

September 30, 2017



## City of Milwaukee Employees' Retirement System

### Investment Measurement Service Quarterly Review

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## Table of Contents

### September 30, 2017

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<b>Capital Markets Review</b>	<b>1</b>
<hr/>	
<b>Total Fund</b>	
Investment Manager Asset Allocation	9
Actual vs. Target Asset Allocation	10
Total Fund vs. Total Public Fund Database	12
Quarterly Total Fund Attribution	15
Cumulative Total Fund Attribution	16
Investment Manager Returns - Gross of Fee	17
Investment Manager Returns - Net of Fee	21
Asset Class Rankings	23
Asset Class Rankings	24
<hr/>	
<b>Callan Research/Education</b>	<b>25</b>
<hr/>	
<b>Disclosures</b>	<b>28</b>



Third Quarter 2017

## Why So Sad?

### ECONOMY

**2** The disconnect sharpened in the quarter between the state of the economy, which is pretty good, and sentiment, which is not so good. Global geopolitical upheaval dominates the news cycle. But the world economy is in much better shape than this sentiment might suggest.

## Managing Risk While Hunting for Returns

### FUND SPONSOR

**4** Endowments and foundations performed best over the one-year period ending with the third quarter, while Taft-Hartley plans surpassed other groups over the past three- and five-year periods. Corporate plans did best over a 10-year period.

## Up, Up, Up, and Away for Global Stocks

### EQUITY

**6** The **S&P 500**, **Russell 2000**, and **Nasdaq Composite** all hit record highs on the final trading day of the quarter. Non-U.S. developed equity outperformed the U.S. for the third consecutive quarter; emerging markets outperformed developed ones, also for the third straight quarter.

## Healthy Risk Appetite Drove Yields

### FIXED INCOME

**9** Global fixed income markets generally performed well in the third quarter. Moderate growth and inflation kept long-term rates low and range-bound in the U.S. Rates were also low outside the U.S., but dollar weakness boosted returns, especially for emerging market debt.

## Best Location? Europe These Days

### REAL ESTATE

**11** The **NCREIF Property Index** notched 35 straight quarters of gains, while the **NCREIF Open End Diversified Core Equity Index** rebounded from last quarter's seven-year low. Europe was the strongest-performing region, with the **FTSE EPRA/NAREIT Europe Index** up 4.8%.

## PE Market Sees 'Golden Era'

### PRIVATE EQUITY

**13** Low volatility and gently rising markets fostered ongoing "Golden Era" conditions in the private equity market. Fundraising is on pace to best last year's post-GFC high; buyout and venture investments slowed slightly but dollar volume remained healthy.

## Kickin' It with Risk

### HEDGE FUNDS

**14** The **Credit Suisse Hedge Fund Index** rose 1.8% in the quarter, while the median manager in the *Callan Hedge Fund-of-Funds Database* advanced 2.0%. The median *Callan Long/Short Equity FoF* (+3.1%) handily beat the *Callan Absolute Return FOF* (+1.8%).

## Strongest First Half in DC Index History

### DEFINED CONTRIBUTION

**15** The **Callan DC Index™** rose 3.1% during the second quarter and is now up 7.9% year-to-date—its strongest first-half performance since its 2006 inception. Still, the Index trailed the typical Age 45 Target Date Fund, up 3.7% in the second quarter and 9.4% in the first half.

## Broad Market Quarterly Returns

**U.S. Equity**  
Russell 3000

**+4.6%**

**Non-U.S. Equity**  
MSCI ACWI ex USA

**+6.2%**

**U.S. Fixed Income**  
Bloomberg Barclays Agg

**+0.8%**

**Non-U.S. Fixed Income**  
Bloomberg Barclays GBI ex US

**+2.5%**

Sources: Bloomberg Barclays, MSCI, Russell Investment Group

# Why So Sad?

ECONOMY | Jay Kloepfer

The disconnect sharpened in the third quarter of 2017 between the state of the underlying economy, which is pretty good, and sentiment, which is not so good, teetering on downright gloomy.

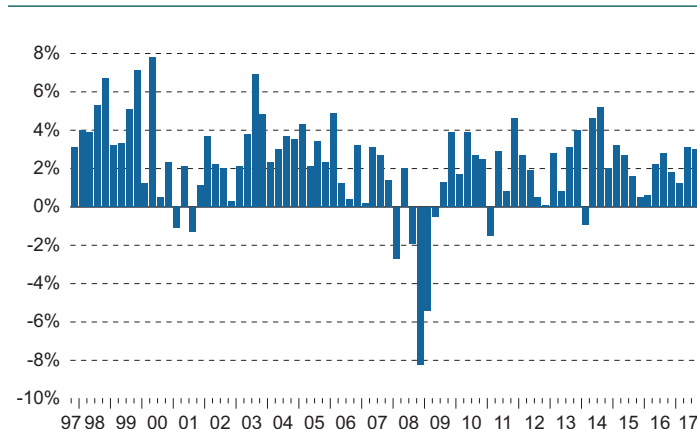
Geopolitical upheaval across the globe dominated the news cycle, feeding anxieties about the future of monetary and fiscal policy, taxes, trade, and conflict. Tension remained high with North Korea and continued to escalate with Russia. Richly priced capital markets spurred concerns about an “inevitable” correction. Comparisons to the pre-Global Financial Crisis (GFC) period in 2007, to before the Dot-Com Bubble in 2000, and particularly to 1987 before the 20% one-day drop in the U.S. stock market abound. Then two hurricanes of historic proportions slammed the Caribbean, the Gulf of Mexico, and the U.S. mainland within a couple weeks of each other in September.

Stepping back from the conjecture and hand-wringing, the state of the global economy as we head into the fourth quarter of 2017 is much better than this general sentiment might suggest. Investors are certainly less concerned about the economy than the news would lead us to believe. The U.S. economy has actually gathered momentum as 2017 progressed. After a relatively weak first quarter (1.4% growth), GDP was revised up to 3.1% in the second quarter and grew an astounding 3.0% in the third quarter *after* accounting for the impact of Harvey and Irma. Without the hurricanes, real GDP would likely have seen a robust gain in excess of 4%, perhaps as strong as 4.5%. Initial estimates for fourth quarter growth are equally lofty.

What gives? Is this growth spurt the last, exuberant gasp before the economy collapses from exhaustion? First and foremost, we should recall that expansions do not die of old age; they typically expire under the weight of imbalances in spending versus income, a run-up in debt, a build-up in inventory for demand that wanes, or over-building for economic activity that doesn't materialize. These imbalances are obvious in hindsight but difficult to spot in the moment. The current cycle is particularly hard to pin down; the expansion may be getting long in the tooth

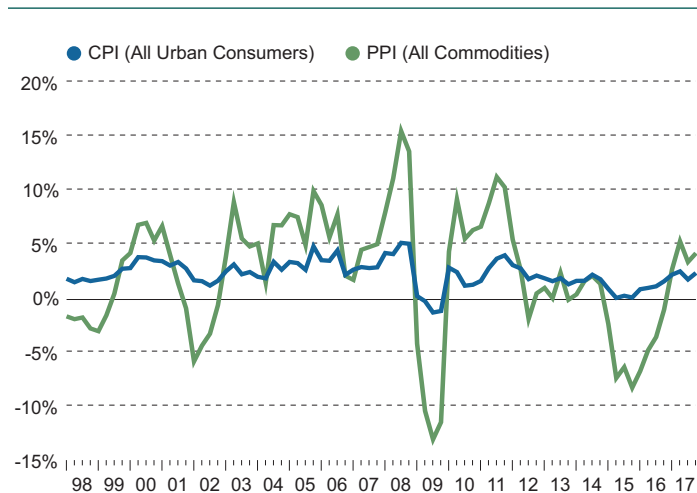
Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

after more than seven years, but the GDP gains since the GFC (2.2% per year) are substantially lower than those enjoyed in previous recoveries (above 3%). Consumers spent the first several years following the GFC deleveraging, whether voluntarily or involuntarily. Businesses have been persistently reluctant to invest in capital, except perhaps for equipment replacement and technology.

Consumer spending is finally leading GDP growth, fueled by tight labor markets, a long-awaited nudge upward in wages and salaries, and in a perhaps less sanguine development, a renewed interest in and ability to borrow. While mortgage debt is still more difficult to obtain than pre-GFC, consumer credit as a percentage of disposable income has regained its pre-GFC peak of 24% and then some, reaching past 26% in the third quarter of 2017. Business spending is also finally accelerating after years of fits and starts. The ISM Report on Business for September shows strength across almost all measures of manufacturing and non-manufacturing activity. The Purchasing Managers' Index came in at 58.8 in August and 60.8 in September, well above 50, the dividing line between expansion and contraction. The new orders, production, and employment indices are even stronger, and coupled with a sharp decline in inventories following the hurricanes, activity is poised to be even stronger in the fourth quarter.

The sustainability of the 2017 burst in growth will certainly fall under scrutiny. Hopes for near-term fiscal stimulus in the U.S. are diminished, and tight labor markets suggest limited potential for further growth from the existing set of labor and capital inputs available in the U.S. economy.

