## Callan

December 31, 2022 Mendocino County Employees' Retirement Association

Investment Measurement Service Quarterly Review

## Table of ContentsDecember 31, 2022

Active Management Overview	
Foreword	2
Domestic Equity Overview	3
International Equity Overview	4
Domestic Fixed-Income Overview	5

#### Asset Allocation and Performance

Foreword	7
Actual vs. Target Asset Allocation	8
Investment Manager Returns	10
Quarterly Total Fund Attribution	16
Total Fund Ranking	21
Total Fund vs. Callan Public Fund Sponsor Database	22

#### **Domestic Equity**

Domestic Equity Composite	26
Vanguard S&P 500 Index	30
Fidelity Low Priced Stock	33
Janus Enterprise	36
Prudential Small Cap Value	39
AB US Small Growth	42

#### **International Equity**

International Equity Composite	46
EuroPacific	51
Harbor International	55
Oakmark International	59
Mondrian International	63
T. Rowe Price Intl Small Cap	67
NinetyOne	71

# Domestic Fixed Income76Dodge & Cox Income79PIMCO82

## Infrastructure 86 JP Morgan Infrastructure 87

## Table of ContentsDecember 31, 2022

Real Estate	
Real Estate Composite	89
RREEF Private	90
Barings Core Property Fund	91
Capital Markets Review	92
Callan Research/Education	108
Definitions	
General definitions	112
Disclosures	118

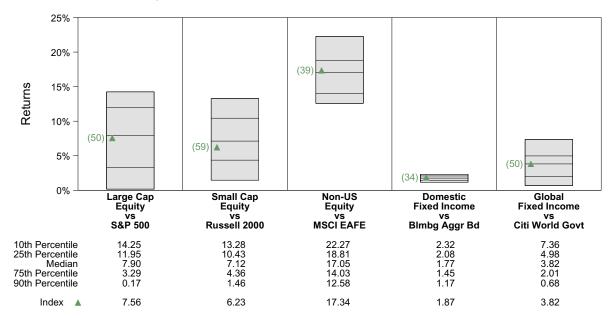
Active Management Overview

#### Market Overview Active Management vs Index Returns

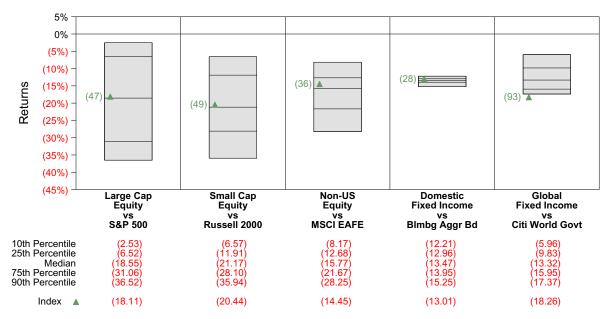
#### Market Overview

The charts below illustrate the range of returns across managers in Callan's Mutual Fund 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 Mutual Fund Returns by Asset Class One Quarter Ended December 31, 2022

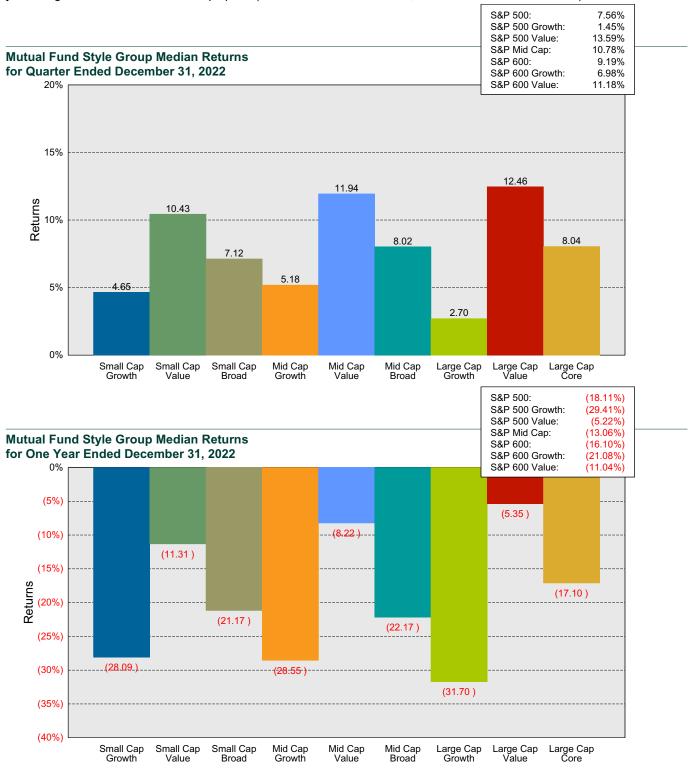


#### Range of Mutual Fund Returns by Asset Class One Year Ended December 31, 2022



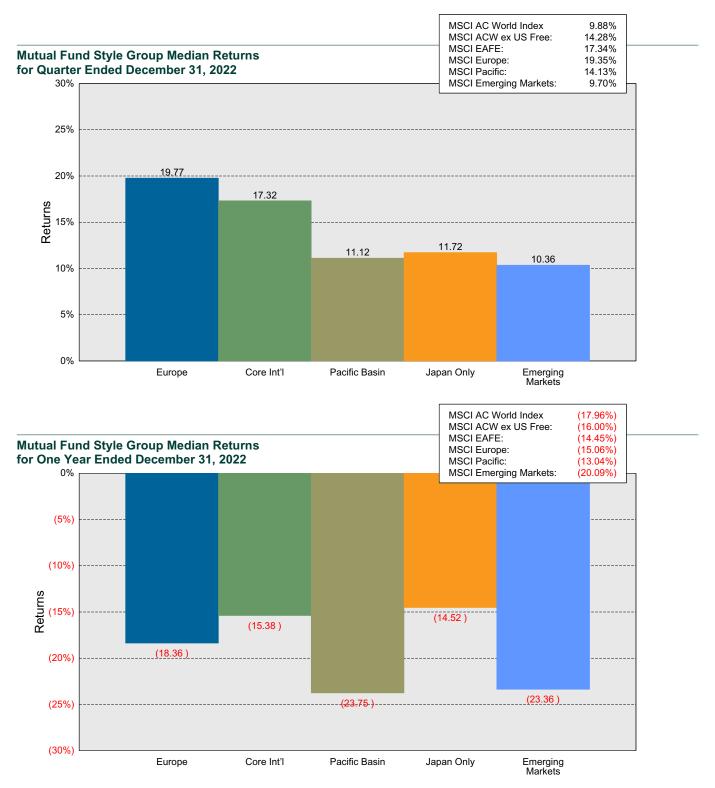
#### Domestic Equity Active Management Overview

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%).



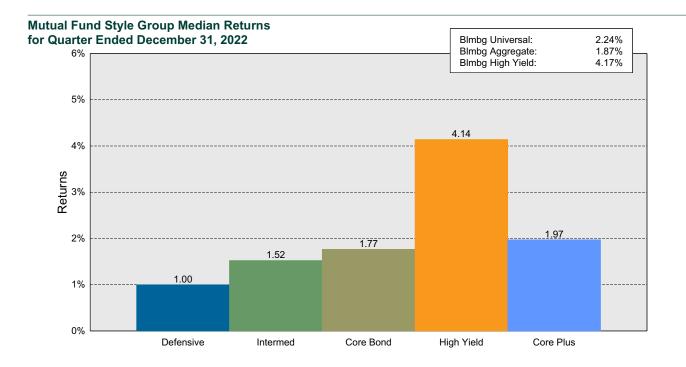
#### International Equity Active Management Overview

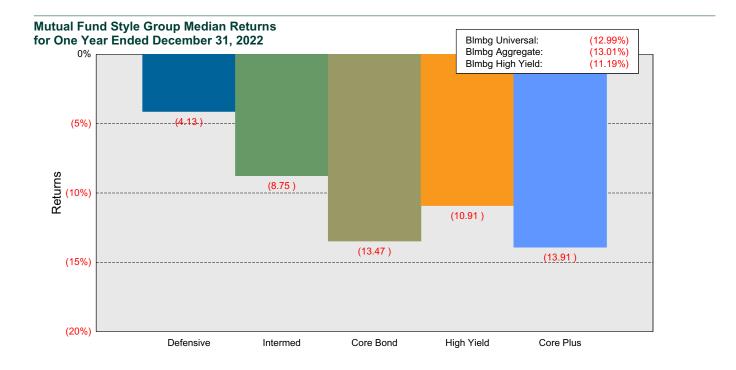
Global ex-U.S. markets posted strong results, and currency appreciation vs. the U.S. dollar further bolstered returns. The MSCI ACWI ex USA Index gained 14.3% (Local: +7.8%), reducing its YTD loss to 16.0% (Local: -9.6%). Across developed market countries, gains were broad-based and value outpaced growth, 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.



#### 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.





Asset Allocation and Performance

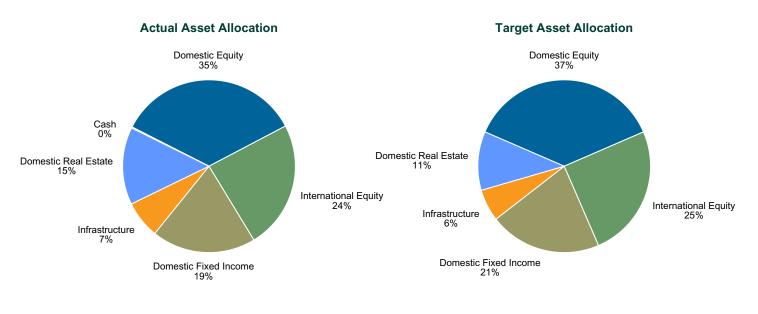
#### ASSET ALLOCATION AND PERFORMANCE

#### 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.

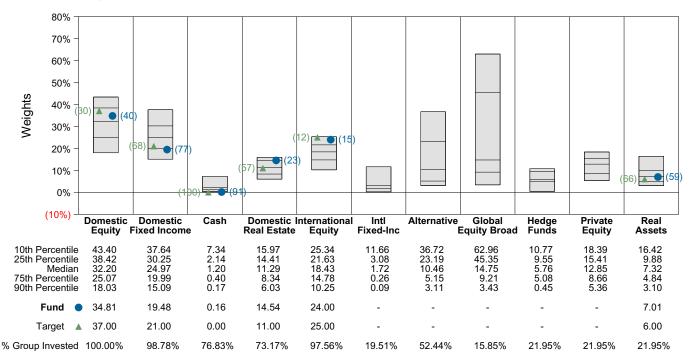
#### Actual vs Target Asset Allocation As of December 31, 2022

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 Sponsor Database.



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equity	214,056	34.8%	37.0%	(2.2%)	(13,459)
International Equity	147,553	24.0%	25.0%	(1.0%)	(6,174)
Domestic Fixed Income	119,812	19.5%	21.0%	(1.5%) 1.0%	( <mark>9,318</mark> ) 6,181
Infrastructure	43,075	7.0%	6.0%		6,181
Domestic Real Estate	89,413	14.5%	11.0%	3.5%	21,773 997
<u>Cash</u>	997	0.2%	0.0%	0.2%	997
Total	614,905	100.0%	100.0%		

Asset Class Weights vs Callan Public Fund Sponsor Database



#### **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.

	December 3	1, 2022			September 3	0, 2022
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Domestic Equities	\$214,055,608	34.81%	\$(7,850,000)	\$16,633,708	\$205,271,900	35.10%
Large Cap Equities	\$150,314,951	24.45%	\$(5,850,000)	\$10,943,564	\$145,221,387	24.83%
Vanguard S&P 500 Index	150,314,951	24.45%	(5,850,000)	10,943,564	145,221,387	24.83%
Mid Cap Equities	\$33,140,925	5.39%	\$(2,000,000)	\$3,653,089	\$31,487,836	5.38%
Fidelity Low Price Stocks	16,290,709	2.65%	(2,000,000)	2,185,934	16,104,775	2.75%
Janus Enterprise	16,850,216	2.74%	0	1,467,155	15,383,061	2.63%
Small Cap Equities	\$30,599,732	4.98%	\$0	\$2,037,056	\$28,562,676	4.88%
Prudential Small Cap Value	16,320,862	2.65%	0	1,610,593	14,710,269	2.52%
AB Small Cap Growth	14,278,870	2.32%	0	426,463	13,852,407	2.37%
International Equities	\$147,552,564	24.00%	\$0	\$20,982,605	\$126,569,960	21.64%
Europacific	25,489,013	4.15%	(2,400,000)	3,357,795	24,531,217	4.19%
Harbor International	29,278,072	4.76%	(3,600,000)	5,326,640	27,551,432	4.71%
Oakmark International	29,469,269	4.79%	Ó	5,260,902	24,208,368	4.14%
Mondrian International	27,196,426	4.42%	3,500,000	3,666,717	20,029,709	3.43%
T. Rowe Price Intl Small Cap	22,679,369	3.69%	2,500,000	2,411,153	17,768,216	3.04%
NinetyOne	13,440,416	2.19%	0	959,398	12,481,018	2.13%
Domestic Fixed Income	\$119,811,541	19.48%	\$0	\$2,653,721	\$117,157,820	20.03%
Dodge & Cox Income	60,590,225	9.85%	0	1,624,661	58,965,564	10.08%
PIMČO	59,221,316	9.63%	0	1,029,060	58,192,256	9.95%
Infrastructure	\$43,075,143	7.01%	\$0	\$682,881	\$42,392,262	7.25%
IFM Global Infrastructure	18,712,842	3.04%	0	682,881	18,029,962	3.08%
JP Morgan Infrastructure	24,362,300	3.96%	0	0	24,362,300	4.17%
Real Estate	\$89,412,760	14.54%	\$(293,897)	\$(3,191,032)	\$92,897,689	15.89%
RREEF Private Fund	45,913,675	7.47%	Ó	(1,780,710)	47,694,385	8.16%
Barings Core Property Fund	41,749,085	6.79%	(270,635)	(1,433,584)	43,453,304	7.43%
625 Kings Court	1,750,000	0.28%	(23,262)	23,262	1,750,000	0.30%
Cash	\$997,119	0.16%	\$483,727	\$0	\$513,392	0.09%
Total Fund	\$614,904,735	100.0%	\$(7,660,170)	\$37,761,881	\$584,803,023	100.0%

#### **Asset Distribution Across Investment Managers**

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 Equties	8.13%	(18.04%)	8.08%	9.00%	11.27%
Russell 3000 Index	7.18%	(19.21%)	7.07%	8.79%	11.04%
Large Cap Equities					
Vanguard S&P 500 Index	7.55%	(18.13%)	7.64%	9.40%	11.45%
S&P 500 Index	7.56%	(18.11%)	7.66%	9.42%	11.48%
Mid Cap Equities					
Fidelity Low Priced Stock	14.10%	(5.80%)	8.64%	7.54%	9.50%
Russell MidCap Value Idx	10.45%	(12.03%)	5.82%	5.72%	8.73%
Janus Enterprise (1)	9.54%	(15.94%)	5.96%	9.82%	12.42%
Russell MidCap Growth Idx	6.90%	(26.72%)	3.85%	7.64%	9.95%
Small Cap Equities					
Prudential Small Cap Value (2)	10.95%	(11.12%)	6.94%	3.40%	7.75%
MSCI US Small Cap Value Idx	11.12%	(9.64%)	6.39%	5.10%	8.65%
Russell 2000 Value Index	8.42%	(14.48%)	4.70%	4.13%	8.23%
AB US Small Growth (3)	3.08%	(38.85%)	1.12%	6.97%	10.58%
Russell 2000 Growth Index	4.13%	(26.36%)	0.65%	3.51%	7.09%

#### (1) Switched share class in July 2016.

(2) Switched share class in September 2015.

(3) Switched to a mutual fund in September 2015.



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 10 Years	Last 15 Years			
Domestic Equties Russell 3000 Index	<b>12.30%</b> 12.13%	<b>8.92%</b> 8.66%			
Mid Cap Equities Fidelity Low Priced Stock Russell MidCap Value Idx Janus Enterprise (1) Russell MidCap Growth Idx	10.50% 10.11% 13.16% 11.41%	8.59% 7.96% 9.84% 8.61%			
Small Cap Equities					
AB US Small Growth (2) Russell 2000 Growth Index	11.27% 9.20%	9.56% 7.26%			

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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.

	Last	Last	Last 3	Last 5	Last 7
	Quarter	Year	Years	Years	Years
International Equities	16.26%	(18.53%)	0.03%	0.39%	4.30%
MSCI ACWI ex-US Index	14.37%	(15.57%)	0.53%	1.36%	5.30%
EuroPacific	13.78%	(22.73%)	(0.15%)	1.54%	5.24%
Harbor International (1)	19.42%	(13.71%)	1.68%	1.14%	3.88%
Oakmark International (2)	21.73%	(15.40%)	(0.63%)	(1.39%)	4.00%
Mondrian International	15.93%	(12.66%)	(2.26%)	(0.70%)	3.05%
MSCI EAFE Index	17.34%	(14.45%)	0.87%	1.54%	4.53%
MSCI ACWI ex-US Index	14.37%	(15.57%)	0.53%	1.36%	5.30%
T. Rowe Price Intl Small Cap	12.32%	(29.51%)	1.90%	1.89%	-
MSCI ACWI ex US Small Cap	13.31%	(19.97%)	1.07%	0.67%	5.08%
NinetyOne	7.47%	(22.66%)	(3.53%)	(1.78%)	-
MSCI Emerging Markets Index	9.70%	(20.09%)	(2.69%)	(1.39%)	5.17%
Domestic Fixed Income	2.27%	(12.50%)	(1.78%)	0.59%	1.67%
BImbg Aggregate Index	1.87%	(13.01%)	(2.71%)	0.02%	0.89%
Dodge & Cox Income	2.76%	(10.88%)	(1.13%)	1.12%	2.21%
PIMČO	1.77%	(14.09%)	(2.48%)	0.03%	1.10%
BImbg Aggregate Index	1.87%	(13.01%)	(2.71%)	0.02%	0.89%
Infrastructure	1.61%	7.52%	-	-	-
IFM Global Infrastructure	3.79%	8.17%	-	-	-
JP Morgan Infrastructure	0.00%	7.05%	-	-	-
NFI-ODCE Equal Weight Net	(5.08%)	7.56%	9.72%	8.31%	8.12%
	(2.440())	4.000/	0.000/	7 0 49/	7 66%
Real Estate	<b>(3.44%)</b>	<b>4.98%</b>	8.80%	<b>7.94%</b>	7.66%
Real Estate Custom Benchmark (3)(4)		7.56%	9.72%	8.31%	8.16%
RREEF Private	(3.73%)	7.65%	10.48%	9.01%	8.49%
Barings Core Property Fund	(3.30%)	2.21%	6.63%	6.45%	6.78%
NFI-ODCE Equal Weight Net	(5.08%)	7.56%	9.72%	8.31%	8.12%
625 Kings Court	1.33%	5.29%	16.94%	15.59%	16.21%
Total Fund	6.48%	(12.91%)	4.90%	5.31%	7.35%
Total Fund Benchmark*	5.78%	(12.25%)	4.67%	5.58%	7.50%
	0.1070	(12.2070)	7.07 /0	0.0070	1.507

\* Current Quarter Target = 37.0% Russell 3000 Index, 25.0% MSCI ACWI xUS GD, 21.0% Blmbg Aggregate, 11.0% NCREIF NFI-ODCE Eq Wt Net and 6.0% NCREIF NFI-ODCE Eq Wt Net.

(1) Switched share class in June 2016.

(2) Switched to CIT in November 2015.

(3) Real Estate Custom Benchmark is 50% NAREIT Composite Index and 50% NFI-ODCE Equal Wt Net through 12/31/2011;
20% NAREIT Composite Index and 80% NFI-ODCE Equal Wt Net through 12/31/2016 and NFI-ODCE Equal Wt Net thereafter.
(4) 3Q benchmark performance has been carried over from 2Q 2020.

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.

	Last	Last	
	10	15	
	Years	Years	
International Equities	3.71%	2.10%	
MSCI ACWI ex-US Index	4.28%	1.47%	
EuroPacific	5.30%	3.13%	
Harbor International (1)	3.18%	1.80%	
Oakmark International (2)	4.45%	4.14%	
Mondrian International	2.82%	-	
MSCI EAFE Index	4.67%	1.81%	
MSCI ACWI ex-US Index	4.28%	1.99%	
Domestic Fixed Income	1.61%	3.45%	
BImbg Aggregate Index	1.06%	2.66%	
Dodge & Cox Income	2.09%	3.88%	
PIMCO	1.11%	-	
BImbg Aggregate Index	1.06%	2.66%	
Real Estate	9.02%	5.97%	
Real Estate Custom Benchmark (3)(4)	9.37%	6.94%	
RREEF Private	10.12%	5.91%	
Barings Core Property Fund	7.87%	-	
NFI-ODCE Equal Weight Net	9.46%	5.38%	
625 Kings Court	16.76%	10.52%	
Total Fund	7.49%	6.03%	
Total Fund Benchmark*	7.54%	5.90%	

\* Current Quarter Target = 37.0% Russell 3000 Index, 25.0% MSCI ACWI xUS GD, 21.0% Blmbg Aggregate, 11.0% NCREIF NFI-ODCE Eq Wt Net and 6.0% NCREIF NFI-ODCE Eq Wt Net.

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	2022	2021	2020	2019	2018
Domestic Equties	(18.04%)	27.45%	20.87%	29.71%	(6.04%)
Russell 3000 Index	(19.21%)	25.66%	20.89%	31.02%	(5.24%)
Large Cap Equities					
Vanguard S&P 500 Index	(18.13%)	28.69%	18.39%	31.46%	(4.42%)
S&P 500 Index	(18.11%)	28.71%	18.40%	31.49%	(4.38%)
Mid Cap Equities					
Fidelity Low Priced Stock	(5.80%)	24.52%	9.32%	25.66%	(10.75%)
Russell MidCap Value Idx	(12.03%)	28.34%	4.96%	27.06%	(12.29%)
Janus Enterprise (1)	(15.94%)	17.50%	20.44%	35.40%	(0.81%)
Russell MidCap Growth Idx	(26.72%)	12.73%	35.59%	35.47%	(4.75%)
Small Cap Equities					
Prudential Small Cap Value (2)	(11.12%)	41.79%	(2.96%)	19.09%	(18.82%)
MSCI US Small Cap Value Idx	(9.64%)	30.61%	2.04%	22.29%	(12.94%)
Russell 2000 Value Index	(14.48%)	28.27%	4.63%	22.39%	(12.86%)
AB US Small Growth (3)	(38.85%)	9.72%	54.10%	36.26%	(0.60%)
Russell 2000 Growth Index	(26.36%)	2.83%	34.63%	28.48%	(9.31%)

(1) Switched share class in July 2016.

(2) Switched share class in September 2015.

(3) Switched to a mutual fund in September 2015.



