

December 5, 2022



**Pennsylvania State Employees'
Retirement System – Defined
Benefit Plan**

Third Quarter 2022

Executive Summary

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Market Environment

Equity and Fixed Income Markets Both Fell Again in 3Q22

Global equity markets down sharply in each quarter, starting with Russian invasion

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

Fixed income down with sharply higher inflation and interest rates

- Bloomberg Aggregate: -14.6% year-to-date, worst 9 months ever for the index
- CPI-U: +8.2% for the year ended 3Q22

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 spiked to highest rate in decades

Economic data show growth hit 'pause'

- GDP rose 2.6% in 3Q22 after falling in both 2Q22 and 1Q22; expect another loss in 4Q
- Forecasters have cut growth estimates for 2022 to below 0%, and to 1.5% for 2023.

Returns for Periods ended 9/30/22

| | 1 Quarter | Year to Date | 1 Year | 5 Years | 10 Years | 25 Years |
|------------------------------|-----------|--------------|--------|---------|----------|----------|
| U.S. Equity | | | | | | |
| Russell 3000 | -4.46 | -24.62 | -17.63 | 8.62 | 11.39 | 7.48 |
| S&P 500 | -4.88 | -23.87 | -15.47 | 9.24 | 11.70 | 7.45 |
| Russell 2000 | -2.19 | -25.10 | -23.50 | 3.55 | 8.55 | 6.73 |
| Global ex-U.S. Equity | | | | | | |
| MSCI World ex USA | -9.20 | -26.23 | -23.91 | -0.39 | 3.62 | 3.69 |
| MSCI Emerging Markets | -11.57 | -27.16 | -28.11 | -1.80 | 1.05 | -- |
| MSCI ACWI ex USA Small Cap | -8.37 | -29.37 | -28.93 | -0.56 | 4.44 | 5.64 |
| Fixed Income | | | | | | |
| Bloomberg Aggregate | -4.75 | -14.61 | -14.60 | -0.27 | 0.89 | 4.02 |
| 90-day T-Bill | 0.46 | 0.61 | 0.62 | 1.15 | 0.68 | 1.92 |
| Bloomberg Long Gov/Credit | -9.03 | -28.94 | -27.41 | -1.17 | 1.35 | 5.51 |
| Bloomberg Global Agg ex-US | -8.85 | -23.88 | -24.77 | -4.03 | -2.39 | 2.42 |
| Real Estate | | | | | | |
| NCREIF Property | 3.23 | 12.25 | 19.15 | 9.19 | 9.76 | 9.51 |
| FTSE Nareit Equity | -9.94 | -28.13 | -16.41 | 2.93 | 6.26 | 7.73 |
| Alternatives | | | | | | |
| CS Hedge Fund Index | 0.35 | 0.14 | 1.08 | 4.53 | 4.35 | 5.87 |
| Cambridge Private Equity* | -5.60 | -2.04 | 3.34 | 18.22 | 15.90 | 14.75 |
| Bloomberg Commodity | -4.11 | 13.57 | 11.80 | 6.96 | -2.14 | 1.47 |
| Gold Spot Price | -7.49 | -8.56 | -4.84 | 5.41 | -0.59 | 6.62 |
| Inflation - CPI-U | 0.17 | 6.46 | 8.20 | 3.76 | 2.52 | 2.47 |

*Cambridge PE data through 06/30/22.

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

Diversification Remains Key Risk Control

Periodic Table of Investment Returns

| 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 3 Qtrs. 2022 |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Emerging Markets | Emerging Markets | Emerging Markets | Emerging Markets | Emerging Markets | U.S. Fixed | Emerging Markets | Small Cap | Real Estate Funds | Emerging Markets | Small Cap | Large Cap | Real Estate Funds | Small Cap | Emerging Markets | Real Estate Funds | Large Cap | Small Cap | Large Cap | Real Estate Funds |
| 55.82% | 25.55% | 34.00% | 32.17% | 39.38% | 5.24% | 78.51% | 26.85% | 14.96% | 18.23% | 38.82% | 13.69% | 13.95% | 21.31% | 37.28% | 7.36% | 31.49% | 19.96% | 28.71% | 12.36% |
| Small Cap | Non-U.S. Equity | Real Estate Funds | Non-U.S. Equity | Real Estate Funds | Non-U.S. Fixed | High Yield | Emerging Markets | U.S. Fixed | Non-U.S. Equity | Large Cap | Real Estate Funds | Large Cap | High Yield | Non-U.S. Equity | Cash Equivalent | Small Cap | Large Cap | Real Estate Funds | Cash Equivalent |
| 47.25% | 20.38% | 20.15% | 25.71% | 14.84% | 4.39% | 58.21% | 18.88% | 7.84% | 16.41% | 32.39% | 11.46% | 1.38% | 17.13% | 24.21% | 1.87% | 25.52% | 18.40% | 21.02% | 0.61% |
| Non-U.S. Equity | Small Cap | Non-U.S. Equity | Small Cap | Hedge Funds | Cash Equivalent | Non-U.S. Equity | Real Estate Funds | High Yield | Small Cap | Non-U.S. Equity | U.S. Fixed | U.S. Fixed | Large Cap | Large Cap | U.S. Fixed | Non-U.S. Equity | Emerging Markets | Small Cap | Hedge Funds |
| 39.42% | 18.33% | 14.47% | 18.37% | 12.56% | 2.06% | 33.67% | 15.26% | 4.98% | 16.35% | 21.02% | 5.97% | 0.55% | 11.96% | 21.83% | 0.01% | 22.49% | 18.31% | 14.82% | 0.14% |
| High Yield | Non-U.S. Fixed | Hedge Funds | Large Cap | Non-U.S. Equity | Real Estate Funds | Small Cap | High Yield | Non-U.S. Fixed | Large Cap | Real Estate Funds | Small Cap | Cash Equivalent | Emerging Markets | Small Cap | High Yield | Emerging Markets | Non-U.S. Fixed | Non-U.S. Equity | U.S. Fixed |
| 28.97% | 12.54% | 7.61% | 15.79% | 12.44% | -10.70% | 27.17% | 15.12% | 4.36% | 16.00% | 12.90% | 4.89% | 0.05% | 11.19% | 14.65% | -2.08% | 18.44% | 10.11% | 12.62% | -14.61% |
| Large Cap | Real Estate Funds | Large Cap | Real Estate Funds | Non-U.S. Fixed | Hedge Funds | Large Cap | Large Cap | Large Cap | High Yield | Hedge Funds | Hedge Funds | Hedge Funds | Real Estate Funds | Non-U.S. Fixed | Non-U.S. Fixed | High Yield | Non-U.S. Equity | Hedge Funds | High Yield |
| 28.68% | 12.00% | 4.91% | 15.27% | 11.03% | -19.07% | 26.47% | 15.06% | 2.11% | 15.81% | 9.73% | 4.13% | -0.71% | 7.79% | 10.51% | -2.15% | 14.32% | 7.59% | 8.23% | -14.74% |
| Non-U.S. Fixed | High Yield | Small Cap | Hedge Funds | U.S. Fixed | High Yield | Hedge Funds | Hedge Funds | Cash Equivalent | Real Estate Funds | High Yield | High Yield | Non-U.S. Equity | Non-U.S. Equity | High Yield | Hedge Funds | Hedge Funds | U.S. Fixed | High Yield | Large Cap |
| 19.36% | 11.13% | 4.55% | 13.86% | 6.97% | -26.16% | 18.57% | 10.95% | 0.10% | 9.79% | 7.44% | 2.45% | -3.04% | 2.75% | 7.50% | -3.19% | 9.31% | 7.51% | 5.28% | -23.87% |
| Hedge Funds | Large Cap | Cash Equivalent | High Yield | Large Cap | Small Cap | Non-U.S. Fixed | Non-U.S. Equity | Hedge Funds | Hedge Funds | Cash Equivalent | Cash Equivalent | Small Cap | U.S. Fixed | Hedge Funds | Large Cap | U.S. Fixed | High Yield | Cash Equivalent | Non-U.S. Fixed |
| 15.44% | 10.88% | 3.06% | 11.85% | 5.49% | -33.79% | 7.53% | 8.95% | -2.52% | 7.67% | 0.07% | 0.04% | -4.41% | 2.65% | 7.12% | -4.38% | 8.72% | 7.11% | 0.05% | -23.88% |
| Real Estate Funds | Hedge Funds | High Yield | Non-U.S. Fixed | Cash Equivalent | Large Cap | U.S. Fixed | U.S. Fixed | Small Cap | U.S. Fixed | U.S. Fixed | Emerging Markets | High Yield | Non-U.S. Fixed | Real Estate Funds | Small Cap | Non-U.S. Fixed | Hedge Funds | U.S. Fixed | Small Cap |
| 8.28% | 9.64% | 2.74% | 8.16% | 5.00% | -37.00% | 5.93% | 6.54% | -4.18% | 4.21% | -2.02% | -2.19% | -4.47% | 1.49% | 6.66% | -11.01% | 5.09% | 6.36% | -1.54% | -25.10% |
| U.S. Fixed | U.S. Fixed | U.S. Fixed | Cash Equivalent | High Yield | Non-U.S. Equity | Cash Equivalent | Non-U.S. Fixed | Non-U.S. Equity | Non-U.S. Fixed | Emerging Markets | Non-U.S. Fixed | Non-U.S. Fixed | Hedge Funds | U.S. Fixed | Non-U.S. Equity | Real Estate Funds | Cash Equivalent | Emerging Markets | Non-U.S. Equity |
| 4.10% | 4.34% | 2.43% | 4.86% | 1.87% | -43.56% | 0.21% | 4.95% | -12.21% | 4.09% | -2.60% | -3.09% | -6.02% | 1.25% | 3.54% | -14.09% | 4.39% | 0.67% | -2.54% | -26.23% |
| Cash Equivalent | Cash Equivalent | Non-U.S. Fixed | U.S. Fixed | Small Cap | Emerging Markets | Real Estate Funds | Cash Equivalent | Emerging Markets | Cash Equivalent | Non-U.S. Fixed | Non-U.S. Equity | Emerging Markets | Cash Equivalent | Cash Equivalent | Emerging Markets | Cash Equivalent | Real Estate Funds | Non-U.S. Fixed | Emerging Markets |
| 1.15% | 1.33% | -8.65% | 4.33% | -1.57% | -53.33% | -30.40% | 0.13% | -18.42% | 0.11% | -3.08% | -4.32% | -14.92% | 0.33% | 0.86% | -14.57% | 2.28% | 0.34% | -7.05% | -27.16% |

- Bloomberg Barclays Corp High Yield ● Bloomberg Barclays Global Aggregate ex US ● Bloomberg Barclays US Aggregate
- Credit Suisse Hedge Fund ● ICE BofAML US 3-Month Treasury Bill ● MSCI Emerging Markets ● MSCI World ex USA
- NFI-ODCE (value-weighted net) ● Russell 2000 ● S&P 500

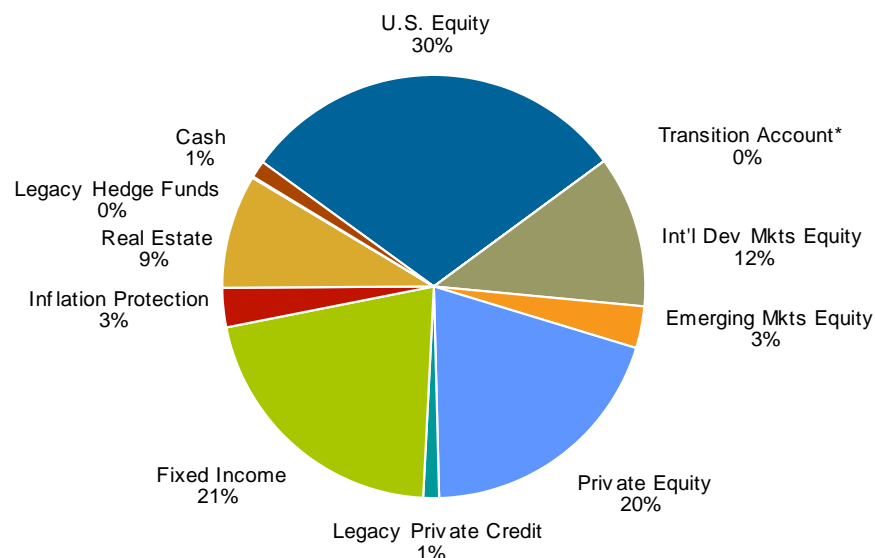
Callan

**PA SERS Defined Benefit Plan
Performance Review**

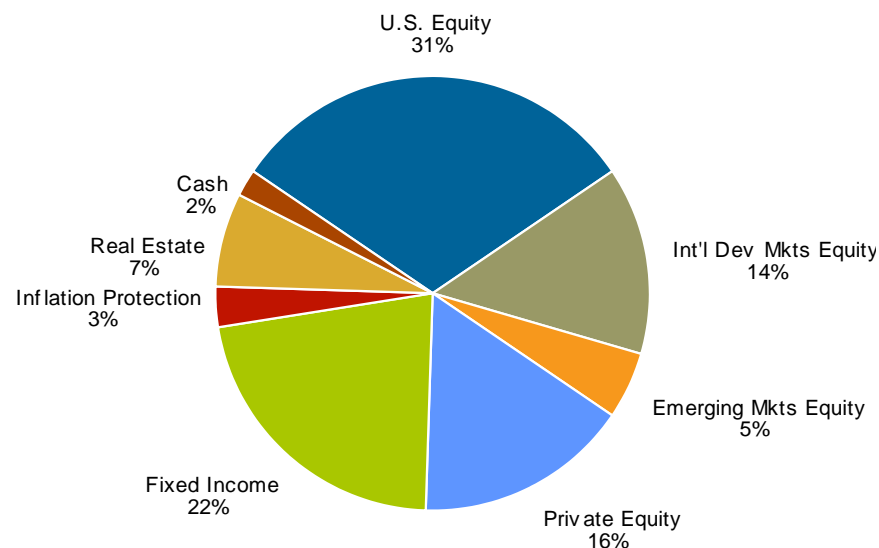
Total Fund

Actual Asset Allocation versus Target as of September 30, 2022

Actual Asset Allocation



Target Asset Allocation



| Asset Class | \$000s Actual | Weight Actual | Target | Percent Difference | \$000s Difference |
|-----------------------|-------------------|---------------|---------------|--------------------|-------------------|
| U.S. Equity | 9,712,428 | 29.9% | 31.0% | (1.1%) | (358,832) |
| Transition Account* | 977 | 0.0% | 0.0% | 0.0% | 977 |
| Int'l Dev Mkts Equity | 3,768,863 | 11.6% | 14.0% | (2.4%) | (779,448) |
| Emerging Mkts Equity | 1,045,989 | 3.2% | 5.0% | (1.8%) | (578,408) |
| Private Equity | 6,454,608 | 19.9% | 16.0% | 3.9% | 1,256,538 |
| Legacy Private Credit | 387,935 | 1.2% | 0.0% | 1.2% | 387,935 |
| Fixed Income | 6,841,866 | 21.1% | 22.0% | (0.9%) | (305,481) |
| Inflation Protection | 984,407 | 3.0% | 3.0% | 0.0% | 9,769 |
| Real Estate | 2,837,666 | 8.7% | 7.0% | 1.7% | 563,511 |
| Legacy Hedge Funds | 18,040 | 0.1% | 0.0% | 0.1% | 18,040 |
| Cash | 435,158 | 1.3% | 2.0% | (0.7%) | (214,600) |
| Total | 32,487,938 | 100.0% | 100.0% | | |

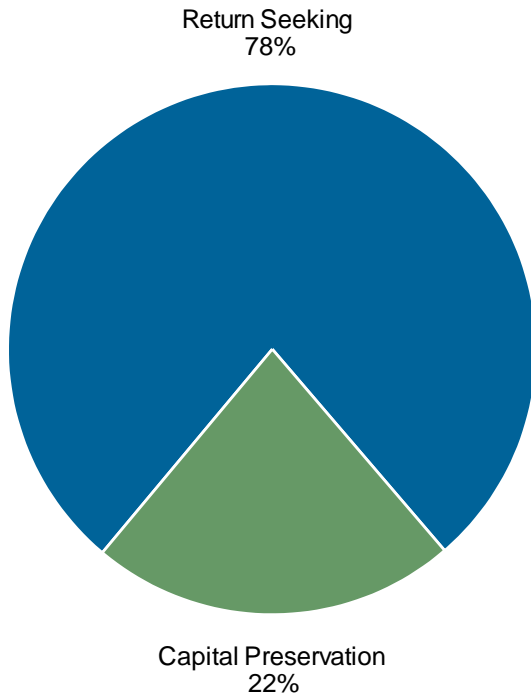
*Market values are shown net of accrued fees.

*Transition account market values are not included in any asset class and are excluded from these charts.

