



## **Executive Summary Fourth Quarter 2022**

Arkansas Judicial Retirement  
System

**Brianne Weymouth, CAIA**  
Senior Vice President

**John Jackson, CFA**  
Senior Vice President

Important Disclosures regarding the use of this document are included at the end of this document. These disclosures are an integral part of this document and should be considered by the user.

# Equity and Fixed Income Markets Down Together in 2022

Declines for both stocks and bonds for three straight quarters are extremely unusual

## Global equity markets down sharply in 2022 despite rebound in 4Q

- Similar impact across all equity market segments: developed, emerging, small cap

## Fixed income down with sharply higher inflation and interest rates

- Bloomberg Aggregate: -13% for the year, worst year ever for the index by a wide margin
- CPI-U: +6.5% for the year ended Dec. 2022
- ▶ Number of times stocks and bonds have been down together
  - 38 quarters in almost 100 years, about 10% of the quarters
  - But just twice on annual basis
- ▶ Inflation at highest rate in decades
- ▶ Economic data show growth hit 'pause'
  - GDP rose 2.9% in 4Q22, after a 3.2% rise in 3Q, a 0.6% drop in 2Q, and a 1.6% decline in 1Q.

## Returns for Periods ended 12/31/22

	Quarter	Year to Date	1 Year	5 Years	10 Years	25 Years
<b>U.S. Equity</b>						
Russell 3000	7.18	-19.21	-19.21	8.79	12.13	7.68
S&P 500	7.56	-18.11	-18.11	9.42	12.56	7.64
Russell 2000	6.23	-20.44	-20.44	4.13	9.01	7.13
<b>Global ex-U.S. Equity</b>						
MSCI World ex USA	16.18	-14.29	-14.29	1.79	4.59	4.65
MSCI Emerging Markets	9.70	-20.09	-20.09	-1.39	1.44	--
MSCI ACWI ex USA Small Cap	13.31	-19.97	-19.97	0.67	5.24	6.87
<b>Fixed Income</b>						
Bloomberg Aggregate	1.87	-13.01	-13.01	0.02	1.06	3.97
90-day T-Bill	0.84	1.46	1.46	1.26	0.76	1.91
Bloomberg Long Gov/Credit	2.61	-27.09	-27.09	-1.21	1.57	5.38
Bloomberg Global Agg ex-US	6.81	-18.70	-18.70	-3.07	-1.64	2.71
<b>Real Estate</b>						
NCREIF:NFI-ODCE Eq Wt Net	-5.08	7.56	7.56	8.31	9.46	7.77
FTSE Nareit Equity	5.24	-24.37	-24.37	3.68	6.53	7.87
<b>Alternatives</b>						
CS Hedge Fund Index	0.92	1.06	1.06	4.25	4.24	5.81
Cambridge Private Equity*	-1.84	-3.77	-3.77	16.84	15.31	14.31
Bloomberg Commodity	2.22	16.09	16.09	6.44	-1.28	1.87
Gold Spot Price	9.22	-0.13	-0.13	6.88	0.86	7.64
<b>Inflation - CPI-U</b>	0.00	6.45	6.45	3.78	2.60	2.47

\*Cambridge PE data through 09/30/22.

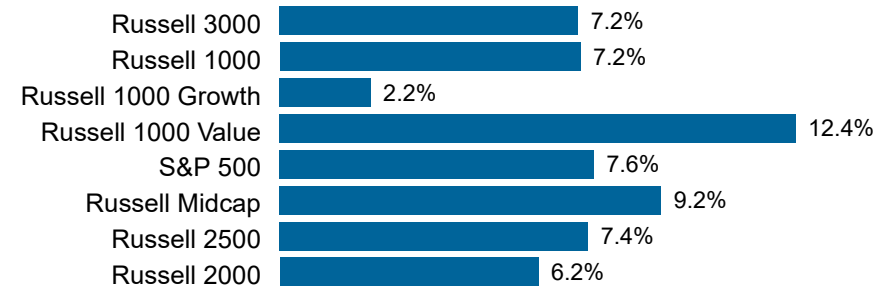
Sources: Bloomberg, Callan, Cambridge, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices

# U.S. Equity Performance: 4Q22

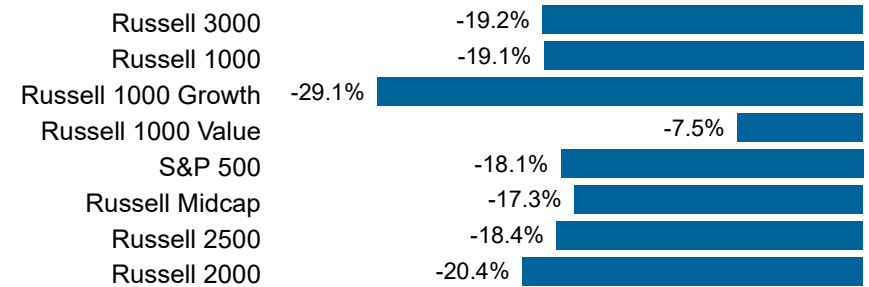
Markets retrace in December after gains in the prior two months