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	2022	2021	2020	2019	2018
International Equities	(18.53%)	6.37%	15.49%	23.32%	(17.36%)
MSCI ACWI ex-US Index	(15.57%)	8.29%	11.13%	22.13%	(13.77%)
EuroPacific	(22.73%)	2.84%	25.27%	27.40%	(14.91%)
Harbor International (1)	(13.71%)	9.60%	11.17%	22.63%	(17.89%)
Oakmark International (2)	(15.40%)	8.38%	7.03%	24.23%	(23.51%)
Mondrian International	(12.66%)	6.51%	0.36%	18.48%	(12.71%)
MSCI EAFE Index	(14.45%)	11.26%	7.82%	22.01%	(13.79%)
MSCI ACWI ex-US Index	(15.57%)	8.29%	11.13%	22.13%	(13.77%)
T. Rowe Price Intl Small Cap	(29.51%)	8.25%	38.67%	25.96%	(17.63%)
MSCI ACWI ex US Small Cap	(19.97%)	12.93%	14.24%	22.42%	(18.20%)
NinetyOne	(22.66%)	(0.28%)	16.41%	20.91%	(15.80%)
MSCI Emerging Markets Index	(20.09%)	(2.54%)	18.31%	18.44%	(14.57%)
Domestic Fixed Income	(12.50%)	(0.88%)	9.27%	9.00%	(0.28%)
Blmbg Aggregate Index	(13.01%)	(1.54%)	7.51%	8.72%	0.01%
Dodge & Cox Income	(10.88%)	(0.91%)	9.45%	9.73%	(0.31%)
PIMCO	(10.88%)	(0.84%)	9.45% 8.88%	9.73% 8.26%	(0.31%)
Blmbg Aggregate Index	(14.09%)	(1.54%)	7.51%	8.72%	0.01%
nfrastructure	7.52%	-	-	-	-
IFM Global Infrastructure	8.17%	-	-	-	-
JP Morgan Infrastructure	7.05%	-	-	-	-
Real Estate	4.98%	22.04%	0.54%	6.42%	6.90%
Real Estate Custom Benchmark (3)(4		21.88%	0.75%	5.18%	7.30%
RREEF Private	7.65%	23.88%	1.12%	6.26%	7.41%
Barings Core Property Fund	2.21%	18.98%	(0.32%)	6.02%	6.34%
NFI-ODCE Equal Weight Net	7.56%	21.88%	0.75%	5.18%	7.30%
625 Kings Court	7.56% 5.29%	44.26%	0.75% 5.27%	20.04%	7.51%
Total Fund	(12.91%)	14.54%	15.70%	20.48%	(6.87%)
Total Fund Benchmark*	(12.25%)	14.32%	14.31%	20.50%	(5.07%)

\* Current Quarter Target = 37.0% Russell 3000 Index, 25.0% MSCI ACWI xUS GD, 21.0% Blmbg Aggregate, 11.0% NCREIF NFI-ODCE Eq Wt Net and 6.0% NCREIF NFI-ODCE Eq Wt Net.

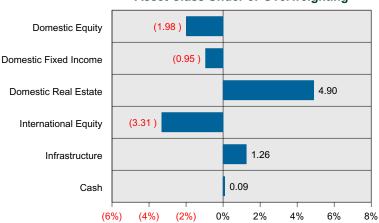
(1) Switched share class in June 2016.

(2) Switched to CIT in November 2015.

(3) Real Estate Custom Benchmark is 50% NAREIT Composite Index and 50% NFI-ODCE Equal Wt Net through 12/31/2011;
20% NAREIT Composite Index and 80% NFI-ODCE Equal Wt Net through 12/31/2016 and NFI-ODCE Equal Wt Net thereafter.
(4) 3Q benchmark performance has been carried over from 2Q 2020.

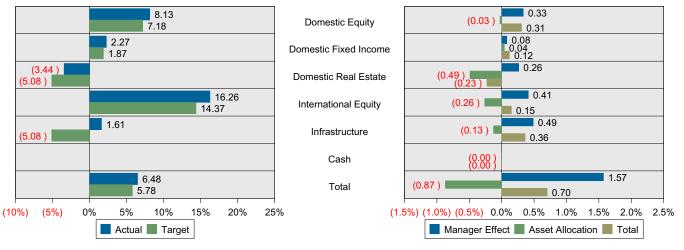
#### **Quarterly Total Fund Relative Attribution - December 31, 2022**

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 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	35%	37%	8.13%	7.18%	0.33%	(0.03%)	0.31%
Domestic Fixed Incom		21%	2.27%	1.87%	0.08%	0.04%	0.12%
Domestic Real Estate	16%	11%	(3.44%)	(5.08%)	0.26%	(0.49%)	<mark>(0.23%)</mark> 0.15%
International Equity	22%	25%	16.26%	14.37%	0.41%	(0.26%)	0.15%
Infrastructure	7%	6%	1.61%	(5.08%)	0.49%	(0.13%)	0.36%
Cash	0%	0%	0.00%	0.00%	0.00%	(0.00%)	(0.00%)
r						· · ·	
Total			6.48% =	5.78% -	+ 1.57% +	(0.87%)	0.70%

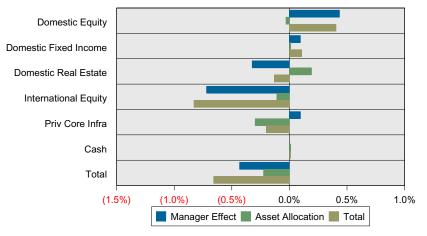
\* Current Quarter Target = 37.0% Russell 3000 Index, 25.0% MSCI ACWI xUS GD, 21.0% Blmbg Aggregate, 11.0% NCREIF NFI-ODCE Eq Wt Net and 6.0% NCREIF NFI-ODCE Eq Wt Net.

**Relative Attribution by Asset Class** 

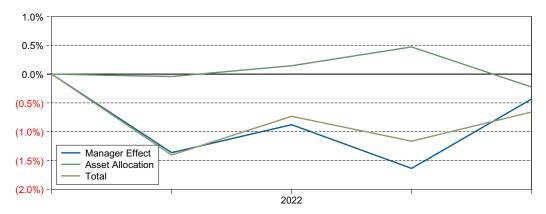
#### Cumulative Total Fund Relative Attribution - December 31, 2022

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**



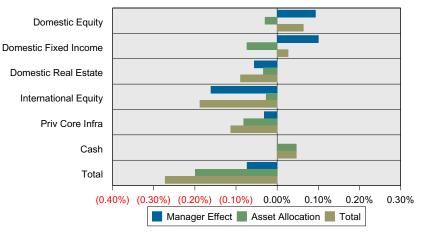
#### **One Year Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	36%	37%	(18.05%)	(19.21%)	0.43%	(0.03%)	0.41%
Domestic Fixed Incom	e 20%	21%	(12.50%)	(13.01%)	0.10%	0.01%	0.11%
Domestic Real Estate	14%	11%	<b>4.98%</b>	7.56%	(0.32%)	0.19%	(0.13%)
International Equity	24%	25%	(18.53%)	(15.57%)	(0.72%)	(0.11%)	(0.83%)
Priv Core Infra	6%	6%	7.52%	7.56%	0.10%	(0.30%)	(0.20%)
Cash	0%	0%	0.00%	0.00%	0.00%	0.01%	0.01%
Total			(12.91%) =	(12.25%) +	(0.43%) +	(0.22%)	(0.66%)

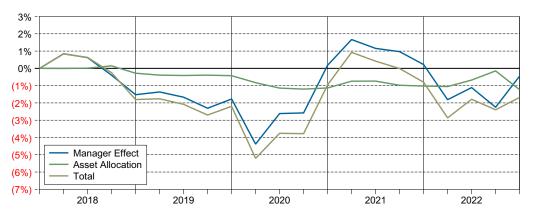
#### Cumulative Total Fund Relative Attribution - December 31, 2022

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**



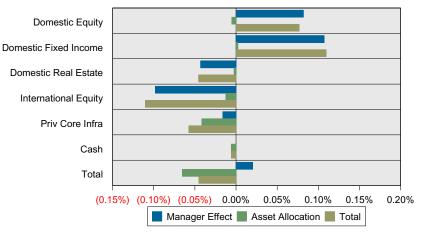
#### **Five Year Annualized Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	38%	38%	9.00%	8.79%	0.09%	(0.03%)	0.06%
Domestic Fixed Income	e 21%	22%	0.59%	0.02%	0.10%	(0.07%)	0.03%
Domestic Real Estate	12%	11%	7.94%	8.31%	(0.06%)	(0.03%)	(0.09%)
International Equity	27%	28%	0.39%	1.36%	(0.16%)	(0.03%)	(0.19%)
Priv Core Infra	2%	2%	-	-	(0.03%)	(0.08%)	(0.11%)
Cash	0%	0%	(0.00%)	(0.00%)	0.00%	0.05%	0.05%
Total			5.30% =	5.58%	+ (0.07%) +	(0.20%)	(0.27%)

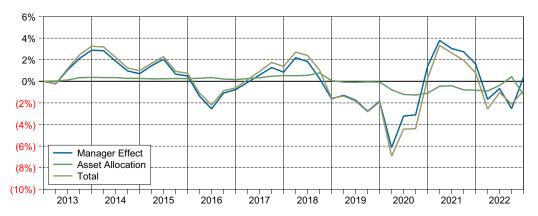
#### Cumulative Total Fund Relative Attribution - December 31, 2022

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.

#### **Ten Year Annualized Relative Attribution Effects**



#### **Cumulative Relative Attribution Effects**

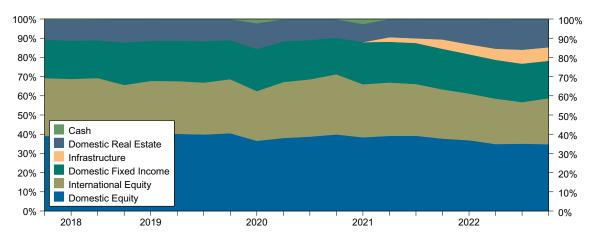


#### **Ten Year Annualized Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	39%	38%	12.29%	12.13%	0.08%	(0.01%)	0.08%
Domestic Fixed Incom	e 23%	24%	1.61%	1.06%	0.11%	0.00%	0.11%
Domestic Real Estate	10%	10%	9.02%	9.37%	(0.04%)	(0.00%)	(0.05%)
International Equity	27%	27%	3.71%	4.28%	(0.10%)	(0.01%)	(0.11%)
Priv Core Infra	1%	1%	-	-	(0.02%)	(0.04%)	(0.06%)
Cash	0%	0%	0.00%	0.00%	0.00%	(0.01%)	(0.01%)
Total			7.49% =	7.54%	+ 0.02% +	(0.07%)	(0.05%)

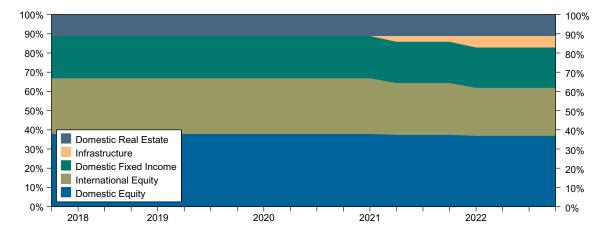
#### **Actual vs Target Historical Asset Allocation**

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, the fund's historical target asset allocation, and the historical asset allocation of the average fund in the Callan Public Fund Sponsor Database.

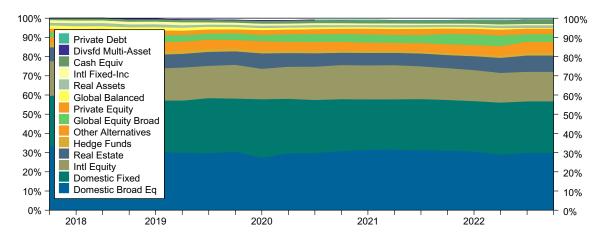


#### **Actual Historical Asset Allocation**

#### **Target Historical Asset Allocation**



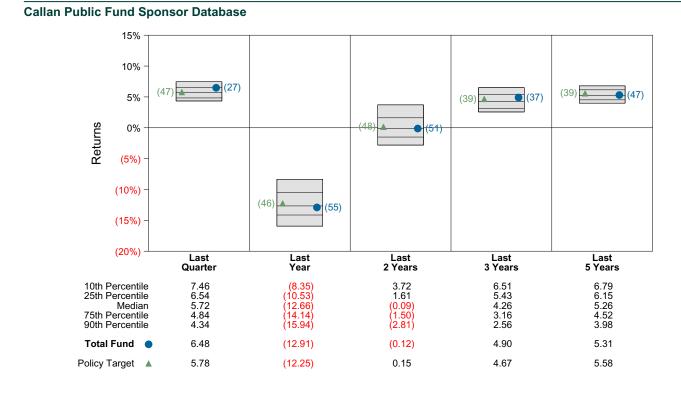
#### Average Callan Public Fund Sponsor Database Historical Asset Allocation



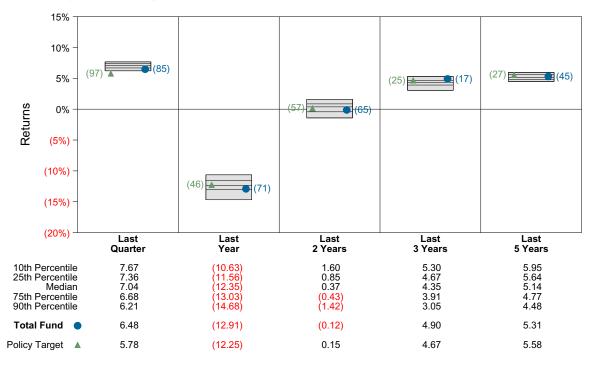


#### **Total Fund Ranking**

The first two charts show the ranking of the Total Fund's performance relative to that of the Callan Public Fund Sponsor Database for periods ended December 31, 2022. The first chart is a standard unadjusted ranking. In the second chart each fund in the database is adjusted to have the same historical asset allocation as that of the Total Fund.



#### Asset Allocation Adjusted Ranking



#### Total Fund Period Ended December 31, 2022

#### **Investment Philosophy**

The Public Fund Sponsor Database consists of public employee pension total funds including both Callan LLC client and surveyed non-client funds.

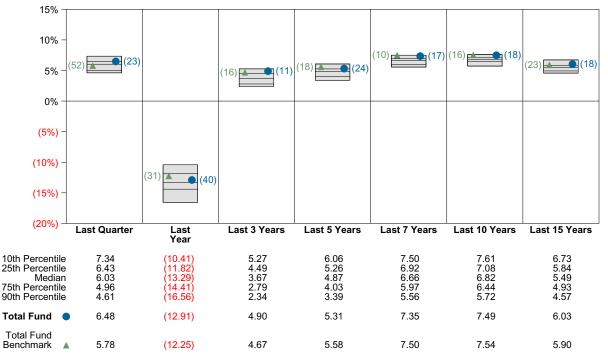
#### **Quarterly Summary and Highlights**

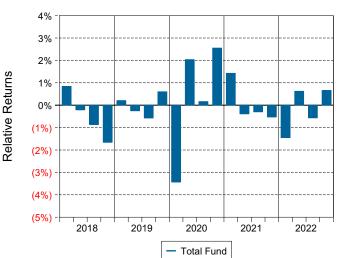
• Total Fund's portfolio posted a 6.48% return for the quarter placing it in the 23 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 40 percentile for the last year.

•	Total	Fund's	portfolio	outperformed	the	Total	Fund
	Bench	mark by	0.70% for	the quarter an	nd un	derperf	ormed
the Total Fund Benchmark for the year by 0.65%.							

Quarterly Asset Growth						
Beginning Market Value	\$584,803,023					
Net New Investment	\$-7,660,170					
Investment Gains/(Losses)	\$37,761,881					
Ending Market Value	\$614,904,735					

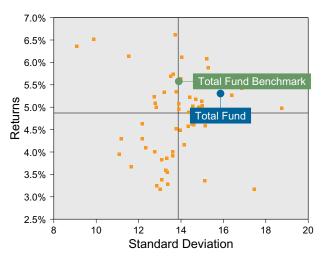
#### Performance vs Callan Public Fund Sponsor Database (Net)





#### **Relative Return vs Total Fund Benchmark**

#### Callan Public Fund Sponsor Database (Net) Annualized Five Year Risk vs Return

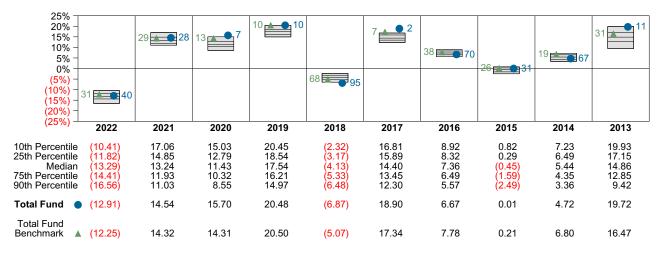


#### Total Fund Return Analysis Summary

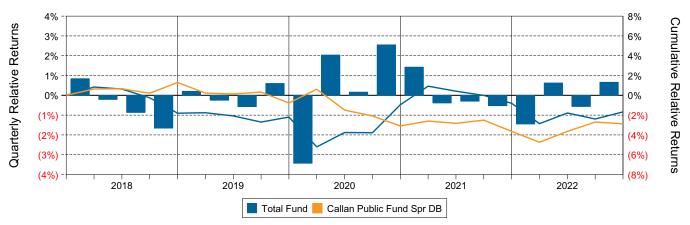
#### **Return Analysis**

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.

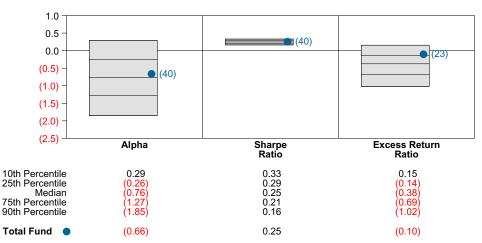




**Cumulative and Quarterly Relative Returns vs Total Fund Benchmark** 



Risk Adjusted Return Measures vs Total Fund Benchmark Rankings Against Callan Public Fund Sponsor Database (Net) Five Years Ended December 31, 2022

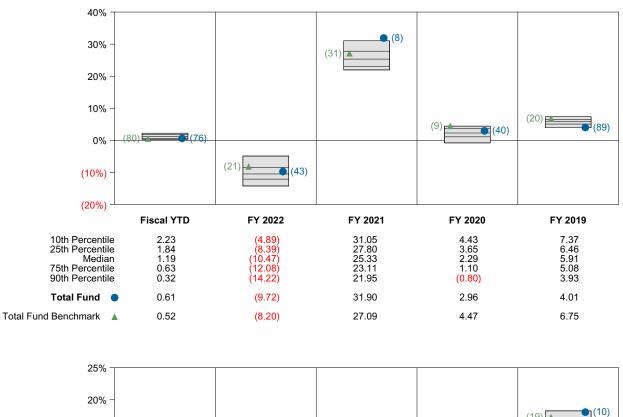


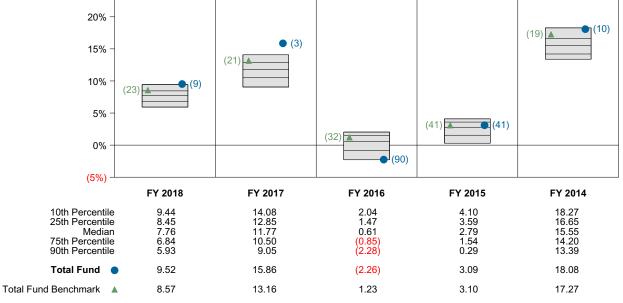


#### Mendocino County Employees' Retirement Association Performance vs Callan Public Fund Sponsor Database Periods Ended December 31, 2022

#### **Return Ranking**

The chart below illustrates fund rankings over various periods versus the Callan Public Fund Sponsor Database. The bars represent the range of returns from the 10th percentile to the 90th percentile for each period for all funds in the Callan Public Fund Sponsor Database. The numbers to the right of the bar represent the percentile rankings of the fund being analyzed. The table below the chart details the rates of return plotted in the graph above.







Domestic Equity

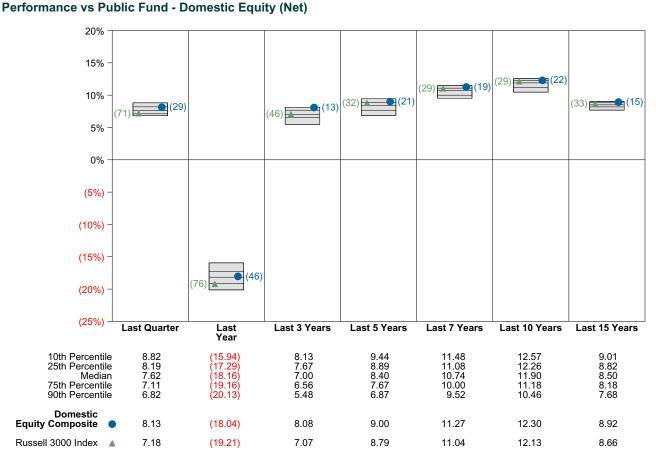
#### Domestic Equity Composite Period Ended December 31, 2022

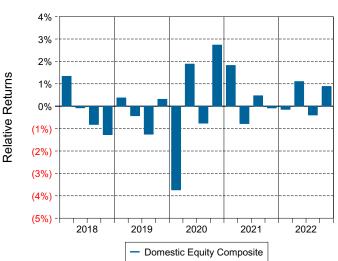
#### **Quarterly Summary and Highlights**

- Domestic Equity Composite's portfolio posted a 8.13% return for the quarter placing it in the 29 percentile of the Public Fund Domestic Equity group for the quarter and in the 46 percentile for the last year.
- Domestic Equity Composite's portfolio outperformed the Russell 3000 Index by 0.95% for the quarter and outperformed the Russell 3000 Index for the year by 1.17%.

#### **Quarterly Asset Growth**

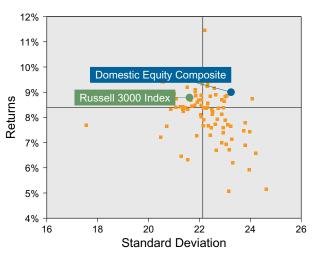
Beginning Market Value	\$205,271,900
Net New Investment	\$-7,850,000
Investment Gains/(Losses)	\$16,633,708
Ending Market Value	\$214,055,608





#### **Relative Return vs Russell 3000 Index**

#### Public Fund - Domestic Equity (Net) Annualized Five Year Risk vs Return

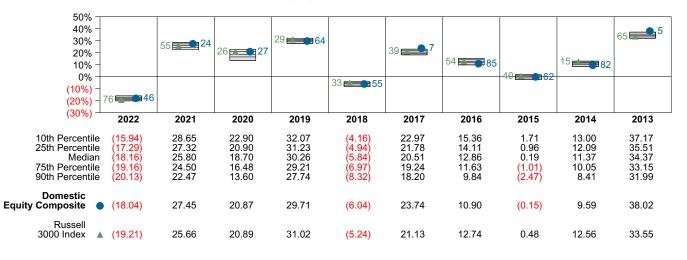


#### Domestic Equity Composite Return Analysis Summary

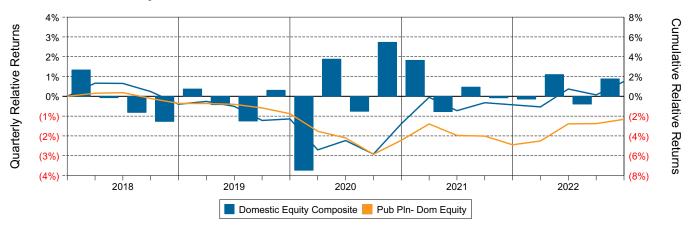
#### **Return Analysis**

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.