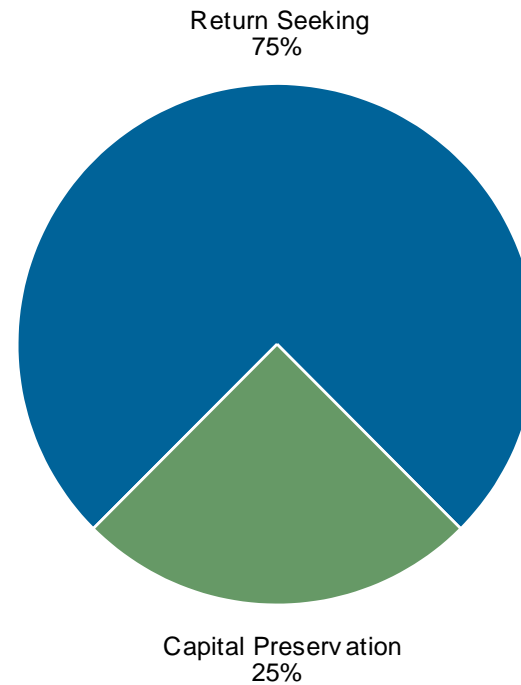
Return Seeking and Capital Preservation Assets

As of September 30, 2022

Actual Asset Allocation



Target Asset Allocation



*Return Seeking Assets: U.S. Equity, Int'l Developed Markets Equity, Emerging Markets Equity, Transition Account, Private Equity, Real Estate, Opportunistic Fixed Income, Legacy Hedge Funds and Legacy Private Credit.

*Capital Preservation Assets: Core Fixed Income, Nominal U.S. Treasuries, Inflation Protection (TIPS) and Cash.

*Market values are shown net of accrued fees.

Projected Risk, Liquidity and Correlation

| | Capital Preservation Assets | | | Return Seeking Assets | | | | |
|---|-----------------------------|-----------------------------|---------------------------|-----------------------|--------------------------------|-------------------------|-------------|----------------|
| | Cash | Inflation Protection (TIPS) | Fixed Income [^] | U.S. Equity | Developed International Equity | Emerging Markets Equity | Real Estate | Private Equity |
| Policy Target Asset Allocation | 2% | 3% | 22% | 31% | 14% | 5% | 7% | 16% |
| Projected Return* (Geometric) | 1.20% | 1.25% | 1.75% | 6.60% | 6.50% | 6.90% | 5.75% | 8.00% |
| Projected Risk* (Standard Deviation) | 0.90% | 5.05% | 3.75% | 17.95% | 19.90% | 25.15% | 14.20% | 27.60% |
| Liquidity | High | High | High | High | High | Medium | Low | Low |
| Correlation to U.S. Equity* | -0.06 | -0.08 | -0.10 | 1.00 | 0.77 | 0.79 | 0.64 | 0.77 |
| Months of Benefit Payments** | 1.4 | 3.1 | 18.0 | | | | | |
| Months of Benefit Payments (Includes EE & ER Contributions)** | 4.7 | 10.7 | 62.2 | | | | | |
| Cumulative Months of Benefit Payments (Includes EE & ER Contributions)** | | 77.6 | | | | | | |

*Callan 2022 Capital Market Projections

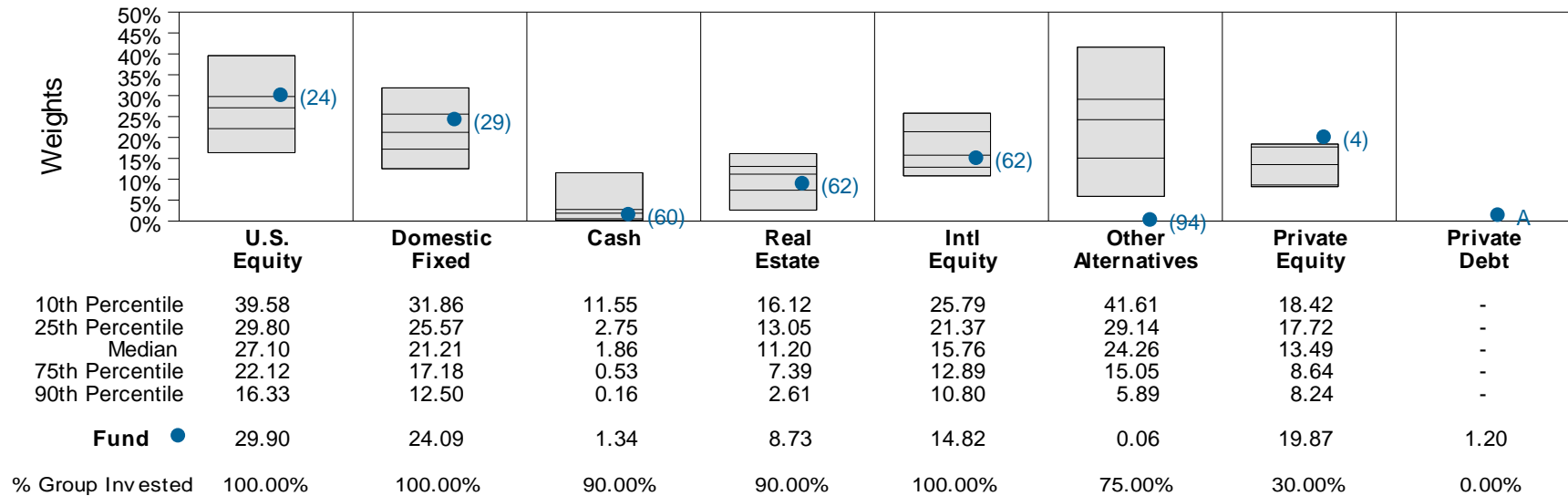
**Provided by SERS IO as of 9/30/2022. Benefit payment calculations for fixed income represent core fixed income , TIPS, treasury and cash allocations.

[^]Core and Opportunistic fixed Income combined

Total Fund

Actual Asset Allocation versus Very Large Public DB Plan (>\$10B) Peers as of September 30, 2022

Asset Class Weights vs Callan Public Fund Spons- V Lg DB (>10B)



* Current Quarter Target = 22% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 31% Russell 3000 Index, 14% MSCI World ex US IMI Index, 7% NCREIF NFI-ODCE (Quarter lag), 5% MSCI Emerging Markets IMI Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

Total Fund

One Quarter Attribution Analysis versus Target – Gross of Fees as of September 30, 2022

Note: Attribution is a snapshot in time. Asset allocation effect utilizes monthly asset class weights to calculate the overall effect on attribution. Asset class weights fluctuate month to month and are combined to calculate a quarterly attribution effect.

Relative Attribution Effects for Quarter ended September 30, 2022

| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|------------------------|-------------------------|-------------------------|----------------|----------------|----------------|------------------|-----------------------|
| U.S. Equity | 30% | 31% | (4.35%) | (4.46%) | 0.04% | (0.07%) | (0.04%) |
| Int'l Dev. Mkts Equity | 12% | 14% | (8.76%) | (9.23%) | 0.06% | 0.08% | 0.14% |
| Emerging Markets | 3% | 5% | (10.10%) | (10.79%) | 0.02% | 0.09% | 0.11% |
| Private Equity | 19% | 16% | (6.69%) | (6.69%) | 0.00% | (0.03%) | (0.03%) |
| Legacy Private Credit | 1% | 0% | 0.37% | 0.37% | 0.00% | 0.02% | 0.02% |
| Fixed Income | 21% | 22% | (4.26%) | (4.75%) | 0.10% | (0.01%) | 0.09% |
| Inflation Protection | 3% | 3% | (5.58%) | (5.14%) | (0.01%) | (0.00%) | (0.01%) |
| Real Estate | 8% | 7% | (1.33%) | 4.35% | (0.46%) | 0.12% | (0.34%) |
| Legacy Hedge Funds | 0% | 0% | (7.07%) | (7.07%) | 0.00% | (0.00%) | (0.00%) |
| Cash | 2% | 2% | 0.51% | 0.46% | 0.00% | (0.04%) | (0.04%) |
| Total | | | (5.17%) | (5.08%) | (0.25%) | 0.16% | (0.09%) |

- **What helped relative attribution?**
 - Outperformance relative to target from Fixed Income, International Developed Equity and U.S. Equity managers
 - An overweight to Real Estate (attribution based on target return)
 - An underweight to Emerging Markets Equity and International Developed Equity (attribution based on target return)
- **What hurt relative attribution?**
 - Underperformance relative to target from Real Estate managers.
 - An underweight to U.S. Equity (attribution based on target return)

* Current Quarter Target = 22% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 31% Russell 3000 Index, 14% MSCI World ex US IMI Index, 7% NCREIF NFI-ODCE (Quarter lag), 5% MSCI Emerging Markets IMI Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.
Returns are shown gross of fees

Total Fund

One Year Attribution Analysis versus Target – Gross of Fees as of September 30, 2022

Note: Attribution is a snapshot in time. Asset allocation effect utilizes monthly asset class weights to calculate the overall effect on attribution. Asset class weights fluctuate month to month and are combined to calculate an annual attribution effect.

One Year Relative Attribution Effects

| Asset Class | Effective Actual Weight | Effective Target Weight | Actual Return | Target Return | Manager Effect | Asset Allocation | Total Relative Return |
|------------------------|-------------------------|-------------------------|-----------------|-----------------|------------------|------------------|-----------------------|
| U.S. Equity | 30% | 31% | (18.37%) | (17.63%) | (0.25%) | (0.09%) | (0.35%) |
| Int'l Dev. Mkts Equity | 13% | 14% | (23.93%) | (24.99%) | 0.15% | 0.19% | 0.34% |
| Emerging Markets | 4% | 5% | (29.61%) | (27.51%) | (0.10%) | 0.23% | 0.13% |
| Private Equity | 17% | 13% | 4.01% | 4.01% | 0.00% | 0.64% | 0.64% |
| Legacy Private Credit | 3% | 3% | 13.81% | 2.88% | 0.26% | (0.11%) | 0.15% |
| Fixed Income | 21% | 22% | (13.20%) | (14.60%) | 0.30% | (0.04%) | 0.26% |
| Inflation Protection | 3% | 3% | (12.84%) | (11.57%) | (0.04%) | (0.00%) | (0.04%) |
| Real Estate | 8% | 7% | 14.11% | 25.46% | (0.68%) | 0.22% | (0.46%) |
| Legacy Hedge Funds | 0% | 0% | (13.48%) | (13.48%) | 0.00% | (0.00%) | (0.00%) |
| Cash | 2% | 2% | 0.72% | 0.62% | 0.00% | (0.00%) | (0.00%) |
| Total | | | (11.62%) | (12.29%) | + (0.36%) | + 1.02% | 0.67% |

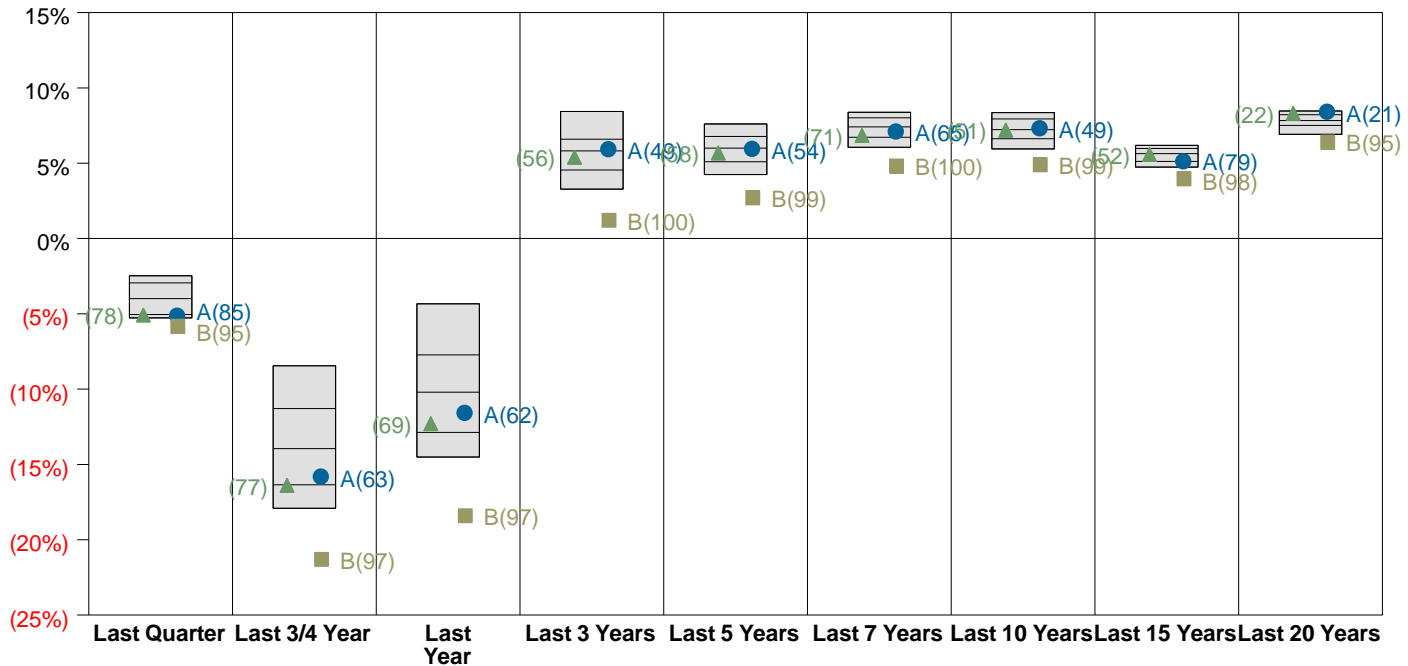
- **What helped relative attribution?**
 - Outperformance relative to target from Fixed Income, Legacy Private Credit and International Developed Markets Equity managers
 - An overweight to Private Equity and Real Estate (attribution based on target return)
 - An underweight to Emerging Markets Equity and International Developed Equity (attribution based on target return)
- **What hurt relative attribution?**
 - Underperformance relative to target from Real Estate, U.S. Equity and Emerging Markets Equity managers
 - A slight underweight to U.S. Equity (attribution based on target return)

* Current Quarter Target = 22% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 31% Russell 3000 Index, 14% MSCI World ex US IMI Index, 7% NCREIF NFI-ODCE (Quarter lag), 5% MSCI Emerging Markets IMI Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.
Returns are shown gross of fees.

Total Fund

Gross of Fee Performance versus Very Large Public DB Plan (>\$10B) Peers and Benchmark as of September 30, 2022

Performance vs Callan Public Fund Spons- V Lg DB (>10B) (Gross)



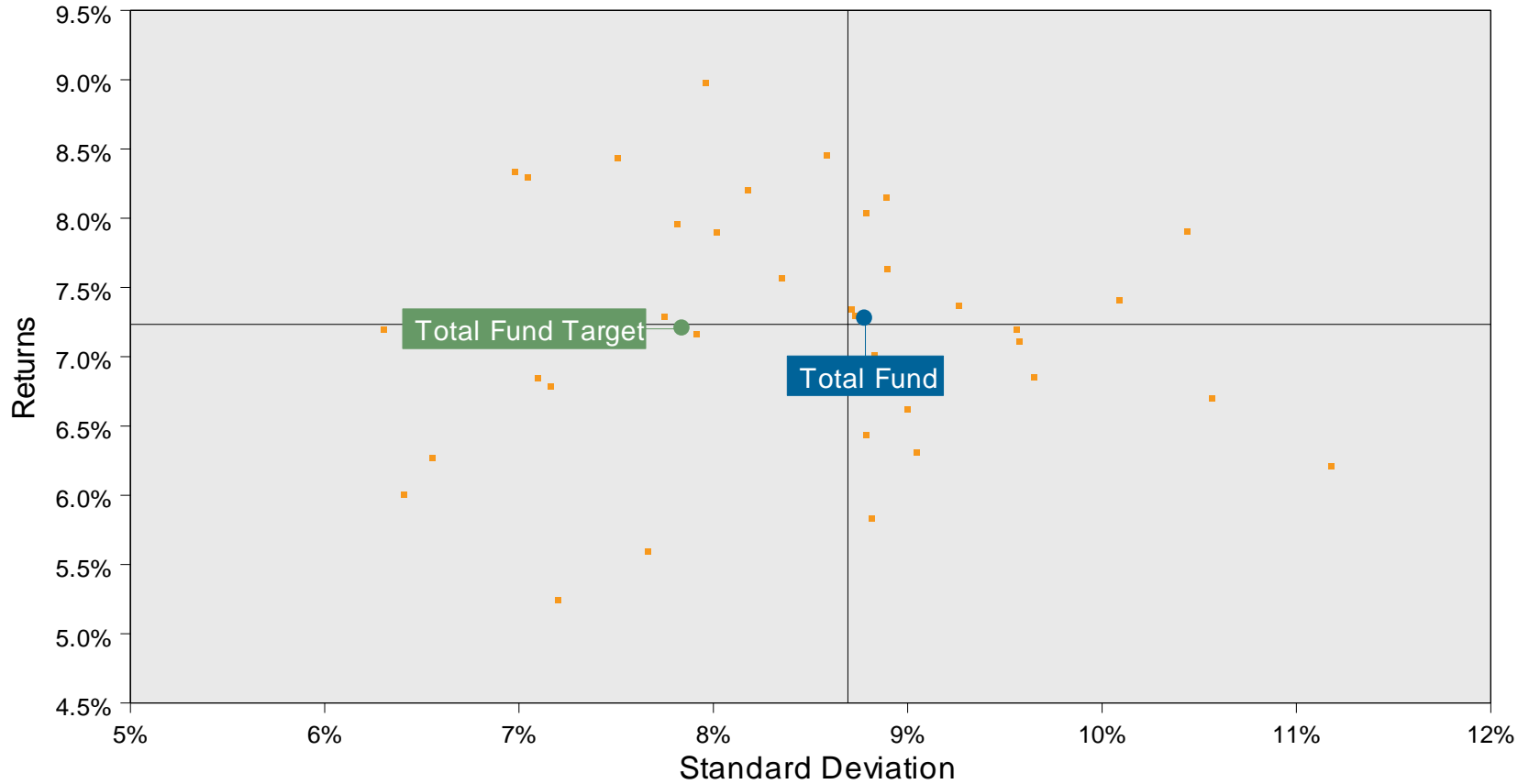
| | Last Quarter | Last 3/4 Year | Last Year | Last 3 Years | Last 5 Years | Last 7 Years | Last 10 Years | Last 15 Years | Last 20 Years |
|------------------|--------------|---------------|-----------|--------------|--------------|--------------|---------------|---------------|---------------|
| 10th Percentile | (2.48) | (8.45) | (4.34) | 8.43 | 7.60 | 8.38 | 8.36 | 6.18 | 8.47 |
| 25th Percentile | (2.95) | (11.29) | (7.73) | 6.59 | 6.78 | 8.01 | 7.94 | 5.98 | 8.22 |
| Median | (3.99) | (13.95) | (10.20) | 5.81 | 6.00 | 7.42 | 7.23 | 5.63 | 7.84 |
| 75th Percentile | (5.04) | (16.35) | (12.87) | 4.55 | 5.09 | 6.72 | 6.63 | 5.12 | 7.51 |
| 90th Percentile | (5.27) | (17.91) | (14.51) | 3.28 | 4.25 | 6.05 | 5.94 | 4.74 | 6.92 |
| Total Fund | ● A (5.17) | (15.85) | (11.62) | 5.88 | 5.91 | 7.06 | 7.27 | 5.07 | 8.37 |
| 60% MSCI ACW | ■ B (5.83) | (21.30) | (18.41) | 1.21 | 2.70 | 4.81 | 4.90 | 3.96 | 6.41 |
| Custom Benchmark | ▲ (5.08) | (16.38) | (12.29) | 5.40 | 5.69 | 6.84 | 7.20 | 5.59 | 8.32 |

