

December 7, 2021



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

Third Quarter 2021

Executive Summary

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Market Environment

A Pause in Global Equity Markets in 3Q21

Flat-to-down returns across all market segments

Global equity hit the pause button in 3Q:

- One-year returns from September 2020 are still eye-popping:
 - S&P 500: +30%
 - MSCI World ex-USA: +27%
 - Emerging Markets: +18%
 - U.S. Small Cap: +48%
- Economic data began to show signs of softening; consumer and business spending hit by the concern over the 3Q surge in the Delta variant of COVID-19.
- 3Q GDP growth dropped sharply to 2% from a robust 6.7% in 2Q, but the economic recovery is still solid. Supply chain issues and sentiment surrounding the end of fiscal stimulus, the Delta variant, and return to a Fed taper slowed economic activity in 3Q.

Returns for Periods ended 9/30/21

	1 Quarter	1 Year	5 Years	10 Years	25 Years
U.S. Equity					
Russell 3000	-0.10	31.88	16.85	16.60	9.74
S&P 500	0.58	30.00	16.90	16.63	9.65
Russell 2000	-4.36	47.68	13.45	14.63	9.12
Global ex-U.S. Equity					
MSCI World ex USA	-0.66	26.50	8.88	7.88	5.34
MSCI Emerging Markets	-8.09	18.20	9.23	6.09	--
MSCI ACWI ex USA Small Cap	0.00	33.06	10.28	9.44	6.77
Fixed Income					
Bloomberg Aggregate	0.05	-0.90	2.94	3.01	5.06
90-day T-Bill	0.01	0.07	1.16	0.63	2.11
Bloomberg Long Gov/Credit	0.07	-2.97	5.21	5.76	7.41
Bloomberg Global Agg ex-US	-1.59	-1.15	1.10	0.90	3.58
Real Estate					
NCREIF Property	5.23	12.15	6.84	8.99	9.23
FTSE Nareit Equity	0.98	37.39	6.83	11.27	9.99
Alternatives					
CS Hedge Fund	1.19	14.07	5.51	4.88	7.07
Cambridge Private Equity*	11.52	56.87	20.97	15.81	15.62
Bloomberg Commodity	6.59	42.29	4.54	-2.66	1.41
Gold Spot Price	-0.82	-7.31	5.93	0.80	6.31
Inflation - CPI-U	0.96	5.39	2.59	1.92	2.23

*Cambridge PE data through 06/30/21

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

Market Environment: 3Q21

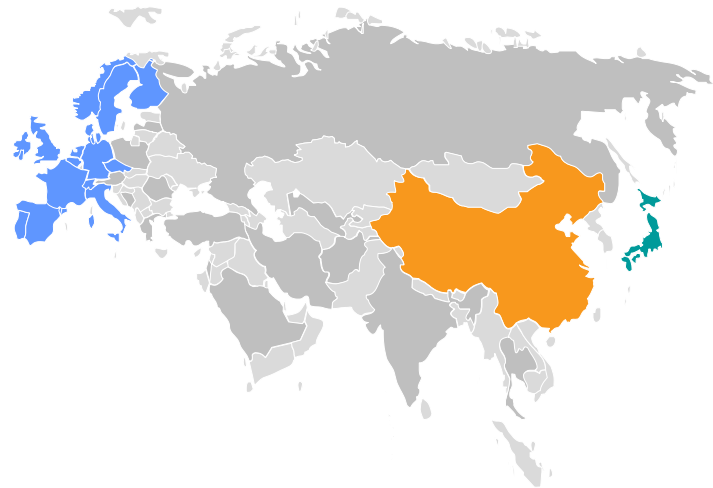
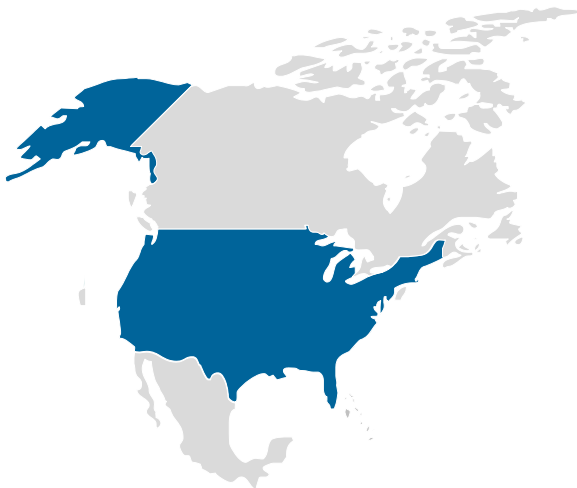
Strong growth worldwide during the first half of 2021, but slowdown hit in 3Q

U.S.

- GDP growth slipped to 2% in 3Q, after a 6.7% gain in 2Q. The Fed now expects 5.9% growth for the year.
- Consumer spending, non-residential investment, and exports drove GDP gains through the first half of the year. But consumers grew cautious in 3Q as the Delta variant fueled a pandemic surge, and both spending and employment disappointed.
- Unemployment dropped to 4.8% in September, but it is still above the pre-COVID rate of 3.5%. The economy added 194,000 jobs in September, down from a monthly average of 560,000 during 2021.

Global

- Euro zone GDP expanded 9.2% in 2Q21, after shrinking in 4Q20 and 1Q21.
- U.K. GDP grew 5.5% in 2Q21, far better than estimates. U.K. may face a longer road to recovery than the euro zone due to the double-whammy of the pandemic and Brexit.
- Japan's economy is expected to grow much more modestly than other developed nations in 2021; 2Q21 GDP grew 1.9%.
- China's GDP rose less than 1% annualized in 3Q21, after recovering to 4.9% in 2Q21. Renewed pandemic restrictions and supply chain issues challenged growth.



Inflation in the U.S.

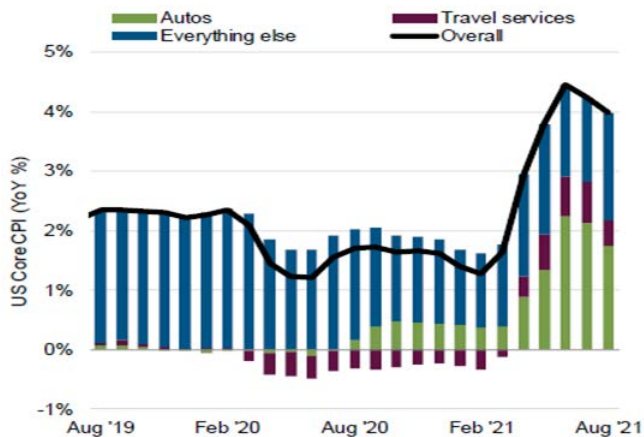
Unclear as to the level at which inflation pressures are 'transitory,' and Fed remains responsive

- **Fed reiterates that current price pressures are transitory**
 - Inflation is being temporarily influenced by pandemic-related supply bottlenecks (e.g., used cars and housing).
 - Used autos spiked (+32% YOY), but rents (with a greater weight in the index) have started to apply price pressure.
 - Fed's flexible average inflation targeting (FAIT) allows inflation to overshoot the 2% neutral rate; PCE (Fed's preferred inflation measure) rose 4.3% in August.
- **Policy adjustments may be on the horizon**
 - Fed signaled it would move up its taper announcement.
 - Sep '21 Fed Funds rate forecast illustrated a potential rate hike in 2022, with a 25 bps increase; the previous dot plot had no hikes until 2023.

Core CPI Changes by Category (Snapshot)

	Weight	Sep 21	Chg since Feb 2020	oya % change
All items less food and energy	100	0.24%	4.7%	4.0%
Commodities less food and energy	25.34	0.2%	8.5%	7.7%
Apparel	3.34	-1.1%	-1.3%	4.2%
New vehicles	4.71	1.3%	8.4%	7.6%
Used cars and trucks	3.45	-0.7%	41.5%	31.9%
Services less energy services	74.56	0.2%	3.3%	2.7%
Shelter	41.79	0.4%	3.6%	2.8%
Rent of primary residence	9.86	0.45%	3.3%	2.1%
Owners' equivalent rent	30.43	0.43%	3.7%	2.6%
Lodging away from home	1.03	-0.6%	5.0%	17.4%
Medical care services	9.14	-0.1%	3.6%	1.0%
Transportation services	6.45	-0.5%	-0.3%	4.6%
Motor vehicle insurance	2.00	2.1%	-0.8%	1.0%
Airline fares	0.79	-6.4%	17.9%	6.7%
Education and communication	7.92	0.4%	3.0%	1.3%

Core CPI Changes by Category (Trailing)

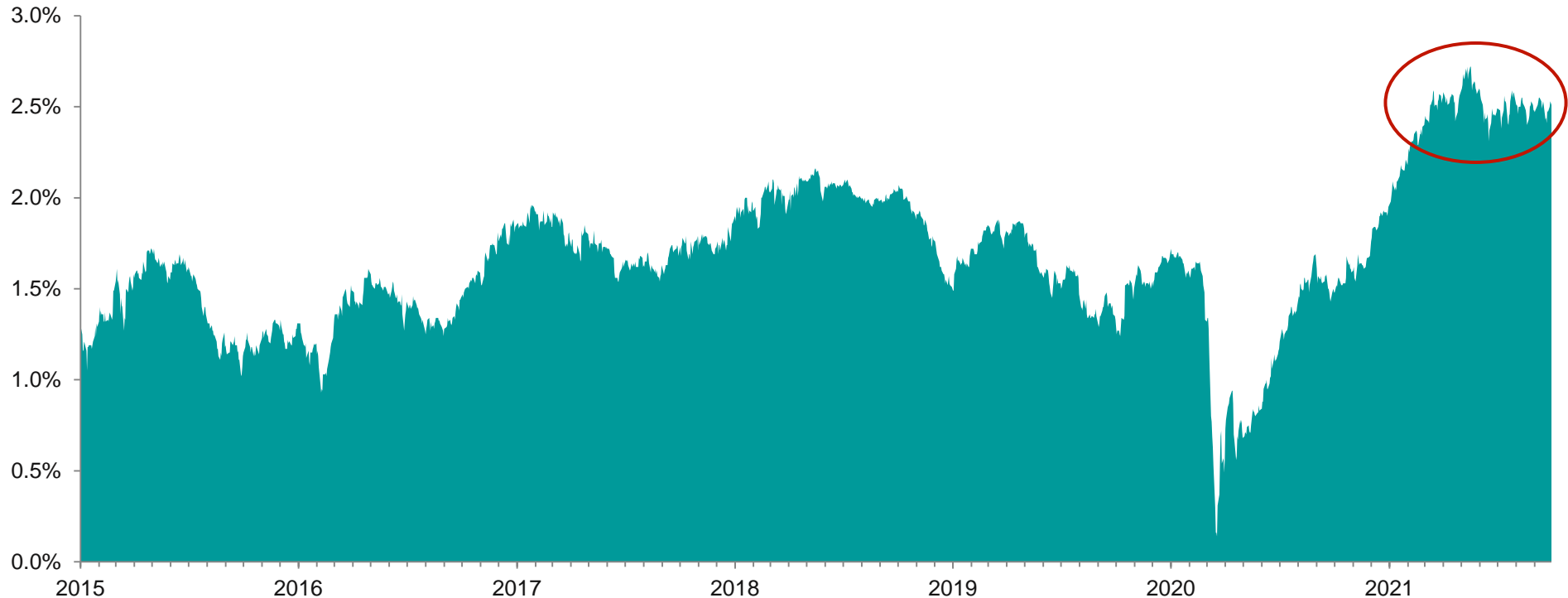


Sources: (top-right) J.P. Morgan, (bottom-left) PIMCO

Inflation Rebounds and Spurs Headline Concerns

Fixed income market: rising short- to medium-term inflation expectations

5-Year Breakeven Inflation Rate



- Fixed income market expecting inflation to rise in the near term
 - The five-year breakeven inflation rate has recovered from near zero, and is now above 2.5%—substantially higher than current level.
 - Five-year breakeven inflation rate is the difference between five-year nominal and five-year Treasury Inflation-Protected Securities (TIPS) yields.
 - Actual breakeven rate not as important as markets forecasting neither deflation nor high inflation

Source: Federal Reserve Bank of St. Louis

China: What's Going On?

Flows continue but with a sharper eye

- \$3 billion net inflows to China A YTD
- Investors may discount companies for “potential regulation.”
- Long-term investment prospects in China:
 - Transition to consumption, potentially accelerated by common prosperity focus
 - Home to some of the world's leading businesses

Is Evergrande the new Lehman?

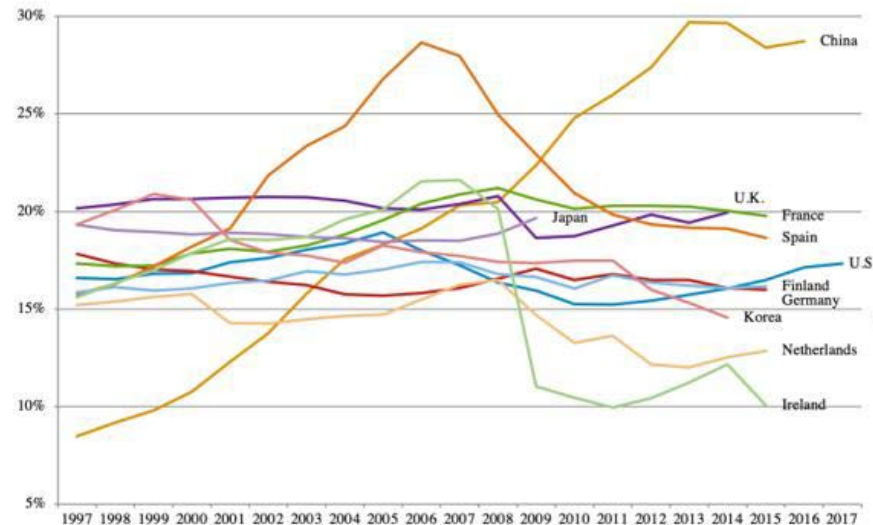
- Policymakers have to choose: stay firm or rescue.
- Confined to the developer ecosystem?
 - China is more dependent on housing construction than Ireland and Spain prior to the GFC, and far more dependent than the U.S. was at the peak in 2005.
- More scrutinized lending
- Financial fallout?
 - Owes 171 domestic banks and 121 other financial firms

Chinese Regulation Historically

Long-term prospects prevail, although it can depend on the localization of the regulation



Impact of Real Estate-Related Activities on GDP (%) in Advanced Economies



Sources: MSCI, Kenneth Rogoff, Harvard University, and YuanchenYang

Diversification Remains Key Risk Control

Periodic Table of Investment Returns

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	3 Qtrs. 2021
Non-U.S. Fixed	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
22.37%	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%	15.92%
U.S. Fixed	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
10.26%	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%	12.42%
Real Estate Funds	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
4.57%	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%	12.41%
Hedge Funds	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
3.04%	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%	9.19%
Cash Equivalent	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	High Yield
1.78%	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%	4.53%
High Yield	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	Cash Equivalent
-1.37%	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%	0.04%
Emerging Markets	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	Emerging Markets
-6.16%	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%	-1.25%
Non-U.S. Equity	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
-15.80%	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%	-1.55%
Small Cap	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	Non-U.S. Fixed
-20.48%	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%	-5.94%
		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	
		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%	

- 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

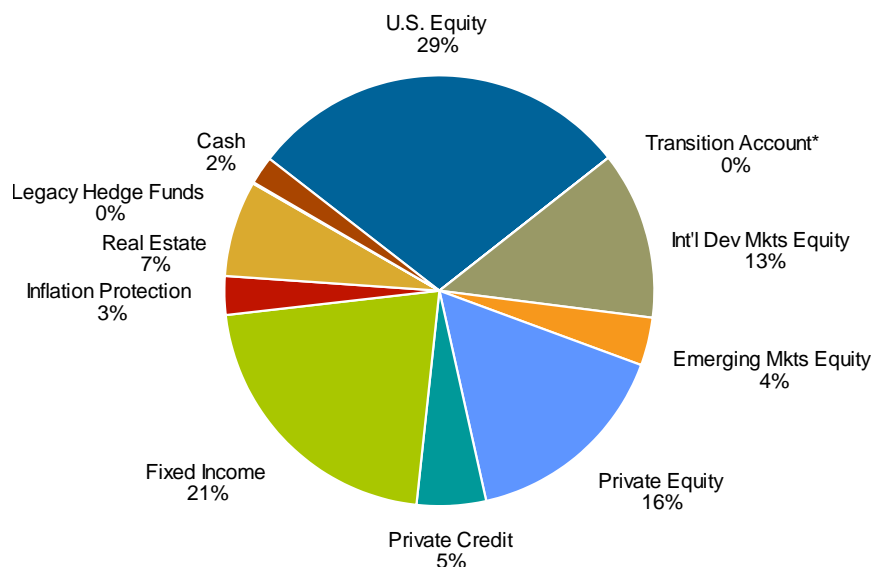
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**PA SERS Defined Benefit Plan
Performance Review**