Outside the U.S., euro zone GDP for the second quarter was revised upwards to 2.3% from 1.7%, and preliminary data support continued improvement in the third quarter. The long-awaited response to the stimulus appears to have arrived. In China, annual growth increased by 6.9% in the second quarter, identical to the first quarter and slightly ahead of expectations. Initial data on industrial production and investment in fixed

### The Long-Term View

Index	2017 3rd Qtr	Periods ended Dec. 31, 2016			
		Year	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	4.57	12.74	14.67	7.07	9.29
S&P 500	4.48	11.96	14.66	6.95	9.15
Russell 2000	5.67	21.31	14.46	7.07	9.69
Non-U.S. Equity					
MSCI ACWI ex USA	6.16	4.50	5.00	0.96	–
MSCI Emerging Markets	7.89	11.19	1.28	1.84	–
MSCI ACWI ex USA Small Cap	6.90	3.91	7.74	2.89	–
Fixed Income					
Bloomberg Barclays Agg	0.85	2.65	2.23	4.34	5.63
90-Day T-Bill	0.26	0.33	0.12	0.80	2.71
Bloomberg Barclays Long G/C	1.53	6.67	4.07	6.85	7.58
Bloomberg Barclays GI Agg ex US	2.48	1.49	-1.39	2.44	4.73
Real Estate					
NCREIF Property	1.70	7.97	10.91	6.93	8.63
FTSE NAREIT Equity	0.94	8.52	12.01	5.08	11.13
Alternatives					
CS Hedge Fund	1.81	1.25	4.34	3.75	–
Cambridge PE*	--	9.26	12.77	9.40	15.39
Bloomberg Commodity	2.52	11.77	-8.95	-5.57	2.55
Gold Spot Price	3.42	8.63	-5.97	6.08	4.82
Inflation – CPI-U	0.76	2.07	1.36	1.81	2.26

\*Most recent quarterly data not available.

Sources: Bloomberg Barclays, Bloomberg, Credit Suisse, FTSE, MSCI, NCREIF, Russell Investment Group, Standard & Poor's, Thomson Reuters/Cambridge, Bureau of Economic Analysis.

assets released in July and August are consistent with a third quarter slowdown. Robust gains in developed non-U.S. and emerging equity markets are fueled by renewed optimism, or at least reduced skepticism, about growth prospects in many markets around the globe.

### Recent Quarterly Economic Indicators

	3Q17	2Q17	1Q17	4Q16	3Q16	2Q16	1Q16	4Q15
Employment Cost–Total Compensation Growth	2.5%	2.4%	2.4%	2.2%	2.3%	2.3%	1.9%	2.0%
Nonfarm Business–Productivity Growth	1.6%*	1.5%	0.1%	1.3%	2.5%	0.8%	-1.2%	-2.6%
GDP Growth	3.0%	3.1%	1.2%	1.8%	2.8%	2.2%	0.6%	0.5%
Manufacturing Capacity Utilization	75.2%	75.7%	75.4%	75.1%	74.9%	75.1%	75.4%	75.4%
Consumer Sentiment Index (1966=100)	95.1	96.4	97.2	93.2	90.3	92.4	91.5	91.3

\*Estimate.

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

# Managing Risk While Hunting for Returns

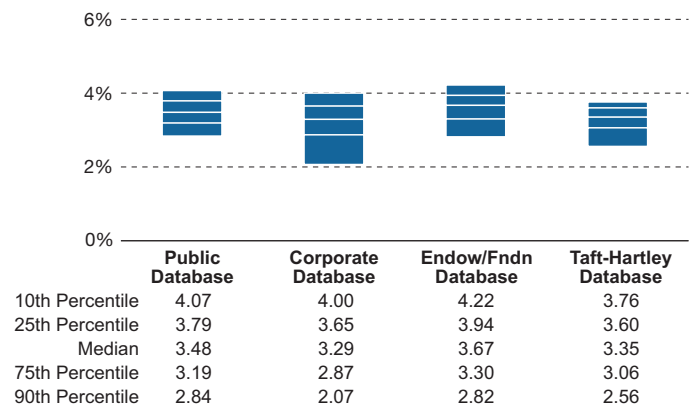
## FUND SPONSOR

Low interest rates and low return expectations continued to drive strategic allocation discussions for fund sponsors. Many felt compelled to take on market risk to reach return targets. Sponsors are now examining if there is anything they can do to tamp down the risk within their large growth allocation short of actually reducing it.

For instance, to offset risk in a crisis situation, plans have examined strategies including Treasury bond allocations, momentum, multi-asset class (MACs), and even gold.

These discussions, as we have noted before, turn diversification on its head: Investors are looking for investments with similar underlying return factors (in this case equity) while seeking at least some diversification to smooth the ride within that large growth allocation. A broader growth allocation can then consider investments like high yield, convertibles, low volatility equity, hedge funds, MACs, and option-based strategies. This approach also allows for new strategies to be brought into the fold, based on prospective diversification or return enhancement. The broadening of growth assets often leads

## Callan Fund Sponsor Returns for the Quarter

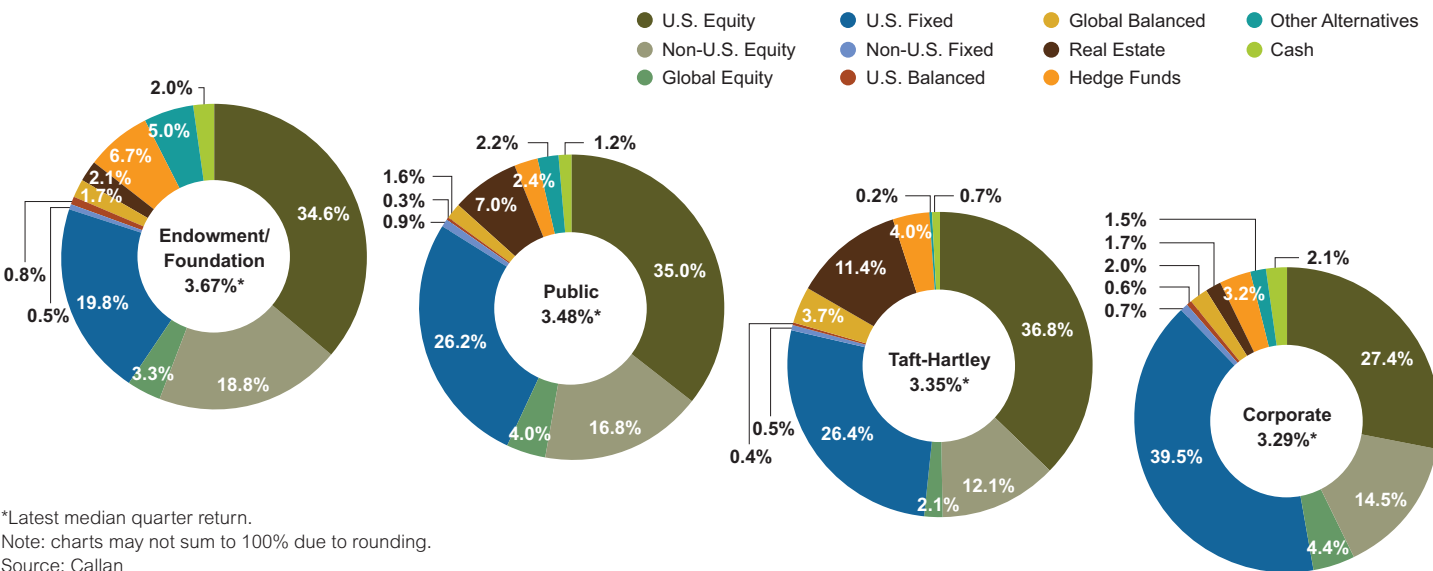


Source: Callan

to a sharper focus on refining fixed income exposure to gain a “purer” exposure to interest rates.

In addition, the active/passive discussion continues to loom large. The argument to retain active to protect in a down market and be nimble in a volatile, low-return environment is compelling, but plan sponsors are weary of historical

## Callan Fund Sponsor Average Asset Allocation



underperformance in actively managed equity. And tied to that discussion is the use of passive management to control costs.

For defined contribution (DC) plans, regulations, lawsuits, and implementation are driving factors for the decision-making process. Some of this conversation has led to negotiating a reduction of fees for the plans, in some cases to a significant extent. Heightened fee sensitivity and litigation have resulted in little traction for non-traditional asset classes such as liquid alternatives.

Target date funds (TDFs) dominate asset flows in DC plans; they now account for almost 30% of DC assets, according to the Callan DC Index™. TDFs have received an average of 71% of flows into DC plans over the last three years.

