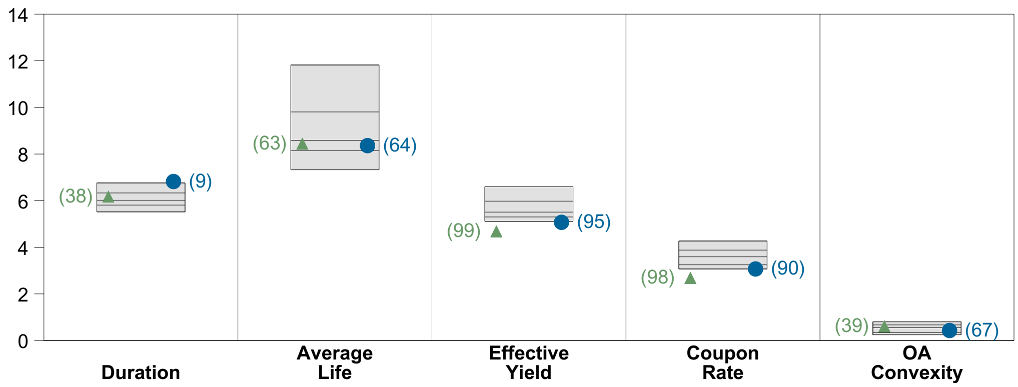
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.21	0.17	0.46
25th Percentile	0.77	0.11	0.35
Median	0.40	0.03	0.16
75th Percentile	(0.03)	(0.04)	(0.03)
90th Percentile	(0.15)	(0.06)	(0.12)
Metropolitan West Fund ●	0.15	(0.01)	0.15

Metropolitan West Fund
Bond Characteristics Analysis Summary

Portfolio Characteristics

This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Fixed Income Portfolio Characteristics
Rankings Against Callan Core Plus Fixed Income
as of December 31, 2022

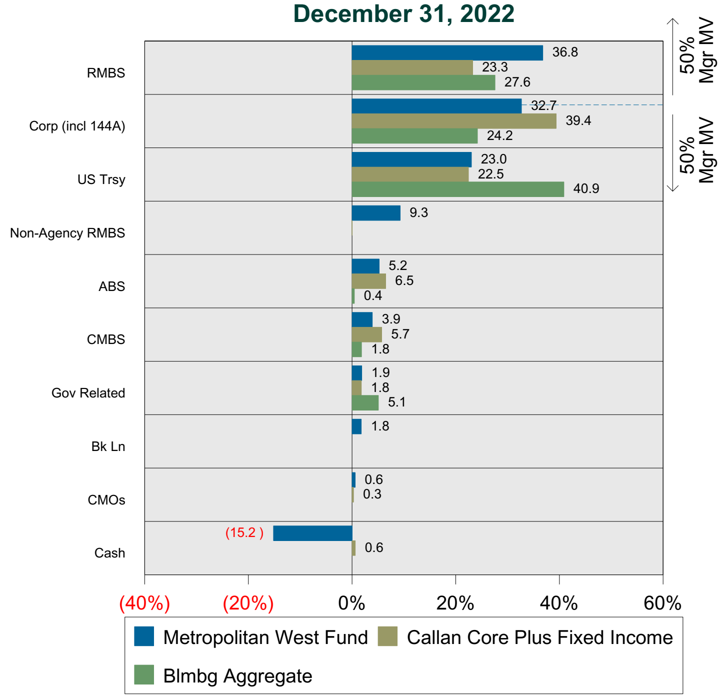


	Duration	Average Life	Effective Yield	Coupon Rate	OA Convexity
10th Percentile	6.76	11.82	6.60	4.27	0.80
25th Percentile	6.33	9.81	5.98	3.88	0.67
Median	6.02	8.59	5.51	3.59	0.55
75th Percentile	5.81	8.14	5.30	3.25	0.34
90th Percentile	5.52	7.32	5.11	3.07	0.25
Metropolitan West Fund ●	6.82	8.36	5.07	3.07	0.43
Blmbg Aggregate ▲	6.17	8.44	4.68	2.69	0.61

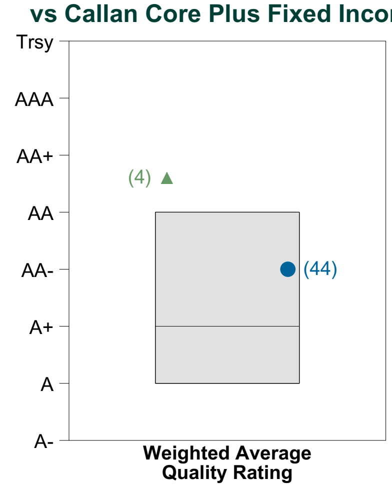
Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.

Sector Allocation
December 31, 2022



Quality Ratings
vs Callan Core Plus Fixed Income



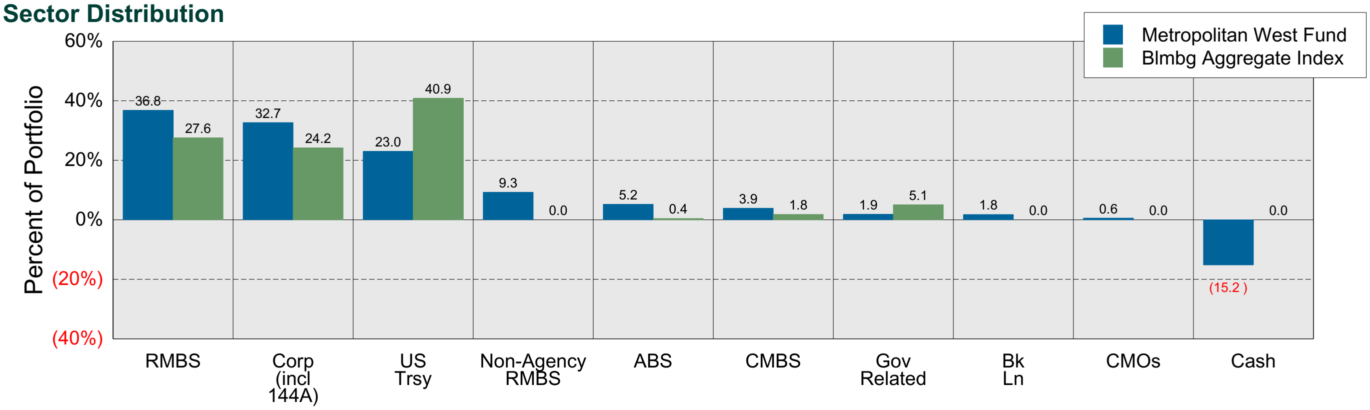
	Weighted Average Quality Rating
10th Percentile	AA
25th Percentile	AA
Median	A+
75th Percentile	A
90th Percentile	A
Metropolitan West Fund ●	AA-
Blmbg Aggregate ▲	AA+

Metropolitan West Fund
Portfolio Characteristics Summary
As of December 31, 2022

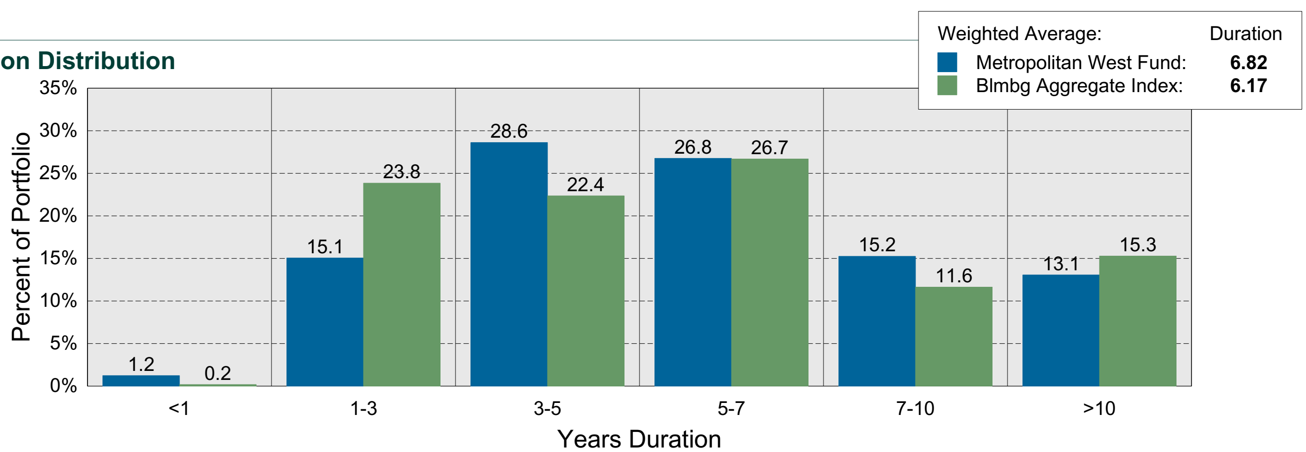
Portfolio Structure Comparison

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.

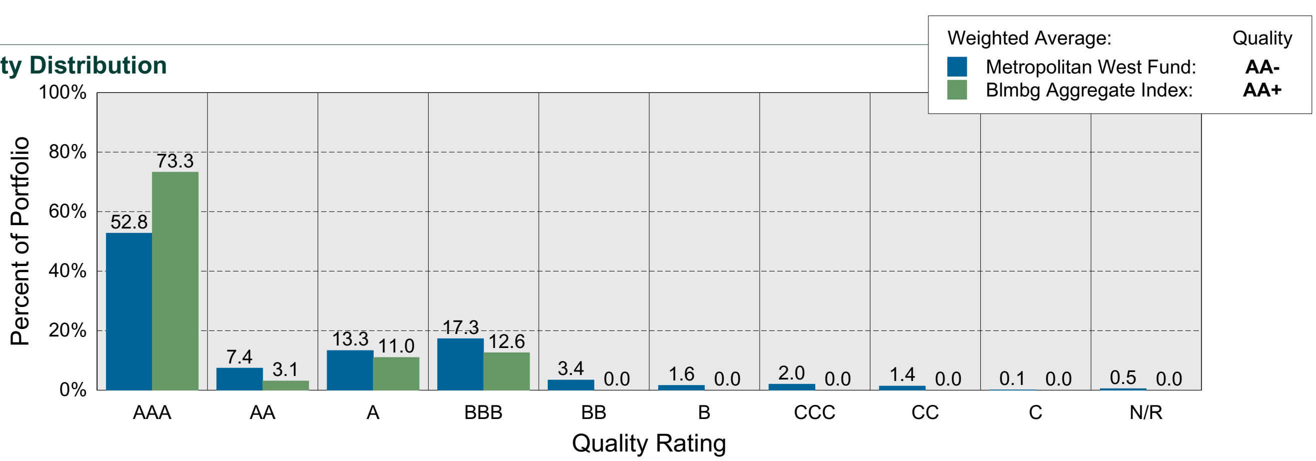
Sector Distribution



Duration Distribution



Quality Distribution



UBS AIS
Period Ended December 31, 2022

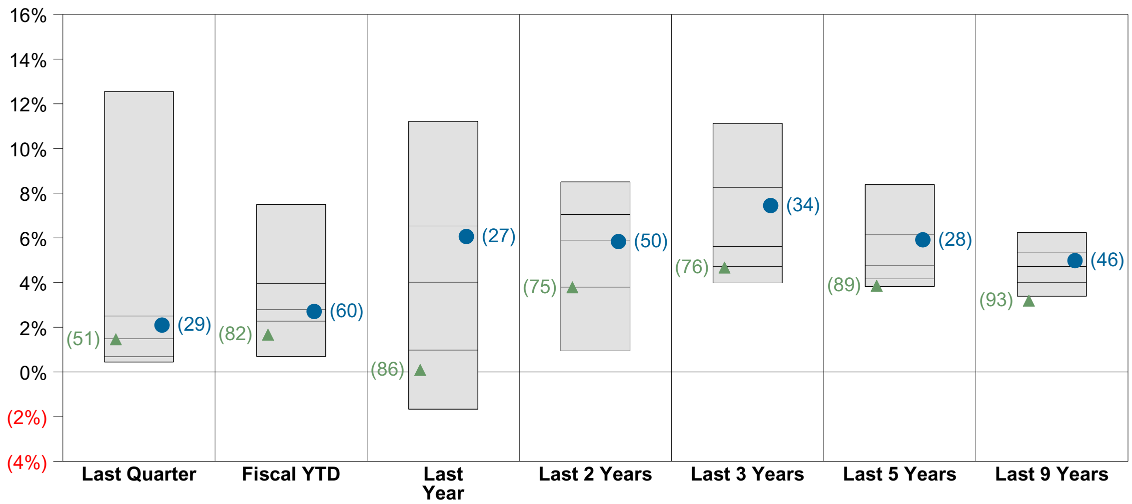
Investment Philosophy

UBS Neutral Alpha Strategies Limited is a broad based neutral fund of funds that seeks to achieve risk-adjusted capital appreciation over the long term while maintaining zero to low correlation to traditional asset classes and low volatility over an economic market cycle (3-5 years). The fund primarily invests in a diverse set of alternative investment funds employing a range of hedged strategies, including Credit/Income, conservative Equity Hedged, Multi-Strategy, Relative Value, and Trading.

Quarterly Summary and Highlights

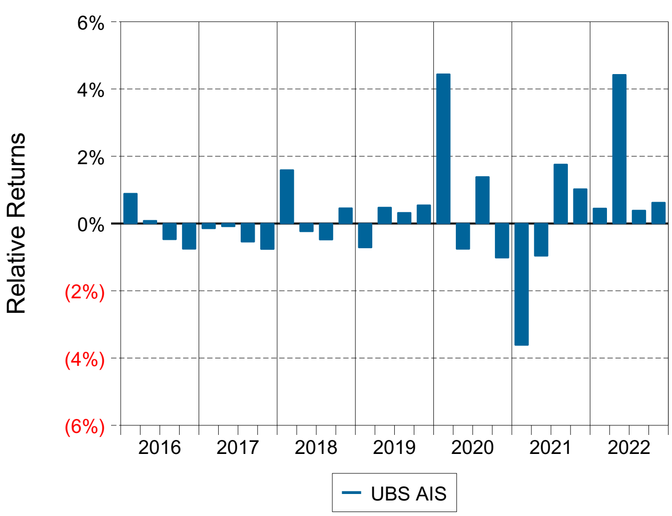
- UBS AIS's portfolio posted a 2.10% return for the quarter placing it in the 29 percentile of the Callan Absolute Rtn Hedge Fund of Funds group for the quarter and in the 27 percentile for the last year.
- UBS AIS's portfolio outperformed the HFRI FOF: Conservative Index by 0.63% for the quarter and outperformed the HFRI FOF: Conservative Index for the year by 5.97%.

Performance vs Callan Absolute Rtn Hedge Fund of Funds (Net)

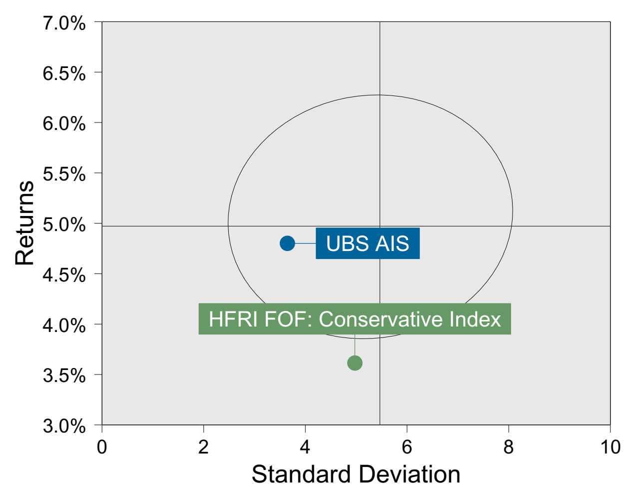


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 9 Years
10th Percentile	12.54	7.50	11.22	8.50	11.13	8.38	6.23
25th Percentile	2.50	3.95	6.53	7.04	8.26	6.14	5.33
Median	1.49	2.79	4.02	5.90	5.62	4.75	4.72
75th Percentile	0.68	2.27	0.98	3.80	4.72	4.17	4.00
90th Percentile	0.44	0.69	(1.67)	0.94	3.98	3.82	3.39
UBS AIS ●	2.10	2.71	6.06	5.84	7.45	5.91	4.98
HFRI FOF: Conservative Index ▲	1.46	1.67	0.09	3.79	4.67	3.86	3.20

Relative Returns vs HFRI FOF: Conservative Index



Callan Absolute Rtn Hedge Fund of Funds (Net) Annualized Seven Year Risk vs Return

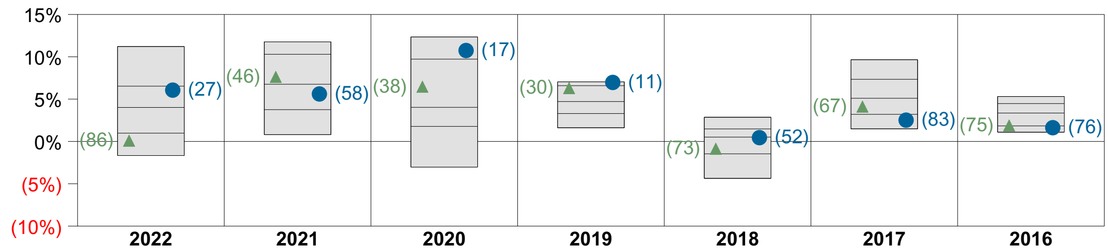


UBS AIS
Return Analysis Summary

Return Analysis

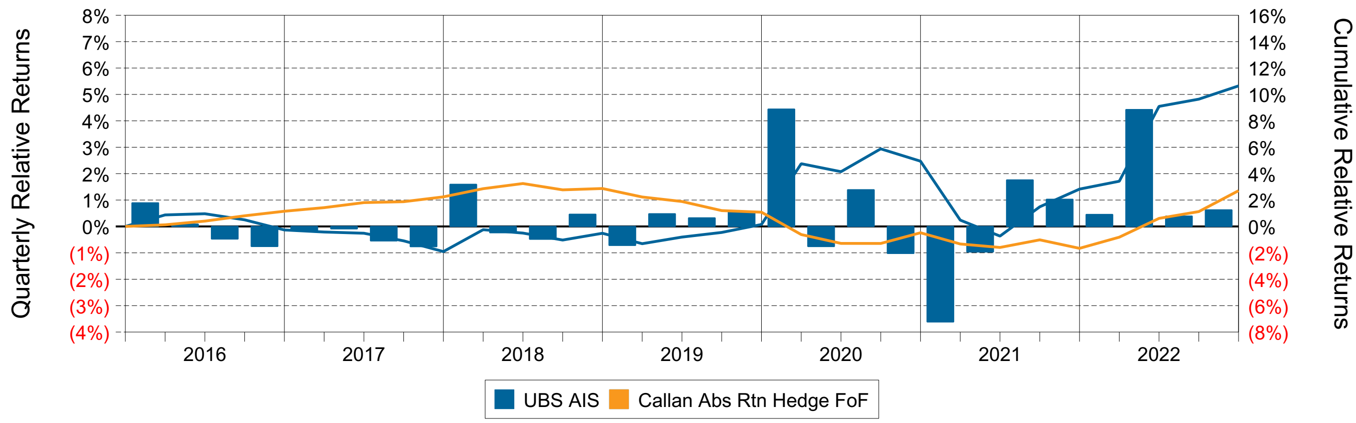
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Absolute Rtn Hedge Fund of Funds (Net)

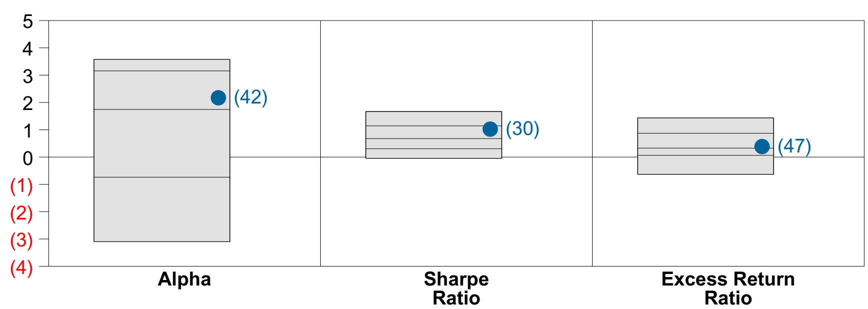


	2022	2021	2020	2019	2018	2017	2016
10th Percentile	11.22	11.76	12.35	7.04	2.86	9.65	5.31
25th Percentile	6.53	10.30	9.73	6.59	1.48	7.34	4.47
Median	4.02	6.76	4.03	4.71	0.51	5.10	3.35
75th Percentile	0.98	3.76	1.78	3.30	(1.46)	3.20	1.84
90th Percentile	(1.67)	0.81	(3.03)	1.62	(4.36)	1.49	1.09
UBS AIS ●	6.06	5.61	10.74	6.97	0.45	2.52	1.62
HFRI FOF: Conservative Index ▲	0.09	7.62	6.47	6.30	(0.87)	4.12	1.89

Cumulative and Quarterly Relative Returns vs HFRI FOF: Conservative Index



Risk Adjusted Return Measures vs HFRI FOF: Conservative Index
Rankings Against Callan Absolute Rtn Hedge Fund of Funds (Net)
Seven Years Ended December 31, 2022



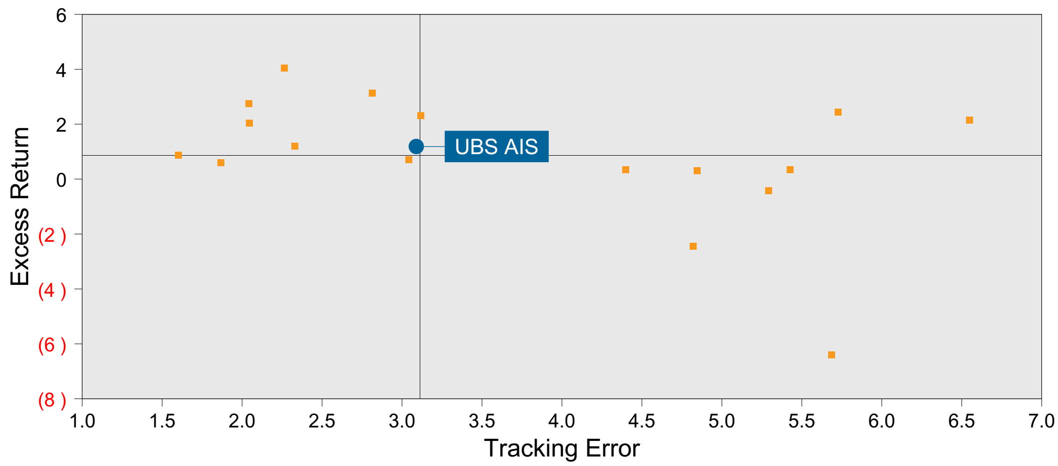
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	3.58	1.67	1.44
25th Percentile	3.16	1.14	0.87
Median	1.74	0.68	0.33
75th Percentile	(0.74)	0.31	0.06
90th Percentile	(3.10)	(0.05)	(0.63)
UBS AIS ●	2.17	1.02	0.38

UBS AIS
Risk Analysis Summary

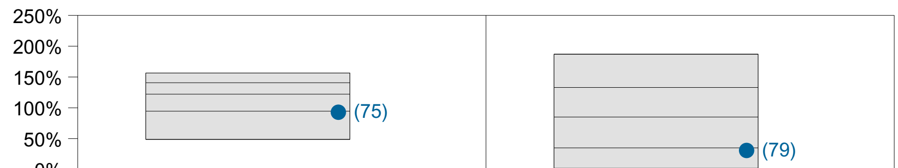
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

Risk Analysis vs Callan Absolute Rtn Hedge Fund of Funds (Net)
Seven Years Ended December 31, 2022

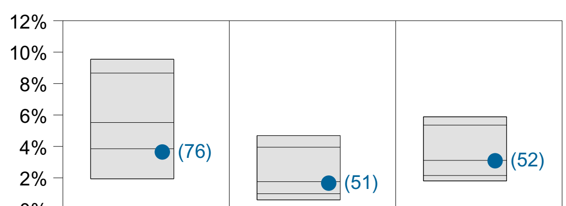


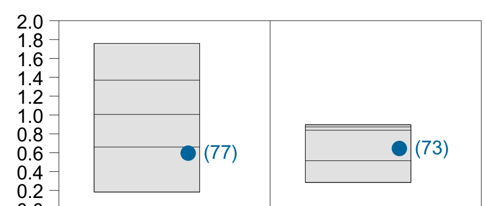
Market Capture vs HFRI FOF: Conservative Index
Rankings Against Callan Absolute Rtn Hedge Fund of Funds (Net)
Seven Years Ended December 31, 2022



	Up Market Capture	Down Market Capture
10th Percentile	156.53	187.02
25th Percentile	140.71	132.98
Median	122.14	85.09
75th Percentile	94.52	34.98
90th Percentile	48.73	2.05
UBS AIS ●	92.83	30.83

Risk Statistics Rankings vs HFRI FOF: Conservative Index
Rankings Against Callan Absolute Rtn Hedge Fund of Funds (Net)
Seven Years Ended December 31, 2022





	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	9.55	4.69	5.88
25th Percentile	8.67	3.95	5.35
Median	5.52	1.76	3.11
75th Percentile	3.85	0.99	2.15
90th Percentile	1.94	0.60	1.81
UBS AIS ●	3.65	1.66	3.09

	Beta	R-Squared
10th Percentile	1.76	0.90
25th Percentile	1.37	0.87
Median	1.01	0.84
75th Percentile	0.66	0.52
90th Percentile	0.18	0.28
UBS AIS ●	0.60	0.65

PIMCO All Asset Fund
Period Ended December 31, 2022

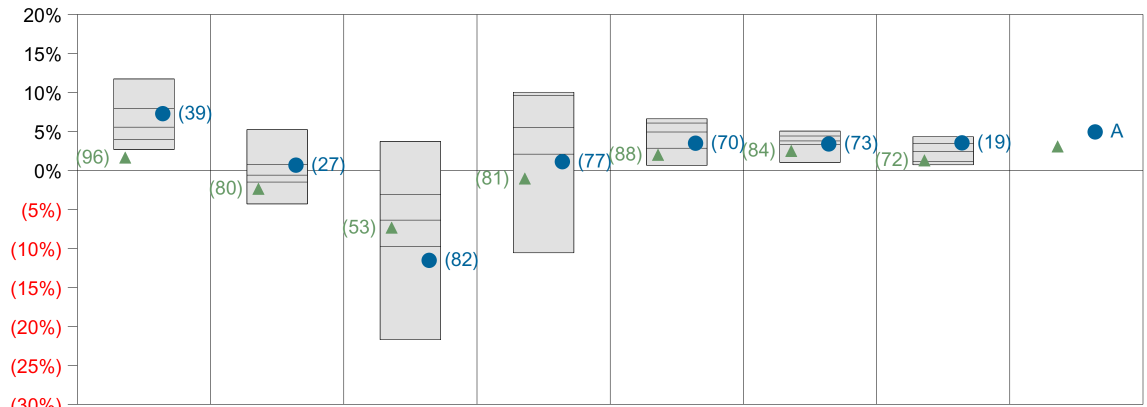
Investment Philosophy

The PIMCO All Asset Strategy is a real return-oriented, global tactical asset allocation strategy that seeks to provide three concurrent investor benefits: inflation protection, diversification and compelling long-term returns. Specifically, the All Asset Strategy has a primary benchmark of the Bloomberg Barclays Capital U.S. TIPS 1-10 Year Index and a secondary benchmark of the Consumer Price Index (CPI)+5%. PIMCO believes that this secondary benchmark reflects the Funds long-term investment strategy more accurately than the Bloomberg Barclays Capital U.S. TIPS 1-10 Year Index. As a result, the Strategy may be an attractive solution for investors seeking returns that track and meaningfully exceed inflation in a manner that also helps diversify equity risk.

Quarterly Summary and Highlights

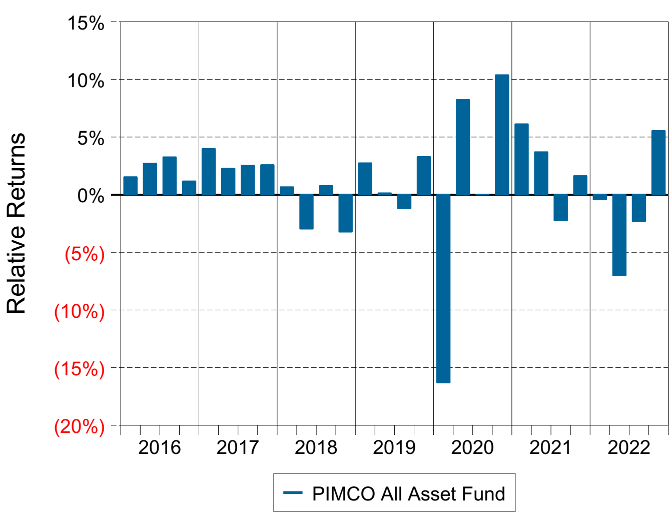
- PIMCO All Asset Fund's portfolio posted a 7.28% return for the quarter placing it in the 39 percentile of the Callan Real Assets Mutual Funds group for the quarter and in the 82 percentile for the last year.
- PIMCO All Asset Fund's portfolio outperformed the Blmbg TIPS 1-10 Yr by 5.64% for the quarter and underperformed the Blmbg TIPS 1-10 Yr for the year by 4.19%.