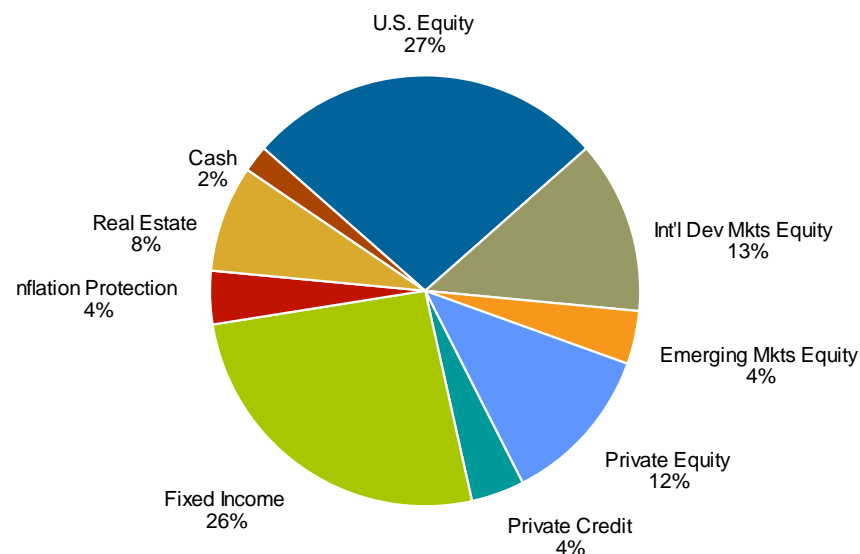
Total Fund

Actual Asset Allocation versus Target as of September 30, 2021

Actual Asset Allocation



Target Asset Allocation



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
U.S. Equity	11,104,564	28.9%	27.0%	1.9%	725,672
Transition Account*	1,155	0.0%	0.0%	0.0%	1,155
Int'l Dev Mkts Equity	4,840,045	12.6%	13.0%	(0.4%)	(157,199)
Emerging Mkts Equity	1,394,663	3.6%	4.0%	(0.4%)	(142,950)
Private Equity	6,116,230	15.9%	12.0%	3.9%	1,503,389
Private Credit	1,992,357	5.2%	4.0%	1.2%	454,743
Fixed Income	8,255,351	21.5%	26.0%	(4.5%)	(1,739,137)
Inflation Protection	1,131,453	2.9%	4.0%	(1.1%)	(406,161)
Real Estate	2,783,590	7.2%	8.0%	(0.8%)	(291,637)
Legacy Hedge Funds	25,816	0.1%	0.0%	0.1%	25,816
Cash	795,116	2.1%	2.0%	0.1%	26,309
Total	38,440,339	100.0%	100.0%		

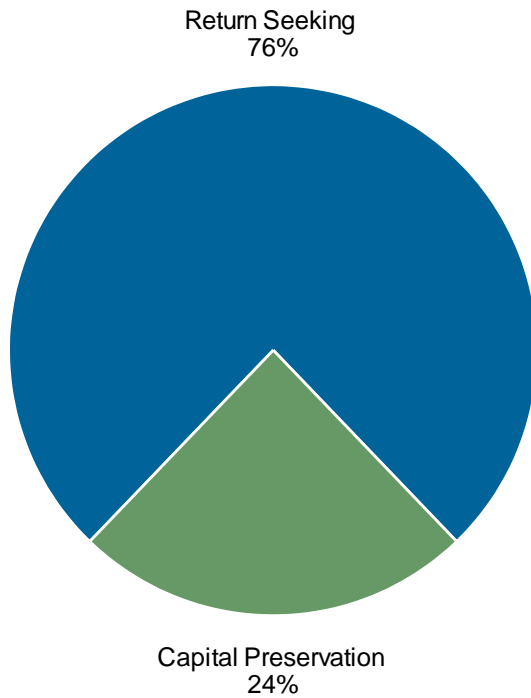
*Market values are shown net of accrued fees.

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

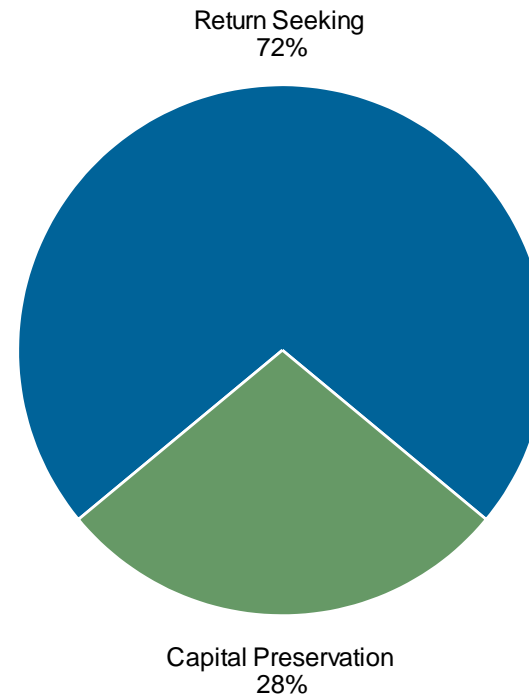
Return Seeking and Capital Preservation Assets

As of September 30, 2021

Actual Asset Allocation



Target Asset Allocation



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

*Capital Preservation Assets: Core FI, Nominal Treasuries, Inflation Protection (TIPS), Intermediate Treasuries, Long Duration, Securitized, Intermediate Credit and Cash.

*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.

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	Private Credit	Real Estate	Private Equity
Policy Target Asset Allocation	2%	4%	26%	27%	13%	4%	4%	8%	12%
Projected Return* (Geometric)	1.00%	1.70%	1.75%	6.60%	6.50%	6.90%	6.25%	5.75%	8.00%
Projected Risk* (Standard Deviation)	0.90%	5.05%	3.75%	17.95%	19.90%	25.15%	14.60%	14.10%	27.80%
Liquidity	High	High	High	High	High	Medium	Low	Low	Low
Correlation to U.S. Equity*	-0.06	-0.08	-0.10	1.00	0.78	0.80	0.74	0.71	0.80
Months of Benefit Payments**	2.6	3.7	22.0						
Months of Benefit Payments (Includes EE & ER Contributions)**	10.5	14.9	89.7						
Cumulative Months of Benefit Payments (Includes EE & ER Contributions)**		115.1							

*Callan 2021 Capital Market Projections

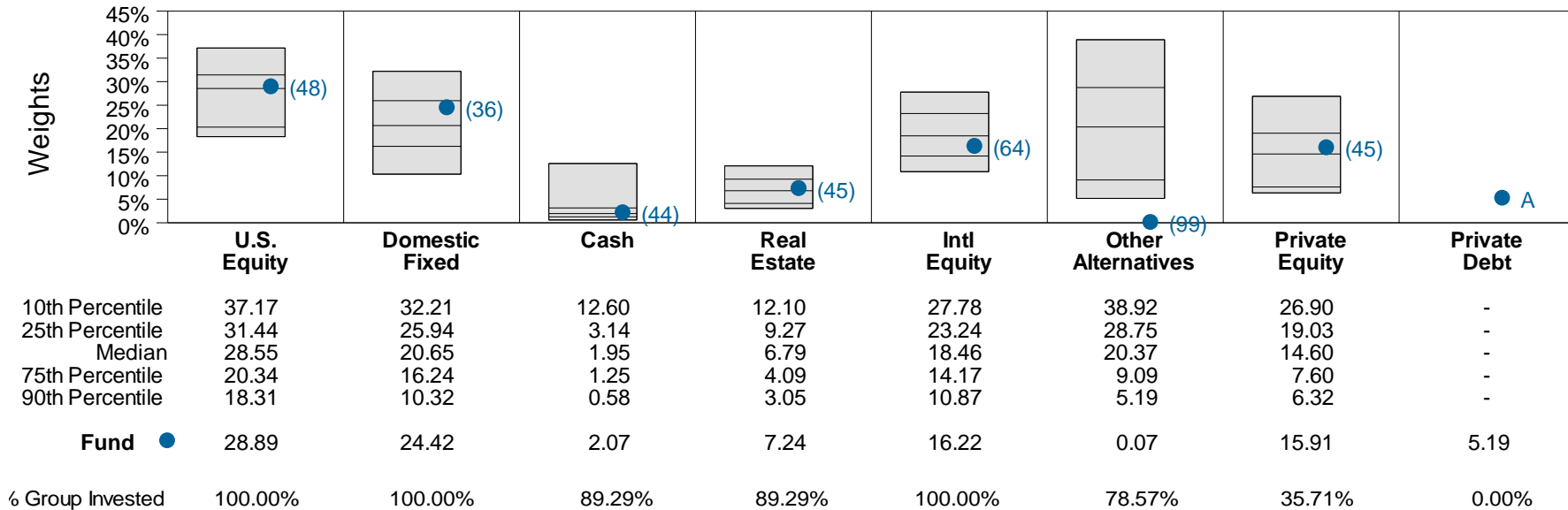
**SERS IO as of 9/30/2021. Benefit payment calculations for fixed income represent core fixed income & treasury allocations.

[^]Core and Opportunistic fixed Income combined until new fixed income structure has been fully implemented.

Total Fund

Actual Asset Allocation versus Very Large Public DB Plan (>\$10B) Peers and Large Public DB Plan (>\$1B) Peers as of September 30, 2021

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



* Current Quarter Target = 26.0% Blmbg U.S. Agg Bond Index, 27.0% Russell 3000 Index, 12.0% Private Equity, 13.0% MSCI ex US IMI, 7.2% NCREIF NFI-ODCE Eq Wt Net lagged 3 months, 4.0% S&P Levered Loan Index +1% (Qtr lag), 4.0% MSCI EM IMI, 4.0% U.S. TIPS Index, 2.0% 3-month Treasury Bill, 0.8% FTSE EP/NA US Index, 0.0% S&P:LSTA Lev Loan and 0.0% HFRI FOF.

Total Fund

One Quarter Attribution Analysis versus Target – Gross of Fees as of September 30, 2021

Note: Attribution is a snap shot 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, 2021

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
U.S. Equity	27%	27%	0.26%	(0.10%)	0.11%	(0.12%)	(0.01%)
Int'l Dev. Mkts Equity	13%	13%	(0.27%)	(0.45%)	0.02%	0.00%	0.03%
Emerging Markets	4%	4%	(8.28%)	(7.39%)	(0.04%)	0.01%	(0.03%)
Private Equity	15%	12%	16.47%	16.47%	0.00%	0.38%	0.38%
Private Credit	5%	4%	3.34%	1.71%	0.08%	(0.00%)	0.08%
Fixed Income	24%	26%	0.14%	0.05%	0.03%	0.03%	0.05%
Inflation Protection	4%	4%	1.41%	1.75%	(0.01%)	0.00%	(0.01%)
Real Estate	7%	8%	4.23%	3.85%	0.03%	(0.02%)	0.01%
Legacy Hedge Funds	0%	0%	9.02%	9.02%	0.00%	0.00%	0.00%
Cash	2%	2%	0.01%	0.01%	(0.00%)	0.01%	0.01%

Total	2.53%	=	2.02%	+	0.23%	+	0.29%	0.52%
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- What helped relative attribution?**
 - Outperformance relative to target from U.S. Equity, Private Credit and Fixed Income managers
 - An overweight to Private Equity (attribution based on target return)
 - A slight underweight to Fixed Income (attribution based on target return)
- What hurt relative attribution?**
 - Underperformance relative to target from Emerging Markets Equity managers
 - A slight overweight to U.S. Equity (attribution based on target return)

* Current Quarter Target = 26.0% Blmbg U.S. Agg Bond Index, 27.0% Russell 3000 Index, 12.0% Private Equity, 13.0% MSCI ex US IMI, 7.2% NCREIF NFI-ODCE Eq Wt Net lagged 3 months, 4.0% S&P Levered Loan Index +1% (Qtr lag), 4.0% MSCI EM IMI, 4.0% U.S. TIPS Index, 2.0% 3-month Treasury Bill, 0.8% FTSE EP/NA US Index, 0.0% S&P:LSTA Lev Loan and 0.0% HFRI FOF. Returns are shown gross of fees.

Total Fund

One Year Attribution Analysis versus Target – Gross of Fees as of September 30, 2021

Note: Attribution is a snap shot 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 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	26%	25%	34.77%	31.88%	0.72%	(0.10%)	0.63%
Int'l Dev. Mkts Equity	13%	13%	28.44%	27.04%	0.17%	(0.01%)	0.16%
Emerging Markets	4%	4%	20.73%	20.80%	0.01%	0.06%	0.07%
Private Equity	14%	13%	76.92%	76.92%	0.00%	0.29%	0.29%
Private Credit	4%	4%	25.70%	12.65%	0.54%	0.06%	0.60%
Fixed Income	26%	26%	1.31%	(0.90%)	0.75%	(0.26%)	0.49%
Inflation Protection	4%	4%	4.77%	5.19%	(0.01%)	0.01%	0.00%
Real Estate	7%	8%	16.52%	10.87%	0.43%	0.07%	0.51%
Multi-Strategy	0%	0%	-	-	0.00%	0.00%	0.00%
Legacy Hedge Funds	0%	0%	27.09%	23.73%	0.00%	0.00%	0.00%
Cash	2%	2%	0.10%	0.07%	0.00%	0.08%	0.08%
Total			25.21%	= 22.37%	+ 2.63%	+ 0.21%	2.84%

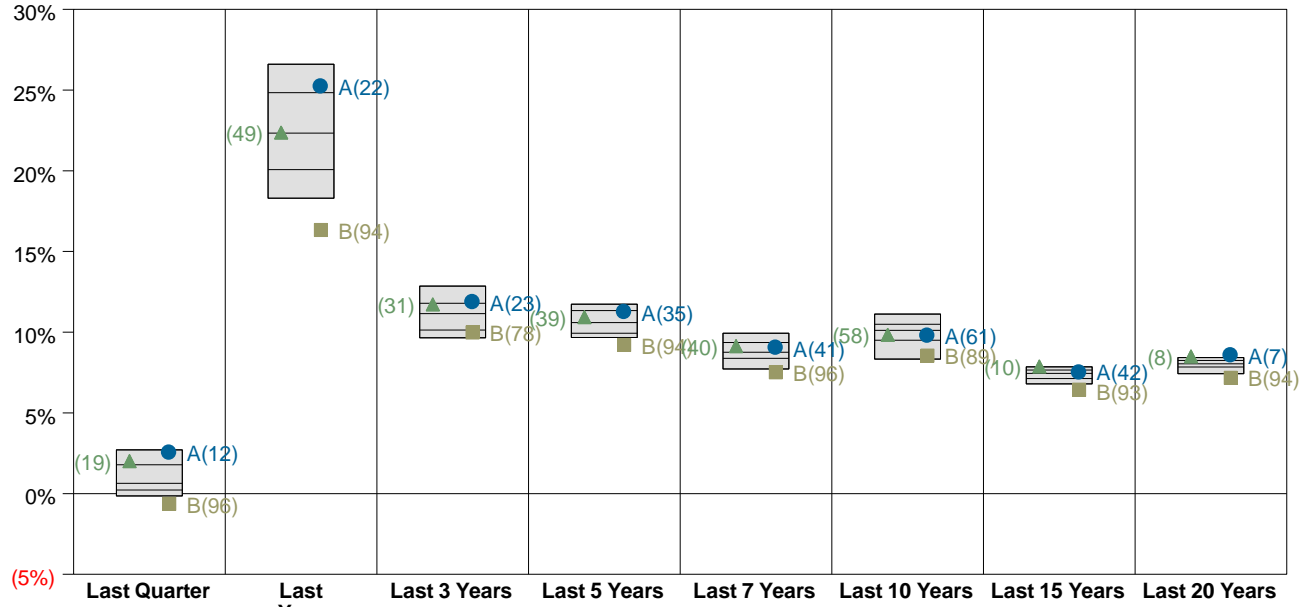
- **What helped relative attribution?**
 - Outperformance relative to target from Fixed Income, U.S. Equity, Private Credit Real Estate and International Developed Equity managers
 - An overweight to Private Equity (attribution based on target return)
 - A slight underweight to Real Estate (attribution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

* Current Quarter Target = 26.0% Blmbg U.S. Agg Bond Index, 27.0% Russell 3000 Index, 12.0% Private Equity, 13.0% MSCI ex US IMI, 7.2% NCREIF NFI-ODCE Eq Wt Net lagged 3 months, 4.0% S&P Levered Loan Index +1% (Qtr lag), 4.0% MSCI EM IMI, 4.0% U.S. TIPS Index, 2.0% 3-month Treasury Bill, 0.8% FTSE EP/NA US Index, 0.0% S&P:LSTA Lev Loan and 0.0% HFRI FOF. 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, 2021