Over the last five years, Callan has seen several trends in asset allocation by different types of fund sponsors:

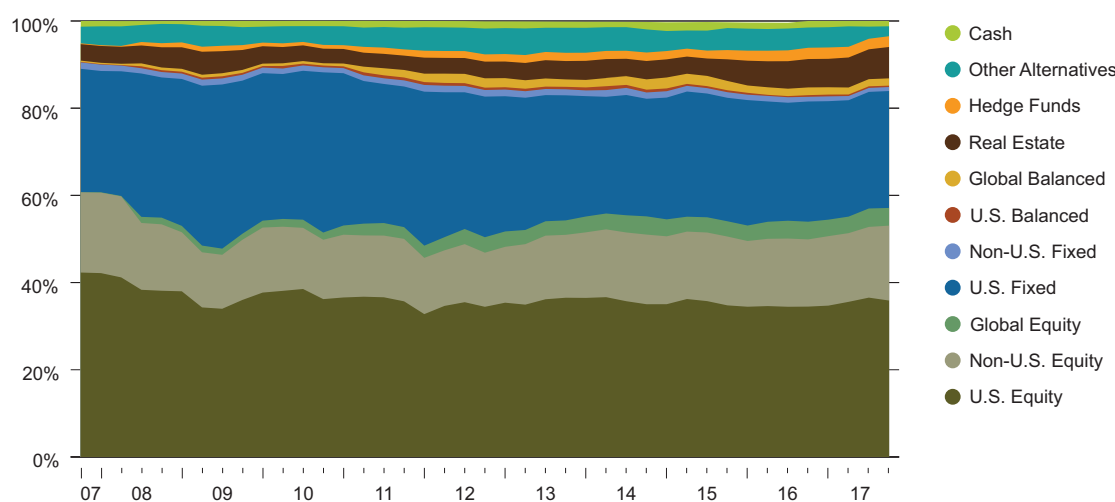
- Corporate funds: The range of U.S. fixed income allocations has widened, as these sponsors are in different stages of efforts to de-risk.

- Public funds: Many have increased their allocation to non-U.S. equity and real estate at the expense of fixed income. Capital market return expectations have created a difficult environment for total return investors.
- Endowments and foundations: They continue to move assets from fixed income to asset classes with expectations for higher returns. Global equity, non-U.S. equity, and real estate have all benefited from this shift.

The performance by fund sponsors continued to be robust. Over the one-year ending with the third quarter, only corporate sponsors did not exceed the 10.9% return of a quarterly rebalanced 60% S&P 500/40% Bloomberg Barclays Aggregate portfolio. Endowments and foundations performed best over that one-year period, while corporate plans did best over a 10-year period. Taft-Hartley plans were the best-performing group over the past three and five years, partially due to a larger home-country bias.

## Callan Public Fund Database Average Asset Allocation

(10 Years)



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



# Global Equity

## U.S. Stocks: The 'Everything Rally' Marched On

**+4.6%**

RUSSELL 3000

The Goldilocks environment ("Not too hot, not too cold, but just right") and investor complacency continued to keep volatility at multi-decade lows and propel stock markets to new highs, in spite of escalating tensions with North Korea, several severe natural disasters, and uncertainty around the prospects for tax reform and other U.S. domestic agenda items. The **S&P 500 Index**, **Russell 2000 Index**, and **Nasdaq Composite Index** all hit record highs on the final trading day of the quarter. It was the Nasdaq's 50th record close this year.

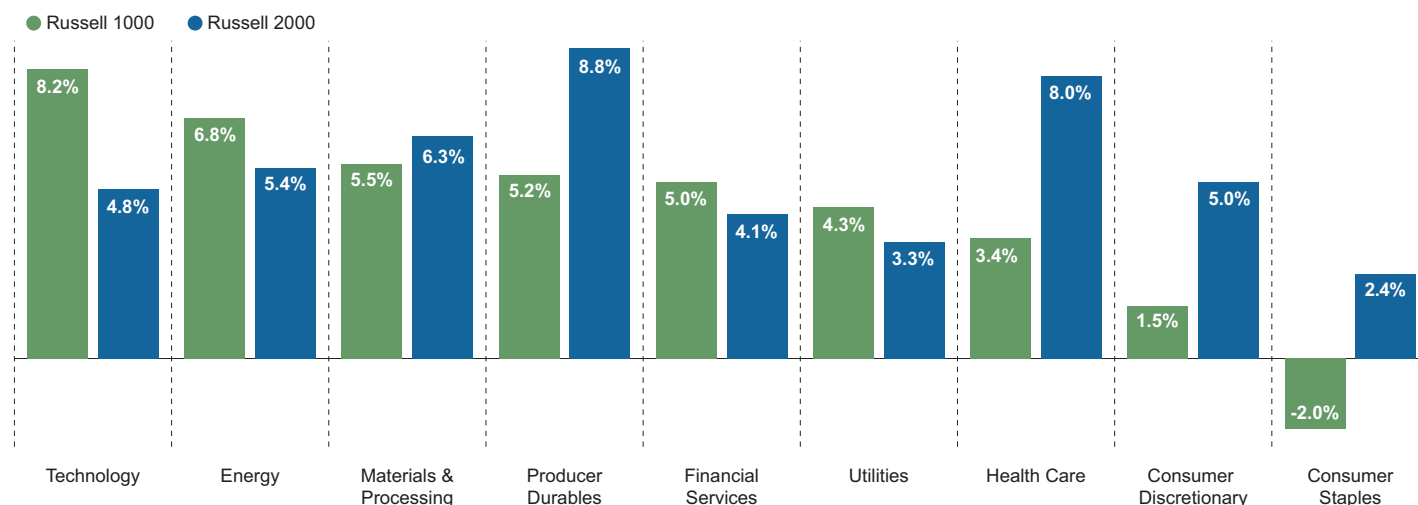
Stocks, bonds, and commodities alike rewarded investors in what's been coined the "everything rally," marked by its surprisingly low volatility. Even cash is up from its dismal 0% days and posted a +0.3% quarterly result. Investors' attention remained focused on the hopeful promise of tax reform along with the generally upbeat picture of the U.S. economy. But contrarians question where longer-term alpha can be found amid stretched equity valuations.

The Tech (+8.6%) and Energy (+6.8%) sectors led the S&P 500 (+4.5%). The globally dominant Tech names (the so-called "FAAMG" stocks, or Facebook, Amazon, Apple, Microsoft, and Google) continued to drive results in the sector, which now accounts for 23% of the S&P 500 and 38% of the **Russell 1000 Growth Index**. Tech alone has accounted for approximately 40% of the S&P 500's return year-to-date, with key drivers being strong earnings reports, increasing market share, and product innovation. Record-high valuations for several companies raised concern over their influence on the overall performance of the Index should a correction occur.

The Energy sector continued to see signs of incremental improvement during the quarter due to a backdrop of improving supply and demand. Consumer Staples (-1.3%) was the sole sector to deliver a negative result as momentum-oriented stocks and sectors garnered favor.

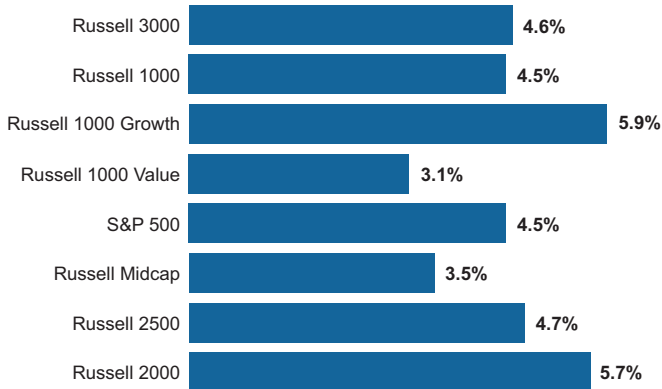
Small cap stocks outperformed large cap. In addition, growth outperformed value (Russell 1000 Growth: +5.9% vs. **Russell 1000 Value**: +3.1%; **Russell 2000 Growth**: +6.2% vs. **Russell 2000 Value**: +5.1%). Biotech (+14.5%) and a surge in small

## Quarterly Performance of Select Sectors



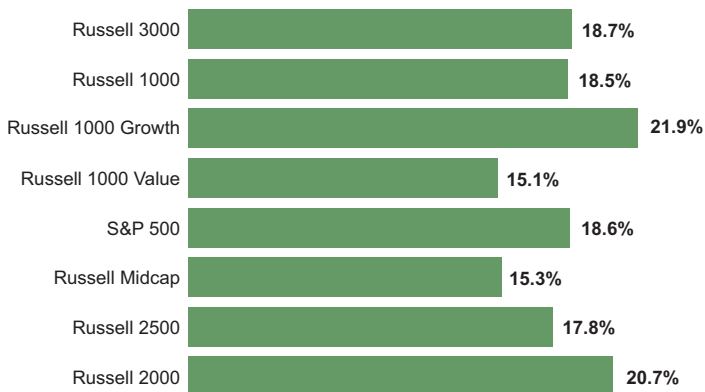
Source: Russell Investment Group

### U.S. Equity: Quarterly Returns



Sources: Russell Investment Group and Standard & Poor's

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



Sources: Russell Investment Group and Standard & Poor's

cap value on tax reform news in September bolstered small cap stocks during the quarter. Biotech benefited from the easing of pricing risks as well as the FDA's approval of genetics-based therapeutics.

From a factor perspective, momentum (+27.5% YTD) remained the top performer while defensive (+8.5% YTD) was

the laggard. Investor behavior has had a meaningful influence on results as investors tend to project their optimism across the broad market and chase momentum during periods of strength.