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

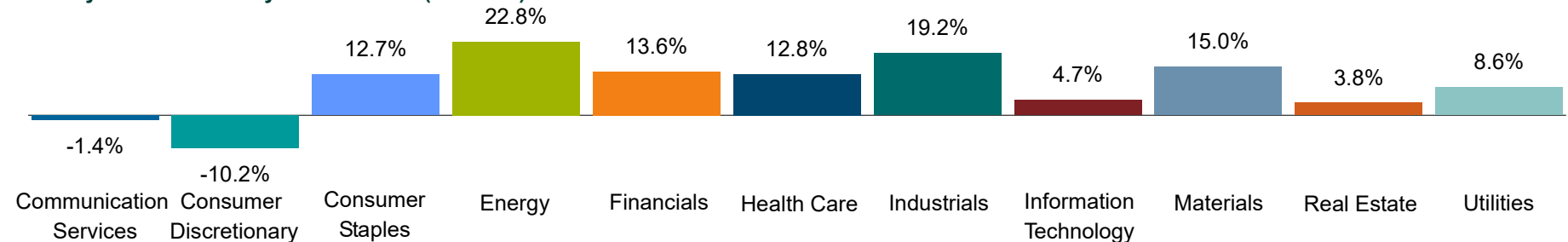
## U.S. Equity Returns: Quarter Ended 12/31/22



## U.S. Equity Returns: One Year Ended 12/31/22



## Industry Sector Quarterly Performance (S&P 500) as of 12/31/22



Sources: FTSE Russell, S&P Dow Jones Indices

# Global/Global ex-U.S. Equity Performance: 4Q22

## Ending on a high note

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

### Encouraging signs

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

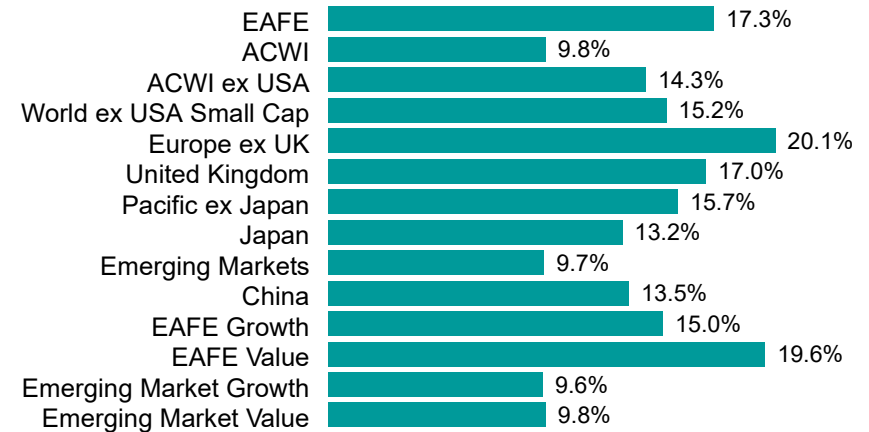
### Growth vs. value

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

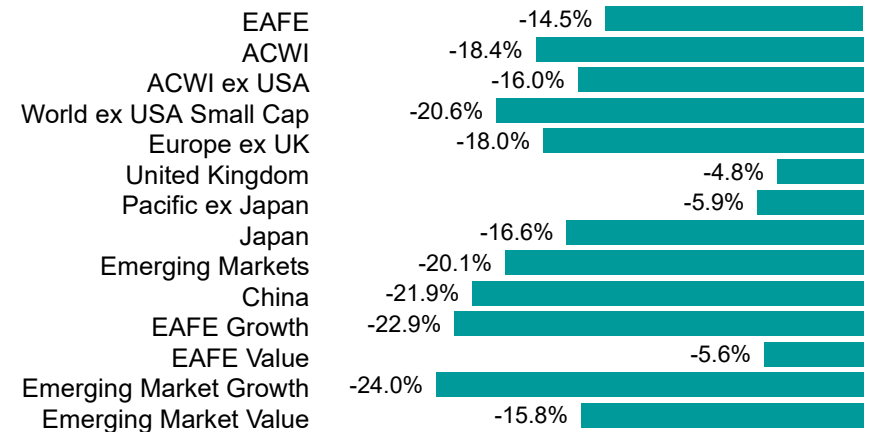
### U.S. dollar vs. other currencies

- ▶ After reaching a multi-decade high, the dollar fell against all major currencies with signs of inflation easing.
  - Despite the 7.7% decline in 4Q22, the dollar still gained nearly 8% over the full year.

### Global Equity Returns: Quarter Ended 12/31/22



### Global Equity Returns: One Year Ended 12/31/22



Source: MSCI

# U.S. Fixed Income Performance: 4Q22

## Bonds were up in 4Q but 2022 results remain negative

- ▶ Aggregate: positive return driven by coupon income and spread tightening; interest rates rose modestly
- ▶ Rates were volatile intra-quarter
  - UST 10-year yield: high 4.22% on 11/7; low 3.42% on 12/7
  - Curve remained inverted at quarter-end; 10-year yield 3.88% and 2-year yield 4.41%; most since 1981
- ▶ Fed raised rates, bringing target to 4.25%-4.50%
  - Median expectation from Fed is 5.1% for year-end 2023
  - Inflation showed signs of moderating but job market remained tight with solid wage growth