Performance vs Callan Real Assets Mutual Funds (Net)

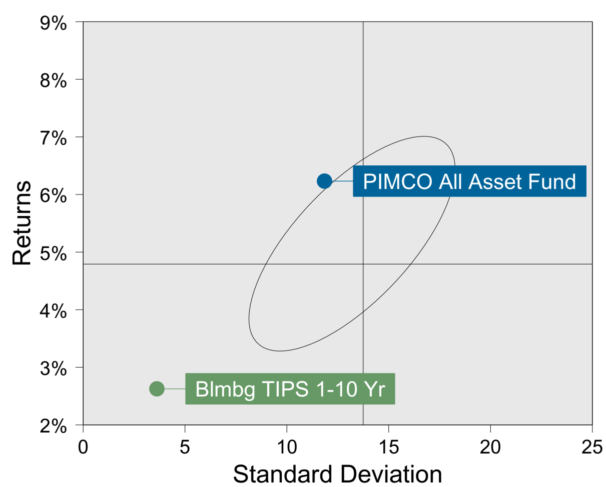


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years	Last 17-1/2 Years
10th Percentile	11.74	5.23	3.72	10.03	6.63	5.05	4.33	-
25th Percentile	7.96	0.77	(3.12)	9.64	6.08	4.42	3.44	-
Median	5.55	(0.60)	(6.37)	5.53	4.93	3.79	2.41	-
75th Percentile	3.94	(1.49)	(9.76)	2.09	2.85	3.31	1.14	-
90th Percentile	2.69	(4.29)	(21.72)	(10.56)	0.66	1.03	0.73	-
PIMCO All Asset Fund ●	7.28	0.68	(11.53)	1.12	3.49	3.40	3.54	4.94
Blmbg TIPS 1-10 Yr ▲	1.64	(2.36)	(7.34)	(1.04)	2.01	2.50	1.29	3.07

Relative Return vs Blmbg TIPS 1-10 Yr



Callan Real Assets Mutual Funds (Net) Annualized Seven Year Risk vs Return

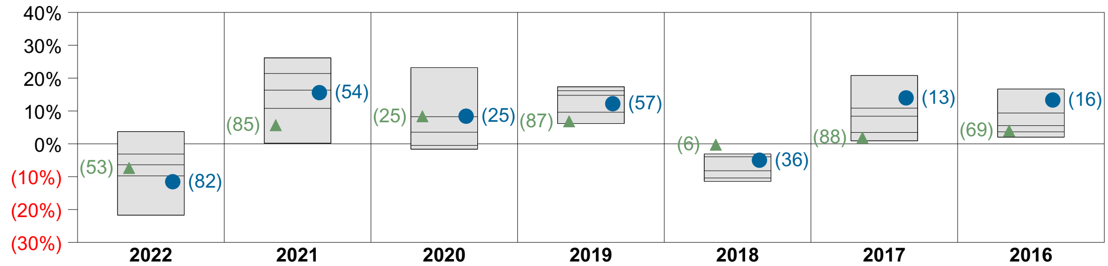


PIMCO All Asset Fund
Return Analysis Summary

Return Analysis

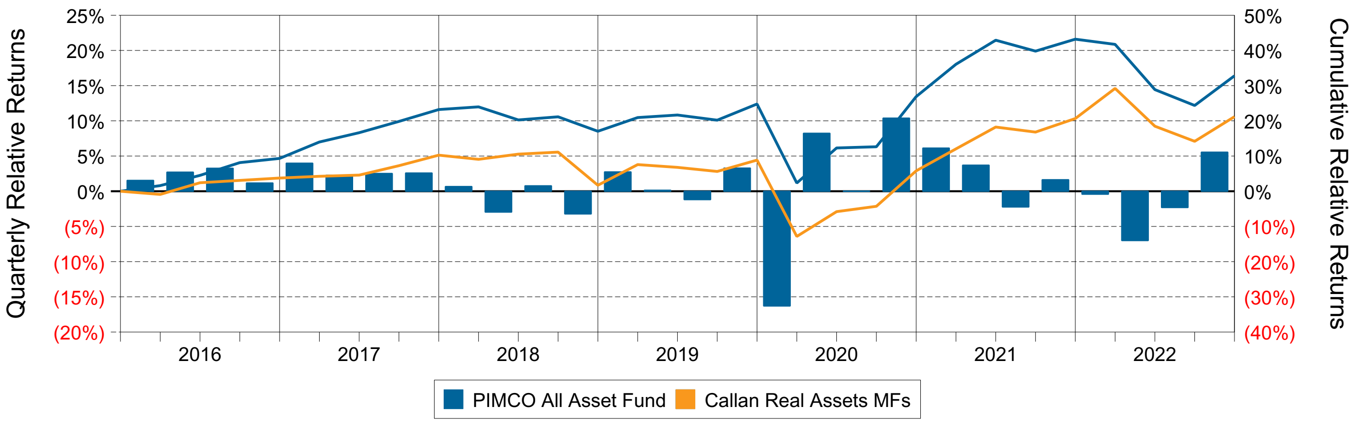
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Real Assets Mutual Funds (Net)

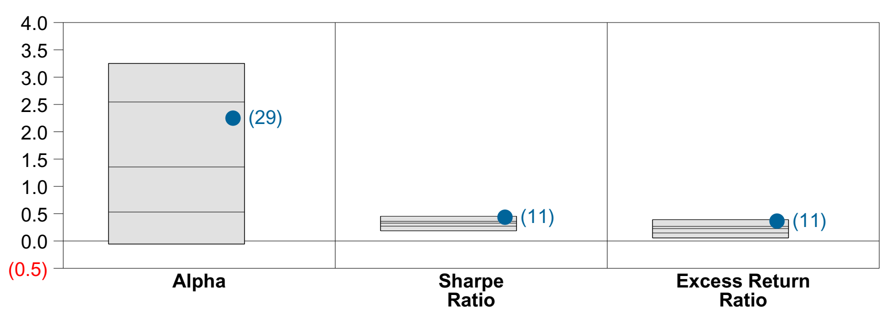


	2022	2021	2020	2019	2018	2017	2016
10th Percentile	3.72	26.16	23.20	17.37	(3.08)	20.79	16.68
25th Percentile	(3.12)	21.41	8.26	16.16	(3.93)	10.86	9.37
Median	(6.37)	16.34	3.54	14.76	(8.20)	8.40	5.54
75th Percentile	(9.76)	10.80	(0.48)	9.62	(10.41)	3.46	3.66
90th Percentile	(21.72)	0.18	(1.64)	6.17	(11.44)	0.91	2.04
PIMCO All Asset Fund ●	(11.53)	15.58	8.41	12.21	(4.98)	13.98	13.34
Blmbg TIPS 1-10 Yr ▲	(7.34)	5.69	8.39	6.85	(0.25)	1.90	4.01

Cumulative and Quarterly Relative Returns vs Blmbg TIPS 1-10 Yr



Risk Adjusted Return Measures vs Blmbg TIPS 1-10 Yr
Rankings Against Callan Real Assets Mutual Funds (Net)
Seven Years Ended December 31, 2022



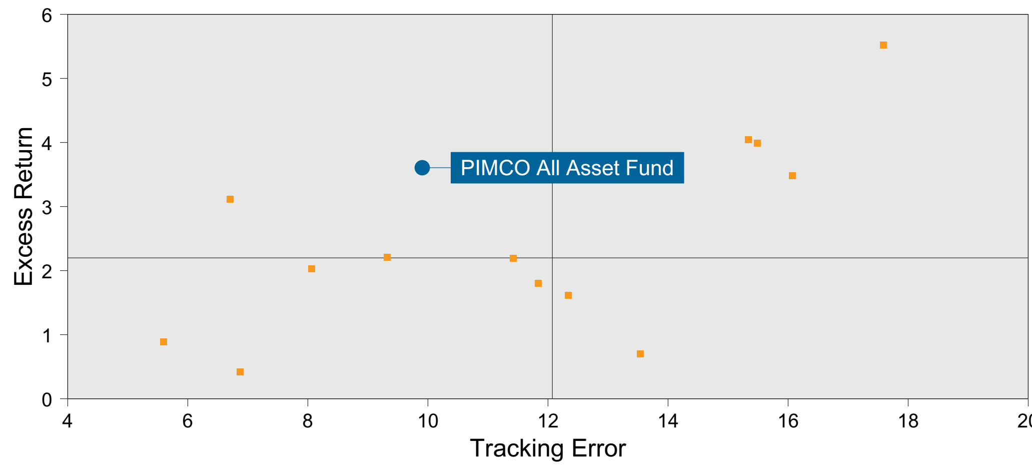
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	3.25	0.45	0.39
25th Percentile	2.55	0.36	0.27
Median	1.36	0.33	0.23
75th Percentile	0.53	0.27	0.15
90th Percentile	(0.06)	0.19	0.06
PIMCO All Asset Fund ●	2.25	0.44	0.36

PIMCO All Asset Fund
Risk Analysis Summary

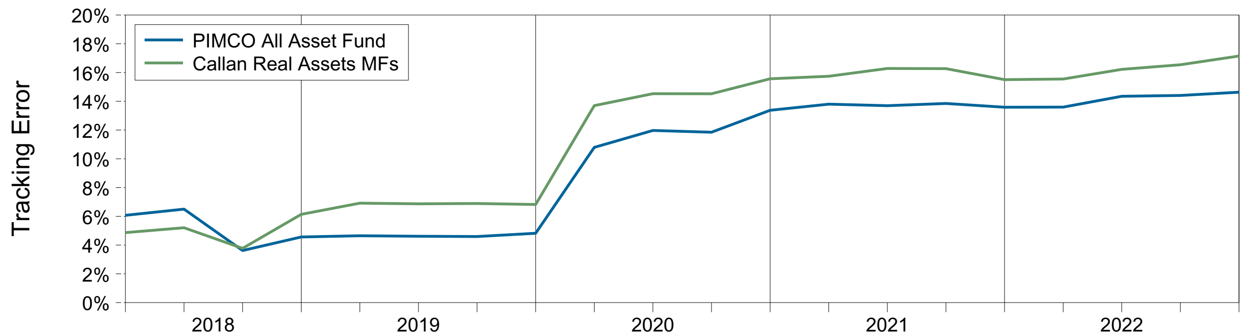
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows tracking error patterns versus the benchmark over time. The last two charts show the ranking of the manager's risk statistics versus the peer group.

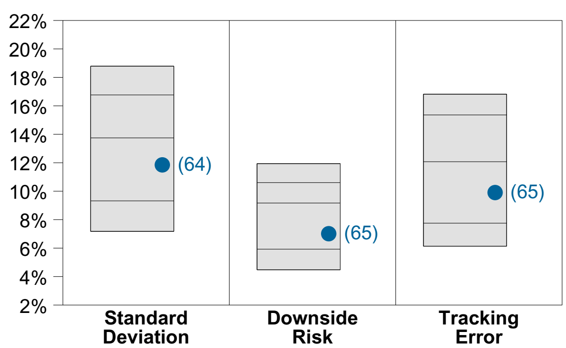
Risk Analysis vs Callan Real Assets Mutual Funds (Net)
Seven Years Ended December 31, 2022

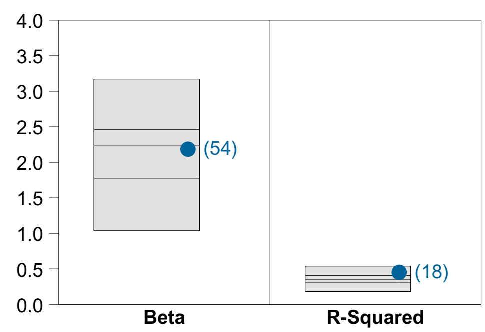


Rolling 12 Quarter Tracking Error vs Bloomberg TIPS 1-10 Yr



Risk Statistics Rankings vs Bloomberg TIPS 1-10 Yr
Rankings Against Callan Real Assets Mutual Funds (Net)
Seven Years Ended December 31, 2022





	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	18.79	11.94	16.82
25th Percentile	16.77	10.60	15.36
Median	13.75	9.17	12.07
75th Percentile	9.32	5.93	7.75
90th Percentile	7.18	4.48	6.13
PIMCO All Asset Fund ●	11.85	7.01	9.91

	Beta	R-Squared
10th Percentile	3.17	0.54
25th Percentile	2.46	0.41
Median	2.23	0.35
75th Percentile	1.77	0.30
90th Percentile	1.04	0.18
PIMCO All Asset Fund ●	2.18	0.45

Pantheon USA IV
Private Equity Investment Portfolio
Quarterly Changes in Market Value

	Beg. of Period Market	+	Capital Contri-butions	+	Accounting Income	-	Mgmt. Fees	+	Appre-ciation	-	Dist. of Income & Real. Gains	-	Return of Capital	=	End of Period Market
03/2001	0		750,000		8,223		12,836		(57,546)		0		0		687,841
06/2001	687,841		375,000		7,264		7,928		(1,589)		0		0		1,060,588
09/2001	1,060,588		0		14,367		5,285		(23,881)		0		0		1,045,789
12/2001	1,045,789		375,000		5,664		8,042		(33,262)		0		0		1,385,149
03/2002	1,385,149		1,200,000		927		11,558		4,096		0		0		2,578,614
06/2002	2,578,614		0		2,048		12,973		(20,185)		0		0		2,547,504
09/2002	2,547,504		600,000		1,070		13,889		22,215		0		0		3,156,900
12/2002	3,156,900		450,000		871		16,582		(5,101)		0		0		3,586,088
03/2003	3,586,088		600,000		3,153		17,442		135,495		0		0		4,307,294
06/2003	4,307,294		300,000		653		17,815		208,249		0		0		4,798,381
09/2003	4,798,381		300,000		419		18,961		52,584		0		0		5,132,423
12/2003	5,132,423		300,000		921		19,575		357,043		0		0		5,770,812
03/2004	5,770,812		450,000		846		22,549		52,740		0		0		6,251,849
06/2004	6,251,849		300,000		895		23,425		93,587		0		150,000		6,472,906
09/2004	6,472,906		450,000		993		24,526		(13,696)		0		375,000		6,510,677
12/2004	6,510,677		450,000		811		24,878		1,170,082		0		150,000		7,956,692
03/2005	7,956,692		0		835		24,282		(63,728)		30,885		119,115		7,719,517
06/2005	7,719,517		450,000		2,488		24,282		516,548		7,763		367,237		8,289,271
09/2005	8,289,271		0		976		24,282		574,952		0		0		8,840,917
12/2005	8,840,917		2,100,000		1,260		24,384		498,530		0		2,100,000		9,316,323
03/2006	9,316,323		150,000		2,979		24,384		201,583		0		0		9,646,501
06/2006	9,646,501		0		3,157		24,384		187,131		0		150,000		9,662,405
09/2006	9,662,405		0		3,266		24,384		709,466		0		150,000		10,200,753
12/2006	10,200,753		1,500,000		5,773		24,384		1,172,764		0		1,650,000		11,204,906
03/2007	11,204,906		1,200,000		5,197		24,384		479,152		964,950		385,050		11,514,871
06/2007	11,514,871		0		6,934		24,551		942,418		383,290		216,710		11,839,672
09/2007	11,839,672		0		8,818		24,467		919,210		800,726		399,274		11,543,233
12/2007	11,543,233		0		4,160		24,467		583,602		207,000		243,000		11,656,528
03/2008	11,656,528		450,000		1,635		24,467		(50,605)		551,547		123,453		11,358,091
06/2008	11,358,091		225,000		1,302		24,467		60,753		206,609		18,391		11,395,679
09/2008	11,395,679		0		804		24,467		(482,065)		0		0		10,889,951
12/2008	10,889,951		0		599		24,467		(2,149,996)		0		0		8,716,087
03/2009	8,716,087		0		47		24,467		(165,736)		0		0		8,525,931
06/2009	8,525,931		0		58		24,467		(20,009)		0		0		8,481,513
09/2009	8,481,513		0		72		24,312		477,125		32,763		267,237		8,634,398
12/2009	8,634,398		0		80		24,330		619,011		100,558		349,442		8,779,159
03/2010	8,779,159		0		74		24,330		234,076		90,713		134,287		8,763,979
06/2010	8,763,979		0		63		24,201		129,283		143,880		81,120		8,644,124
09/2010	8,644,124		0		62		24,201		557,239		133,289		316,711		8,727,224
12/2010	8,727,224		0		103		24,201		365,171		20,178		804,822		8,243,297
03/2011	8,243,297		0		99		24,201		325,215		315,833		434,167		7,794,410
06/2011	7,794,410		0		62		24,201		132,134		431,439		243,561		7,227,405
09/2011	7,227,405		0		47		24,201		(95,355)		122,728		102,272		6,882,896
12/2011	6,882,896		750,000		39		22,975		247,209		849,891		125,109		6,882,169
03/2012	6,882,169		0		29		24,232		265,220		165,104		59,896		6,898,186
06/2012	6,898,186		150,000		4,184		24,232		150,864		369,767		155,233		6,654,002
09/2012	6,654,002		0		26		24,232		201,349		191,505		138,495		6,501,145

Pantheon USA IV
Private Equity Investment Portfolio
Quarterly Changes in Market Value

	Beg. of Period Market	+	Capital Contri-butions	+	Accounting Income	-	Mgmt. Fees	+	Appre-ciation	-	Dist. of Income & Real. Gains	-	Return of Capital	=	End of Period Market
12/2012	6,501,145		0		89		24,232		60,319		588,870		236,130		5,712,321
03/2013	5,712,321		0		0		24,232		140,571		185,387		114,613		5,528,660
06/2013	5,528,660		0		80		24,232		83,516		195,385		104,615		5,288,024
09/2013	5,288,024		0		242		24,232		170,149		43,998		106,002		5,284,183
12/2013	5,284,183		0		0		24,232		132,583		285,673		239,327		4,867,534
03/2014	4,867,534		0		13		24,232		169,254		24,407		125,593		4,862,569
06/2014	4,862,569		0		0		24,232		36,266		392,392		252,609		4,229,602
09/2014	4,229,602		0		0		24,044		(20,499)		269,803		195,198		3,720,058
12/2014	3,720,058		0		0		24,044		2,886		94,776		115,224		3,488,900
03/2015	3,488,900		0		0		24,044		22,598		0		0		3,487,454
06/2015	3,487,454		450,000		750		20,651		(64,559)		599,628		135,372		3,117,994
09/2015	3,117,994		0		(3,481)		20,651		49,747		76,324		73,676		2,993,609
12/2015	2,993,609		0		6,633		20,096		(27,481)		178,240		121,760		2,652,665
03/2016	2,652,665		0		(552)		19,628		(277,835)		121,741		28,259		2,204,650
06/2016	2,204,650		0		25,584		19,628		20,035		169,385		265,615		1,795,641
09/2016	1,795,641		330,000		(7,065)		(6,686)		13,288		27,065		1,427,935		683,550
12/2016	683,550		75,000		(1,928)		0		14,438		43		389,957		381,060
03/2017	381,060		0		(2,405)		0		16,159		0		0		394,814
06/2017	394,814		0		57		0		6,836		0		0		401,707
09/2017	401,707		0		(994)		0		12,477		0		0		413,190
12/2017	413,190		0		(1,574)		0		(11,422)		150,000		0		250,194
03/2018	250,194		0		(458)		0		(67)		0		0		249,669
06/2018	249,669		0		452		0		16,690		0		0		266,811
09/2018	266,811		0		0		0		81		0		0		266,892
12/2018	266,892		0		(2,137)		0		(7,976)		372		89,628		166,779
03/2019	166,779		0		0		0		914		0		0		167,693
06/2019	167,693		0		0		0		0		0		0		167,693
09/2019	167,693		0		0		0		0		0		0		167,693
12/2019	167,693		0		0		0		0		0		0		167,693
03/2020	167,693		0		0		0		0		0		0		167,693
06/2020	167,693		0		0		0		0		0		0		167,693
09/2020	167,693		0		0		0		0		0		0		167,693
12/2020	167,693		0		0		0		22,606		0		0		190,299
03/2021	190,299		0		0		0		0		0		0		190,299
06/2021	190,299		0		0		0		0		0		0		190,299
09/2021	190,299		0		0		0		0		0		0		190,299
12/2021	190,299		0		0		0		(9,289)		0		0		181,010
03/2022	181,010		0		0		0		0		0		0		181,010
06/2022	181,010		0		0		0		0		0		0		181,010
09/2022	181,010		0		0		0		0		0		0		181,010
12/2022	181,010		0		0		0		0		0		0		181,010
	0		14,730,000		117,659		1,347,274		10,035,627		9,523,907		13,831,095		181,010

Pantheon USA IV
Private Equity Investment Portfolio
Quarterly Changes in Market Value

Returns

Net Portfolio Cumulative IRR = 10.17%

Ratios

Capital Account = $181,010

Total Value = $23,536,012

Paid In Capital = $14,730,000

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.60x

DPI Realization Multiple (Distributions/Paid In Capital) = 1.59x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 0.01x

Pantheon USA VI
Private Equity Investment Portfolio
Quarterly Changes in Market Value

	Beg. of Period Market	+	Capital Contri- butions	+	Accounting Income	-	Mgmt. Fees	+	Appre- ciation	-	Dist. of Income & Real. Gains	-	Return of Capital	=	End of Period Market
09/2004	0		300,000		21		10,598		(17,856)		0		0		271,567
12/2004	271,567		1,050,000		252		12,187		192,341		0		0		1,501,973
03/2005	1,501,973		0		1,031		12,187		(38,385)		0		0		1,452,432
06/2005	1,452,432		0		1,549		12,187		18,460		0		0		1,460,254
09/2005	1,460,254		0		2,314		17,487		(18,222)		0		0		1,426,859
12/2005	1,426,859		0		2,779		18,281		62,024		0		105,000		1,368,381
03/2006	1,368,381		0		2,879		18,281		(15,882)		0		0		1,337,097
06/2006	1,337,097		375,000		1,171		18,281		(19,654)		0		0		1,675,333
09/2006	1,675,333		675,000		2,408		23,580		82,649		0		0		2,411,810
12/2006	2,411,810		975,000		3,365		24,375		97,132		0		0		3,462,932
03/2007	3,462,932		750,000		3,577		24,375		10,601		0		0		4,202,735
06/2007	4,202,735		1,275,000		4,528		24,375		161,670		0		0		5,619,558
09/2007	5,619,558		975,000		4,320		24,375		132,610		0		0		6,707,113
12/2007	6,707,113		600,000		4,540		24,375		270,348		0		0		7,557,626
03/2008	7,557,626		1,575,000		3,508		24,375		(120,491)		73,041		226,959		8,691,268
06/2008	8,691,268		600,000		1,522		24,375		59,937		0		0		9,328,352
09/2008	9,328,352		600,000		2,056		24,375		(130,465)		0		0		9,775,568
12/2008	9,775,568		600,000		934		24,375		(1,545,047)		0		0		8,807,080
03/2009	8,807,080		0		97		24,375		(154,722)		0		0		8,628,080
06/2009	8,628,080		150,000		61		24,375		265,667		0		0		9,019,433
09/2009	9,019,433		150,000		43		24,375		523,871		0		0		9,668,972
12/2009	9,668,972		225,000		72		24,375		668,374		0		0		10,538,043
03/2010	10,538,043		150,000		78		24,375		358,692		0		0		11,022,438
06/2010	11,022,438		0		69		24,375		225,714		0		0		11,223,846
09/2010	11,223,846		450,000		74		24,375		454,607		99,882		470,118		11,534,152
12/2010	11,534,152		150,000		79		24,375		939,654		60,577		89,423		12,449,510
03/2011	12,449,510		0		97		24,375		618,092		57,566		392,434		12,593,324
06/2011	12,593,324		0		70		24,375		472,411		30,651		269,349		12,741,430
09/2011	12,741,430		75,000		72		24,375		(515,652)		2,782		297,218		11,976,475
12/2011	11,976,475		750,000		58		24,375		671,471		474,098		500,902		12,398,629
03/2012	12,398,629		225,000		60		24,375		798,160		292,030		82,970		13,022,474
06/2012	13,022,474		225,000		88		24,375		(72,923)		343,274		256,726		12,550,264
09/2012	12,550,264		0		28		24,375		214,474		71,839		228,161		12,440,391
12/2012	12,440,391		450,000		1,895		24,375		422,186		703,739		421,261		12,165,097
03/2013	12,165,097		0		12		24,375		539,068		261,847		413,153		12,004,802
06/2013	12,004,802		0		0		24,375		406,946		317,372		357,628		11,712,373
09/2013	11,712,373		0		0		24,375		580,758		167,452		207,548		11,893,756
12/2013	11,893,756		375,000		(2,322)		24,375		571,322		828,990		296,010		11,688,381
03/2014	11,688,381		0		(11,649)		24,375		371,626		313,728		286,273		11,423,982
06/2014	11,423,982		0		132		24,376		429,271		204,661		350,339		11,274,009
09/2014	11,274,009		0		3,016		24,375		(56,699)		220,317		244,682		10,730,952
12/2014	10,730,952		225,000		(1,063)		24,375		413,628		41,503		678,497		10,624,142
03/2015	10,624,142		150,000		3,089		21,937		22,870		462,168		227,832		10,088,164
06/2015	10,088,164		75,000		41,789		21,937		130,065		406,954		328,045		9,578,082
09/2015	9,578,082		0		23,994		21,937		(236,911)		423,601		446,399		8,473,228
12/2015	8,473,228		0		13,947		21,937		(65,411)		277,773		172,227		7,949,827
03/2016	7,949,827		0		7,243		19,744		(96,071)		138,014		296,986		7,406,255

Pantheon USA VI
Private Equity Investment Portfolio
Quarterly Changes in Market Value

	Beg. of Period Market	+	Capital Contri-butions	+	Accounting Income	-	Mgmt. Fees	+	Appre-ciation	-	Dist. of Income & Real. Gains	-	Return of Capital	=	End of Period Market
06/2016	7,406,255		0		29,185		19,744		149,485		11,048		183,952		7,370,181
09/2016	7,370,181		0		254		19,744		133,111		290,751		294,249		6,898,802
12/2016	6,898,802		0		39,023		19,744		137,500		331,857		238,143		6,485,581
03/2017	6,485,581		0		70,303		17,526		72,286		163,693		151,307		6,295,644
06/2017	6,295,644		0		7,032		17,721		118,273		0		630,000		5,773,228
09/2017	5,773,228		0		10,125		17,915		161,228		178,561		181,440		5,566,665
12/2017	5,566,665		0		16,410		17,915		75,585		376,963		253,037		5,010,745
03/2018	5,010,745		0		29,951		15,773		41,058		257,342		447,658		4,360,981
06/2018	4,360,981		0		3,392		15,949		169,127		241,540		118,459		4,157,552
09/2018	4,157,552		0		2,153		16,124		54,877		248,746		154,681		3,795,031
12/2018	3,795,031		0		2,631		16,124		(142,588)		42,188		197,812		3,398,950
03/2019	3,398,950		0		0		14,196		185,560		89,999		0		3,480,315
06/2019	3,480,315		0		0		14,354		107,542		157,500		0		3,416,003
09/2019	3,416,003		0		0		14,511		6,000		464,999		0		2,942,493
12/2019	2,942,493		0		0		14,511		(552,511)		225,000		0		2,150,471
03/2020	2,150,471		0		0		12,883		(79,403)		315,000		0		1,743,185
06/2020	1,743,185		0		0		12,883		23,672		630,000		0		1,123,974
09/2020	1,123,974		0		0		1,699		(5,442)		0		0		1,116,833
12/2020	1,116,833		0		0		0		54,478		60,000		0		1,111,311
03/2021	1,111,311		0		0		0		(7,689)		660,000		0		443,622
06/2021	443,622		0		0		0		(22,663)		0		0		420,959
09/2021	420,959		0		0		0		(52,006)		0		0		368,953
12/2021	368,953		0		0		0		(17,770)		0		0		351,183
03/2022	351,183		0		0		0		(16,239)		75,000		0		259,944
06/2022	259,944		0		0		0		(2,840)		105,000		0		152,104
09/2022	152,104		0		0		0		(3,763)		0		0		148,341
12/2022	148,341		0		0		0		0		0		0		148,341
	0		14,175,000		334,342		1,334,253		8,669,176		11,199,046		10,496,878		148,341

Returns

Net Portfolio Cumulative IRR = 6.91%

Ratios

Capital Account = $148,341

Total Value = $21,844,265

Paid In Capital = $14,025,000

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.56x

DPI Realization Multiple (Distributions/Paid In Capital) = 1.55x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 0.01x

Pantheon USA VII
Private Equity Investment Portfolio
Quarterly Changes in Market Value

	Beg. of Period Market	+	Capital Contri-butions	+	Accounting Income	-	Mgmt. Fees	+	Appre-ciation	-	Dist. of Income & Real. Gains	-	Return of Capital	=	End of Period Market
12/2006	0		100,000		738		12,672		(7,470)		0		0		80,596
03/2007	80,596		250,000		528		4,687		767		0		0		327,204
06/2007	327,204		100,000		534		6,336		20,148		0		0		441,550
09/2007	441,550		100,000		1,687		7,031		15,286		0		0		551,492
12/2007	551,492		100,000		1,005		7,031		(23,884)		0		0		621,582
03/2008	621,582		175,000		1,033		7,031		(5,589)		0		0		784,995
06/2008	784,995		200,000		447		8,680		(8,058)		0		0		968,704
09/2008	968,704		200,000		585		9,375		(26,070)		0		0		1,133,844
12/2008	1,133,844		200,000		495		9,375		(165,573)		0		0		1,159,391
03/2009	1,159,391		0		55		9,375		(31,122)		0		0		1,118,949
06/2009	1,118,949		50,000		86		9,375		16,176		0		0		1,175,836
09/2009	1,175,836		100,000		34		9,375		83,643		0		0		1,350,138
12/2009	1,350,138		100,000		53		9,375		67,252		0		0		1,508,068
03/2010	1,508,068		100,000		25		9,375		27,655		0		0		1,626,373
06/2010	1,626,373		150,000		19		9,375		17,193		0		0		1,784,210
09/2010	1,784,210		300,000		44		9,375		51,750		0		0		2,126,629
12/2010	2,126,629		150,000		78		9,375		170,613		0		0		2,437,945
03/2011	2,437,945		200,000		162		9,375		109,285		0		0		2,738,017
06/2011	2,738,017		50,000		36		9,375		169,157		0		0		2,947,835
09/2011	2,947,835		300,000		17		9,375		(46,460)		150,000		0		3,042,017
12/2011	3,042,017		275,000		16		9,375		95,371		75,000		0		3,328,029
03/2012	3,328,029		100,000		20		9,375		196,043		0		0		3,614,717
06/2012	3,614,717		50,000		19		9,375		18,351		0		0		3,673,712
09/2012	3,673,712		0		10		9,375		101,545		0		0		3,765,892
12/2012	3,765,892		225,000		0		9,375		107,364		200,000		0		3,888,881
03/2013	3,888,881		100,000		0		9,375		181,736		150,000		0		4,011,242
06/2013	4,011,242		0		0		9,375		152,474		75,000		0		4,079,341
09/2013	4,079,341		0		0		9,375		211,778		75,000		0		4,206,744
12/2013	4,206,744		400,000		(694)		9,375		241,094		475,000		0		4,362,769
03/2014	4,362,769		0		(117)		9,375		238,983		93,744		81,256		4,417,260
06/2014	4,417,260		0		431		9,375		282,770		57,266		62,734		4,571,086
09/2014	4,571,086		100,000		(205)		9,375		101,395		190,803		124,197		4,447,901
12/2014	4,447,901		175,000		(389)		9,375		197,539		226,324		188,676		4,395,676
03/2015	4,395,676		75,000		15,663		9,375		86,397		156,847		78,153		4,328,361
06/2015	4,328,361		75,000		18,453		9,375		144,103		184,166		140,833		4,231,543
09/2015	4,231,543		35,000		22,690		9,375		(65,730)		116,172		156,327		3,941,629
12/2015	3,941,629		0		14,498		9,375		67,684		118,590		81,409		3,814,437
03/2016	3,814,437		0		6,329		9,375		(8,262)		18,729		71,272		3,713,128
06/2016	3,713,128		35,000		23,508		9,375		61,190		125,298		79,703		3,618,450
09/2016	3,618,450		20,000		4,066		9,375		122,444		86,430		78,570		3,590,585
12/2016	3,590,585		30,000		37,440		9,375		50,091		141,216		108,784		3,448,741
03/2017	3,448,741		0		16,189		8,322		157,510		55,097		84,903		3,474,118
06/2017	3,474,118		0		19,356		8,414		109,999		300,000		0		3,295,059
09/2017	3,295,059		0		8,827		8,507		94,355		170,000		0		3,219,734
12/2017	3,219,734		0		8,964		8,507		72,800		171,614		148,859		2,972,518
03/2018	2,972,518		0		9,527		7,490		80,949		245,073		99,927		2,710,504
06/2018	2,710,504		0		11,047		7,573		121,502		85,609		74,391		2,675,480

Pantheon USA VII
Private Equity Investment Portfolio
Quarterly Changes in Market Value