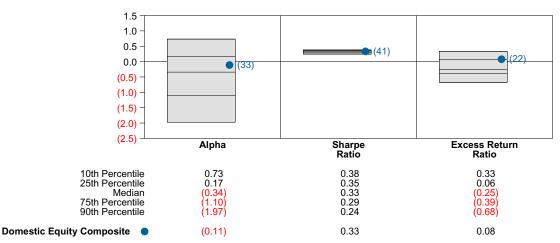
#### Performance vs Public Fund - Domestic Equity (Net)



**Cumulative and Quarterly Relative Returns vs Russell 3000 Index** 



#### Risk Adjusted Return Measures vs Russell 3000 Index Rankings Against Public Fund - Domestic Equity (Net) Five Years Ended December 31, 2022



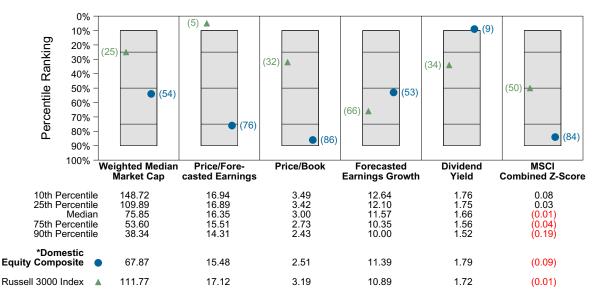


#### Domestic Equity Composite Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

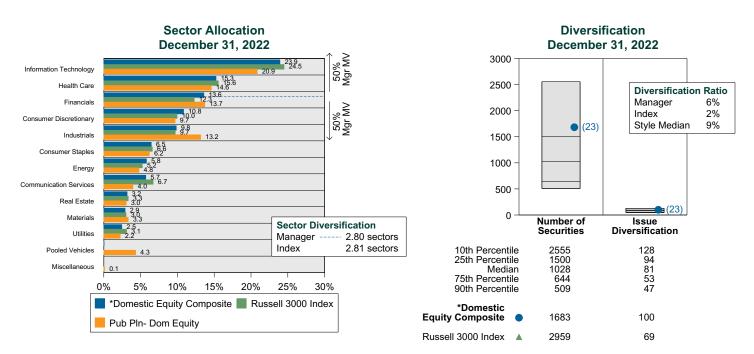
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



#### **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.



\* 12/31/22 portfolio characteristics generated using most recently available holdings (10/31/22) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

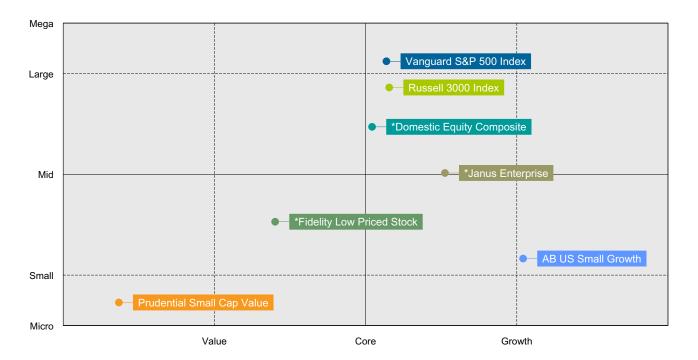


#### Holdings Based Style Analysis For One Quarter Ended December 31, 2022

This page analyzes and compares the investment styles of multiple portfolios using a detailed holdings-based style analysis methodology. The size component of style is measured by the weighted median market capitalization of the holdings. The value/core/growth style dimension is captured by the "Combined Z-Score" of the portfolio. This score is based on eight fundamental factors used in the MSCI stock style scoring system. The table below gives a more detailed breakdown of several relevant style metrics on the portfolios.

#### Style Map

#### Holdings for One Quarter Ended December 31, 2022



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities D	Security Diversification
Vanguard S&P 500 Index	70.22%	149.21	(0.02)	(0.04)	(0.02)	503	46.75
*Fidelity Low Priced Stock	7.61%	9.04	(0.54)	(0.11)	0.43	852	26.84
*Janus Enterprise	7.87%	16.41	0.26	0.01	(0.25)	75	19.66
Prudential Small Cap Value	7.62%	1.37	(1.27)	(0.27)	1.00	328	81.78
AB US Small Growth	6.67%	4.46	0.64	0.15	(0.49)	93	33.31
*Domestic Equity Composite	100.00%	67.87	(0.09)	(0.05)	0.04	1683	99.62
Russell 3000 Index	-	111.77	(0.01)	(0.04)	(0.03)	2959	69.17

\* 12/31/22 portfolio characteristics generated using most recently available holdings (10/31/22) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.



#### Vanguard S&P 500 Index Period Ended December 31, 2022

#### **Investment Philosophy**

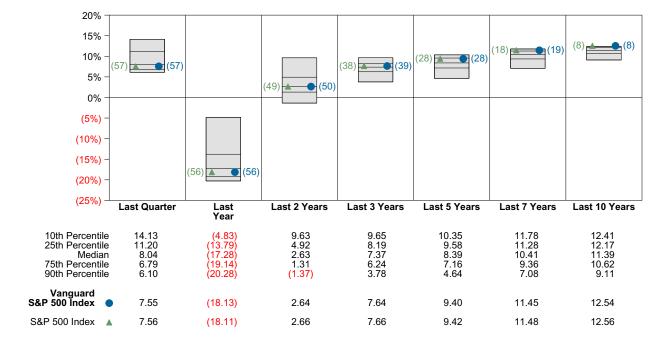
Vanguard's Institutional Index Fund is passively administered using a "full replication" approach. Under this method, the fund holds all of the 500 underlying securities in proportion to their weighting in the index. The fund remains fully invested in equities at all times and does not make judgement calls on the direction of the S&P 500 Index. Portfolio was funded September 2013. Historical returns are that of the manager's composite.

#### **Quarterly Summary and Highlights**

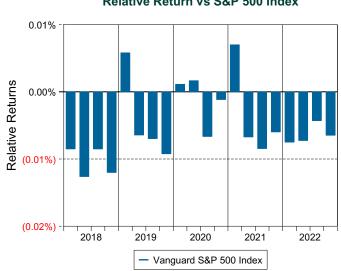
- Vanguard S&P 500 Index's portfolio posted a 7.55% return for the quarter placing it in the 57 percentile of the Callan Large Cap Core Mutual Funds group for the quarter and in the 56 percentile for the last year.
- Vanguard S&P 500 Index's portfolio underperformed the ٠ S&P 500 Index by 0.01% for the guarter and underperformed the S&P 500 Index for the year by 0.02%.

#### **Quarterly Asset Growth**

Beginning Market Value	\$145,221,387
Net New Investment	\$-5,850,000
Investment Gains/(Losses)	\$10,943,564
Ending Market Value	\$150,314,951

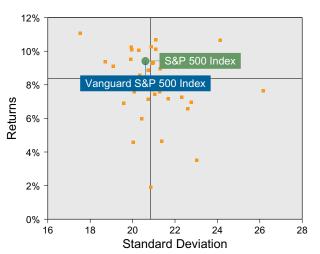








#### Callan Large Cap Core Mutual Funds (Net) Annualized Five Year Risk vs Return

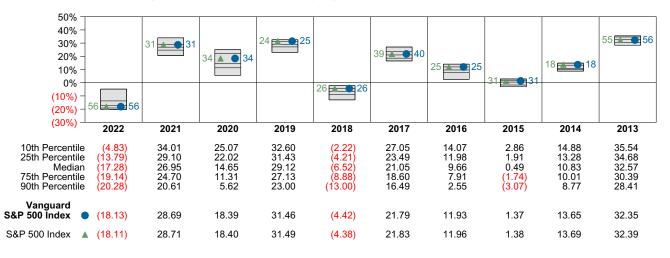


#### Vanguard S&P 500 Index Return Analysis Summary

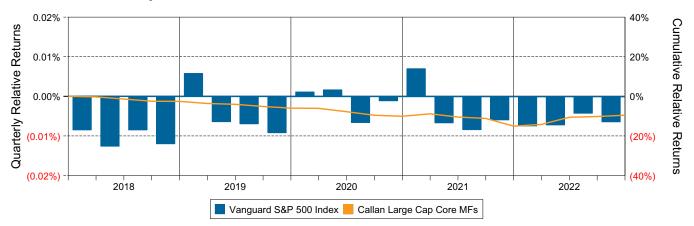
#### **Return Analysis**

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.

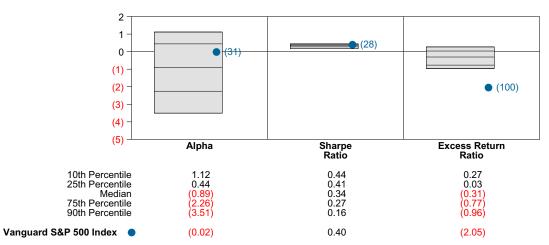
#### Performance vs Callan Large Cap Core Mutual Funds (Net)



Cumulative and Quarterly Relative Returns vs S&P 500 Index



Risk Adjusted Return Measures vs S&P 500 Index Rankings Against Callan Large Cap Core Mutual Funds (Net) Five Years Ended December 31, 2022



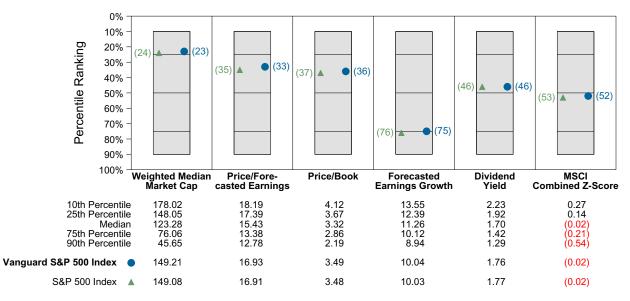


#### Vanguard S&P 500 Index Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

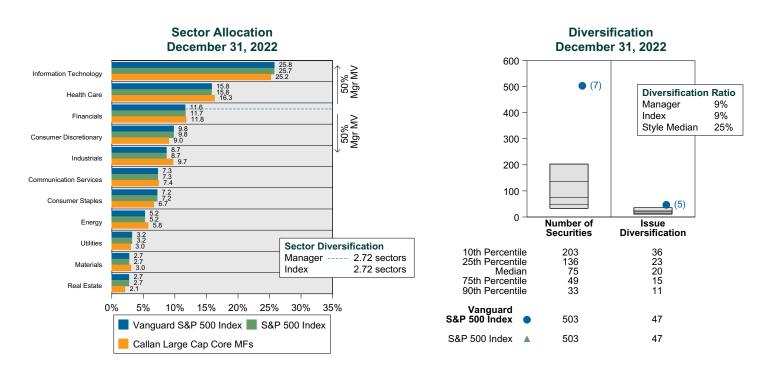
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



#### **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.



#### Fidelity Low Priced Stock Period Ended December 31, 2022

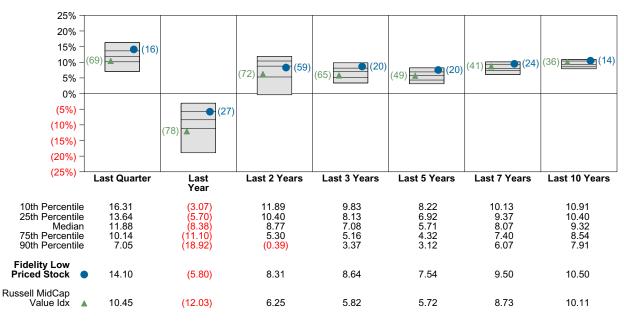
#### **Investment Philosophy**

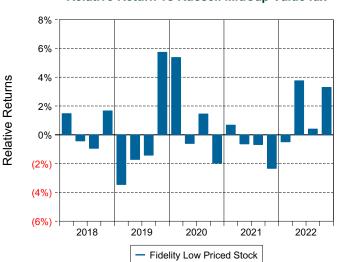
Longtime portfolio manager Joel Tillinghast and a dedicated small cap team at Fidelity utilize a fundamental, bottom-up investment process to identify stocks priced at \$35 or less or with an earnings yield in excess of the Russell 2000 index at time of purchase. Candidates must also exhibit modest valuations, good return on capital, strong or improving cash flows, and improving business environments. The portfolio is well diversified and may invest in up to 35% outside the U.S. and is well diversified with between 600 and 1000 holdings.

#### **Quarterly Summary and Highlights**

- Fidelity Low Priced Stock's portfolio posted a 14.10% return for the quarter placing it in the 16 percentile of the Callan Mid Cap Value Mutual Funds group for the quarter and in the 27 percentile for the last year.
- Fidelity Low Priced Stock's portfolio outperformed the Russell MidCap Value Idx by 3.64% for the quarter and outperformed the Russell MidCap Value Idx for the year by 6.23%.

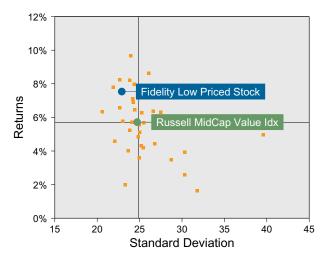
Quarterly Asset Growth					
Beginning Market Value	\$16,104,775				
Net New Investment	\$-2,000,000				
Investment Gains/(Losses)	\$2,185,934				
Ending Market Value \$16,290,					





#### Relative Return vs Russell MidCap Value Idx

Callan Mid Cap Value Mutual Funds (Net) Annualized Five Year Risk vs Return

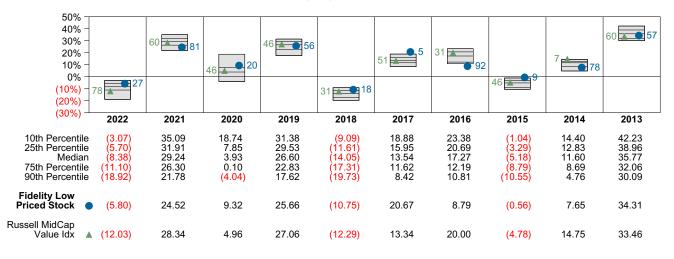


# Fidelity Low Priced Stock Return Analysis Summary

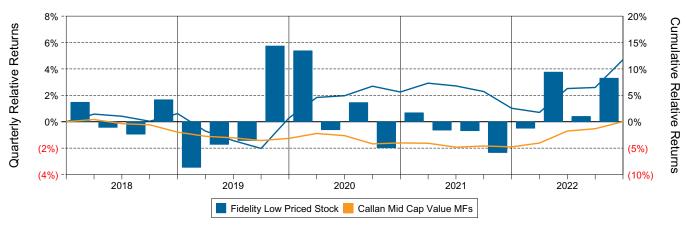
#### **Return Analysis**

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.

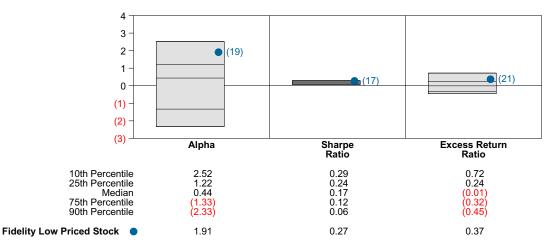
#### Performance vs Callan Mid Cap Value Mutual Funds (Net)



Cumulative and Quarterly Relative Returns vs Russell MidCap Value Idx



#### Risk Adjusted Return Measures vs Russell MidCap Value Idx Rankings Against Callan Mid Cap Value Mutual Funds (Net) Five Years Ended December 31, 2022



# Fidelity Low Priced Stock Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

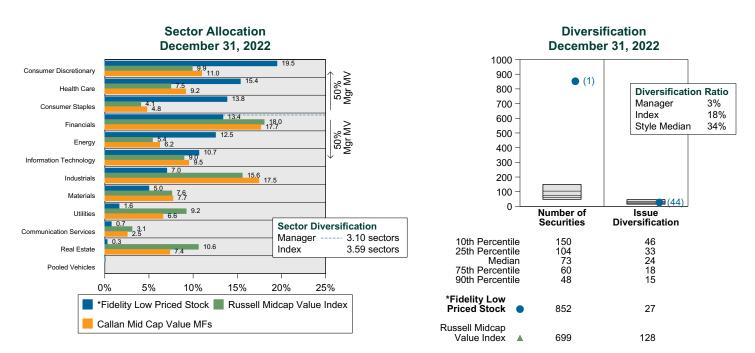
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### Portfolio Characteristics Percentile Rankings Rankings Against Callan Mid Cap Value Mutual Funds as of December 31, 2022



#### **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.



\* 12/31/22 portfolio characteristics generated using most recently available holdings (10/31/22) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.



## Janus Enterprise Period Ended December 31, 2022

#### **Investment Philosophy**

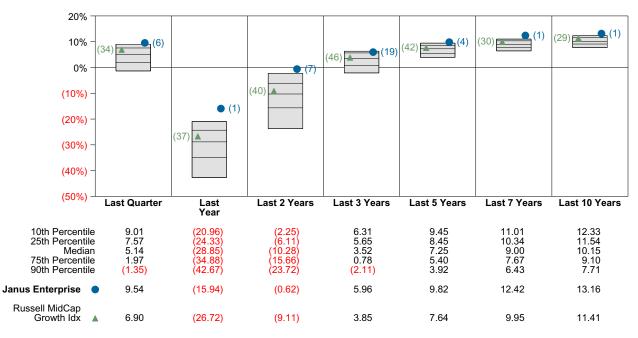
Janus believes that investing in companies with sustainable growth and high return on invested capital can drive consistent returns with moderate risk. The team seeks to identify mid cap companies with high quality management teams that wisely allocate capital to drive growth over time. Switched from Class T Shares to Class I Shares in December 2009 and Class N Shares in July 2016.

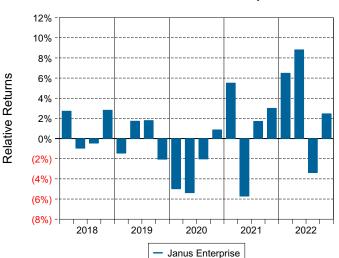
#### **Quarterly Summary and Highlights**

- Janus Enterprise's portfolio posted a 9.54% return for the quarter placing it in the 6 percentile of the Callan Mid Cap Growth Mutual Funds group for the quarter and in the 1 percentile for the last year.
- Janus Enterprise's portfolio outperformed the Russell MidCap Growth Idx by 2.64% for the quarter and outperformed the Russell MidCap Growth Idx for the year by 10.78%.

Quarterly Asset Growth					
Beginning Market Value \$15,383,061					
Net New Investment	\$0				
Investment Gains/(Losses)	\$1,467,155				
Ending Market Value \$16,850,216					

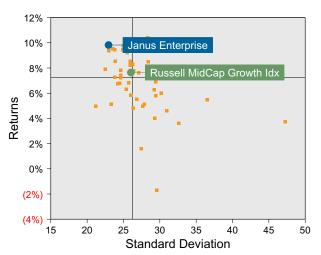






Relative Return vs Russell MidCap Growth Idx

Callan Mid Cap Growth Mutual Funds (Net) Annualized Five Year Risk vs Return

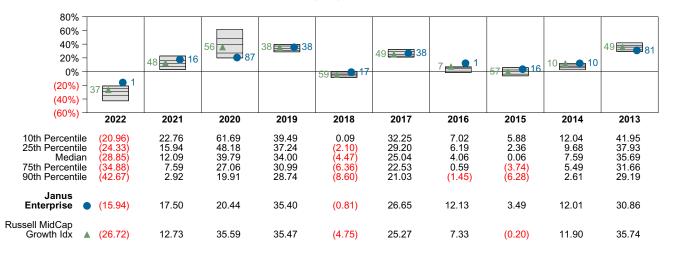


## Janus Enterprise Return Analysis Summary

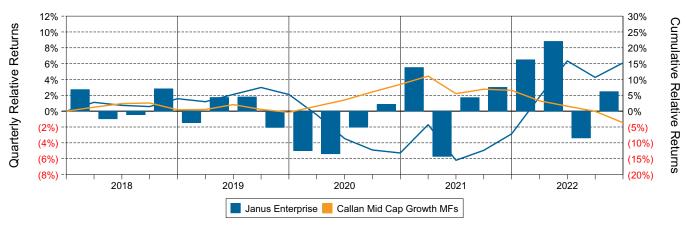
#### **Return Analysis**

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.

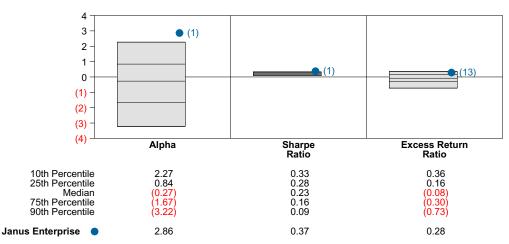
#### Performance vs Callan Mid Cap Growth Mutual Funds (Net)



Cumulative and Quarterly Relative Returns vs Russell MidCap Growth Idx



Risk Adjusted Return Measures vs Russell MidCap Growth Idx Rankings Against Callan Mid Cap Growth Mutual Funds (Net) Five Years Ended December 31, 2022

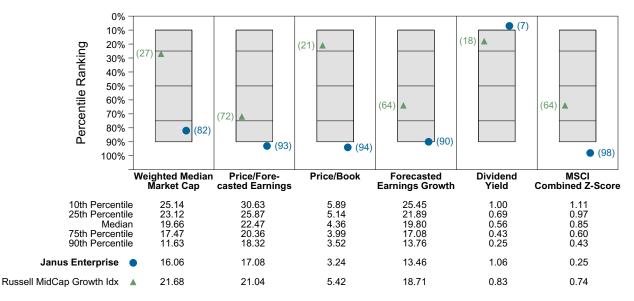


# Janus Enterprise Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

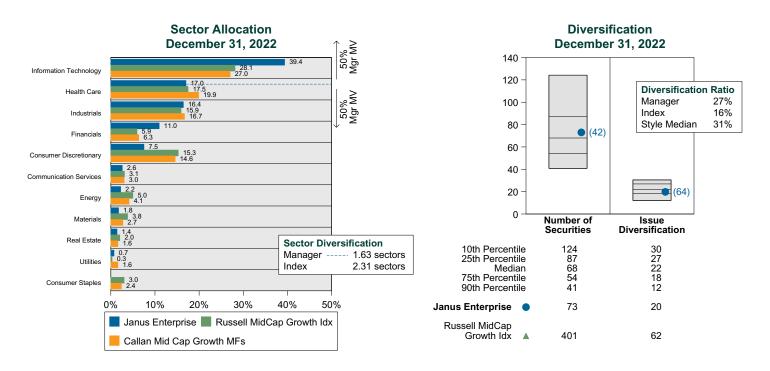
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### Portfolio Characteristics Percentile Rankings Rankings Against Callan Mid Cap Growth Mutual Funds as of December 31, 2022



#### **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.



## Prudential Small Cap Value Period Ended December 31, 2022

#### **Investment Philosophy**

Quantitative Management Associates LLC (QMA) is an SEC-registered investment adviser and a limited liability company. QMA operated for many years as a unit within Prudential Financial's asset management business, known as Prudential Investment Management, Inc. (PIM). In July 2004, the quantitative management business of PIM was transferred to QMA. The QMA Small Cap Value strategy is a quantitatively based investment approach. The team believes a systematic approach that focuses on stocks with low valuations and confirming signals of attractiveness can outperform a small cap value benchmark. Its research shows that adapting to changing market conditions by dynamically shifting the weight on specific factors, while simultaneously maintaining a focus on value stocks, leads to better performance than using static factor exposures. It is a diversified portfolio typically holding between 250 to 350 securities with the Russell 2000 Value Index as the appropriate benchmark. Switched share class in Septemeber 2015.