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



		Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years	Last 15 Years	Last 20 Years
10th Percentile		2.71	26.60	12.86	11.73	9.93	11.12	7.85	8.43
25th Percentile		1.79	24.84	11.79	11.33	9.36	10.49	7.66	8.25
Median		0.64	22.34	11.15	10.60	8.76	10.11	7.44	8.05
75th Percentile		0.22	20.07	10.14	9.93	8.38	9.50	7.13	7.84
90th Percentile		(0.15)	18.30	9.65	9.67	7.72	8.34	6.80	7.43
Total Fund	● A	2.53	25.21	11.86	11.25	9.03	9.78	7.50	8.56
60% MSCI ACW	▲	2.02	22.37	11.72	10.93	9.14	9.84	7.88	8.51
60% Blmbg U.S. Agg	■ B	(0.63)	16.33	9.98	9.21	7.51	8.55	6.44	7.17

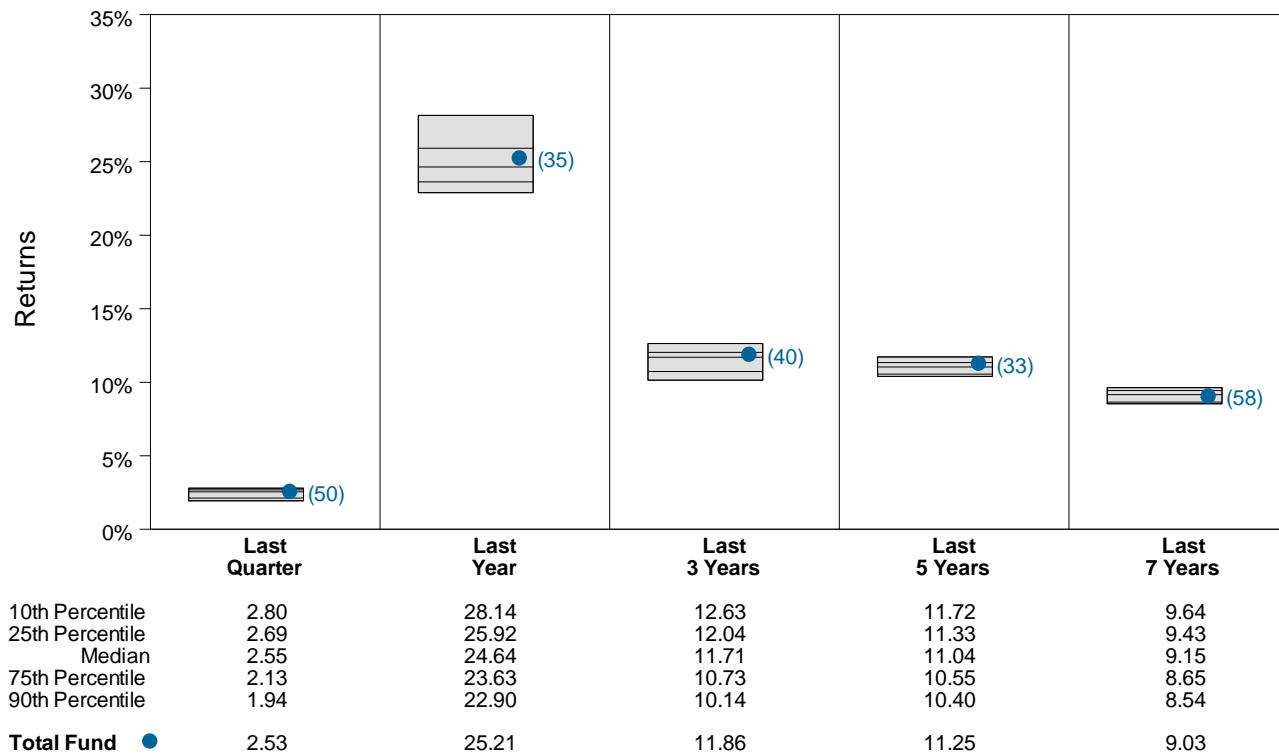
* Current Quarter Target = 26.0% Blmbg U.S. Agg Bond Index, 27.0% Russell 3000 Index, 12.0% Private Equity, 13.0% MSCI ex US IMI, 7.2% NCREIF NFI-ODCE Eq Wt Net lagged 3 months, 4.0% S&P Levered Loan Index +1% (Qtr lag), 4.0% MSCI EM IMI, 4.0% U.S. TIPS Index, 2.0% 3-month Treasury Bill, 0.8% FTSE EP/NA US Index, 0.0% S&P:LSTA Lev Loan and 0.0% HFRI FOF

Total Fund

Asset Allocation-Adjusted Gross of Fee Performance versus Very Large Public DB Plan (>\$10B) Peers as of September 30, 2021

- For this comparison, each fund in the Database is adjusted to have the same asset allocation as Pennsylvania SERS. This removes large asset allocation variances among plans and allows for a greater focus on manager performance.

Asset Allocation Adjusted Ranking



* Current Quarter Target = 26.0% Bimbg U.S. Agg Bond Index, 27.0% Russell 3000 Index, 12.0% Private Equity, 13.0% MSCI ex US IMI, 7.2% NCREIF NFI-ODCE Eq Wt Net lagged 3 months, 4.0% S&P Levered Loan Index +1% (Qtr lag), 4.0% MSCI EM IMI, 4.0% U.S. TIPS Index, 2.0% 3-month Treasury Bill, 0.8% FTSE EP/NA US Index, 0.0% S&P:LSTA Lev Loan and 0.0% HFRI FOF

Total Fund

Risk vs. Return versus Very Large Public DB Plan (>\$10B) Peers as of September 30, 2021

Ten Year Annualized Risk vs Return



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

* Current Quarter Target = 26.0% Blmbg U.S. Agg Bond Index, 27.0% Russell 3000 Index, 12.0% Private Equity, 13.0% MSCI ex US IMI, 7.2% NCREIF NFI-ODCE Eq Wt Net lagged 3 months, 4.0% S&P Levered Loan Index +1% (Qtr lag), 4.0% MSCI EM IMI, 4.0% U.S. TIPS Index, 2.0% 3-month Treasury Bill, 0.8% FTSE EP/NA US Index, 0.0% S&P:LSTA Lev Loan and 0.0% HFRI FOF

Total Fund

Rolling 3-year Gross of Fee Performance versus Benchmark as of September 30, 2021

Rolling 12 Quarter Gross of Fee Returns
for 15 Years Ended September 30, 2021

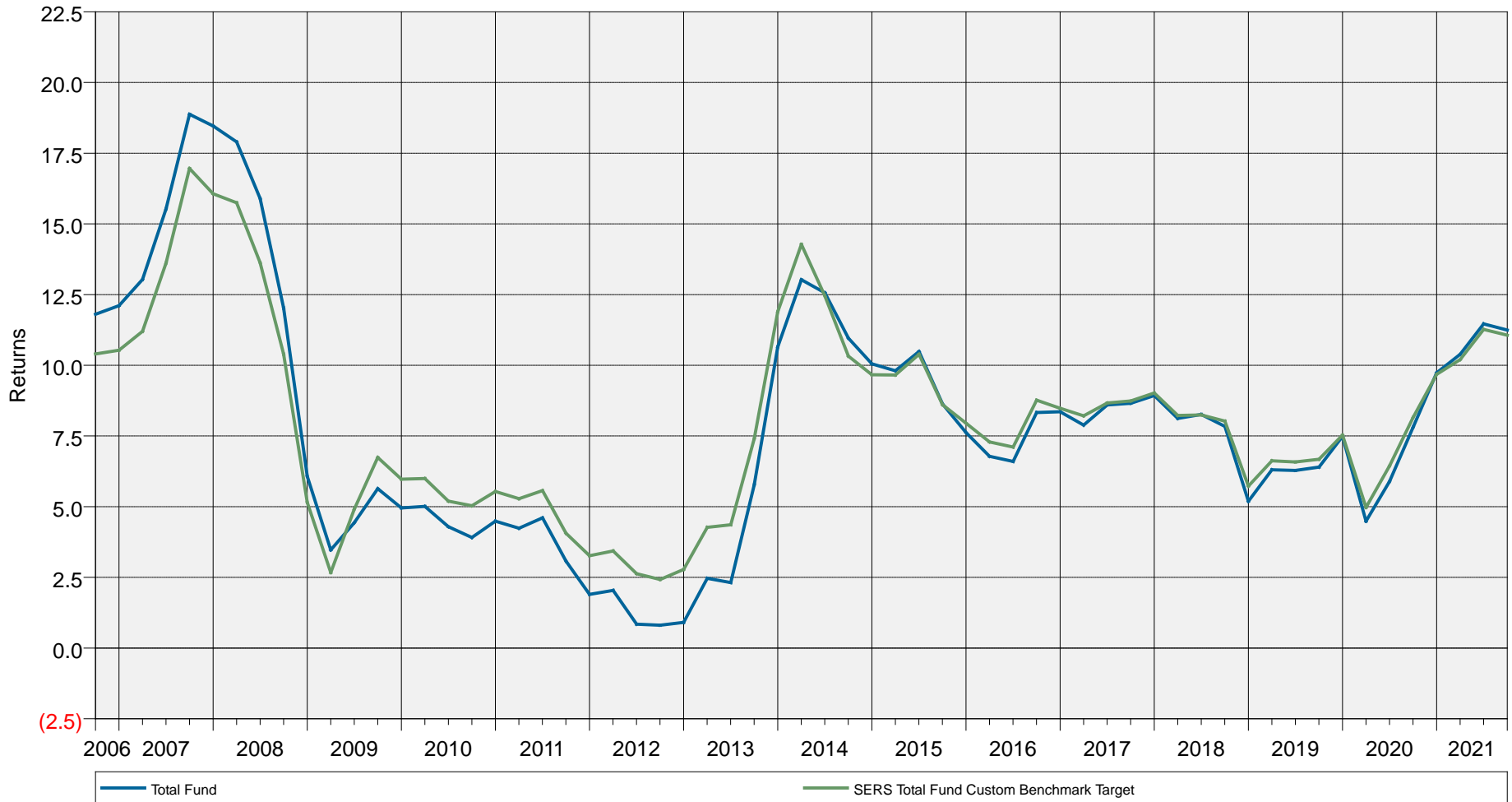


* Current Quarter Target = 26.0% Blmbg U.S. Agg Bond Index, 27.0% Russell 3000 Index, 12.0% Private Equity, 13.0% MSCI ex US IMI, 7.2% NCREIF NFI-ODCE Eq Wt Net lagged 3 months, 4.0% S&P Levered Loan Index +1% (Qtr lag), 4.0% MSCI EM IMI, 4.0% U.S. TIPS Index, 2.0% 3-month Treasury Bill, 0.8% FTSE EP/NA US Index, 0.0% S&P:LSTA Lev Loan and 0.0% HFRI FOF

Total Fund

Rolling 5-year Gross of Fee Performance versus Benchmark as of September 30, 2021

Rolling 20 Quarter Gross of Fee Returns
for 15 Years Ended September 30, 2021



* Current Quarter Target = 26.0% Blmbg U.S. Agg Bond Index, 27.0% Russell 3000 Index, 12.0% Private Equity, 13.0% MSCI ex US IMI, 7.2% NCREIF NFI-ODCE Eq Wt Net lagged 3 months, 4.0% S&P Levered Loan Index +1% (Qtr lag), 4.0% MSCI EM IMI, 4.0% U.S. TIPS Index, 2.0% 3-month Treasury Bill, 0.8% FTSE EP/NA US Index, 0.0% S&P:LSTA Lev Loan and 0.0% HFRI FOF

Asset Class Returns

As of September 30, 2021

	Market Value \$(mm)	Ending Weight	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
Net Performance							
Total Fund	\$38,440	100.00%	2.09%	12.03%	23.33%	10.90%	10.41%
Total Fund Custom Benchmark(1)	-	-	2.02%	12.03%	22.37%	11.72%	10.93%
Public Market Equiv Benchmark(2)	-	-	1.02%	9.75%	18.93%	11.01%	10.91%
60/40 Index(3)	-	-	(0.63%)	6.12%	16.33%	9.98%	9.21%
U.S. Equity	\$11,105	28.89%	0.25%	15.28%	34.71%	15.42%	15.92%
Russell 3000 Index	-	-	(0.10%)	14.99%	31.88%	16.00%	16.85%
Int'l Developed Mkts Equity	\$4,840	12.59%	(0.31%)	10.32%	28.29%	9.14%	10.33%
MSCI World ex US IMI	-	-	(0.45%)	9.43%	27.04%	8.10%	9.09%
Emerging Mkts Equity	\$1,395	3.63%	(8.41%)	(0.11%)	20.06%	11.52%	11.46%
MSCI EM IMI	-	-	(7.39%)	0.71%	20.80%	9.10%	9.28%
Private Equity	\$6,116	15.91%	13.73%	43.22%	62.50%	23.72%	19.40%
Burgiss Private Equity Index (Qtr lag)	-	-	9.03%	33.50%	44.29%	18.69%	17.78%
Global Equity + 3% (Qtr lag)(4)	-	-	8.22%	33.14%	44.87%	20.91%	20.43%
Private Credit	\$1,992	5.18%	2.56%	14.37%	20.75%	11.63%	-
S&P Levered Loan Index + 1% (Qtr lag)	-	-	1.71%	7.95%	12.65%	5.47%	6.03%
Fixed Income	\$8,255	21.48%	0.13%	(1.03%)	1.19%	4.82%	3.07%
Bloomberg U.S. Agg Bond Index	-	-	0.05%	(1.55%)	(0.90%)	5.36%	2.94%
Inflation Protection (TIPS)	\$1,131	2.94%	1.38%	2.85%	4.66%	7.18%	4.17%
Bloomberg U.S. TIPS Index	-	-	1.75%	3.51%	5.19%	7.45%	4.34%
Real Estate	\$2,784	7.24%	3.76%	10.99%	14.86%	8.41%	4.21%
Real Estate Custom Bench (Qtr lag)(5)	-	-	3.85%	9.08%	10.87%	5.22%	5.70%
CPI + 3% (Qtr lag)	-	-	3.26%	6.60%	8.39%	5.54%	5.43%
Cash	\$795	2.07%	0.01%	0.06%	0.10%	1.20%	1.35%
3-month Treasury Bill	-	-	0.01%	0.04%	0.07%	1.18%	1.16%

(1) Total Fund Custom Benchmark returns provided by RVK prior to 12/31/2018. Starting 01/01/2020, benchmark consists of: 26% Bloomberg U.S. Agg Bond Index, 14% SERS Private Equity Composite, 25% Russell 3000 Index, 13% MSCI World ex US IMI Index, 8% Real Estate Custom Benchmark, 4% S&P/LSTA Leveraged Loan Index + 1% (Qtr lag), 4% MSCI Emerging Markets IMI Index, 4% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index, Starting 07/01/2021, benchmark consists of: 26% Bloomberg U.S. Agg Bond Index, 25% Russell 3000 Index, 13% MSCI World ex US IMI Index, 8% Real Estate Custom Benchmark, 4% S&P/LSTA Leveraged Loan Index + 1% (Qtr lag), 4% MSCI Emerging Markets IMI Index, 4% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

(2) Public Market Equivalent Benchmark returns provided by RVK prior to 12/31/2018. As of 01/01/2020, benchmark consists of: 26% Bloomberg U.S. Agg Bond Index, 25% Russell 3000, 13% MSCI World ex US Index, 10.5% Russell 3000+ 3% (Qtr lag), 8% CPI+3% (Qtr Lag), 4% S&P/LSTA Levered Loan Index +1% (Qtr lag), 4% Bloomberg US TIPS Index, 4% MSCI Emerging Markets Index, 3.5% MSCI World ex US +3% (Qtr lag), 2% ICE BofAML 3 Mo US T-Bill Index. Starting 07/01/2021, benchmark consists of 26% Bloomberg U.S. Agg Bond Index, 27% Russell 3000, 13% MSCI World IMI ex US, 9% Russell 3000+ 3% (Qtr lag), 8% CPI+3% (Qtr lag), 4% S&P/LSTA Lev. + 1% (Qtr Lag), 4% US TIPS Index, 4% MSCI EM IMI Index, 3% MSCI World ex US +3% (Qtr lag), 2% ICE BofAML 3 Mo US T-Bill Index.

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

(4) 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.

(5) As of 03/31/2019 benchmark consists of 90% NCREIF ODCE Index (Qtr lag) and 10% FTSE NAREIT Index (unlagged).