	Beg. of Period Market	+	Capital Contri-butions	+	Accounting Income	-	Mgmt. Fees	+	Appre-ciation	-	Dist. of Income & Real. Gains	-	Return of Capital	=	End of Period Market
09/2018	2,675,480		0		6,205		7,656		70,977		50,697		54,303		2,640,006
12/2018	2,640,006		0		9,057		7,656		(132,463)		108,215		141,786		2,258,943
03/2019	2,258,943		0		0		6,741		107,773		165,000		0		2,194,975
06/2019	2,194,975		0		0		6,816		48,175		200,000		0		2,036,334
09/2019	2,036,334		0		0		6,891		(32,180)		170,001		0		1,827,262
12/2019	1,827,262		0		0		6,891		16,758		154,999		0		1,682,130
03/2020	1,682,130		40,000		0		6,117		(188,589)		120,000		0		1,407,424
06/2020	1,407,424		0		0		6,117		170,744		125,000		0		1,447,051
09/2020	1,447,051		0		0		6,185		164,141		40,000		0		1,565,007
12/2020	1,565,007		0		0		6,185		121,576		160,000		0		1,520,398
03/2021	1,520,398		0		0		5,460		180,657		165,000		0		1,530,595
06/2021	1,530,595		0		0		5,521		118,990		230,001		0		1,414,063
09/2021	1,414,063		0		0		0		46,650		205,000		0		1,255,713
12/2021	1,255,713		0		0		5,581		12,635		195,001		0		1,067,766
03/2022	1,067,766		0		0		4,914		52,014		85,000		0		1,029,866
06/2022	1,029,866		0		0		1,529		(53,206)		65,000		0		910,131
09/2022	910,131		0		0		0		(20,692)		100,000		0		789,439
12/2022	789,439		0		0		0		0		40,000		0		749,439
	0		4,660,000		238,571		511,291		4,340,134		6,121,892		1,856,083		749,439

Returns

Net Portfolio Cumulative IRR = 10.11%

Ratios

Capital Account = $749,439

Total Value = $8,727,414

Paid In Capital = $4,660,000

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.87x

DPI Realization Multiple (Distributions/Paid In Capital) = 1.71x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 0.16x

Pantheon Europe Fund V A
Private Equity Investment Portfolio
Quarterly Changes in Market Value

	Beg. of Period Market	+	Capital Contri-butions	+	Accounting Income	-	Mgmt. Fees	+	Appre-ciation	-	Dist. of Income & Real. Gains	-	Return of Capital	=	End of Period Market
12/2006	0		0		0		0		(36,905)		0		0		(36,905)
03/2007	(36,905)		0		(4,936)		0		(13,013)		0		0		(54,854)
06/2007	(54,854)		540,220		(4,497)		16,281		26,939		0		0		491,527
09/2007	491,527		113,772		(3,763)		7,426		7,154		0		0		601,264
12/2007	601,264		350,892		(2,961)		8,816		(5,527)		0		0		934,852
03/2008	934,852		190,146		8		8,897		55,056		0		0		1,171,165
06/2008	1,171,165		189,066		3,051		11,784		(68,387)		0		0		1,283,111
09/2008	1,283,111		421,395		(2,230)		10,621		(201,351)		0		0		1,490,304
12/2008	1,490,304		222,408		21,410		10,512		(319,183)		0		0		1,404,427
03/2009	1,404,427		0		2,886		9,737		(84,744)		0		0		1,312,832
06/2009	1,312,832		168,318		(612)		10,491		60,902		0		0		1,530,949
09/2009	1,530,949		292,340		102		10,985		112,039		0		0		1,924,445
12/2009	1,924,445		114,780		1,971		10,850		69,175		0		0		2,099,521
03/2010	2,099,521		162,372		4,387		10,009		(32,827)		0		0		2,223,444
06/2010	2,223,444		0		872		9,161		(55,632)		0		0		2,159,523
09/2010	2,159,523		436,864		1,482		10,324		199,240		0		0		2,786,785
12/2010	2,786,785		214,648		7,916		10,145		95,340		0		0		3,094,544
03/2011	3,094,544		0		26,259		10,497		224,192		0		0		3,334,498
06/2011	3,334,498		173,982		55,141		10,843		148,844		0		0		3,701,622
09/2011	3,701,622		134,170		61,038		10,146		(369,219)		0		0		3,517,465
12/2011	3,517,465		0		52,536		9,801		(78,617)		0		214,624		3,266,959
03/2012	3,266,959		106,536		46,832		9,933		183,790		0		0		3,594,184
06/2012	3,594,184		253,820		28,026		9,466		(59,794)		0		101,528		3,705,242
09/2012	3,705,242		0		95,623		9,701		51,508		0		102,920		3,739,752
12/2012	3,739,752		0		168,856		9,942		(4,547)		0		0		3,894,119
03/2013	3,894,119		205,456		36,117		9,499		(110,083)		0		154,092		3,862,018
06/2013	3,862,018		77,994		68,649		9,723		86,577		0		181,986		3,903,529
09/2013	3,903,529		108,296		98,404		10,236		71,353		0		297,814		3,873,532
12/2013	3,873,532		110,240		184,523		10,420		18,875		0		248,040		3,928,710
03/2014	3,928,710		110,264		9,778		10,196		140,285		0		165,396		4,013,445
06/2014	4,013,445		0		9,706		10,286		266,592		0		213,595		4,065,862
09/2014	4,065,862		50,532		15,103		10,795		65,337		0		389,096		3,796,943
12/2014	3,796,943		0		12,399		9,627		146,053		199,339		0		3,746,429
03/2015	3,746,429		0		29,256		8,798		207,557		0		351,573		3,622,871
06/2015	3,622,871		44,378		12,578		8,510		194,837		0		230,764		3,635,390
09/2015	3,635,390		193,043		12,578		8,510		56,596		0		501,467		3,387,630
12/2015	3,387,630		0		16,716		8,261		143,628		0		314,652		3,225,061
03/2016	3,225,061		18,100		11,270		8,438		(37,468)		248,871		0		2,959,654
06/2016	2,959,654		0		10,576		8,266		(455,285)		168,454		0		2,338,225
09/2016	2,338,225		0		5,431		8,462		(85,328)		170,571		0		2,079,294
12/2016	2,079,294		0		14,217		7,945		19,599		126,427		0		1,978,738
03/2017	1,978,738		0		(10,962)		6,658		54,293		256,000		0		1,759,411
06/2017	1,759,411		0		16,224		6,732		27,503		192,000		0		1,604,406
09/2017	1,604,406		0		10,694		6,805		10,668		48,000		0		1,570,963
12/2017	1,570,963		96,000		34,998		6,805		13,749		276,000		0		1,432,905
03/2018	1,432,905		0		3,235		5,992		10,842		140,000		0		1,300,990
06/2018	1,300,990		0		3,510		6,058		128,860		220,000		0		1,207,302

Pantheon Europe Fund V A
Private Equity Investment Portfolio
Quarterly Changes in Market Value

	Beg. of Period Market	+	Capital Contri-butions	+	Accounting Income	-	Mgmt. Fees	+	Appre-ciation	-	Dist. of Income & Real. Gains	-	Return of Capital	=	End of Period Market
09/2018	1,207,302		0		7,071		6,125		72,338		180,000		0		1,100,586
12/2018	1,100,586		0		2,368		6,125		(18,189)		52,000		0		1,026,640
03/2019	1,026,640		0		0		5,393		67,525		48,000		0		1,040,772
06/2019	1,040,772		40,000		0		5,453		26,623		228,000		0		873,942
09/2019	873,942		0		0		5,512		16,950		84,000		0		801,380
12/2019	801,380		0		0		5,512		44,708		56,000		0		784,576
03/2020	784,576		0		0		4,894		(56,195)		76,000		0		647,487
06/2020	647,487		0		0		4,894		73,578		40,000		0		676,171
09/2020	676,171		0		0		4,947		204,283		64,000		0		811,507
12/2020	811,507		0		0		4,948		56,847		40,000		0		823,406
03/2021	823,406		0		0		4,368		44,229		132,000		0		731,267
06/2021	731,267		0		0		4,417		48,827		84,000		0		691,677
09/2021	691,677		0		0		4,465		23,185		12,000		0		698,397
12/2021	698,397		0		0		4,404		(10,332)		100,000		0		583,661
03/2022	583,661		0		0		3,931		(37,785)		32,000		0		509,945
06/2022	509,945		0		0		0		(27,101)		28,000		0		454,844
09/2022	454,844		0		0		0		(10,476)		0		0		444,368
12/2022	444,368		0		0		0		0		0		0		444,368
	0		5,140,032		1,173,836		498,779		1,398,488		3,301,662		3,467,547		444,368

Returns

Net Portfolio Cumulative IRR = 5.68%

Ratios

Capital Account = $444,368

Total Value = $7,213,577

Paid In Capital = $5,140,032

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.40x

DPI Realization Multiple (Distributions/Paid In Capital) = 1.32x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 0.09x

Pantheon Global Secondary Fund III
Private Equity Investment Portfolio
Quarterly Changes in Market Value

	Beg. of Period Market	+	Capital Contri- butions	+	Accounting Income	-	Mgmt. Fees	+	Appre- ciation	-	Dist. of Income & Real. Gains	-	Return of Capital	=	End of Period Market
12/2006	0		500,000		110		23,699		3,896		0		0		480,307
03/2007	480,307		275,000		1,104		12,329		102,564		0		0		846,646
06/2007	846,646		175,000		434		12,466		107,117		0		0		1,116,731
09/2007	1,116,731		225,000		1,822		12,603		102,490		0		0		1,433,440
12/2007	1,433,440		300,000		1,068		12,603		12,221		0		0		1,734,126
03/2008	1,734,126		650,000		1,024		12,329		93,162		0		0		2,465,983
06/2008	2,465,983		499,999		1,107		12,466		3,134		0		0		2,957,757
09/2008	2,957,757		275,000		461		12,603		(103,497)		0		0		3,117,118
12/2008	3,117,118		300,000		656		12,603		(452,340)		0		0		2,952,831
03/2009	2,952,831		225,000		164		12,329		(281,889)		0		0		2,883,777
06/2009	2,883,777		0		394		12,466		118,124		0		0		2,989,829
09/2009	2,989,829		25,000		1,369		12,603		97,319		0		0		3,100,914
12/2009	3,100,914		0		5,221		12,603		92,261		0		0		3,185,793
03/2010	3,185,793		0		1,325		12,329		22,086		0		75,000		3,121,875
06/2010	3,121,875		0		3,110		12,466		(24,073)		0		0		3,088,446
09/2010	3,088,446		175,000		3,213		12,603		115,854		0		0		3,369,910
12/2010	3,369,910		525,000		4,765		12,603		209,627		0		450,000		3,646,699
03/2011	3,646,699		0		12,106		12,329		189,903		0		0		3,836,379
06/2011	3,836,379		0		2,346		12,466		194,920		0		250,000		3,771,179
09/2011	3,771,179		100,000		33,335		12,603		(206,828)		0		225,000		3,460,083
12/2011	3,460,083		0		4,855		12,603		(85,269)		0		50,000		3,317,066
03/2012	3,317,066		50,000		5,583		12,432		117,995		0		225,000		3,253,212
06/2012	3,253,212		75,000		9,659		12,432		17,991		0		225,000		3,118,430
09/2012	3,118,430		0		7,370		12,568		34,523		0		0		3,147,755
12/2012	3,147,755		50,000		6,769		10,921		15,973		0		300,000		2,909,576
03/2013	2,909,576		0		473		12,229		16,421		75,000		0		2,839,241
06/2013	2,839,241		75,000		8,943		12,417		67,416		225,000		0		2,753,183
09/2013	2,753,183		0		2,788		12,554		17,968		175,000		0		2,586,385
12/2013	2,586,385		0		3,222		12,543		97,445		0		100,000		2,574,509
03/2014	2,574,509		100,000		2,009		11,036		73,662		0		225,000		2,514,144
06/2014	2,514,144		0		3,542		11,159		88,000		0		50,000		2,544,527
09/2014	2,544,527		0		13,697		11,282		(119,579)		0		165,000		2,262,363
12/2014	2,262,363		90,000		363		11,282		10,232		0		245,000		2,106,676
03/2015	2,106,676		0		11,952		9,928		21,332		0		140,000		1,990,032
06/2015	1,990,032		0		9,289		10,039		53,366		0		150,000		1,892,648
09/2015	1,892,648		55,000		4,597		10,150		(44,306)		0		175,000		1,722,789
12/2015	1,722,789		0		16,812		283,849		276,455		190,000		0		1,542,207
03/2016	1,542,207		0		9,036		9,006		(22,573)		170,000		0		1,349,664
06/2016	1,349,664		0		5,448		9,006		(14,055)		45,000		0		1,287,051
09/2016	1,287,051		0		(1,715)		9,106		36,381		100,000		0		1,212,611
12/2016	1,212,611		0		7,917		9,106		(19,624)		90,000		0		1,101,798
03/2017	1,101,798		0		4,216		8,046		22,430		50,000		0		1,070,398
06/2017	1,070,398		0		3,349		8,179		46,637		95,000		0		1,017,205
09/2017	1,017,205		0		(7,445)		8,182		24,438		50,000		0		976,016
12/2017	976,016		0		4,437		8,014		(18,926)		210,000		0		743,513
03/2018	743,513		0		2,131		7,280		5,078		80,000		0		663,442
06/2018	663,442		0		284		7,361		88,505		35,000		0		709,870

Pantheon Global Secondary Fund III
Private Equity Investment Portfolio
Quarterly Changes in Market Value

	Beg. of Period Market	+	Capital Contri-butions	+	Accounting Income	-	Mgmt. Fees	+	Appre-ciation	-	Dist. of Income & Real. Gains	-	Return of Capital	=	End of Period Market
09/2018	709,870		0		4,396		7,442		29,299		10,000		0		726,123
12/2018	726,123		0		4,974		7,251		(47,122)		0		75,000		601,724
03/2019	601,724		0		0		6,552		51,506		35,000		0		611,678
06/2019	611,678		0		0		6,625		(4,058)		85,000		0		515,995
09/2019	515,995		0		0		5,242		6,394		50,000		0		467,147
12/2019	467,147		0		0		4,850		(49,110)		35,000		0		378,187
03/2020	378,187		0		0		9,352		(647)		40,000		0		328,188
06/2020	328,188		0		0		6,303		29,085		150,000		0		200,970
09/2020	200,970		0		0		3,739		3,736		40,000		0		160,967
12/2020	160,967		0		0		4,656		4,656		0		0		160,967
03/2021	160,967		0		0		0		(1,884)		0		0		159,083
06/2021	159,083		0		0		4,177		6,558		0		0		161,464
09/2021	161,464		0		0		0		(21,271)		0		0		140,193
12/2021	140,193		0		0		5,069		(702)		0		0		134,422
03/2022	134,422		0		0		7,604		(6,412)		25,000		0		95,406
06/2022	95,406		0		0		0		(586)		35,000		0		59,820
09/2022	59,820		0		0		79		(655)		0		0		59,086
12/2022	59,086		0		0		0		0		0		0		59,086
	0		4,744,999		224,085		892,752		1,202,754		2,095,000		3,125,000		59,086

Returns

Net Portfolio Cumulative IRR = 1.90%

Ratios

Capital Account = $59,086

Total Value = $5,279,086

Paid In Capital = $4,744,999

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.11x

DPI Realization Multiple (Distributions/Paid In Capital) = 1.10x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 0.01x

Pantheon US Select 2014
Real Estate Portfolio
Quarterly Changes in Market Value

	Beg. of Period Market	+	Capital Contri-butions	+	Accounting Income	-	Mgmt. Fees	+	Appre-ciation	-	Dist. of Income & Real. Gains	-	Return of Capital	=	End of Period Market
03/2015	(5,712)		188,000		(26,666)		647		0		0		0		154,975
06/2015	154,975		555,000		(9,672)		13,291		0		0		0		687,012
09/2015	687,012		463,937		8,765		15,008		0		0		0		1,144,706
12/2015	1,144,706		0		5,605		(10,332)		(4,032)		0		0		1,156,611
03/2016	1,156,611		0		126		6,517		(3,021)		0		0		1,147,199
06/2016	1,147,199		480,000		(7,766)		6,955		(7,136)		0		0		1,605,341
09/2016	1,605,341		225,000		91,201		11,340		(3,551)		0		0		1,906,651
12/2016	1,906,651		269,668		(22,646)		12,538		131,076		0		0		2,272,211
03/2017	2,272,211		585,000		(5,710)		13,969		66,210		0		0		2,903,742
06/2017	2,903,742		1,230,138		(25,941)		15,016		147,215		0		0		4,240,138
09/2017	4,240,138		645,159		22,338		15,084		50,560		0		0		4,943,111
12/2017	4,943,111		870,000		(3)		19,246		341,589		0		0		6,135,451
03/2018	6,135,451		510,221		(4,603)		19,351		333,322		0		0		6,955,040
06/2018	6,955,040		555,179		(100,389)		20,725		349,082		0		0		7,738,187
09/2018	7,738,187		975,000		14,485		22,154		528,429		90,192		74,808		9,068,947
12/2018	9,068,947		1,095,407		122,516		26,079		132,047		0		0		10,392,838
03/2019	10,392,838		0		0		22,095		444,609		0		0		10,815,352
06/2019	10,815,352		225,245		0		18,500		727,786		0		0		11,749,883
09/2019	11,749,883		240,000		0		23,150		346,200		0		0		12,312,933
12/2019	12,312,933		330,240		0		23,909		123,689		0		0		12,742,953
03/2020	12,742,953		0		0		22,108		(16,784)		330,457		0		12,373,604
06/2020	12,373,604		0		0		22,107		1,033,527		600,219		0		12,784,805
09/2020	12,784,805		330,233		0		22,303		1,696,452		0		0		14,789,187
12/2020	14,789,187		525,222		0		22,647		375,495		0		0		15,667,257
03/2021	15,667,257		0		0		21,951		3,591,662		150,000		0		19,086,968
06/2021	19,086,968		0		0		23,007		2,322,461		540,000		0		20,846,422
09/2021	20,846,422		0		0		23,396		1,807,892		945,000		0		21,685,918
12/2021	21,685,918		0		0		23,088		695,656		390,001		0		21,968,485
03/2022	21,968,485		0		0		22,964		1,538,367		254,547		0		23,229,341
06/2022	23,229,341		0		0		23,206		(284,830)		330,000		0		22,591,305
09/2022	22,591,305		0		0		23,458		(154,642)		210,000		0		22,203,205
12/2022	22,203,205		0		0		0		0		390,000		0		21,813,205
	(5,712)		10,298,649		61,640		545,478		16,309,331		4,230,416		74,808		21,813,205

Returns

Net Portfolio Cumulative IRR = 20.64%

Ratios

Capital Account = $21,813,205

Total Value = $26,118,429

Paid In Capital = $10,298,649

TVPI Investment Multiple (Total Value/Paid In Capital) = 2.54x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.42x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 2.12x

Callan Institute

Education

4th Quarter 2022

Quarterly Highlights

The Callan Institute provides research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/research-library to see all of our publications, and www.callan.com/blog to view our blog. For more information contact Barb Gerraty at 415-274-3093 / institute@callan.com.

New Research from Callan's Experts

2022 ESG Survey | Callan's 10th annual survey assesses the status of environmental, social, and governance (ESG) investing in the U.S. institutional investment market.

Considering Currency: A Guide for Institutional Investors | This guide to currency trends over time provides institutional investors with multiple ways to benchmark and analyze their portfolios.

2022 Nuclear Decommissioning Funding Study | Julia Moriarty offers key insights into the status of nuclear decommissioning funding to make peer comparisons more accurate and relevant.

Blog Highlights

What DC Plan Sponsors Should Know About Recent Litigation Trends | Callan reviewed lawsuits filed against DC plans between January 2019 and August 2022, to provide an analysis of trends in litigation centered on the fiduciary duties outlined in ERISA.

How Does Your Public DB Plan Measure Up? | Most public DB plans saw sharp losses for the fiscal year ended 6/30/22. However, plan returns for fiscal year 2021 were the strongest in three decades.

Index Selection Within TDF Benchmarks Can Make a Big Difference | Most TDF providers build a custom benchmark for performance comparisons. While this approach is useful, it does not capture differences in glidepath design and asset allocation that are the major drivers of relative performance.

Webinar Replays

Callan's 2023-2032 Capital Markets Assumptions | During this webinar, Jay Kloepfer, Kevin Machiz, and Adam Lozinski described our 2023-2032 Capital Markets Assumptions, discussed the process and rationale behind these long-term assumptions, and explained the potential implications for strategic recommendations.

Corporate Pension Hibernation | Callan specialists explore why closed and frozen plans might wish to hibernate in the current market, thereby deferring the decision to fully terminate until the future.

Research Cafe: ESG Interview Series | During this interview, Tom Shingler of Callan discusses with Sara Rosner, director of environment research and engagement for AllianceBernstein's responsible investing team, carbon emissions and why they matter to investors.

Quarterly Periodicals

Private Equity Update, 3Q22 | A high-level summary of private equity activity in the quarter through all the investment stages

Active vs. Passive Charts, 3Q22 | A comparison of active managers alongside relevant benchmarks over the long term

Market Pulse, 3Q22 | A quarterly market reference guide covering trends in the U.S. economy, developments for institutional investors, and the latest data on the capital markets

Capital Markets Review, 3Q22 | Analysis and a broad overview of the economy and public and private markets activity each quarter across a wide range of asset classes

Hedge Fund Update, 3Q22 | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

Real Assets Update, 3Q22 | A summary of market activity for real assets and private real estate during the quarter

Private Credit Update, 3Q22 | A review of performance and fundraising activity for private credit during the quarter

Events

A complete list of all upcoming events can be found on our website: callan.com/events-education.

Please mark your calendar and look forward to upcoming invitations:

2023 National Conference
April 2-4, 2023 – Scottsdale, AZ

2023 June Workshops
June 27, 2023 – New York
June 29, 2023 – Chicago

For more information about events, please contact Barb Gerraty: 415-274-3093 / gerraty@callan.com

Education: By the Numbers

50+	Unique pieces of research the Institute generates each year
525	Attendees (on average) of the Institute's annual National Conference
3,700	Total attendees of the "Callan College" since 1994

Education

Founded in 1994, the "Callan College" offers educational sessions for industry professionals involved in the investment decision-making process.

Introduction to Investments
March 1-2 – Chicago
May 23-25 – Virtual

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. Our virtual session is held over three days with virtual modules of 2.5-3 hours, while the in-person session lasts one-and-a-half days. This course is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. Virtual tuition is $950 per person and includes instruction and digital materials. In-person tuition is $2,350 per person and includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

Additional information including registration can be found at: callan.com/events-education

"Research is the foundation of all we do at Callan, and sharing our best thinking with the investment community is our way of helping to foster dialogue to raise the bar across the industry."

Greg Allen, CEO and Chief Research Officer

List of Callan's Investment Manager Clients

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Callan takes its fiduciary and disclosure responsibilities to clients very seriously. We recognize that there are numerous potential conflicts of interest encountered in the investment consulting industry, and that it is our responsibility to manage those conflicts effectively and in the best interest of our clients. At Callan, we employ a robust process to identify, manage, monitor, and disclose potential conflicts on an ongoing basis.

The list below is an important component of our conflicts management and disclosure process. It identifies those investment managers that pay Callan fees for educational, consulting, software, database, or reporting products and services. We update the list quarterly because we believe that our fund sponsor clients should know the investment managers that do business with Callan, particularly those investment manager clients that the fund sponsor clients may be using or considering using. Please note that if an investment manager receives a product or service on a complimentary basis (e.g., attending an educational event), they are not included in the list below. Callan is committed to ensuring that we do not consider an investment manager's business relationship with Callan, or lack thereof, in performing evaluations for or making suggestions or recommendations to its other clients. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group, and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our list.

Fund sponsor clients may request a copy of the most currently available list at any time. Fund sponsor clients may also request specific information regarding the fees paid to Callan by particular fund manager clients. Per company policy, information requests regarding fees are handled exclusively by Callan's Compliance department.

Manager Name
abrdn (Aberdeen Standard Investments)
Acadian Asset Management LLC
Adams Street Partners, LLC
AEGON USA Investment Management Inc.
AllianceBernstein
Allianz
Allspring Global Investments
American Century Investments
Amundi US, Inc.
Antares Capital LP
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Aristotle Capital Management, LLC
Arrowmark Partners
ARS Investment Partners LLC
Atlanta Capital Management Co., LLC
AXA Investment Managers

Manager Name
Baillie Gifford International, LLC
Baird Advisors
Barings LLC
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
Belle Haven Investments
BentallGreenOak
BlackRock
Blackstone Group (The)
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
Brookfield Asset Management Inc.
Brown Brothers Harriman & Company
Capital Group
Carillon Tower Advisers
Carlyle Group

Manager Name
CastleArk Management, LLC
Chartwell Investment Partners
ClearBridge Investments, LLC
Clearlake Capital
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments North America
Conestoga Capital Advisors
Credit Suisse Asset Management, LLC
Crescent Capital Group LP
D.E. Shaw Investment Management, LLC
DePrince, Race & Zollo, Inc.
Diamond Hill Capital Management, Inc.
Dimensional Fund Advisors L.P.
Doubleline
Duff & Phelps Investment Management Co.
DWS
EARNEST Partners, LLC
Epoch Investment Partners, Inc.
Fayez Sarofim & Company
Federated Hermes, Inc.
Fidelity Institutional Asset Management
Fiera Capital Corporation
First Hawaiian Bank Wealth Management Division
First Sentier Investors
Fisher Investments
Franklin Templeton
Fred Alger Management, LLC
GAM (USA) Inc.
GlobeFlex Capital, L.P.
GoldenTree Asset Management, LP
Goldman Sachs
Golub Capital
Guggenheim Investments
GW&K Investment Management
Harbor Capital Advisors
HarbourVest Partners, LLC
Hardman Johnston Global Advisors LLC
Heitman LLC
HPS Investment Partners, LLC
Hotchkis & Wiley Capital Management, LLC

Manager Name
Impax Asset Management LLC
Income Research + Management
Insight Investment
Intech Investment Management LLC
Intercontinental Real Estate Corporation
Invesco
J.P. Morgan
Janus
Jennison Associates LLC
J O Hambro Capital Management Limited
Jobs Peak Advisors
Johnson Asset Management
KeyCorp
Kohlberg Kravis Roberts & Co. (KKR)
Lazard Asset Management
LGIM America
Lighthouse Investment Partners, LLC
Lincoln National Corporation
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
LSV Asset Management
MacKay Shields LLC
Macquarie Asset Management
Man Group
Manning & Napier Advisors, LLC
Manulife Investment Management
Marathon Asset Management, L.P.
McKinley Capital Management, LLC
Mellon
MetLife Investment Management
MFS Investment Management
MidFirst Bank
MLC Asset Management
Mondrian Investment Partners Limited
Monroe Capital LLC
Montag & Caldwell, LLC
Morgan Stanley Investment Management
MUFG Union Bank, N.A.
Napier Park Global Capital

Manager Name
Natixis Investment Managers
Neuberger Berman
Newton Investment Management
Ninety One North America, Inc.
Northern Trust Asset Management
Nuveen
Oaktree Capital Management, L.P.
P/E Investments
Pacific Investment Management Company
Pantheon Ventures
Parametric Portfolio Associates LLC
Partners Group (USA) Inc.
Pathway Capital Management, LP
Peregrine Capital Management, LLC
PFM Asset Management LLC
PGIM Fixed Income
PGIM Quantitative Solutions LLC
Pictet Asset Management
PineBridge Investments
Polen Capital Management, LLC
Principal Asset (formerly Principal Global)
Pugh Capital Management Inc.
Putnam Investments, LLC
Pzena Investment Management, LLC
Raymond James Investment Management
RBC Global Asset Management
Regions Financial Corporation
Richard Bernstein Advisors LLC
Robeco Institutional Asset Management, US Inc.

Manager Name
Rothschild & Co. Asset Management US
S&P Dow Jones Indices
Schroder Investment Management North America Inc.
Segall Bryant & Hamill
SLC Management
Smith Graham & Co. Investment Advisors, L.P.
State Street Global Advisors
Strategic Global Advisors, LLC
Strategic Value Partners, LLC
T. Rowe Price Associates, Inc.
The TCW Group, Inc.
Thompson, Siegel & Walmsley LLC
Thornburg Investment Management, Inc.
Tri-Star Trust Bank
UBS Asset Management
ULLICO Investment Advisors, Inc.
VanEck
Versus Capital Group
Victory Capital Management Inc.
Virtus Investment Partners, Inc.
Vontobel Asset Management
Voya
Walter Scott & Partners Limited
WCM Investment Management
Wellington Management Company, LLP
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Past performance is no guarantee of future results.

Callan

March 8, 2023

City of Norwalk Pension Plan

Asset Allocation Study

Ric Ford, FSA, CFA, EA, FCA, MAAA
Capital market Research

Britton M. Murdoch
Fund Sponsor Consulting

Kevin Schmidt
Fund Sponsor Consulting

Agenda

- Introduction & Summary
- Capital Market Assumptions
  - Philosophy and Process
  - Construction
  - Assumptions
- Asset Allocation
  - Current mixes
  - Asset mix alternatives
  - Forecast performance
- Summary and Recommendation
  - Summary
  - Recommendation
- Appendix
  - Correlations

Introduction & Summary

Executive Summary

- The goal of this asset allocation review is to revisit the Pension Plan target allocations to hedge funds (Global Equity Long/Short and Absolute Return) given the recent termination of the Blackstone Global Equity Long/Short Fund.
- The current Policy targets 12% to Hedge Funds (8% to Global Equity Long/Short and 4% to Absolute Return).
- In this analysis, we review reducing the target allocation to Global Equity Long/Short and deploying the allocation to public equity and fixed income.
- In addition, we have included other asset allocation mixes including eliminating Global Equity Long/Short as well as eliminating the target allocation to Hedge Funds.

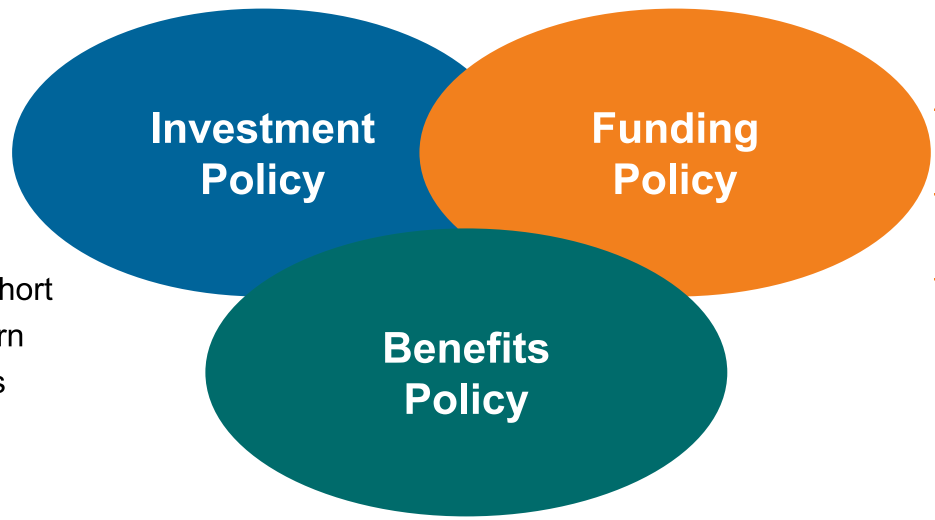
Recommendation:

- Moving the Blackstone Global Equity Long/Short Proceeds to Fixed Income:
  - Expected 10-Year Return exceeds the discount rate of 6.625%
  - Slightly (negligible) Expected Return decrease vs. the Policy
  - Less Expected Risk than the Policy
  - Improved Sharpe Ratio vs. the Policy

How Does Asset Allocation Fit Into the Pension System?