#### **Quarterly Summary and Highlights**

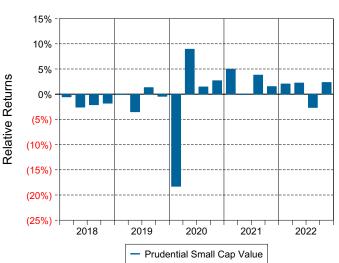
- Prudential Small Cap Value's portfolio posted a 10.95% return for the quarter placing it in the 35 percentile of the Callan Small Cap Value Mutual Funds group for the quarter and in the 45 percentile for the last year.
- Prudential Small Cap Value's portfolio outperformed the Russell 2000 Value Index by 2.53% for the quarter and outperformed the Russell 2000 Value Index for the year by 3.36%.

#### Quarterly Asset Growth

Beginning Market Value	\$14,710,269
Net New Investment	\$0
Investment Gains/(Losses)	\$1,610,593
Ending Market Value	\$16,320,862

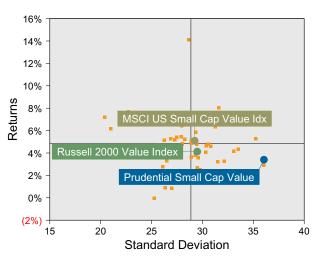
#### Performance vs Callan Small Cap Value Mutual Funds (Net)

20% 15% 10% 5% (10% (10% (20% (25%	6 – (81 – (81 – – – – – – – – – – – – – – – – – – –	A(38	(64) Last Year	(66) A(15 B(33) Last 2 Years	A(42 B(46) Last 3 Years	) (65) B (46) A(75) Last 5 Years	(46) B(39 A(63 Last 7 Years	(65)
10th Percent 25th Percent Medi 75th Percent 90th Percent	ile an ile	13.91 12.43 10.43 9.19 7.11	(3.52) (8.30) (11.54) (16.43) (18.69)	14.91 10.04 6.76 2.16 (2.02)	10.87 8.20 6.06 4.26 0.90	7.23 6.25 4.85 3.44 2.28	10.06 9.49 8.06 7.17 6.76	10.88 10.12 9.00 8.04 7.38
Prudential Small Cap Value MSCI US Small Cap Value Idx	●A ■B	10.95 11.12	(11.12) (9.64)	12.26 8.64	6.94 6.39	3.40 5.10	7.75 8.65	8.47 9.31
Russell 2000 Value Index		8.42	(14.48)	4.73	4.70	4.13	8.23	8.48



#### **Relative Return vs Russell 2000 Value Index**

#### Callan Small Cap Value Mutual Funds (Net) Annualized Five Year Risk vs Return

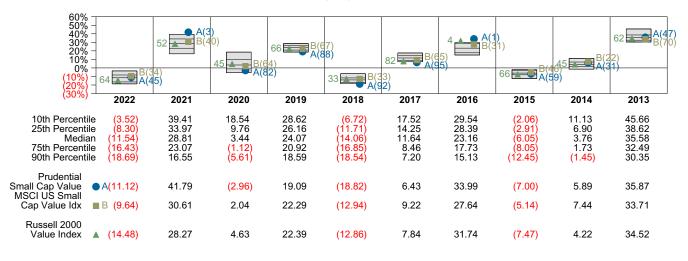


# Prudential Small Cap Value Return Analysis Summary

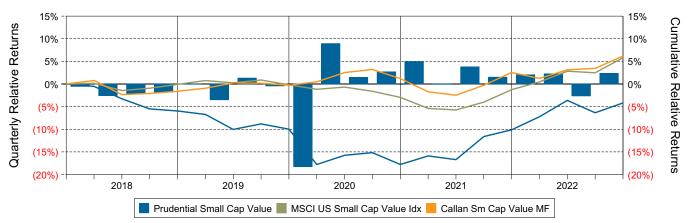
#### **Return Analysis**

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.

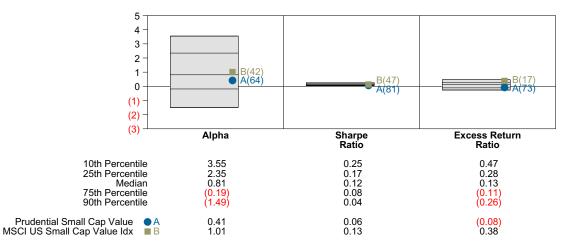
#### Performance vs Callan Small Cap Value Mutual Funds (Net)



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 Mutual Funds (Net) Five Years Ended December 31, 2022

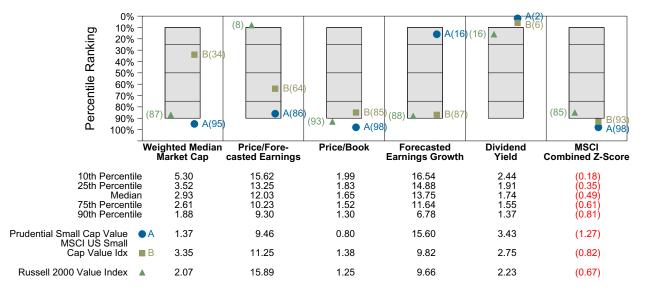


# Prudential Small Cap Value Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

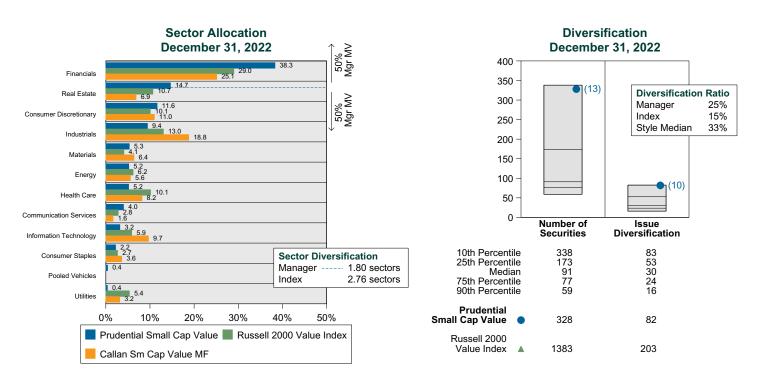
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



#### **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.



## AB US Small Growth Period Ended December 31, 2022

#### **Investment Philosophy**

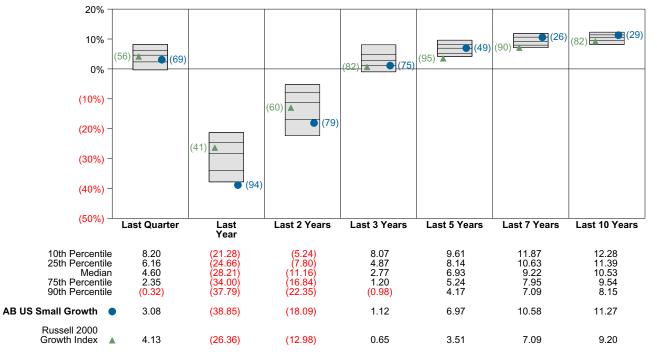
AB's small cap growth investment process emphasizes in-house fundamental research and direct management contact in order to identify rapidly growing companies with accelerating earnings power and reasonable valuations.

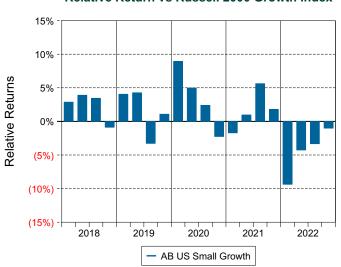
#### **Quarterly Summary and Highlights**

- AB US Small Growth's portfolio posted a 3.08% return for the quarter placing it in the 69 percentile of the Callan Small Cap Growth Mutual Funds group for the quarter and in the 94 percentile for the last year.
- AB US Small Growth's portfolio underperformed the Russell 2000 Growth Index by 1.05% for the quarter and underperformed the Russell 2000 Growth Index for the year by 12.50%.

Quarterly Asset Growth				
Beginning Market Value	\$13,852,407			
Net New Investment	\$0			
Investment Gains/(Losses)	\$426,463			
Ending Market Value \$14,278,870				

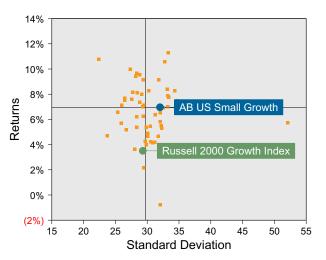
#### Performance vs Callan Small Cap Growth Mutual Funds (Net)





#### **Relative Return vs Russell 2000 Growth Index**

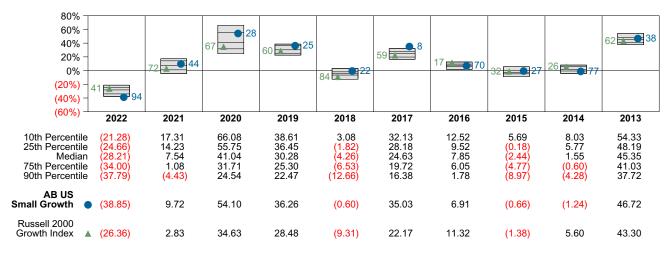
#### Callan Small Cap Growth Mutual Funds (Net) Annualized Five Year Risk vs Return



# AB US Small Growth Return Analysis Summary

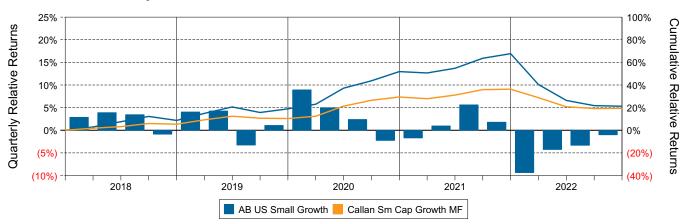
#### **Return Analysis**

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.

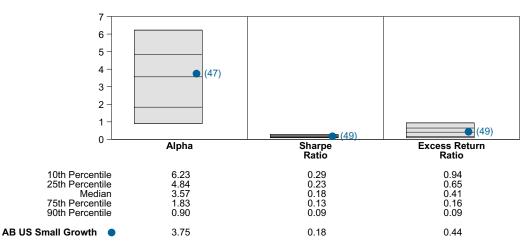


Performance vs Callan Small Cap Growth Mutual Funds (Net)

Cumulative and Quarterly Relative Returns vs Russell 2000 Growth Index



Risk Adjusted Return Measures vs Russell 2000 Growth Index Rankings Against Callan Small Cap Growth Mutual Funds (Net) Five Years Ended December 31, 2022

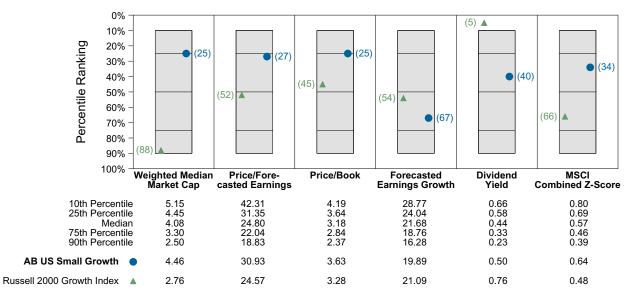


# AB US Small Growth Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

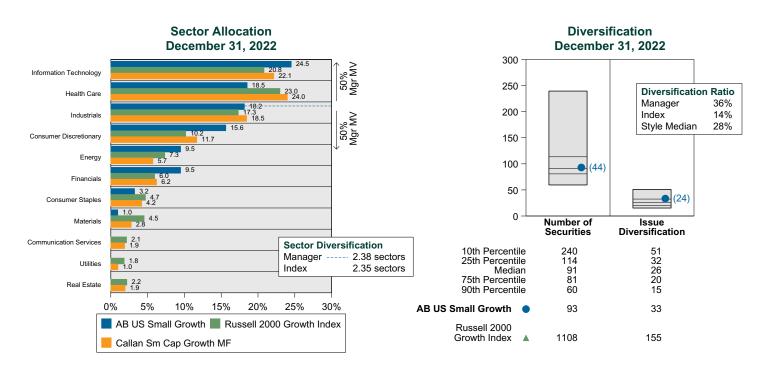
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### Portfolio Characteristics Percentile Rankings Rankings Against Callan Small Cap Growth Mutual Funds as of December 31, 2022



#### **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.



International Equity

# International Equity Composite Period Ended December 31, 2022

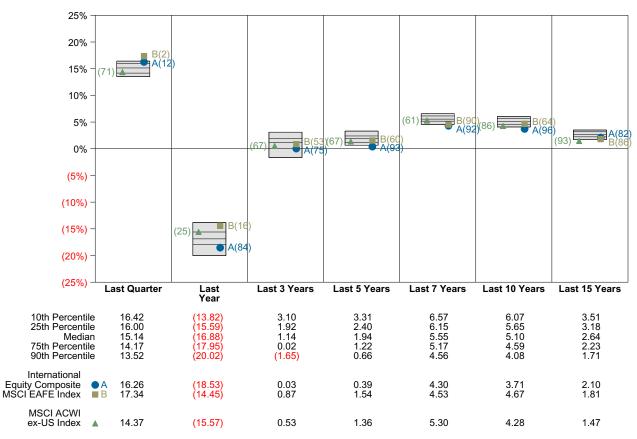
#### **Quarterly Summary and Highlights**

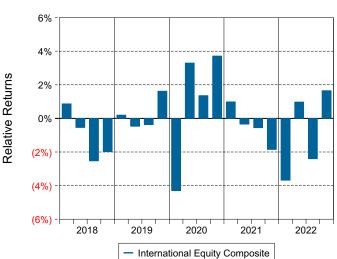
- International Equity Composite's portfolio posted a 16.26% return for the quarter placing it in the 12 percentile of the Public Fund - International Equity group for the quarter and in the 84 percentile for the last year.
- International Equity Composite's portfolio outperformed the MSCI ACWI ex-US Index by 1.89% for the quarter and underperformed the MSCI ACWI ex-US Index for the year by 2.96%.

#### Performance vs Public Fund - International Equity (Net)

#### Quarterly Asset Growth

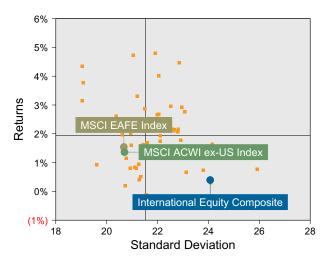
Beginning Market Value	\$126,569,960
Net New Investment	\$0
Investment Gains/(Losses)	\$20,982,605
Ending Market Value	\$147,552,564





#### **Relative Return vs MSCI ACWI ex-US Index**

#### Public Fund - International Equity (Net) Annualized Five Year Risk vs Return

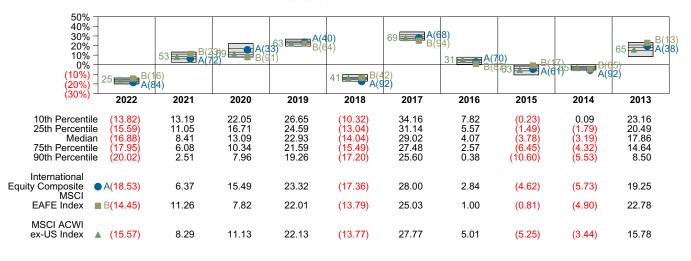


# International Equity Composite Return Analysis Summary

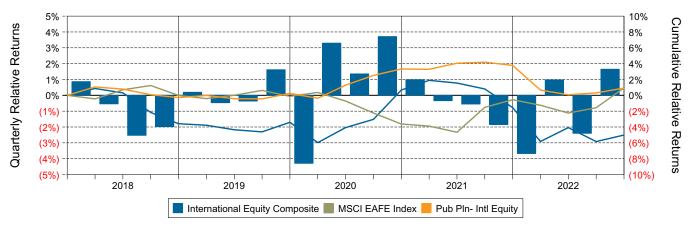
#### **Return Analysis**

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.

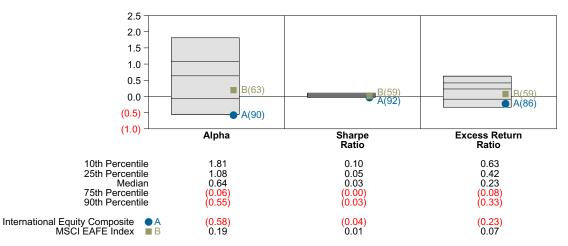
#### Performance vs Public Fund - International Equity (Net)



Cumulative and Quarterly Relative Returns vs MSCI ACWI ex-US Index



Risk Adjusted Return Measures vs MSCI ACWI ex-US Index Rankings Against Public Fund - International Equity (Net) Five Years Ended December 31, 2022

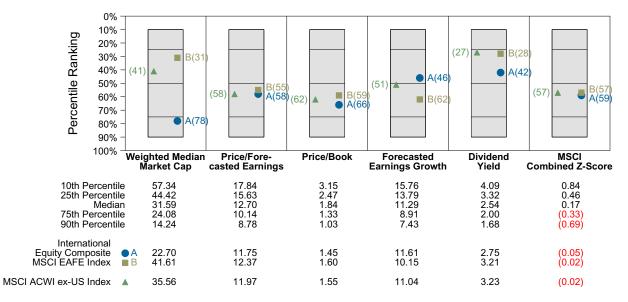


# International Equity Composite Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

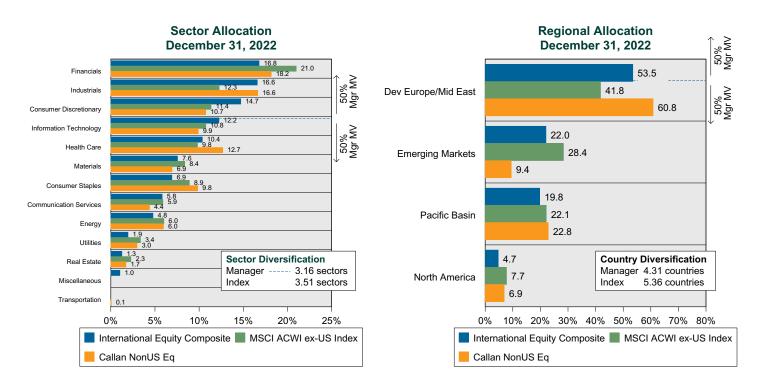
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

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



#### **Sector Weights**

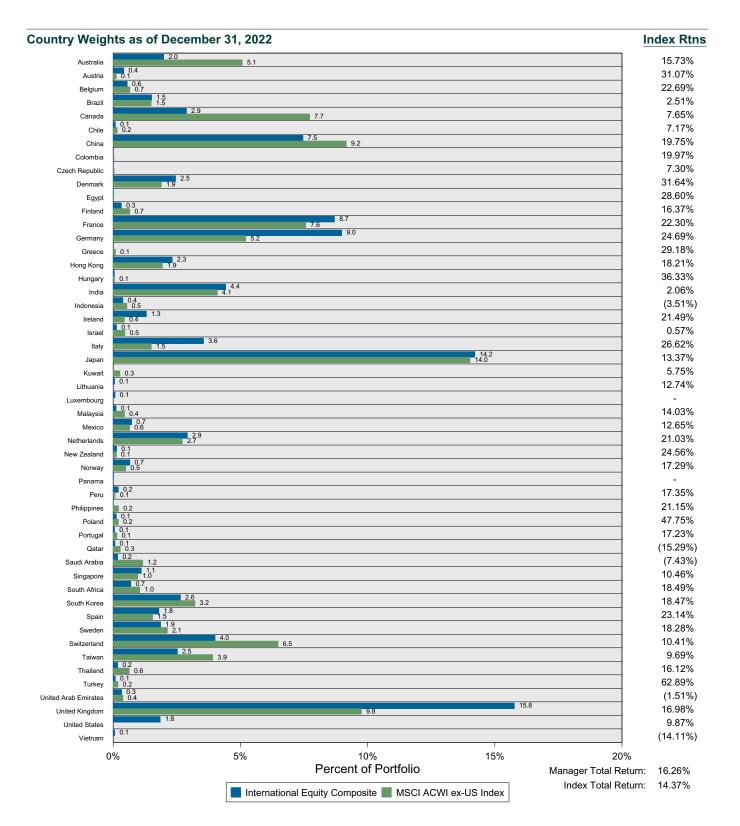
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. The regional allocation chart compares the manager's geographical region weights with those of the benchmark as well as the median region weights of the peer group.



# Country Allocation International Equity Composite VS MSCI ACWI ex-US Index

#### **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.



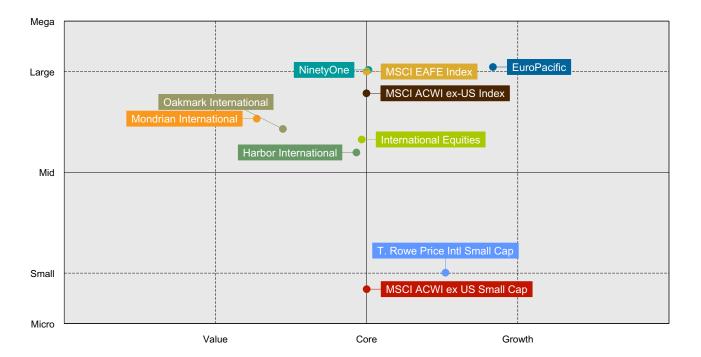


# International Holdings Based Style Analysis For One Quarter Ended December 31, 2022

This page analyzes and compares the investment styles of multiple portfolios using a detailed holdings-based style analysis methodology. The size component of style is measured by the weighted median market capitalization of the holdings. The value/core/growth style dimension is captured by the "Combined Z-Score" of the portfolio. This score is based on eight fundamental factors used in the MSCI stock style scoring system. The table below gives a more detailed breakdown of several relevant style metrics on the portfolios.