### Global Stocks: Stronger Outside the U.S.

**+6.2%**

MSCI ACWI **EX USA**

Non-U.S. developed economies continued to gain traction. Second quarter GDP growth in the euro zone was 2.3% (year-over-year) with consumer confidence and demand both showing strength. The euro gained ground versus the U.S. dollar and the pound continued to strengthen on hawkish comments from the Bank of England. Outside of Europe, Japan's economy continued to slowly recover; second quarter GDP growth was 2.5% (annualized). While this was lower than expected, the economy has now expanded for six consecutive quarters.

Non-U.S. developed equity (**MSCI World ex USA: +5.6%**) outperformed the U.S. for the third consecutive quarter as the European market (**MSCI Europe: +6.5%**) continued to post positive economic data and corporate earnings growth with some signs of political stability.

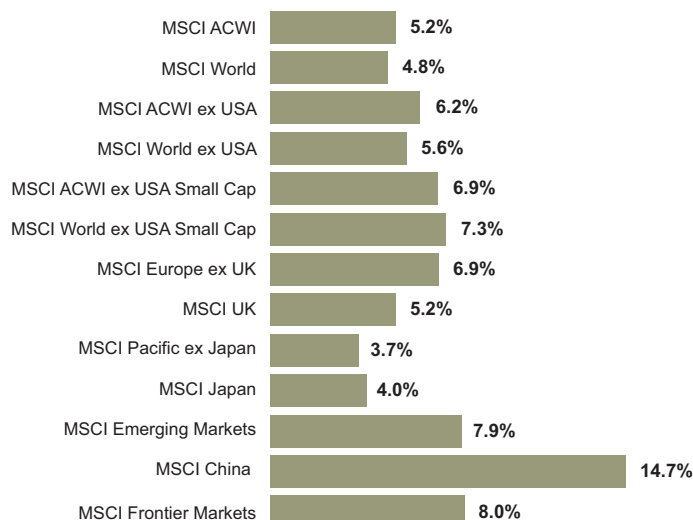
The dollar's losses against the euro stemmed from an upside surprise with European growth and market-friendly outcomes in European elections. Economically sensitive sectors outperformed defensive securities.

All sectors generated positive returns. Energy and Materials were the top two performers as a result of higher oil and commodity prices. WTI and Brent prices surged by 12% and 20%, respectively, driven by favorable supply and demand dynamics. Copper rallied 9% due to tightening supply and positive economic data from China.

Value outpaced growth as economically sensitive sectors posted strong quarterly results.

## Non-U.S. Equity: Quarterly Returns

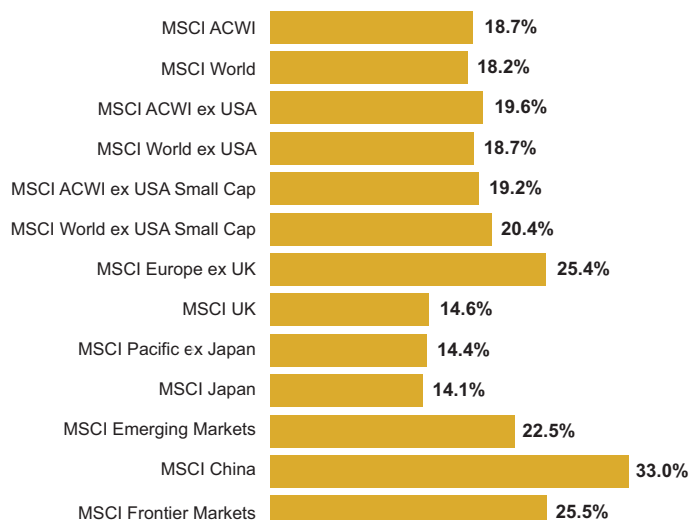
(U.S. Dollar)



Source: MSCI

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

(U.S. Dollar)



Source: MSCI

## Emerging Markets: Upbeat Signs Across the Board

**+7.9%**

MSCI EM

Emerging markets topped developed markets for the third consecutive quarter, fueled by a soft dollar, synchronized global growth, and strong

oil and commodity prices. Brazil was the best-performing country within emerging markets given the hope of achieving fiscal reforms to spur economic growth. China continued to fare well with GDP growth of 6.9% exceeding expectations; the Chinese Tech and Real Estate sectors were top performers.

All sectors within emerging markets posted positive returns, led by economically sensitive sectors such as Real Estate, Energy, Materials, and Financials.

Brazilian and Russian banks surged during the quarter, spurred by rising oil and commodity prices and improving lending conditions.

Despite a strong showing by value factors, growth and momentum dominated the market given the returns of large cap Asian tech companies, helped in part by the demand for mobility and connectivity.

## Non-U.S. Small Cap: Mixed Messages

**+6.9%**

MSCI ACWI ex USA SC

Developed non-U.S. small cap (**MSCI World ex USA Small Cap: +7.3%**) outperformed large cap in the risk-on market environment marked by

improving economic activity in Europe. The top three performing countries were Germany (+17.0%), Norway (+16.4%), and Italy (+13.5%). All sectors posted positive returns, led by Energy and Technology.

Small cap (**MSCI Emerging Markets Small Cap: +5.6%**) lagged large cap in emerging markets due to the strong performance of large cap Asian technology companies. The top three performing countries were Peru (+42.8%), Brazil (+31.8%), and Chile (+19.8%), all benefiting from higher oil and commodity prices.

Growth outperformed value in developed small cap, propelled by optimism surrounding European growth. Conversely, value outpaced growth in emerging market small cap, supported by positive oil and commodity prices.

# Global Fixed Income

## U.S. Bonds: Low Volatility Drove Returns

**+0.8%**

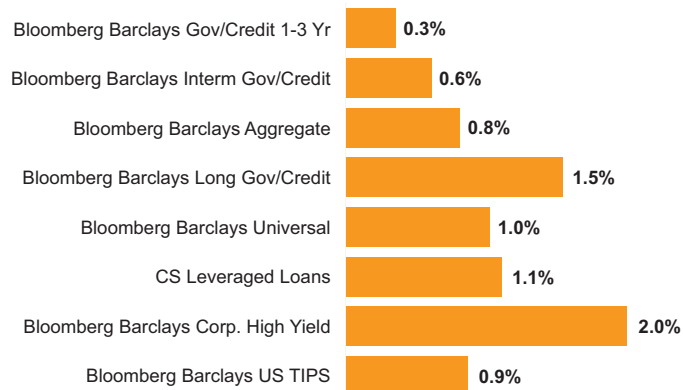
BB AGGREGATE

Yields rose modestly, particularly on the short end of the U.S. Treasury yield curve. The 10-year Treasury yield touched 2.00% during the quarter on geopolitical risks related to North Korea, but ended the quarter at 2.33%. Moderate growth and inflation kept long-term rates low and range-bound. Volatility in fixed income markets (as well as equities) sat at near historic lows; the overall risk appetite remained strong. And in general, lower-rated credits again outperformed investment grade.

The **Bloomberg Barclays U.S. Aggregate Bond Index** was up 0.8% in the quarter. The **Bloomberg Barclays U.S. Corporate Bond Index** rose 1.3%. High yield corporates fared even better, with the **Bloomberg Barclays U.S. Corporate High Yield Bond Index** up 2.0%. TIPS rebounded from their underperformance in the previous quarter.

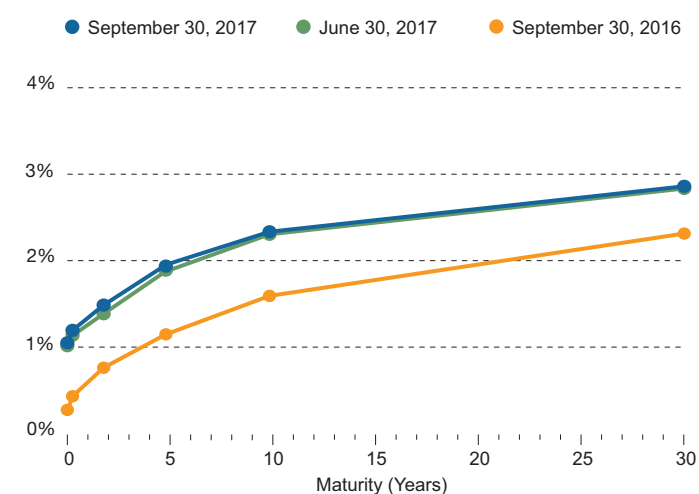
The **Bloomberg Barclays U.S. TIPS Index** rose 0.9% and the 10-year breakeven spread (the difference between nominal and real yields) rose to 1.84% as of quarter-end from 1.73% at the end of the second quarter.

## U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and Credit Suisse

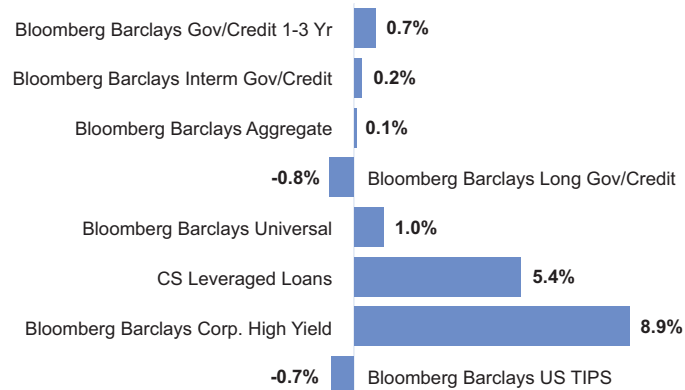
## U.S. Treasury Yield Curves



Source: Bloomberg

Corporate credit spreads tightened on strong demand and robust corporate earnings. Financials and Utilities were the leading sectors during the quarter. High yield credit continued to perform well, aided by the hunt for yield. The upward trend in earnings along with corporate discipline has led to the highest rating agency upgrade-downgrade ratio since 2013.