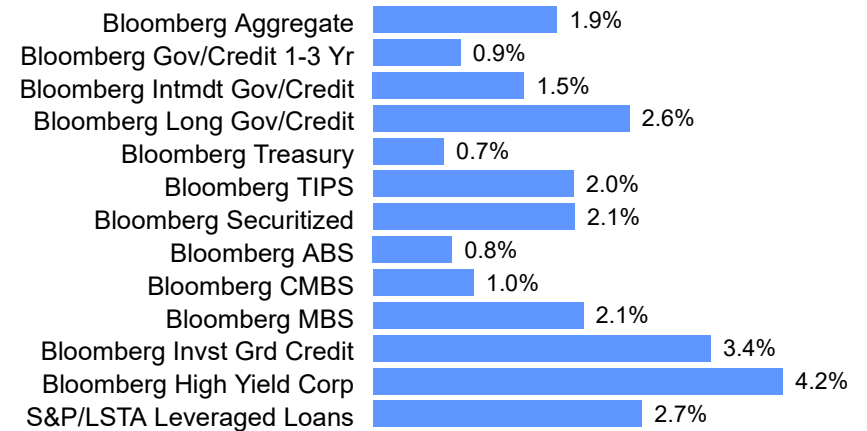
## Corporates and mortgages outperformed Treasuries in 4Q but underperformed for the year

- ▶ 4Q: Corporates +289 bps excess return; MBS +110 bps
- ▶ 2022: Corporates -125 bps excess return; MBS -223 bps
- ▶ MBS had worst month ever (September: -191 bps) and best month ever (November: +135 bps) in excess returns.

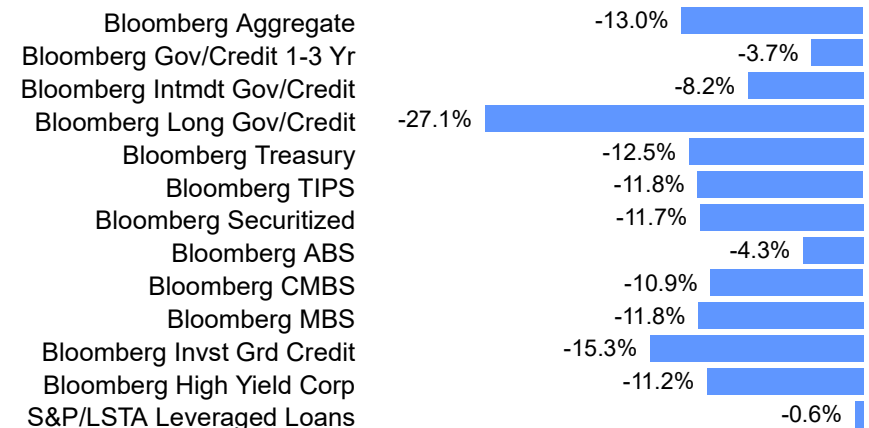
## Valuations fair

- ▶ While absolute yields are higher, spreads have not widened materially and most are close to historical averages.
- ▶ An economic slowdown/recession could impact credit spreads.
- ▶ Higher yields boosting forward-looking return outlooks across sectors

## U.S. Fixed Income Returns: Quarter Ended 12/31/22



## U.S. Fixed Income Returns: One Year Ended 12/31/22



Sources: Bloomberg, S&P Dow Jones Indices

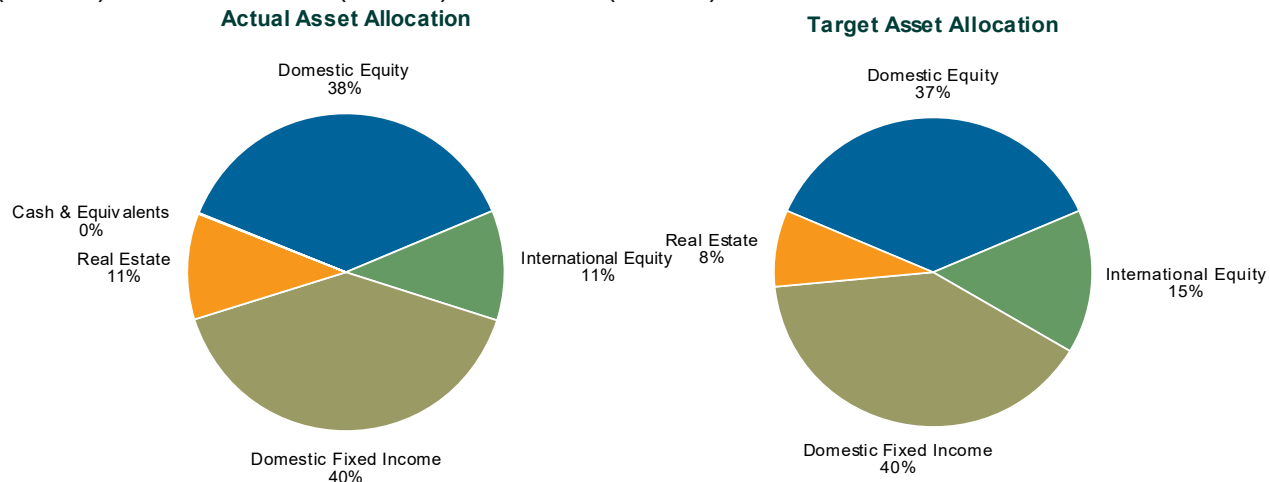
# Asset Allocation Review

## Change in AJRS Market Value during the Quarter :

Beginning-of-Quarter Market Value:	\$ 285,351,826
Net Increase in Market Value:	\$ +11,243,466
<b>End-of-Quarter Market Value:</b>	<b>\$ 296,595,292</b>