#### Style Map

#### Holdings for One Quarter Ended December 31, 2022



	Weight %	Wtd Median Mkt Cap	Combined Z-Score	Growth Z-Score	Value Z-Score	Number of Securities D	Security Diversification
EuroPacific	17.27%	51.25	0.76	0.27	(0.48)	348	34.23
Harbor International	19.84%	19.10	(0.08)	(0.07)	0.01	352	56.21
Oakmark International	19.97%	25.63	(0.53)	(0.30)	0.23	65	19.93
Mondrian International	18.43%	28.50	(0.69)	(0.23)	0.46	98	24.96
T. Rowe Price Intl Small Cap	15.37%	2.31	0.46	0.16	(0.30)	212	60.83
NinetyOne	9.11%	45.06	(0.01)	(0.06)	(0.05)	77	19.39
International Equities	100.00%	22.70	(0.05)	(0.05)	0.00	920	110.29
MSCI ACWI ex US Small Cap	- (	1.90	(0.02)	(0.04)	(0.02)	4327	812.41
MSCI EAFE Index	-	41.61	(0.02)	(0.07)	(0.05)	796	91.27
MSCI ACWI ex-US Index	-	35.56	(0.02)	(0.07)	(0.05)	2259	165.23

## EuroPacific Period Ended December 31, 2022

#### **Investment Philosophy**

The Fund is highly diversified and includes multiple autonomous investment sleeves. In eleven of the sleeves, the portfolio managers have full autonomy in selecting securities. In the two remaining sleeves, a group of senior research analysts are directly responsible for stock selection. While the sleeves range in style from value to growth, in aggregate the Fund has a significant growth bias. Over the last ten years, this bias has slowly become more pronounced but should not be considered a permanent attribute. Although we consider this Fund to be a core option, it is not benchmark-aware. It may have significant deviations from the benchmark from both a country and sector perspective and will typically have a significant exposure to emerging markets. Although this Fund could serve as a standalone option for smaller accounts, we would recommend clients utilize this Fund in a multi-manager non-US structure with diversifying strategies. Switched from Class R-5 Shares to Class R-6 Shares in December 2009.

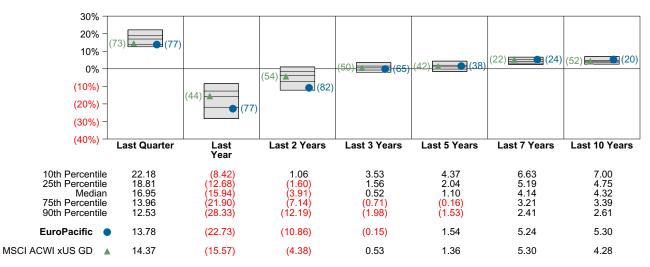
#### **Quarterly Summary and Highlights**

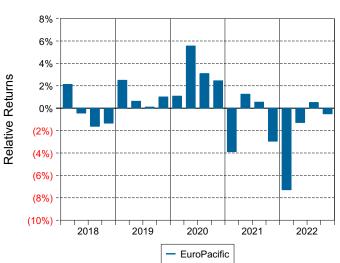
- EuroPacific's portfolio posted a 13.78% return for the quarter placing it in the 77 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 77 percentile for the last year.
- EuroPacific's portfolio underperformed the MSCI ACWI xUS GD by 0.58% for the quarter and underperformed the MSCI ACWI xUS GD for the year by 7.16%.

#### Quarterly Asset Growth

Beginning Market Value	\$24,531,217
Net New Investment	\$-2,400,000
Investment Gains/(Losses)	\$3,357,795
Ending Market Value	\$25,489,013

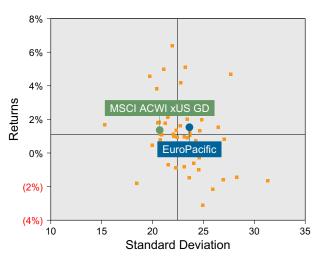
#### Performance vs Callan Non US Equity Mutual Funds (Net)





#### Relative Return vs MSCI ACWI xUS GD

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

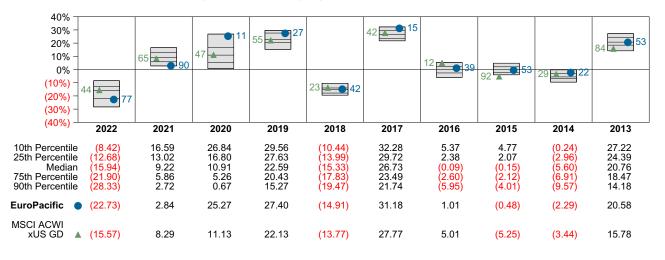


# EuroPacific Return Analysis Summary

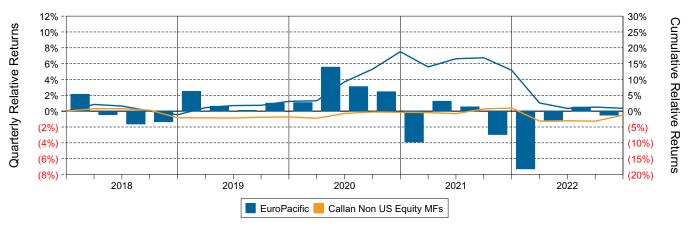
#### **Return Analysis**

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.

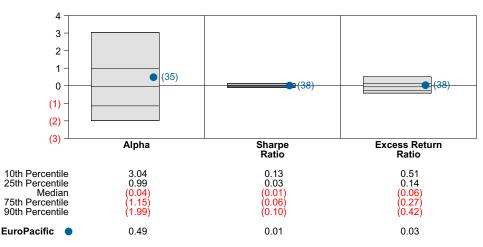
#### Performance vs Callan Non US Equity Mutual Funds (Net)



Cumulative and Quarterly Relative Returns vs MSCI ACWI xUS GD



Risk Adjusted Return Measures vs MSCI ACWI xUS GD Rankings Against Callan Non US Equity Mutual Funds (Net) Five Years Ended December 31, 2022



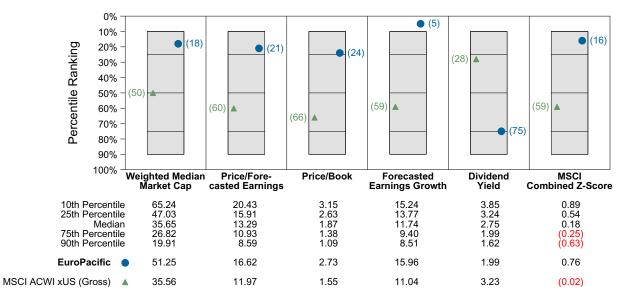


# EuroPacific Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

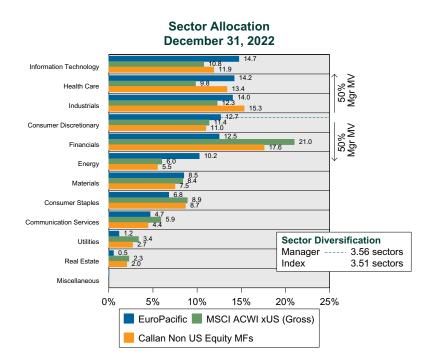
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

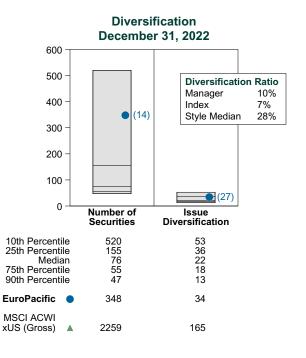
#### Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of December 31, 2022



#### **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.

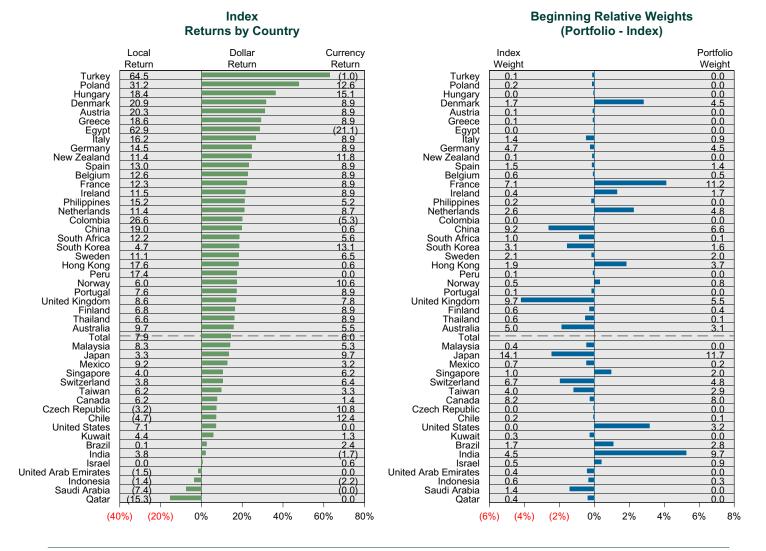


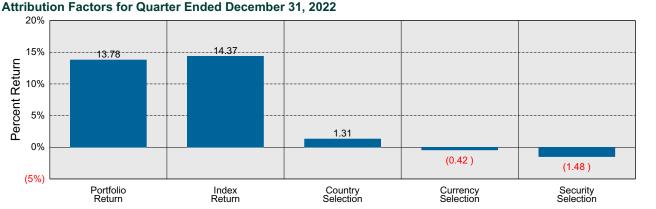


# EuroPacific vs MSCI ACWI xUS GD Attribution for Quarter Ended December 31, 2022

#### **International Attribution**

The first chart below illustrates the return for each country in the index sorted from high to low. The total return for the index is highlighted with a dotted line. The second chart (countries presented in the same order) illustrates the manager's country allocation decisions relative to the index. To the extent that the manager over-weighted a country that had a higher return than the total return for the index (above the dotted line) it contributes positively to the manager's country (or currency) selection effect. The last chart details the manager return, the index return, and the attribution factors for the quarter.





## Harbor International Period Ended December 31, 2022

#### **Investment Philosophy**

On August 22, 2018, Harbor Funds Board of Trustees appointed Marathon Asset Management LLP (Marathon London) to serve as sub-advisor to the Harbor International Fund, replacing Northern Cross, LLC, effective immediately.

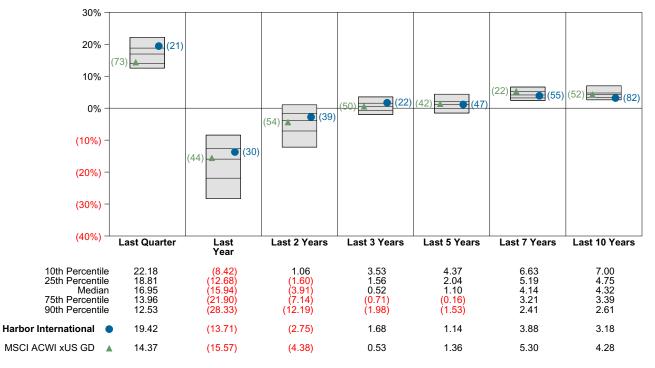
#### **Quarterly Summary and Highlights**

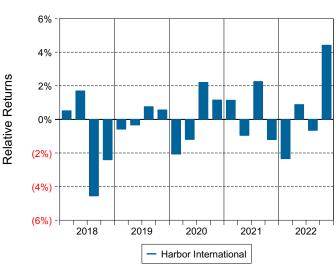
• Harbor International's portfolio posted a 19.42% return for the quarter placing it in the 21 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 30 percentile for the last year.

•	Harbor	International's	portfolio	outperformed	the MSCI
	ACWI x	US GD by 5.06	% for the	quarter and ou	utperformed
	the MSC	CI ACWI XUS GE	D for the y	ear by 1.86%.	

Quarterly Asset Growth					
Beginning Market Value \$27,551,432					
Net New Investment	\$-3,600,000				
Investment Gains/(Losses)	\$5,326,640				
Ending Market Value \$29,278,072					

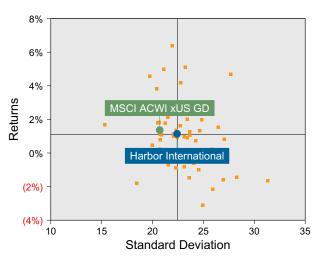
### Performance vs Callan Non US Equity Mutual Funds (Net)





Relative Return vs MSCI ACWI xUS GD

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

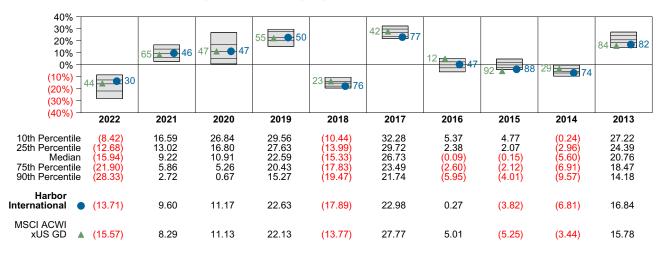


# Harbor International Return Analysis Summary

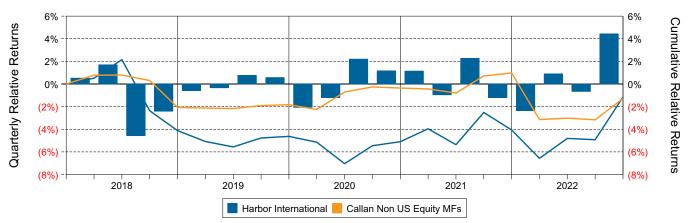
#### **Return Analysis**

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.

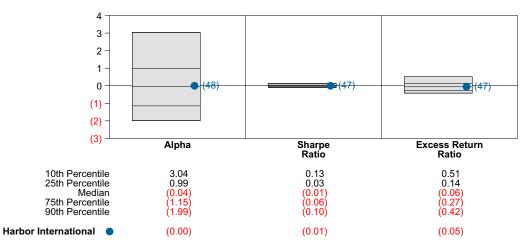
#### Performance vs Callan Non US Equity Mutual Funds (Net)



Cumulative and Quarterly Relative Returns vs MSCI ACWI xUS GD



Risk Adjusted Return Measures vs MSCI ACWI xUS GD Rankings Against Callan Non US Equity Mutual Funds (Net) Five Years Ended December 31, 2022

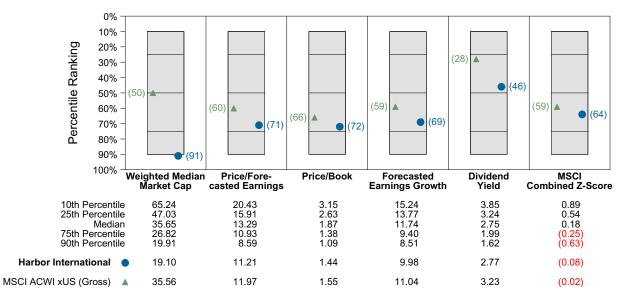


# Harbor International Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

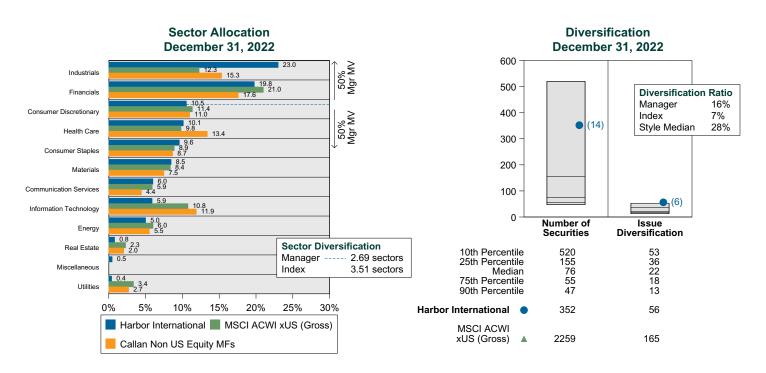
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of December 31, 2022



#### **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.

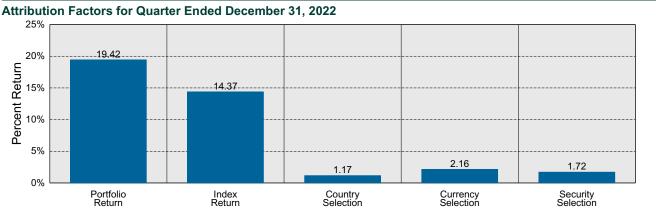


# Harbor International vs MSCI ACWI xUS GD Attribution for Quarter Ended December 31, 2022

#### **International Attribution**

The first chart below illustrates the return for each country in the index sorted from high to low. The total return for the index is highlighted with a dotted line. The second chart (countries presented in the same order) illustrates the manager's country allocation decisions relative to the index. To the extent that the manager over-weighted a country that had a higher return than the total return for the index (above the dotted line) it contributes positively to the manager's country (or currency) selection effect. The last chart details the manager return, the index return, and the attribution factors for the quarter.





## Oakmark International Period Ended December 31, 2022

#### **Investment Philosophy**

Harris International Equity is sub-advised by Oakmark. Oakmark employs a value approach to investing and relies on its in-house research capabilities to build focused portfolios. The investment team purchases international stocks in both established and emerging markets that are selling at a substantial discount to intrinsic value. Unlike some value managers, Oakmark places particular emphasis on a company's ability to generate free cash flow as well as the strength of company management. Stocks are also analyzed in terms of financial strength, the position of the company in its industry, and the attractiveness of the industry. The resulting portfolio is relatively concentrated with between 35-65 holdings (although typical number of holdings has been in the 50-55 range). The portfolio is highly benchmark agnostic and the portfolios risk guidelines are broad. The strategy's exposure to emerging markets varies but is limited to 20% of the portfolio. A company is typically purchased when its discount to intrinsic value is 30% or greater and sold when that discount nears 10% or less. Turnover has typically averaged less than 20% a year, reflecting the investment teams 3-5 year outlook on its holdings. \*This fund was converted into a CIT in November 2015.

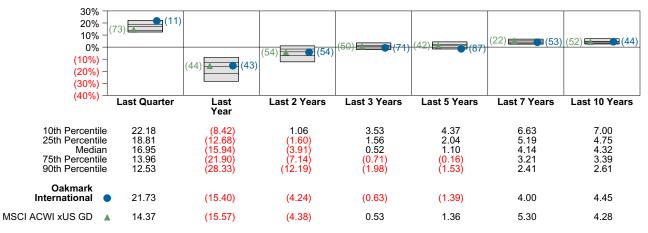
#### **Quarterly Summary and Highlights**

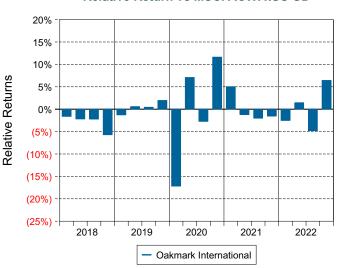
- Oakmark International's portfolio posted a 21.73% return for the quarter placing it in the 11 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 43 percentile for the last year.
- Oakmark International's portfolio outperformed the MSCI ACWI xUS GD by 7.36% for the quarter and outperformed the MSCI ACWI xUS GD for the year by 0.17%.

# Quarterly Asset GrowthBeginning Market Value\$24,208,368Net New Investment\$0

Net New Investment	\$0
Investment Gains/(Losses)	\$5,260,902
Ending Market Value	\$29,469,269

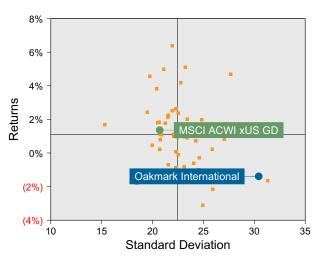
#### Performance vs Callan Non US Equity Mutual Funds (Net)





#### Relative Return vs MSCI ACWI xUS GD

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

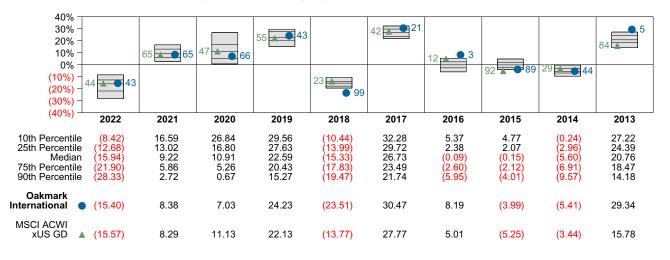


# Oakmark International Return Analysis Summary

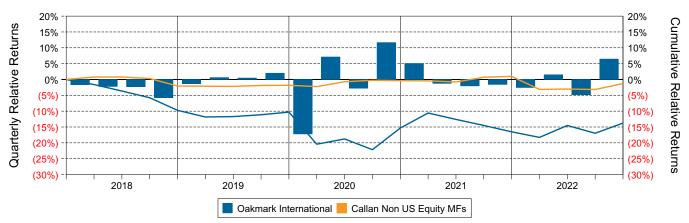
#### **Return Analysis**

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.

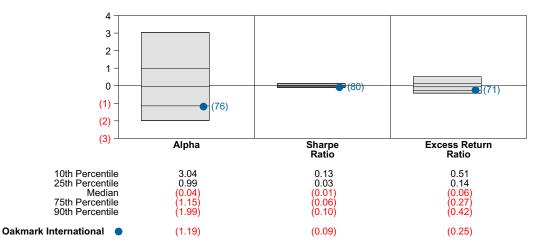
#### Performance vs Callan Non US Equity Mutual Funds (Net)



Cumulative and Quarterly Relative Returns vs MSCI ACWI xUS GD



Risk Adjusted Return Measures vs MSCI ACWI xUS GD Rankings Against Callan Non US Equity Mutual Funds (Net) Five Years Ended December 31, 2022

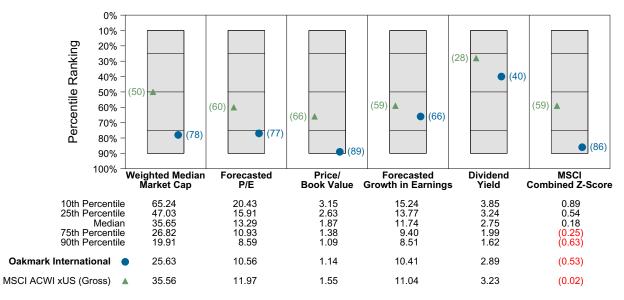


# Oakmark International Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

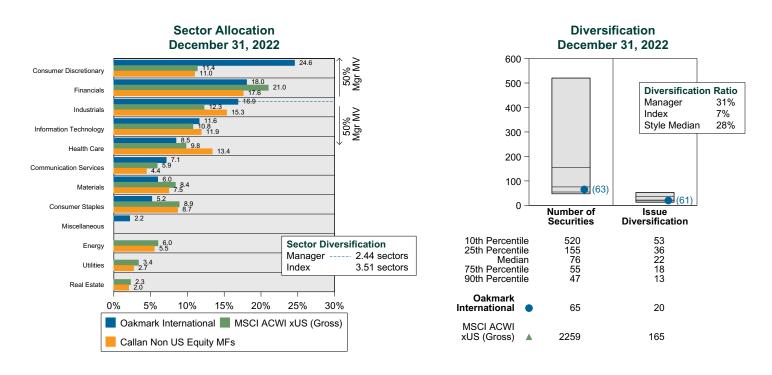
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of December 31, 2022



#### **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.

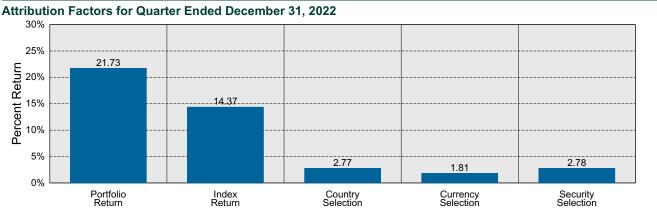


# Oakmark International vs MSCI ACWI xUS GD Attribution for Quarter Ended December 31, 2022

#### **International Attribution**

The first chart below illustrates the return for each country in the index sorted from high to low. The total return for the index is highlighted with a dotted line. The second chart (countries presented in the same order) illustrates the manager's country allocation decisions relative to the index. To the extent that the manager over-weighted a country that had a higher return than the total return for the index (above the dotted line) it contributes positively to the manager's country (or currency) selection effect. The last chart details the manager return, the index return, and the attribution factors for the quarter.