* Current Quarter Target = 22% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 31% Russell 3000 Index, 14% MSCI World ex US IMI Index, 7% NCREIF NFI-ODCE (Quarter lag), 5% MSCI Emerging Markets IMI Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

Total Fund

Risk vs. Return versus Very Large Public DB Plan (>\$10B) Peers as of September 30, 2022

Ten Year Annualized Risk vs Return



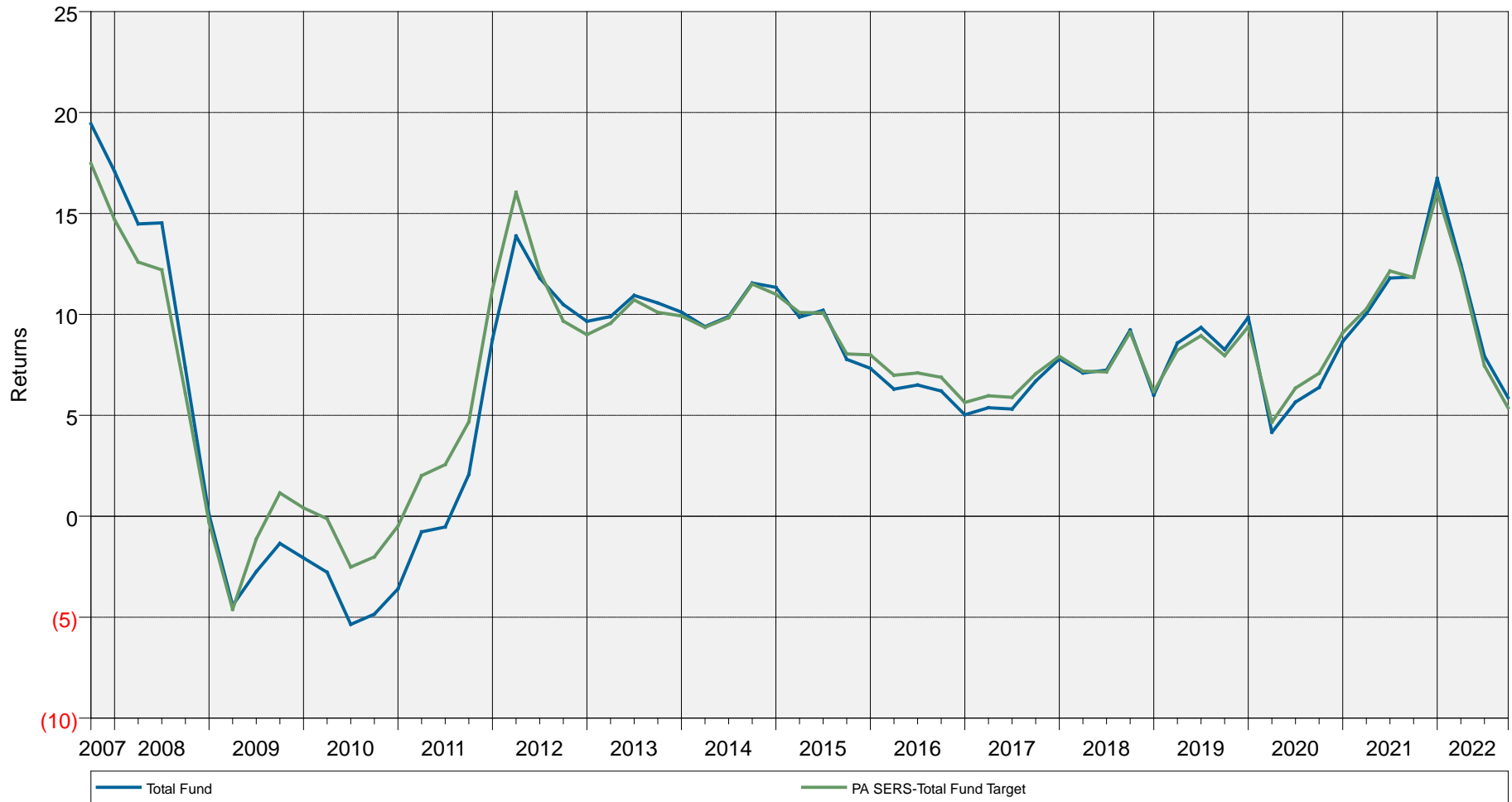
Squares represent membership of the Callan Public Fund Spons- V Lg DB (>10B)

* Current Quarter Target = 22% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 31% Russell 3000 Index, 14% MSCI World ex US IMI Index, 7% NCREIF NFI-ODCE (Quarter lag), 5% MSCI Emerging Markets IMI Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

Total Fund

Rolling 3-year Gross of Fee Performance versus Benchmark as of September 30, 2022

Rolling 12 Quarter Gross of Fee Returns
for 15 Years Ended September 30, 2022

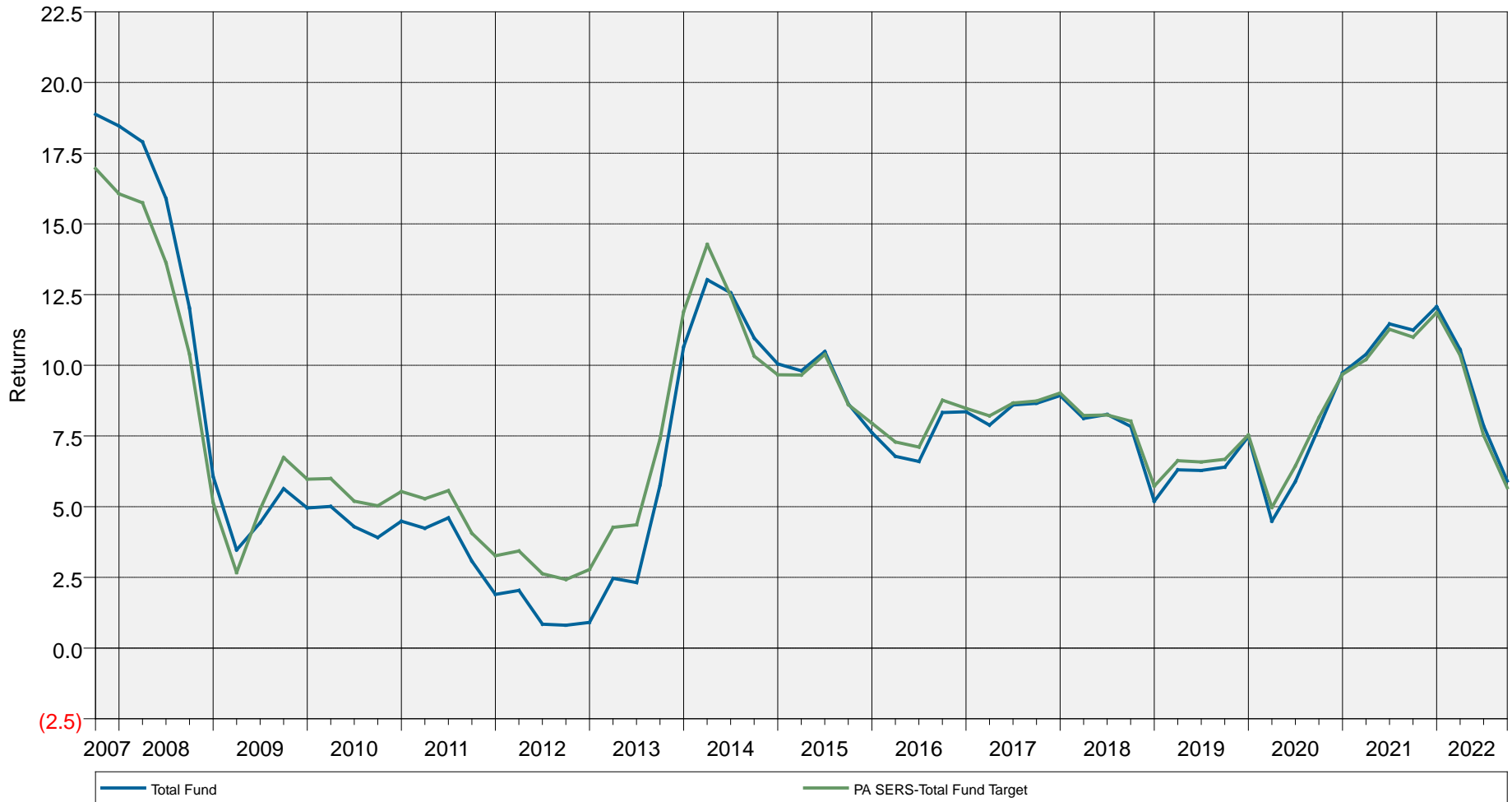


* Current Quarter Target = 22% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 31% Russell 3000 Index, 14% MSCI World ex US IMI Index, 7% NCREIF NFI-ODCE (Quarter lag), 5% MSCI Emerging Markets IMI Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

Total Fund

Rolling 5-year Gross of Fee Performance versus Benchmark as of September 30, 2022

Rolling 20 Quarter Gross of Fee Returns
for 15 Years Ended September 30, 2022



* Current Quarter Target = 22% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 31% Russell 3000 Index, 14% MSCI World ex US IMI Index, 7% NCREIF NFI-ODCE (Quarter lag), 5% MSCI Emerging Markets IMI Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

Asset Class Returns

As of September 30, 2022

| | Market Value \$(mm) | Ending Weight | Last Quarter | Year to Date | Last Year | Last 3 Years | Last 5 Years |
|--|------------------------|----------------|-----------------|-----------------|-----------------|----------------|----------------|
| Net Performance | | | | | | | |
| Total Fund | \$32,488 | 100.00% | (5.04%) | (16.13%) | (12.23%) | 4.89% | 5.09% |
| Total Fund Custom Benchmark(1) | - | - | (5.08%) | (16.39%) | (12.29%) | 5.40% | 5.69% |
| Public Market Equiv Benchmark(2) | - | - | (6.41%) | (17.70%) | (14.78%) | 3.58% | 4.81% |
| 60/40 Index(3) | - | - | (5.83%) | (21.30%) | (18.41%) | 1.21% | 2.70% |
| U.S. Equity | \$9,712 | 29.90% | (4.35%) | (24.51%) | (18.40%) | 7.60% | 7.82% |
| Russell 3000 Index (4) | - | - | (4.46%) | (24.62%) | (17.63%) | 7.70% | 8.62% |
| S&P 1500 Index | - | - | (4.76%) | (23.72%) | (15.55%) | 7.96% | 8.90% |
| Int'l Developed Mkts Equity | \$3,769 | 11.60% | (8.79%) | (26.78%) | (24.03%) | (0.10%) | 0.17% |
| MSCI World ex US IMI | - | - | (9.23%) | (26.97%) | (24.99%) | (1.23%) | (0.53%) |
| Emerging Mkts Equity | \$1,046 | 3.22% | (10.22%) | (29.74%) | (29.98%) | (0.67%) | (1.15%) |
| MSCI EM IMI | - | - | (10.79%) | (26.79%) | (27.51%) | (1.20%) | (1.43%) |
| Private Equity | \$6,455 | 19.87% | (5.86%) | (4.74%) | 1.65% | 20.77% | 16.89% |
| Burgiss Private Equity Index (Qtr lag) | - | - | (3.62%) | (0.17%) | 3.56% | 16.41% | 15.26% |
| Global Equity + 3% (Qtr lag)(5) | - | - | (14.80%) | (11.54%) | (11.05%) | 11.72% | 13.14% |
| Legacy Private Credit Funds (6) | \$388 | 1.19% | 0.63% | 6.57% | 10.62% | 11.02% | - |
| S&P Levered Loan Index + 1% (Qtr lag) | - | - | (4.17%) | (3.08%) | (1.77%) | 3.16% | - |
| Fixed Income | \$6,842 | 21.06% | (4.26%) | (13.60%) | (13.36%) | (3.02%) | (0.23%) |
| Bimbg U.S. Agg Bond Index | - | - | (4.75%) | (14.61%) | (14.60%) | (3.26%) | (0.27%) |
| Inflation Protection (TIPS) | \$984 | 3.03% | (5.60%) | (14.85%) | (12.94%) | 0.02% | 1.44% |
| Bimbg U.S. TIPS Index | - | - | (5.14%) | (13.61%) | (11.57%) | 0.79% | 1.95% |
| Real Estate | \$2,838 | 8.73% | (1.59%) | 4.56% | 11.20% | 8.58% | 6.43% |
| Real Estate Custom Bench (Qtr lag)(7) | - | - | 4.35% | 16.48% | 25.45% | 11.47% | 9.38% |
| CPI + 3% (Qtr lag) | - | - | 3.74% | 10.21% | 12.06% | 7.98% | 6.88% |
| Cash | \$435 | 1.34% | 0.51% | 0.70% | 0.71% | 0.63% | 1.22% |
| 3-month Treasury Bill | - | - | 0.46% | 0.61% | 0.62% | 0.59% | 1.15% |

* All returns on this report are shown with 2- decimal precision. This may differ from the decimal precision shown in BNY Mellon reports.

(1) Current Quarter Target = 22% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 31% Russell 3000 Index, 14% MSCI World ex US IMI Index, 7% NCREIF NFI-ODCE (Quarter lag), 5% MSCI Emerging Markets IMI Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index. See page 75 for full benchmark history.

(2) The current public equivalent benchmark consists of: 22% Bloomberg U.S. Agg Bond Index, 31% Russell 3000, 14% MSCI World ex US IMI Index, 12% Russell 3000+ 3% (Qtr lag), 7% CPI+3% (Qtr Lag), 3% Bloomberg US TIPS Index, 5% MSCI EM IMI Index, 4% MSCI World ex US +3% (Qtr lag), 2% ICE BofAML 3 Mo US T-Bill Index. See page 75 for full benchmark history.

(3) Benchmark consists of 60% MSCI ACW IMI Index and 40% Bloomberg U.S. Agg Bond Index.

(4) Benchmark history is a blend of current and past benchmark indices. History prior to 12/31/2018 is provided by RVK.

(5) As of 01/01/2020 benchmark consists of 25% MSCI World ex US +3% (Qtr lag) and 75% Russell 3000 + 3% (Qtr lag). Benchmark performance represents the historical benchmark (Russell 3000 +3% Qtr lag) linked to the current benchmark.

(6) Legacy Private Credit performance is included in the total fund starting at the composite's true inception date, 07/01/2022. The history is calculated and shown for informational purposes.

(7) As of 07/01/2022, the benchmark consists of 100% NCREIF NFI-ODCE (Qtr lag). From 03/31/2019 to 07/01/2022, the benchmark consists of 90% NCREIF ODCE Index (Qtr lag) and 10% FTSE NAREIT Index (unlagged).