## Asset Allocation of AJRS Assets as of December 31, 2022

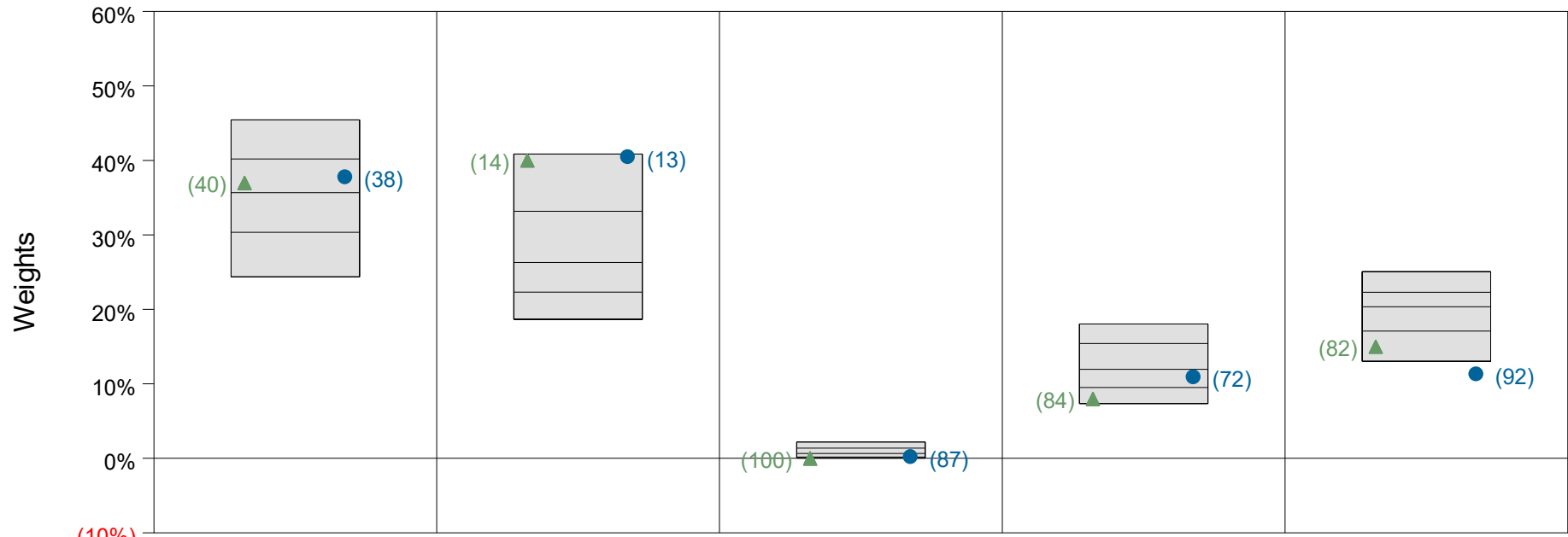
As of the quarter end, all asset classes are within the target allocation range established in the Investment Policy. International Equity is the largest underweight asset class at 3.8% below the target allocation. This position is offset by overweights to Real Estate (+2.8%), Domestic Equity (+0.6%), Fixed Income, (+0.3%) and Cash (+0.1%).



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equity	111,606	37.6%	37.0%	0.6%	1,866
International Equity	33,119	11.2%	15.0%	(3.8%)	(11,371)
Domestic Fixed Income	119,644	40.3%	40.0%	0.3%	1,006
Real Estate	32,009	10.8%	8.0%	2.8%	8,281
Cash & Equivalents	217	0.1%	0.0%	0.1%	217
<b>Total</b>	<b>296,595</b>	<b>100.0%</b>	<b>100.0%</b>		

# Asset Allocation Review

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



(10%)

	Domestic Equity	Domestic Fixed Income	Cash & Equivalents	Real Estate	International Equity
10th Percentile	45.43	40.83	2.18	18.04	25.05
25th Percentile	40.19	33.17	1.37	15.42	22.29
Median	35.66	26.28	0.64	11.94	20.33
75th Percentile	30.33	22.30	0.18	9.50	17.08
90th Percentile	24.35	18.66	0.04	7.34	13.04
<b>Fund</b> ●	37.63	40.34	0.07	10.79	11.17
<b>Target</b> ▲	37.00	40.00	0.00	8.00	15.00
% Group Invested	100.00%	100.00%	72.41%	68.97%	96.55%