Asset Class Returns

As of September 30, 2021

	Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance					
Total Fund	9.01%	6.67%	7.72%	8.00%	9.71% (1/81)
Total Fund Custom Benchmark(1)	9.84%	7.88%	8.51%	8.45%	-
Public Market Equiv Benchmark(2)	9.93%	7.94%	8.55%	8.49%	-
60/40 Index(3)	8.55%	6.44%	7.17%	6.77%	-
U.S. Equity	16.23%	9.24%	9.38%	9.28%	11.16% (1/81)
Russell 3000 Index	16.60%	10.44%	9.85%	9.67%	11.44% (1/81)
Int'l Developed Mkts Equity	9.32%	4.42%	-	-	6.84% (1/02)
MSCI World ex US IMI	8.17%	4.44%	7.11%	5.53%	6.89% (1/02)
Emerging Mkts Equity	6.83%	4.12%	-	-	8.03% (1/02)
MSCI EM IMI	6.22%	5.89%	11.07%	5.35%	9.87% (1/02)
Private Equity	13.83%	12.64%	11.02%	13.57%	11.99% (1/86)
Burgiss Private Equity Index (Qtr lag)	14.02%	12.80%	11.88%	14.58%	17.30% (1/86)
Global Equity + 3% (Qtr lag)(4)	17.62%	14.04%	12.22%	13.25%	15.13% (1/86)
Private Credit	-	-	-	-	10.91% (12/17)
S&P Levered Loan Index + 1% (Qtr lag)	5.42%	5.68%	5.81%	-	5.47% (12/17)
Fixed Income	3.69%	4.68%	5.40%	5.69%	8.15% (1/81)
Blmbg U.S. Agg Bond Index	3.01%	4.17%	4.33%	5.06%	7.44% (1/81)
Inflation Protection (TIPS)	2.82%	3.89%	-	-	3.69% (2/03)
Blmbg U.S. TIPS Index	3.12%	4.43%	5.13%	-	4.66% (2/03)
Real Estate	6.93%	4.04%	6.50%	7.77%	8.34% (3/84)
Real Estate Custom Bench (Qtr lag)(5)	8.62%	5.52%	7.08%	8.10%	-
CPI + 3% (Qtr lag)	4.87%	4.97%	5.14%	5.23%	5.66% (3/84)
Cash	0.90%	1.31%	1.64%	2.45%	3.46% (1/87)
3-month Treasury Bill	0.63%	1.00%	1.32%	2.11%	3.19% (1/87)

(1) Total Fund Custom Benchmark returns provided by RVK prior to 12/31/2018. Starting 01/01/2020, benchmark consists of: 26% Bloomberg U.S. Agg Bond Index, 14% SERS Private Equity Composite, 25% Russell 3000 Index, 13% MSCI World ex US IMI Index, 8% Real Estate Custom Benchmark, 4% S&P/LSTA Leveraged Loan Index + 1% (Qtr lag), 4% MSCI Emerging Markets IMI Index, 4% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index. Starting 07/01/2021, benchmark consists of: 26% Bloomberg U.S. Agg Bond Index, 12% SERS Private Equity Composite, 27% Russell 3000 Index, 13% MSCI World ex US IMI Index, 8% Real Estate Custom Benchmark, 4% S&P/LSTA Leveraged Loan Index + 1% (Qtr lag), 4% MSCI Emerging Markets IMI Index, 4% Bloomberg US TIPS Index, 2% ICE BofAML 3 Mo US T-Bill Index.

(2) Public Market Equivalent Benchmark returns provided by RVK prior to 12/31/2018. As of 01/01/2020, benchmark consists of: 26% Bloomberg U.S. Agg Bond Index, 25% Russell 3000, 13% MSCI World ex US Index, 10.5% Russell 3000+ 3% (Qtr lag), 8% CPI+3% (Qtr Lag), 4% S&P/LSTA Levered Loan Index +1% (Qtr lag), 4% Bloomberg US TIPS Index, 4% MSCI Emerging Markets Index, 3.5% MSCI World ex US +3% (Qtr lag), 2% ICE BofAML 3 Mo US T-Bill Index. Starting 07/01/2021, benchmark consists of 26% Bloomberg U.S. Agg Bond Index, 27% Russell 3000, 13% MSCI World IMI ex US, 9% Russell 3000+ 3% (Qtr lag), 8% CPI+3% (Qtr lag), 4% S&P/LSTA Lev. + 1% (Qtr Lag), 4% US TIPS Index, 4% MSCI EM IMI Index, 3% MSCI World ex US +3% (Qtr lag), 2% ICE BofAML 3 Mo US T-Bill Index.

(3) Benchmark consists of 60% MSCI ACW IMI Index and 40% Bloomberg U.S. Agg Bond Index (4) 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.

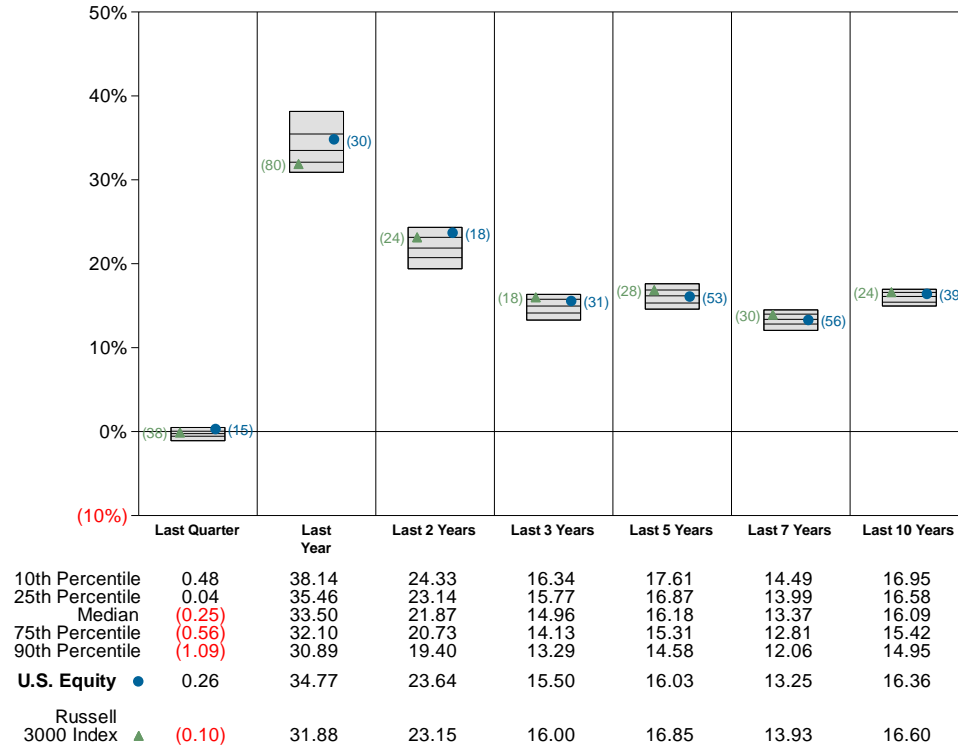
(5) As of 03/31/2019 benchmark consists of 90% NCREIF ODCE Index (Qtr lag) and 10% FTSE NAREIT Index (unlagged)

Callan

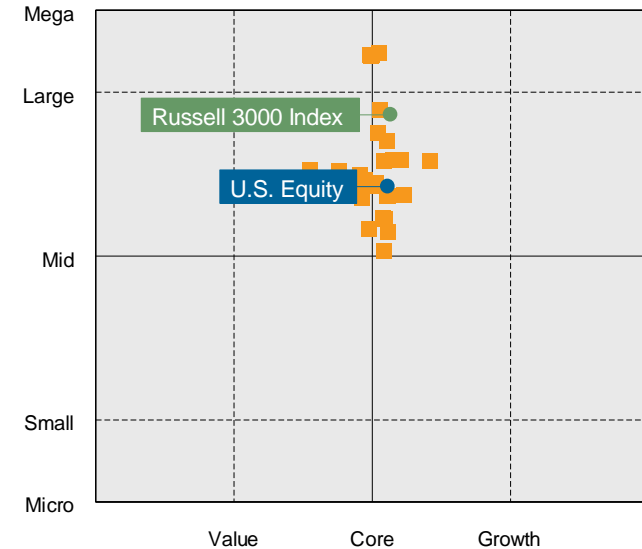
**Appendix I – Asset Class and Manager
Performance**

U.S. Equity as of September 30, 2021

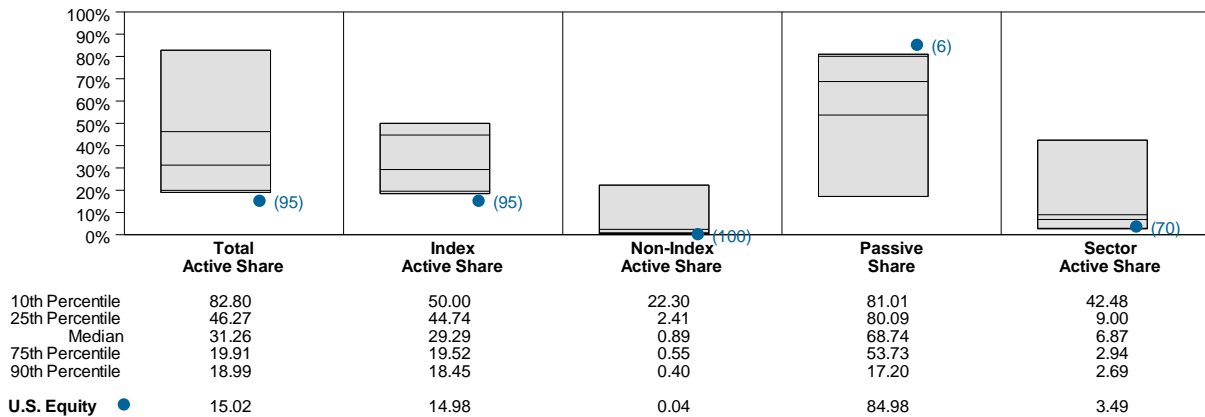
Performance vs Public Fund - Domestic Equity (Gross)



Style Map vs Pub Pln- Dom Equity Holdings as of September 30, 2021



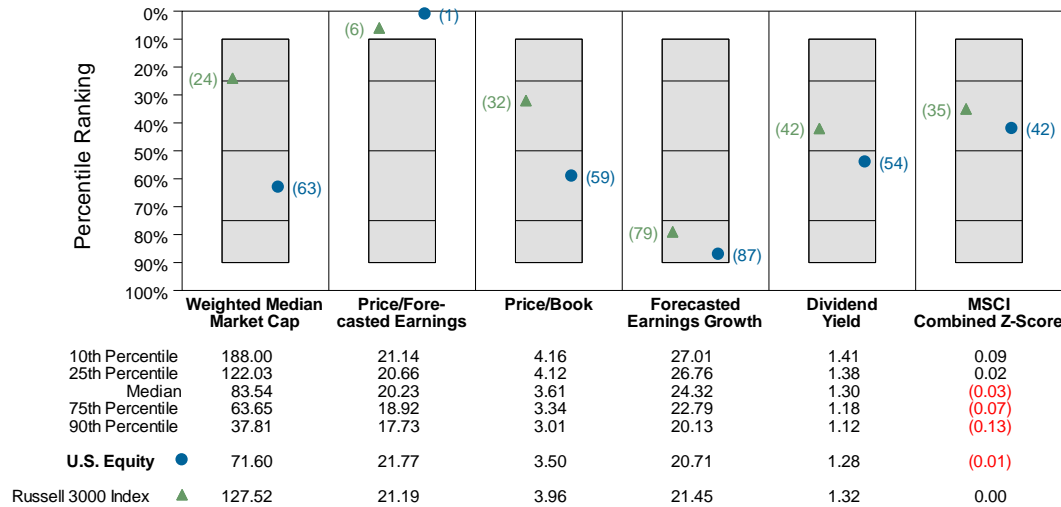
Active Share vs. Pub Pln- Dom Equity



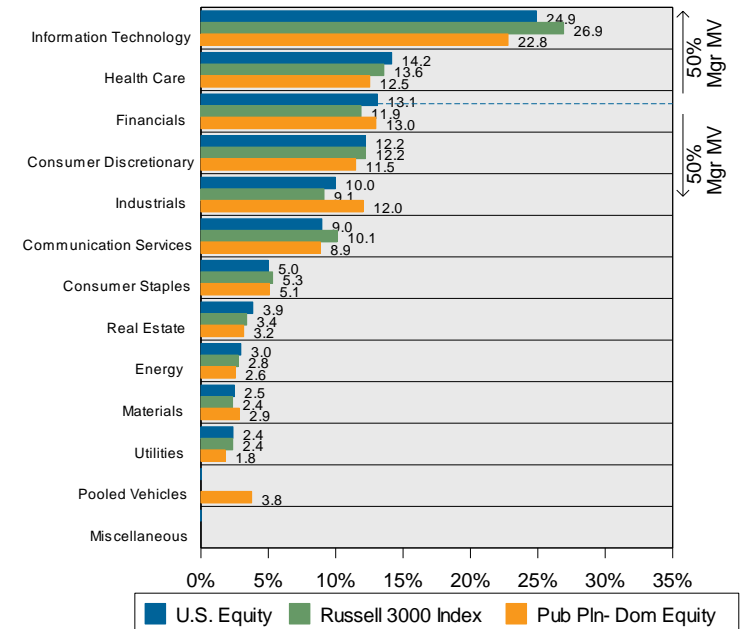
U.S. Equity

As of September 30, 2021

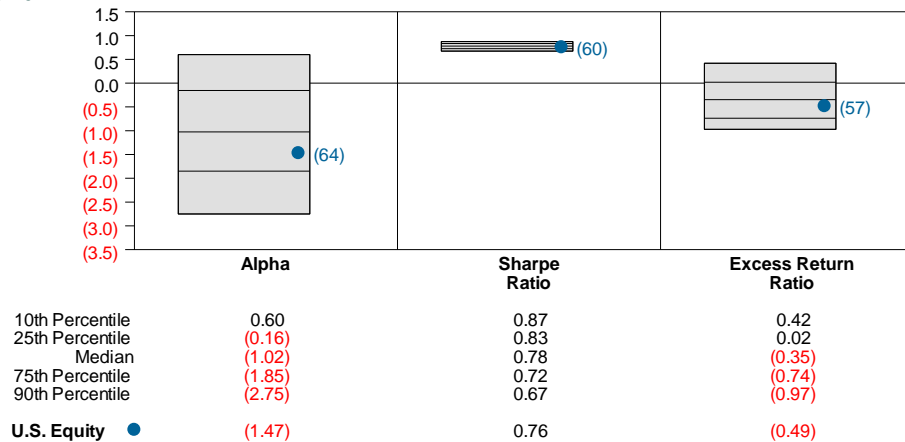
Portfolio Characteristics Percentile Rankings
Rankings Against Public Fund - Domestic Equity
as of September 30, 2021



Sector Allocation
September 30, 2021

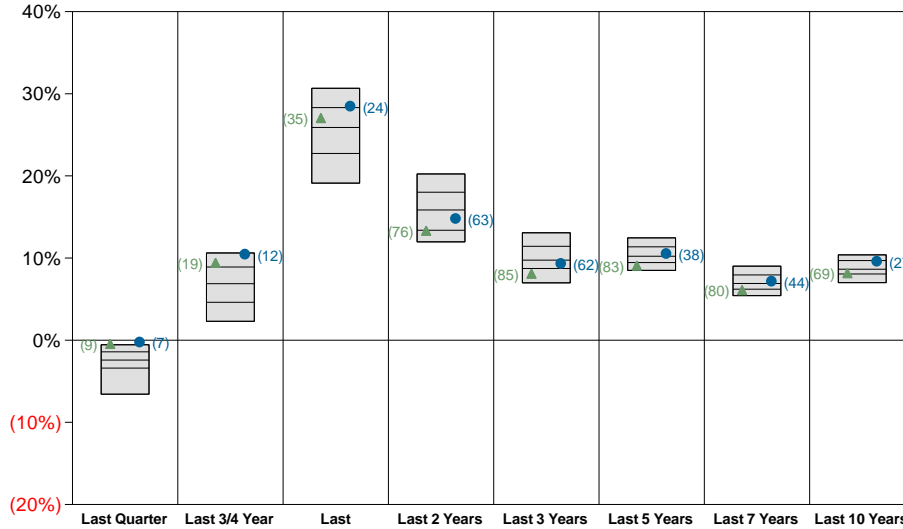


Risk Adjusted Return Measures vs Russell 3000 Index
Rankings Against Public Fund - Domestic Equity (Gross)
Five Years Ended September 30 2021



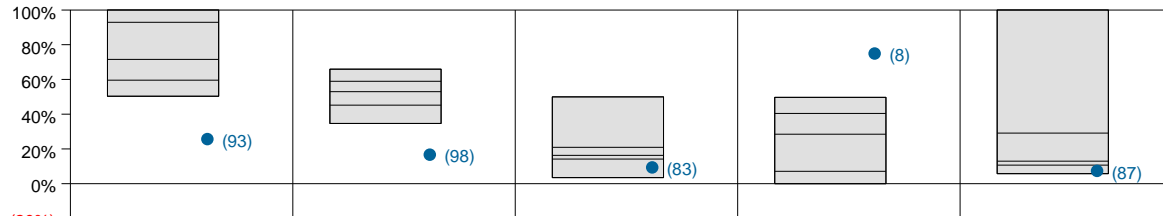
International Equity as of September 30, 2021