Evaluate the interaction of three key policies to identify an appropriate investment policy

Investment Policy
- 58% Public Equity
- 21% Fixed Income and Cash
- 21% Other
  - 12% Hedge Funds
    - Global Long/Short
    - Absolute Return
  - 6% Liquid Real Assets
  - 3% Private Equity



Funding Policy
- Normal Cost plus Amortization of unfunded liability
- Amortization of 2021 unfunded liability: 15 years
- FYE 23 contributions = $15.3 m

Benefits Policy
- ~$30m -$35m per year
- ~6-8% of the market value of assets
- ~3% net of contributions
- Cost of Living Adjustments for applicable members
- DROP for applicable members

Contributions + Investment Earnings = Benefits Paid + Expenses

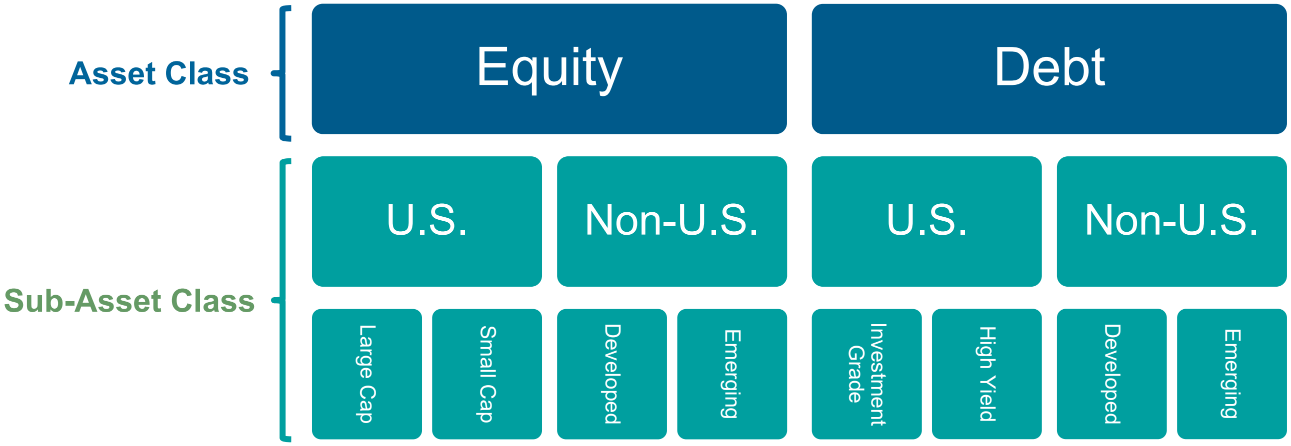
Importance of Asset Allocation

Focus is on Broad Asset Classes

Breakdowns between investment styles within asset classes (growth vs. value, large cap vs. small cap) are best addressed in a manager structure analysis

Primary asset classes and important sub-asset classes include:

- U.S. Stocks
- U.S. Bonds
- Non-U.S. Stocks
- Non-U.S. Bonds
- Real Estate
- Private Equity
- Absolute Return
- Cash



Capital Market Assumptions

Callan Capital Market Process, Philosophy and Construction

Underlying beliefs guide the development of the projections

- An initial bias toward long-run averages
- An awareness of risk premiums
- A presumption that markets ultimately are rational

Reflect our belief that long-term equilibrium relationships between the capital markets and lasting trends in global economic growth are key drivers to setting capital market expectations

Long-term compensated risk premiums represent “beta” - exposure to each broad market, whether traditional or “exotic,” with limited dependence on successful realization of alpha

The projection process is built around several key building blocks

- A comprehensive economic outlook
- Cohesive paths for inflation, government interest rates and credit spreads
- Individual asset class models
- A framework that encompasses Callan’s beliefs about the long-term operation and efficiencies of the capital markets

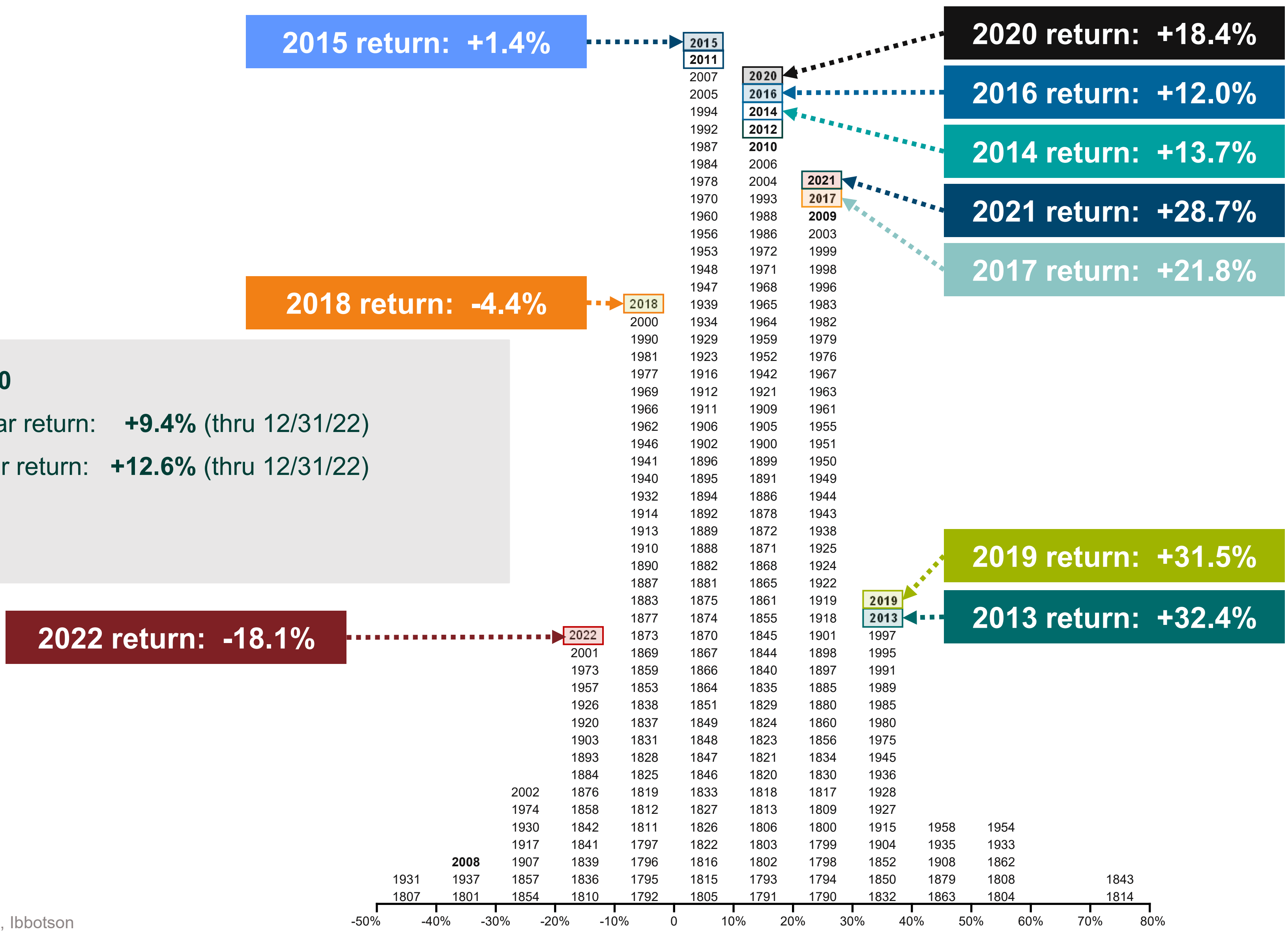
Projections are 10-year forward-looking, representing a medium to long-term planning horizon:

- Differs from the actuarial assumptions, which tend to reflect longer-term horizons of 30–40 years

Projections consist of return and two measures that contribute to portfolio volatility: standard deviation and correlation

Stock Market Returns by Calendar Year

2022 performance in perspective: History of the U.S. stock market (233 years of returns)



S&P 500

Five-year return: **+9.4%** (thru 12/31/22)

Ten-year return: **+12.6%** (thru 12/31/22)

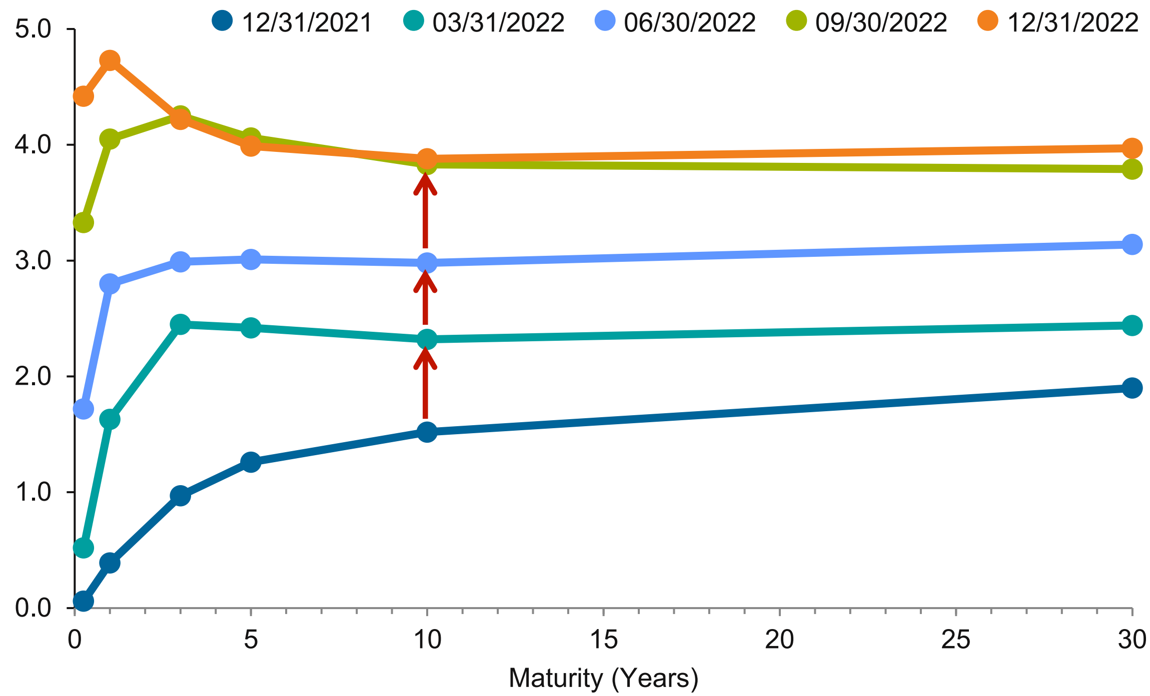
Sources: Callan, Ibbotson

Yield Curve Continued to Rise and Became Inverted by Year End

The Treasury yield curve steadily shifted higher in 2022, especially on the short end.

- The yield curve inverted in mid-July and remained inverted consistently since, with the 1- and 3-year yields exceeding 10- and 30-year yields.
- Higher yields increase the risk of inducing recession, which could lead to a reversal in interest rate policy and a lower return.

Treasury Yield Curve Change



	3 Month	1 Year	3 Year	5 Year	10 Year	30 Year
12/31/2021	0.06	0.39	0.97	1.26	1.52	1.90
03/31/2022	0.52	1.63	2.45	2.42	2.32	2.44
06/30/2022	1.72	2.80	2.99	3.01	2.98	3.14
09/30/2022	3.33	4.05	4.25	4.06	3.83	3.79
12/31/2022	4.42	4.73	4.22	3.99	3.88	3.97

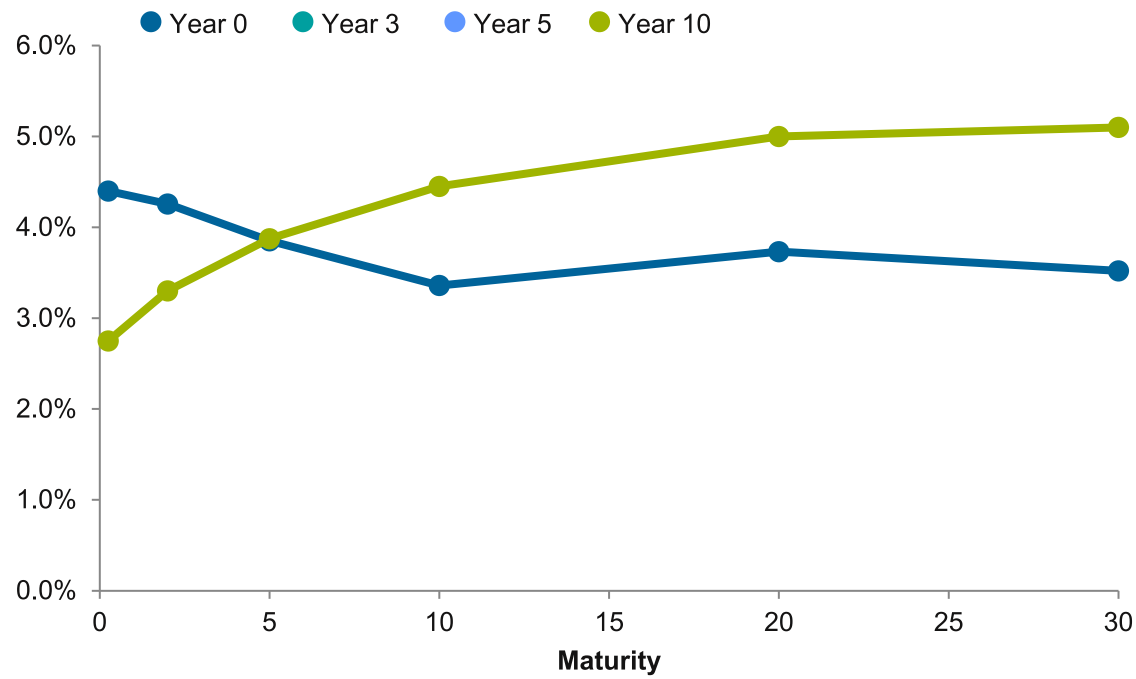
Sources: Bloomberg, Federal Reserve

Shape of Yield Curve at Different Points in Forecast Horizon

Our forecast has the yield curve steepening within the first few years.

With yields already high, we expect yields to reach equilibrium by year 10 of our forecast (vs. year 30 in prior forecasts).

Yield Curve Forecast



	3 Month	2 Year	5 Year	10 Year	20 Year	30 Year
Forecast Year 0	4.40	4.26	3.85	3.36	3.73	3.52
Forecast Year 3	2.82	3.30	3.81	3.98	5.00	5.10
Forecast Year 5	2.22	3.30	3.82	4.17	5.00	5.10
Forecast Year 10 (Equilibrium Reached)	2.75	3.30	3.88	4.45	5.00	5.10

Source: Callan

10-Year Expected Returns

	Income Return	+	Capital Gain/Loss	+	Credit Default	+	Roll Return	=	2023 Expected Return	2022 Expected Return	Change vs 2022
Cash	**2.75%**		**0.00%**		**0.00%**		**0.00%**		**2.75%**	**1.20%**	**1.55%**
Aggregate	**4.30%**		**-0.20%**		**-0.10%**		**0.25%**		**4.25%**	**1.75%**	**2.50%**
Government	3.80%		-0.10%		0.00%		0.25%		3.95%		
Securitized	4.00%		0.00%		0.00%		0.25%		4.25%		
Credit	5.25%		-0.40%		-0.40%		0.25%		4.70%		
TIPS	**3.95%**		**-0.20%**		**0.00%**		**0.25%**		**4.00%**	**1.25%**	**2.75%**

Source: Callan

U.S. Equity Market: Key Metrics

S&P 500 valuation measures

S&P 500 Index: Forward P/E Ratio

Valuation Measure	Latest	25-year Average	Std Dev Over- / Under-valued
Forward P/E	16.65x	16.82x	-0.05
Shiller's P/E	27.96x	27.93x	0.01
Dividend yield	1.81%	1.99%	0.53
Price to book	3.42x	3.10x	0.40
Price to cash flow	12.42x	11.19x*	0.56
EY minus Baa yield	0.17%	0.27%	0.05

- ► All valuation measures are now within +/- one standard deviation of 25-year averages.
- ► Forward P/E is near the long-term average, but if we enter a recession both prices and earnings are likely to decline.

Source: FactSet, FRB, Refinitiv Datastream, Robert Shiller, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management.
Price-to-earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since December 1997 and by FactSet since January 2022. Current next 12 months consensus earnings estimates are $231. Average P/E and standard deviations are calculated using 25 years of history. Shiller's P/E uses trailing 10 years of inflation-adjusted earnings as reported by companies. Dividend yield is calculated as the next 12 months consensus dividend divided by most recent price. Price-to-book ratio is the price divided by book value per share. Price-to-cash flow is price divided by NTM cash flow. EY minus Baa yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) minus the Moody's Baa seasoned corporate bond yield. Std. dev. over-/under-valued is calculated using the average and standard deviation over 25 years for each measure. *P/CF is a 20-year average due to cash flow availability. Guide to the Markets – U.S. Data are as of Dec. 31, 2022

Equity Forecasts

Building blocks

Index	Current Dividend Yield*	Forecast Dividend Yield	Net Buyback Yield	Inflation	Real Earnings Growth**	Valuation Adjustment	Total Geometric Return
S&P 500	1.77%	2.00%	0.50%	2.50%	2.25%	0.00%	7.25%
Russell 2500	1.61%	1.75%	0.00%	2.50%	3.20%	0.00%	7.45%
Russell 3000	1.72%	1.95%	0.45%	2.50%	2.45%	0.00%	7.35%
MSCI World ex USA	3.21%	3.75%	0.00%	1.75%	1.75%	0.00%	7.25%
MSCI Emerging Markets	3.27%	3.55%	-2.90%	3.00%	3.80%	0.00%	7.45%
Aggregate							4.25%
Cash							2.75%

Index	Forecast ERP Cash	Historical ERP Cash^	Delta ERP Cash	Forecast ERP Bonds	Historical ERP Bonds^^	Delta ERP Aggregate
S&P 500	4.50%	7.56%	-3.06%	3.00%	4.95%	-1.95%
Russell 2500	4.70%	7.22%	-2.52%	3.20%	4.61%	-1.41%

* Index yields as of Dec. 31, 2022

** S&P 500 real earnings growth is forecast real GDP growth. R 2500 real earnings growth is 100 bps spread over S&P 500. Developed and emerging markets earnings growth in line with their respective GDP assumptions.

^ Return relative to 90-day T-bills for 40 years ended Dec. 31, 2022

^^ Return relative to the Bloomberg Aggregate for 40 years ended Dec. 31, 2022

Source: Callan

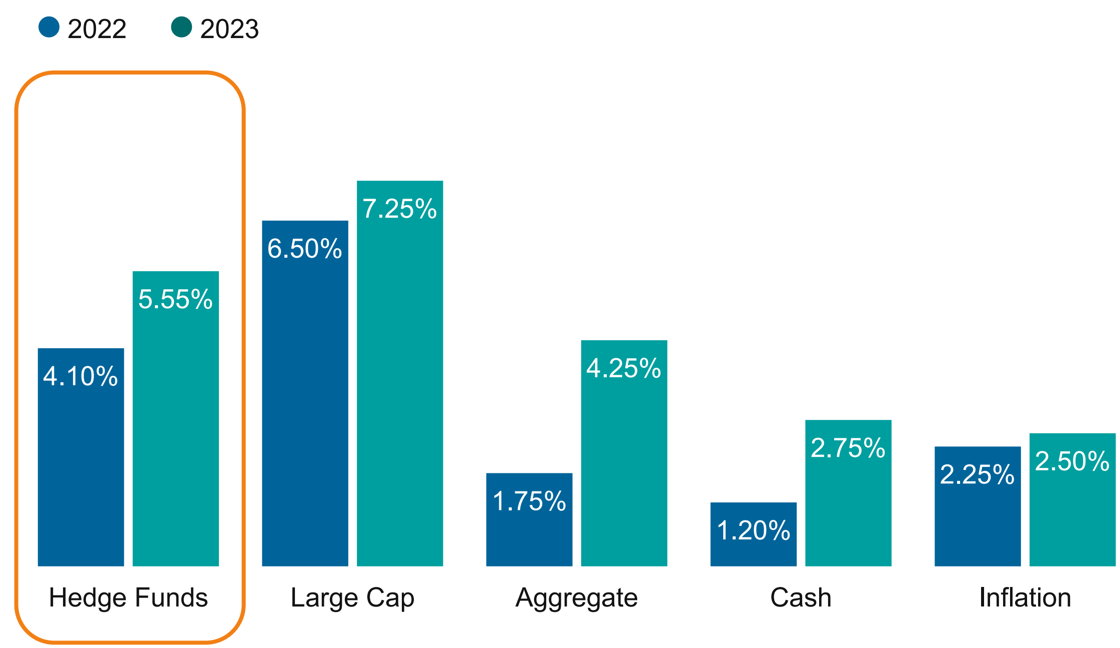
Hedge Funds

Background

- Hedge funds can be evaluated in a multi-factor context using the following relationship:
- Expected Return = Cash + Equity Beta x (Equity-Cash) + Exotic Beta + Net Alpha
- Callan's 10-year cash forecast is 2.75%.
- Diversified hedge fund portfolios have historically exhibited equity beta relative to the S&P 500 of about 0.4.
- Combined with our equity risk premium forecast, this results in an excess return from equity beta of 1.8%.
- Return from hedge fund exotic beta and illiquidity premia is forecast to be 0.5% to 1.0%, to arrive at an overall expected return of 5.55%.

2023 hedge fund return projection: 5.55%
(up 145 bps)

Return Projections



Source: Callan

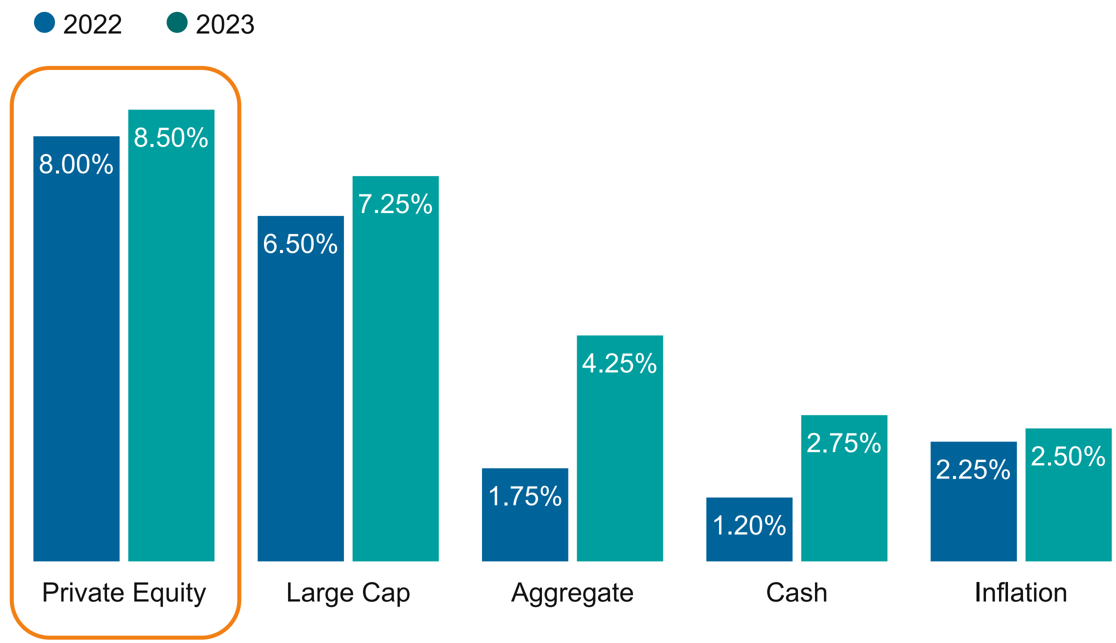
Private Equity

Background

- The private equity market in aggregate is driven by many of the same economic factors as public equity markets. However, we expect private equity to experience some write-downs that have not yet been reflected in performance.
- Consequently, the private equity performance expectations did not rise as much as public equity expectations.
- We see tremendous disparity between the best- and worst-performing private equity managers.
- The ability to select skillful managers could result in realized returns significantly greater than projected here.

2023 private equity return projection: 8.50% (up 50 bps)

Return Projections



Source: Callan

2023 vs. 2022 Risk and Returns Assumptions

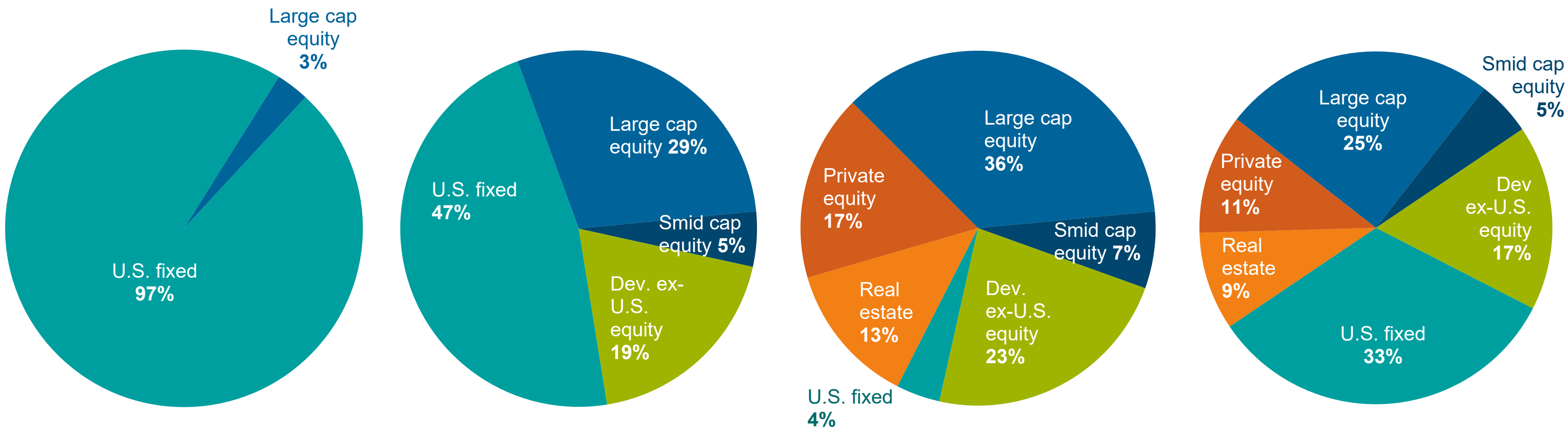
Summary of Callan's Long-Term Capital Markets Assumptions (2023–2032)

		Projected Return			Projected Risk	2022–2031			vs. 2022	
Asset Class	**Index**	1-Year Arithmetic	10-Year Geometric*	**Real**	Standard Deviation	1-Year Arithmetic	10-Year Geometric*	Standard Deviation	Geometric* Delta	Std Dev Delta
Equities										
Broad U.S. Equity	Russell 3000	8.75%	7.35%	4.85%	18.05%	8.00%	6.60%	17.95%	0.75%	0.10%
Global ex-U.S. Equity	MSCI ACWI ex USA	9.45%	7.45%	4.95%	21.25%	8.70%	6.80%	20.70%	0.65%	0.55%
Fixed Income										
Core U.S. Fixed	Bloomberg Aggregate	4.25%	4.25%	1.75%	4.10%	1.80%	1.75%	3.75%	2.50%	0.35%
TIPS	Bloomberg TIPS	4.10%	4.00%	1.50%	5.30%	1.35%	1.25%	5.05%	2.75%	0.25%
Alternatives										
Private Equity	Cambridge Private Equity	11.95%	8.50%	6.00%	27.60%	11.45%	8.00%	27.60%	0.50%	0.00%
Hedge Funds	Callan Hedge FOF Database	5.80%	5.55%	3.05%	8.45%	4.35%	4.10%	8.20%	1.45%	0.25%
Cash Equivalents	90-Day T-Bill	2.75%	2.75%	0.25%	0.90%	1.20%	1.20%	0.90%	1.55%	0.00%
Inflation	CPI-U		2.50%		1.60%		2.25%	1.60%	0.25%	0.00%

* Geometric returns are derived from arithmetic returns and the associated risk (standard deviation).

Source: Callan

7% Expected Returns Over Past 30 Years



1993	2008	2022	2023
Return: 7.0%	**Return: 7.0%**	**Return: 7.0%**	**Return: 7.0%**
Risk: 6.2%	**Risk: 9.4%**	**Risk: 16.8%**	**Risk: 11.8%**

In 1993, our return expectation for broad U.S. fixed income was 6.85%.

Just 3% in return-seeking assets was required to earn a 7% projected return.

15 years later, an investor would have needed over half of the portfolio in public equities to achieve a 7% projected return.

In 2022 an investor was required to include 96% in return-seeking assets (including 30% in private market investments) to earn a 7% projected return at almost 3x the volatility compared to 1993.

Today's 7% expected return portfolio is much more reasonable than it was just a year ago. The allocation to fixed income jumps to 33%, while risk drops by 30%. Illiquid alternatives (PE and private RE) also drop by 1/3.