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



Sources: Bloomberg Barclays and Credit Suisse

## GLOBAL FIXED INCOME (Continued)

The municipal bond market also performed well; the **Bloomberg Barclays Municipal Bond Index** returned 1.1% for the quarter and the shorter duration 1-10 Year Blend Index was up 0.7%.

### Global Bonds: Many Reasons to Cheer

**+2.5%**

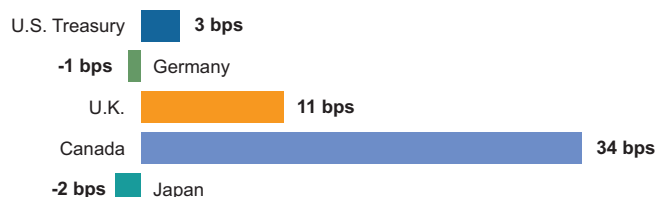
BB GBL AGG EX US

Rates were also steady overseas, though dollar weakness boosted returns. The **Bloomberg Barclays Global Aggregate Index** returned +1.8% (unhedged) versus +0.8% for the hedged version. Emerging market debt posted solid returns. The **JPM EMBI Global Diversified Index** (\$ denominated) was up 2.6%. Gains were broad-based with only beleaguered Venezuela (-11%) down. The local currency **JPM GBI-EM Global Diversified**

**Index** increased 3.6%. Returns were mixed for this index, with Brazil (+11%) being the best performer and Argentina's first-ever local bonds (-4%) being the worst on worries over the success of reforms.

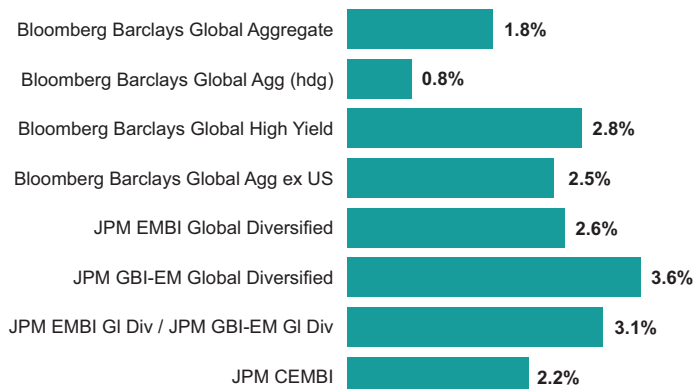
### Change in 10-year Global Government Bond Yields

2Q17 to 3Q17



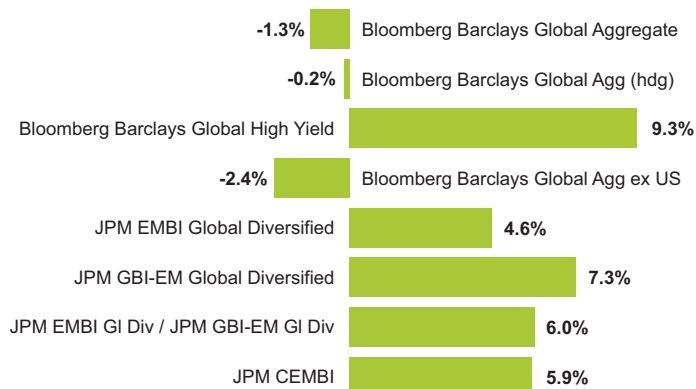
Source: Bloomberg Barclays

### Non-U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg Barclays and JP Morgan

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



Sources: Bloomberg Barclays and JP Morgan

# Europe Continues as Best-Performing Region

REAL ESTATE | Kevin Nagy

The **NCREIF Property Index** advanced 1.7% during the third quarter (1.1% from income and 0.6% from appreciation). This marked the 35th consecutive quarter of positive returns for the Index. Appreciation return resumed its decreasing trend after an increase during the second quarter.

Industrial (+3.3%) was the best-performing sector for the sixth consecutive quarter followed by Hotel (+2.3%), Multi-Family (+1.7%), and Office (+1.4%); Retail (+1.2%) was the worst performer.

The West was the strongest region for the fourth quarter in a row, increasing 2.2%, and the East brought up the rear with a +1.3% return.

Transaction volume increased to \$11.8 billion, up 53% from the second quarter and 22% from the third quarter of 2016. Appraisal capitalization rates fell 8 basis points to 4.39%. Transaction capitalization suffered a steeper decline, falling 83 bps to 5.26%. The spread between appraisal and transaction rates decreased to 87 bps.

Occupancy rates fell to 93.3%. Industrial and Retail occupancy rates increased slightly while Apartment and Office rates decreased.

The **NCREIF Open End Diversified Core Equity Index** rose 1.9% (1.1% from income and 0.8% from appreciation), a 17 bps increase from the second quarter. Appreciation return increased by 18 bps from the second quarter's seven-year low.

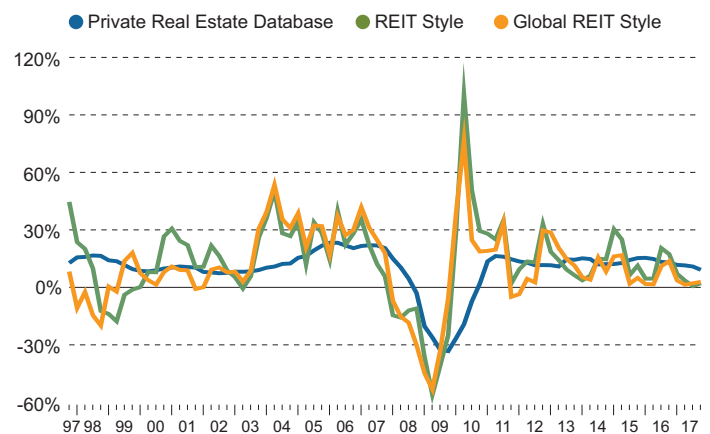
Global real estate investment trusts (REITs), tracked by the **FTSE EPRA/NAREIT Developed REIT Index** (USD), outperformed

U.S. REITs and posted a 1.8% return. U.S. REITs, as measured by the **FTSE NAREIT Equity REITs Index**, advanced 0.9% for the quarter.

In the U.S., REITs started the quarter with a strong July but then surrendered most of the gains with poor showings in August and September. Sectors experiencing strong secular demand, such as Industrial (+6.5%) and Data Centers (+5.2%), were the best performers as the continued rise of e-commerce and cloud storage provided ample tailwind. Hotels (+2.8%) and Self-Storage (+4.7%) also did well, buoyed by expectations of inflation and rising interest rates. Health Care (-5.4%) was the worst-performing sector.

Europe, as represented by the **FTSE EPRA/NAREIT Europe Index**, was again the strongest-performing region, rising 4.8% in U.S. dollar terms. Strong, diversified growth across the majority of the region's economies was the main driver of positive returns. The region largely shrugged off destabilizing political events such as the Catalan independence referendum.

## Rolling One-Year Returns



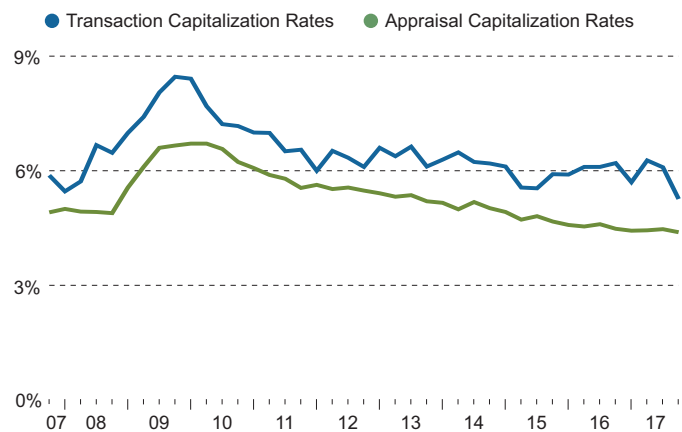
Source: Callan

REAL ESTATE (Continued)

For the second quarter in a row, the Asia-Pacific region outperformed the U.S. but underperformed Europe. Hong Kong

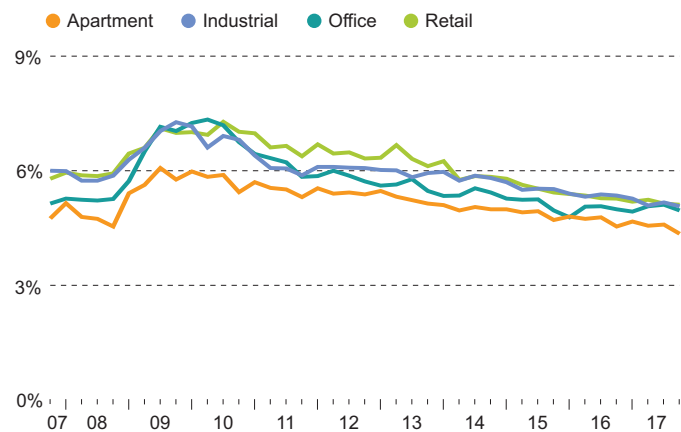
provided the best regional performance while Japan lagged behind, hurt by a strengthening yen.