Performance vs Public Fund - International Equity (Gross)



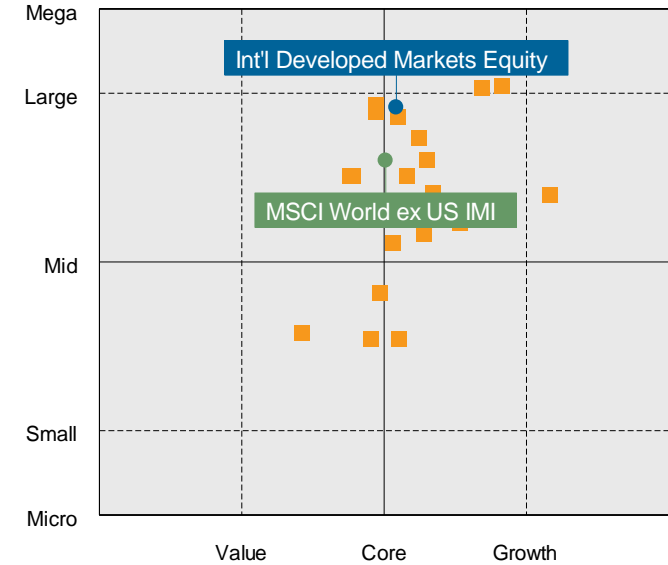
Int'l Developed Markets Equity ●	(0.27)	10.43	28.44	14.76	9.29	10.51	7.13	9.56
MSCI World ex US IMI ▲	(0.45)	9.43	27.04	13.33	8.10	9.09	6.10	8.17

Active Share vs. Pub Pln- Intl Equity



Int'l Developed Markets Equity ●	25.36	16.37	8.99	74.64	6.99
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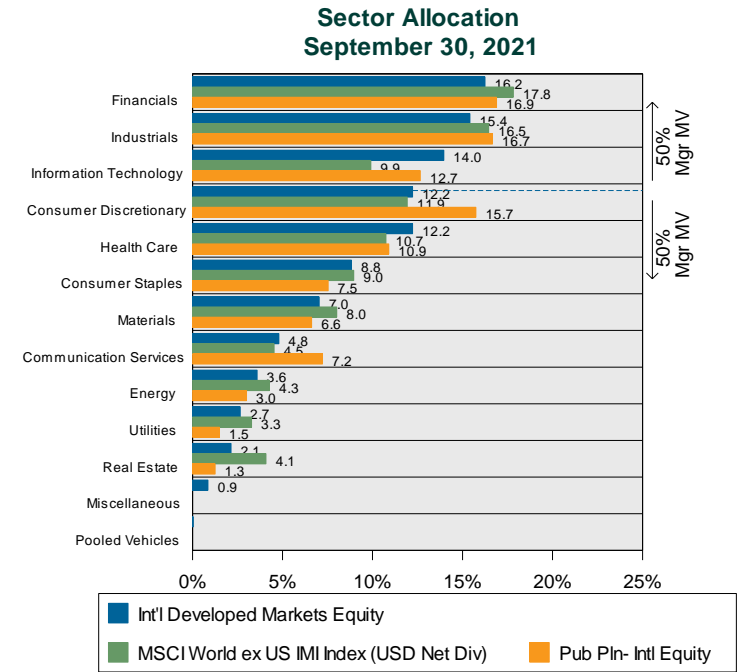
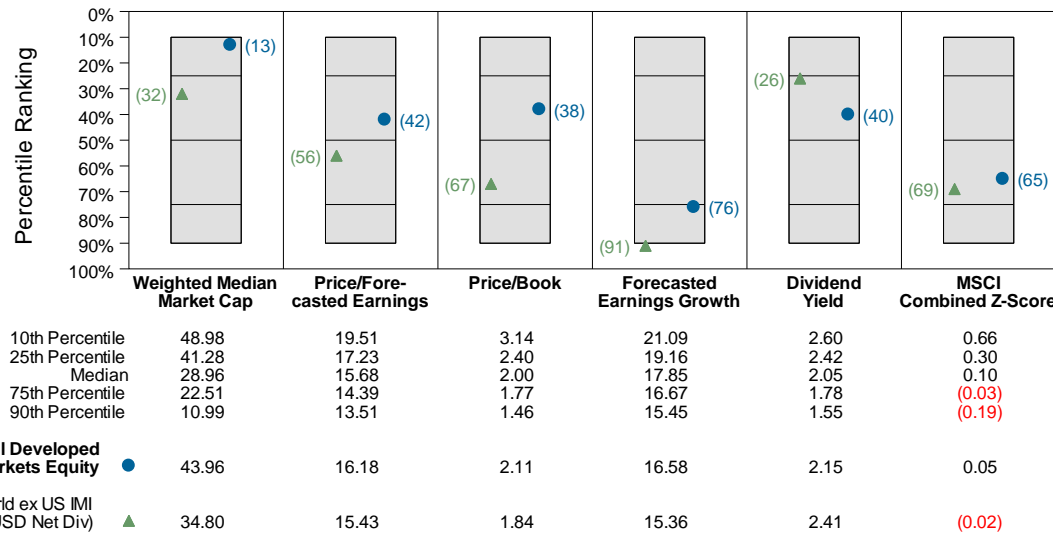
Style Map vs Pub Pln- Intl Equity Holdings as of September 30, 2021



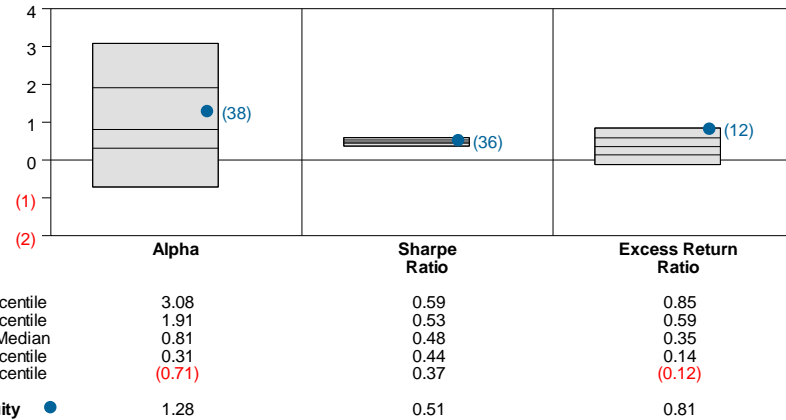
International Equity

As of September 30, 2021

Portfolio Characteristics Percentile Rankings
Rankings Against Public Fund - International Equity
as of September 30, 2021

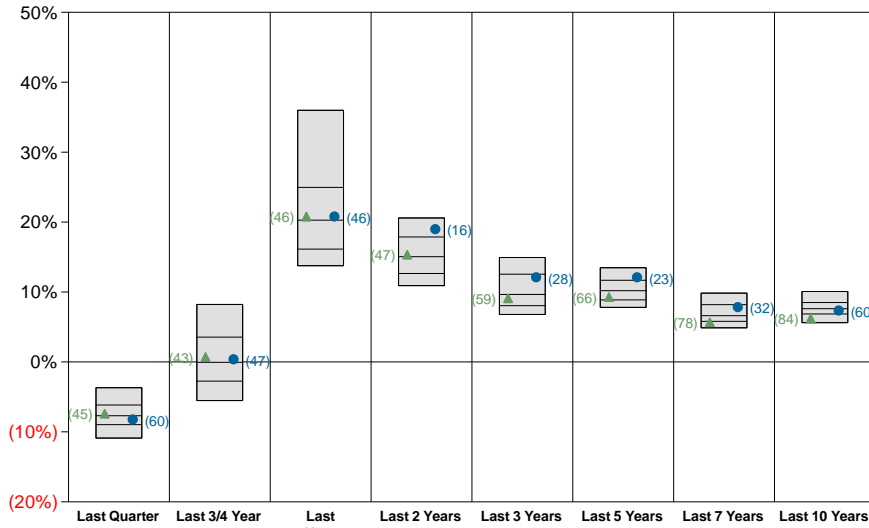


Risk Adjusted Return Measures vs MSCI World ex US IMI
Rankings Against Public Fund - International Equity (Gross)
Five Years Ended September 30, 2021

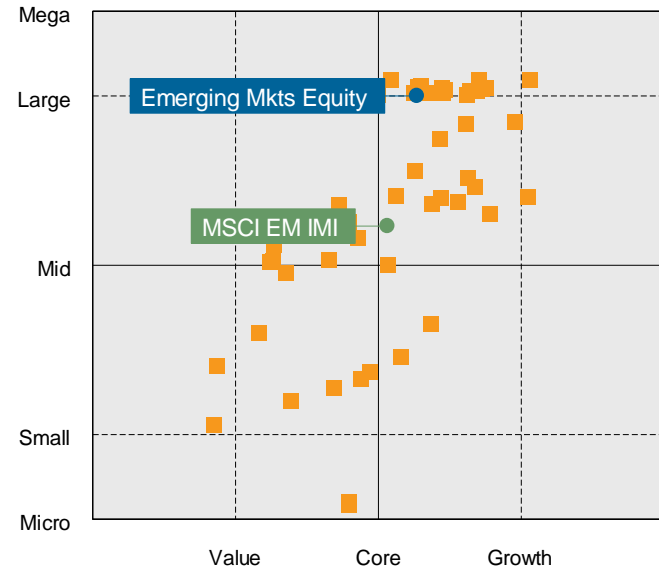


Emerging Markets Equity as of September 30, 2021

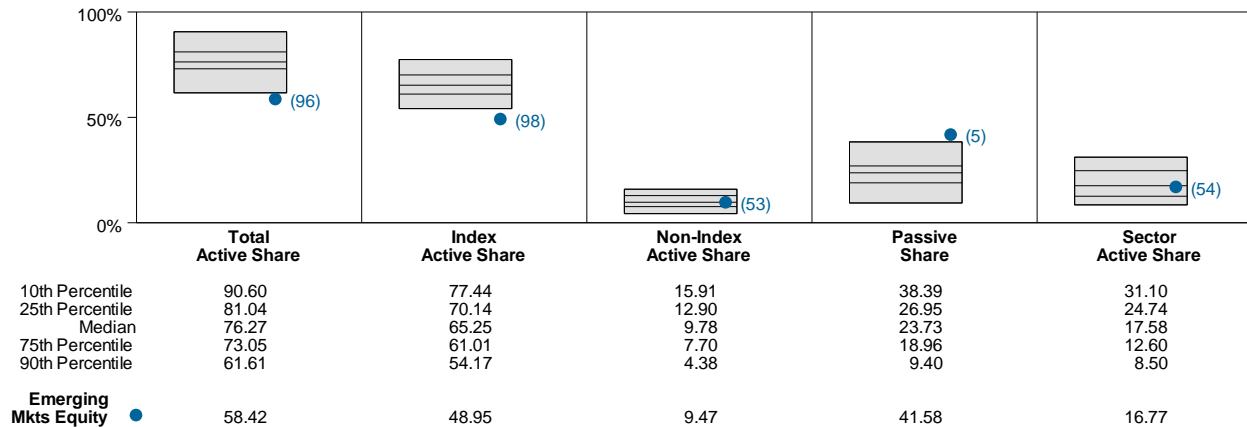
Performance vs Callan Emerging Broad (Gross)



Style Map vs Callan Emerging Broad Holdings as of September 30, 2021



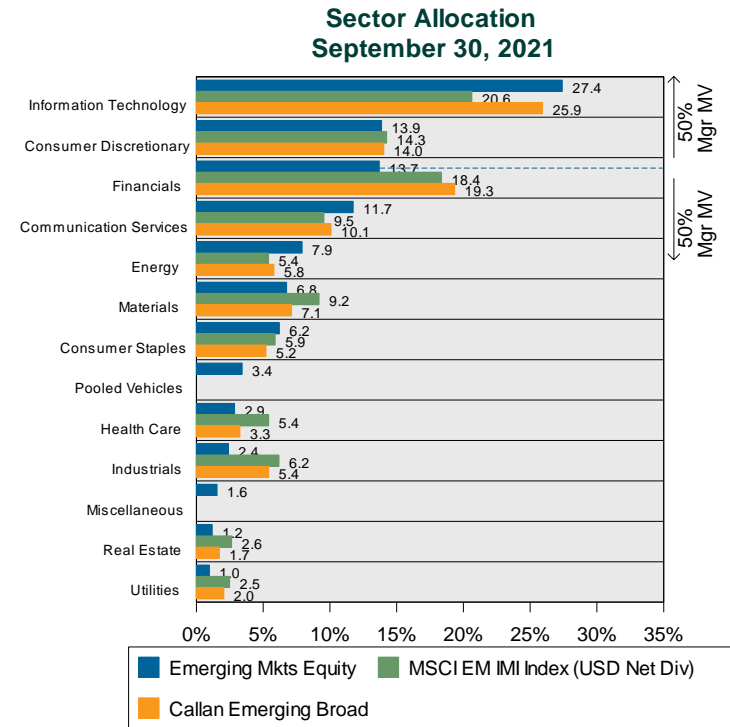
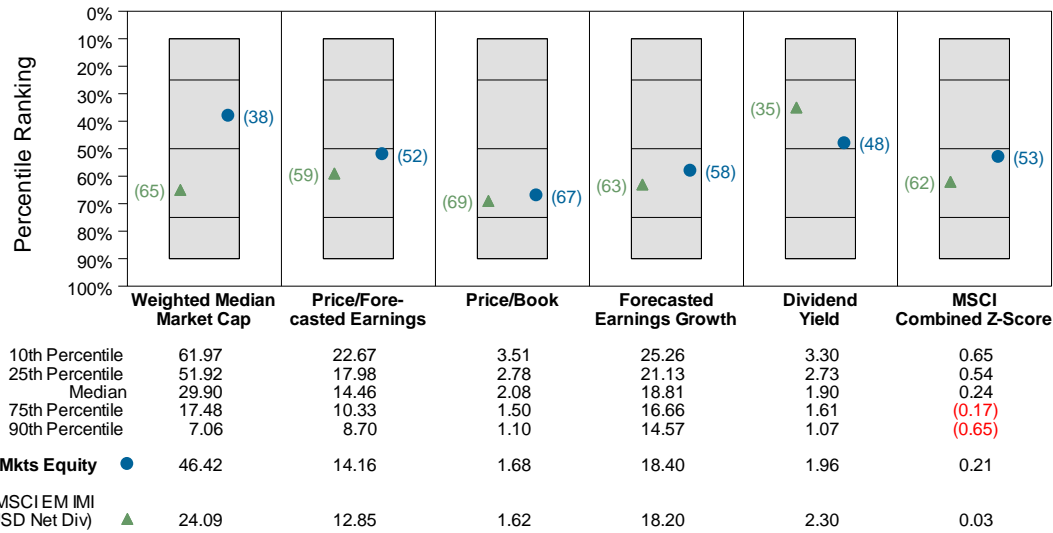
Active Share vs. Callan Emerging Broad



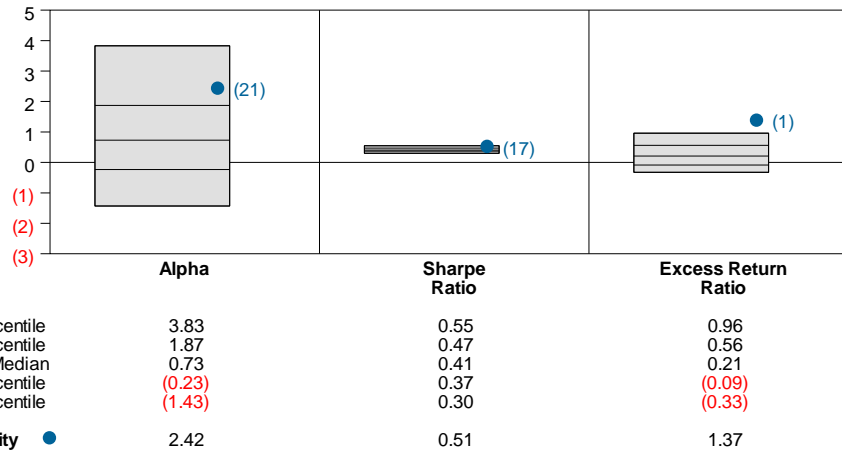
Emerging Markets Equity

As of September 30, 2021

Portfolio Characteristics Percentile Rankings
Rankings Against Callan Emerging Broad
as of September 30, 2021