Asset Class Returns

As of September 30, 2022

| | Last 10 Years | Last 15 Years | Last 20 Years | Last 25 Years | Since Inception |
|--|---------------------|---------------------|---------------------|---------------------|----------------------|
| Net Performance | | | | | |
| Total Fund | 6.53% | 4.28% | 7.53% | 6.53% | 9.13% (1/81) |
| Total Fund Custom Benchmark(1) | 7.20% | 5.58% | 8.32% | 6.99% | - |
| Public Market Equiv Benchmark(2) | 7.00% | 5.44% | 8.21% | 6.91% | - |
| 60/40 Index(3) | 4.90% | 3.96% | 6.41% | 5.28% | - |
| U.S. Equity | 10.66% | 6.27% | 9.34% | 7.08% | 10.34% (1/81) |
| Russell 3000 Index (4) | 11.39% | 7.92% | 9.93% | 7.43% | 10.64% (1/81) |
| S&P 1500 Index | 11.54% | 8.04% | 9.93% | 7.61% | - |
| Int'l Developed Mkts Equity | 4.59% | 0.93% | 6.44% | - | 5.10% (1/02) |
| MSCI World ex US IMI | 3.77% | 0.92% | 6.38% | 3.96% | 5.08% (1/02) |
| Emerging Mkts Equity | 1.82% | (0.83%) | 6.48% | - | 5.79% (1/02) |
| MSCI EM IMI | 1.27% | 0.47% | 8.85% | 4.01% | 7.69% (1/02) |
| Private Equity | 13.48% | 10.58% | 12.22% | 12.97% | 11.69% (1/86) |
| Burgiss Private Equity Index (Qtr lag) | 14.08% | 10.80% | 13.12% | 13.61% | 16.90% (1/86) |
| Global Equity + 3% (Qtr lag)(5) | 15.42% | 11.60% | 12.39% | 11.41% | 14.32% (1/86) |
| Legacy Private Credit Funds (6) | - | - | - | - | 10.46% (4/18) |
| S&P Levered Loan Index + 1% (Qtr lag) | - | - | - | - | 3.81% (4/18) |
| Fixed Income | 1.18% | 3.19% | 4.42% | 4.62% | 7.57% (1/81) |
| Bimbg U.S. Agg Bond Index | 0.89% | 2.74% | 3.08% | 4.02% | 6.85% (1/81) |
| Inflation Protection (TIPS) | 0.85% | 2.56% | - | - | 2.77% (2/03) |
| Bimbg U.S. TIPS Index | 0.98% | 3.25% | 3.77% | 4.76% | 3.77% (2/03) |
| Real Estate | 7.33% | 3.48% | 6.78% | 7.69% | 8.41% (3/84) |
| Real Estate Custom Bench (Qtr lag)(7) | 10.03% | 5.96% | 8.10% | 8.48% | - |
| CPI + 3% (Qtr lag) | 5.59% | 5.38% | 5.53% | 5.49% | 5.82% (3/84) |
| Cash | 0.94% | 1.02% | 1.51% | 2.25% | 3.39% (1/87) |
| 3-month Treasury Bill | 0.68% | 0.70% | 1.25% | 1.92% | 3.12% (1/87) |

* All returns on this report are shown with 2- decimal precision. This may differ from the decimal precision shown in BNY Mellon reports.

(1)The current total fund benchmark consists of: 22% Bloomberg U.S. Agg Bond Index, 16% SERS Private Equity Composite, 31% Russell 3000 Index, 14% MSCI World ex US IMI Index, 7% NCREIF NFI-ODCE (Qtr lag), 5% MSCI Emerging Markets IMI Index, 3% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index. See page 75 for full benchmark history.

(2) The current public equivalent benchmark consists of: 22% Bloomberg U.S. Agg Bond Index, 31% Russell 3000, 14% MSCI World ex US IMI Index, 12% Russell 3000+ 3% (Qtr lag), 7% CPI+3% (Qtr Lag), 3% Bloomberg US TIPS Index, 5% MSCI EM IMI Index, 4% MSCI World ex US +3% (Qtr lag), 2% ICE BofAML 3 Mo US T-Bill Index. See page 75 for full benchmark history.

(3) Benchmark consists of 60% MSCI ACW IMI Index and 40% Bloomberg U.S. Agg Bond Index

(4) Benchmark history is a blend of current and past benchmark indices. History prior to 12/31/2018 is provided by RVK.

(5) As of 01/01/2020 benchmark consists of 25% MSCI World ex US +3% (Qtr lag) and 75% Russell 3000 + 3% (Qtr lag). Benchmark performance represents the historical benchmark (Russell 3000 +3% Qtr lag) linked to the current benchmark.

(6) Legacy Private Credit performance is included in the total fund starting at the composite's true inception date, 07/01/2022. The history is calculated and shown for informational purposes.

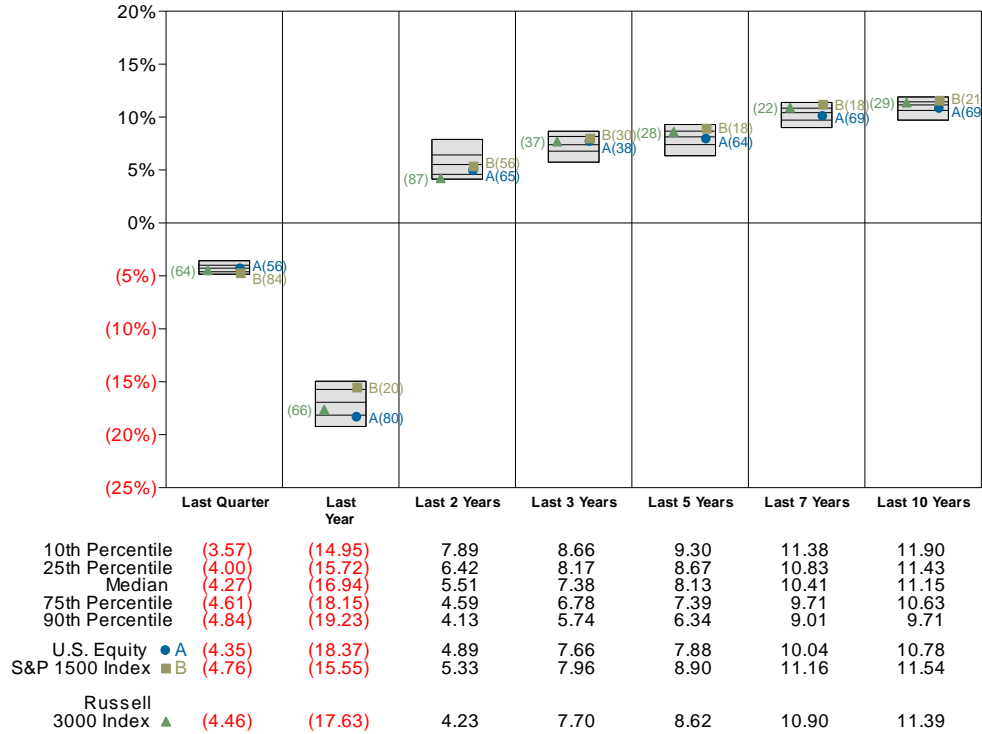
(7) As of 07/01/2022, the benchmark consists of 100% NCREIF NFI-ODCE (Qtr lag). From 03/31/2019 to 07/01/2022 the benchmark consists of 90% NCREIF ODCE Index (Qtr lag) and 10% FTSE NAREIT Index (unlagged).

Callan

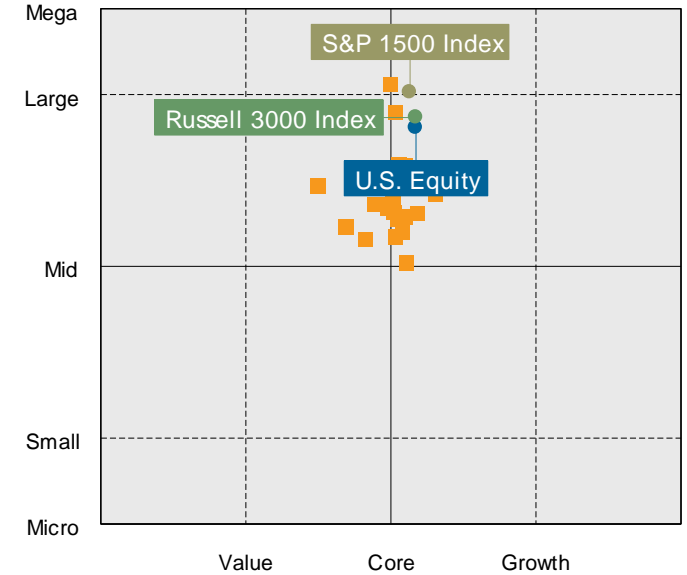
**Appendix I – Asset Class and Manager
Performance**

U.S. Equity as of September 30, 2022

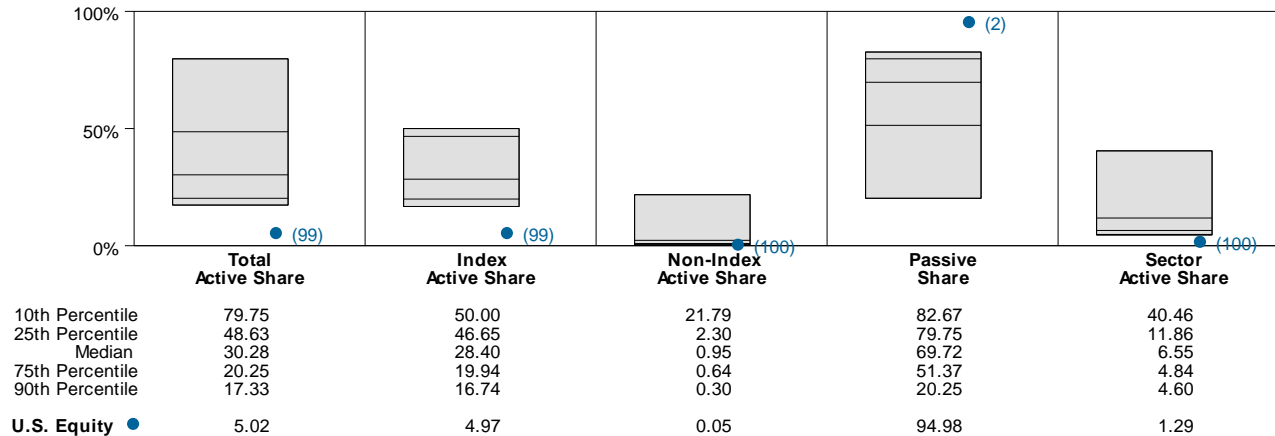
Performance vs Public Fund - Domestic Equity (Gross)



Style Map vs Pub Pln- Dom Equity Holdings as of September 30, 2022



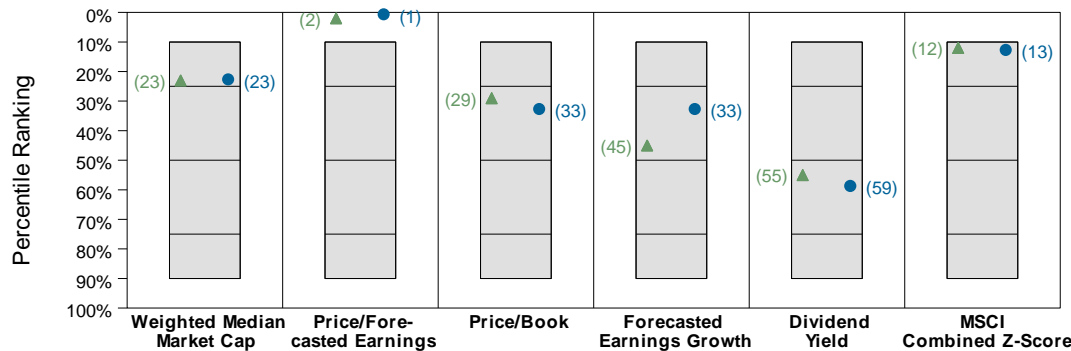
Active Share vs. Pub Pln- Dom Equity



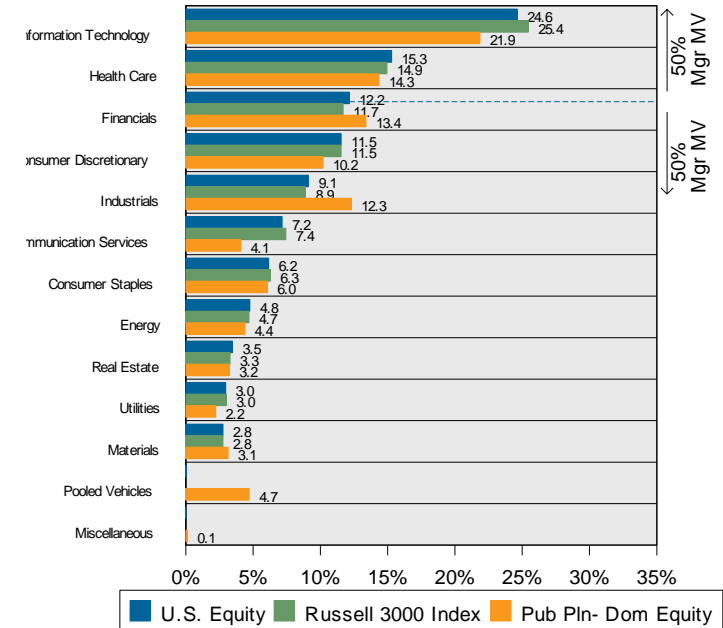
U.S. Equity

As of September 30, 2022

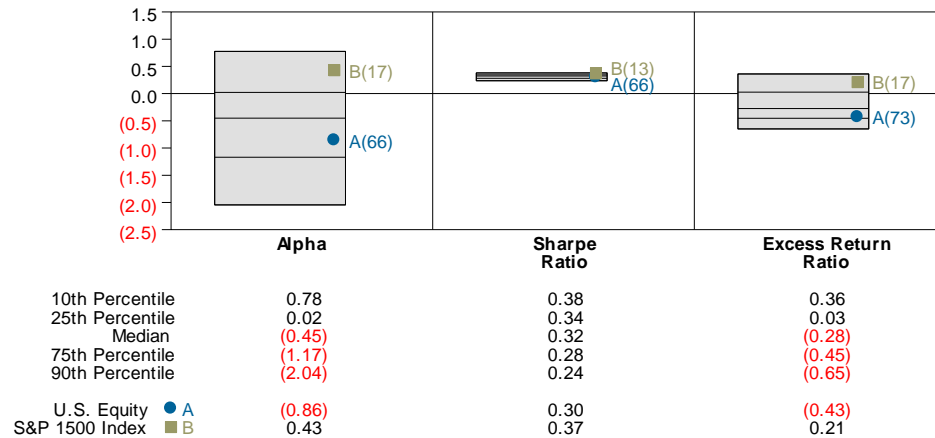
Portfolio Characteristics Percentile Rankings
Rankings Against Public Fund - Domestic Equity
as of September 30, 2022



Sector Allocation September 30, 2022

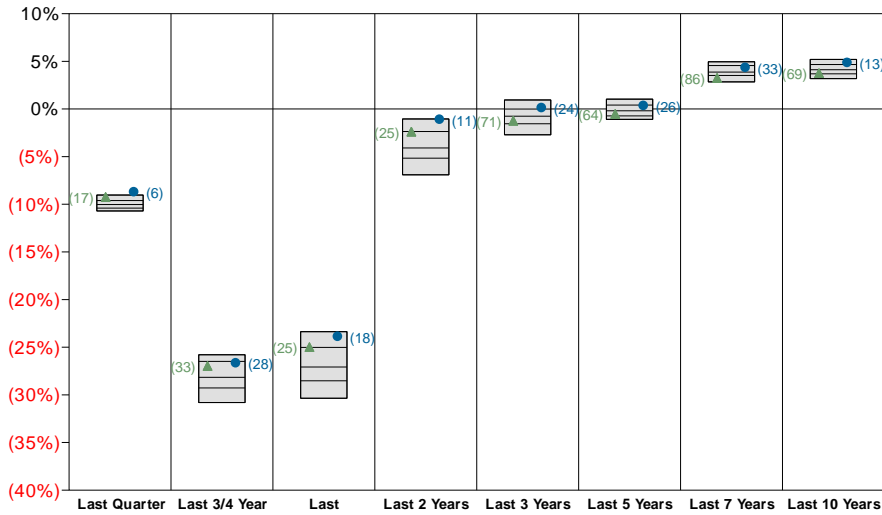


Risk Adjusted Return Measures vs Russell 3000 Index
Rankings Against Public Fund - Domestic Equity (Gross)
Five Years Ended September 30, 2022