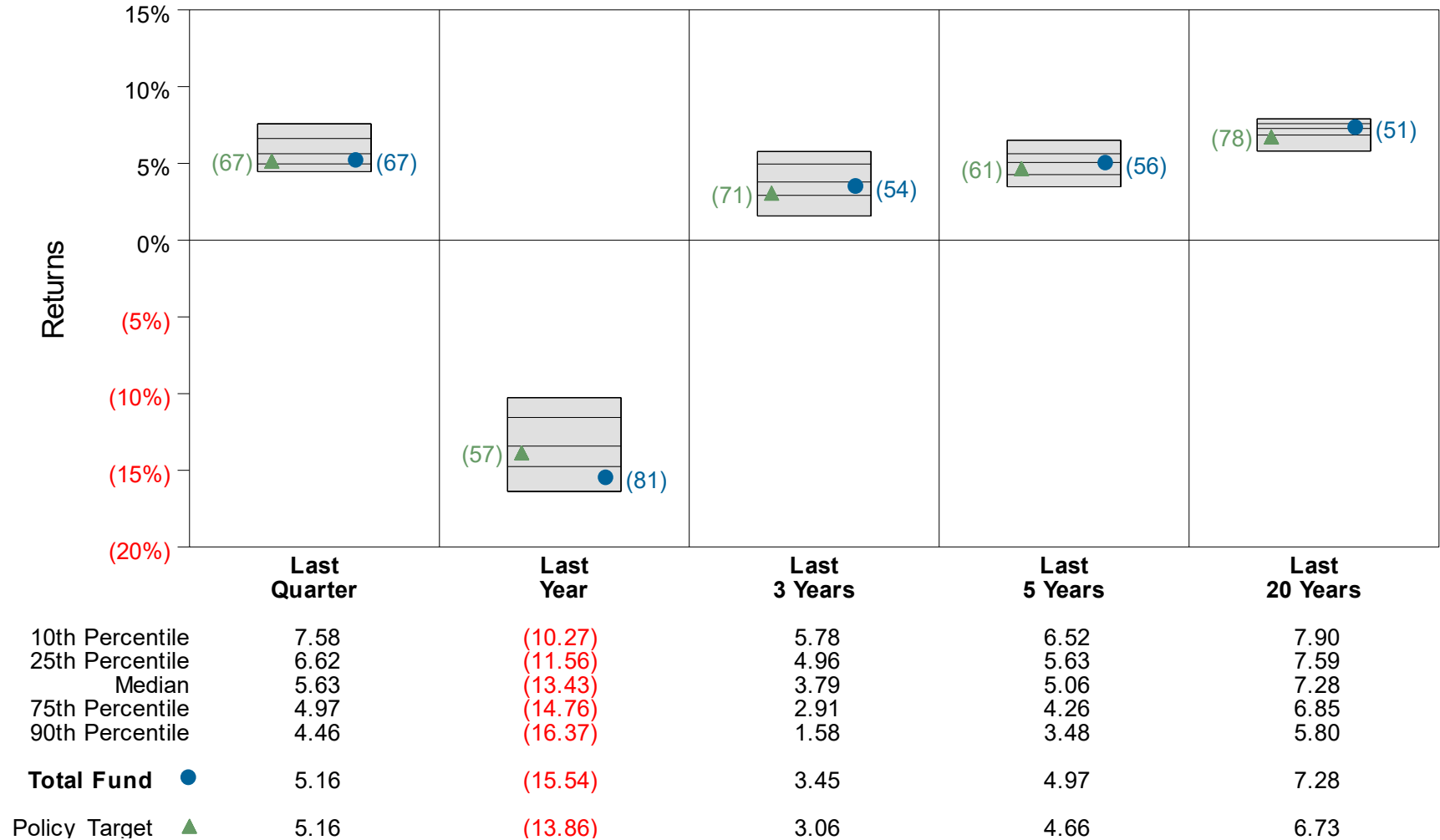
## Asset Allocation Review

	December 31, 2022		Net New Inv.	Inv. Return	September 30, 2022	
	Market Value	Weight			Market Value	Weight
<b>Domestic Equity</b>	<b>\$111,606,392</b>	<b>37.63%</b>	<b>\$(1,700,807)</b>	<b>\$9,018,146</b>	<b>\$104,289,053</b>	<b>36.55%</b>
Mellon Russell 1000 Growth Index	39,691,223	13.38%	(1,604,071)	920,547	40,374,746	14.15%
Boston Partners	54,068,172	18.23%	(64,933)	6,130,291	48,002,814	16.82%
Aristotle Capital Boston	17,846,997	6.02%	(31,804)	1,967,308	15,911,493	5.58%
<b>International Equity</b>	<b>\$33,118,738</b>	<b>11.17%</b>	<b>\$0</b>	<b>\$4,121,183</b>	<b>\$28,997,555</b>	<b>10.16%</b>
Baillie Gifford	33,118,738	11.17%	0	4,121,183	28,997,555	10.16%
<b>Fixed Income</b>	<b>\$119,644,121</b>	<b>40.34%</b>	<b>\$(86,793)</b>	<b>\$3,208,128</b>	<b>\$116,522,786</b>	<b>40.83%</b>
MacKay Shields LLC	119,644,121	40.34%	(86,793)	3,208,128	116,522,786	40.83%
<b>Real Estate</b>	<b>\$32,008,649</b>	<b>10.79%</b>	<b>\$(44,797)</b>	<b>\$(1,656,993)</b>	<b>\$33,710,439</b>	<b>11.81%</b>
Invesco Core Real Estate	32,008,649	10.79%	(44,797)	(1,656,993)	33,710,439	11.81%
<b>Cash &amp; Equivalents</b>	<b>\$217,393</b>	<b>0.07%</b>	<b>\$(1,622,343)</b>	<b>\$7,742</b>	<b>\$1,831,993</b>	<b>0.64%</b>
AJRS General Fund	217,393	0.07%	(1,622,343)	7,742	1,831,993	0.64%
<b>Total Fund</b>	<b>\$296,595,292</b>	<b>100.0%</b>	<b>\$(3,454,739)</b>	<b>\$14,698,206</b>	<b>\$285,351,826</b>	<b>100.0%</b>



# Total Fund Performance Review

## Callan Public Fund Spons- Mid (100M-1B)



**Policy Target** consists of 40% Blmbg Aggregate, 37% Russell 3000 Index, 15% MSCI ACWI ex-US and 8% NCREIF NFI-ODCE Equal Weight Net.

Note: Numbers adjacent to return number represent the portfolio's rank relative to the corresponding peer group. 1 = Highest Ranking; 100 = Lowest Ranking.