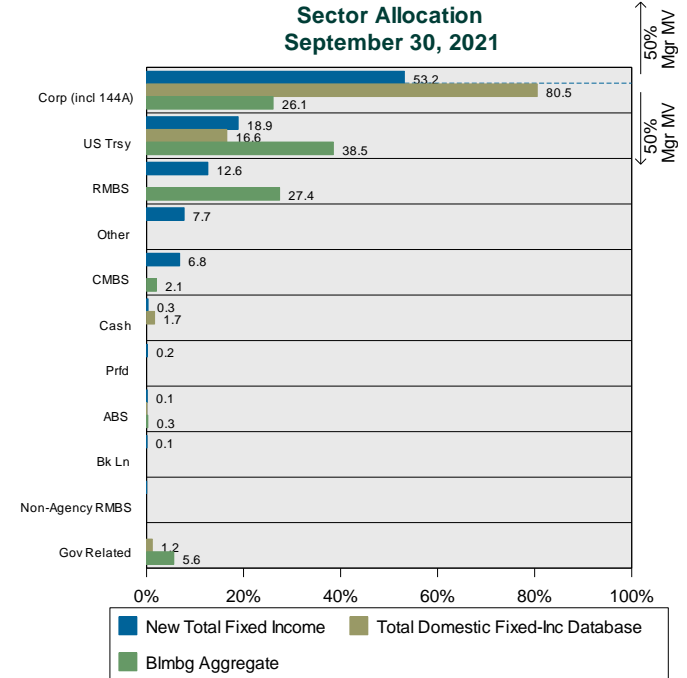
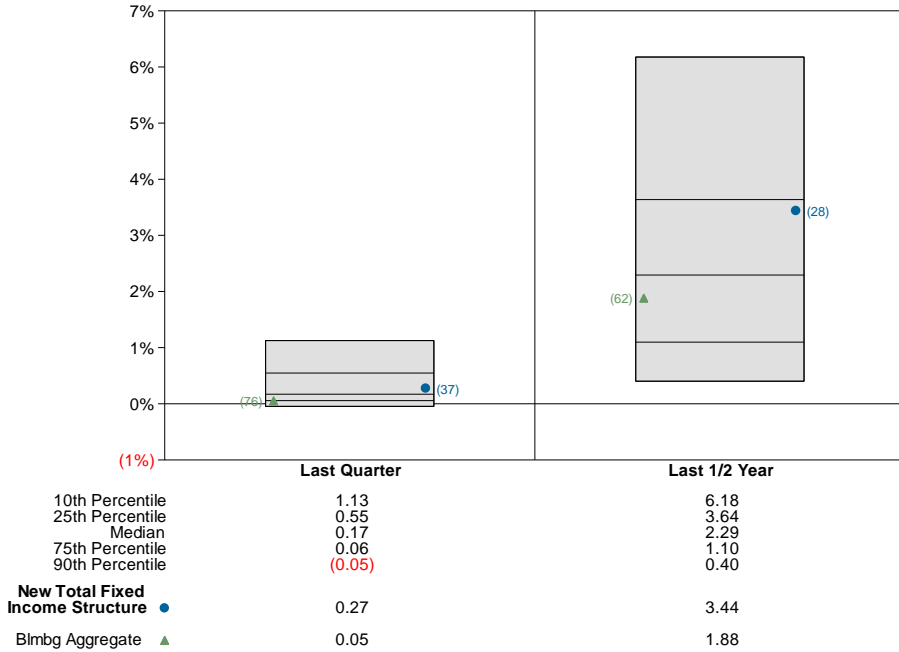


Risk Adjusted Return Measures vs MSCI EM IMI
Rankings Against Callan Emerging Broad (Gross)
Five Years Ended September 30, 2021

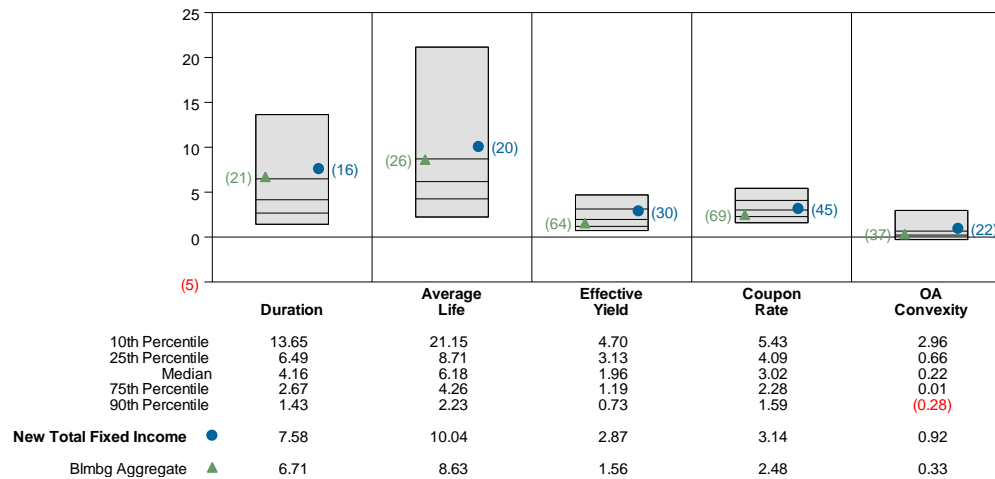


New Fixed Income Structure As of September 30, 2021

Performance vs Total Domestic Fixed-Inc Database (Gross)



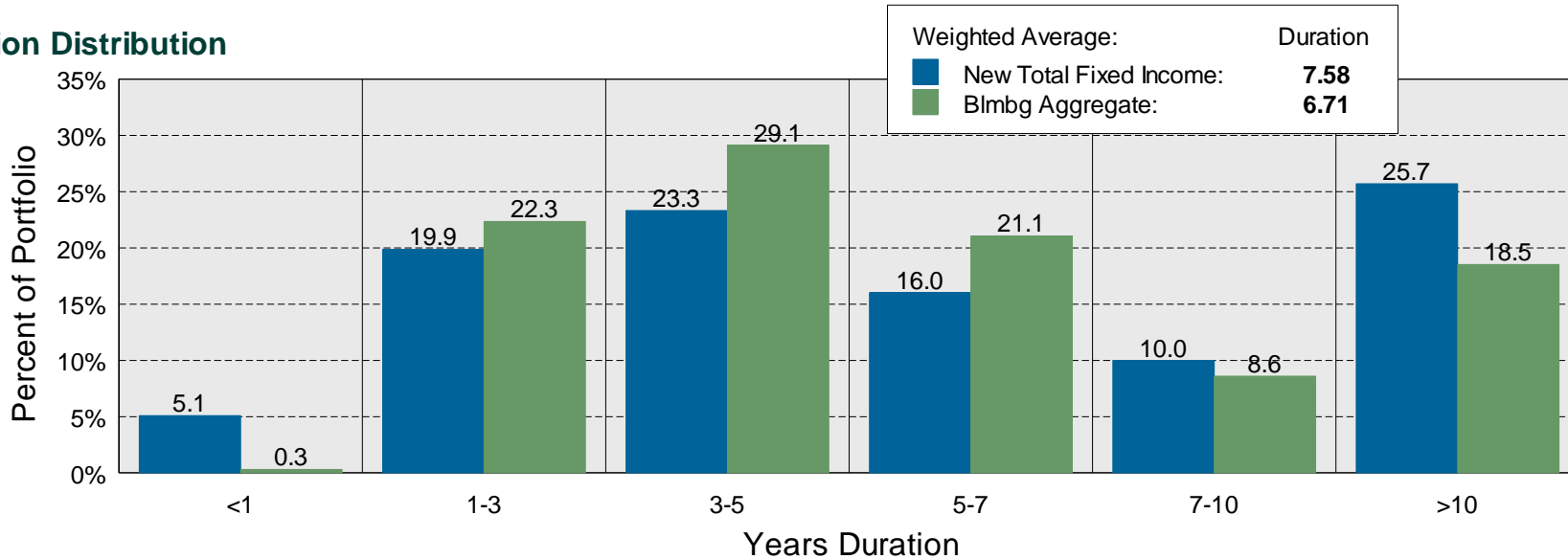
Fixed Income Portfolio Characteristics
Rankings Against Total Domestic Fixed-Inc Database
as of September 30, 2021



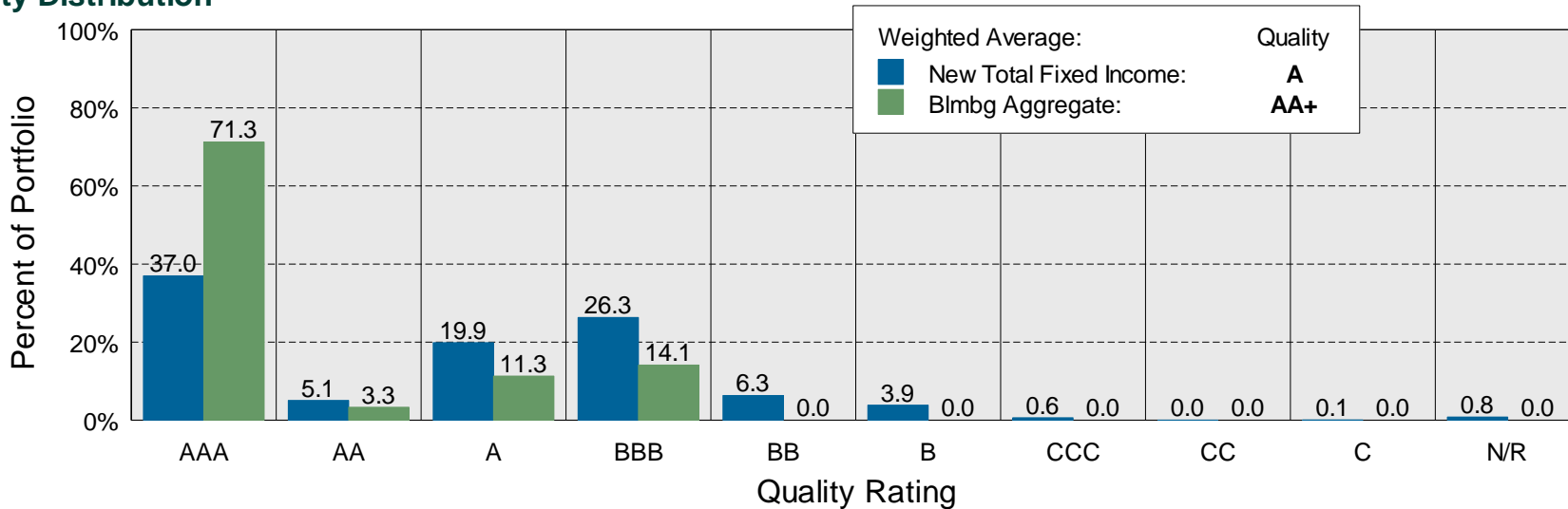
New Fixed Income Structure

As of September 30, 2021

Duration Distribution

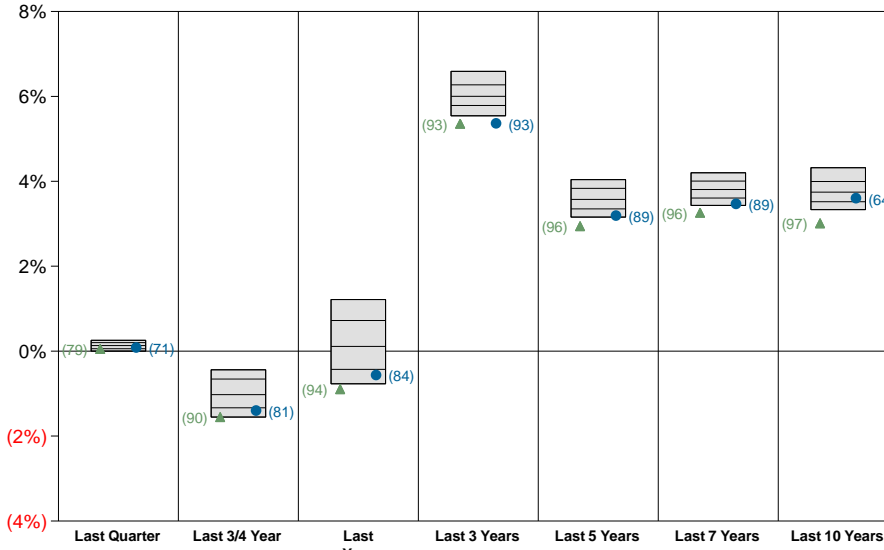


Quality Distribution



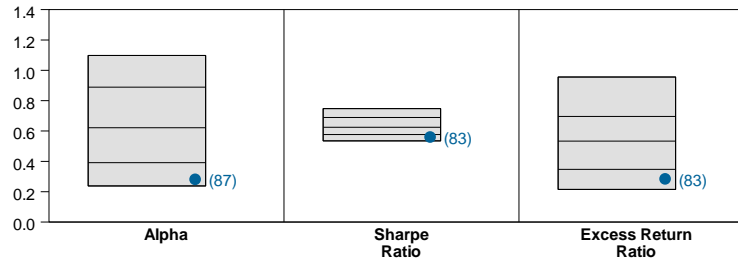
Core Fixed Income As of September 30, 2021

Performance vs Callan Core Bond Fixed Income (Gross)



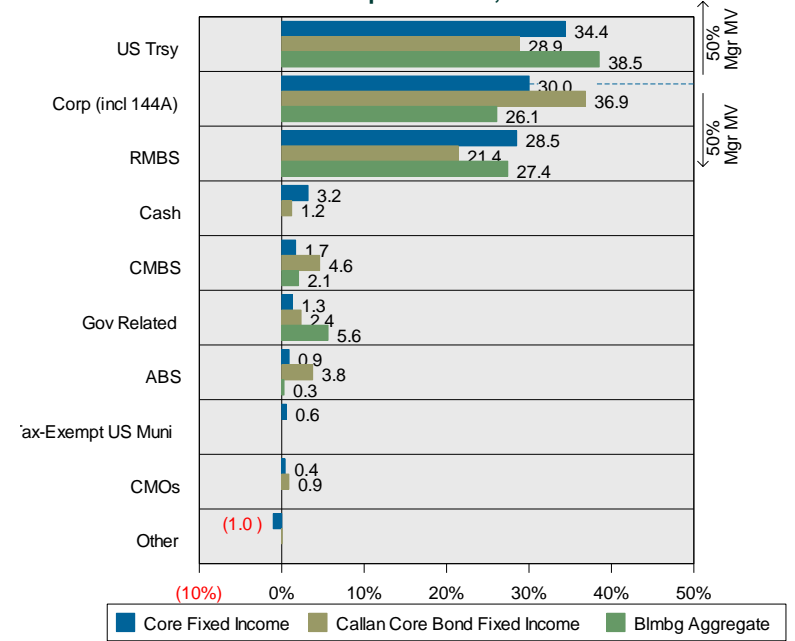
	Last Quarter	Last 3/4 Year	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
Core Fixed Income ●	0.07	(1.41)	(0.57)	5.35	3.18	3.46	3.59
Blmbg Aggregate ▲	0.05	(1.55)	(0.90)	5.36	2.94	3.26	3.01

Risk Adjusted Return Measures vs Blmbg Aggregate Rankings Against Public Fund - Domestic Fixed (Gross) Five Years Ended September 30, 2021