## **Mondrian International** Period Ended December 31, 2022

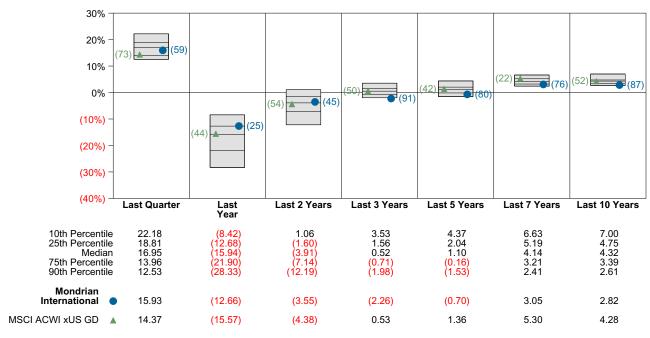
#### **Investment Philosophy**

Mondrian's value driven investment philosophy is based on the belief that investments need to be evaluated in terms of their fundamental long-term value. In the management of international equity assets, they invest in securities where rigorous dividend discount analysis identifies value in terms of the long term flow of income. Mondrian's management fee is 80 bps on all assets.

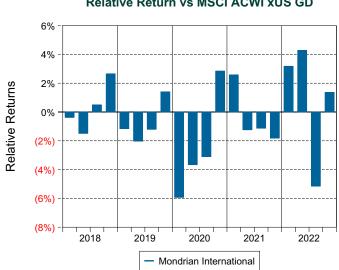
#### **Quarterly Summary and Highlights**

- Mondrian International's portfolio posted a 15.93% return for the quarter placing it in the 59 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 25 percentile for the last year.
- Mondrian International's portfolio outperformed the MSCI ٠ ACWI xUS GD by 1.56% for the guarter and outperformed the MSCI ACWI xUS GD for the year by 2.91%.

#### **Quarterly Asset Growth Beginning Market Value** \$20,029,709 Net New Investment \$3,500,000 Investment Gains/(Losses) \$3,666,717 Ending Market Value \$27,196,426

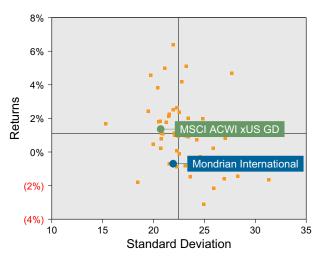






Relative Return vs MSCI ACWI xUS GD

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

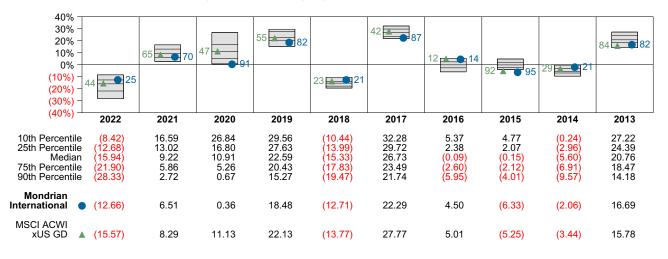


# Mondrian International Return Analysis Summary

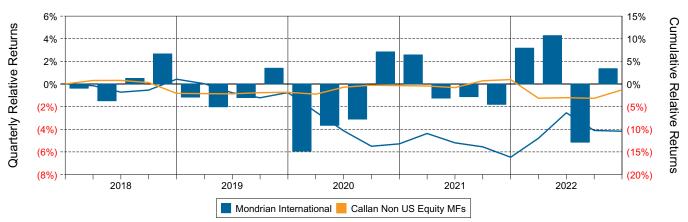
#### **Return Analysis**

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.

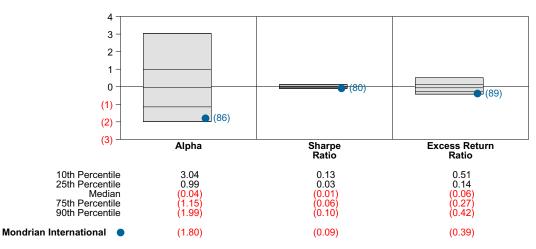
#### Performance vs Callan Non US Equity Mutual Funds (Net)



Cumulative and Quarterly Relative Returns vs MSCI ACWI xUS GD



Risk Adjusted Return Measures vs MSCI ACWI xUS GD Rankings Against Callan Non US Equity Mutual Funds (Net) Five Years Ended December 31, 2022



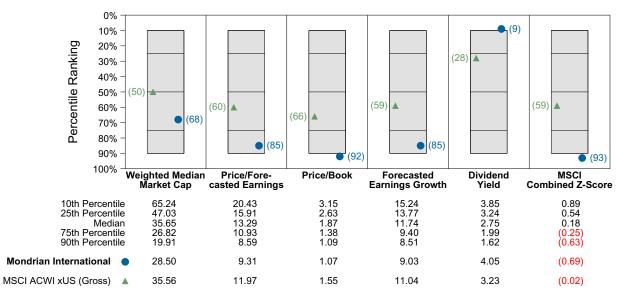


# Mondrian International Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

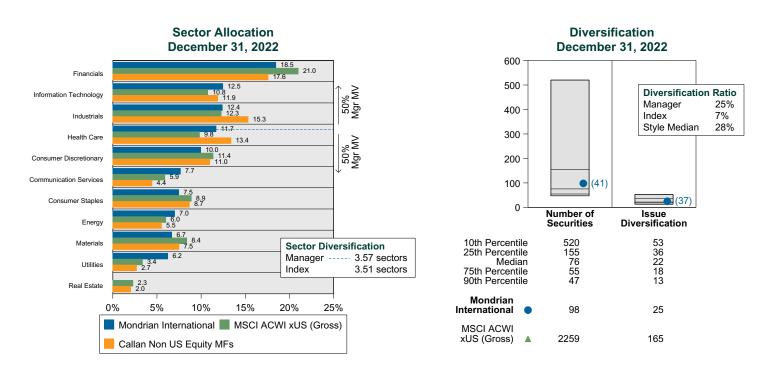
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of December 31, 2022



#### **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.

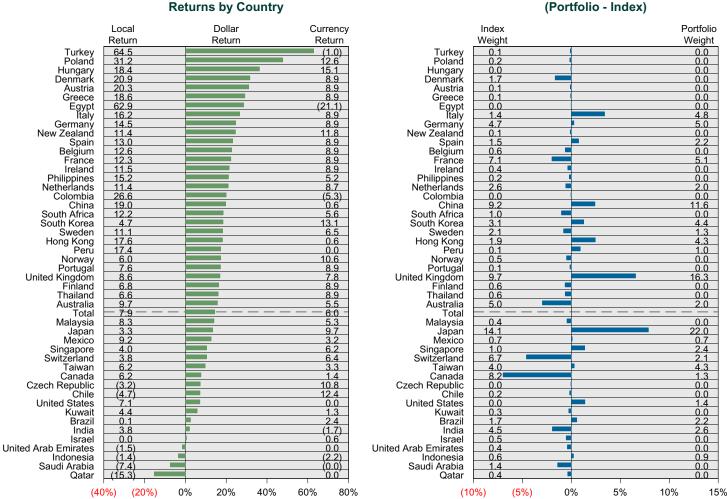


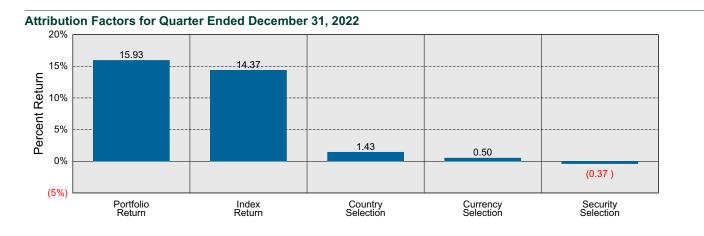
# Mondrian International vs MSCI ACWI xUS GD Attribution for Quarter Ended December 31, 2022

Index

#### International Attribution

The first chart below illustrates the return for each country in the index sorted from high to low. The total return for the index is highlighted with a dotted line. The second chart (countries presented in the same order) illustrates the manager's country allocation decisions relative to the index. To the extent that the manager over-weighted a country that had a higher return than the total return for the index (above the dotted line) it contributes positively to the manager's country (or currency) selection effect. The last chart details the manager return, the index return, and the attribution factors for the quarter.





# **Beginning Relative Weights**

## T. Rowe Price Intl Small Cap Period Ended December 31, 2022

#### **Investment Philosophy**

T. Rowe's International Small Cap strategy has been managed within a multi-portfolio manager structure with regional responsibilities since inception. The group has been incredibly stable, however, in 2021 Ben Griffiths took on the leadership role of the team from previous portfolio manager, Justin Thomson, who was elevated to head of T. Rowe's International Equity division. Fortunately, Griffiths has been a member of the team since 2006 and well equipped to take over. The investment process focuses on finding high quality businesses that can generate performance beyond a business cycle. The team takes a long-term approach to identify 200 to 250 stocks for the portfolio, diversified across sectors and regions. Historical results are impressive as the portfolio's investments in compounding growth companies have done well, although the strategy may struggle in commodity-driven and/or cyclical regimes. Portfolio was funded September 2017. Historical returns are that of the manager's composite.

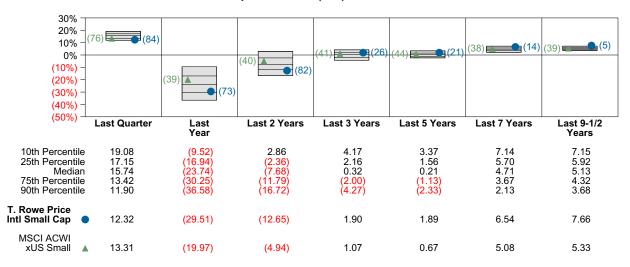
#### **Quarterly Summary and Highlights**

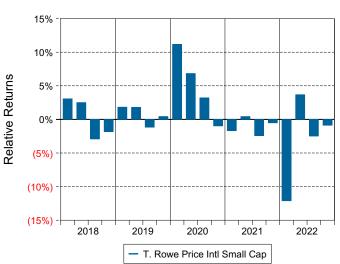
- T. Rowe Price Intl Small Cap's portfolio posted a 12.32% return for the quarter placing it in the 84 percentile of the Callan International Small Cap Mut Funds group for the quarter and in the 73 percentile for the last year.
- T. Rowe Price Intl Small Cap's portfolio underperformed the MSCI ACWI xUS Small by 0.99% for the quarter and underperformed the MSCI ACWI xUS Small for the year by 9.54%.

#### Quarterly Asset Growth

Beginning Market Value	\$17,768,216
Net New Investment	\$2,500,000
Investment Gains/(Losses)	\$2,411,153
Ending Market Value	\$22,679,369

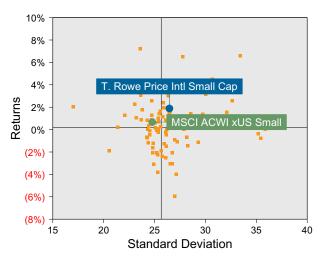
#### Performance vs Callan International Small Cap Mut Funds (Net)





Relative Return vs MSCI ACWI xUS Small

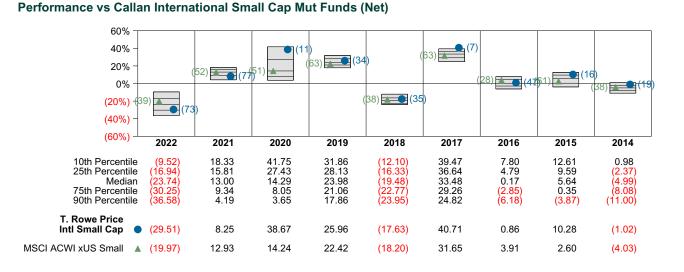
Callan International Small Cap Mut Funds (Net) Annualized Five Year Risk vs Return



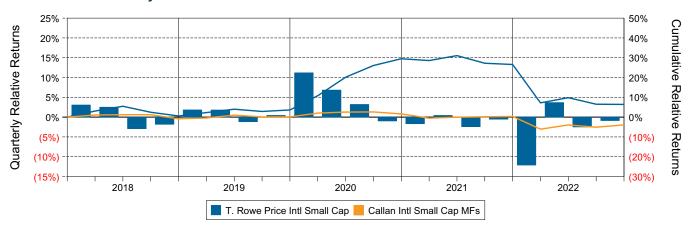
# T. Rowe Price Intl Small Cap Return Analysis Summary

#### **Return Analysis**

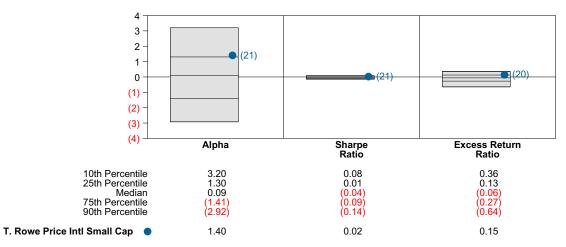
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate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



Cumulative and Quarterly Relative Returns vs MSCI ACWI xUS Small



Risk Adjusted Return Measures vs MSCI ACWI xUS Small Rankings Against Callan International Small Cap Mut Funds (Net) Five Years Ended December 31, 2022

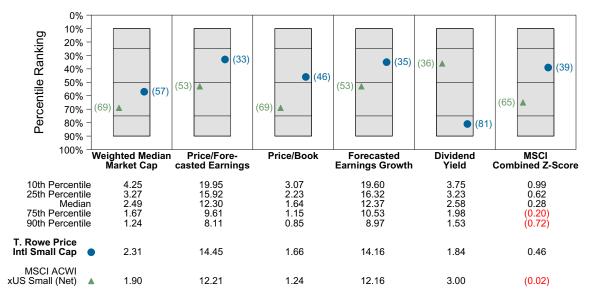


# T. Rowe Price Intl Small Cap Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

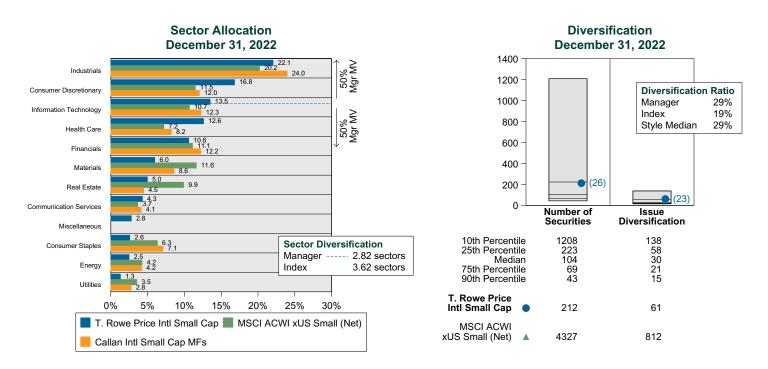
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### Portfolio Characteristics Percentile Rankings Rankings Against Callan International Small Cap Mut Funds as of December 31, 2022



#### **Sector Weights**

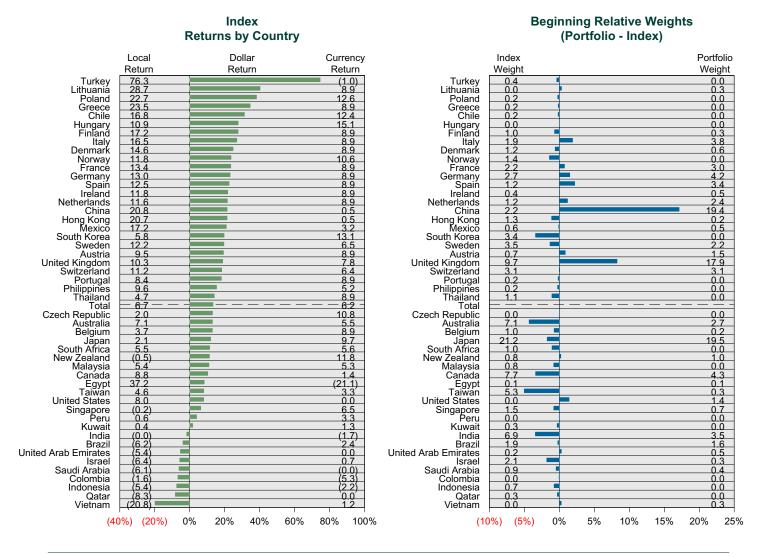
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration 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.

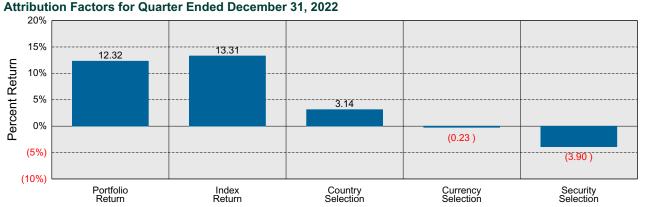


#### T. Rowe Price Intl Small Cap vs MSCI ACWI xUS Small Attribution for Quarter Ended December 31, 2022

#### **International Attribution**

The first chart below illustrates the return for each country in the index sorted from high to low. The total return for the index is highlighted with a dotted line. The second chart (countries presented in the same order) illustrates the manager's country allocation decisions relative to the index. To the extent that the manager over-weighted a country that had a higher return than the total return for the index (above the dotted line) it contributes positively to the manager's country (or currency) selection effect. The last chart details the manager return, the index return, and the attribution factors for the quarter.





#### **NinetyOne** Period Ended December 31, 2022

#### **Investment Philosophy**

Ninety One North America's 4Factor Equity team believes that share prices are driven by four key attributes over time and investing in companies that display these characteristics will drive long-term performance. They look to invest in high quality, attractively valued companies, which are improving operating performance and receiving increasing investor attention. These four factors (i.e., Strategy, Value, Earnings, and Technicals) are confirmed as performance drivers by academic research, empirical testing and intuitive reasoning. They believe that each factor can be a source of outperformance but in combination they are intended to produce more stable returns over the market cycle. Ninety One North America's management fee is 80 bps on all assets. The portfolio was funded June 2017. Historical returns are that of the manager's composite.

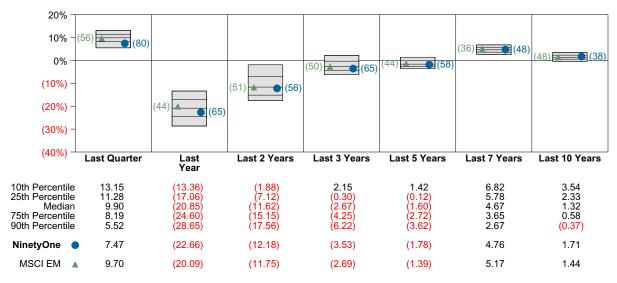
#### **Quarterly Summary and Highlights**

- NinetyOne's portfolio posted a 7.47% return for the quarter placing it in the 80 percentile of the Morningstar Diversified Emg Mkts Fds group for the guarter and in the 65 percentile for the last year.
- NinetyOne's portfolio underperformed the MSCI EM by • 2.23% for the quarter and underperformed the MSCI EM for the year by 2.57%.

Q	uart	erly	Asset	t Gi	rowth	
---	------	------	-------	------	-------	--

Beginning Market Value	\$12,481,018
Net New Investment	\$0
Investment Gains/(Losses)	\$959,398
Ending Market Value	\$13,440,416

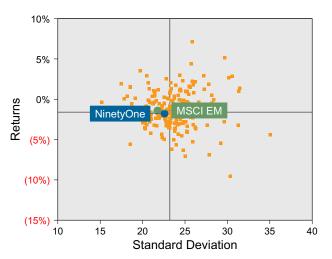






#### **Relative Return vs MSCI EM**

Morningstar Diversified Emg Mkts Fds (Net) **Annualized Five Year Risk vs Return** 

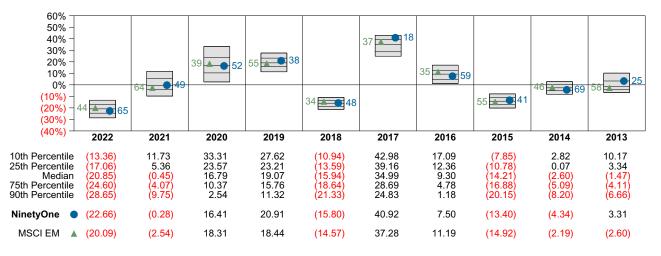


#### NinetyOne Return Analysis Summary

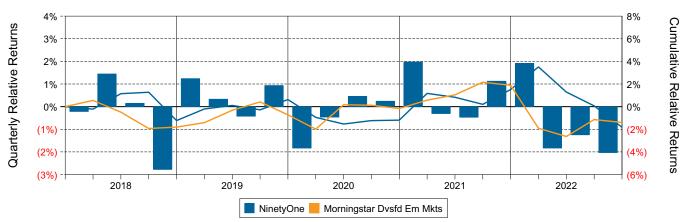
#### **Return Analysis**

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.

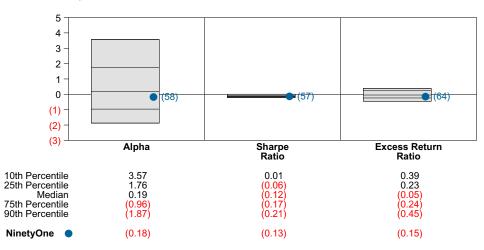




**Cumulative and Quarterly Relative Returns vs MSCI EM** 



Risk Adjusted Return Measures vs MSCI EM Rankings Against Morningstar Diversified Emg Mkts Fds (Net) Five Years Ended December 31, 2022



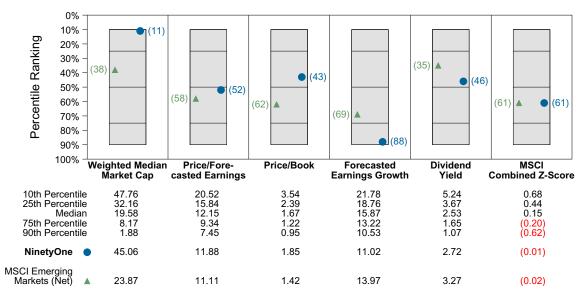


#### NinetyOne Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

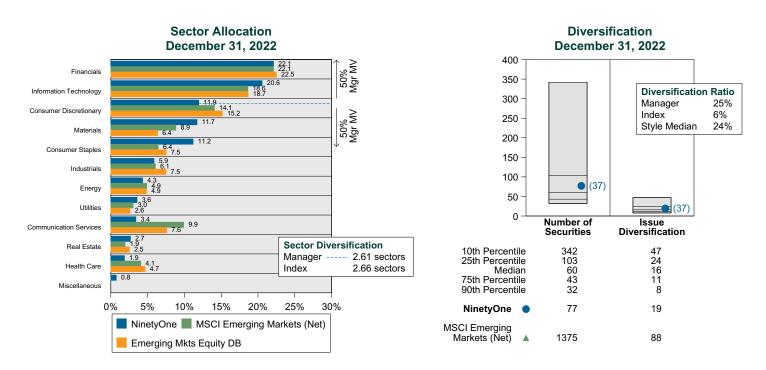
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### Portfolio Characteristics Percentile Rankings Rankings Against Emerging Markets Equity DB as of December 31, 2022



#### **Sector Weights**

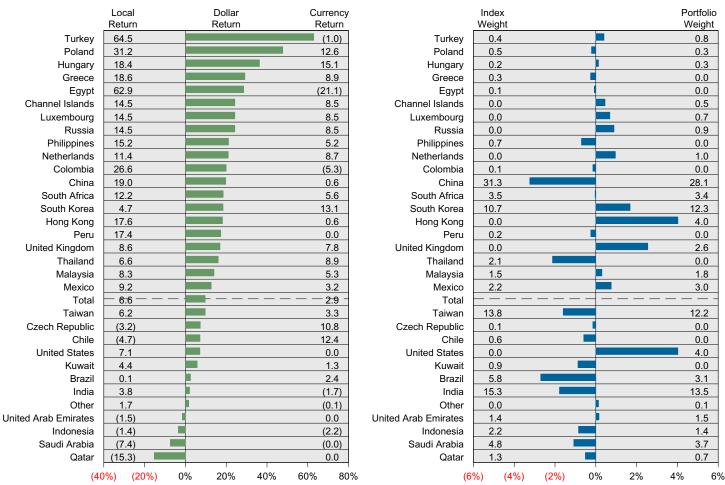
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration 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.