## Investment Manager Performance Review

	Last Quarter		Fiscal YTD		Last Year		Last 3 Years		Last 5 Years	
<b>Domestic Equity</b>	<b>8.63%</b>	17	<b>4.18%</b>	7	<b>(16.07%)</b>	12	<b>8.67%</b>	5	<b>9.33%</b>	16
Domestic Equity Benchmark	7.18%	77	2.40%	77	(19.21%)	81	7.07%	46	8.79%	35
Russell 3000 Index	7.18%	77	2.40%	77	(19.21%)	81	7.07%	46	8.79%	35
S&P 500 Index	7.56%	60	2.31%	86	(18.11%)	50	7.66%	35	9.42%	10
Med Public Fd - Dom Eqty	7.72%		3.08%		(18.06%)		7.03%		8.57%	
Mellon Russell 1000 Growth Index	2.18%	67	(1.50%)	57	(29.27%)	43	7.60%	30	-	
Russell 1000 Growth Index	2.20%	67	(1.48%)	57	(29.14%)	42	7.79%	29	10.96%	25
Callan Large Cap Growth	3.59%		(1.13%)		(29.99%)		6.21%		9.95%	
Boston Partners	12.77%	59	7.28%	41	(3.93%)	43	9.21%	24	8.14%	35
Russell 1000 Value Index	12.42%	67	6.11%	67	(7.54%)	80	5.96%	93	6.67%	71
Callan Large Cap Value	13.33%		6.90%		(4.92%)		7.79%		7.55%	
Aristotle Capital Boston	12.36%	8	9.05%	5	(9.42%)	7	6.19%	45	-	
Russell 2000 Index	6.23%	91	3.91%	79	(20.44%)	84	3.10%	87	4.13%	84
Callan Small Cap Core	9.30%		5.48%		(15.98%)		6.07%		6.11%	
<b>International Equity</b>	<b>14.21%</b>	<b>67</b>	<b>3.04%</b>	<b>71</b>	<b>(31.56%)</b>	<b>95</b>	<b>(2.13%)</b>	<b>90</b>	<b>0.78%</b>	<b>80</b>
International Equity Benchmark	14.37%	64	3.16%	67	(15.57%)	23	0.53%	59	1.36%	55
Med Public Fd - Int Eqty	14.87%		3.50%		(17.11%)		0.76%		1.55%	
Baillie Gifford Intl Choice Fd	14.21%	77	3.04%	85	(31.56%)	97	(2.13%)	96	0.78%	77
MSCI ACWIxUS Gross	14.37%	76	3.16%	84	(15.57%)	51	0.53%	66	1.36%	67
Callan NonUS Eq	16.03%		5.35%		(15.29%)		1.39%		1.99%	

## Investment Manager Performance Review

	Last Quarter		Fiscal YTD		Last Year		Last 3 Years		Last 5 Years	
<b>Domestic Fixed Income</b>	<b>2.76%</b>	<b>3</b>	<b>(2.23%)</b>	<b>40</b>	<b>(14.50%)</b>	<b>90</b>	<b>(1.77%)</b>	<b>48</b>	<b>0.78%</b>	<b>44</b>
Domestic Fixed Income Benchmark	1.87%	49	(2.97%)	81	(13.01%)	68	(2.71%)	94	0.02%	97
Med Public Fd - Dom Fixed	1.85%		(2.35%)		(12.50%)		(1.77%)		0.67%	
MacKay Shields LLC	2.76%	13	(2.23%)	46	(14.50%)	88	(1.77%)	42	0.78%	40
Blmbg Aggregate Index	1.87%	66	(2.97%)	84	(13.01%)	42	(2.71%)	93	0.02%	96
Callan Core Plus FI	2.09%		(2.27%)		(13.28%)		(1.90%)		0.74%	
<b>Real Estate</b>	<b>(4.92%)</b>	<b>57</b>	<b>(3.58%)</b>	<b>36</b>	<b>7.72%</b>	<b>36</b>	<b>8.68%</b>	<b>57</b>	<b>8.38%</b>	<b>36</b>
Med Public Fd - Real Est	(4.77%)		(3.98%)		7.12%		8.74%		7.96%	
Invesco Core Real Estate	(4.92%)	73	(3.58%)	74	7.72%	66	8.68%	60	8.38%	33
NFI-ODCE Equal Weight Net**	(5.08%)	75	(4.35%)	84	7.56%	68	9.72%	44	8.31%	33
Callan OE Core Cmngld RE	1.21%		0.76%		8.33%		9.11%		8.11%	
<b>Total Fund</b>	<b>5.16%</b>	<b>67</b>	<b>0.56%</b>	<b>67</b>	<b>(15.54%)</b>	<b>81</b>	<b>3.45%</b>	<b>54</b>	<b>4.97%</b>	<b>56</b>
Callan Public Fd Mid DB	5.63%		1.01%		(13.43%)		3.79%		5.06%	
<b>Total Fund ex Cash</b>	<b>5.18%</b>	<b>67</b>	<b>0.55%</b>	<b>69</b>	<b>(15.56%)</b>	<b>82</b>	<b>3.51%</b>	<b>53</b>	<b>5.01%</b>	<b>52</b>
Target Benchmark*	5.16%	67	(0.06%)	88	(13.86%)	57	3.06%	71	4.66%	61
Callan Public Fd Mid DB	5.63%		1.01%		(13.43%)		3.79%		5.06%	

\*Current Quarter Target = 40.0% Blmbg Aggregate, 37.0% Russell 3000 Index, 15.0% MSCI ACWI ex-US Gross and 8.0% NCREIF NFI-ODCE Eq Wt Net.

\*\*NFI-ODCE Equal Weight Idx return is based on preliminary data.