	Alpha	Sharpe Ratio	Excess Return Ratio
Core Fixed Income ●	0.28	0.56	0.28

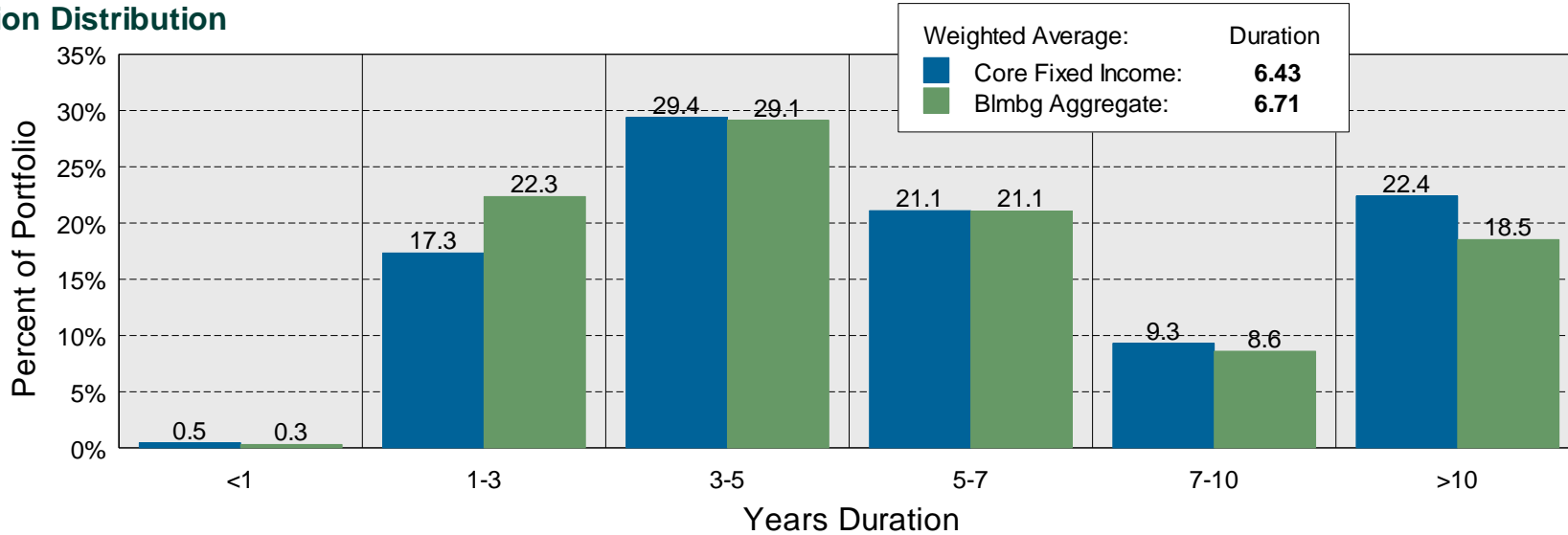
Sector Allocation September 30, 2021



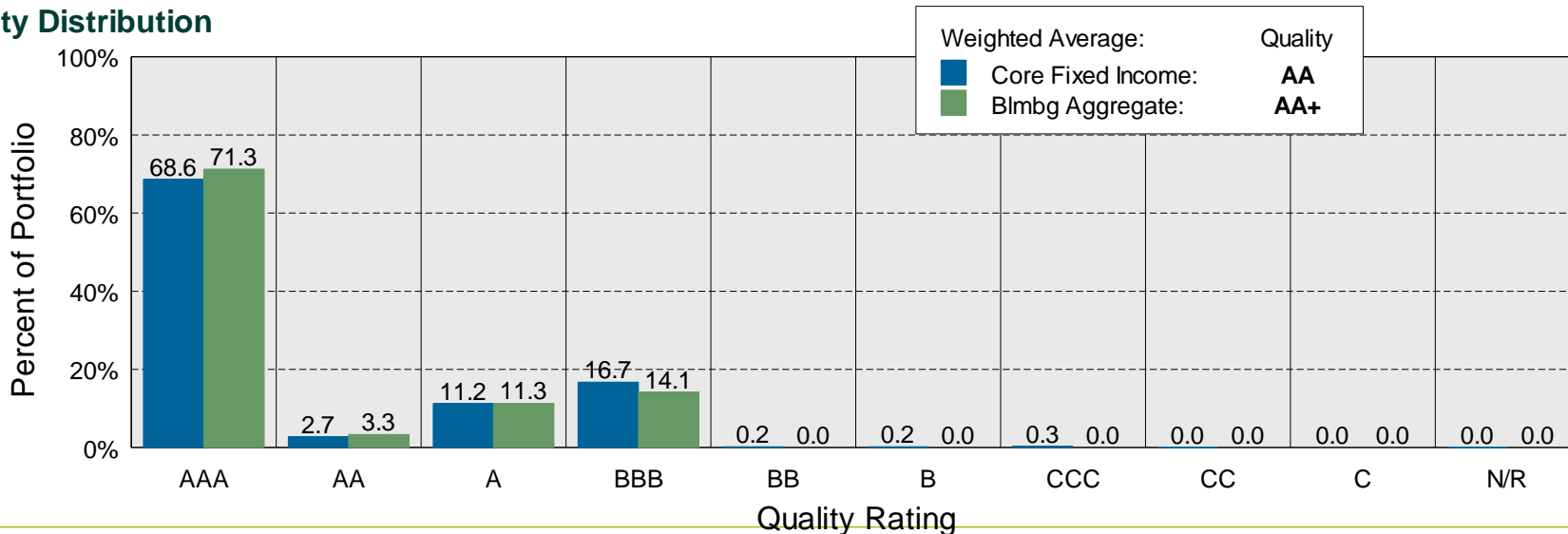
Core Fixed Income

As of September 30, 2021

Duration Distribution

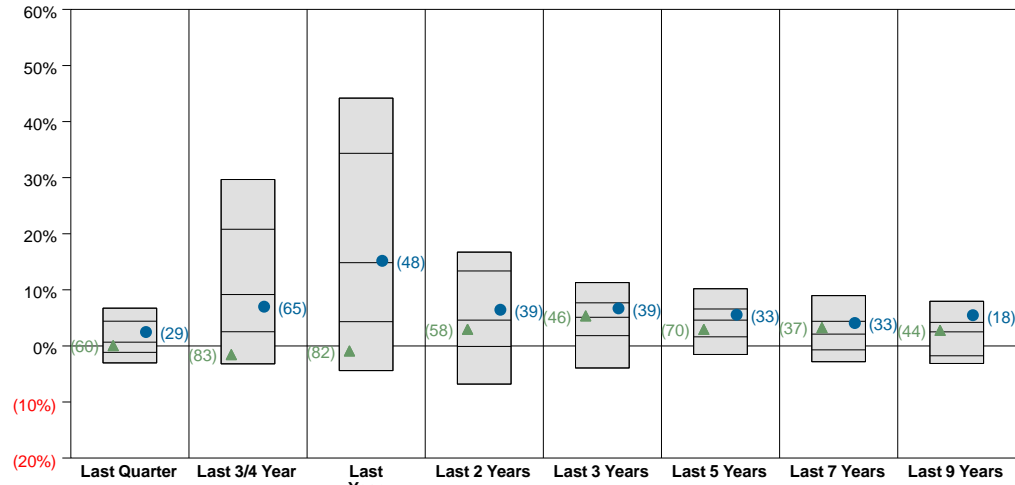


Quality Distribution



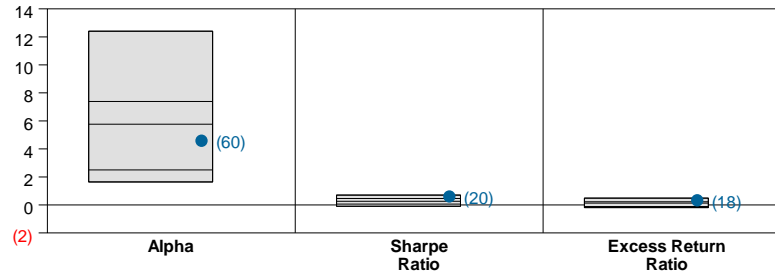
Opportunistic Fixed Income As of September 30, 2021

Performance vs Callan Alternative Investments DB (Gross)



10th Percentile	6.73	29.67	44.18	16.73	11.29	10.20	8.96	7.96
25th Percentile	4.40	20.80	34.34	13.37	7.68	6.57	4.39	4.19
Median	0.66	9.16	14.83	4.59	5.11	4.59	2.11	2.51
75th Percentile	(1.15)	2.53	4.31	(0.08)	1.83	1.62	(0.71)	(1.76)
90th Percentile	(3.02)	(3.19)	(4.40)	(6.80)	(3.94)	(1.53)	(2.82)	(3.14)
Opportunistic Fixed Income	● 2.37	6.89	15.07	6.35	6.61	5.45	3.98	5.37
Bimbg Aggregate	▲ 0.05	(1.55)	(0.90)	2.97	5.36	2.94	3.26	2.78

Risk Adjusted Return Measures vs Bimbg Aggregate Rankings Against Callan Alternative Investments DB (Gross) Five Years Ended September 30, 2021



10th Percentile	12.40	0.70	0.49
25th Percentile	7.39	0.46	0.22
Median	5.76	0.26	0.13
75th Percentile	2.50	0.06	(0.11)
90th Percentile	1.64	(0.09)	(0.19)
Opportunistic Fixed Income	● 4.55	0.57	0.29

Investment Manager Returns

As of September 30, 2021

	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	\$11,105	100.00%	0.25%	15.28%	34.71%	15.42%	15.92%
Russell 3000 Index (1)	-	-	(0.10%)	14.99%	31.88%	16.00%	16.85%
MCM Russell 1000 Index	8,693	78.28%	0.34%	15.35%	31.17%	16.45%	17.14%
Russell 1000 Index	-	-	0.21%	15.19%	30.96%	16.43%	17.11%
MCM Russell 2000 Core Index	1,026	9.24%	(1.71%)	15.07%	50.21%	11.13%	-
Russell 2000 Index	-	-	(4.36%)	12.41%	47.68%	10.54%	13.45%
MCM Russell 2000 Val Index	747	6.72%	(2.99%)	22.97%	63.97%	8.62%	-
Russell 2000 Value Index	-	-	(2.98%)	22.92%	63.92%	8.58%	11.03%
Emerald Asset Management	639	5.75%	(1.62%)	2.88%	29.40%	12.41%	-
Russell 2000 Growth Index	-	-	(5.65%)	2.82%	33.27%	11.70%	15.34%

	Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance- Domestic Equity					
U.S. Equity	16.23%	9.24%	9.38%	9.28%	11.16% (1/81)
Russell 3000 Index (1)	16.60%	10.44%	9.85%	9.67%	11.44% (1/81)
MCM Russell 1000 Index	-	-	-	-	15.87% (1/12)
Russell 1000 Index	16.76%	10.55%	9.81%	9.82%	15.89% (1/12)
MCM Russell 2000 Core Index	-	-	-	-	12.96% (12/16)
Russell 2000 Index	14.63%	9.16%	10.29%	9.12%	12.61% (12/16)
MCM Russell 2000 Val Index	-	-	-	-	9.33% (12/16)
Russell 2000 Value Index	13.22%	7.50%	9.79%	9.82%	9.35% (12/16)
Emerald Asset Management	-	-	-	-	16.31% (12/16)
Russell 2000 Growth Index	15.74%	10.59%	10.48%	7.92%	15.39% (12/16)

*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, 2021

	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	\$4,840	100.00%	(0.31%)	10.32%	28.29%	9.14%	10.33%
MSCI World ex US IMI	-	-	(0.45%)	9.43%	27.04%	8.10%	9.09%
Walter Scott & Partners(1) MSCI World	757	15.64%	1.04% (0.01%)	10.67% 13.04%	26.96% 28.82%	15.65% 13.14%	16.91% 13.74%
BlackRock MSCI World Ex US Index MSCI World ex US	3,667	75.76%	(0.57%) (0.66%)	9.60% 9.19%	27.11% 26.50%	8.29% 7.87%	- 8.88%
Xponance Non-U.S. Small Cap MSCI ACWI ex US Small Cap	263	5.44%	0.22% (0.00%)	12.35% 12.23%	30.72% 33.06%	9.51% 10.33%	- 10.28%
Harris Assoc Int'l SCV MSCI World ex US Sm Cap MSCI World ex US Sm Value	147	3.03%	(1.40%) 0.72% 0.12%	18.39% 10.71% 12.46%	47.43% 30.14% 35.29%	11.72% 9.50% 6.48%	10.78% 10.33% 8.12%
			Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance- International Equity							
Int'l Developed Mkts Equity		9.32%	4.42%	-	-	6.84%	(1/02)
MSCI World ex US IMI		8.17%	4.44%	7.11%	5.53%	6.89%	(1/02)
Walter Scott & Partners(1) MSCI World		14.47% 12.68%	10.51% 7.47%	- 8.10%	- 7.39%	10.51% 7.47%	(10/06) (10/06)
BlackRock MSCI World Ex US Index MSCI World ex US		- 7.88%	- 4.16%	- 6.68%	- 5.34%	7.86% 7.39%	(6/17) (6/17)
Xponance Non-U.S. Small Cap MSCI ACWI ex US Small Cap		- 9.44%	- 6.45%	- 10.42%	- 6.77%	9.51% 10.33%	(10/18) (10/18)
Harris Assoc Int'l SCV MSCI World ex US Sm Cap MSCI World ex US Sm Value		10.35% 10.03% 8.80%	6.95% 6.15% 5.39%	- 10.06% 10.01%	- - 7.39%	11.35% 9.94% 9.54%	(7/03) (7/03) (7/03)

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

Investment Manager Returns

As of September 30, 2021

	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	\$1,395	100.00%	(8.41%)	(0.11%)	20.06%	11.52%	11.46%
MSCIEM IMI	-	-	(7.39%)	0.71%	20.80%	9.10%	9.28%
Macquarie Emg Mkts Equity	409	29.36%	(8.70%)	(1.76%)	14.80%	9.86%	10.85%
MSCIEM	-	-	(8.09%)	(1.25%)	18.20%	8.59%	9.23%
Martin Currie Emg Mkts Equity	462	33.13%	(9.14%)	(2.45%)	19.95%	13.18%	13.32%
MSCIEM	-	-	(8.09%)	(1.25%)	18.20%	8.59%	9.23%
BlackRock Emg Mkts Index	113	8.12%	(8.22%)	(1.48%)	17.77%	8.26%	-
MSCIEM	-	-	(8.09%)	(1.25%)	18.20%	8.59%	9.23%
Leading Edge Emg Mkts Fund	274	19.66%	(8.24%)	(1.97%)	17.92%	-	-
MSCIEM	-	-	(8.09%)	(1.25%)	18.20%	8.59%	9.23%
GlobeFlex Emerging Small Cap	136	9.73%	(5.51%)	22.00%	48.12%	13.07%	12.20%
MSCIEM Small Cap	-	-	(2.16%)	17.20%	43.24%	13.11%	9.76%

	Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance- Emerging Mkts Equity					
Emerging Mkts Equity	6.83%	4.12%	-	-	8.03% (1/02)
MSCIEM IMI	6.22%	5.89%	11.07%	5.35%	9.87% (1/02)
Macquarie Emg Mkts Equity	-	-	-	-	6.19% (5/13)
MSCIEM	6.09%	5.68%	10.97%	-	4.73% (5/13)
Martin Currie Emg Mkts Equity	-	-	-	-	7.73% (1/14)
MSCIEM	6.09%	5.68%	10.97%	-	5.39% (1/14)
BlackRock Emg Mkts Index	-	-	-	-	7.40% (7/17)
MSCIEM	6.09%	5.68%	10.97%	-	7.69% (7/17)
Leading Edge Emg Mkts Fund	-	-	-	-	12.07% (11/18)
MSCIEM	6.09%	5.68%	10.97%	-	12.30% (11/18)
GlobeFlex Emerging Small Cap	-	-	-	-	7.94% (8/13)
MSCIEM Small Cap	7.21%	7.20%	12.11%	5.64%	6.74% (8/13)

*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.

Investment Manager Returns

As of September 30, 2021

	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)	\$8,255	38.36%	0.13%	(1.03%)	1.19%	4.82%	3.07%
Blmbg U.S. Agg Bond Index	-	-	0.05%	(1.55%)	(0.90%)	5.36%	2.94%
Core Fixed Income	\$2,532	11.76%	0.06%	(1.44%)	(0.63%)	5.27%	3.09%
Blmbg U.S. Agg Bond Index	-	-	0.05%	(1.55%)	(0.90%)	5.36%	2.94%
PIMCO Core Bond Fund	592	2.75%	0.27%	(0.61%)	0.46%	5.77%	3.52%
Blmbg Agg ex Treasury	-	-	0.03%	(0.99%)	0.55%	5.53%	3.30%
Mellon Bond Index	1,940	9.02%	(0.06%)	(1.73%)	(1.07%)	5.24%	2.86%
Blmbg U.S. Agg Bond Index (2)	-	-	0.05%	(1.55%)	(0.90%)	5.36%	2.94%
Nominal U.S. Treasuries	\$556	2.58%	0.06%	(5.93%)	(7.53%)	5.62%	1.85%
Blmbg US Treas Bell 10Y	-	-	(0.07%)	(4.24%)	(6.07%)	6.21%	1.89%
PIMCO US Treasuries	556	2.58%	0.06%	(4.07%)	(5.85%)	6.26%	2.39%
Blmbg US Treas Bell 10Y	-	-	(0.07%)	(4.24%)	(6.07%)	6.21%	1.89%
New Total Fixed Income Structure (1)	\$5,089	23.65%	0.26%	-	-	-	-
Intermediate Treasury	\$288	1.34%	(0.02%)	-	-	-	-
Mellon Intermediate Treasury Index	288	1.34%	(0.02%)	-	-	-	-
Blmbg Intrndt Treasury	-	-	(0.01%)	(1.15%)	(1.38%)	4.00%	1.98%
Long Duration	\$1,343	6.24%	0.05%	-	-	-	-
Mellon Long Duration Index	674	3.13%	0.38%	(7.64%)	-	-	-
Blmbg Long Treasury	-	-	0.47%	(7.49%)	(10.27%)	9.22%	3.31%
Mellon Long Term Credit Bond Index	669	3.11%	(0.27%)	-	-	-	-
Blmbg Long Credit	-	-	(0.18%)	(2.66%)	2.13%	10.20%	6.14%
Securitized	\$705	3.28%	(0.05%)	-	-	-	-
Mellon Securitized Index	705	3.28%	(0.05%)	-	-	-	-
Blmbg Securitized	-	-	0.09%	(0.65%)	(0.35%)	3.98%	2.25%
Intermediate Credit	\$2,039	9.48%	0.05%	-	-	-	-
Mellon Intermediate Credit	2,039	9.48%	0.05%	-	-	-	-
Blmbg Intrndt Credit	-	-	0.07%	(0.48%)	1.06%	5.55%	3.49%
High Yield	\$713	3.31%	1.15%	-	-	-	-
Fidelity HY CMBS (3)	339	1.58%	1.43%	7.68%	11.80%	3.41%	3.54%
Blmbg US CMBS Ex AAA Index (4)	-	-	0.03%	3.53%	8.11%	6.17%	4.58%
BlackRock US High Yield Index	123	0.57%	0.87%	-	-	-	-
ICE BofA US HY Constrained Index	-	-	0.94%	4.68%	11.46%	6.59%	6.16%
Mellon High Yield Beta Fund	251	1.17%	0.80%	-	-	-	-
Blmbg HY Corp	-	-	0.89%	4.53%	11.28%	6.91%	6.52%

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(1) Fixed Income also includes the new fixed income sub-composite which was funded in 03/01/2021.