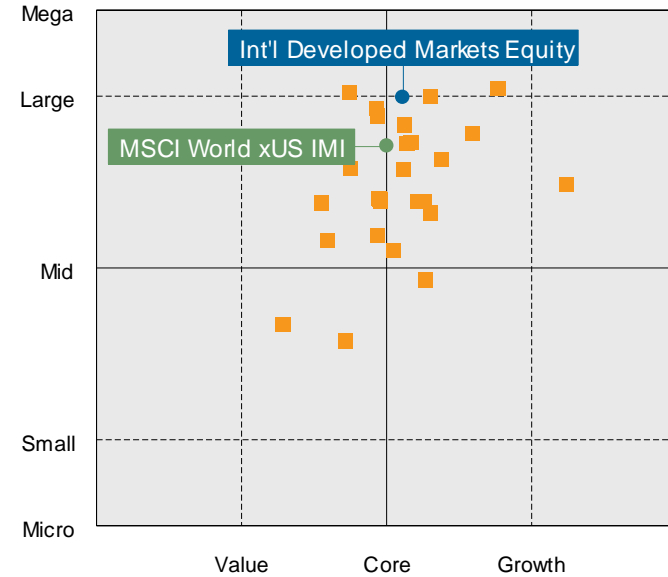
International Equity as of September 30, 2022

Performance vs Public Fund - International Equity (Gross)

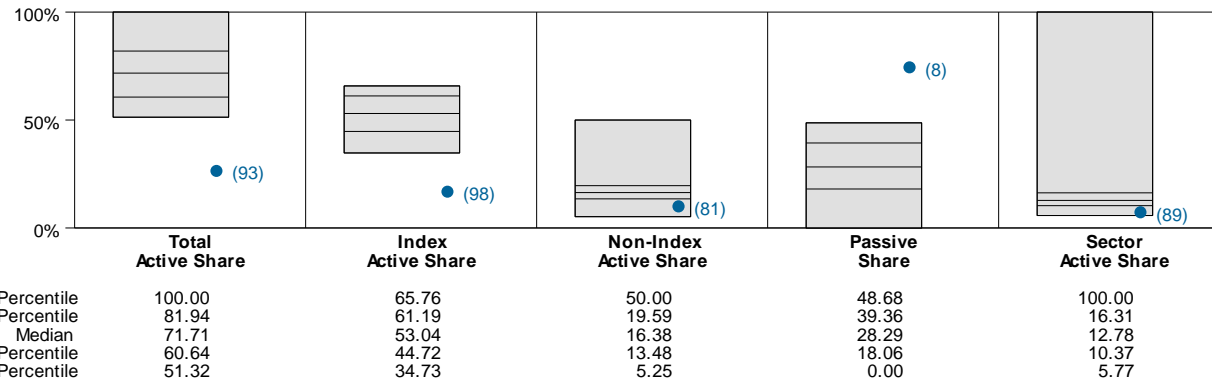


| | | | | | | | | |
|---|--------|---------|---------|--------|--------|--------|------|------|
| Int'l Developed Markets Equity ● | (8.76) | (26.71) | (23.93) | (1.15) | 0.06 | 0.29 | 4.29 | 4.80 |
| MSCI World xUS IMI ▲ | (9.23) | (26.97) | (24.99) | (2.38) | (1.23) | (0.53) | 3.26 | 3.77 |

Style Map vs Pub Pln- Intl Equity Holdings as of September 30, 2022



Active Share vs. Pub Pln- Intl Equity

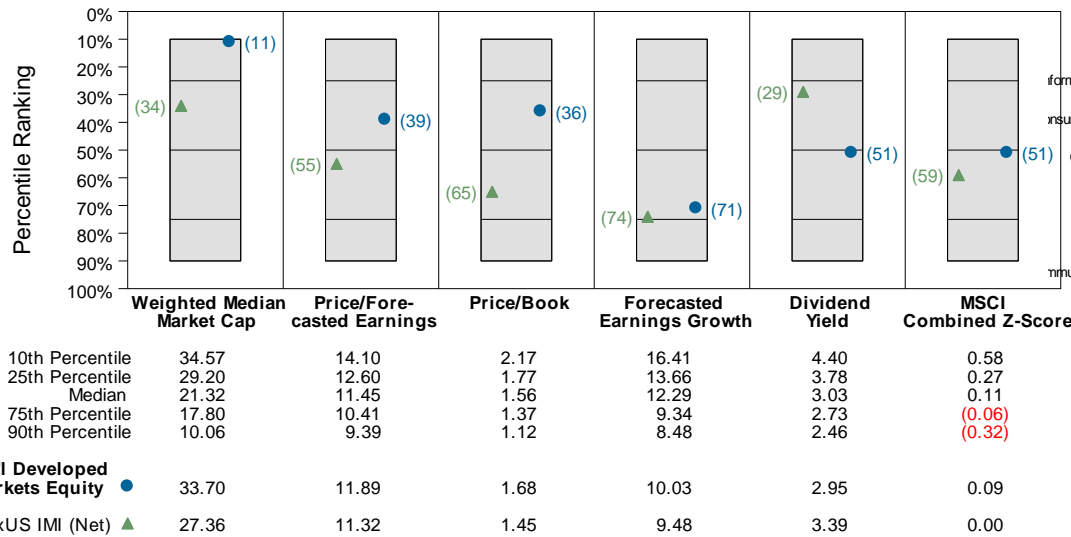


| | | | | | |
|---|-------|-------|------|-------|------|
| Int'l Developed Markets Equity ● | 26.02 | 16.41 | 9.61 | 73.98 | 6.86 |
|---|-------|-------|------|-------|------|

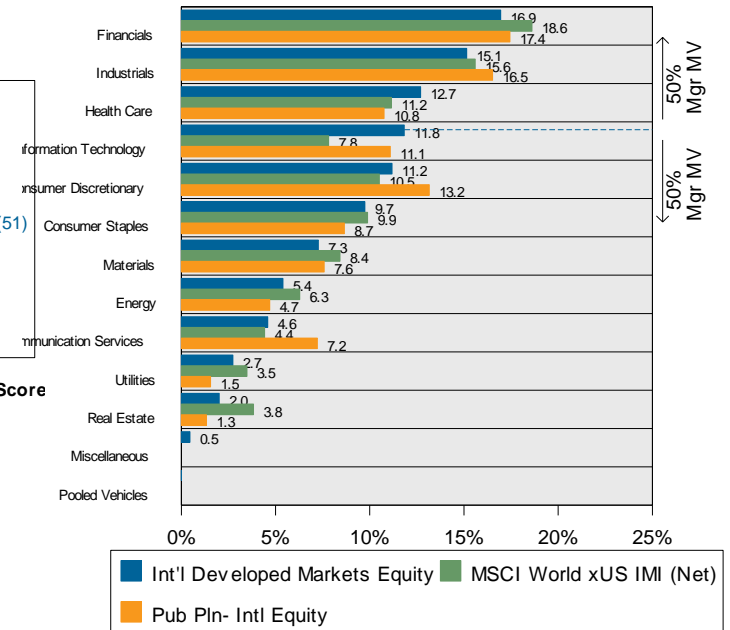
International Equity

As of September 30, 2022

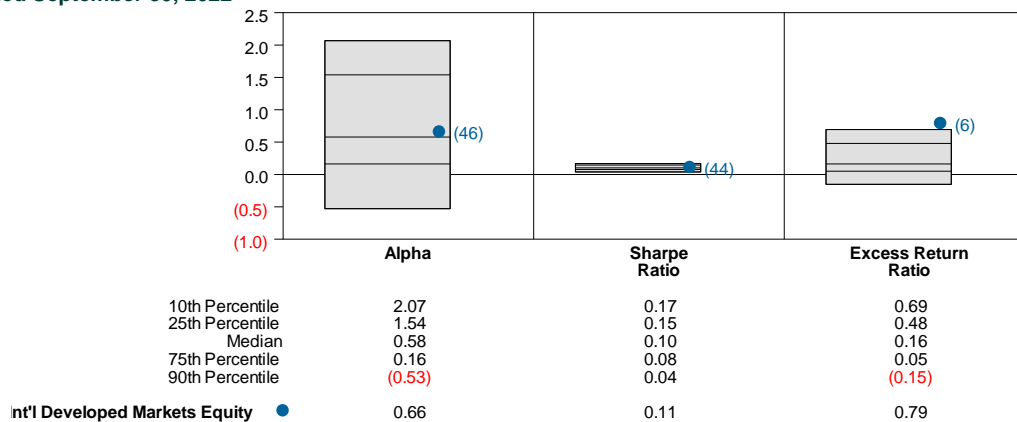
Portfolio Characteristics Percentile Rankings
Rankings Against Public Fund - International Equity
as of September 30, 2022



Sector Allocation
September 30, 2022

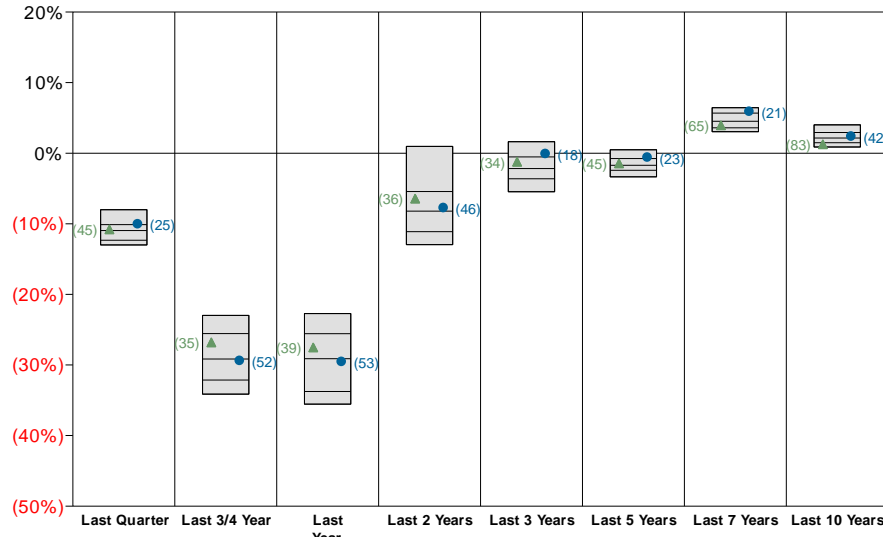


Risk Adjusted Return Measures vs MSCI World ex US IMI
Rankings Against Public Fund - International Equity (Gross)
Five Years Ended September 30, 2022

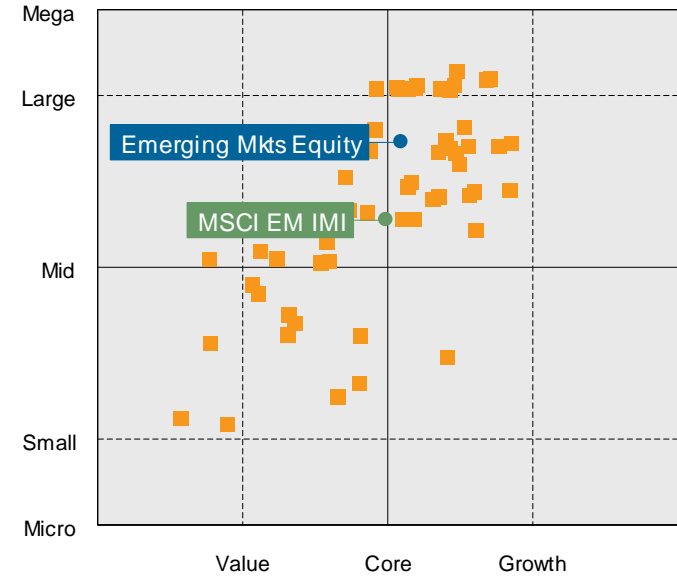


Emerging Markets Equity as of September 30, 2022

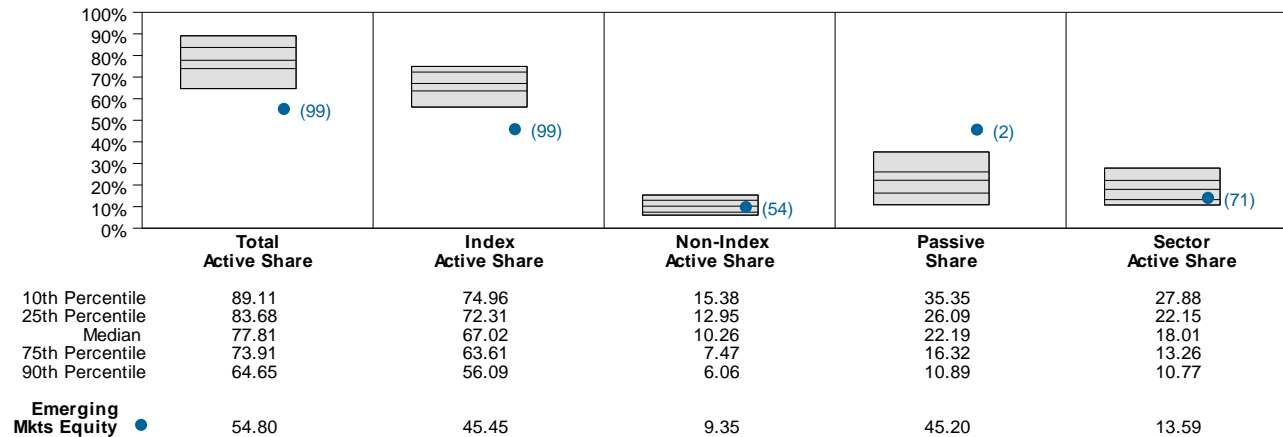
Performance vs Callan Emerging Broad (Gross)



Style Map vs Callan Emerging Broad Holdings as of September 30, 2022



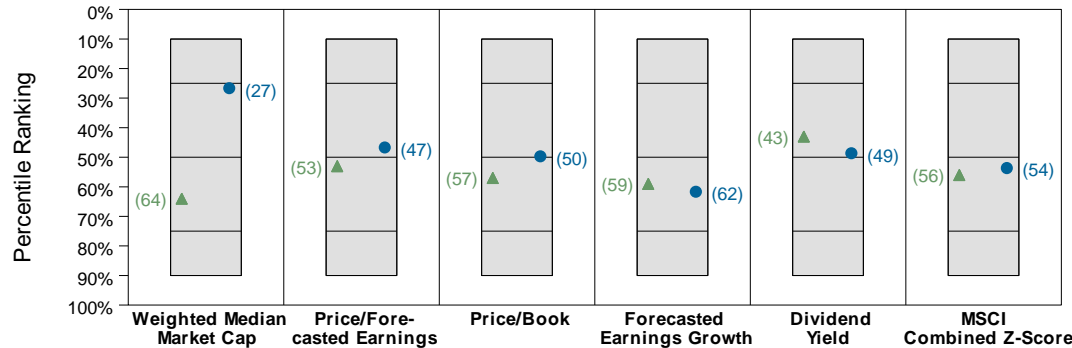
Active Share vs. Callan Emerging Broad



Emerging Markets Equity

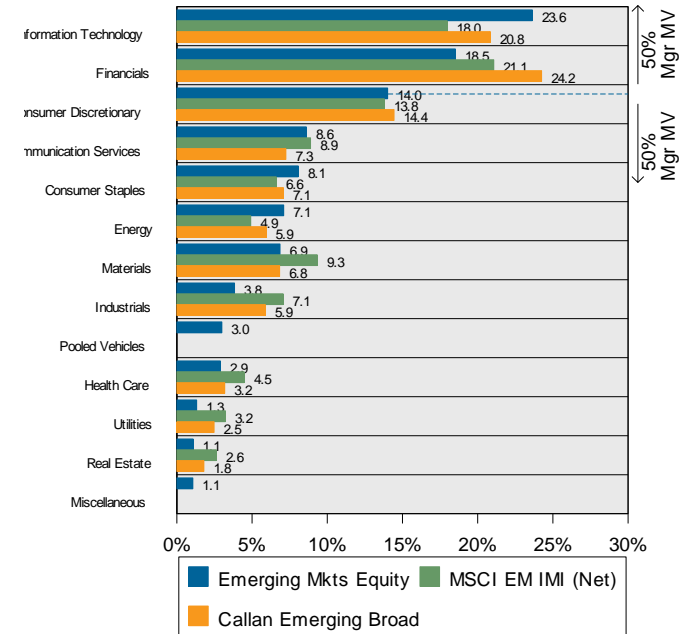
As of September 30, 2022

Portfolio Characteristics Percentile Rankings
Rankings Against Callan Emerging Broad
as of September 30, 2022

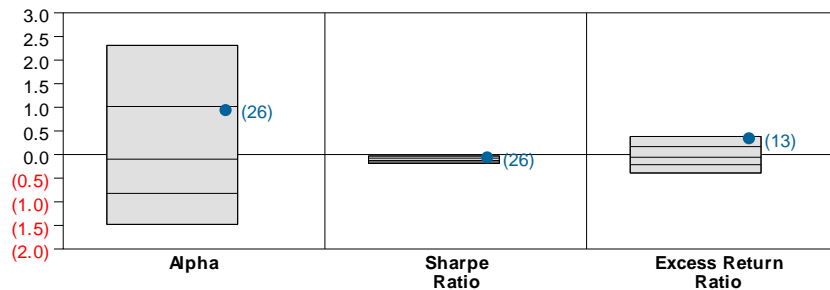


| | Weighted Median Market Cap | Price/Forecasted Earnings | Price/Book | Forecasted Earnings Growth | Dividend Yield | MSCI Combined Z-Score |
|-----------------------------|----------------------------|---------------------------|------------|----------------------------|----------------|-----------------------|
| 10th Percentile | 42.91 | 16.22 | 2.55 | 19.23 | 6.62 | 0.56 |
| 25th Percentile | 29.39 | 13.79 | 1.99 | 17.26 | 4.52 | 0.41 |
| Median | 21.30 | 10.44 | 1.51 | 15.72 | 3.06 | 0.14 |
| 75th Percentile | 12.32 | 7.66 | 1.09 | 12.13 | 2.11 | (0.33) |
| 90th Percentile | 7.10 | 6.44 | 0.89 | 10.28 | 1.77 | (0.74) |
| Emerging Mkts Equity | 27.82 | 11.05 | 1.52 | 14.32 | 3.13 | 0.08 |
| MSCI EM IMI (Net) | 17.67 | 10.30 | 1.40 | 14.72 | 3.49 | (0.01) |