Assumptions Matter

Comparison of Results under 2023 and 2021 Capital Market Assumptions

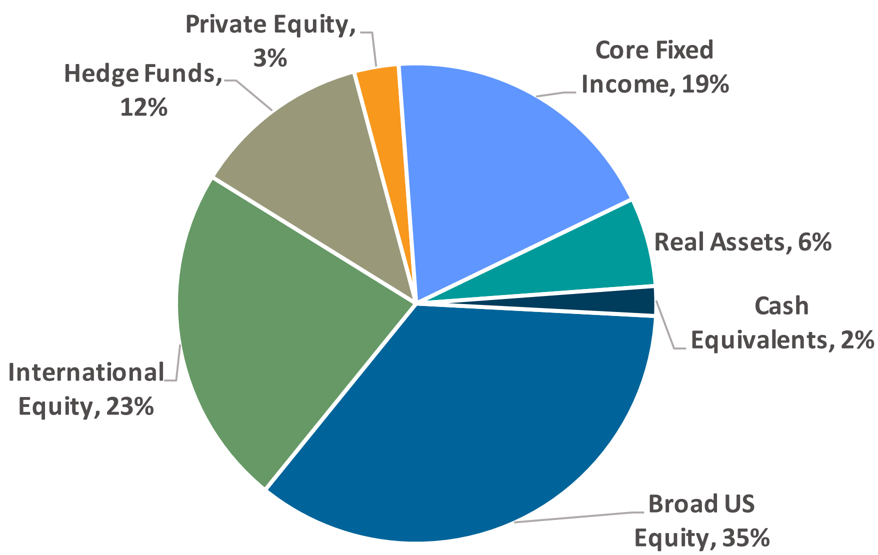
Asset Class	Policy (FI 21)	Policy:2021 Asmp	Delta
Broad US Equity	35.0%	35.0%	
International Equity	23.0%	23.0%	
Hedge Funds	12.0%	8.0%	
Private Equity	3.0%	3.0%	
Core Fixed Income	19.0%	19.0%	
Real Assets	6.0%	6.0%	
Cash Equivalents	2.0%	2.0%	
Total	**100%**	**100%**	
Exp 10 Yr Return	6.85%	5.65%	1.20%
Std Dev	12.50%	12.40%	0.10%

- The existing policy is expected to earn 6.9% over the next ten-years using 2023 assumptions
- The 2023 assumptions reflect much higher fixed income yields than the 2021 assumption set
- Equity assumptions are also a little higher reflecting higher inflation expectation and removal of valuation adjustment

Asset Allocation

Existing Asset Allocations

City of Norwalk DB Plan
Target Investment Policy



Market Value Assets as of 12/31/2022:	**$459.9 Million**
Expected 10 Yr Return:	**6.8%**
Standard Deviation:	**12.5%**

Market Value Assets as of 12/31/2022: $459.9 Million

Asset Class	Value	Alloc%	Policy	Delta
Broad US Equity	$151.3	32.9%	35%	-2.1%
International Equity	$101.4	22.0%	23%	-1.0%
Global Long/Short	$34.2	7.4%	8%	-0.6%
Private Equity	$24.1	5.2%	3%	2.2%
Core Fixed Income	$82.6	18.0%	19%	-1.0%
Absolute Return	$27.1	5.9%	4%	1.9%
Real Assets	$37.1	8.1%	6%	2.1%
Cash Equivalents	$2.2	0.5%	2%	-1.5%
Total	$460.0	100.0%	100%	0.0%

- The existing policy is expected to earn 6.8% over the next ten-years
- All asset classes are within policy bands
- Real Assets represents PIMCO All Asset
- Private Equity overweight should reduce over time as it is in run-off

Alternative Asset Mixes

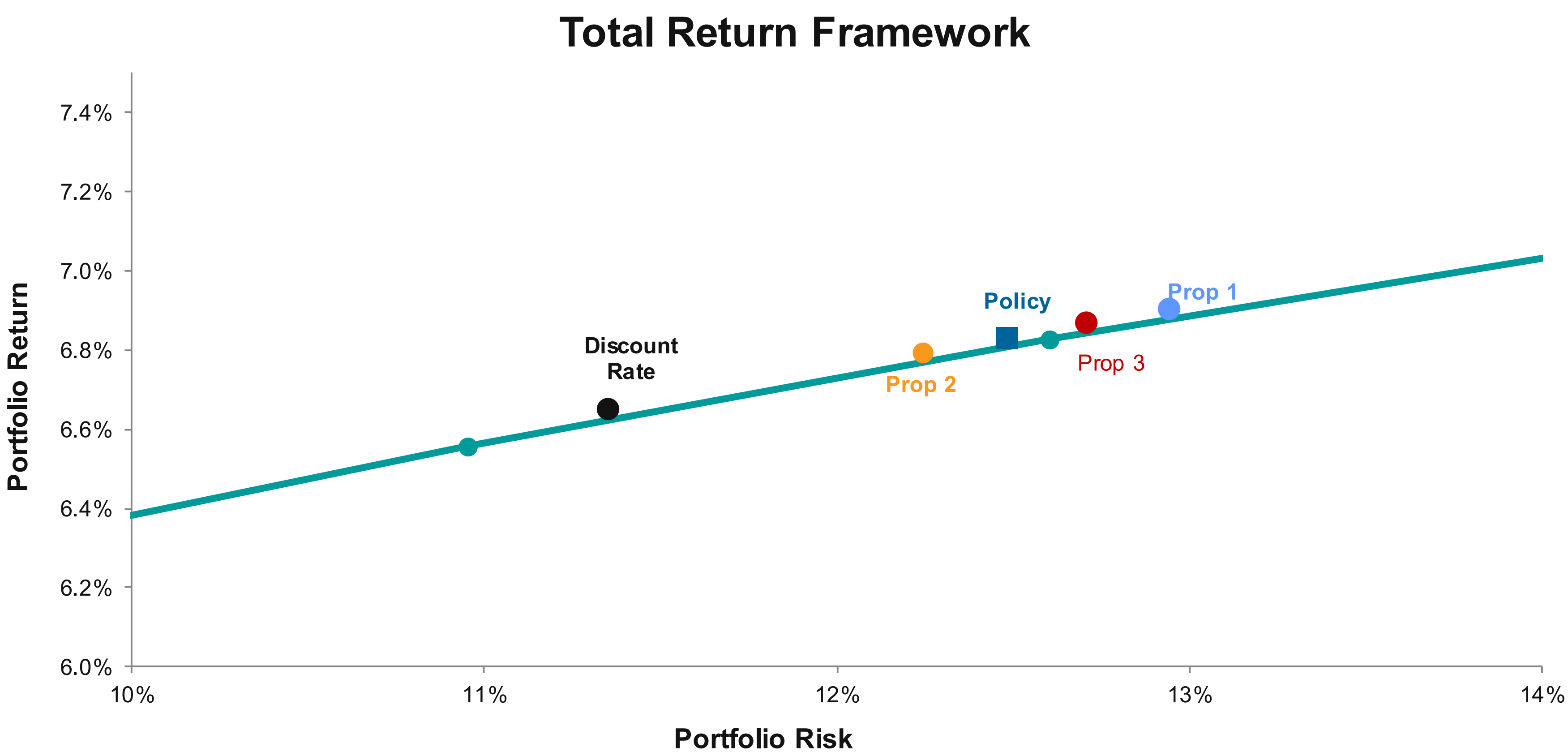
Current Discount Rate: 6.625%

Asset Class	Policy	Prop 1	Prop 2	Prop 3	Discount Rate
Broad US Equity	35%	38%	35%	38%	32%
International Equity	23%	24%	23%	24%	21%
Hedge Funds	12%	8%	8%	4%	8%
Private Equity	3%	3%	3%	3%	3%
Core Fixed Income	19%	19%	23%	23%	28%
Real Assets	6%	6%	6%	6%	6%
Cash Equivalents	2%	2%	2%	2%	2%
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Arithmetic Return	7.55%	7.65%	7.50%	7.60%	7.25%
Exp 10 Yr Return	6.85%	6.90%	6.80%	6.85%	6.65%
Std Dev	12.50%	12.95%	12.25%	12.70%	11.35%
Sharpe Ratio	0.327	0.321	0.330	0.324	0.344
Equity %	58%	62%	58%	62%	53%
Fixed Income and Cash %	21%	21%	25%	25%	30%
Other %	21%	17%	17%	13%	17%

- Proposed Allocation #1 (Prop 1) removes 4% hedge funds (global equity long/short) and places it into public equities
- Proposed Allocation #2 (Prop 2) removes 4% hedge funds (global equity long/short) and places it into core fixed income
- Proposed Allocation #3 (Prop 3) removes 8% hedge funds (eliminates global equity long/short) and places it equally into public equities and core fixed income
- The Global Equity Long/Short allocation is expected to be reduced to 4% by the end of the calendar year. Blackstone has been terminated.
- All allocations are expected to exceed the discount rate of 6.625% over the forecast period
- Hedge Funds include Global Equity Long/Short (current policy target 8%) and Absolute Return (current policy target 4%)

Efficient Frontier

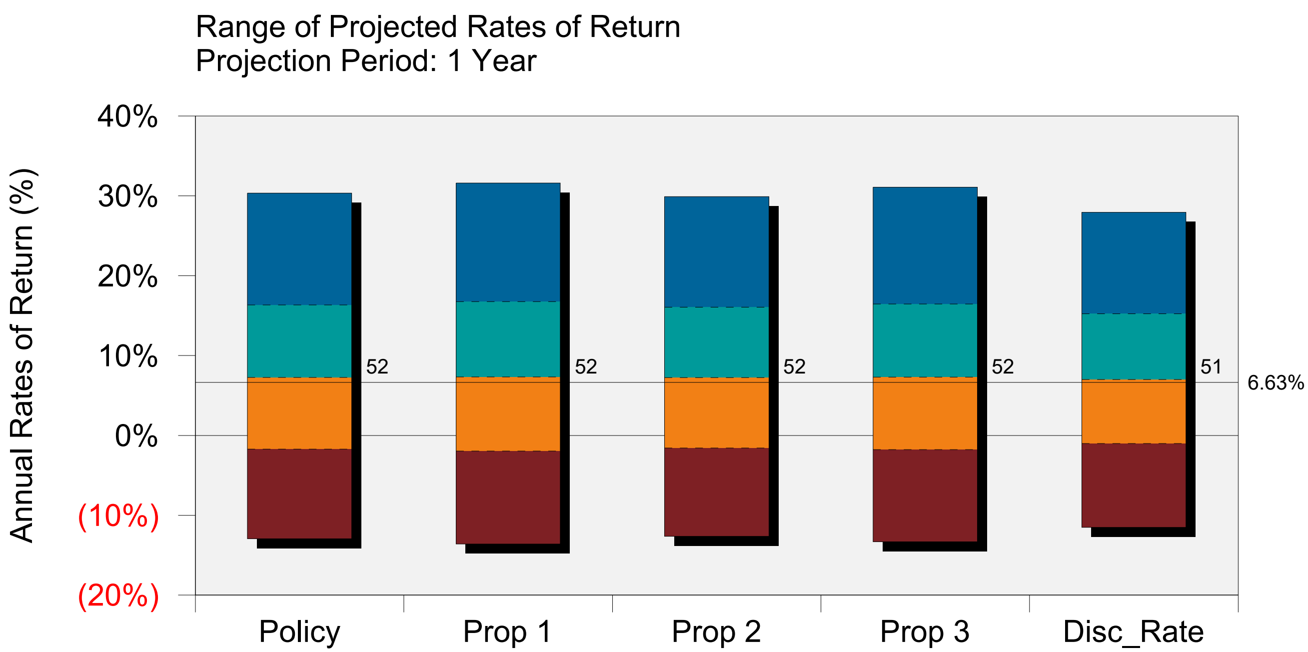
Total Return Framework



- The efficient frontier represents all optimal asset mixes
  - Optimal asset mixes are those that have the highest return for a given risk limited by allocation constraints
  - Mixes are the same as those on the prior slide
  - The Policy allocation is efficient

Range of Projected Rates of Return

1-Year Distribution



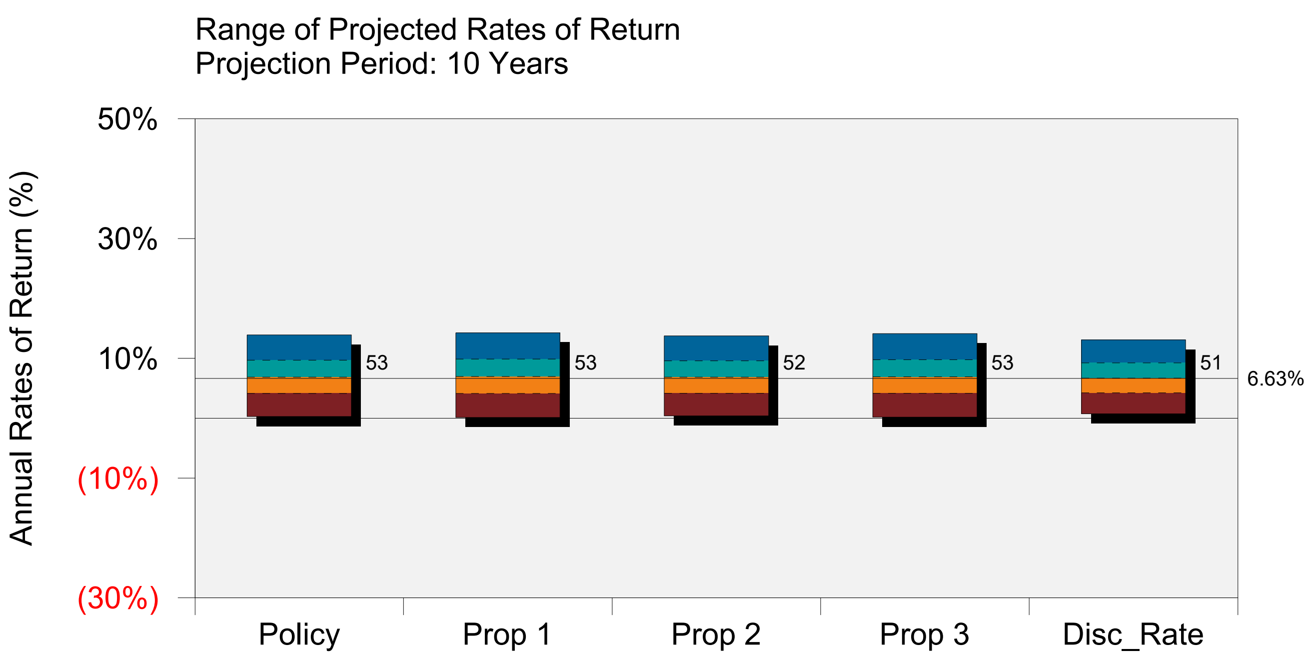
	Policy	Prop 1	Prop 2	Prop 3	Disc_Rate
5th Percentile	30.3%	31.6%	29.9%	31.1%	27.9%
25th Percentile	16.3%	16.7%	16.1%	16.5%	15.2%
Median	7.3%	7.3%	7.2%	7.3%	7.0%
75th Percentile	(1.7%)	(2.0%)	(1.6%)	(1.8%)	(1.0%)
95th Percentile	(12.9%)	(13.6%)	(12.6%)	(13.3%)	(11.5%)
Prob > 6.63%	51.8%	52.1%	51.8%	52.1%	51.4%

- The ranges of returns are created by simulating the capital market assumptions 5,000 times
  - The 5th percentile represents the 5% of the 5,000 simulations (250) that had projected returns of at this level or higher
- The median represents our best estimate of return over one year
  - 2,500 simulated returns above, 2,500 returns below
- The 95th percentile represents risk
- Median returns for optimal mixes increase from left to right while 95th percentile returns decrease

- All the allocations have a greater than 50% of exceeding the discount rate in any single year

Range of Projected Rates of Return

Distribution over a 10-Year Period



	Policy	Prop 1	Prop 2	Prop 3	Disc_Rate
5th Percentile	13.9%	14.3%	13.7%	14.1%	13.1%
25th Percentile	9.7%	9.9%	9.6%	9.8%	9.2%
Median	6.9%	6.9%	6.8%	6.9%	6.7%
75th Percentile	4.1%	4.1%	4.2%	4.2%	4.2%
95th Percentile	0.3%	0.1%	0.4%	0.2%	0.7%
Prob > 6.63%	52.7%	53.2%	52.3%	52.8%	51.0%

- Over ten years the median returns decline
  - Declines in returns are due to “volatility drag”
- The return distributions also narrow
  - Distributions narrow because extreme returns in any one year are highly unlikely to be repeated in other years
  - The 95th percentile returns are still negative but much less negative than over one year
  - These returns are annualized so on a cumulative basis they would be lower

- All the allocations have a greater than 50% of exceeding the discount rate over the next ten-years

Summary and Recommendation

Summary

- Calendar year capital market results were very unfavorable in calendar year 2022
  - Only the third time in the last 100 years that stocks and bonds both declined in the same annual period
  - Happens about 10% of the time on a quarterly basis

- Fixed Income Yields increased to our 30-year equilibrium levels in a single year
  - The return assumption of fixed income went from 1.75% to 4.25%
  - This has a big impact on expected returns going forward

- Equities are expected to earn more as well
  - Inflation assumption increased 25bps
  - The valuation adjustment of 25bps was removed
  - Both flow through directly to the equity return assumption

- Return expectations going forward are more favorable

  The Policy is now expected to earn 6.85% (vs. 5.65% using 2021 assumptions)

Recommendation

Place Blackstone Global Equity Long/Short Proceeds into Fixed Income

Asset Class	Policy	Prop 2	Diff from Policy
Broad US Equity	35.0%	35.0%	
International Equity	23.0%	23.0%	
Hedge Funds	12.0%	8.0%	-4.0%
Private Equity	3.0%	3.0%	
Core Fixed Income	19.0%	23.0%	4.0%
Real Assets	6.0%	6.0%	
Cash Equivalents	2.0%	2.0%	
Total	**100%**	**100%**	
Arithmetic Return	7.55%	7.50%	-0.05%
Exp 10 Yr Return	6.85%	6.80%	-0.05%
Std Dev	12.50%	12.25%	-0.25%
Sharpe Ratio	0.327	0.330	0.004

Blackstone is expected to be removed by the end of the calendar year

- **Moving the Blackstone Global Equity Long/Short Proceeds to Fixed Income:**
  - Expected 10-Year Return exceeds the discount rate of 6.625%
  - Slightly (negligible) Expected Return decrease vs. the Policy
  - Less Expected Risk than the Policy
  - Improved Sharpe Ratio vs. the Policy

Appendix

Alternative Asset Mixes – Eliminate Hedge Funds

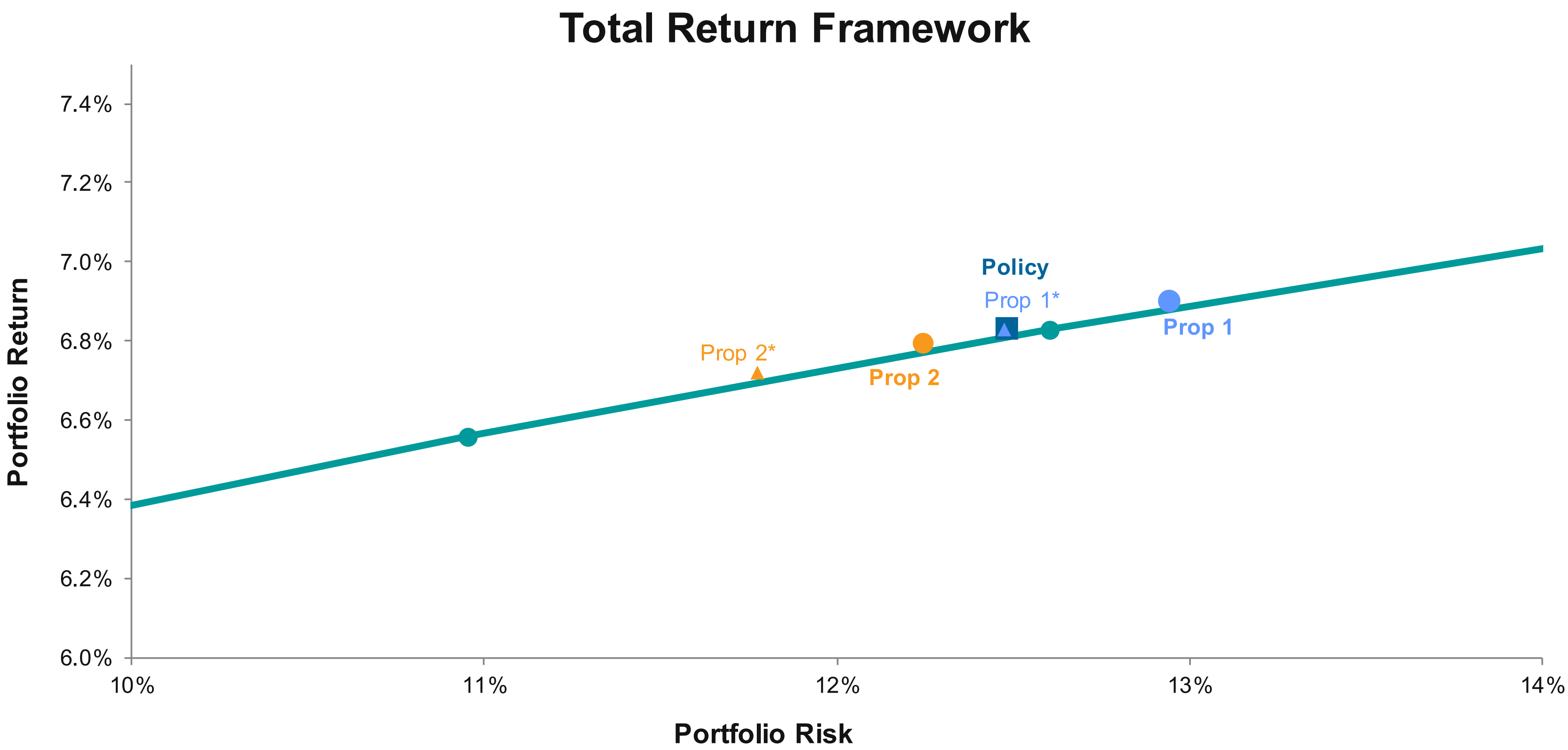
Current Discount Rate: 6.625%

Asset Class	Policy	Prop 1	Prop 1*	Prop 2	Prop 2*
Broad US Equity	35%	38%	38%	35%	35%
International Equity	23%	24%	24%	23%	23%
Hedge Funds	12%	8%	0%	8%	0%
Private Equity	3%	3%	3%	3%	3%
Core Fixed Income	19%	19%	27%	23%	31%
Real Assets	6%	6%	6%	6%	6%
Cash Equivalents	2%	2%	2%	2%	2%
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Arithmetic Return	7.55%	7.65%	7.55%	7.50%	7.35%
Exp 10 Yr Return	6.85%	6.90%	6.85%	6.80%	6.70%
Std Dev	12.50%	12.95%	12.45%	12.25%	11.75%
Sharpe Ratio	0.327	0.321	0.321	0.330	0.330
Equity %	58%	62%	62%	58%	58%
Fixed Income and Cash %	21%	21%	29%	25%	33%
Other %	21%	17%	9%	17%	9%

- The allocations marked by an asterisk remove the remaining 4% allocation to Global Equity Long/Short (ABS) and eliminate Absolute Return (UBS):
  - The result is essentially a reduction of risk and return
  - But all of these allocations still sit on the efficient frontier (see next page)

Efficient Frontier

Total Return Framework – Eliminating Blackstone and Absolute Return



- The allocations marked by a triangle and asterisk with similar colors:
  - Are related to an alternative mix
  - Remove the remaining 4% of Blackstone and eliminating Absolute Return
  - The result is essentially a reduction of risk and return
  - But these allocations still sit on the efficient frontier

2023–2032 Callan Capital Markets Assumptions Correlations

	Large Cap	Smid Cap	Dev	Em Mkts	Short Dur	Core Fixed	Long Gov	Long Credit	TIPS	High Yield	Global ex-US Fixed	EM	Core Real Estate	Private Infra	Private Equity	Private Credit	Hedge Funds	Comm	Cash Equiv	Inflation
Large Cap U.S. Equity	1.00																			
Smid Cap U.S. Equity	0.88	1.00																		
Dev ex-U.S. Equity	0.73	0.79	1.00																	
Em Market Equity	0.79	0.83	0.89	1.00																
Short Dur Gov/Credit	0.05	0.01	0.04	-0.01	1.00															
Core U.S. Fixed	0.02	-0.02	0.00	-0.04	0.80	1.00														
Long Government	-0.05	-0.06	-0.03	-0.06	0.67	0.83	1.00													
Long Credit	0.45	0.40	0.40	0.40	0.64	0.80	0.65	1.00												
TIPS	-0.07	-0.08	-0.09	-0.11	0.56	0.70	0.50	0.52	1.00											
High Yield	0.75	0.74	0.73	0.75	0.10	0.09	0.00	0.45	0.02	1.00										
Global ex-U.S. Fixed	0.10	0.07	0.13	0.12	0.50	0.60	0.50	0.55	0.45	0.18	1.00									
EM Sovereign Debt	0.65	0.65	0.65	0.69	0.16	0.19	0.10	0.47	0.08	0.62	0.21	1.00								
Core Real Estate	0.44	0.42	0.42	0.41	0.16	0.14	0.05	0.30	0.09	0.31	0.16	0.29	1.00							
Private Infrastructure	0.48	0.47	0.46	0.46	0.14	0.15	0.10	0.33	0.08	0.34	0.18	0.32	0.76	1.00						
Private Equity	0.79	0.77	0.76	0.75	-0.01	-0.09	-0.13	0.30	-0.11	0.61	0.08	0.51	0.55	0.60	1.00					
Private Credit	0.69	0.68	0.65	0.68	0.11	0.00	-0.05	0.33	-0.12	0.63	0.12	0.50	0.25	0.27	0.67	1.00				
Hedge Funds	0.67	0.63	0.63	0.63	0.23	0.29	0.20	0.55	0.20	0.60	0.25	0.54	0.28	0.30	0.48	0.51	1.00			
Commodities	0.20	0.20	0.20	0.20	-0.05	-0.04	-0.10	0.05	0.00	0.20	0.10	0.15	0.18	0.15	0.20	0.17	0.23	1.00		
Cash Equivalents	-0.06	-0.08	-0.10	-0.10	0.30	0.15	0.12	0.00	0.12	-0.09	0.05	-0.06	0.00	-0.04	0.00	-0.04	-0.04	-0.02	1.00	
Inflation	-0.02	0.02	0.00	0.03	-0.21	-0.23	-0.30	-0.20	0.25	0.00	-0.15	-0.04	0.20	0.10	0.06	-0.05	0.05	0.35	0.05	1.00

Source: Callan

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Callan

March 8, 2023

City of Norwalk Pension and OPEB Performance Review

Period ended December 31, 2022

Britton M. Murdoch
Vice President

Kevin Schmidt
Senior Vice President

Overview

- Market Environment
- Pension Performance
- OPEB Performance

Callan

Market Environment

Equity and Fixed Income Markets Down Together in 2022

Declines for both stocks and bonds for three straight quarters are extremely unusual

Global equity markets down sharply in 2022 despite rebound in 4Q

– Similar impact across all equity market segments: developed, emerging, small cap

Fixed income down with sharply higher inflation and interest rates

– Bloomberg Aggregate: -13% for the year, worst year ever for the index by a wide margin

– Consumer Price Index for All Urban Consumers (CPI-U): +6.5% for the year ended Dec. 2022

- Number of times stocks and bonds have been down together
  - 38 quarters in almost 100 years, about 10% of the quarters
  - But just twice on annual basis
- Inflation at highest rate in decades
- Economic data show growth hit 'pause'
  - GDP rose 2.9% in 4Q22, after a 3.2% rise in 3Q, a 0.6% drop in 2Q, and a 1.6% decline in 1Q.

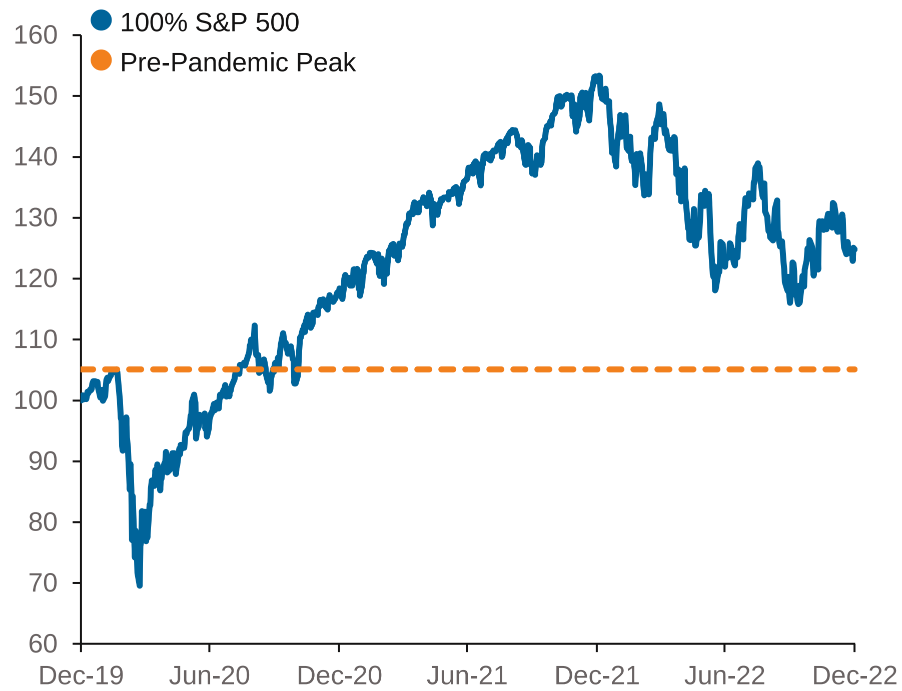
Returns for Periods ended 12/31/22

	Quarter	Year to Date	1 Year	5 Years	10 Years	25 Years
U.S. Equity						
Russell 3000	7.18	-19.21	-19.21	8.79	12.13	7.68
S&P 500	7.56	-18.11	-18.11	9.42	12.56	7.64
Russell 2000	6.23	-20.44	-20.44	4.13	9.01	7.13
Global ex-U.S. Equity						
MSCI World ex USA	16.18	-14.29	-14.29	1.79	4.59	4.65
MSCI Emerging Markets	9.70	-20.09	-20.09	-1.39	1.44	--
MSCI ACWI ex USA Small Cap	13.31	-19.97	-19.97	0.67	5.24	6.87
Fixed Income						
Bloomberg Aggregate	1.87	-13.01	-13.01	0.02	1.06	3.97
90-day T-Bill	0.84	1.46	1.46	1.26	0.76	1.91
Bloomberg Long Gov/Credit	2.61	-27.09	-27.09	-1.21	1.57	5.38
Bloomberg Global Agg ex-US	6.81	-18.70	-18.70	-3.07	-1.64	2.71
Real Estate						
NCREIF Property	-3.50	5.53	5.53	7.46	8.82	9.04
FTSE Nareit Equity	5.24	-24.37	-24.37	3.68	6.53	7.87
Alternatives						
CS Hedge Fund Index	0.92	1.06	1.06	4.25	4.24	5.81
Cambridge Private Equity*	-1.84	-3.77	-3.77	16.84	15.31	14.31
Bloomberg Commodity	2.22	16.09	16.09	6.44	-1.28	1.87
Gold Spot Price	9.22	-0.13	-0.13	6.88	0.86	7.64
Inflation - CPI-U	0.00	6.45	6.45	3.78	2.60	2.47

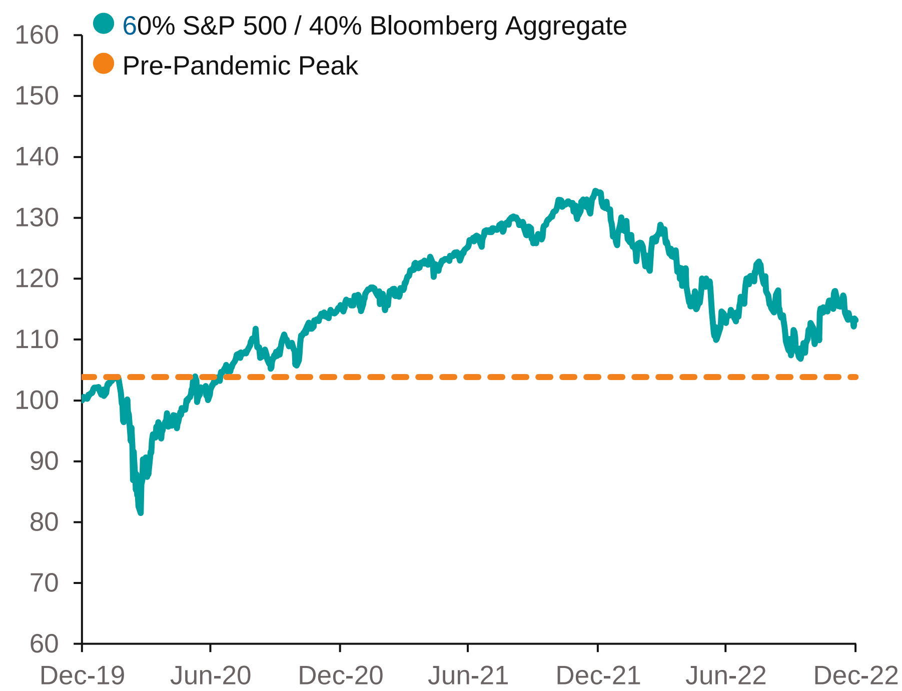
*Cambridge PE data through 09/30/22.
Sources: Bloomberg, Callan, Cambridge, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices

Post-Pandemic Market Performance

Growth of $100 Invested on 12/31/19



Growth of $100 Invested on 12/31/19



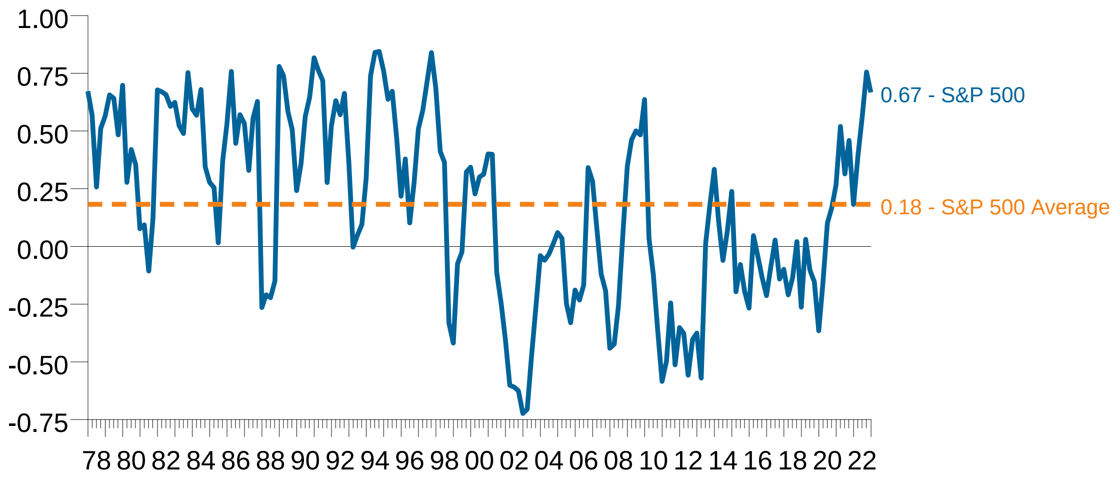
	Investment in S&P 500	**Investment in 60% S&P 500 / 40% Bloomberg Agg**
Gain from pre-pandemic peak to post-pandemic peak	45.9%	29.4%
Gain over pre-pandemic peak	18.8%	9.0%
Loss from post-pandemic peak	-18.6%	-15.8%
Further loss needed to return to pre-pandemic peak	-15.8%	-8.2%
Total loss if markets decline from post-pandemic peak to pre-pandemic peak	-31.5%	-22.7%

Correlation Changes With Interest Rate Regimes and Economic Conditions

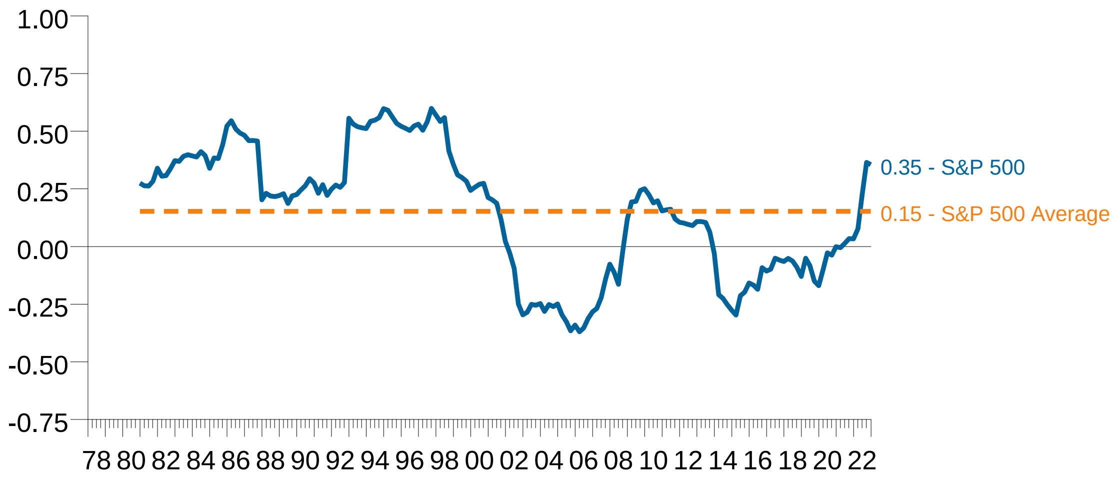
- Rolling one-year correlation spiked in 2021 and 2022.
- Rolling five-year shows how correlation runs in cycles over time.
- Table below examines correlation and the occurrence of negative returns for stocks and bonds together in three interest rate and inflation regimes. Regime 2 shows higher stock/bond correlation and suggests less diversification benefit under rising rates and inflation.

Period	Regime Description	Negative Return Frequency	Stock/ Bond Correlation
Regime 1 1926–1965	Low, stable interest rates	7%	0.13
Regime 2 1966–1981	Secular rate rise	26%	0.48
Regime 3 1982–present	Secular rate decline	6%	0.05

Rolling 1 Year Correlation of S&P 500 to Bloomberg Aggregate



Rolling 5 Year Correlation of S&P 500 to Bloomberg Aggregate



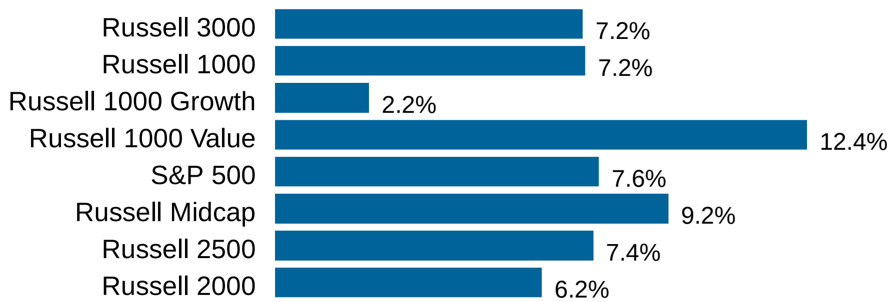
Sources: Bloomberg, Callan, S&P Dow Jones Indices

U.S. Equity Performance: 4Q22

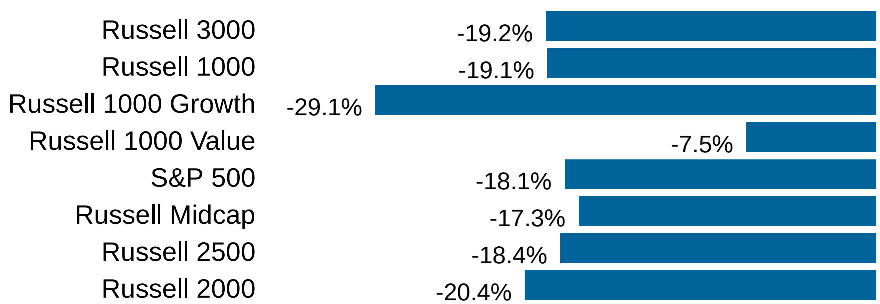
Markets retrace in December after gains in the prior two months

- ▶ The S&P 500 Index posted positive returns in both October and November but fell in December. The index was up 7.6% during 4Q22 but ended 2022 down 18.1%.
- ▶ Energy was the best-performing sector during the quarter and 2022, returning 23% and 66% respectively. Consumer Discretionary and Communication Services were the only two sectors that posted negative returns in 4Q.
- ▶ Value stocks outperformed growth across the market capitalization spectrum, and for both 4Q and the full year.
- ▶ Large cap stocks (Russell 1000) outperformed small caps (Russell 2000) last quarter and for the year.
- ▶ Continued macroeconomic concerns (e.g., inflation, potential recession, geopolitical issues) led to higher volatility and a down-year for U.S. equities.

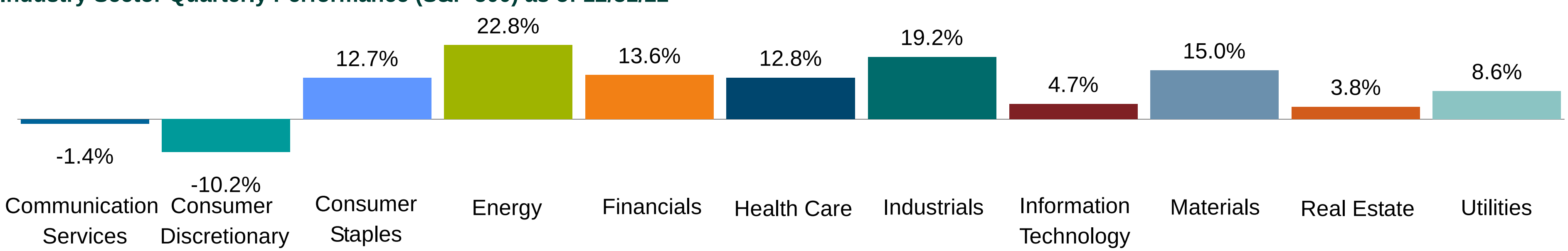
U.S. Equity Returns: Quarter Ended 12/31/22



U.S. Equity Returns: One Year Ended 12/31/22



Industry Sector Quarterly Performance (S&P 500) as of 12/31/22



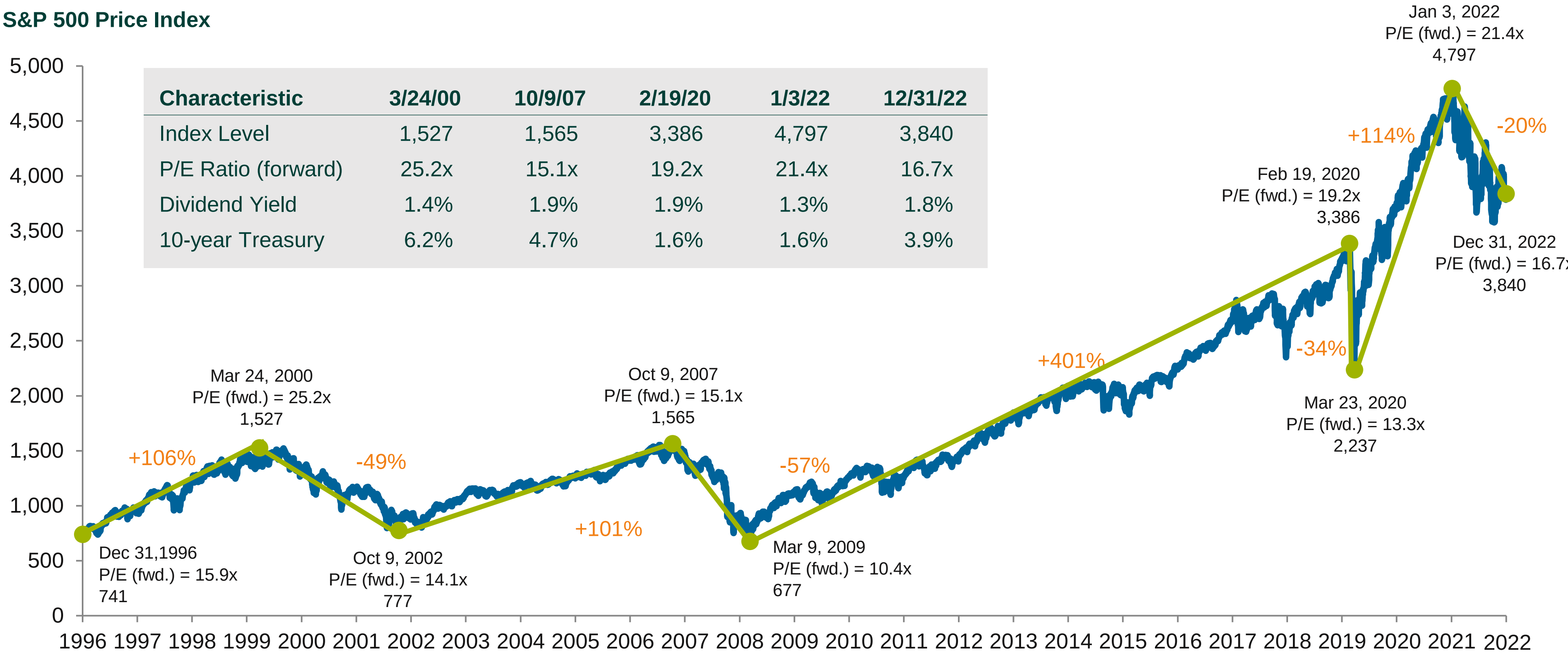
Sources: FTSE Russell, S&P Dow Jones Indices

U.S. Equity Market: Price Relative to History

S&P 500 Index at inflection points

S&P 500 Price Index

Characteristic	3/24/00	10/9/07	2/19/20	1/3/22	12/31/22
Index Level	1,527	1,565	3,386	4,797	3,840
P/E Ratio (forward)	25.2x	15.1x	19.2x	21.4x	16.7x
Dividend Yield	1.4%	1.9%	1.9%	1.3%	1.8%
10-year Treasury	6.2%	4.7%	1.6%	1.6%	3.9%



- The S&P is still up almost 80% from the pandemic low.
- Valuations have fallen dramatically throughout 2022.

Sources: Compustat, FactSet, Federal Reserve, Refinitiv Datastream, S&P Dow Jones Indices, J.P. Morgan Asset Management.
Dividend yield is calculated as consensus estimates of dividends for the next 12 months, divided by most recent price, as provided by Compustat. Forward price-to-earnings ratio is a bottom-up calculation based on IBES estimates and FactSet estimates since January 2022. Returns are cumulative and based on S&P 500 Index price movement only, and do not include the reinvestment of dividends. Past performance is not indicative of future returns.
Guide to the Markets – U.S. Data are as of December 31, 2022.

Global/Global ex-U.S. Equity Performance: 4Q22

Ending on a high note

4Q22 was a bright spot during a tough calendar year in global and global ex-U.S. equity markets.

Encouraging signs

- Lower-than-expected U.S. inflation data buoyed market optimism at the end of the year.
- The Fed slowed its pace of tightening with further slowing expected in 2023.
- China reversed its zero-COVID policies, prompting exuberance from investors.

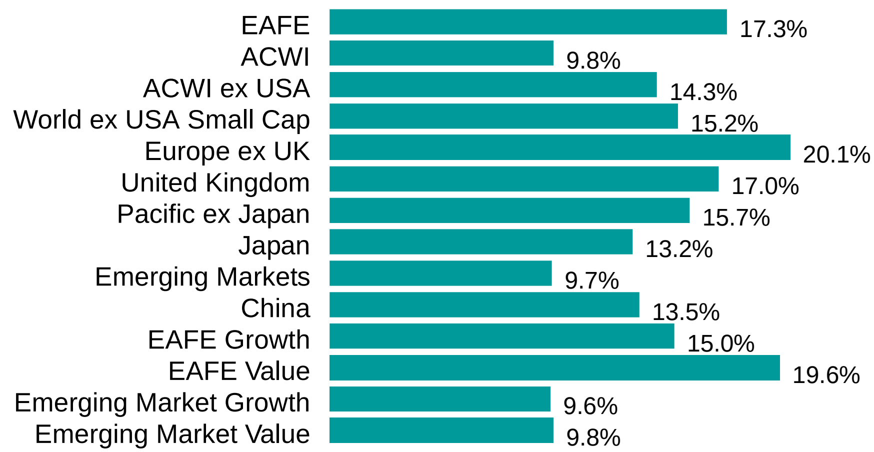
Growth vs. value

- Value outpaced growth across developed and emerging markets.
  - Economically sensitive sectors (e.g., Financials and Industrials) benefited from the anticipation of improved growth; Energy was the largest outperformer.

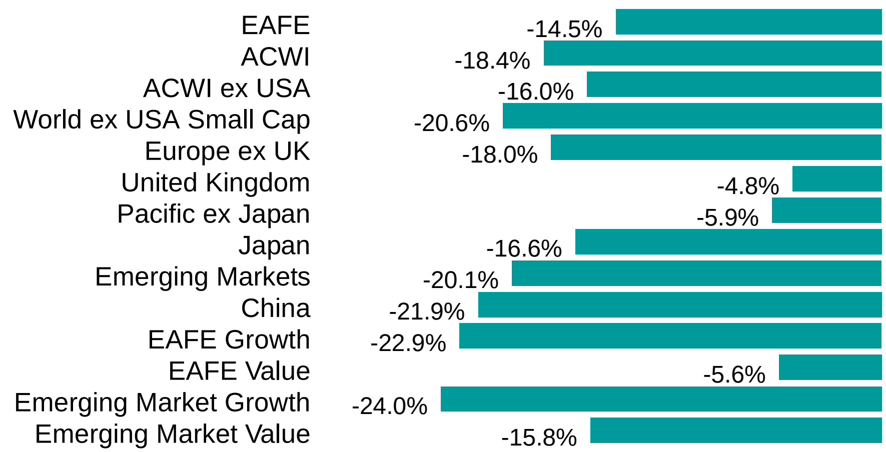
U.S. dollar vs. other currencies

- After reaching a multi-decade high, the dollar fell against all major currencies with signs of inflation easing.
  - Despite the 7.7% decline in 4Q22, the dollar still gained nearly 8% over the full year.

Global Equity Returns: Quarter Ended 12/31/22



Global Equity Returns: One Year Ended 12/31/22



Source: MSCI

U.S. Fixed Income Performance: 4Q22

Bonds were up in 4Q but 2022 results remain negative

- Aggregate: positive return driven by coupon income and spread tightening; interest rates rose modestly
- Rates were volatile intra-quarter
  - UST 10-year yield: high 4.22% on 11/7; low 3.42% on 12/7
  - Curve remained inverted at quarter-end; 10-year yield 3.88% and 2-year yield 4.41%; most since 1981
- Fed raised rates, bringing target to 4.25%-4.50%
  - Median expectation from Fed is 5.1% for year-end 2023
  - Inflation showed signs of moderating but job market remained tight with solid wage growth

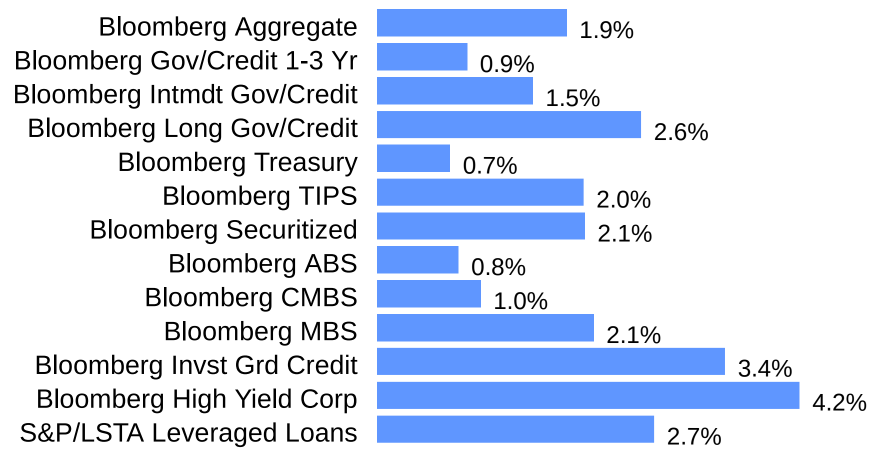
Corporates and mortgages outperformed Treasuries in 4Q but underperformed for the year

- 4Q: Corporates +289 bps excess return; Residential Mortgage-Backed Security (RMBS) +110 bps
- 2022: Corporates -125 bps excess return; RMBS -223 bps
- RMBS had worst month ever (September: -191 bps) and best month ever (November: +135 bps) in excess returns.

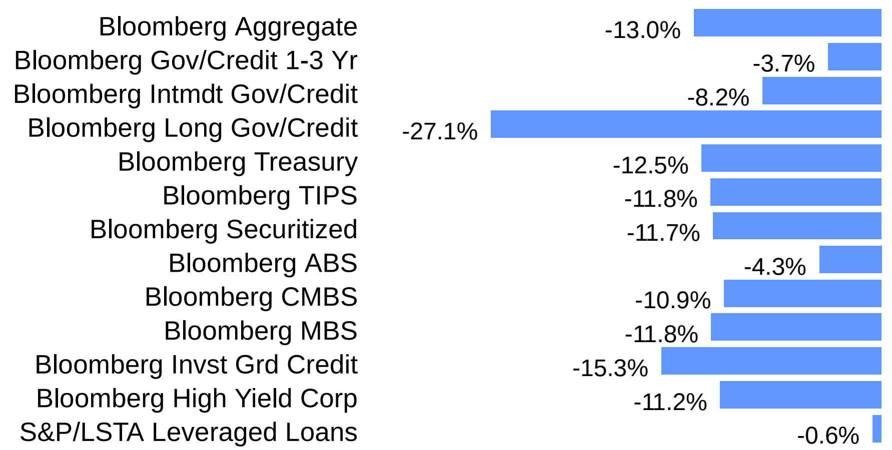
Valuations fair

- While absolute yields are higher, spreads have not widened materially and most are close to historical averages.
- An economic slowdown/recession could impact credit spreads.
- Higher yields boosting forward-looking return outlooks across sectors

U.S. Fixed Income Returns: Quarter Ended 12/31/22



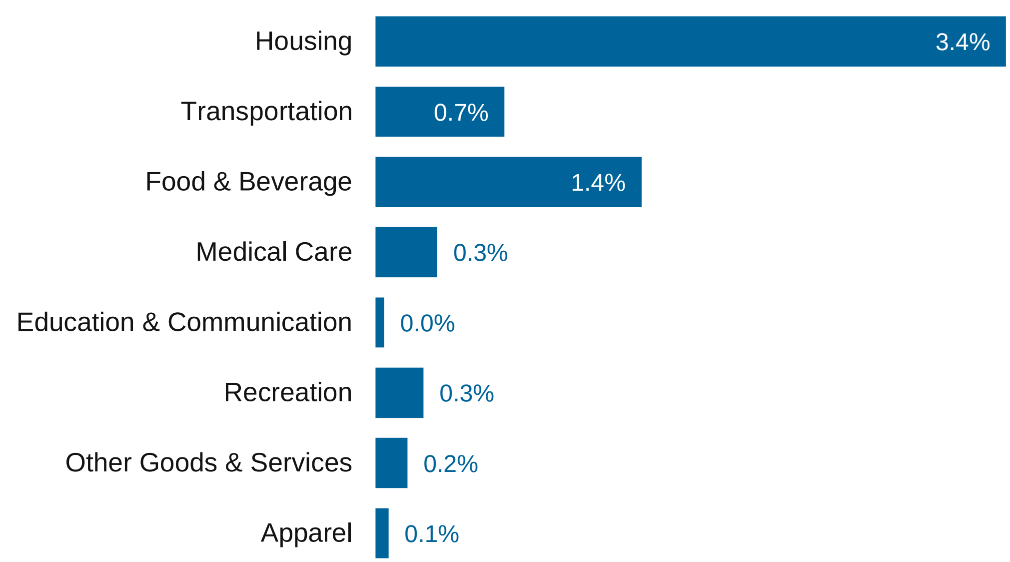
U.S. Fixed Income Returns: One Year Ended 12/31/22



Sources: Bloomberg, S&P Dow Jones Indices

Contributors to Recent Inflation: Primary Categories

- Transportation inflation has finally begun to trend downward.
- Housing took over as the biggest weighted contributor to headline inflation due to the category's high weight in the index (42.4%).
- Transportation's downward trend in inflation has been somewhat offset by an upward trend for Food & Beverage and Housing.



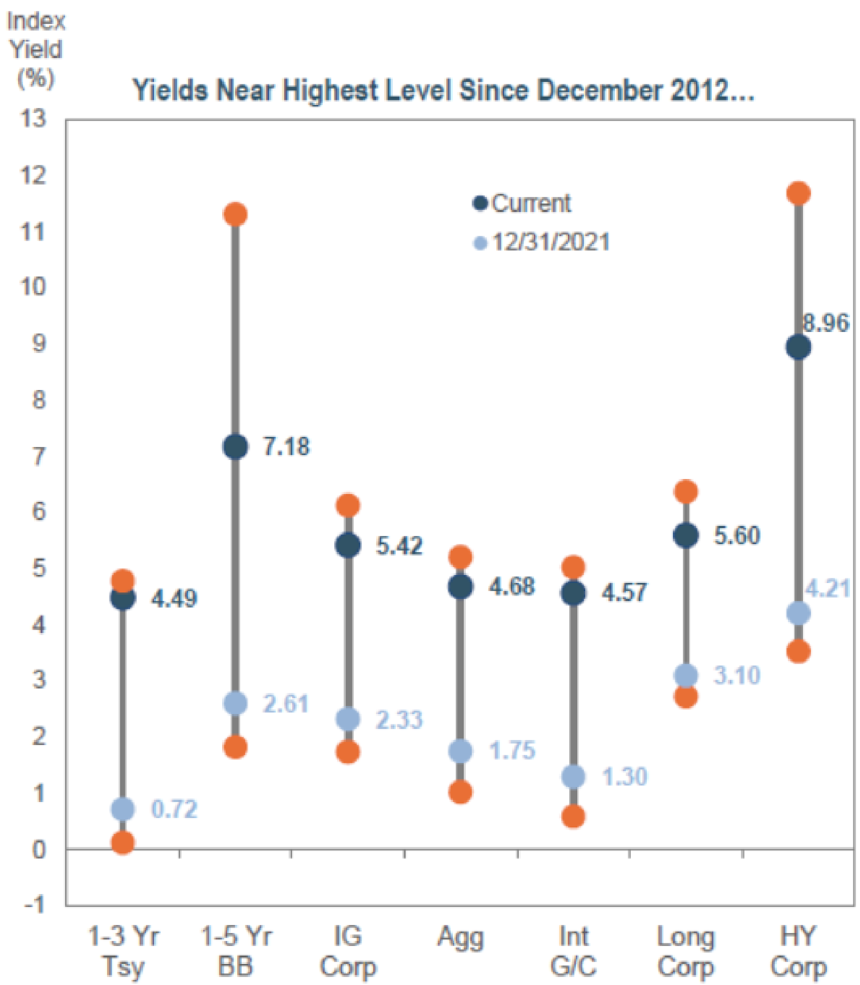
Primary Category	Primary Category Weight	Year-over-Year Change											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
All Items	100.0%	7.5%	7.9%	8.5%	8.3%	8.6%	9.1%	8.5%	8.3%	8.2%	7.7%	7.1%	6.5%
Housing	42.4%	5.7%	5.9%	6.4%	6.5%	6.9%	7.3%	7.4%	7.8%	8.0%	7.9%	7.8%	8.1%
Transportation	18.2%	20.8%	21.1%	22.6%	19.9%	19.4%	19.7%	16.4%	13.4%	12.6%	11.2%	7.8%	3.9%
Food & Bev	14.3%	6.7%	7.6%	8.5%	9.0%	9.7%	10.0%	10.5%	10.9%	10.8%	10.6%	10.3%	10.1%
Medical Care	8.5%	2.5%	2.4%	2.9%	3.2%	3.7%	4.5%	4.8%	5.4%	6.0%	5.0%	4.2%	4.0%
Education & Communication	6.4%	1.6%	1.6%	1.5%	1.0%	0.8%	0.8%	0.5%	0.5%	0.2%	0.0%	0.7%	0.7%
Recreation	5.1%	4.7%	5.0%	4.8%	4.3%	4.5%	4.6%	4.4%	4.1%	4.1%	4.1%	4.7%	5.1%
Other Goods & Svcs	2.7%	4.9%	5.6%	5.5%	5.7%	6.3%	6.7%	6.3%	6.6%	6.9%	6.5%	7.0%	6.4%
Apparel	2.5%	5.3%	6.6%	6.8%	5.4%	5.0%	5.2%	5.1%	5.1%	5.5%	4.1%	3.6%	2.9%

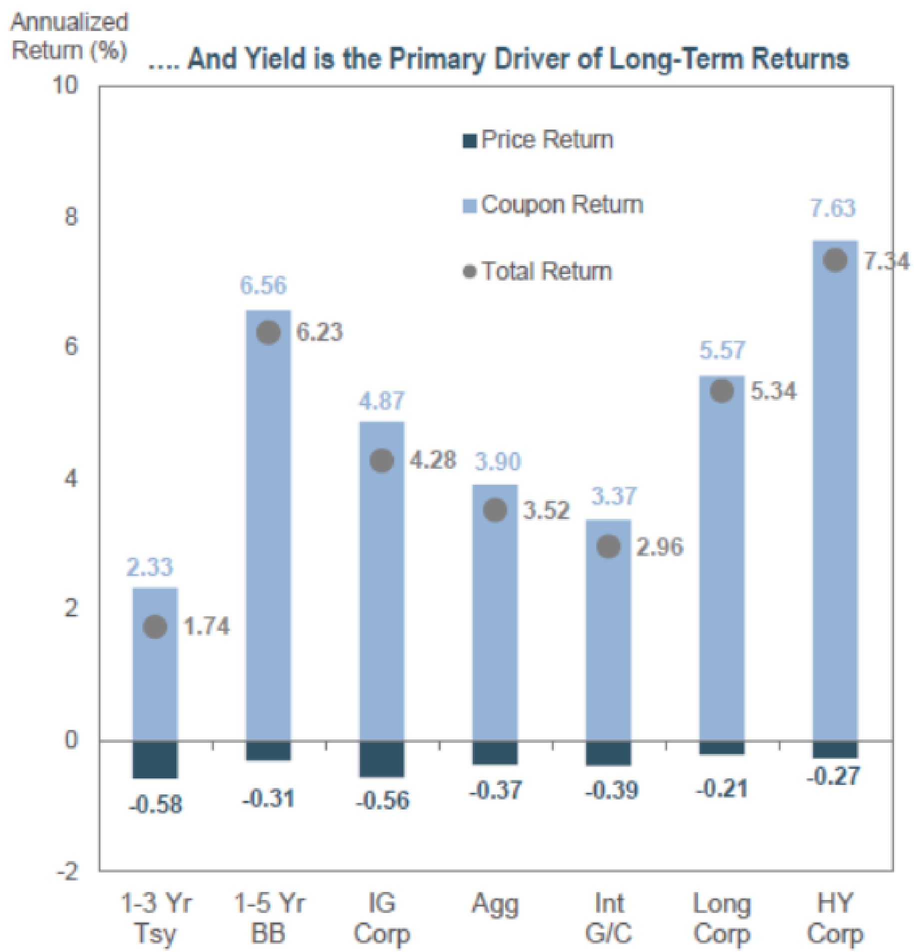
Source: U.S. Bureau of Labor Statistics

Fixed Income Themes

Yields rose in 2022, but the increase may bode well for investors in 2023

- Yields across fixed income rose to near 10-year highs in 2022
- Higher starting yield is a benefit to fixed income investors, as it is a major contributor to long-term results for fixed income





Sources: Bloomberg, Income Research + Management.
Yield range is from 12/31/12 to 12/30/22. Returns in the right chart are annualized from 12/30/02 to 12/30/22.