## Investment Manager Performance Review

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 15-1/2 Years
<b>NET OF FEE RETURNS</b>					
<b>Domestic Equity</b>					
Mellon Russell 1000 Growth Index	2.17%	(29.30%)	7.56%	-	-
Russell 1000 Growth Index	2.20%	(29.14%)	7.79%	10.96%	10.21%
Boston Partners	12.63%	(4.44%)	8.62%	7.55%	7.72%
Russell 1000 Value Index	12.42%	(7.54%)	5.96%	6.67%	6.30%
Aristotle Capital Boston	12.15%	(10.15%)	5.34%	-	-
Russell 2000 Index	6.23%	(20.44%)	3.10%	4.13%	6.38%
<b>International Equity</b>					
Baillie Gifford Intl Choice Fd	14.08%	(31.91%)	(2.61%)	0.27%	-
MSCI ACWIxUS Gross	14.37%	(15.57%)	0.53%	1.36%	2.19%
<b>Domestic Fixed Income</b>					
MacKay Shields LLC	2.68%	(14.76%)	(2.07%)	0.48%	-
Blmbg Aggregate Index	1.87%	(13.01%)	(2.71%)	0.02%	2.96%
<b>Real Estate</b>					
Invesco Core Real Estate	(4.99%)	7.42%	8.38%	7.95%	-
NFI-ODCE Equal Weight Net	(5.08%)	7.56%	9.72%	8.31%	5.59%
<b>Total Fund</b>	<b>5.06%</b>	<b>(15.83%)</b>	<b>3.09%</b>	<b>4.56%</b>	<b>5.36%</b>
<b>Total Fund ex Cash</b>	<b>5.09%</b>	<b>(15.86%)</b>	<b>3.15%</b>	<b>4.59%</b>	<b>5.56%</b>
Target Benchmark*	5.16%	(13.86%)	3.06%	4.66%	5.59%

\*Current Quarter Target = 40.0% Blmbg Aggregate, 37.0% Russell 3000 Index, 15.0% MSCI ACWI ex-US Gross and 8.0% NCREIF NFI-ODCE Eq Wt Net.

## Total Fund Performance Attribution

### 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	37%	37%	8.63%	7.18%	0.53%	(0.01%)	0.52%
Domestic Fixed Income	41%	40%	2.76%	1.87%	0.36%	(0.03%)	0.33%
Real Estate	12%	8%	(4.92%)	(5.08%)	0.02%	(0.39%)	(0.37%)
International Equity	10%	15%	14.21%	14.37%	(0.02%)	(0.44%)	(0.46%)
Cash & Equivalents	1%	0%	0.81%	0.81%	0.00%	(0.02%)	(0.02%)
<b>Total</b>			<b>5.16%</b>	<b>5.16%</b>	<b>+ 0.89%</b>	<b>+ (0.89%)</b>	<b>0.00%</b>

### 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	38%	37%	(16.07%)	(19.21%)	1.23%	(0.17%)	1.06%
Domestic Fixed Income	40%	40%	(14.50%)	(13.01%)	(0.61%)	(0.03%)	(0.64%)
Real Estate	10%	8%	7.72%	7.56%	0.04%	0.09%	0.12%
International Equity	12%	15%	(31.56%)	(15.57%)	(2.16%)	(0.04%)	(2.20%)
Cash & Equivalents	0%	0%	1.59%	1.59%	0.00%	0.02%	0.02%
<b>Total</b>			<b>(15.54%)</b>	<b>(13.86%)</b>	<b>+ (1.53%)</b>	<b>+ (0.15%)</b>	<b>(1.68%)</b>

## Total Fund Performance Attribution

### Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	38%	37%	8.67%	7.07%	0.62%	(0.19%)	0.44%
Domestic Fixed Income	39%	40%	(1.77%)	(2.71%)	0.27%	(0.02%)	0.25%
Real Estate	9%	8%	8.68%	9.72%	(0.08%)	(0.05%)	(0.12%)
International Equity	14%	15%	(2.13%)	0.53%	(0.19%)	0.05%	(0.14%)
Cash & Equivalents	0%	0%	0.68%	0.68%	0.00%	(0.03%)	(0.03%)
<b>Total</b>			<b>3.45%</b>	<b>= 3.06%</b>	<b>+ 0.62%</b>	<b>+ (0.23%)</b>	<b>0.38%</b>

### 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%	37%	9.33%	8.79%	0.22%	(0.12%)	0.10%
Domestic Fixed Income	38%	40%	0.78%	0.02%	0.22%	(0.02%)	0.20%
Real Estate	9%	8%	8.38%	8.31%	0.01%	(0.05%)	(0.04%)
International Equity	15%	15%	0.78%	1.36%	0.06%	0.01%	0.07%
Cash & Equivalents	0%	0%	1.26%	1.26%	0.00%	(0.02%)	(0.02%)
<b>Total</b>			<b>4.97%</b>	<b>= 4.66%</b>	<b>+ 0.51%</b>	<b>+ (0.21%)</b>	<b>0.31%</b>

---

## Investment Manager Performance Review

The Total Fund returned 5.16% in the fourth quarter and lagged the benchmark return of 5.63%. The Total Fund's fourth quarter performance ranked at the 67<sup>th</sup> percentile of peers. For the last year, the Total Fund fell 15.56% and underperformed the benchmark return of -13.86%, ranking at the 81<sup>st</sup> percentile of peers. The Total Fund's return ranks just below median of peers across intermediate and long-term periods. Additionally, the Fund has outperformed the benchmark over the last 31.5-year period.

The AJRS Domestic Equity Composite returned 8.63% in the quarter and outperformed the Russell 3000 Index (7.18%). Fourth quarter returns ranked at the 17<sup>th</sup> percentile of peers. Over the last year, Domestic Equity returned -16.07%, outpacing the benchmark (-19.21%). The composite leads its benchmark over the last 3-, 5-, 10-, 20-, and 31.5-year periods.