NCREIF Transaction and Appraisal Capitalization Rates



Source: NCREIF  
Note: Transaction capitalization rate is equal weighted.

NCREIF Capitalization Rates by Property Type



Source: NCREIF  
Note: Capitalization rates are appraisal-based.

# Low Volatility + Rising Markets = Strong Liquidity

## PRIVATE EQUITY | Gary Robertson

Third quarter private equity partnership commitments totaled \$84.0 billion, with 210 new partnerships formed, according to *Private Equity Analyst*. The number of funds raised decreased 34% from 319 in the second quarter, but the dollar volume dipped only 2% from \$85.0 billion. Apollo IX is the largest fund raised so far in 2017, holding a \$24.6 billion final close in the third quarter—and it is the largest buyout fund ever raised.

Investments by buyout funds into companies totaled 446 deals, down 12% from 504 in the prior quarter, according to *Buyouts* newsletter. The announced total volume was \$51 billion, up 6% from \$48 billion in the second quarter. The quarter's largest deal was the \$7.5 billion take-private of Panera Bread by JAB, a family-owned holding company. Sixteen deals with announced values of \$1 billion or more closed in the quarter.

New investments in venture capital companies totaled 1,706 rounds of financing with \$21.5 billion of announced value, according to the National Venture Capital Association (NVCA). The number of rounds declined 21% from the 2,164 in the second quarter, and announced dollar value decreased 6% from \$22.9 billion.

*Buyouts* reported that there were 446 private M&A exits of buyout-backed companies, with 43 deals disclosing values totaling

### Funds Closed January 1 to September 30, 2017

Strategy	No. of Funds	Amt (\$mm)	Percent
Venture Capital	382	29,109	12%
Buyouts	272	167,111	67%
Subordinated Debt	52	22,627	9%
Distressed Debt	17	9,601	4%
Secondary and Other	31	9,869	4%
Fund-of-funds	85	11,122	4%
<b>Totals</b>	<b>839</b>	<b>249,439</b>	<b>100%</b>

Source: Private Equity Analyst  
Figures may not total due to rounding.

\$50.8 billion. The M&A exits were down 12% from the prior quarter's 504, but the announced value increased 6% from \$48.1 billion. Buyout-backed IPOs in the third quarter fell to only one raising \$43 million, a sharp decrease compared to last quarter's seven IPOs (a two-year high), raising an aggregate \$2.0 billion.

Venture-backed exits (both private sales and IPOs) totaled 182 transactions, and disclosed value totaled \$11.2 billion. The number of exits rose 2% from the second quarter's 179, and the announced dollar volume increased 9% from \$10.3 billion.

Please see our upcoming issue of *Private Markets Trends* for more in-depth coverage.

### Private Equity Performance Database (%) (Pooled Horizon IRRs through June 30, 2017\*)

Strategy	3 Months	Year	3 Years	5 Years	10 Years	15 Years	20 Years
All Venture	2.01	8.79	11.89	14.74	9.37	8.32	19.63
Growth Equity	3.69	14.51	9.51	12.74	9.94	11.84	13.20
All Buyouts	6.51	18.69	10.43	14.36	8.71	13.86	12.55
Mezzanine	4.00	11.72	8.63	9.91	8.73	9.47	8.79
Distressed	4.30	17.77	8.19	11.95	9.15	11.29	11.36
<b>All Private Equity</b>	<b>4.96</b>	<b>15.79</b>	<b>10.35</b>	<b>13.94</b>	<b>8.98</b>	<b>12.19</b>	<b>13.15</b>
S&P 500	3.09	17.90	9.61	14.63	7.18	8.35	7.15
Russell 3000	3.02	18.51	9.10	14.58	7.26	8.66	7.44

Private equity returns are net of fees.

Sources: Standard & Poor's and Thomson Reuters/Cambridge

\*Most recent data available at time of publication.

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



# Kickin' It with Risk

## HEDGE FUNDS | Jim McKee

Discarding worries of stubbornly slow global economic growth and other distractions, markets focused on positive economic news and hopes of U.S. tax reform this quarter, suggesting rising stock prices ahead. Volatility as a measure of perceived market risk reached cyclical lows across the major markets. Amid this risk-on environment, hedge funds got some traction. Illustrating raw hedge fund performance without implementation costs, the asset-weighted **Credit Suisse Hedge Fund Index** (CS HFI) rose 1.8%. As a proxy for live hedge fund portfolios, the median manager in the **Callan Hedge Fund-of-Funds Database** advanced 2.0%, net of all fees and expenses.

Within CS HFI, the best-performing strategy was *Emerging Markets* (+5.6%), where embedded market beta explained some but not all of the gains. Other strategies performing particularly well were *Equity Market Neutral* (+4.4%) and *Long/Short Equity* (+3.0%); both benefited from an improved stock-picking environment. *Managed Futures* (+1.3%) and *Global Macro* (+1.8%) benefited modestly from top-down trends and discretionary calls, particularly in the equity markets.

Within Callan's Hedge Fund-of-Funds Database, market exposures meaningfully affected performance in the quarter. Supported by the equity rally, the median *Callan Long/Short Equity FOF* (+3.1%) handily beat the *Callan Absolute Return FOF* (+1.8%). With exposures to both non-directional and directional styles, the *Core Diversified FOF* advanced 1.9%.

### Callan Style Group Quarterly Returns



Sources: Callan and Merrill Lynch

### Callan Database Median and Index Returns\* for Periods ended September 30, 2017

	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
<b>Hedge Fund-of-Funds Database</b>	<b>2.02</b>	<b>5.47</b>	<b>7.26</b>	<b>2.87</b>	<b>4.97</b>	<b>3.11</b>	<b>5.16</b>
CS Hedge Fund Index	1.81	4.70	5.91	1.96	4.16	3.24	6.00
CS Equity Market Neutral	4.38	7.00	4.16	1.37	2.48	-2.89	0.55
CS Convertible Arbitrage	1.61	4.10	4.54	2.76	3.51	3.61	4.76
CS Fixed Income Arbitrage	0.22	4.20	6.12	3.02	3.86	3.57	4.04
CS Multi-Strategy	1.38	6.56	7.80	5.33	6.97	5.01	7.06
CS Distressed	1.56	5.52	9.29	1.27	5.47	3.70	7.68
CS Risk Arbitrage	1.66	5.70	6.52	3.37	3.44	3.10	4.38
CS Event-Driven Multi-Strategy	0.58	4.27	6.12	-1.19	3.47	2.73	6.49
CS Long/Short Equity	2.99	9.81	9.59	3.94	6.86	3.91	6.88
CS Global Macro	1.83	0.26	4.86	1.48	2.53	4.58	7.31
CS Managed Futures	1.32	-3.12	-8.59	-0.17	0.00	2.09	3.25
CS Emerging Markets	5.58	13.02	12.72	5.88	6.21	3.53	8.63

\*Returns less than one year are not annualized. Sources: Callan and Credit Suisse.

# DC Index Closes Strongest First Half in Its History

DEFINED CONTRIBUTION | Tom Szkwarla

The Callan DC Index™ rose a healthy 3.1% during the second quarter, reflecting strong equity market performance, and is now up 7.9% year-to-date—its best first-half performance since its 2006 inception. Still, the Index trailed the typical Age 45 Target Date Fund (TDF), which gained 3.7% in the second quarter and 9.4% in the first half. TDFs have benefited from higher exposures to non-U.S. equity and emerging markets, which are both up sharply year to date, than the typical DC participant.

Since the Index's inception in 2006, the average TDF has outperformed DC plans by 76 basis points annually. Due to their heavier equity exposure, TDFs have tended to outperform in strong markets and underperform in weak markets.

For the quarter, plan balances rose 3.19%, almost entirely due to return growth (3.06%) rather than inflows (plan sponsor and participant contributions), which contributed just 0.13%.

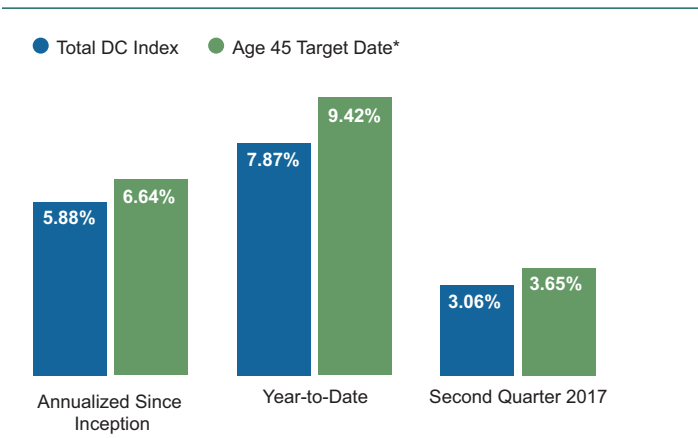
The proportion of net flows into non-U.S. equities during the quarter was the highest since late 2007. Money primarily flowed out of stable value, U.S. small/mid cap equity, and company stock. As usual, TDFs attracted the lion's share of net flows, with 69 cents of every dollar of flows moving into these funds.