Sector Allocation September 30, 2022



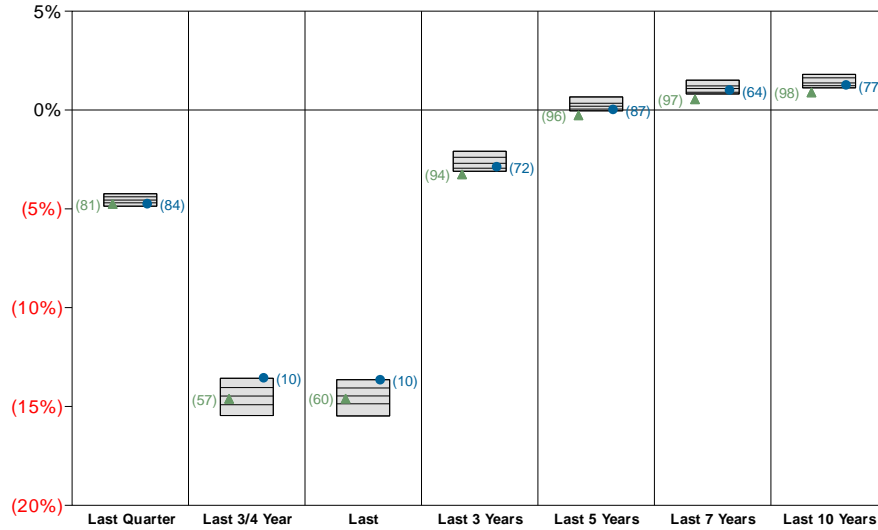
Risk Adjusted Return Measures vs MSCI EM IMI
Rankings Against Callan Emerging Broad (Gross)
Five Years Ended September 30, 2022



| | Alpha | Sharpe Ratio | Excess Return Ratio |
|-----------------------------|--------|--------------|---------------------|
| 10th Percentile | 2.31 | (0.03) | 0.38 |
| 25th Percentile | 1.02 | (0.08) | 0.17 |
| Median | (0.10) | (0.13) | (0.06) |
| 75th Percentile | (0.82) | (0.16) | (0.22) |
| 90th Percentile | (1.48) | (0.19) | (0.39) |
| Emerging Mkts Equity | 0.92 | (0.08) | 0.32 |

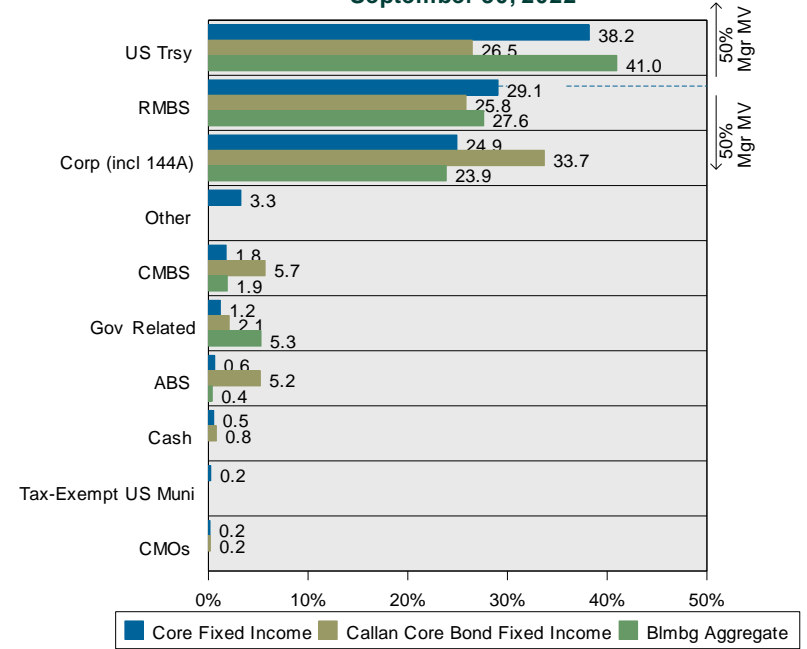
Core Fixed Income As of September 30, 2022

Performance vs Callan Core Bond Fixed Income (Gross)

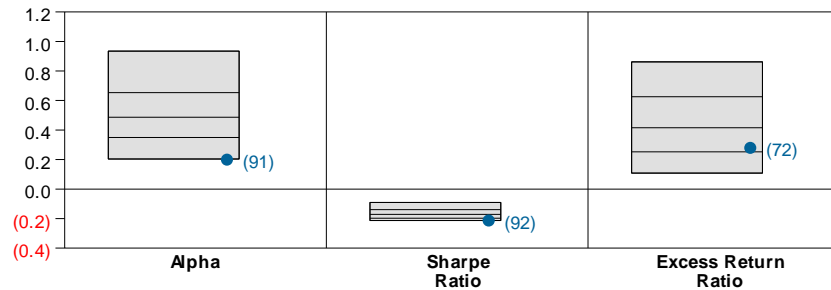


| | | | | | | | |
|----------------------------|--------|---------|---------|--------|--------|------|------|
| 10th Percentile | (4.24) | (13.58) | (13.65) | (2.09) | 0.66 | 1.51 | 1.80 |
| 25th Percentile | (4.39) | (14.04) | (14.07) | (2.39) | 0.34 | 1.22 | 1.62 |
| Median | (4.56) | (14.47) | (14.47) | (2.70) | 0.19 | 1.08 | 1.37 |
| 75th Percentile | (4.70) | (14.91) | (14.86) | (2.94) | 0.05 | 0.90 | 1.23 |
| 90th Percentile | (4.87) | (15.46) | (15.48) | (3.10) | (0.04) | 0.81 | 1.12 |
| Core Fixed Income ● | (4.78) | (13.59) | (13.69) | (2.91) | (0.01) | 0.97 | 1.23 |
| Blmbg Aggregate ▲ | (4.75) | (14.61) | (14.60) | (3.26) | (0.27) | 0.54 | 0.89 |

Sector Allocation
September 30, 2022



Risk Adjusted Return Measures vs Blmbg Aggregate
Rankings Against Public Fund - Domestic Fixed (Gross)
Five Years Ended September 30, 2022

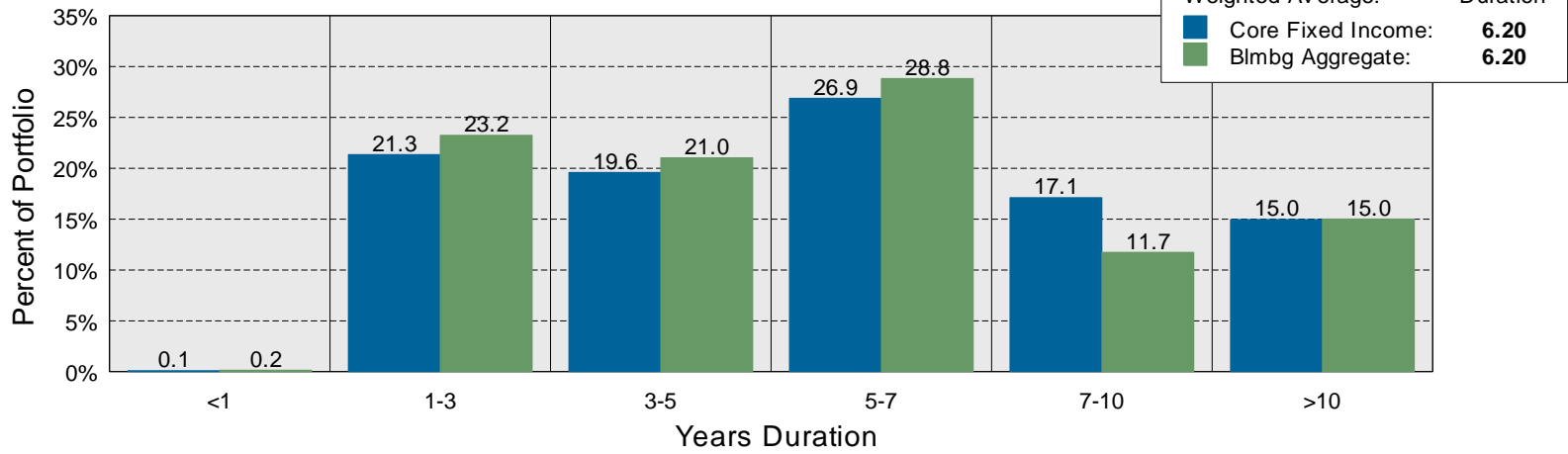


| | | | |
|----------------------------|------|--------|------|
| 10th Percentile | 0.93 | (0.09) | 0.86 |
| 25th Percentile | 0.65 | (0.14) | 0.63 |
| Median | 0.49 | (0.17) | 0.42 |
| 75th Percentile | 0.35 | (0.20) | 0.25 |
| 90th Percentile | 0.20 | (0.21) | 0.11 |
| Core Fixed Income ● | 0.19 | (0.22) | 0.27 |

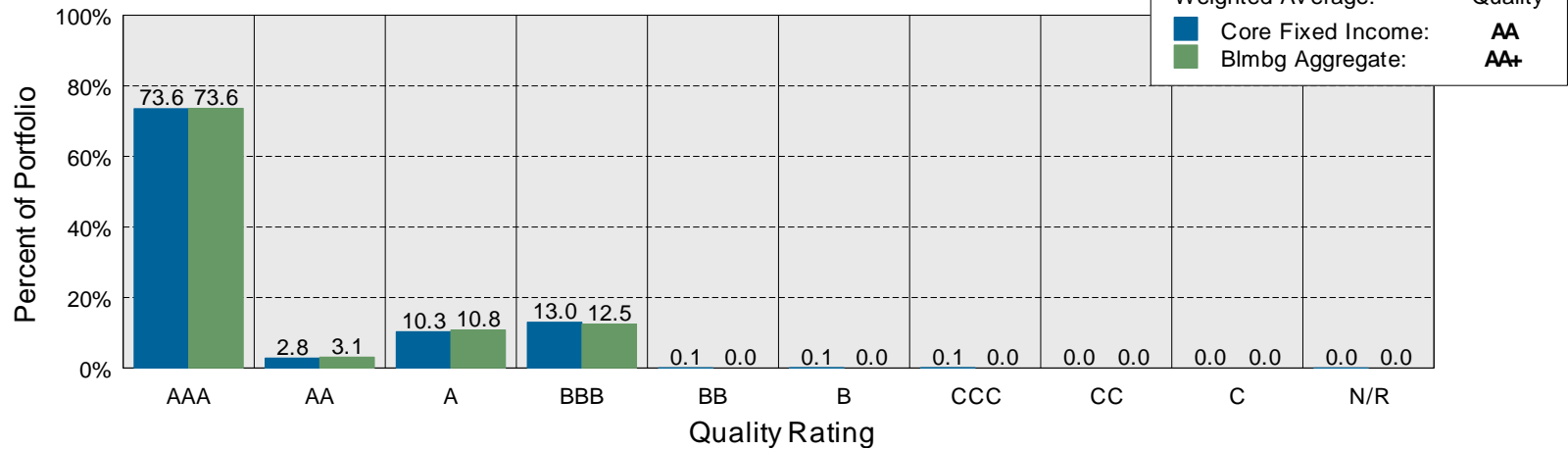
Core Fixed Income

As of September 30, 2022

Duration Distribution

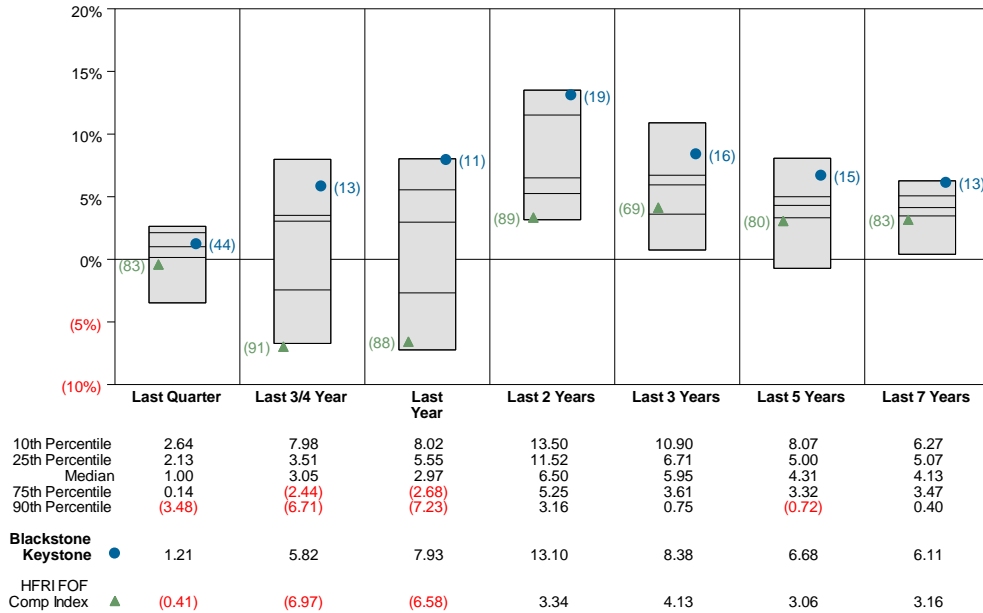


Quality Distribution

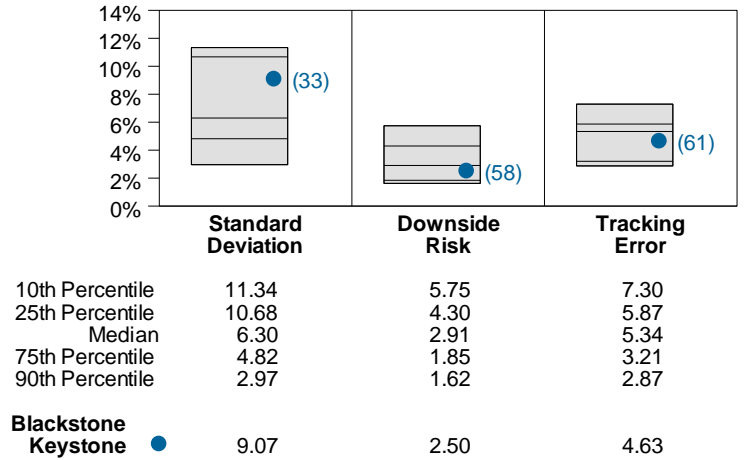


Opportunistic Fixed Income As of September 30, 2022

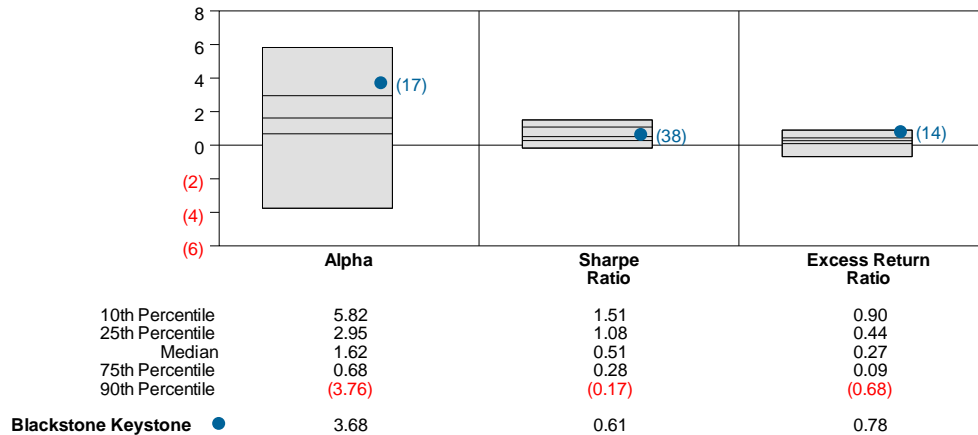
Performance vs Callan Absolute Rtn Hedge Fund of Funds (Net)



Risk Statistics Rankings vs HFRI FOF Comp Index Rankings Against Callan Absolute Rtn Hedge Fund of Funds (Net) Five Years Ended September 30, 2022



Risk Adjusted Return Measures vs HFRI FOF Comp Index Rankings Against Callan Absolute Rtn Hedge Fund of Funds (Net) Five Years Ended September 30, 2022