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

(3) On 03/01/2021, the Fidelity HY CMBS account switched from the Opportunistic Fixed composite to the High Yield composite under the new fixed income structure.

(4) 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, 2021

	Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception	
Net Performance - Fixed Income						
Fixed Income (1)	3.69%	4.68%	5.40%	5.69%	8.15%	(1/81)
Blmbg U.S. Agg Bond Index	3.01%	4.17%	4.33%	5.06%	7.44%	(1/81)
Core Fixed Income	3.47%	4.53%	-	-	4.70%	(1/02)
Blmbg U.S. Agg Bond Index	3.01%	4.17%	4.33%	5.06%	4.38%	(1/02)
PIMCO Core Bond Fund	-	-	-	-	3.09%	(1/13)
Blmbg Agg ex Treasury	3.44%	4.45%	-	-	3.17%	(1/13)
Mellon Bond-Index	2.89%	4.04%	4.24%	5.09%	6.94%	(4/84)
Blmbg U.S. Agg Bond Index (2)	3.01%	4.17%	4.37%	5.20%	-	
Nominal U.S. Treasuries	2.37%	-	-	-	2.59%	(9/11)
Blmbg US Treas Bell 10Y	2.48%	4.40%	4.33%	5.00%	2.74%	(9/11)
PIMCO US Treasuries	2.73%	-	-	-	2.94%	(9/11)
Blmbg US Treas Bell 10Y	2.48%	4.40%	4.33%	5.00%	2.74%	(9/11)
New Total Fixed Income Structure (1)	-	-	-	-	1.72%	(3/21)
Intermediate Treasury	-	-	-	-	(0.09%)	(3/21)
Mellon Intermediate Treasury Index	-	-	-	-	(0.09%)	(3/21)
Blmbg Intmtd Treasury	1.81%	3.20%	3.27%	4.10%	(0.07%)	(3/21)
Long Duration	-	-	-	-	3.43%	(3/21)
Mellon Long Duration Index	-	-	-	-	(7.64%)	(1/21)
Blmbg Long Treasury	4.39%	6.45%	6.44%	7.11%	(7.49%)	(1/21)
Mellon Long Term Credit Index	-	-	-	-	3.73%	(3/21)
Blmbg Long Credit	6.59%	7.13%	7.33%	7.42%	3.35%	(3/21)
Securitized	-	-	-	-	(0.66%)	(3/21)
Mellon Securitized Index	-	-	-	-	(0.66%)	(3/21)
Blmbg Securitized	2.50%	3.81%	4.00%	-	(0.02%)	(3/21)
Intermediate Credit	-	-	-	-	0.30%	(3/21)
Mellon Intermediate Credit	-	-	-	-	0.30%	(3/21)
Blmbg Intmtd Credit	3.71%	4.55%	4.70%	5.29%	0.68%	(3/21)
High Yield	-	-	-	-	4.79%	(3/21)
Fidelity HY CMBS (3)	7.25%	5.66%	7.14%	-	8.01%	(4/97)
Blmbg US CMBS Ex AAA Index (4)	5.53%	0.92%	2.76%	-	4.11%	(4/97)
BlackRock US High Yield Bond Index	-	-	-	-	3.65%	(3/21)
ICE BofA US HY Constrained Index	-	-	-	-	3.92%	(3/21)
Mellon High Yield Beta Fund	-	-	-	-	2.22%	(5/21)
Blmbg HY Corp	7.42%	7.31%	8.10%	6.99%	2.54%	(5/21)

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(1) Fixed Income also includes the new fixed income sub-composite which was funded in 03/01/2021.

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

(3) On 03/01/2021, the Fidelity HY CMBS account switched from the Opportunistic Fixed composite to the High Yield composite under the new fixed income structure.

(4) 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, 2021

	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)	\$8,255	100.00%	0.13%	(1.03%)	1.19%	4.82%	3.07%
Blmbg U.S. Agg Bond Index	-	-	0.05%	(1.55%)	(0.90%)	5.36%	2.94%
Opportunistic Fixed Income	\$79	0.95%	2.17%	6.41%	14.40%	6.02%	4.85%
SEI Str. Credit: HY Bank Loans (2)(3)	78	0.95%	3.93%	23.46%	44.97%	8.81%	10.30%
FTSE HY Corp (1 month lag)	-	-	2.22%	6.61%	10.11%	6.72%	6.38%
			Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance - Fixed Income							
Fixed Income (1)		3.69%	4.68%	5.40%	5.69%	8.15%	(1/81)
Blmbg Aggregate		3.01%	4.17%	4.33%	5.06%	7.44%	(1/81)
Opportunistic Fixed Income		-	-	-	-	4.71%	(10/12)
SEI Str. Credit: HY Bank Loans (2)(3)		9.40%	-	-	-	12.26%	(5/08)
FTSE HY Corp (1 month lag)		6.74%	7.05%	7.47%	6.97%	7.55%	(5/08)

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(1) Fixed Income also includes the new fixed income sub-composite which was funded in 03/01/2021.

(2) SEI HY Bank Loans since inception returns were included in the Fixed Income composite through 9/30/2017 and in the Multi-Strategy composite through 12/31/2019.

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

Investment Manager Returns

As of September 30, 2021

	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)	\$1,131	100.00%	1.38%	2.85%	4.66%	7.18%	4.17%
Blmbg U.S. TIPS Index	-	-	1.75%	3.51%	5.19%	7.45%	4.34%
NISA Inv Adv TIPS	486	42.96%	1.77%	3.55%	5.14%	7.39%	4.30%
Blmbg U.S. TIPS Index (1)	-	-	1.75%	3.51%	5.19%	7.45%	4.34%
Brown Brothers TIPS	510	45.08%	1.63%	3.55%	4.90%	7.35%	4.25%
Blmbg U.S. TIPS Index	-	-	1.75%	3.51%	5.19%	7.45%	4.34%
New Century Global TIPS	135	11.97%	0.20%	(1.05%)	3.65%	6.70%	3.85%
Blmbg Wrld Inflation Linked Unhdg	-	-	0.78%	0.35%	4.89%	6.62%	3.79%

	Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance - Inflation Protection					
Inflation Protection (TIPS)	2.82%	3.89%	-	-	3.69% (2/03)
Blmbg U.S. TIPS Index	3.12%	4.43%	5.13%	-	4.66% (2/03)
NISA Inv Adv TIPS	2.67%	-	-	-	3.75% (4/07)
Blmbg U.S. TIPS Index (1)	2.67%	3.71%	4.58%	-	3.76% (4/07)
Brown Brothers TIPS	-	-	-	-	2.82% (2/12)
Blmbg U.S. TIPS Index	3.12%	4.43%	5.13%	-	2.71% (2/12)
New Century Global TIPS	-	-	-	-	3.09% (2/12)
Blmbg Wrld Inflation Linked Unhdg	3.20%	4.11%	5.72%	-	2.77% (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, 2021

	Market Value \$(mm)	Ending Weight	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
Net Performance - Private Equity							
Private Equity	\$6,116	100.00%	13.73%	43.22%	62.50%	23.72%	19.40%
Burgiss Private Equity Index (Qtr lag)	-	-	9.03%	33.50%	44.29%	18.69%	17.78%
Global Equity + 3% (Qtr lag)(1)	-	-	8.22%	33.14%	44.87%	20.91%	20.43%
Buyouts	3,411	55.77%	11.81%	34.46%	51.22%	22.01%	19.10%
Burgiss Buyout Index (Qtr lag)	-	-	9.90%	30.27%	41.30%	16.02%	16.77%
Special Situations	587	9.60%	11.01%	37.66%	49.25%	22.20%	17.65%
Burgiss Special Situations Idx (Qtr lag)	-	-	3.48%	12.32%	16.32%	6.18%	7.89%
Growth Equity	1,476	24.13%	16.76%	66.08%	102.08%	44.96%	30.14%
Burgiss Venture Capital Index (Qtr lag)	-	-	9.94%	55.20%	71.09%	33.10%	25.88%
Keystone Legacy (2)	642	10.50%	19.77%	46.82%	58.29%	9.18%	-

	Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance - Private Equity					
Private Equity	13.83%	12.64%	11.02%	13.57%	11.99% ^(1/86)
Burgiss Private Equity Index (Qtr lag)	14.02%	12.80%	11.88%	14.58%	17.30% ^(1/86)
Global Equity + 3% (Qtr lag)(1)	17.62%	14.04%	12.22%	13.25%	15.13% ^(1/86)
Buyouts	15.09%	13.88%	13.34%	15.59%	13.98% ^(4/86)
Burgiss Buyout Index (Qtr lag)	13.36%	12.61%	13.42%	13.95%	19.67% ^(4/86)
Special Situations	12.82%	12.93%	13.42%	13.34%	13.26% ^(1/95)
Burgiss Special Situations Idx (Qtr lag)	7.99%	7.65%	9.26%	10.12%	10.37% ^(6/95)
Growth Equity	16.93%	12.73%	5.87%	9.63%	9.23% ^(1/86)
Burgiss Venture Capital Index (Qtr lag)	19.32%	15.36%	8.49%	15.55%	15.05% ^(1/86)
Keystone Legacy (2)	-	-	-	-	8.44% ^(7/18)

*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 01/01/2020 benchmark consists of 25% MSCI World ex US and 75% Russell 3000 + 3% with a 1 quarter lag.
 (2) As of 12/31/2020, Keystone Legacy SPV consists of 119 non-core funds.

Investment Manager Returns

As of September 30, 2021

	Market Value \$(mm)	Ending Weight	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
Net Performance - Private Credit							
Private Credit	\$1,992	100.00%	2.56%	14.37%	20.75%	11.63%	-
S&P Levered Loan Index +1% (Qtr lag)	-	-	1.71%	7.95%	12.65%	5.47%	6.03%
Direct Lending	277	13.90%	3.58%	16.73%	21.29%	-	-
Distressed Debt	248	12.43%	9.22%	35.83%	44.26%	-	-
Diversified Credit	1,468	73.67%	1.37%	11.43%	18.68%	-	-
			Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception
Net Performance - Private Credit							
Private Credit		-	-	-	-		10.91% (12/17)
S&P Levered Loan Index +1% (Qtr lag)		5.42%	5.68%	5.81%	-		5.47% (12/17)
Direct Lending		-	-	-	-		9.38% (1/20)
Distressed Debt		-	-	-	-		26.89% (1/20)
Diversified Credit		-	-	-	-		15.58% (1/20)

*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.

Investment Manager Returns

As of September 30, 2021

	Market Value \$(mm)	Ending Weight	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years
Net Performance - Real Estate							
Real Estate	\$2,784	100.00%	3.76%	10.99%	14.86%	8.41%	4.21%
Real Estate Custom Bench (Qtr lag) (1)	-	-	3.85%	9.08%	10.87%	5.22%	5.70%
CPI +3% (Qtr lag)	-	-	3.26%	6.60%	8.39%	5.54%	5.43%
Core/Core Plus Real Estate Funds NCREIF ODCE Index (Qtr lag)	1,103	39.62%	2.65%	7.74%	10.28%	5.62%	6.08%
	-	-	4.17%	7.57%	7.97%	5.19%	6.09%
Value Add/Oppportunistic SMA NCREIF ODCE Index (Qtr lag)	732	26.28%	6.13%	6.09%	10.16%	10.77%	2.21%
	-	-	4.17%	7.57%	7.97%	5.19%	6.09%
Value Add/Oppportunistic Funds NCREIF ODCE Index (Qtr lag)	613	22.03%	4.25%	17.79%	18.81%	7.46%	7.84%
	-	-	4.17%	7.57%	7.97%	5.19%	6.09%
Legacy Real Assets CPI +3% (Qtr lag)	5	0.18%	6.50%	3.07%	(0.01%)	1.08%	(1.96%)
	-	-	3.26%	6.60%	8.39%	5.54%	5.43%
REITS FTSE NAREIT US Index	331	11.89%	1.29%	23.51%	38.28%	11.98%	6.74%
	-	-	0.70%	22.83%	38.82%	9.08%	5.59%
		Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	Since Inception	
Net Performance - Real Estate							
Real Estate		6.93%	4.04%	6.50%	7.77%	8.34% (3/84)	
Real Estate Custom Bench (Qtr lag) (1)		8.62%	5.52%	7.08%	8.10%	-	
CPI +3% (Qtr lag)		4.87%	4.97%	5.14%	5.23%	5.66% (3/84)	
Core/Core Plus Real Estate Funds NCREIF ODCE Index (Qtr lag)		9.13%	6.32%	7.30%	8.41%	7.02% (9/86)	
		8.86%	5.35%	6.55%	7.58%	5.94% (9/86)	
Value Add/Oppportunistic SMA NCREIF ODCE Index (Qtr lag)		5.59%	2.62%	4.78%	6.26%	5.33% (6/88)	
		8.86%	5.35%	6.55%	7.58%	5.98% (6/88)	
Value Add/Oppportunistic Funds NCREIF ODCE Index (Qtr lag)		9.64%	4.39%	7.41%	9.05%	7.89% (3/84)	
		8.86%	5.35%	6.55%	7.58%	6.20% (3/84)	
Legacy Real Assets CPI +3% (Qtr lag)		(0.21%)	0.96%	2.29%	3.28%	3.92% (3/93)	
		4.87%	4.97%	5.14%	5.23%	5.30% (3/93)	
REITS FTSE NAREIT US Index		7.96%	6.77%	9.66%	10.04%	10.00% (4/96)	
		8.90%	6.53%	9.46%	10.19%	10.36% (4/96)	

*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 03/31/2019 benchmark consists of 90% NCREIF ODCE Index (1 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 3Q21

Comparing Actuarial and Consultant Rates of Return



The Role of Target Date Funds in Retirement



Infrastructure and Real Estate Debt in Portfolios



Research Café: Property Technology



Recent Blog Posts

GPs Take 'Credit' for Higher IRRs

Jonathan Farr

Seeking Yield in All the Right Places

Nathan Wong

PCE vs. CPI: What's the Difference?

Fanglue Zhou

Additional Reading

Private Equity Trends quarterly newsletter

Active vs. Passive quarterly charts

Capital Markets Review quarterly newsletter

Monthly Updates to the Periodic Table

Market Pulse Flipbook quarterly markets update

Callan Institute Events

Upcoming conferences, workshops, and webinars

Callan College

Intro to Investments - Learn the Fundamentals

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

Join our next LIVE session in Chicago (1.5-day session):

December 1-2, 2021

Introductory Workshop for DC Plan Fiduciaries

This one-day workshop centers on the fundamentals of administering a defined contribution (DC) plan. Designed primarily for ERISA fiduciaries and supporting staff members, attendees will gain a better understanding of the key responsibilities of an ERISA fiduciary and best practices for executing those responsibilities.

Join our LIVE session in San Francisco:

March 23, 2022

Mark Your Calendar

2022 National Conference

April 25-27, 2022, in San Francisco

Palace Hotel
2 New Montgomery St, San Francisco, CA 94105

Watch your email for further details and an invitation.

Webinars

Research Café: DOL Cybersecurity Tips

Nov. 10, 2021 – 9:30am (PT)

Research Café: Dissecting the Overlap Between Listed Real Assets Categories and Benchmarks

Dec. 8, 2021 – 9:30am (PT)

Market Intelligence

Jan. 22, 2022 – 9:30am (PT)

Callan Updates

Firm updates by the numbers, as of September 30, 2021

Total Associates: ~200

Ownership

- 100% employees
- 22 new shareholders in 2021—a firm record
- 55% of shareholders identify as women or minority

Total General and Fund Sponsor Consultants: more than 55

Total Specialty and Research Consultants: more than 60

Total CFA/CAIA/FRMs: more than 55

Total Fund Sponsor Clients: more than 400

AUA: more than \$3 trillion

“I’m thrilled that nearly two-thirds of our employees are now owners of the firm,” said Callan CEO and Chief Research Officer Greg Allen. **“This sets us up to maintain our independence and stability as an organization for decades to come. It’s good for our clients and empowering for our employees.”**



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Past performance is no guarantee of future results.

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