Index turnover (i.e., net transfer activity levels within DC plans) came in at 0.43% in the quarter compared to average historical quarterly turnover levels of 0.63%.

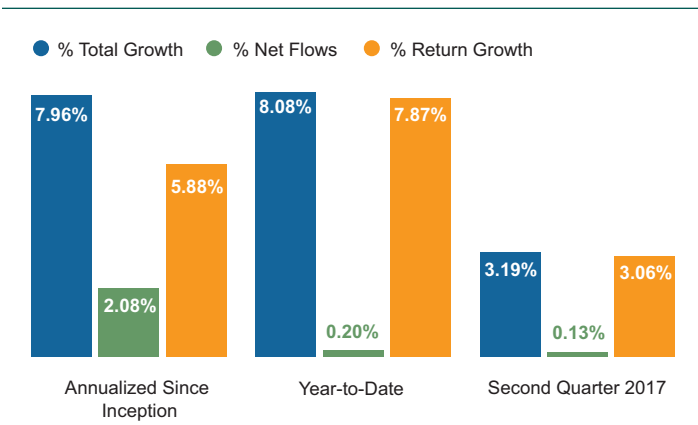
The Callan DC Index's overall equity allocation edged up from last quarter to nearly 70%, slightly above the Index's historical average of 67%. Still, the Index has yet to achieve its pre-Global Financial Crisis equity allocation peak of 73% (fourth quarter of 2007).

*The Callan DC Index is an equally weighted index tracking the cash flows and performance of nearly 90 plans, representing more than one million DC participants and over \$135 billion in assets. The Index is updated quarterly and is available on Callan's website, as is the quarterly DC Observer newsletter.*

## Investment Performance



## Growth Sources



## Net Cash Flow Analysis (Second Quarter 2017) (Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	69.47%
Emerging Market Equity	1.94%
U.S. Small/Mid Cap	-28.57%
Stable Value	-31.80%
Total Turnover**	0.43%

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

Source: Callan DC Index

Note: DC Index inception date is January 2006.

\* The Age 45 Fund transitioned from the average 2030 TDF to the 2035 TDF in June 2013.

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



## Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of September 30, 2017, with the distribution as of June 30, 2017. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

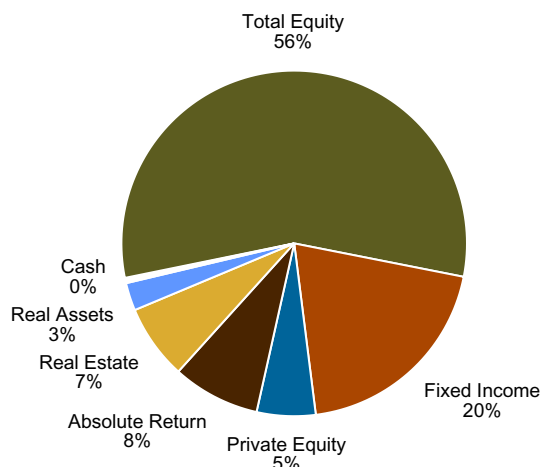
### Asset Distribution Across Investment Managers

	September 30, 2017				June 30, 2017	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
<b>Total Domestic Equity</b>	<b>\$1,349,391,643</b>	<b>25.69%</b>	<b>\$(17,000,000)</b>	<b>\$61,377,202</b>	<b>\$1,305,014,440</b>	<b>25.38%</b>
BlackRock Russell 1000 Value	168,283,395	3.20%	0	5,099,967	163,183,427	3.17%
Northern Trust Global	534,758,087	10.18%	0	22,954,481	511,803,607	9.95%
Polen Capital Management	176,519,862	3.36%	(10,000,000)	7,202,448	179,317,414	3.49%
Earnest Partners LLC	135,098,794	2.57%	(7,000,000)	5,979,795	136,118,999	2.65%
Dimensional Fund Advisors Inc.	222,342,191	4.23%	0	13,141,280	209,200,911	4.07%
CastleArk Management	112,389,313	2.14%	0	6,999,230	105,390,082	2.05%
<b>Total Global Equity</b>	<b>\$539,701,325</b>	<b>10.27%</b>	<b>\$(34,000,000)</b>	<b>\$29,294,746</b>	<b>\$544,406,579</b>	<b>10.59%</b>
BlackRock Global Alpha Tilts	327,693,394	6.24%	(18,000,000)	18,816,828	326,876,566	6.36%
MFS Investment Management	212,007,931	4.04%	(16,000,000)	10,477,918	217,530,013	4.23%
<b>Total International Equity</b>	<b>\$1,069,540,315</b>	<b>20.36%</b>	<b>\$(57,000,000)</b>	<b>\$70,999,740</b>	<b>\$1,055,540,575</b>	<b>20.53%</b>
AQR Emerging Markets	110,592,347	2.11%	(12,000,000)	8,499,851	114,092,496	2.22%
Brandes Investment Partners	426,930,130	8.13%	(8,000,000)	20,446,377	414,483,753	8.06%
William Blair & Company	317,287,030	6.04%	(18,000,000)	26,103,202	309,183,828	6.01%
Dimensional Fund Advisors Inc.	214,730,807	4.09%	(19,000,000)	15,950,310	217,780,498	4.24%
<b>Total Fixed Income</b>	<b>\$1,045,671,837</b>	<b>19.91%</b>	<b>\$0</b>	<b>\$12,487,213</b>	<b>\$1,033,184,625</b>	<b>20.09%</b>
BlackRock US Debt Idx Fd	369,478,368	7.03%	0	3,240,260	366,238,108	7.12%
Reams Asset Management	316,584,435	6.03%	0	3,169,420	313,415,015	6.10%
Loomis, Sayles & Company, L.P.	359,609,034	6.85%	0	6,077,533	353,531,501	6.88%
<b>Total Private Equity</b>	<b>\$288,538,500</b>	<b>5.49%</b>	<b>\$3,213,854</b>	<b>\$13,467,830</b>	<b>\$271,856,816</b>	<b>5.29%</b>
Abbott Capital Management 2010	29,234,047	0.56%	(175,044)	1,776,887	27,632,204	0.54%
Abbott Capital Management 2011	47,269,533	0.90%	1,649,972	2,651,344	42,968,217	0.84%
Abbott Capital Management 2012	28,660,717	0.55%	1,400,000	1,304,403	25,956,314	0.50%
Abbott Capital Management 2013	23,338,943	0.44%	1,400,000	1,155,742	20,783,201	0.40%
Abbott Capital Management 2014	20,354,015	0.39%	2,100,000	604,306	17,649,709	0.34%
Abbott Capital Management 2015	7,481,405	0.14%	906,250	121,288	6,453,867	0.13%
Abbott Capital Management 2016	2,362,711	0.04%	902,500	35,172	1,425,039	0.03%
Mesirow V	64,206,678	1.22%	(5,626,122)	2,535,131	67,297,669	1.31%
Mesirow VI	32,813,687	0.62%	2,700,000	1,155,692	28,957,995	0.56%
Mesirow VII	291,360	0.01%	0	(104,640)	396,000	0.01%
NB Secondary Opp Fund III	18,730,974	0.36%	11,109	1,253,412	17,466,453	0.34%
NB Secondary Opp Fund IV	705,309	0.01%	0	205,309	500,000	0.01%
Private Advisors VI	11,231,856	0.21%	(417,785)	622,793	11,026,848	0.21%
Private Advisors VII	1,857,265	0.04%	(1,637,025)	150,991	3,343,299	0.07%
<b>Absolute Return</b>	<b>\$432,980,283</b>	<b>8.24%</b>	<b>\$23,000,000</b>	<b>\$4,109,356</b>	<b>\$405,870,927</b>	<b>7.89%</b>
Allianz SA 1000	116,105,797	2.21%	0	1,757,994	114,347,803	2.22%
Newton	115,691,988	2.20%	23,000,000	122,853	92,569,135	1.80%
UBS A & Q	201,182,498	3.83%	0	2,228,508	198,953,989	3.87%
<b>Real Assets</b>	<b>\$135,850,881</b>	<b>2.59%</b>	<b>\$20,000,000</b>	<b>\$3,772,612</b>	<b>\$112,078,269</b>	<b>2.18%</b>
Principal DRA	135,850,881	2.59%	20,000,000	3,772,612	112,078,269	2.18%
<b>Total Real Estate</b>	<b>\$368,224,779</b>	<b>7.01%</b>	<b>\$(28,234,085)</b>	<b>\$7,362,471</b>	<b>\$389,096,394</b>	<b>7.57%</b>
Real Estate	368,224,779	7.01%	(28,234,085)	7,362,471	389,096,394	7.57%
<b>Total Cash</b>	<b>\$23,179,551</b>	<b>0.44%</b>	<b>\$(1,541,706)</b>	<b>\$119,719</b>	<b>\$24,601,538</b>	<b>0.48%</b>
Cash	23,179,551	0.44%	(1,541,706)	119,719	24,601,538	0.48%
<b>Total Fund</b>	<b>\$5,253,079,114</b>	<b>100.0%</b>	<b>\$(91,561,937)</b>	<b>\$202,990,888</b>	<b>\$5,141,650,162</b>	<b>100.0%</b>