#### NinetyOne vs MSCI EM Attribution for Quarter Ended December 31, 2022

#### **International Attribution**

The first chart below illustrates the return for each country in the index sorted from high to low. The total return for the index is highlighted with a dotted line. The second chart (countries presented in the same order) illustrates the manager's country allocation decisions relative to the index. To the extent that the manager over-weighted a country that had a higher return than the total return for the index (above the dotted line) it contributes positively to the manager's country (or currency) selection effect. The last chart details the manager return, the index return, and the attribution factors for the quarter.





#### Beginning Relative Weights (Portfolio - Index)



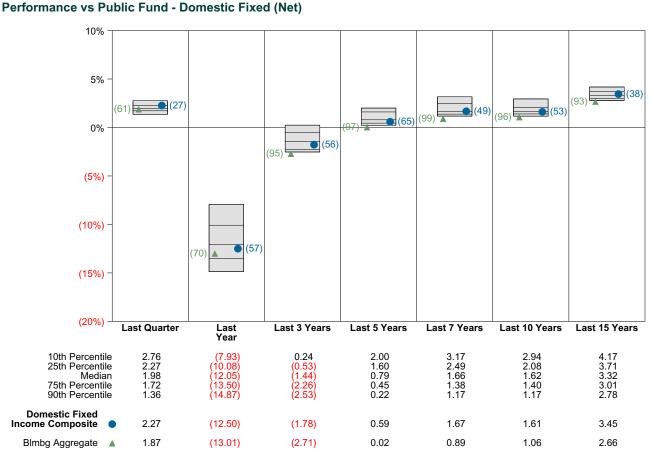
#### **Domestic Fixed Income Composite** Period Ended December 31, 2022

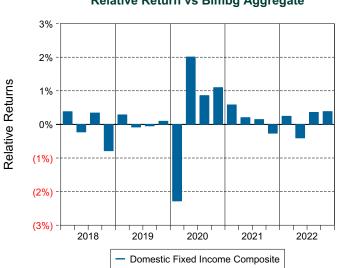
#### **Quarterly Summary and Highlights**

- Domestic Fixed Income Composite's portfolio posted a 2.27% return for the quarter placing it in the 27 percentile of the Public Fund - Domestic Fixed group for the quarter and in the 57 percentile for the last year.
- Domestic Fixed Income Composite's portfolio outperformed ٠ the Blmbg Aggregate by 0.39% for the quarter and outperformed the Blmbg Aggregate for the year by 0.51%.

#### **Quarterly Asset Growth**

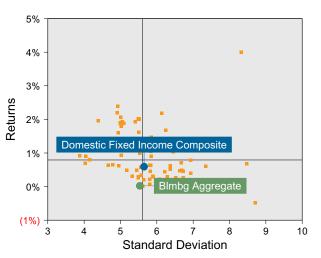
Beginning Market Value	\$117,157,820
Net New Investment	\$0
Investment Gains/(Losses)	\$2,653,721
Ending Market Value	\$119,811,541





#### Relative Return vs Blmbg Aggregate

#### Public Fund - Domestic Fixed (Net) Annualized Five Year Risk vs Return

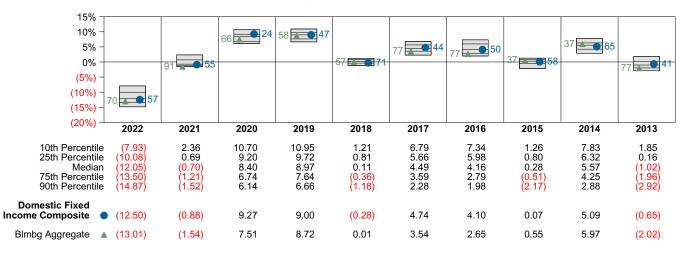


#### Domestic Fixed Income Composite Return Analysis Summary

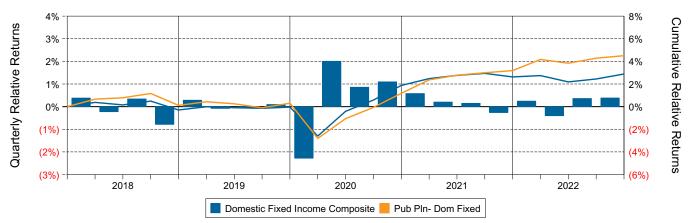
#### **Return Analysis**

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.

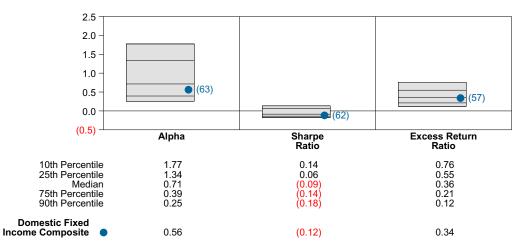
#### Performance vs Public Fund - Domestic Fixed (Net)



Cumulative and Quarterly Relative Returns vs Blmbg Aggregate



#### Risk Adjusted Return Measures vs Blmbg Aggregate Rankings Against Public Fund - Domestic Fixed (Net) Five Years Ended December 31, 2022



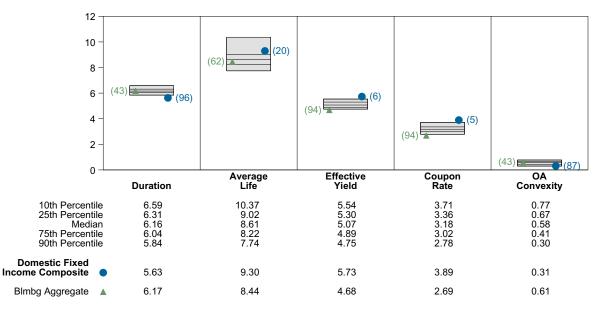


#### Domestic Fixed Income Composite Bond Characteristics Analysis Summary

#### **Portfolio Characteristics**

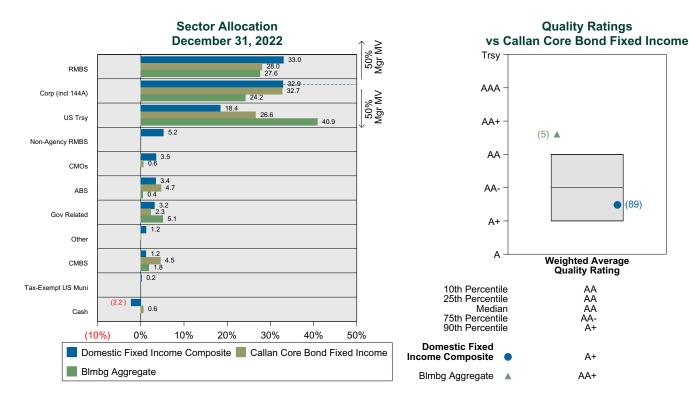
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### Fixed Income Portfolio Characteristics Rankings Against Callan Core Bond Fixed Income as of December 31, 2022



#### 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.



#### Dodge & Cox Income Period Ended December 31, 2022

#### **Investment Philosophy**

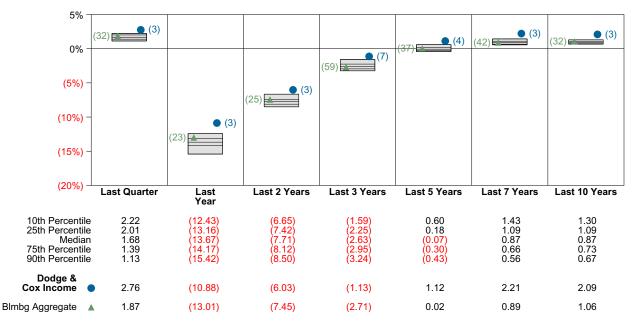
Dodge & Cox employs a bottom-up, value-oriented approach to construct portfolios. In-depth fundamental research is a hallmark of the process. The Fund can be expected to have an underweight in US Treasuries, an overweight in corporate credit and a higher yield than the benchmark. Turnover is low and the investors should have a long-term investment horizon. A maximum of 20% may be invested in securities rated below investment grade, but historically the amount has been less.

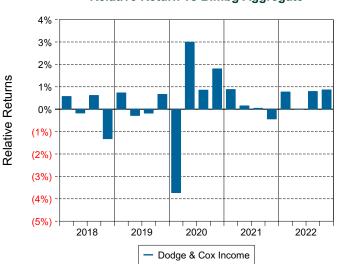
#### **Quarterly Summary and Highlights**

- Dodge & Cox Income's portfolio posted a 2.76% return for the quarter placing it in the 3 percentile of the Callan Core Bond Mutual Funds group for the quarter and in the 3 percentile for the last year.
- Dodge & Cox Income's portfolio outperformed the BImbg Aggregate by 0.88% for the quarter and outperformed the BImbg Aggregate for the year by 2.14%.

Quarterly Asset Gro	owth
Beginning Market Value	\$58,965,564
Net New Investment	\$0
Investment Gains/(Losses)	\$1,624,661
Ending Market Value	\$60,590,225

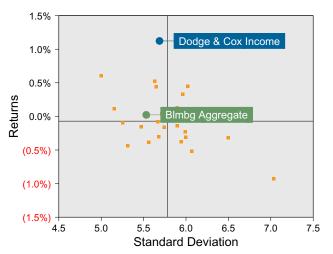






#### Relative Return vs Blmbg Aggregate

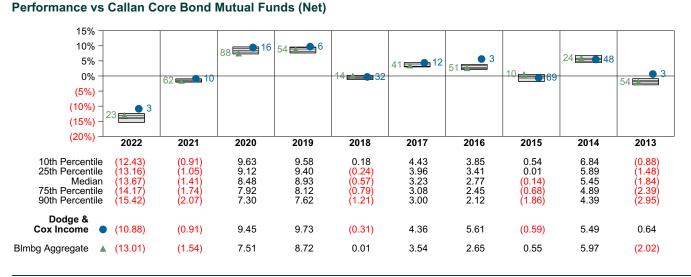
#### Callan Core Bond Mutual Funds (Net) Annualized Five Year Risk vs Return



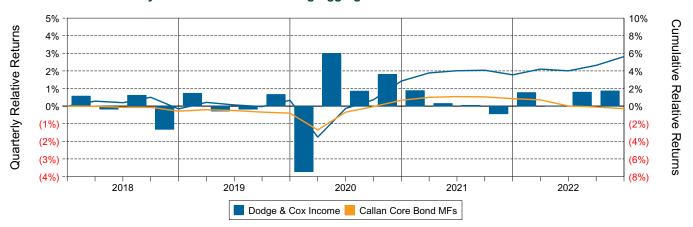
#### Dodge & Cox Income Return Analysis Summary

#### **Return Analysis**

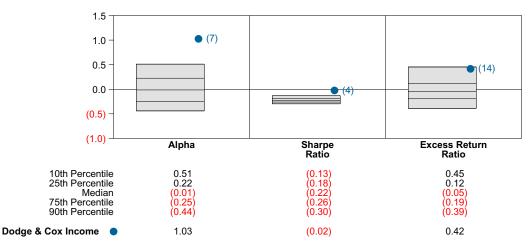
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate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



Cumulative and Quarterly Relative Returns vs Blmbg Aggregate



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



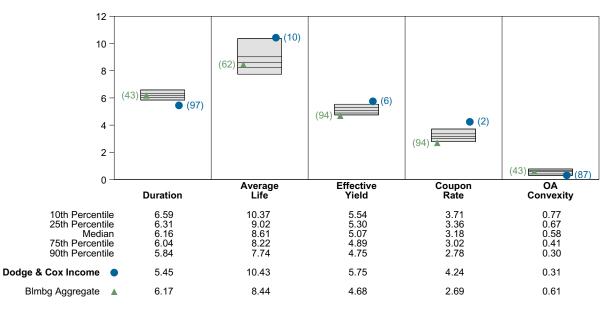


#### Dodge & Cox Income Bond Characteristics Analysis Summary

#### **Portfolio Characteristics**

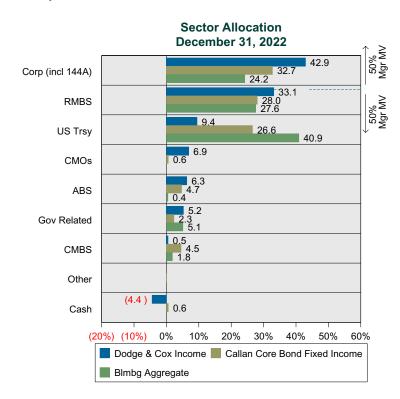
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### Fixed Income Portfolio Characteristics Rankings Against Callan Core Bond Fixed Income as of December 31, 2022

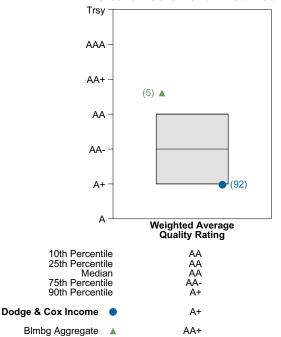


#### Sector Allocation and Quality Ratings

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.



## Quality Ratings vs Callan Core Bond Fixed Income



#### PIMCO Period Ended December 31, 2022

#### **Investment Philosophy**

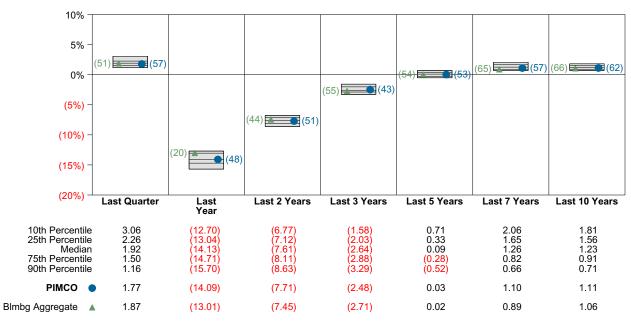
The Total Return fund is a core plus strategy managed by a team of PIMCO's senior investment professionals. PIMCO is well known for its macroeconomic forecasts, which contribute to the top-down elements of its investment process while sector teams and traders drive the bottom-up security selection choices. The strategy is benchmarked to the Bloomberg U.S. Aggregate Index and invests in a broad set of fixed income sectors. Duration is generally within two years of the benchmark. The Fund allows up to 20% in high yield and 20% in foreign currency exposure.

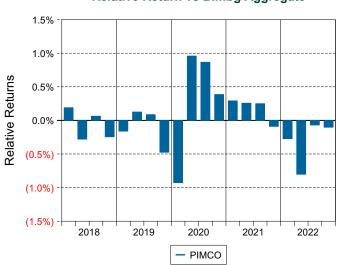
#### **Quarterly Summary and Highlights**

- PIMCO's portfolio posted a 1.77% return for the quarter placing it in the 57 percentile of the Callan Core Plus Mutual Funds group for the quarter and in the 48 percentile for the last year.
- PIMCO's portfolio underperformed the BImbg Aggregate by 0.10% for the quarter and underperformed the BImbg Aggregate for the year by 1.08%.

# Quarterly Asset GrowthBeginning Market Value\$58,192,256Net New Investment\$0Investment Gains/(Losses)\$1,029,060Ending Market Value\$59,221,316

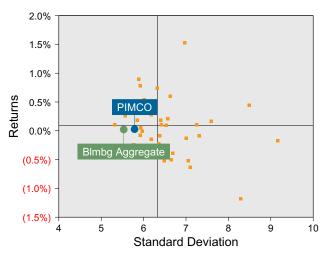






#### Relative Return vs Blmbg Aggregate

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

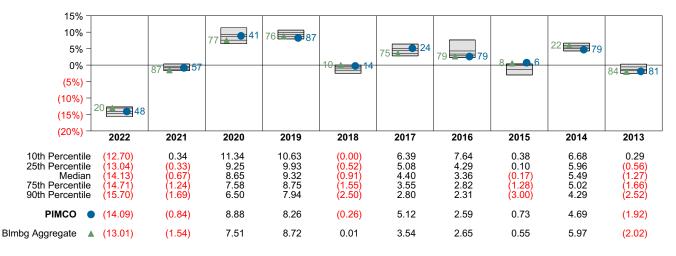


#### PIMCO Return Analysis Summary

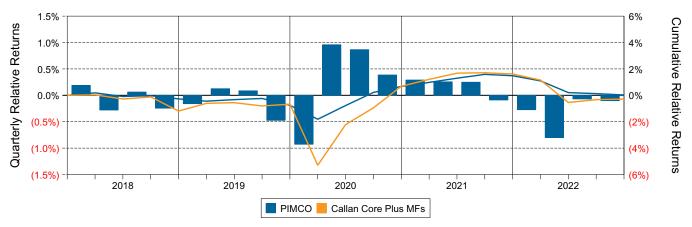
#### **Return Analysis**

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.

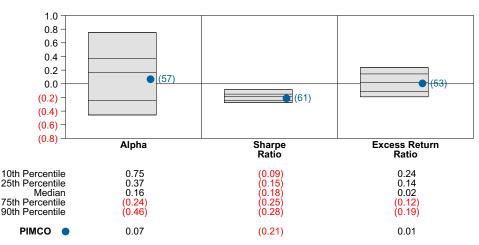
#### Performance vs Callan Core Plus Mutual Funds (Net)



Cumulative and Quarterly Relative Returns vs Blmbg Aggregate



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



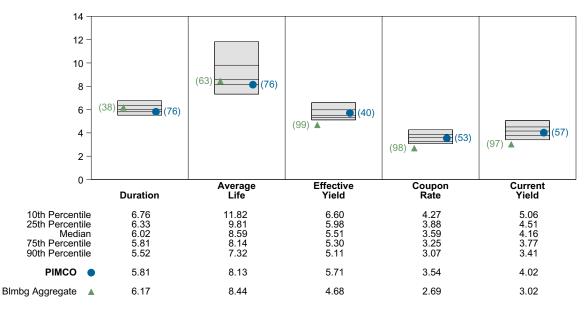


#### PIMCO Bond Characteristics Analysis Summary

#### **Portfolio Characteristics**

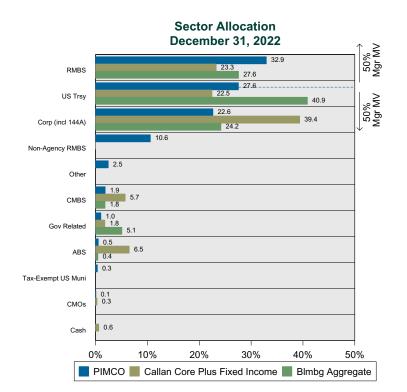
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### Fixed Income Portfolio Characteristics Rankings Against Callan Core Plus Fixed Income as of December 31, 2022

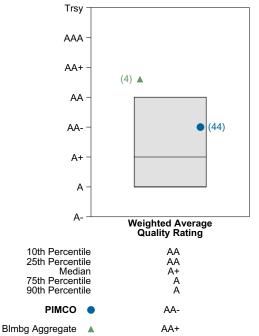


#### Sector Allocation and Quality Ratings

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.



#### Quality Ratings vs Callan Core Plus Fixed Income





Infrastructure

#### IFM Global Infrastructure Period Ended December 31, 2022

#### **Investment Philosophy**

IFM Investors believes a professionally managed portfolio of infrastructure assets can provide long-term institutional investors with significant benefits: diversification, earnings stability, participation in economic growth, protection from inflation and portfolio risk management. Infrastructure assets also allow investors to match their long-term liabilities with long-term investments.

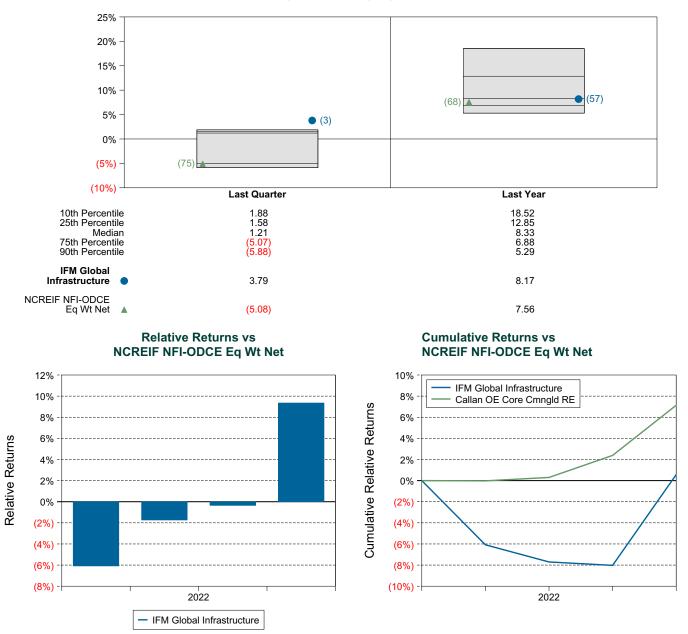
#### **Quarterly Summary and Highlights**

- IFM Global Infrastructure's portfolio posted a 3.79% return for the quarter placing it in the 3 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 57 percentile for the last year.
- IFM Global Infrastructure's portfolio outperformed the NCREIF NFI-ODCE Eq Wt Net by 8.87% for the quarter and outperformed the NCREIF NFI-ODCE Eq Wt Net for the year by 0.61%.

#### Quarterly Asset Growth

Beginning Market Value	\$18,029,962
Net New Investment	\$0
Investment Gains/(Losses)	\$682,881
Ending Market Value	\$18,712,842

#### Performance vs Callan Open End Core Cmmingled Real Est (Net)



#### JP Morgan Infrastructure Period Ended December 31, 2022

#### **Investment Philosophy**

The JPMorgan Infrastructure Investments Fund ("IIF") looks to add value through its ability to build upon existing investments and de-risk future investments without the constraint of multiple fund vintage conflicts. In addition, as an open-end fund, IIF focuses on driving sustained operational improvements and efficiencies as well as long-term value. Short-term improvements and exit timing largely dependent upon market conditions, are not priorities.