Hedge Fund Performance: 4Q22

Risk assets rallied in the final quarter of the year

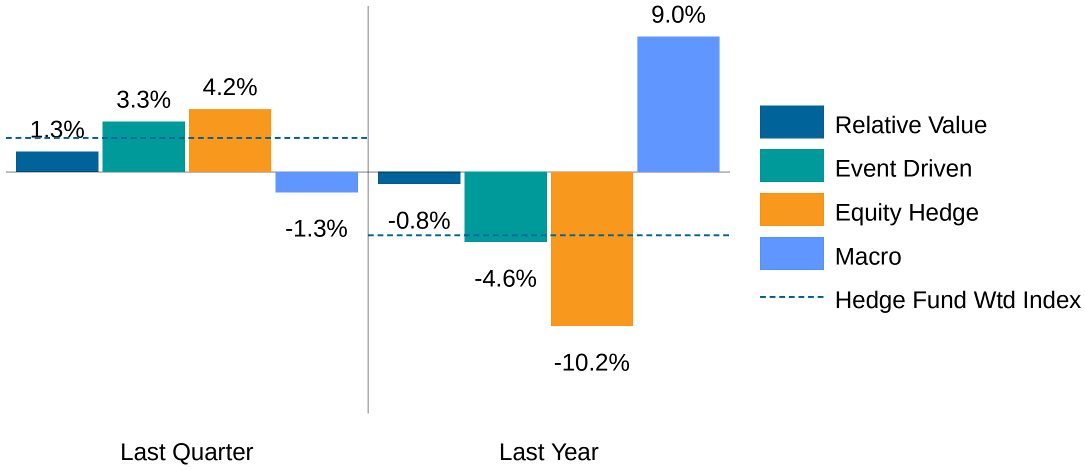
Markets advanced on signs that inflation was peaking, and corporate earnings fared better than expected

- Equity hedge strategies ended the year on a strong note, as select positions across health care, lodging, leisure, and gaming drove performance.
- Event-driven strategies performed well in the quarter, as credit spreads tightened and interest rates were relatively steady.
- Relative value strategies ended higher as managers profited off the volatility across rates and credit.
- Macro strategies ended 4Q22 negative, as short duration and long U.S. dollar positions hurt managers.

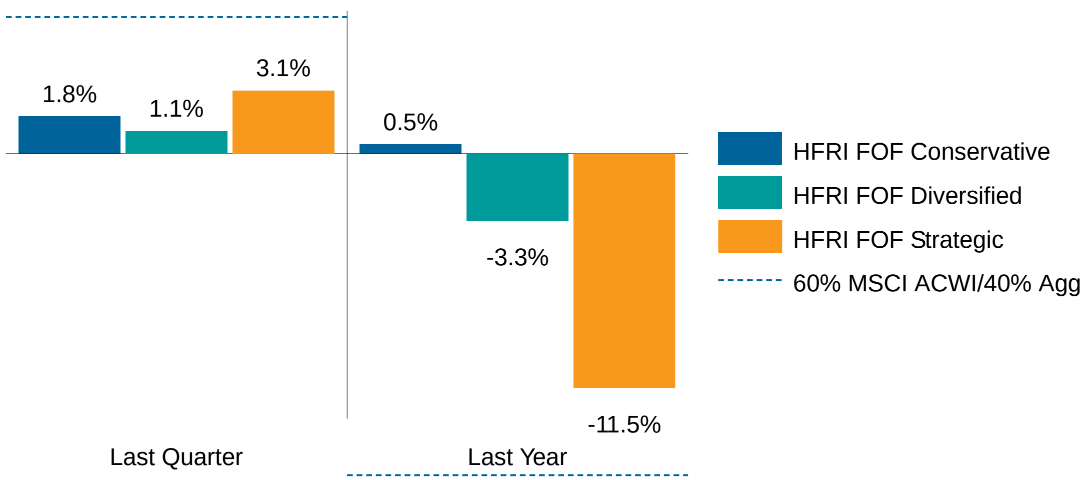
Fund of Funds (FOF) ended the year on a strong note

- FOFs with more equity hedge exposure performed well in the quarter.
- Those FOFs with more diversified exposure across equity hedge, credit, and macro trailed behind those with more equity beta.

HFRI Strategy Index Returns vs. Broad Hedge Fund Universe as of 12/31/22



HFRI Fund-of-Funds Returns vs. 60% Stock/40% Bond Mix as of 12/31/22



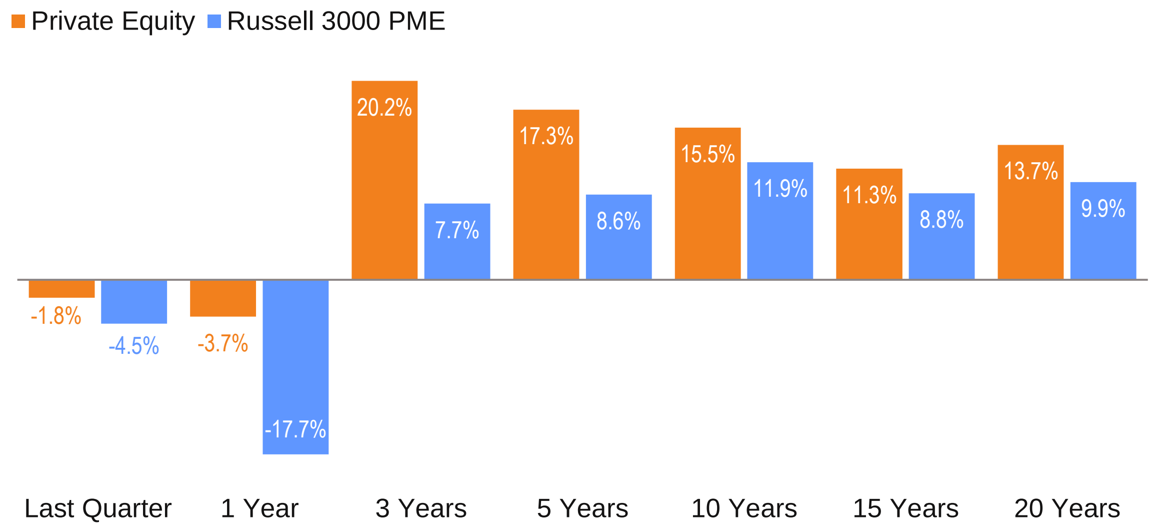
Source: Hedge Fund Research (www.hedgefundresearch.com)

Private Equity Performance

Smoothing effect in 3Q22 private equity returns

- As is typical for the asset class, private equity returns have experienced a smoothing effect in 2022 compared to the sharp declines seen in the public markets.
- Private equity was only down about a third as much as the public markets during 2022, on a public market equivalent (PME) basis.
- Portfolio companies are typically valued internally by the manager on a quarterly basis. Valuations are based on the operating metrics of the company, recent comparable transactions, and public market comps.
- Venture capital and growth equity experienced the sharpest declines so far this year, given their technology focus as well as post-IPO public equity holdings.

Net IRRs as of 09/30/22



Net IRRs by Strategy as of 09/30/22

Strategy	Last Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
Venture Capital	-2.7%	-9.1%	28.4%	23.8%	19.4%	12.4%
Growth Equity	-1.8%	-9.4%	20.8%	18.4%	15.7%	14.3%
Buyouts	-1.9%	-1.4%	18.5%	16.1%	15.2%	14.7%
Mezzanine	0.2%	5.0%	11.8%	11.1%	11.3%	11.1%
Credit Opportunities	0.7%	3.9%	8.4%	7.2%	8.3%	9.9%
Control-Oriented Distressed	-0.2%	11.3%	19.4%	13.8%	12.7%	11.9%
Total Private Equity	**-1.8%**	**-3.7%**	**20.2%**	**17.3%**	**15.5%**	**13.7%**

Source: Refinitiv/Cambridge

Diversification Remains Key Risk Control

Periodic Table of Investment Returns

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Emerging Markets 55.82%	Emerging Markets 25.55%	Emerging Markets 34.00%	Emerging Markets 32.17%	Emerging Markets 39.38%	U.S. Fixed 5.24%	Emerging Markets 78.51%	Small Cap 26.85%	Real Estate Funds 14.96%	Emerging Markets 18.23%
Small Cap 47.25%	Non-U.S. Equity 20.38%	Real Estate Funds 20.15%	Non-U.S. Equity 25.71%	Real Estate Funds 14.84%	Non-U.S. Fixed 4.39%	High Yield 58.21%	Emerging Markets 18.88%	U.S. Fixed 7.84%	Non-U.S. Equity 16.41%
Non-U.S. Equity 39.42%	Small Cap 18.33%	Non-U.S. Equity 14.47%	Small Cap 18.37%	Hedge Funds 12.56%	Cash Equivalent 2.06%	Non-U.S. Equity 33.67%	Real Estate Funds 15.26%	High Yield 4.98%	Small Cap 16.35%
High Yield 28.97%	Non-U.S. Fixed 12.54%	Hedge Funds 7.61%	Large Cap 15.79%	Non-U.S. Equity 12.44%	Real Estate Funds -10.70%	Small Cap 27.17%	High Yield 15.12%	Non-U.S. Fixed 4.36%	Large Cap 16.00%
Large Cap 28.68%	Real Estate Funds 12.00%	Large Cap 4.91%	Real Estate Funds 15.27%	Non-U.S. Fixed 11.03%	Hedge Funds -19.07%	Large Cap 26.47%	Large Cap 15.06%	Large Cap 2.11%	High Yield 15.81%
Non-U.S. Fixed 19.36%	High Yield 11.13%	Small Cap 4.55%	Hedge Funds 13.86%	U.S. Fixed 6.97%	High Yield -26.16%	Hedge Funds 18.57%	Hedge Funds 10.95%	Cash Equivalent 0.10%	Real Estate Funds 9.79%
Hedge Funds 15.44%	Large Cap 10.88%	Cash Equivalent 3.06%	High Yield 11.85%	Large Cap 5.49%	Small Cap -33.79%	Non-U.S. Fixed 7.53%	Non-U.S. Equity 8.95%	Hedge Funds -2.52%	Hedge Funds 7.67%
Real Estate Funds 8.28%	Hedge Funds 9.64%	High Yield 2.74%	Non-U.S. Fixed 8.16%	Cash Equivalent 5.00%	Large Cap -37.00%	U.S. Fixed 5.93%	U.S. Fixed 6.54%	Small Cap -4.18%	U.S. Fixed 4.21%
U.S. Fixed 4.10%	U.S. Fixed 4.34%	U.S. Fixed 2.43%	Cash Equivalent 4.86%	High Yield 1.87%	Non-U.S. Equity -43.56%	Cash Equivalent 0.21%	Non-U.S. Fixed 4.95%	Non-U.S. Equity -12.21%	Non-U.S. Fixed 4.09%
Cash Equivalent 1.15%	Cash Equivalent 1.33%	Non-U.S. Fixed -8.65%	U.S. Fixed 4.33%	Small Cap -1.57%	Emerging Markets -53.33%	Real Estate Funds -30.40%	Cash Equivalent 0.13%	Emerging Markets -18.42%	Cash Equivalent 0.11%

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Small Cap 38.82%	Large Cap 13.69%	Real Estate Funds 13.95%	Small Cap 21.31%	Emerging Markets 37.28%	Real Estate Funds 7.36%	Large Cap 31.49%	Small Cap 19.96%	Large Cap 28.71%	Real Estate Funds 6.55%
Large Cap 32.39%	Real Estate Funds 11.46%	Large Cap 1.38%	High Yield 17.13%	Non-U.S. Equity 24.21%	Cash Equivalent 1.87%	Small Cap 25.52%	Large Cap 18.40%	Real Estate Funds 21.02%	Cash Equivalent 1.46%
Non-U.S. Equity 21.02%	U.S. Fixed 5.97%	U.S. Fixed 0.55%	Large Cap 11.96%	Large Cap 21.83%	U.S. Fixed 0.01%	Non-U.S. Equity 22.49%	Emerging Markets 18.31%	Small Cap 14.82%	Hedge Funds 1.06%
Real Estate Funds 12.90%	Small Cap 4.89%	Cash Equivalent 0.05%	Emerging Markets 11.19%	Small Cap 14.65%	High Yield -2.08%	Emerging Markets 18.44%	Non-U.S. Fixed 10.11%	Non-U.S. Equity 12.62%	High Yield -11.19%
Hedge Funds 9.73%	Hedge Funds 4.13%	Hedge Funds -0.71%	Real Estate Funds 7.79%	Non-U.S. Fixed 10.51%	Non-U.S. Fixed -2.15%	High Yield 14.32%	Non-U.S. Equity 7.59%	Hedge Funds 8.23%	U.S. Fixed -13.01%
High Yield 7.44%	High Yield 2.45%	Non-U.S. Equity -3.04%	Non-U.S. Equity 2.75%	High Yield 7.50%	Hedge Funds -3.19%	Hedge Funds 9.31%	U.S. Fixed 7.51%	High Yield 5.28%	Non-U.S. Equity -14.29%
Cash Equivalent 0.07%	Cash Equivalent 0.04%	Small Cap -4.41%	U.S. Fixed 2.65%	Hedge Funds 7.12%	Large Cap -4.38%	U.S. Fixed 8.72%	High Yield 7.11%	Cash Equivalent 0.05%	Large Cap -18.11%
U.S. Fixed -2.02%	Emerging Markets -2.19%	High Yield -4.47%	Non-U.S. Fixed 1.49%	Real Estate Funds 6.66%	Small Cap -11.01%	Non-U.S. Fixed 5.09%	Hedge Funds 6.36%	U.S. Fixed -1.54%	Non-U.S. Fixed -18.70%
Emerging Markets -2.60%	Non-U.S. Fixed -3.09%	Non-U.S. Fixed -6.02%	Hedge Funds 1.25%	U.S. Fixed 3.54%	Non-U.S. Equity -14.09%	Real Estate Funds 4.39%	Cash Equivalent 0.67%	Emerging Markets -2.54%	Emerging Markets -20.09%
Non-U.S. Fixed -3.08%	Non-U.S. Equity -4.32%	Emerging Markets -14.92%	Cash Equivalent 0.33%	Cash Equivalent 0.86%	Emerging Markets -14.57%	Cash Equivalent 2.28%	Real Estate Funds 0.34%	Non-U.S. Fixed -7.05%	Small Cap -20.44%

● Bloomberg Barclays Corp High Yield ● Bloomberg Barclays Global Aggregate ex US ● Bloomberg Barclays US Aggregate
● Credit Suisse Hedge Fund ● ICE BofAML US 3-Month Treasury Bill ● MSCI Emerging Markets ● MSCI World ex USA
● NFI-ODCE (value-weighted net) ● Russell 2000 ● S&P 500

Published Research Highlights from 4Q22

Webinar: Rebalancing During this Unusual Market Environment

Considering Currency: A Guide for Institutional Investors

2022 Nuclear Decommissioning Funding Study

2022 ESG Survey

Recent Blog Posts

Unlocking the Secrets of the 'Data Vault'

Bo Abesamis

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Mark Andersen

Emerging Managers in Private Equity: A Guide for Success

David Smith

Additional Reading

Alternatives Focus quarterly newsletter

Active vs. Passive quarterly charts

Capital Markets Review quarterly newsletter

Monthly Updates to the Periodic Table

Market Pulse Flipbook quarterly markets update

Real Estate Indicators market outlook

Callan Institute Events

Upcoming conferences, workshops, and webinars

Callan College

Intro to Alternatives

This course is for institutional investors, including trustees and staff members of public plans, corporate plans, and nonprofits. This session familiarizes trustees and staff with alternative investments like private equity, hedge funds, and real estate and how they can play a key role in any portfolio. You will learn about the importance of allocations to alternatives and how to consider integrating, evaluating, and monitoring them.

– February 15–16, 2023 – Virtual Session via Zoom

Intro to Investments—Learn the Fundamentals

This course is for institutional investors, including trustees and staff members of public plans, corporate plans, and nonprofits. This session familiarizes trustees and staff with basic investment theory, terminology, and practices.

– March 1–2, 2023 – In-Person Session – Chicago

– May 23–25, 2023 – Virtual Session via Zoom

Please visit our website at callan.com/events-education as we add dates to our 2023 calendar!

Mark Your Calendar

2023 National Conference

April 2–4, 2023
Scottsdale, Arizona

2023 Regional Workshops

June 27, 2023 – Denver

June 29, 2023 – San Francisco

October 24, 2023 – New York

October 26, 2023 - Chicago

Watch your email for further details and an invitation.

Webinars & Research Café Sessions

Research Café: ESG Interview Series

February 23 , 2023 – 9:30am (PT)

Callan

Pension Plan Performance

Actual versus Target Asset Allocation

For Periods Ended December 31, 2022

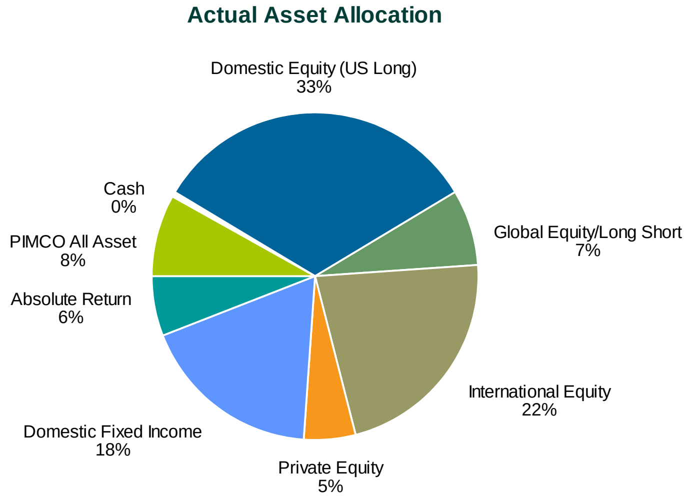
Overweights:

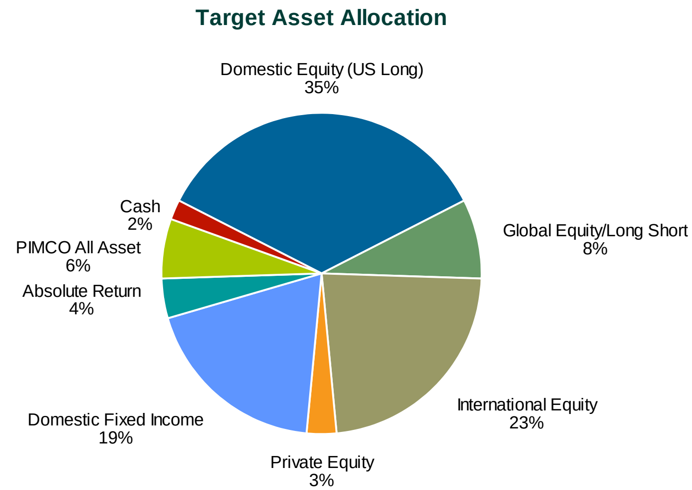
- Private Equity (5.1% vs 3% target)
- Real Assets (8.1% vs 6% target)
- Absolute Return (5.9% vs 4% target)

Underweights:

- Domestic Equity (32.9% vs 35% target)
- Domestic Fixed Income (18.0% vs 19% target)
- International Equity (22.1% vs 23% target)
- Global Equity Long/Short (7.5% vs 8% target)

- The cash was 0.5% in the fourth quarter.





Asset Class	$000s Actual	Weight Actual	Target	Percent Difference	$000s Difference
Domestic Equity (US Long)	151,288	32.9%	35.0%	(2.1%)	(9,457)
Global Equity/Long Short	34,226	7.5%	8.0%	(0.5%)	(2,516)
International Equity	101,436	22.1%	23.0%	(0.9%)	(4,196)
Private Equity	23,395	5.1%	3.0%	2.1%	9,617
Domestic Fixed Income	82,605	18.0%	19.0%	(1.0%)	(4,657)
Absolute Return	27,063	5.9%	4.0%	1.9%	8,692
PIMCO All Asset	37,086	8.1%	6.0%	2.1%	9,530
Cash	2,172	0.5%	2.0%	(1.5%)	(7,014)
Total	459,271	100.0%	100.0%		

Portfolio Holdings

For Periods Ended December 31, 2022

- As of December 31, 2022, total fund assets were $459.3 million, up from $438.4 million as of September 30, 2022.
- The total fund had a positive investment return of $30.2 million for the quarter and had withdrawals of $9.3 million.

	December 31, 2022				September 30, 2022	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Total Equity	**$310,344,980**	**67.57%**	**$(5,446,026)**	**$25,360,266**	**$290,430,740**	**66.25%**
U.S. Equity	**$151,287,525**	**32.94%**	**$(151,561)**	**$9,654,850**	**$141,784,236**	**32.34%**
BR Russell 1000 Index Non-Lendable	109,787,721	23.90%	0	7,414,939	102,372,782	23.35%
LSV	21,894,558	4.77%	(148,403)	2,423,011	19,619,950	4.48%
Columbus Circle Investors	19,605,246	4.27%	(3,158)	(183,100)	19,791,504	4.51%
International Equity	**$101,435,997**	**22.09%**	**$(99,072)**	**$14,249,099**	**$87,285,970**	**19.91%**
Developed Markets	**$83,519,628**	**18.19%**	**$(99,072)**	**$12,625,361**	**$70,993,340**	**16.19%**
Artisan Trust	30,491,176	6.64%	0	4,222,215	26,268,961	5.99%
Silchester	53,028,453	11.55%	(99,072)	8,403,146	44,724,379	10.20%
Emerging Markets	**$17,916,368**	**3.90%**	**$0**	**$1,623,738**	**$16,292,630**	**3.72%**
BlackRock EM Alpha Tilts	17,916,368	3.90%	0	1,623,738	16,292,630	3.72%
Global Equity Long/Short	**$34,226,009**	**7.45%**	**$(4,765,393)**	**$1,456,317**	**$37,535,085**	**8.56%**
ABS Global	19,340,933	4.21%	0	867,420	18,473,514	4.21%
Blackstone Park Ave. NT	14,885,076	3.24%	(4,765,393)	588,898	19,061,571	4.35%
Private Equity (1)	**$23,395,449**	**5.09%**	**$(430,000)**	**$0**	**$23,825,449**	**5.43%**
Pantheon USA IV	181,010	0.04%	0	0	181,010	0.04%
Pantheon USA VI	148,341	0.03%	0	0	148,341	0.03%
Pantheon USA VII	749,439	0.16%	(40,000)	0	789,439	0.18%
Pantheon Europe Fund V A	444,368	0.10%	0	0	444,368	0.10%
Pantheon Global Secondary Fund III	59,086	0.01%	0	0	59,086	0.01%
Pantheon US Select 2014	21,813,205	4.75%	(390,000)	0	22,203,205	5.06%
Domestic Fixed Income	**$82,604,706**	**17.99%**	**$(11,363)**	**$1,749,479**	**$80,866,590**	**18.45%**
Prudential Cons Core Bond Fund	36,583,784	7.97%	(11,363)	789,801	35,805,346	8.17%
Metropolitan West Fund	46,020,923	10.02%	0	959,678	45,061,245	10.28%
Absolute Return	**$27,063,048**	**5.89%**	**$0**	**$555,825**	**$26,507,224**	**6.05%**
UBS AIS	27,063,048	5.89%	0	555,825	26,507,224	6.05%
Real Assets	**$37,086,493**	**8.08%**	**$0**	**$2,518,122**	**$34,568,371**	**7.89%**
PIMCO All Asset	37,086,493	8.08%	0	2,518,122	34,568,371	7.89%
Cash	**$2,171,840**	**0.47%**	**$(3,881,475)**	**$44,945**	**$6,008,370**	**1.37%**
Cash Account	2,171,840	0.47%	(3,881,475)	44,945	6,008,370	1.37%
Total Fund	**$459,271,068**	**100.0%**	**$(9,338,864)**	**$30,228,638**	**$438,381,295**	**100.0%**

Portfolio Holdings

For Periods Ended December 31, 2022

	December 31, 2022					September 30, 2022		
	Market Value	Weight	(min)	Target	(max)	Market Value	Weight	Target
Total Equity	**$310,344,980**	**67.57%**	**60.00%**	**69.00%**	**75.00%**	**$290,430,740**	**66.25%**	**69.00%**
U.S. Equity	**$151,287,525**	**32.94%**	**27.00%**	**35.00%**	**40.00%**	**$141,784,236**	**32.34%**	**35.00%**
BR Russell 1000 Idx Non-Lendable	109,787,721	23.90%				102,372,782	23.35%	
LSV	21,894,558	4.77%				19,619,950	4.48%	
Columbus Circle Investors	19,605,246	4.27%				19,791,504	4.51%	
International Equity	**$101,435,997**	**22.09%**	**18.00%**	**23.00%**	**28.00%**	**$87,285,970**	**19.91%**	**23.00%**
Developed Markets	**$83,519,628**	**18.19%**	**-**	**-**	**-**	**$70,993,340**	**16.19%**	**-**
Artisan Trust	30,491,176	6.64%				26,268,961	5.99%	
Silchester	53,028,453	11.55%				44,724,379	10.20%	
Emerging Markets	**$17,916,368**	**3.90%**	**-**	**-**	**-**	**$16,292,630**	**3.72%**	**-**
BlackRock EM Alpha Tilts	17,916,368	3.90%				16,292,630	3.72%	
Global Equity/Long Short	**$34,226,009**	**7.45%**	**4.00%**	**8.00%**	**12.00%**	**$37,535,085**	**8.56%**	**8.00%**
ABS Global	19,340,933	4.21%				18,473,514	4.21%	
Blackstone Park Ave. NT	14,885,076	3.24%				19,061,571	4.35%	
Private Equity (1)	**$23,395,449**	**5.09%**	**0.00%**	**3.00%**	**6.00%**	**$23,825,449**	**5.43%**	**3.00%**
Pantheon USA IV	181,010	0.04%				181,010	0.04%	
Pantheon USA VI	148,341	0.03%				148,341	0.03%	
Pantheon USA VII	749,439	0.16%				789,439	0.18%	
Pantheon Europe Fund V A	444,368	0.10%				444,368	0.10%	
Pantheon Global Fund III	59,086	0.01%				59,086	0.01%	
Pantheon US Select 2014	21,813,205	4.75%				22,203,205	5.06%	
Domestic Fixed Income	**$82,604,706**	**17.99%**	**14.00%**	**19.00%**	**24.00%**	**$80,866,590**	**18.45%**	**19.00%**
Prudential Cons Core Bond Fund	36,583,784	7.97%				35,805,346	8.17%	
Metropolitan West Fund CIT	46,020,923	10.02%				45,061,245	10.28%	
Absolute Return	**$27,063,048**	**5.89%**	**0.00%**	**4.00%**	**6.00%**	**$26,507,224**	**6.05%**	**4.00%**
UBS AIS	27,063,048	5.89%				26,507,224	6.05%	
Real Assets	**$37,086,493**	**8.08%**	**4.00%**	**6.00%**	**12.00%**	**$34,568,371**	**7.89%**	**6.00%**
PIMCO All Asset	37,086,493	8.08%	4.00%	6.00%	10.00%	34,568,371	7.89%	6.00%
Cash	**$2,171,840**	**0.47%**	**0.00%**	**2.00%**	**4.00%**	**$6,008,370**	**1.37%**	**2.00%**
Cash Account	2,171,840	0.47%				6,008,370	1.37%	
Total Fund	**$459,271,068**	**100.0%**		**100.0%**		**$438,381,295**	**100.0%**	**100.0%**

Investment Manager Returns

For Periods Ended December 31, 2022

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years
Total Equity	**8.88%**	**(14.84%)**	**5.11%**	**5.86%**	**7.68%**
U.S. Long Equity	**6.81%**	**(18.99%)**	**7.93%**	**8.83%**	**10.89%**
Pure US Equity Composite	**6.81%**	**(18.99%)**	**7.99%**	**8.84%**	**10.99%**
Russell 3000 Index	7.18%	(19.21%)	7.07%	8.79%	11.04%
Russell 1000 Index Non-Lendable	7.24%	(19.13%)	7.35%	9.13%	-
Russell 1000 Index	7.24%	(19.13%)	7.35%	9.13%	11.26%
LSV	12.35%	(4.21%)	7.36%	4.47%	8.15%
Russell 2000 Value Index	8.42%	(14.48%)	4.70%	4.13%	8.23%
Columbus Circle Investors	(0.93%)	(29.86%)	12.48%	12.09%	14.20%
Russell 2500 Growth Index	4.72%	(26.21%)	2.88%	5.97%	8.98%
International Equity	**16.33%**	**(13.35%)**	**(0.20%)**	**1.12%**	**4.85%**
MSCI ACWI ex US	14.28%	(16.00%)	0.07%	0.88%	4.80%
Developed Markets	**17.80%**	**(11.64%)**	**0.48%**	**1.84%**	**5.02%**
MSCI EAFE Index	17.34%	(14.45%)	0.87%	1.54%	4.53%
Artisan Trust	16.07%	(19.16%)	(1.81%)	1.84%	3.88%
MSCI EAFE Growth Idx	15.05%	(22.95%)	0.47%	2.49%	5.06%
Silchester	18.81%	(5.42%)	2.16%	1.66%	6.02%
MSCI EAFE Val Idx	19.64%	(5.58%)	0.65%	0.17%	3.66%
Emerging Markets	**9.97%**	**(20.68%)**	**(3.18%)**	**(2.01%)**	**4.10%**
MSCI Emerging Mkts Idx Net	9.70%	(20.09%)	(2.69%)	(1.39%)	5.17%
BlackRock EM Alpha Tilts	9.97%	(20.68%)	(3.18%)	-	-
MSCI Emerging Mkts Idx Net	9.70%	(20.09%)	(2.69%)	(1.39%)	5.17%
Global Equity/Long Short	**4.44%**	**(12.37%)**	**1.65%**	**3.10%**	**3.01%**
HFRI FOF: Strategic Index	2.72%	(11.82%)	2.41%	2.07%	3.02%
ABS Global	4.70%	(8.50%)	2.49%	3.07%	3.31%
MSCI ACWI Idx	9.88%	(17.96%)	4.49%	5.75%	8.66%
Blackstone Park Ave. NT	4.12%	(15.90%)	0.63%	2.76%	2.60%
S&P 500 Index	7.56%	(18.11%)	7.66%	9.42%	11.48%
Private Equity (1)	**0.00%**	**4.02%**	**22.67%**	**17.94%**	**14.39%**
Pantheon USA IV	0.00%	0.00%	2.58%	2.01%	0.54%
Pantheon USA VI	0.00%	(8.84%)	(11.68%)	(9.18%)	(4.64%)
Pantheon USA VII	0.00%	(2.82%)	14.35%	11.08%	11.41%
Pantheon Europe Fund V A	0.00%	(13.76%)	12.13%	14.68%	10.26%
Pantheon Global Secondary Fund III	0.00%	(7.26%)	(1.15%)	1.18%	1.92%
Pantheon US Select 2014	0.00%	4.99%	25.61%	22.23%	19.16%

Zesiger portfolio is included in US Long Equity Assets and Returns.
(1) Current 0% return due to a one quarter lag in valuation.