- The **Mellon** Russell 1000 Growth Index Fund is passively invested in the Russell 1000 Growth Index. The Fund kept pace with the benchmark return of 2.20% for the quarter and finished at the 67<sup>th</sup> percentile in the Callan Large Cap Growth peer universe. Over the trailing year, the Fund declined 29.27% and ranked at the 43<sup>rd</sup> percentile of peers.
- In large cap value equity, **Boston Partners** returned 12.77% for the quarter and outperformed the benchmark return of 12.42%. Fourth quarter results rank at the 59<sup>th</sup> percentile of the Callan Large Cap Value peer group. Over the last year, the Fund returned -3.93% versus the benchmark return of -7.54% and ranked at the 43<sup>rd</sup> percentile of peers. The Fund leads its benchmark and ranks in the top third of its peer group over longer periods.
- In small cap equity, **Aristotle Capital** generated a fourth quarter return of 12.36% and outpaced the Russell 2000 Index (+6.23%). The Fund ranked at the 8<sup>th</sup> percentile of peers for the quarter. Over the trailing year, the Fund (-9.42%) outperformed its benchmark (-20.44%) and ranked at the 7<sup>th</sup> percentile of peers. Over the last three years, the fund has outperformed the benchmark on an annualized basis and ranks ahead of its peer group median.

---

## Investment Manager Performance Review

The AJRS International Equity Composite returned 14.21% for the quarter and lagged the benchmark return of 14.37%. Fourth quarter performance ranked at the 67<sup>th</sup> percentile of peers. For the last year, the International Equity Composite (-31.56%) trailed the benchmark return (-15.57%) and ranked at the 95<sup>th</sup> percentile of peers. The Composite outperformed the benchmark over the trailing 7- and 15-year periods.

- **Baillie Gifford** is the only manager in the international equity composite. The Fund trailed the index for the quarter and ranked at the 77<sup>th</sup> percentile of peers. The Fund trails its benchmark and peers over longer annualized periods.

The AJRS Domestic Fixed Income Composite returned 2.76% in the quarter versus the 1.87% return of the Bloomberg Aggregate Index and ranked in the 3<sup>rd</sup> percentile of peers. Over the trailing year, Fixed Income returned -14.50% and trailed the benchmark (-13.01%). The Composite outperformed its benchmark across longer-term periods.

- **MacKay Shields**, the only manager in the fixed income composite, outperformed the Bloomberg Aggregate and ranked at the 13<sup>th</sup> percentile of its peer group for the quarter. Over the last year, the Fund lags the benchmark and ranks at the 88<sup>th</sup> percentile of peers. The Fund leads its benchmark and ranks in the top third of peers over the trailing 7- and 10-year periods.

The AJRS Real Estate Composite fell 4.92% for the quarter and ranked at the 57<sup>th</sup> percentile of peers. For the trailing year, the composite posted a 7.72% return and ranked at the 36<sup>th</sup> percentile of its peer group.

- **Invesco Core Real Estate** is the lone fund within the real estate composite. The Fund outperformed the NFI-ODCE Equal Weight Net Index (-5.08%) and ranked at the 73<sup>rd</sup> percentile of peers for the quarter. Over the last year, the fund outperformed the 7.56% return of the benchmark and ranked at the 66<sup>th</sup> percentile of peers. The Fund leads the index and ranks in the top half of its peer group over the trailing 5-, 7-, and 10-year periods.



---

## Important Disclosures

---

Information contained in this document may include confidential, trade secret and/or proprietary information of Callan and the client. It is incumbent upon the user to maintain such information in strict confidence. Neither this document nor any specific information contained herein is to be used other than by the intended recipient for its intended purpose.

The content of this document is particular to the client and should not be relied upon by any other individual or entity. There can be no assurance that the performance of any account or investment will be comparable to the performance information presented in this document.

Certain information herein has been compiled by Callan from a variety of sources believed to be reliable but for which Callan has not necessarily verified for accuracy or completeness. Information contained herein may not be current. Callan has no obligation to bring current the information contained herein.

This content of this document may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact. The opinions expressed herein may change based upon changes in economic, market, financial and political conditions and other factors. Callan has no obligation to bring current the opinions expressed herein.

The statements made herein may include forward-looking statement regarding future results. The forward-looking statements herein: (i) are best estimations consistent with the information available as of the date hereof and (ii) involve known and unknown risks and uncertainties. Actual results may vary, perhaps materially, from the future results projected in this document. Undue reliance should not be placed on forward-looking statements.

Callan disclaims any responsibility for reviewing the risks of individual securities or the compliance/non-compliance of individual security holdings with a client's investment policy guidelines.

This document should not be construed as legal or tax advice on any matter. You should consult with legal and tax advisers before applying any of this information to your particular situation.

Reference to, or inclusion in this document of, any product, service or entity should not necessarily be construed as recommendation, approval, or endorsement or such product, service or entity by Callan.

This document is provided in connection with Callan's consulting services and should not be viewed as an advertisement of Callan, or of the strategies or products discussed or referenced herein.

The issues considered and risks highlighted herein are not comprehensive and other risks may exist that the user of this document may deem material regarding the enclosed information.

Any decision you make on the basis of this document is sole responsibility of the client, as the intended recipient, and it is incumbent upon you to make an independent determination of the suitability and consequences of such a decision.

Callan undertakes no obligation to update the information contained herein except as specifically requested by the client.

Past performance is no guarantee of future results.