Investment Manager Returns

As of September 30, 2022

| | Market Value \$(mm) | Ending Weight | Last Quarter | Year to Date | Last Year | Last 3 Years | Last 5 Years |
|---|---------------------|----------------|----------------|-----------------|-----------------|--------------|--------------|
| Net Performance- Domestic Equity | | | | | | | |
| U.S. Equity | \$9,712 | 100.00% | (4.35%) | (24.51%) | (18.40%) | 7.60% | 7.82% |
| Russell 3000 Index (1) | - | - | (4.46%) | (24.62%) | (17.63%) | 7.70% | 8.62% |
| S&P 1500 Index | - | - | (4.76%) | (23.72%) | (15.55%) | 7.96% | 8.90% |
| MCM Russell 1000 Index | 8,719 | 89.77% | (4.60%) | (24.35%) | (16.93%) | 8.08% | 9.11% |
| Russell 1000 Index | - | - | (4.61%) | (24.59%) | (17.22%) | 7.95% | 9.00% |
| S&P 500 Index | - | - | (4.88%) | (23.87%) | (15.47%) | 8.16% | 9.24% |
| MCM Russell 2000 Core Index | 383 | 3.94% | (2.19%) | (25.02%) | (23.65%) | 4.77% | 3.82% |
| Russell 2000 Index | - | - | (2.19%) | (25.10%) | (23.50%) | 4.29% | 3.55% |
| S&P 600 Index | - | - | (5.20%) | (23.16%) | (18.83%) | 5.48% | 4.84% |
| MCM Russell 2000 Val Index | 297 | 3.05% | (4.62%) | (21.00%) | (17.55%) | 4.81% | 2.90% |
| Russell 2000 Value Index | - | - | (4.61%) | (21.12%) | (17.69%) | 4.72% | 2.87% |
| S&P 600 Value Index | - | - | (6.78%) | (19.99%) | (16.41%) | 5.02% | 3.99% |
| Emerald Asset Management | 314 | 3.23% | 0.36% | (28.87%) | (28.58%) | 3.75% | 4.47% |
| Russell 2000 Growth Index | - | - | 0.24% | (29.28%) | (29.27%) | 2.94% | 3.60% |
| S&P 600 Growth Index | - | - | (3.38%) | (26.23%) | (21.17%) | 5.54% | 5.49% |

| | Last 10 Years | Last 15 Years | Last 20 Years | Last 25 Years | Since Inception |
|---|---------------|---------------|---------------|---------------|----------------------|
| Net Performance- Domestic Equity | | | | | |
| U.S. Equity | 10.66% | 6.27% | 9.34% | 7.08% | 10.34% (1/81) |
| Russell 3000 Index (1) | 11.39% | 7.92% | 9.93% | 7.43% | 10.64% (1/81) |
| S&P 1500 Index | 11.54% | 8.04% | 9.93% | 7.61% | - |
| MCM Russell 1000 Index | 11.66% | - | - | - | 12.34% (1/12) |
| Russell 1000 Index | 11.60% | 8.03% | 9.97% | 7.56% | 12.32% (1/12) |
| S&P 500 Index | 11.70% | 8.03% | 9.84% | 7.45% | 12.42% (1/12) |
| MCM Russell 2000 Core Index | - | - | - | - | 5.62% (12/16) |
| Russell 2000 Index | 8.55% | 6.40% | 9.36% | 6.73% | 5.39% (12/16) |
| S&P 600 Index | 10.09% | 7.77% | 10.41% | 8.43% | 6.28% (12/16) |
| MCM Russell 2000 Val Index | - | - | - | - | 4.17% (12/16) |
| Russell 2000 Value Index | 7.94% | 5.70% | 8.81% | 7.43% | 4.15% (12/16) |
| S&P 600 Value Index | 9.51% | 7.15% | 9.86% | 8.21% | 5.21% (12/16) |
| Emerald Asset Management | - | - | - | - | 6.98% (12/16) |
| Russell 2000 Growth Index | 8.81% | 6.82% | 9.67% | 5.54% | 6.10% (12/16) |
| S&P 600 Growth Index | 10.53% | 8.29% | 10.88% | 8.24% | 7.12% (12/16) |

* All returns on this report are shown with 2- decimal precision. This may differ from the decimal precision shown in BNY Mellon reports.

** Market values may not sum as a result of accounts funded within the quarter or accounts in the process of liquidation. The market values and performance of such accounts are included within their relevant composites.

(1) Benchmark history is a blend of current and past benchmark indices. History prior to 12/31/2018 is provided by RVK.

Investment Manager Returns

As of September 30, 2022

| | Market Value \$(mm) | Ending Weight | Last Quarter | Year to Date | Last Year | Last 3 Years | Last 5 Years |
|--|---------------------|---------------|--------------|--------------|-----------|--------------|--------------|
| Net Performance- International Equity | | | | | | | |
| Int'l Developed Mkts Equity | \$3,769 | 100.00% | (8.79%) | (26.78%) | (24.03%) | (0.10%) | 0.17% |
| MSCI World ex US IMI | - | - | (9.23%) | (26.97%) | (24.99%) | (1.23%) | (0.53%) |
| Walter Scott & Partners(1) | 587 | 15.57% | (6.79%) | (28.53%) | (22.43%) | 4.10% | 7.54% |
| MSCI World | - | - | (6.19%) | (25.42%) | (19.63%) | 4.56% | 5.30% |
| BlackRock MSCI World Ex US Index | 2,901 | 76.96% | (9.10%) | (25.89%) | (23.51%) | (0.77%) | 0.03% |
| MSCI World ex US | - | - | (9.20%) | (26.23%) | (23.91%) | (1.21%) | (0.39%) |
| Xpance Non-U.S. Small Cap | 179 | 4.74% | (9.36%) | (31.83%) | (32.17%) | (2.13%) | - |
| MSCI ACWI ex US Small Cap | - | - | (8.37%) | (29.37%) | (28.93%) | 0.38% | (0.56%) |
| Harris Assoc Int'l SCV | 100 | 2.64% | (10.30%) | (32.25%) | (31.89%) | (1.02%) | (2.17%) |
| MSCI World ex US Sm Cap | - | - | (9.46%) | (31.07%) | (30.80%) | (1.27%) | (1.24%) |
| MSCI World ex US Sm Value | - | - | (10.09%) | (26.37%) | (25.84%) | (1.65%) | (2.03%) |

| | Last 10 Years | Last 15 Years | Last 20 Years | Last 25 Years | Since Inception |
|--|---------------|---------------|---------------|---------------|-----------------|
| Net Performance- International Equity | | | | | |
| Int'l Developed Mkts Equity | 4.59% | 0.93% | 6.44% | - | 5.10% (1/02) |
| MSCI World ex US IMI | 3.77% | 0.92% | 6.38% | 3.96% | 5.08% (1/02) |
| Walter Scott & Partners(1) | 9.56% | 7.45% | - | - | 8.09% (10/06) |
| MSCI World | 8.11% | 4.58% | 8.07% | 5.54% | 5.54% (10/06) |
| BlackRock MSCI World Ex US Index | - | - | - | - | 1.13% (6/17) |
| MSCI World ex US | 3.62% | 0.72% | 6.11% | 3.69% | 0.67% (6/17) |
| Xpance Non-U.S. Small Cap | - | - | - | - | (2.85%) (10/18) |
| MSCI ACWI ex US Small Cap | 4.44% | 2.18% | 8.71% | 5.64% | (1.16%) (10/18) |
| Harris Assoc Int'l SCV | 4.83% | 3.37% | - | - | 8.54% (7/03) |
| MSCI World ex US Sm Cap | 4.78% | 2.25% | 8.11% | - | 7.33% (7/03) |
| MSCI World ex US Sm Value | 4.42% | 1.95% | 8.34% | 6.45% | 7.34% (7/03) |

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(1) Walter Scott since inception returns were contained in the Global Mandates composite prior to 12/31/2019.

Investment Manager Returns

As of September 30, 2022

| | Market Value \$(mm) | Ending Weight | Last Quarter | Year to Date | Last Year | Last 3 Years | Last 5 Years |
|--|---------------------|----------------|-----------------|-----------------|-----------------|----------------|----------------|
| Net Performance- Emerging Mkts Equity | | | | | | | |
| Emerging Mkts Equity | \$1,046 | 100.00% | (10.22%) | (29.74%) | (29.98%) | (0.67%) | (1.15%) |
| MSCI EM IMI | - | - | (10.79%) | (26.79%) | (27.51%) | (1.20%) | (1.43%) |
| Macquarie Emg Mkts Equity | 285 | 27.25% | (11.43%) | (31.50%) | (30.38%) | (1.98%) | (2.10%) |
| MSCI EM | - | - | (11.57%) | (27.16%) | (28.11%) | (2.07%) | (1.80%) |
| Martin Currie Emg Mkts Equity | 302 | 28.91% | (10.95%) | (33.78%) | (34.57%) | (2.54%) | (1.71%) |
| MSCI EM | - | - | (11.57%) | (27.16%) | (28.11%) | (2.07%) | (1.80%) |
| BlackRock Emg Mkts Index | 153 | 14.64% | (11.68%) | (27.24%) | (28.18%) | (2.33%) | (2.04%) |
| MSCI EM | - | - | (11.57%) | (27.16%) | (28.11%) | (2.07%) | (1.80%) |
| Leading Edge Emg Mkts Fund | 195 | 18.67% | (8.97%) | (27.25%) | (28.76%) | (2.75%) | - |
| MSCI EM | - | - | (11.57%) | (27.16%) | (28.11%) | (2.07%) | (1.80%) |
| GlobeFlex Emerging Small Cap | 110 | 10.54% | (4.85%) | (19.66%) | (18.46%) | 8.54% | 2.61% |
| MSCI EM Small Cap | - | - | (5.25%) | (24.23%) | (23.23%) | 5.54% | 1.25% |

| | Last 10 Years | Last 15 Years | Last 20 Years | Last 25 Years | Since Inception |
|--|---------------|----------------|---------------|---------------|---------------------|
| Net Performance- Emerging Mkts Equity | | | | | |
| Emerging Mkts Equity | 1.82% | (0.83%) | 6.48% | - | 5.79% (1/02) |
| MSCI EM IMI | 1.27% | 0.47% | 8.85% | 4.01% | 7.69% (1/02) |
| Macquarie Emg Mkts Equity | - | - | - | - | 1.53% (5/13) |
| MSCI EM | 1.05% | 0.27% | 8.73% | - | 0.63% (5/13) |
| Martin Currie Emg Mkts Equity | - | - | - | - | 1.76% (1/14) |
| MSCI EM | 1.05% | 0.27% | 8.73% | - | 0.88% (1/14) |
| BlackRock Emg Mkts Index | - | - | - | - | (0.53%) (7/17) |
| MSCI EM | 1.05% | 0.27% | 8.73% | - | (0.29%) (7/17) |
| Leading Edge Emg Mkts Fund | - | - | - | - | (0.18%) (11/18) |
| MSCI EM | 1.05% | 0.27% | 8.73% | - | 0.21% (11/18) |
| GlobeFlex Emerging Small Cap | - | - | - | - | 4.69% (8/13) |
| MSCI EM Small Cap | 2.91% | 1.58% | 10.18% | 5.03% | 2.97% (8/13) |

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Investment Manager Returns

As of September 30, 2022

| | Market Value \$(mm) | Ending Weight | Last Quarter | Year to Date | Last Year | Last 3 Years | Last 5 Years |
|--|------------------------|---------------|--------------------|----------------------|----------------------|--------------------|--------------------|
| Net Performance - Fixed Income | | | | | | | |
| Fixed Income (1) | \$6,842 | 50.00% | | | | | |
| Blmbg U.S. Agg Bond Index | - | - | (4.26%) (4.75%) | (13.60%) (14.61%) | (13.36%) (14.60%) | (3.02%) (3.26%) | (0.23%) (0.27%) |
| Core Fixed Income | \$4,880 | 35.66% | | | | | |
| Blmbg U.S. Agg Bond Index | - | - | (4.79%) (4.75%) | (13.62%) (14.61%) | (13.74%) (14.60%) | (2.97%) (3.26%) | (0.09%) (0.27%) |
| PIMCO Core Bond Fund Blmbg Agg ex Treasury | 500 - | 3.65% - | (5.07%) (5.03%) | (15.16%) (15.61%) | (15.37%) (15.69%) | (2.97%) (3.48%) | (0.13%) (0.38%) |
| Mellon Bond Index Blmbg U.S. Agg Bond Index (2) | 4,380 - | 32.01% - | (4.75%) (4.75%) | (14.62%) (14.61%) | (14.64%) (14.60%) | (3.36%) (3.26%) | (0.35%) (0.27%) |
| Opportunistic Fixed Income | \$845 | 6.17% | 1.24% | 5.10% | 6.68% | 6.01% | 4.87% |
| BAAM Keystone (3) HFRI FOF Comp Index | 845 - | 6.17% - | 1.24% (0.41%) | 5.31% (6.97%) | 6.78% (6.57%) | 7.57% 4.13% | 6.14% 3.06% |
| Nominal U.S. Treasuries | \$838 | 6.13% | | | | | |
| Blmbg US Treas Bell 10Y | - | - | (7.27%) (5.83%) | (17.28%) (16.85%) | (17.09%) (16.29%) | (5.16%) (4.50%) | (1.07%) (0.75%) |
| PIMCO US Treasuries Blmbg US Treas Bell 10Y | 85 - | 0.62% - | (5.70%) (5.83%) | (15.88%) (16.85%) | (15.68%) (16.29%) | (4.06%) (4.50%) | (0.38%) (0.75%) |
| Mellon Intermediate Treasury Index Blmbg Intmtd Treasury | 261 - | 1.91% - | (3.08%) (3.08%) | (8.65%) (8.70%) | (9.21%) (9.23%) | - (1.72%) | - 0.17% |
| Mellon Long Duration Index Blmbg Long Treasury | 492 - | 3.60% - | (9.60%) (9.63%) | (28.52%) (28.84%) | (26.59%) (26.65%) | - (8.51%) | - (1.62%) |
| Legacy Fixed Income | \$279 | 2.04% | (1.23%) | - | - | - | - |
| Fidelity HY CMBS (4) Blmbg US CMBS Ex AAA Index (5) | 276 - | 2.02% - | (1.13%) (3.22%) | (7.02%) (12.88%) | (6.65%) (13.45%) | (1.60%) (2.50%) | 1.27% 1.22% |
| SEI Str. Credit: HY Bank Loans (6) FTSE HY Corp (1 month lag) | 2 - | 0.01% - | 1.35% (3.37%) | (2.14%) (8.95%) | 1.13% (10.01%) | 8.41% 1.02% | 7.65% 2.52% |

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The market values and performance of such accounts are included within their relevant composites.

(1) Fixed Income included the new fixed income sub-composite from 03/01/2021 to 06/30/2022. On 07/01/2022, the sub-composites of the new fixed income structure was liquidated and the managers reorganized under Core Fixed Income,

Opportunistic Fixed Income, Nominal US Treasuries and Legacy Fixed Income sub-composites.

(2) Benchmark history is a blend of current and past benchmark indices. History prior to 12/31/2018 is provided by RVK.

(3) Blackstone Keystone since inception returns were included in the Legacy Hedge Fund composite through 9/30/2017, included in the Multi-Strategy composite from 10/01/2017 through 12/31/2019, included in the Opportunistic Fixed composite from 01/01/2020 through 12/31/2020, included in the Private Credit from 01/01/2021 through 09/30/2021 and Opportunistic Fixed composite, thereafter.

(4) Fidelity was included in the Opportunistic Fixed composite prior to 03/01/2021, included in the High Yield under the new fixed income structure from 03/01/2021 through 06/30/2022, and Legacy Fixed Income Structure, thereafter.

(5) Fidelity's blended benchmark consists of FTSE High Yield Market Index prior to 12/31/2009 and Blmbg US CMBS Ex AAA Index, thereafter.

(6) SEI HY Bank Loans has a 1 month lag in valuation.