Investment Manager Returns

For Periods Ended December 31, 2022

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years
Domestic Fixed Income	**2.16%**	**(13.81%)**	**(2.68%)**	**0.13%**	**0.98%**
Prudential Core Bond	2.21%	(13.02%)	(2.87%)	(0.04%)	0.89%
Metropolitan West Fund*	2.13%	(14.43%)	(2.61%)	0.23%	1.02%
Blmbg Aggregate Index	1.87%	(13.01%)	(2.71%)	0.02%	0.89%
Absolute Return	**2.10%**	**6.06%**	**7.45%**	**5.91%**	**4.80%**
UBS AIS	2.10%	6.06%	7.45%	5.91%	4.80%
HFRI FOF: Conservative In	1.46%	0.09%	4.67%	3.86%	3.61%
Real Assets	**7.28%**	**(11.53%)**	**3.50%**	**3.82%**	**7.22%**
PIMCO All Asset	7.28%	(11.53%)	3.49%	3.40%	6.23%
Blmbg US TIPS 1-10	1.64%	(7.34%)	2.01%	2.50%	2.63%
Cash	**1.00%**	**1.87%**	**0.93%**	**1.47%**	**1.28%**
Cash Account	1.00%	1.87%	0.93%	1.47%	1.28%
3-month Treasury Bill	0.84%	1.46%	0.72%	1.26%	1.07%
Total Fund	**6.97%**	**(13.09%)**	**3.77%**	**4.59%**	**6.15%**
Target Benchmark (1)	6.55%	(13.97%)	3.55%	4.59%	6.10%
Annual Discount Rate:6.625%					

(1) Current Quarter Target = 35.0% Russell 3000 Index, 23.0% MSCI ACWI ex US, 19.0% Blmbg Aggregate, 8.0% HFRI FOF: Strategic Index, 6.0% Blmbg TIPS 1-10 Yr, 4.0% HFRI FOF: Conservative In, 3.0% Private Equity and 2.0% 3-month Treasury Bill.
*On August 24,2022 switched from Mutual Fund to CIT

Investment Manager Returns – Fiscal Years

For Periods Ended December 31, 2022

	6/2022-12/2022	FY 2022	FY 2021	FY 2020	FY 2019
Total Equity	**3.08%**	**(14.13%)**	**39.04%**	**1.53%**	**5.50%**
U.S. Long Equity	**3.05%**	**(14.69%)**	**48.45%**	**5.18%**	**7.04%**
Russell 3000 Index	2.40%	(13.87%)	44.16%	6.53%	8.98%
Russell 1000 Index Non-Lendable	2.30%	(13.03%)	43.08%	7.47%	10.04%
Russell 1000 Index	2.30%	(13.04%)	43.07%	7.48%	10.02%
LSV	8.57%	(6.00%)	71.06%	(23.09%)	(8.73%)
Russell 2000 Value Index	3.42%	(16.28%)	73.28%	(17.48%)	(6.24%)
Columbus Circle Investors	1.38%	(28.37%)	63.07%	22.10%	8.96%
Russell 2500 Growth Index	4.59%	(31.81%)	49.63%	9.21%	6.13%
International Equity	**4.57%**	**(18.54%)**	**32.22%**	**(4.70%)**	**2.95%**
MSCI ACWI ex US	2.96%	(19.42%)	35.72%	(4.80%)	1.29%
Developed Markets	**6.29%**	**(16.32%)**	**29.77%**	**(5.04%)**	**3.07%**
MSCI EAFE Index	6.36%	(17.77%)	32.35%	(5.13%)	1.08%
Artisan Trust	6.93%	(22.58%)	23.98%	(0.20%)	9.09%
MSCI EAFE Growth Idx	5.27%	(23.76%)	30.97%	4.15%	4.24%
Silchester	5.87%	(11.34%)	35.22%	(9.35%)	(1.71%)
MSCI EAFE Val Idx	7.43%	(11.95%)	33.50%	(14.48%)	(2.10%)
Emerging Markets	**(2.86%)**	**(27.08%)**	**42.61%**	**(3.22%)**	**2.06%**
MSCI Emerging Mkts Idx Net	(2.99%)	(25.28%)	40.90%	(3.39%)	1.22%
BlackRock EM Alpha Tilts	(2.86%)	(27.08%)	42.61%	(3.22%)	-
MSCI Emerging Mkts Idx Net	(2.99%)	(25.28%)	40.90%	(3.39%)	1.22%
Global Equity/Long Short	**0.98%**	**(13.73%)**	**22.51%**	**4.25%**	**2.71%**
HFRI FOF: Strategic Index	0.76%	(11.92%)	23.82%	0.40%	0.01%
ABS Global	1.32%	(9.66%)	19.76%	5.07%	0.01%
MSCI ACWI Idx	2.51%	(15.37%)	39.87%	2.64%	6.33%
Blackstone Park Ave. NT	0.58%	(17.37%)	24.45%	3.92%	4.03%
S&P 500 Index	2.31%	(10.62%)	40.79%	7.51%	10.42%
Private Equity	**(0.74%)**	**12.77%**	**55.16%**	**5.82%**	**14.80%**
Pantheon USA IV	0.00%	(4.88%)	13.48%	0.00%	(4.04%)
Pantheon USA VI	(2.47%)	(22.03%)	(7.18%)	(21.95%)	6.24%
Pantheon USA VII	(2.29%)	4.03%	47.49%	(0.99%)	5.11%
Pantheon Europe Fund V A	(2.30%)	(12.57%)	59.73%	11.81%	15.86%
Pantheon Global Secondary Fund III	(1.10%)	(19.00%)	8.19%	0.15%	6.28%
Pantheon US Select 2014	(0.69%)	15.05%	59.99%	12.67%	21.80%

Zesiger portfolio is included in US Long Equity Assets and Returns.

Investment Manager Returns – Fiscal Years

For Periods Ended December 31, 2022

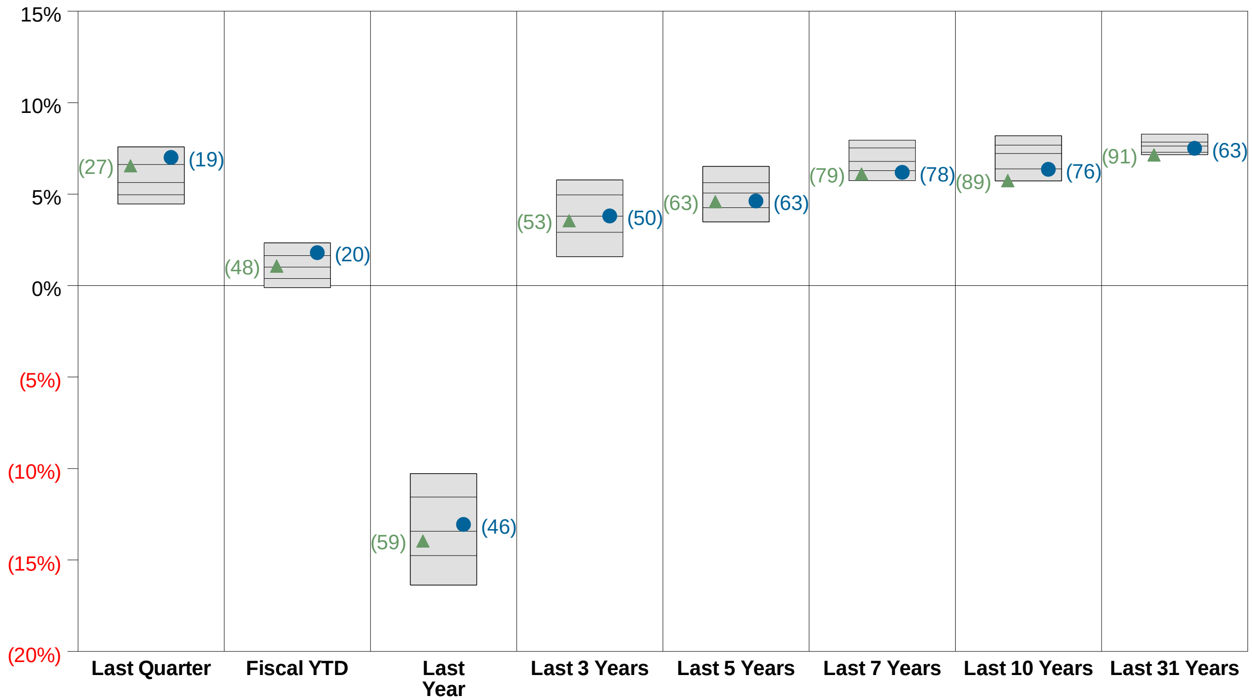
	6/2022-12/2022	FY 2022	FY 2021	FY 2020	FY 2019
Domestic Fixed Income	**(3.00%)**	**(11.14%)**	**0.72%**	**8.89%**	**8.07%**
Prudential Cons Core Bond Fund	(2.73%)	(10.60%)	(0.02%)	8.11%	7.90%
Metropolitan West Fund	(3.21%)	(11.56%)	1.36%	9.18%	8.24%
Blmbg Aggregate Index	(2.97%)	(10.29%)	(0.33%)	8.74%	7.87%
Absolute Return	**2.71%**	**7.95%**	**10.18%**	**4.05%**	**1.79%**
UBS AIS	2.71%	7.95%	10.18%	4.05%	1.79%
HFRI FOF: Conservative In	1.67%	0.10%	15.01%	(0.48%)	2.06%
Real Assets	**0.68%**	**(9.86%)**	**29.53%**	**(2.18%)**	**5.97%**
PIMCO All Asset	0.68%	(9.85%)	29.55%	(2.23%)	5.03%
Blmbg US TIPS 1-10	(2.36%)	(2.03%)	6.60%	5.75%	4.67%
Cash	**1.61%**	**0.35%**	**0.26%**	**1.75%**	**2.52%**
Cash Account	1.61%	0.35%	0.26%	1.75%	2.52%
3-month Treasury Bill	1.31%	0.17%	0.09%	1.63%	2.31%
Total Fund	**1.77%**	**(11.98%)**	**28.40%**	**2.76%**	**5.51%**
Total Fund Custom Benchmark*	1.07%	(11.91%)	25.66%	4.63%	6.36%
Annual Discount Rate:6.625%					

*Current Quarter Target = 35.0% Russell 3000 Index, 23.0% MSCI ACWI ex US, 19.0% Blmbg Aggregate, 8.0% HFRI FOF: Strategic Index, 6.0% Blmbg TIPS 1-10 Yr, 4.0% HFRI FOF: Conservative In, 3.0% Private Equity and 2.0% 3-month Treasury Bill.

Cumulative Performance versus Target

For Periods Ended December 31, 2022

Performance vs Callan Public Fund Spons- Mid (100M-1B) (Gross)



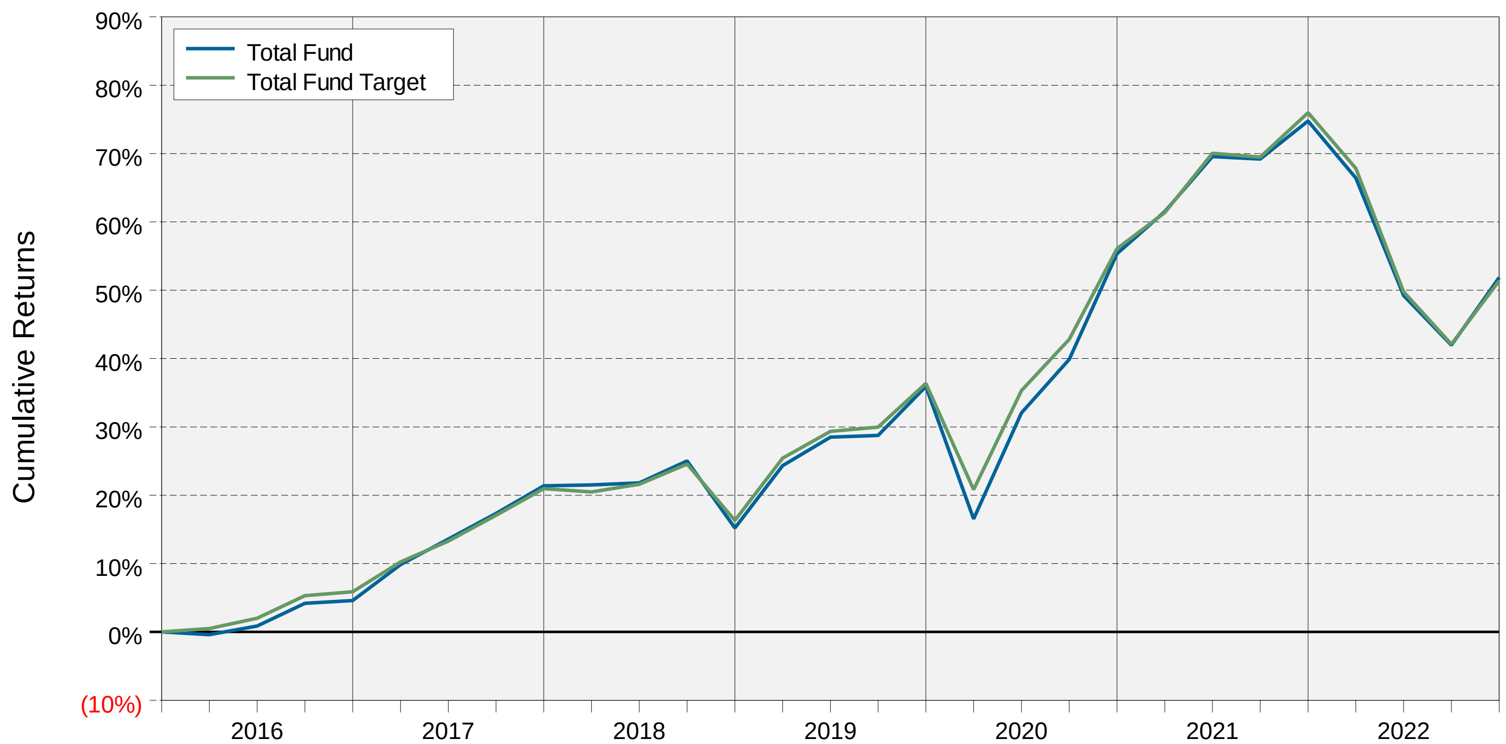
	Last Quarter	Fiscal YTD	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years	Last 31 Years
10th Percentile	7.58	2.33	(10.27)	5.78	6.52	7.95	8.19	8.28
25th Percentile	6.62	1.64	(11.56)	4.96	5.63	7.53	7.68	7.85
Median	5.63	1.01	(13.43)	3.79	5.06	6.79	7.22	7.63
75th Percentile	4.97	0.38	(14.76)	2.91	4.26	6.28	6.38	7.28
90th Percentile	4.46	(0.11)	(16.37)	1.58	3.48	5.73	5.72	7.16
Total Fund ●	6.97	1.77	(13.09)	3.77	4.59	6.15	6.32	7.47
Total Fund Custom Benchmark ▲	6.55	1.07	(13.97)	3.55	4.59	6.10	5.74	7.15

Current Quarter Target = 35.0% Russell 3000 Index, 23.0% MSCI ACWI ex US, 19.0% Blmbg Aggregate, 8.0% HFRI FOF: Strategic Index, 6.0% Blmbg TIPS 1-10 Yr, 4.0% HFRI FOF: Conservative In, 3.0% Private Equity and 2.0% 3-month Treasury Bill.

Cumulative Performance versus Target

For Periods Ended December 31, 2022

Cumulative Returns Actual vs Target



Performance Attribution

For Periods Ended December 31, 2022

Relative Attribution Effects for Quarter ended December 31, 2022

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	33%	35%	6.81%	7.18%	(0.12%)	(0.02%)	(0.14%)
Domestic Fixed Income	19%	19%	2.16%	1.87%	0.05%	0.02%	0.07%
International Equity	20%	23%	16.33%	14.28%	0.41%	(0.23%)	0.18%
Global Equity/Long Short	8%	8%	4.44%	2.72%	0.14%	(0.00%)	0.14%
Absolute Return	6%	4%	2.10%	1.46%	0.04%	(0.11%)	(0.07%)
Private Equity	5%	3%	0.00%	0.00%	0.00%	(0.16%)	(0.16%)
PIMCO All Asset	8%	6%	7.28%	1.64%	0.45%	(0.10%)	0.35%
Cash	1%	2%	1.00%	0.84%	0.00%	0.06%	0.06%
Total			**6.97% =**	**6.55% +**	**0.97% +**	**(0.55%)**	**0.43%**

One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	33%	35%	(18.99%)	(19.21%)	0.07%	0.03%	0.10%
Domestic Fixed Income	18%	19%	(13.81%)	(13.01%)	(0.15%)	(0.05%)	(0.20%)
International Equity	21%	23%	(13.35%)	(16.00%)	0.57%	(0.00%)	0.57%
Global Equity Long/Short	8%	8%	(12.37%)	(11.82%)	(0.05%)	0.01%	(0.04%)
Absolute Return	5%	4%	6.06%	0.09%	0.28%	0.13%	0.41%
Private Equity	5%	3%	4.02%	4.02%	0.00%	0.28%	0.28%
PIMCO All Asset Class	8%	6%	(11.53%)	(7.34%)	(0.35%)	0.13%	(0.22%)
Cash	1%	2%	1.87%	1.46%	0.00%	(0.03%)	(0.03%)
Total			**(13.09%) =**	**(13.97%) +**	**0.38% +**	**0.49%**	**0.87%**

Summary Observations

For Periods Ended December 31, 2022

- The total fund returned +6.97% for the quarter, -13.09% annualized for the trailing 1-year period, +3.77% annualized for the trailing 3-year period and +4.59% annualized for the trailing 5-year period. For the trailing 7-year period, the total fund returned +6.15%, annualized.

Fiscal Year 2023 Attribution - what helped:

- Relative performance of international equity manager (Artisan outperformed)
- Relative performance of PIMCO All Asset Class
- Relative performance of domestic equity manager (LSV outperformed)

Fiscal Year 2023 - what hurt:

- An underweight to international equity versus target
- An overweight to PIMCO All Asset versus target
- An underweight to domestic equity versus target

OPEB Performance

Actual versus Target Asset Allocation

For Periods Ended December 31, 2022

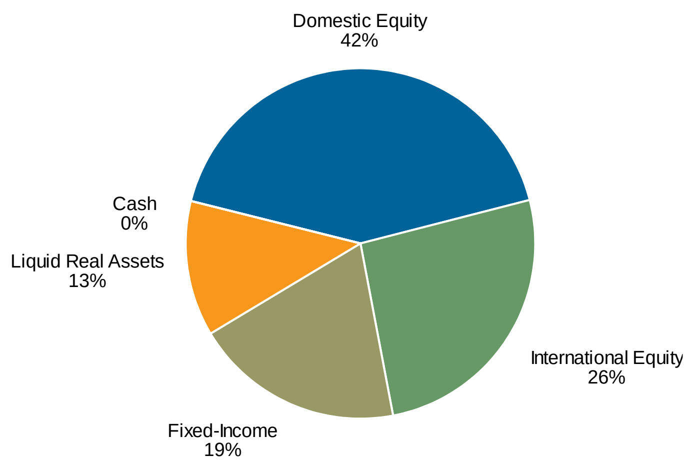
Overweight's:

- Domestic equity (42.1% vs 41% target)
- Liquid Real Assets (12.5% vs 12% target)

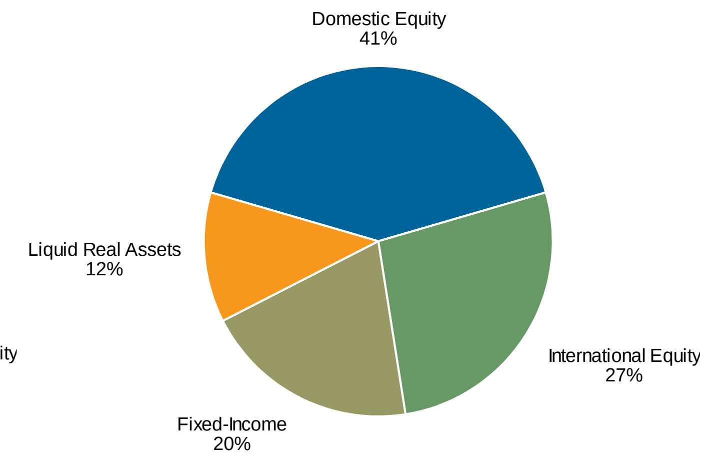
Underweights:

- International equity (26.0% actual versus 27% target)
- Fixed-Income (19.4% vs 20.0%)

Actual Asset Allocation



Target Asset Allocation



Asset Class	$000s Actual	Weight Actual	Target	Percent Difference	$000s Difference
Domestic Equity	50,075	42.1%	41.0%	1.1%	1,328
International Equity	30,872	26.0%	27.0%	(1.0%)	(1,229)
Fixed-Income	23,078	19.4%	20.0%	(0.6%)	(701)
Liquid Real Assets	14,866	12.5%	12.0%	0.5%	599
Cash	3	0.0%	0.0%	0.0%	3
Total	118,893	100.0%	100.0%		

Portfolio Holdings

For Periods Ended December 31, 2022

	December 31, 2022				September 30, 2022	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Total Equity	**$80,946,568**	**68.08%**	**$0**	**$7,304,702**	**$73,641,865**	**66.87%**
Domestic Equity	**$50,074,718**	**42.12%**	**$0**	**$3,344,142**	**$46,730,576**	**42.43%**
Vanguard Total Stock Mrkt	50,074,718	42.12%	0	3,344,142	46,730,576	42.43%
International Equity	**$30,871,849**	**25.97%**	**$0**	**$3,960,560**	**$26,911,289**	**24.43%**
Vanguard Total Intl Stock	30,871,849	25.97%	0	3,960,560	26,911,289	24.43%
Fixed Income	**$23,077,668**	**19.41%**	**$(4,579)**	**$453,706**	**$22,628,541**	**20.55%**
Metropolitan West Fund	8,347,106	7.02%	0	148,249	8,198,857	7.44%
Prudential Cons Core Bond Fnd	14,730,562	12.39%	(4,579)	305,458	14,429,684	13.10%
Liquid Real Assets	**$14,866,427**	**12.50%**	**$0**	**$1,009,410**	**$13,857,017**	**12.58%**
PIMCO All Assets	14,866,427	12.50%	0	1,009,410	13,857,017	12.58%
Cash	**$2,758**	**0.00%**	**$(4,310)**	**$52**	**$7,016**	**0.01%**
Short Term Fund	2,758	0.00%	(4,310)	52	7,016	0.01%
Total Fund	**$118,893,421**	**100.0%**	**$(8,889)**	**$8,767,871**	**$110,134,439**	**100.0%**

- Total fund increased to $118.9 million at the end of the quarter from $110.1 million as of September 30, 2022.

Portfolio Holdings

For Periods Ended December 31, 2022

	December 31, 2022					September 30, 2022		
	Market Value	Weight	(min)	Target	(max)	Market Value	Weight	Target
Total Equity	**$80,946,568**	**68.08%**	**53.00%**	**68.00%**	**83.00%**	**$73,641,865**	**66.87%**	**68.00%**
Domestic Equity	**$50,074,718**	**42.12%**	**31.00%**	**41.00%**	**51.00%**	**$46,730,576**	**42.43%**	**41.00%**
Vanguard Total Stock Mkt	50,074,718	42.12%				46,730,576	42.43%	
International Equity	**$30,871,849**	**25.97%**	**20.00%**	**27.00%**	**34.00%**	**$26,911,289**	**24.43%**	**27.00%**
Vanguard Total Int'l. Stock	30,871,849	25.97%				26,911,289	24.43%	
Fixed Income	**$23,077,668**	**19.41%**	**15.00%**	**20.00%**	**25.00%**	**$22,628,541**	**20.55%**	**20.00%**
Metropolitan West Fund	8,347,106	7.02%				8,198,857	7.44%	
Prudential Cons Core Bond	14,730,562	12.39%				14,429,684	13.10%	
Liquid Real Assets	**$14,866,427**	**12.50%**	**0.00%**	**12.00%**	**20.00%**	**$13,857,017**	**12.58%**	**12.00%**
PIMCO All Assets	14,866,427	12.50%				13,857,017	12.58%	
Cash	**$2,758**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**$7,016**	**0.01%**	**0.00%**
Short Term Fund	2,758	0.00%				7,016	0.01%	
Total Fund	**$118,893,421**	**100.0%**		**100.0%**		**$110,134,439**	**100.0%**	**100.0%**

Investment Manager Returns

For Periods Ended December 31, 2022

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years
Total Equity	**9.92%**	**(18.20%)**	**4.47%**	**5.77%**	**8.69%**
Domestic Equity	**7.16%**	**(19.51%)**	**6.98%**	**8.72%**	**10.98%**
Vanguard Total Stock Market (1)	7.16%	(19.51%)	6.98%	8.72%	10.98%
Vanguard Total Stock Benchmark (2)	7.15%	(19.49%)	6.99%	8.73%	10.99%
Russell 3000 Index	7.18%	(19.21%)	7.07%	8.79%	11.04%
International Equity	**14.72%**	**(15.98%)**	**0.53%**	**1.12%**	**5.05%**
Vanguard Total Int'l. Stock (3)	14.72%	(15.98%)	0.53%	1.12%	5.05%
Vanguard International Benchmark (4)	14.19%	(15.83%)	0.81%	1.40%	5.34%
MSCI ACWI ex US	14.28%	(16.00%)	0.07%	0.88%	4.80%
Fixed-Income	**2.01%**	**(13.69%)**	**(2.70%)**	**0.10%**	**1.09%**
Prudential Conservative Core Bond (5)	2.09%	(13.23%)	(2.81%)	(0.06%)	0.82%
Metropolitan West Fund	1.81%	(14.69%)	(2.71%)	0.17%	0.98%
Blmbg Aggregate Index	1.87%	(13.01%)	(2.71%)	0.02%	0.89%
Liquid Real Assets	**7.28%**	**(11.53%)**	**3.49%**	**3.40%**	**-**
PIMCO All Asset	7.28%	(11.53%)	3.49%	3.40%	6.23%
Blmbg US TIPS 1-10	1.64%	(7.34%)	2.01%	2.50%	2.63%
Cash	**0.76%**	**1.32%**	**0.80%**	**1.18%**	**1.02%**
Short Term Fund	0.76%	1.32%	0.80%	1.18%	1.02%
3-month Treasury Bill	0.84%	1.46%	0.72%	1.26%	1.07%
Total Fund	**7.96%**	**(16.57%)**	**3.24%**	**4.51%**	**6.75%**
Total Fund Benchmark*	7.44%	(15.44%)	3.28%	4.57%	6.45%

Annual Discount Rate:6.5%

* Current Quarter Target = 41.0% Russell 3000 Index, 27.0% MSCI ACWI ex US, 20.0% Blmbg Aggregate and 12.0% Blmbg:TIPS 1-10 Yr.
(1) Vanguard Total Stock Market switched to Admiral Shares from Signal Shares in October 2014. In November 2014 switched to institutional shares.
(2) Vanguard Total Stock Market Benchmark was US Broad Market Index switched to CRSP U.S. Total Market Index Jun. 2013
(3) Vanguard Total Int'l. Stock switched to Institutional Shares from Investor Shares on November 30, 2014
(4) Vanguard Total International Benchmark was MSCI ACWI ex US IMI switched to FTSE Global All Cap ex US Index Jun. 2013.
(5) February 8, 2017 fund switched to Institutional Trust.

Investment Manager Returns – Fiscal Years

For Periods Ended December 31, 2022

	6/2022-12/2022	FY 2022	FY 2021	FY 2020	FY 2019
Total Equity	**2.49%**	**(16.08%)**	**41.24%**	**2.43%**	**5.80%**
Domestic Equity	**2.38%**	**(14.24%)**	**44.33%**	**6.47%**	**9.00%**
Vanguard Total Stock Market (1)	2.38%	(14.24%)	44.33%	6.47%	9.00%
Vanguard Total Stock Benchmark (2)	2.39%	(14.22%)	44.35%	6.47%	9.00%
Russell 3000 Index	2.40%	(13.87%)	44.16%	6.53%	8.98%
International Equity	**2.66%**	**(18.92%)**	**36.54%**	**(4.07%)**	**0.62%**
Vanguard Total Int'l. Stock (3)	2.66%	(18.92%)	36.54%	(4.07%)	0.62%
Vanguard International Benchmark (4)	3.24%	(19.01%)	37.55%	(4.16%)	0.81%
MSCI ACWI ex US	2.96%	(19.42%)	35.72%	(4.80%)	1.29%
Fixed-Income	**(3.07%)**	**(10.95%)**	**0.45%**	**8.94%**	**8.04%**
Prudential Cons Core Bond Fnd (5)	(2.88%)	(10.70%)	(0.16%)	8.65%	7.80%
Metropolitan West Fund	(3.51%)	(11.56%)	1.36%	9.18%	8.23%
Blmbg Aggregate Index	(2.97%)	(10.29%)	(0.33%)	8.74%	7.87%
Liquid Real Assets	**0.68%**	**(9.85%)**	**29.55%**	**(2.23%)**	**5.03%**
PIMCO All Asset	0.68%	(9.85%)	29.55%	(2.23%)	5.03%
Blmbg US TIPS 1-10	(2.36%)	(2.03%)	6.60%	5.75%	4.67%
Cash	**1.17%**	**0.16%**	**0.09%**	**1.78%**	**2.00%**
Short Term Fund	1.17%	0.16%	0.09%	1.78%	2.00%
3-month Treasury Bill	1.31%	0.17%	0.09%	1.63%	2.31%
Total Fund	**1.13%**	**(14.34%)**	**31.50%**	**3.26%**	**6.24%**
Total Fund Benchmark*	1.11%	(13.16%)	27.43%	4.85%	6.71%

Annual Discount Rate:6.5%

* Current Quarter Target = 41.0% Russell 3000 Index, 27.0% MSCI ACWI ex US, 20.0% Blmbg Aggregate and 12.0% Blmbg:TIPS 1-10 Yr.
(1) Vanguard Total Stock Market switched to Admiral Shares from Signal Shares in October 2014. In November 14th, 2014 switched to Institutional shares.
(2) Vanguard Total Stock Market Benchmark was US Broad Market Index switched to CRSP U.S. Total Market Index Jun. 2013
(3) Vanguard Total Int'l. Stock switched to Institutional Shares from Investor Shares in November 30, 2014
(4) Vanguard Total International Benchmark was MSCI ACWI ex US IMI switched to FTSE Global All Cap ex US Index Jun. 2013.
(5) February 8, 2017 fund switched to Institutional Trust.

Performance Attribution

For Periods Ended December 31, 2022

Relative Attribution Effects for Quarter ended December 31, 2022

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	43%	41%	7.16%	7.18%	(0.01%)	(0.04%)	(0.06%)
Fixed-Income	20%	20%	2.01%	1.87%	0.03%	(0.04%)	(0.02%)
International Equity	25%	27%	14.72%	14.28%	0.09%	(0.16%)	(0.07%)
Real Assets	12%	12%	7.28%	1.64%	0.70%	(0.03%)	0.67%
Cash	0%	0%	0.76%	0.76%	0.00%	(0.00%)	(0.00%)
Total			**7.96% =**	**7.44% +**	**0.81% +**	**(0.28%)**	**0.52%**

One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	43%	41%	(19.51%)	(19.21%)	(0.14%)	(0.16%)	(0.30%)
Fixed-Income	19%	20%	(13.69%)	(13.01%)	(0.13%)	(0.12%)	(0.26%)
International Equity	25%	27%	(15.98%)	(16.00%)	0.00%	(0.04%)	(0.04%)
Real Assets	12%	12%	(11.53%)	(7.34%)	(0.53%)	0.00%	(0.53%)
Cash	0%	0%	1.32%	1.32%	0.00%	0.00%	0.00%
Total			**(16.57%) =**	**(15.44%) +**	**(0.80%) +**	**(0.33%)**	**(1.12%)**

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