Begi

Net

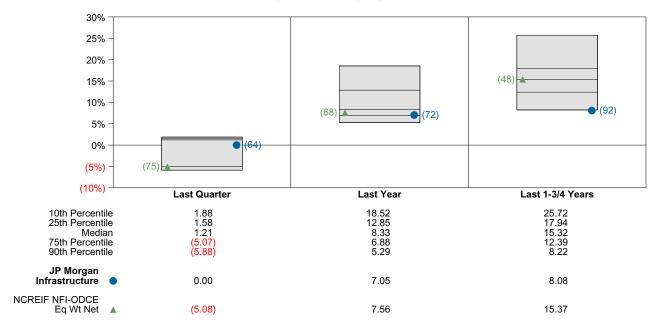
#### **Quarterly Summary and Highlights**

- JP Morgan Infrastructure's portfolio posted a 0.00% return for the quarter placing it in the 64 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 72 percentile for the last year.
- JP Morgan Infrastructure's portfolio outperformed the NCREIF NFI-ODCE Eq Wt Net by 5.08% for the quarter and underperformed the NCREIF NFI-ODCE Eq Wt Net for the year by 0.51%.

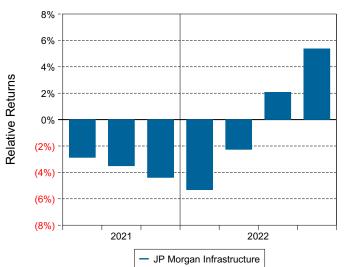
Quarterly Asset 0	Growth
nning Market Value	\$24,362,300
New Investment	\$0

Investment Gains/(Losses)	\$0
Ending Market Value	\$24,362,300

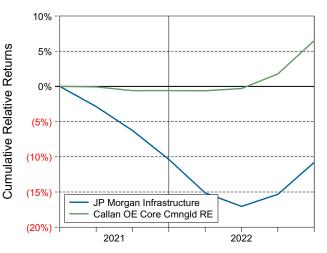








#### Cumulative Returns vs NCREIF NFI-ODCE Eq Wt Net



Real Estate

#### Real Estate Composite Period Ended December 31, 2022

#### **Quarterly Summary and Highlights**

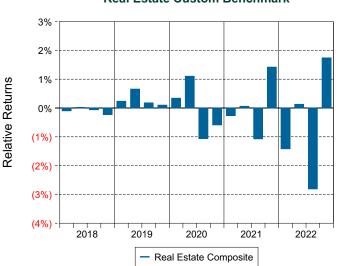
- Real Estate Composite's portfolio posted a (3.44)% return for the quarter placing it in the 71 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 92 percentile for the last year.
- Real Estate Composite's portfolio outperformed the Real Estate Custom Benchmark by 1.65% for the quarter and underperformed the Real Estate Custom Benchmark for the year by 2.58%.

#### Performance vs Callan Open End Core Cmmingled Real Est (Net)

#### Quarterly Asset Growth

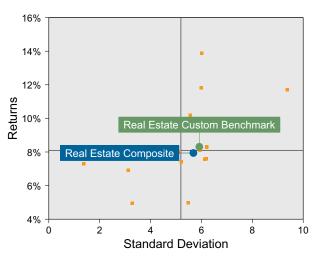
Beginning Market Value	\$92,897,689
Net New Investment	\$-293,897
Investment Gains/(Losses)	\$-3,191,032
Ending Market Value	\$89,412,760





#### Relative Returns vs Real Estate Custom Benchmark

#### Callan Open End Core Cmmingled Real Est (Net) Annualized Five Year Risk vs Return



#### RREEF Private Period Ended December 31, 2022

#### **Investment Philosophy**

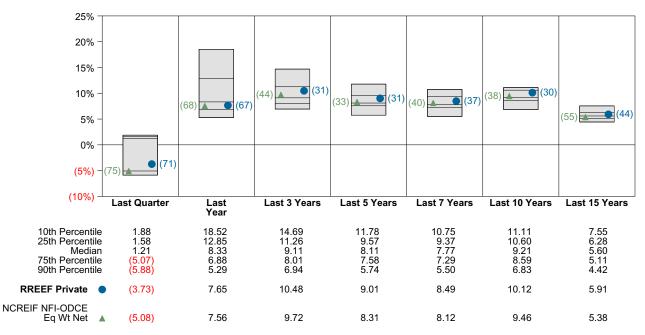
RREEF America II acquires 100 percent equity interests in small- to medium-sized (\$10 million to \$70 million) apartment, industrial, retail and office properties in targeted metropolitan areas within the continental United States. The fund capitalizes on RREEF's national research capabilities and market presence to identify superior investment opportunities in major metropolitan areas across the United States.

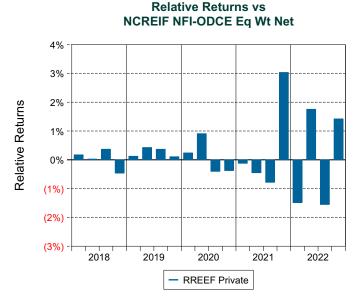
#### **Quarterly Summary and Highlights**

- RREEF Private's portfolio posted a (3.73)% return for the quarter placing it in the 71 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 67 percentile for the last year.
- RREEF Private's portfolio outperformed the NCREIF NFI-ODCE Eq Wt Net by 1.35% for the quarter and outperformed the NCREIF NFI-ODCE Eq Wt Net for the year by 0.09%.

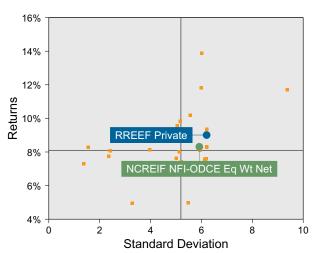
Quarterly Asset Gro	owth
Beginning Market Value	\$47,694,385
Net New Investment	\$0
Investment Gains/(Losses)	\$-1,780,710
Ending Market Value	\$45,913,675







#### Callan Open End Core Cmmingled Real Est (Net) Annualized Five Year Risk vs Return



#### Barings Core Property Fund Period Ended December 31, 2022

#### **Investment Philosophy**

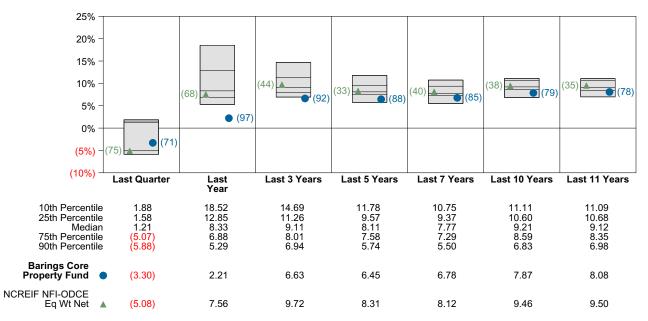
Barings believes that the investment strategy for the Core Property Fund is unique with the goal of achieving returns in excess of the benchmark index, the NFI-ODCE Index, with a level of risk associated with a core fund. The construct of the Fund relies heavily on input from Barings Research, which provided the fundamentals for the investment strategy. Strategic targets and fund exposure which differentiate the Fund from its competitors with respect to both its geographic and property type weightings, and we believe will result in performance in excess of industry benchmarks over the long-term.

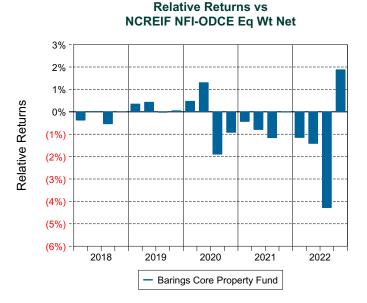
#### **Quarterly Summary and Highlights**

- Barings Core Property Fund's portfolio posted a (3.30)% return for the quarter placing it in the 71 percentile of the Callan Open End Core Cmmingled Real Est group for the quarter and in the 97 percentile for the last year.
- Barings Core Property Fund's portfolio outperformed the NCREIF NFI-ODCE Eq Wt Net by 1.78% for the quarter and underperformed the NCREIF NFI-ODCE Eq Wt Net for the year by 5.34%.

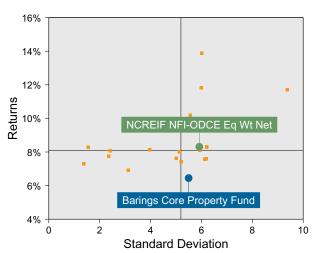
Quarterly Asset Gr	owth
Beginning Market Value	\$43,453,304
Net New Investment	\$-270,635
Investment Gains/(Losses)	\$-1,433,584
Ending Market Value	\$41,749,085

#### Performance vs Callan Open End Core Cmmingled Real Est (Net)





#### Callan Open End Core Cmmingled Real Est (Net) Annualized Five Year Risk vs Return



Capital Markets Review

#### **U.S. EQUITY**

#### 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.

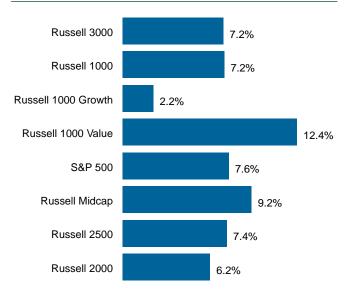
#### Market valuations have reset with the broad-based sell-off

- 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.

S&P Sector Returns, Quarter Ended 12/31/22

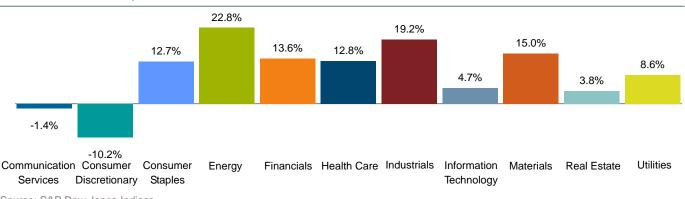


#### U.S. Equity: One-Year Returns

**U.S. Equity: Quarterly Returns** 



Sources: FTSE Russell, S&P Dow Jones Indices



Source: S&P Dow Jones Indices

#### 4Q22

#### **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 higher representation of traditional value sectors in non-U.S. equity universes.

#### China's reopening spurs hopes for emerging markets

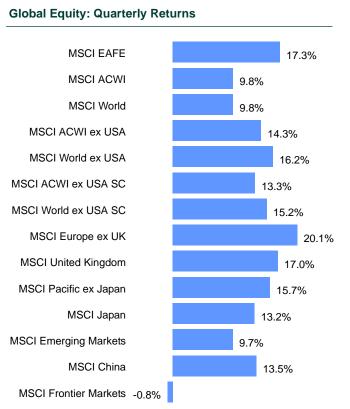
 In addition to pivoting from its zero-COVID policy, Chinese regulators shifted to supportive policies to stabilize the property sector and tech/platform industry.

#### 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 Equity: One-Year Returns**



Source: MSCI

#### **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.

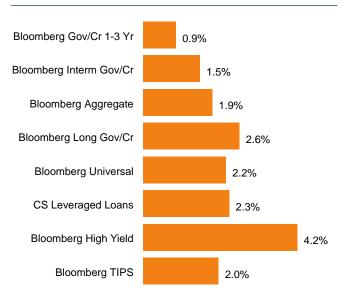
#### Economic slowdown clouds the corporate credit picture

- 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.

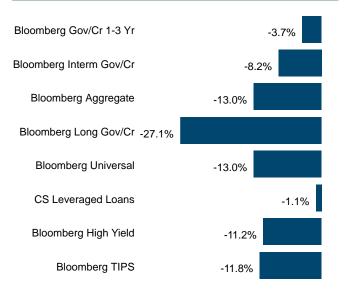
#### **TIPS: Beware of duration**

- 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.

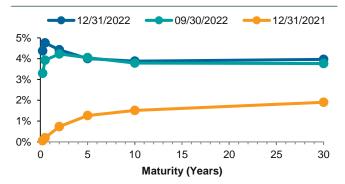




#### U.S. Fixed Income: One-Year Returns



#### U.S. Treasury Yield Curves



Sources: Bloomberg, Credit Suisse



#### **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**

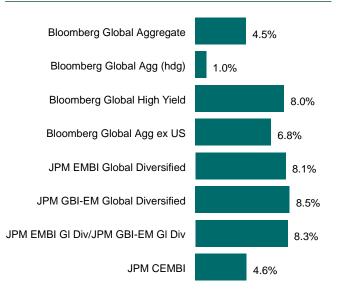
#### 4Q returns driven largely by U.S. dollar weakness

- 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.

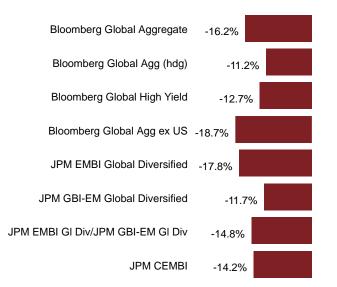
#### Emerging market debt also did well

- Returns varied across countries but most were positive

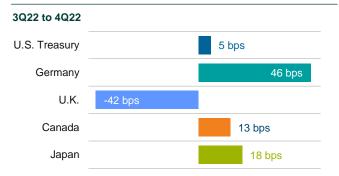
#### **Global Fixed Income: Quarterly Returns**



#### **Global Fixed Income: One-Year Returns**



#### **Change in 10-Year Global Government Bond Yields**



Sources: Bloomberg, JP Morgan

Callan Research/Education



## 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 <u>Trends</u> | 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

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

#### Education: By the Numbers

50+	Unique pieces of research the Institute generates each year

**525**Attendees (on average) of the<br/>Institute's annual National Conference

3,700

Total attendees of the "Callan College" since 1994



"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

#### **Equity Market Indicators**

The market indicators included in this report are regarded as measures of equity or fixed income performance results. The returns shown reflect both income and capital appreciation.

**Russell 2000 Growth** contains those Russell 2000 securities with a greater than average growth orientation. Securities in this index tend to exhibit higher price-to-book and price-earning ratios, lower dividend yields and higher forecasted growth values than the Value universe.

**Russell 2000 Value** contains those Russell 2000 securities with a less than average growth orientation. Securities in this index tend to exhibit lower price-to-book and price-earning ratios, higher dividend yields and lower forecasted growth values than the Growth universe.

**Russell 3000 Index** is a composite of 3,000 of the largest U.S. companies by market capitalization. The smallest company's market capitalization is roughly \$20 million and the largest is \$72.5 billion. The index is capitalization-weighted.

**Russell Mid Cap Growth** measures the performance of those Russell Mid Cap Companies with higher price-to-book ratios and higher forecasted growth values. The stocks are also members of the Russell 1000 Growth Index.

**Russell MidCap Value Index** The Russell MidCap Value index contains those Russell MidCap securities with a less than average growth orientation. Securities in this index tend to exhibit lower price-to-book and price-earnings ratio, higher dividend yields and lower forecasted growth values than the Growth universe.

Standard & Poor's 500 Index is designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries. The index is capitalization-weighted, with each stock weighted by its proportion of the total market value of all 500 issues. Thus, larger companies have a greater effect on the index.

#### **Fixed Income Market Indicators**

**Bloomberg Aggregate** is a combination of the Mortgage Backed Securities Index and the intermediate and long-term components of the Government/Credit Bond Index.

#### **International Equity Market Indicators**

**MSCI ACWI ex US Index** The MSCI ACWI ex US(All Country World Index) Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets, excluding the US. As of May 27, 2010 the MSCI ACWI consisted of 45 country indices comprising 24 developed and 21 emerging market country indices. The developed market country indices included are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom. The emerging market country indices included are: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, and Turkey.

**Morgan Stanley Capital International (MSCI) EAFE Index** is composed of approximately 1000 equity securities representing the stock exchanges of Europe, Australia, New Zealand and the Far East. The index is capitalization-weighted and is expressed in terms of U.S. dollars.

#### **Real Estate Market Indicators**

**NCREIF Open Ended Diversified Core Equity** The NFI-ODCE is an equally-weighted, net of fee, time-weighted return index with an inception date of December 31, 1977. Equally-weighting the funds shows what the results would be if all funds were treated equally, regardless of size. Open-end Funds are generally defined as infinite-life vehicles consisting of multiple investors who have the ability to enter or exit the fund on a periodic basis, subject to contribution and/or redemption requests, thereby providing a degree of potential investment liquidity. The term Diversified Core Equity style typically reflects lower risk investment strategies utilizing low leverage and generally represented by equity ownership positions in stable U.S. operating properties.

#### **Callan Databases**

In order to provide comparative investment results for use in evaluating a fund's performance, Callan gathers rate of return data from investment managers. These data are then grouped by type of assets managed and by the type of investment manager. Except for mutual funds, the results are for tax-exempt fund assets. The databases, excluding mutual funds, represent investment managers who handle over 80% of all tax-exempt fund assets.

#### **Equity Funds**

Equity funds concentrate their investments in common stocks and convertible securities. The funds included maintain well-diversified portfolios.

**Core Equity** - Mutual funds whose portfolio holdings and characteristics are similar to that of the broader market as represented by the Standard & Poor's 500 Index, with the objective of adding value over and above the index, typically from sector or issue selection. The core portfolio exhibits similar risk characteristics to the broad market as measured by low residual risk with Beta and R-Squared close to 1.00.

**International Emerging Markets Equity** - The International Emerging Market Equity Database consists of all separate account international equity products that concentrate on newly emerging second and third world countries in the regions of the Far East, Africa, Europe, and Central and South America.

**Non-U.S. Equity** A broad array of active managers who employ various strategies to invest assets in a well-diversified portfolio of non-U.S. equity securities. This group consists of all Core, Core Plus, Growth, and Value international products, as well as products using various mixtures of these strategies. Region-specific, index, emerging market, or small cap products are excluded.

**Non-U.S. Equity Style Mutual Funds** - Mutual funds that invest their assets only in non-U.S. equity securities but exclude regional and index funds.

**Small Capitalization (Growth)** - Mutual funds that invest in small capitalization companies that are expected to have above average prospects for long-term growth in earnings and profitability. Future growth prospects take precedence over valuation levels in the stock selection process. Invests in companies with P/E ratios, Price-to-Book values, and Growth-in-Earnings values above the broader market as well as the small capitalization market segment. The companies typically have zero dividends or dividend yields below the broader market. The securities exhibit greater volatility than the broader market as well as the small capitalization market segment as measured by the risk statistics beta and standard deviation.

**Small Capitalization (Value)** - Mutual funds that invest in small capitalization companies that are believed to be currently undervalued in the general market. Valuation issues take precedence over near-term earnings prospects in the stock selection process. The companies are expected to have a near-term earnings rebound and eventual realization of expected value. Invests in companies with P/E ratios, Return-on-Equity values, and Price-to-Book values below the broader market as well as the small capitalization market segment. The companies typically have dividend yields in the high range for the small capitalization market. Invests in securities with risk/reward profiles in the lower risk range of the small capitalization market.

#### **Callan Databases**

#### **Fixed Income Funds**

Fixed Income funds concentrate their investments in bonds, preferred stocks, and money market securities. The funds included maintain well-diversified portfolios.

**Core Bond** - Mutual Funds that construct portfolios to approximate the investment results of the Bloomberg Barclays Capital Government/Credit Bond Index or the Bloomberg Barclays Capital Aggregate Bond Index with a modest amount of variability in duration around the index. The objective is to achieve value added from sector and/or issue selection.

**Core Bond** - Managers who construct portfolios to approximate the investment results of the Bloomberg Barclays Capital Government/Credit Bond Index or the Bloomberg Barclays Capital Aggregate Bond Index with a modest amount of variability in duration around the index. The objective is to achieve value added from sector and/or issue selection.

**Core Plus Bond** - Active managers whose objective is to add value by tactically allocating significant portions of their portfolios among non-benchmark sectors (e.g. high yield corporate, non-US\$ bonds, etc.) while maintaining majority exposure similar to the broad market.

#### **Real Estate Funds**

Real estate funds consist of open or closed-end commingled funds. The returns are net of fees and represent the overall performance of commingled institutional capital invested in real estate properties.

**Real Estate Open-End Commingled Funds** - The Open-End Funds Database consists of all open-end commingled real estate funds.

#### **Other Funds**

**Public - Total** - consists of return and asset allocation information for public pension funds at the city, county and state level. The database is made up of Callan clients and non-clients.



Disclosures

## Callan

#### List of Callan's Investment Manager Clients

Confidential - For Callan Client Use Only

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	Manager Name
abrdn (Aberdeen Standard Investments)	Baillie Gifford International, LLC
Acadian Asset Management LLC	Baird Advisors
Adams Street Partners, LLC	Barings LLC
AEGON USA Investment Management Inc.	Baron Capital Management, Inc.
AllianceBernstein	Barrow, Hanley, Mewhinney & Strauss, LLC
Allianz	Belle Haven Investments
Allspring Global Investments	BentallGreenOak
American Century Investments	BlackRock
Amundi US, Inc.	Blackstone Group (The)
Antares Capital LP	BNY Mellon Asset Management
AQR Capital Management	Boston Partners
Ares Management LLC	Brandes Investment Partners, L.P.
Ariel Investments, LLC	Brandywine Global Investment Management, LLC
Aristotle Capital Management, LLC	Brookfield Asset Management Inc.
Arrowmark Partners	Brown Brothers Harriman & Company
ARS Investment Partners LLC	Capital Group
Atlanta Capital Management Co., LLC	Carillon Tower Advisers
AXA Investment Managers	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	Manager Name
Natixis Investment Managers	Rothschild & Co. Asset Management US
Neuberger Berman	S&P Dow Jones Indices
Newton Investment Management	Schroder Investment Management North America Inc.
Ninety One North America, Inc.	Segall Bryant & Hamill
Northern Trust Asset Management	SLC Management
Nuveen	Smith Graham & Co. Investment Advisors, L.P.
Oaktree Capital Management, L.P.	State Street Global Advisors
P/E Investments	Strategic Global Advisors, LLC
Pacific Investment Management Company	Strategic Value Partners, LLC
Pantheon Ventures	T. Rowe Price Associates, Inc.
Parametric Portfolio Associates LLC	The TCW Group, Inc.
Partners Group (USA) Inc.	Thompson, Siegel & Walmsley LLC
Pathway Capital Management, LP	Thornburg Investment Management, Inc.
Peregrine Capital Management, LLC	Tri-Star Trust Bank
PFM Asset Management LLC	UBS Asset Management
PGIM Fixed Income	ULLICO Investment Advisors, Inc.
PGIM Quantitative Solutions LLC	VanEck
Pictet Asset Management	Versus Capital Group
PineBridge Investments	Victory Capital Management Inc.
Polen Capital Management, LLC	Virtus Investment Partners, Inc.
Principal Asset (formerly Principal Global)	Vontobel Asset Management
Pugh Capital Management Inc.	Voya
Putnam Investments, LLC	Walter Scott & Partners Limited
Pzena Investment Management, LLC	WCM Investment Management
Raymond James Investment Management	Wellington Management Company, LLP
RBC Global Asset Management	Western Asset Management Company LLC
Regions Financial Corporation	Westfield Capital Management Company, LP
Richard Bernstein Advisors LLC	Westwood Global Investments
Robeco Institutional Asset Management, US Inc.	William Blair & Company LLC

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