Investment Manager Returns

As of September 30, 2022

| | Last 10 Years | Last 15 Years | Last 20 Years | Last 25 Years | Since Inception | |
|---------------------------------------|---------------------|---------------------|---------------------|---------------------|--------------------|---------|
| Net Performance - Fixed Income | | | | | | |
| Fixed Income (1) | 1.18% | 3.19% | 4.42% | 4.62% | 7.57% | (1/81) |
| Blmbg U.S. Agg Bond Index | 0.89% | 2.74% | 3.08% | 4.02% | 6.85% | (1/81) |
| Core Fixed Income | 1.13% | 3.14% | 3.45% | - | 3.72% | (1/02) |
| Blmbg U.S. Agg Bond Index | 0.89% | 2.74% | 3.08% | 4.02% | 3.38% | (1/02) |
| PIMCO Core Bond Fund | - | - | - | - | 1.03% | (1/13) |
| Blmbg Agg ex Treasury | 1.07% | 2.93% | - | - | 1.06% | (1/13) |
| Mellon Bond Index | 0.79% | 2.60% | 2.95% | 4.00% | 6.31% | (4/84) |
| Blmbg U.S. Agg Bond Index (2) | 0.89% | 2.74% | 3.08% | 4.11% | - | |
| Opportunistic Fixed Income | 4.91% | - | - | - | 4.91% | (10/12) |
| BAAM Keystone (3) | 7.07% | - | - | - | 7.38% | (7/12) |
| HFRI FOF Comp Index | 3.46% | 1.73% | 3.54% | 3.81% | 3.61% | (7/12) |
| Nominal U.S. Treasuries | 0.06% | - | - | - | 0.64% | (9/11) |
| Blmbg US Treas Bell 10Y | 0.12% | 2.85% | 2.79% | 3.84% | 0.86% | (9/11) |
| PIMCO US Treasuries | 0.56% | - | - | - | 1.11% | (9/11) |
| Blmbg US Treas Bell 10Y | 0.12% | 2.85% | 2.79% | 3.84% | 0.86% | (9/11) |
| Mellon Intermediate Treasury Index | - | - | - | - | (5.97%) | (3/21) |
| Blmbg Intmtd Treasury | 0.59% | 2.15% | 2.36% | 3.39% | (5.97%) | (3/21) |
| Mellon Long Duration Index | - | - | - | - | (19.92%) | (1/21) |
| Blmbg Long Treasury | 0.59% | 3.97% | 4.10% | 5.26% | (19.87%) | (1/21) |
| Legacy Fixed Income | - | - | - | - | (1.23%) | (7/22) |
| Fidelity HY CMBS (4) | 4.40% | 5.22% | 6.09% | 6.99% | 7.39% | (4/97) |
| Blmbg US CMBS Ex AAA Index (5) | 2.31% | 0.08% | 1.18% | 3.07% | 3.36% | (4/97) |
| SEI Str. Credit: HY Bank Loans (6) | 7.85% | - | - | - | 11.45% | (5/08) |
| FTSE HY Corp (1 month lag) | 4.26% | 5.86% | 7.38% | 5.91% | 6.23% | (5/08) |

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(1) Fixed Income included the new fixed income sub-composite from 03/01/2021 to 06/30/2022. On 07/01/2022, the sub-composites of the new fixed income structure was liquidated and the managers reorganized under Core Fixed Income, Opportunistic Fixed Income, Nominal US Treasuries and Legacy Fixed Income sub-composites.

(2) Benchmark history is a blend of current and past benchmark indices. History prior to 12/31/2018 is provided by RVK.

(3) Blackstone Keystone since inception returns were included in the Legacy Hedge Fund composite through 9/30/2017, included in the Multi-Strategy composite from 10/01/2017 through 12/31/2019, included in the Opportunistic Fixed composite from 01/01/2020 through 12/31/2020, included in the Private Credit from 01/01/2021 through 09/30/2021 and Opportunistic Fixed composite, thereafter.

(4) Fidelity was included in the Opportunistic Fixed composite prior to 03/01/2021, included in the High Yield under the new fixed income structure from 03/01/2021 through 06/30/2022, and Legacy Fixed Income Structure, thereafter.

(5) Fidelity's blended benchmark consists of FTSE High Yield Market Index prior to 12/31/2009 and Blmbg US CMBS Ex AAA Index, thereafter.

Investment Manager Returns

As of September 30, 2022

| | Market Value \$(mm) | Ending Weight | Last Quarter | Year to Date | Last Year | Last 3 Years | Last 5 Years |
|---|------------------------|----------------|----------------|-----------------|-----------------|--------------|--------------|
| Net Performance - Inflation Protection | | | | | | | |
| Inflation Protection (TIPS) | \$984 | 100.00% | (5.60%) | (14.85%) | (12.94%) | 0.02% | 1.44% |
| Bimbg U.S. TIPS Index | - | - | (5.14%) | (13.61%) | (11.57%) | 0.79% | 1.95% |
| NISA Inv Adv TIPS | 430 | 43.64% | (5.14%) | (13.57%) | (11.57%) | 0.78% | 1.92% |
| Bimbg U.S. TIPS Index (1) | - | - | (5.14%) | (13.61%) | (11.57%) | 0.79% | 1.95% |
| Brown Brothers TIPS | 451 | 45.83% | (4.99%) | (13.35%) | (11.48%) | 0.68% | 1.88% |
| Bimbg U.S. TIPS Index | - | - | (5.14%) | (13.61%) | (11.57%) | 0.79% | 1.95% |
| New Century Global TIPS | 104 | 10.54% | (9.95%) | (25.06%) | (23.32%) | (4.68%) | (1.53%) |
| Bimbg Wrld Inflation Linked Unhdg | - | - | (9.35%) | (24.74%) | (22.66%) | (4.41%) | (1.39%) |

| | Last 10 Years | Last 15 Years | Last 20 Years | Last 25 Years | Since Inception |
|---|---------------|---------------|---------------|---------------|--------------------------------|
| Net Performance - Inflation Protection | | | | | |
| Inflation Protection (TIPS) | 0.85% | 2.56% | - | - | 2.77% ^(2/03) |
| Bimbg U.S. TIPS Index | 0.98% | 3.25% | 3.77% | 4.76% | 3.77% ^(2/03) |
| NISA Inv Adv TIPS | 0.94% | 2.57% | - | - | 2.69% ^(4/07) |
| Bimbg U.S. TIPS Index (1) | 0.96% | 2.58% | 3.23% | 4.32% | 2.69% ^(4/07) |
| Brown Brothers TIPS | 1.05% | - | - | - | 1.38% ^(2/12) |
| Bimbg U.S. TIPS Index | 0.98% | 3.25% | 3.77% | 4.76% | 1.28% ^(2/12) |
| New Century Global TIPS | (0.00%) | - | - | - | 0.27% ^(2/12) |
| Bimbg Wrld Inflation Linked Unhdg | (0.14%) | 1.77% | 3.59% | 4.47% | 0.07% ^(2/12) |

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(1) Benchmark history is a blend of current and past benchmark indices. History prior to 12/31/2018 is provided by RVK.

Investment Manager Returns

As of September 30, 2022

| | Market Value \$(mm) | Ending Weight | Last Quarter | Year to Date | Last Year | Last 3 Years | Last 5 Years |
|--|------------------------|---------------|--------------|--------------|-----------|--------------|--------------|
| Net Performance - Private Equity | | | | | | | |
| Private Equity | \$6,455 | 100.00% | (5.86%) | (4.74%) | 1.65% | 20.77% | 16.89% |
| Burgiss Private Equity Index (Qtr lag) | - | - | (3.62%) | (0.17%) | 3.56% | 16.41% | 15.26% |
| Global Equity + 3% (Qtr lag)(1) | - | - | (14.80%) | (11.54%) | (11.05%) | 11.72% | 13.14% |
| Buyouts | 3,479 | 53.90% | (3.90%) | (0.04%) | 5.34% | 20.62% | 16.94% |
| Burgiss Buyout Index (Qtr lag) | - | - | (2.51%) | 2.26% | 5.81% | 15.36% | 14.15% |
| Special Situations | 1,504 | 23.30% | (2.80%) | 9.11% | 17.67% | 22.97% | 18.03% |
| Burgiss Special Situations Idx (Qtr lag) | - | - | (1.42%) | 1.86% | 3.66% | 6.13% | 6.39% |
| Growth Equity | 1,224 | 18.96% | (13.89%) | (14.95%) | (7.15%) | 30.59% | 26.76% |
| Burgiss Venture Capital Index (Qtr lag) | - | - | (6.51%) | (5.24%) | (0.74%) | 25.05% | 23.43% |
| Keystone Legacy (2) | 248 | 3.84% | (7.33%) | (35.90%) | (31.15%) | (2.78%) | - |

| | Last 10 Years | Last 15 Years | Last 20 Years | Last 25 Years | Since Inception |
|--|---------------|---------------|---------------|---------------|-----------------|
| Net Performance - Private Equity | | | | | |
| Private Equity | 13.48% | 10.58% | 12.22% | 12.97% | 11.69% (1/86) |
| Burgiss Private Equity Index (Qtr lag) | 14.08% | 10.80% | 13.12% | 13.61% | 16.90% (1/86) |
| Global Equity + 3% (Qtr lag)(1) | 15.42% | 11.60% | 12.39% | 11.41% | 14.32% (1/86) |
| Buyouts | 14.64% | 11.85% | 14.63% | 14.95% | 13.73% (4/86) |
| Burgiss Buyout Index (Qtr lag) | 13.72% | 10.44% | 14.24% | 13.30% | 19.27% (4/86) |
| Special Situations | 13.76% | 11.09% | 14.07% | 13.34% | 13.42% (1/95) |
| Burgiss Special Situations Idx (Qtr lag) | 7.87% | 6.66% | 9.20% | 9.56% | 10.03% (1/95) |
| Growth Equity | 15.27% | 11.20% | 7.55% | 8.91% | 8.75% (1/86) |
| Burgiss Venture Capital Index (Qtr lag) | 18.72% | 13.95% | 11.05% | 14.41% | 14.59% (1/86) |
| Keystone Legacy (2) | - | - | - | - | (2.55%) (7/18) |

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(1) As of 01/01/2020 benchmark consists of 25% MSCI World ex US and 75% Russell 3000 + 3% with a 1 quarter lag.

(2) As of 12/31/2021, Keystone Legacy SPV consists of 59 non-core funds, prior performance in previous sub-asset classes.

Investment Manager Returns

As of September 30, 2022

| | Market Value \$(mm) | Ending Weight | Last Quarter | Year to Date | Last Year | Last 3 Years | Last 5 Years |
|--|---------------------|----------------|----------------|--------------|---------------|--------------|--------------|
| Net Performance - Real Estate | | | | | | | |
| Real Estate | \$2,838 | 100.00% | (1.59%) | 4.56% | 11.20% | 8.58% | 6.43% |
| Real Estate Custom Bench (Qtr lag) (1) | - | - | 4.35% | 16.48% | 25.45% | 11.47% | 9.38% |
| CPI +3% (Qtr lag) | - | - | 3.74% | 10.21% | 12.06% | 7.98% | 6.88% |
| Core/Core Plus Real Estate Funds NCREIF ODCE Index (Qtr lag) | 1,282 | 45.17% | 0.10% | 11.76% | 17.12% | 9.54% | 8.16% |
| Value Add/Oppportunistic SMA NCREIF ODCE Index (Qtr lag) | 552 | 19.47% | (0.92%) | 2.72% | 9.10% | 8.78% | 4.67% |
| Value Add/Oppportunistic Funds NCREIF ODCE Index (Qtr lag) | 725 | 25.56% | (1.35%) | 11.46% | 16.44% | 10.81% | 9.76% |
| REITS FTSE NAREIT US Index | 277 | 9.78% | (10.39%) | (27.16%) | (15.98%) | (0.51%) | 4.12% |
| | | | (9.99%) | (28.49%) | (16.85%) | (2.93%) | 2.34% |

| | Market Value \$(mm) | Ending Weight | Last 10 Years | Last 15 Years | Last 20 Years | Last 25 Years | Since Inception |
|--|---------------------|----------------|---------------|---------------|---------------|---------------|---------------------|
| Net Performance - Real Estate | | | | | | | |
| Real Estate | \$2,838 | 100.00% | 7.33% | 3.48% | 6.78% | 7.69% | 8.41% (3/84) |
| Real Estate Custom Bench (Qtr lag) (1) | - | - | 10.03% | 5.96% | 8.10% | 8.48% | - |
| CPI +3% (Qtr lag) | - | - | 5.59% | 5.38% | 5.53% | 5.49% | 5.82% (3/84) |
| Core/Core Plus Real Estate Funds NCREIF ODCE Index (Qtr lag) | 1,282 | 45.17% | 9.47% | 6.49% | 7.94% | 8.49% | 7.29% (9/86) |
| Value Add/Oppportunistic SMA NCREIF ODCE Index (Qtr lag) | 552 | 19.47% | 5.78% | 2.30% | 5.02% | 6.15% | 5.44% (6/88) |
| Value Add/Oppportunistic Funds NCREIF ODCE Index (Qtr lag) | 725 | 25.56% | 10.47% | 3.61% | 7.91% | 9.21% | 8.10% (3/84) |
| REITS FTSE NAREIT US Index | 277 | 9.78% | 5.73% | 4.12% | 8.04% | 7.96% | 8.89% (4/96) |
| | | | 5.66% | 4.36% | 7.88% | 7.85% | 9.19% (4/96) |

* All returns on this report are shown with 2-decimal precision. This may differ from the decimal precision shown in BNY Mellon reports.

** Market values may not sum as a result of accounts funded within the quarter or accounts in the process of liquidation. The market values and performance of such accounts are included within their relevant composites.

(1) As of 07/01/2022, the benchmark consists of 100% NCREIF NFI-ODCE (Qtr lag). From 03/31/2019 to 07/01/2022, the benchmark consists of 90% NCREIF ODCE Index (Qtr lag) and 10% FTSE NAREIT Index (unlagged). Prior to 03/31/2019, benchmark history was provided by RVK.

Callan

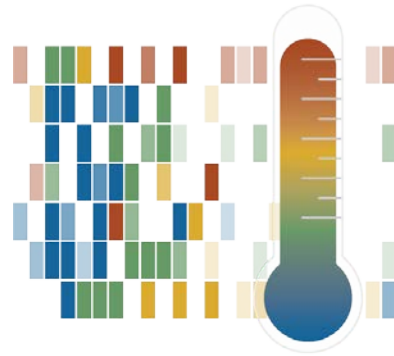
Appendix II – Callan Update

Published Research Highlights from 3Q22

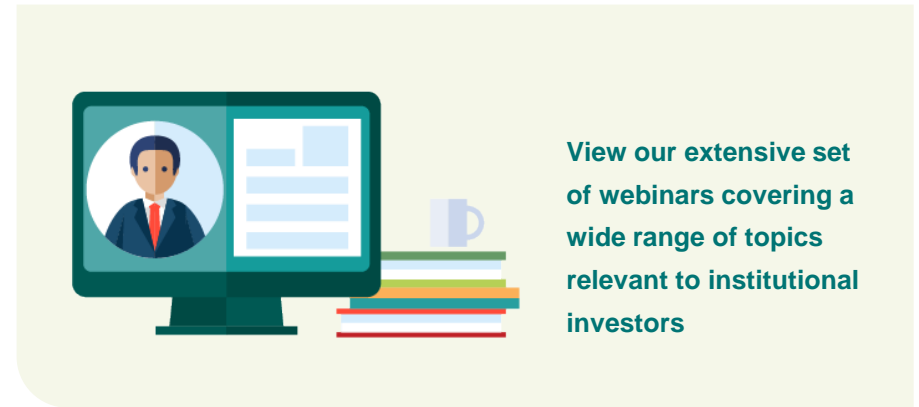
Research Café: Preliminary 2023 CMAs



Real Estate Indicators: Cool Enough or Too Hot?



On-Demand Webinars callan.com/ondemand-webinars



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Ashley Kahn

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Glidepath**
Dario Buechi

Additional Reading

- Alternatives Focus* quarterly newsletter
- Active vs. Passive quarterly charts
- Capital Markets Review* quarterly newsletter
- Monthly Updates to the Periodic Table
- Market Pulse Flipbook* quarterly markets update
- Real Estate Indicators* market outlook

Callan Institute Events

Upcoming conferences, workshops, and webinars

Callan College

Intro to Alternatives

This course is for institutional investors, including trustees and staff members of public plans, corporate plans, and nonprofits. This session familiarizes trustees and staff with alternative investments like private equity, hedge funds, and real estate and how they can play a key role in any portfolio. In our “Callan College” on Alternatives, you will learn about the importance of allocations to alternatives, and how to consider integrating, evaluating, and monitoring them.

Intro to Investments—Learn the Fundamentals

This course is for institutional investors, including trustees and staff members of public plans, corporate plans, and nonprofits. This session familiarizes trustees and staff with basic investment theory, terminology, and practices.

- March 1–2, 2023 – In Person Session – Chicago
- May 24–25, 2023 – Virtual Session via Zoom

Please visit our website at www.callan.com/events-education as we add dates to our 2023 calendar!

Mark Your Calendar

Callan Institute’s 2023 National Conference

April 2–4, 2023
Scottsdale, Arizona

Watch your email for further details and an invitation.

Webinars & Research Café Sessions

Webinar: Rebalancing During This Unusual Market Environment

November 9, 2022 – 9:30am (PT)

Callan Updates

Firm updates by the numbers, as of 9/30/22

Total Associates: ~200

Ownership

- 100% employees
- 71% of employees are equity owners
- 55% of shareholders identify as women or minority

Total General and Investment Consultants: more than 55

Total Specialty and Research Consultants: more than 50

Total CFA/CAIA/FRMs: more than 55

Total Institutional Investor Clients: more than 475

Assets Under Advisement: more than \$3 trillion

Key Hires

- Paul Choi, VP, Global Manager Research (Non-U.S. Equity)

DEI Updates

- Adopted the CFA Institute’s Diversity, Equity, and Inclusion Code in 1Q22
- Launched our new Diversity, Equity & Belonging (DEB) program in 2Q22

“Not only is our Diversity, Equity & Belonging (DEB) initiative critical to Callan’s success, we hope it will ultimately influence our entire industry. Supporting this initiative from the position of CEO is the best way for me to ensure its success. As the executive sponsor, I can make sure our team has the support and the resources to effect real change.” — Greg Allen, CEO, Chief Research Officer & DEB Executive Sponsor



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