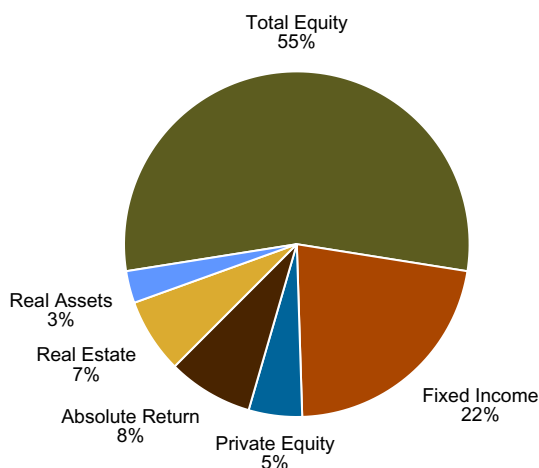
## Actual vs Target Asset Allocation As of September 30, 2017

The first chart below shows the Fund's asset allocation as of September 30, 2017. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement. The last chart shows the average asset allocation for the Callan Public Fund Sponsor - Large Datab.

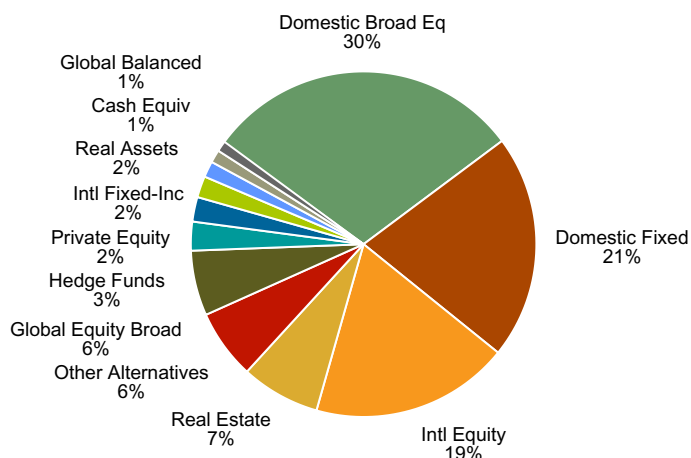
**Actual Asset Allocation**



**Target Asset Allocation**



**Callan Public Fund Sponsor - Large Datab**



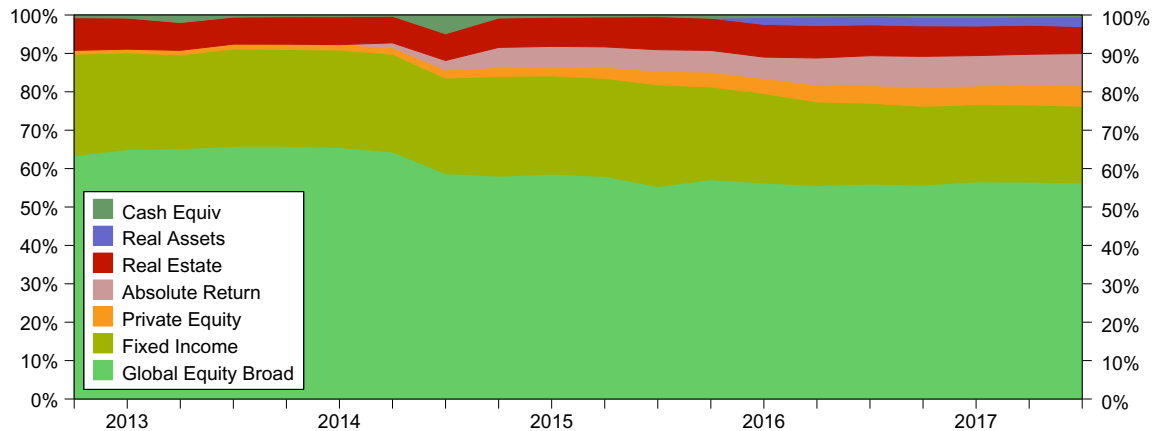
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Total Equity	2,958,633	56.3%	55.0%	1.3%	69,440
Fixed Income	1,045,672	19.9%	22.0%	(2.1%)	(110,006)
Private Equity	288,539	5.5%	5.0%	0.5%	25,885
Absolute Return	432,980	8.2%	8.0%	0.2%	12,734
Real Estate	368,225	7.0%	7.0%	0.0%	509
Real Assets	135,851	2.6%	3.0%	(0.4%)	(21,741)
Cash	23,180	0.4%	0.0%	0.4%	23,180
Total	5,253,079	100.0%	100.0%		

\* Current Quarter Target = 55.0% MSCI ACWI IMI, 22.0% Blmbg Aggregate, 8.0% 3-month Treasury Bill+3.0%, 7.0% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.0% Principal Blended Benchmark.

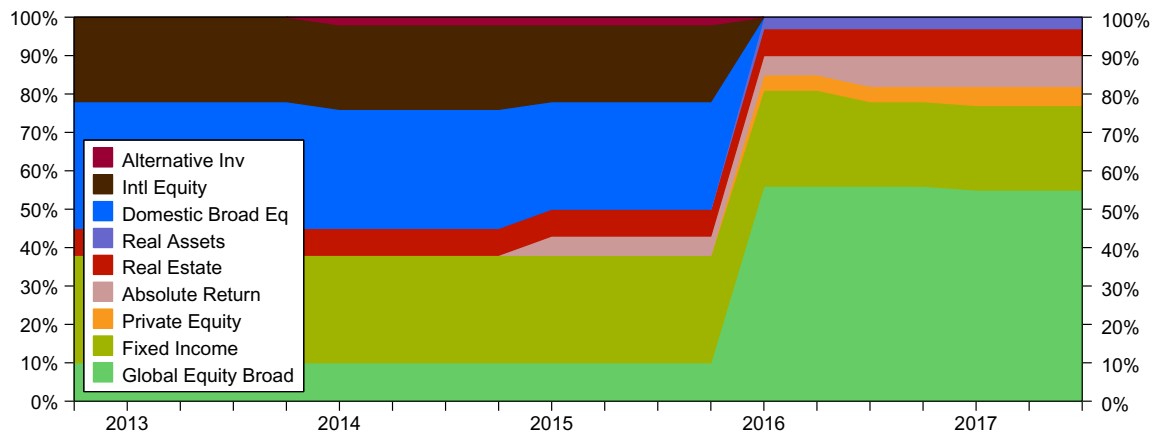
## Actual vs Target Historical Asset Allocation

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

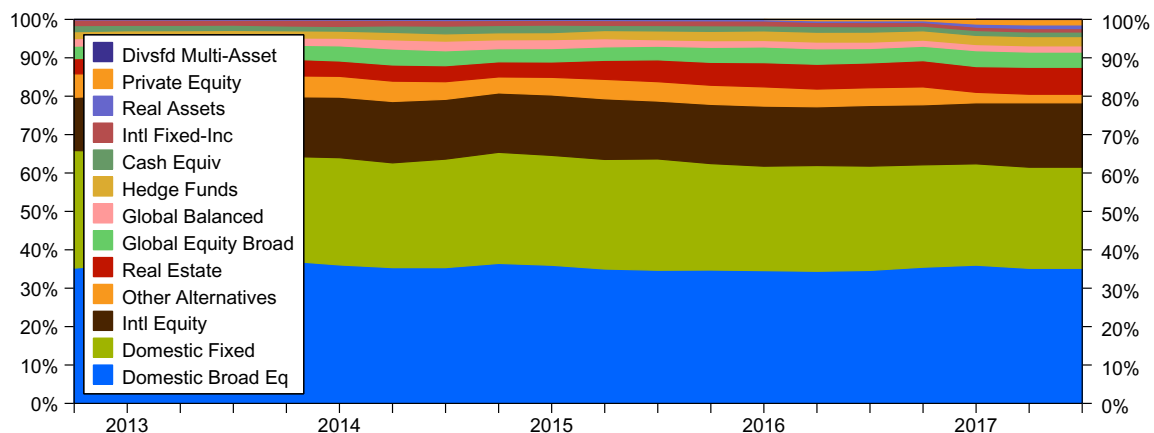
### Actual Historical Asset Allocation



### Target Historical Asset Allocation



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



\* Current Quarter Target = 55.0% MSCI ACWI IMI, 22.0% Blmbg Aggregate, 8.0% 3-month Treasury Bill+3.0%, 7.0% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.0% Principal Blended Benchmark.

## Total Fund Period Ended September 30, 2017

### Investment Philosophy

The Public Fund Sponsor Database consists of public employee pension total funds including both Callan Associates client and surveyed non-client funds. Current Quarter Target = 55.0% MSCI ACWI IMI, 22.0% BB Barclays Aggregate Idx, 8.0% 3-month Treasury Bill+3.0%, 7.0% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.0% Principal Blended Benchmark.

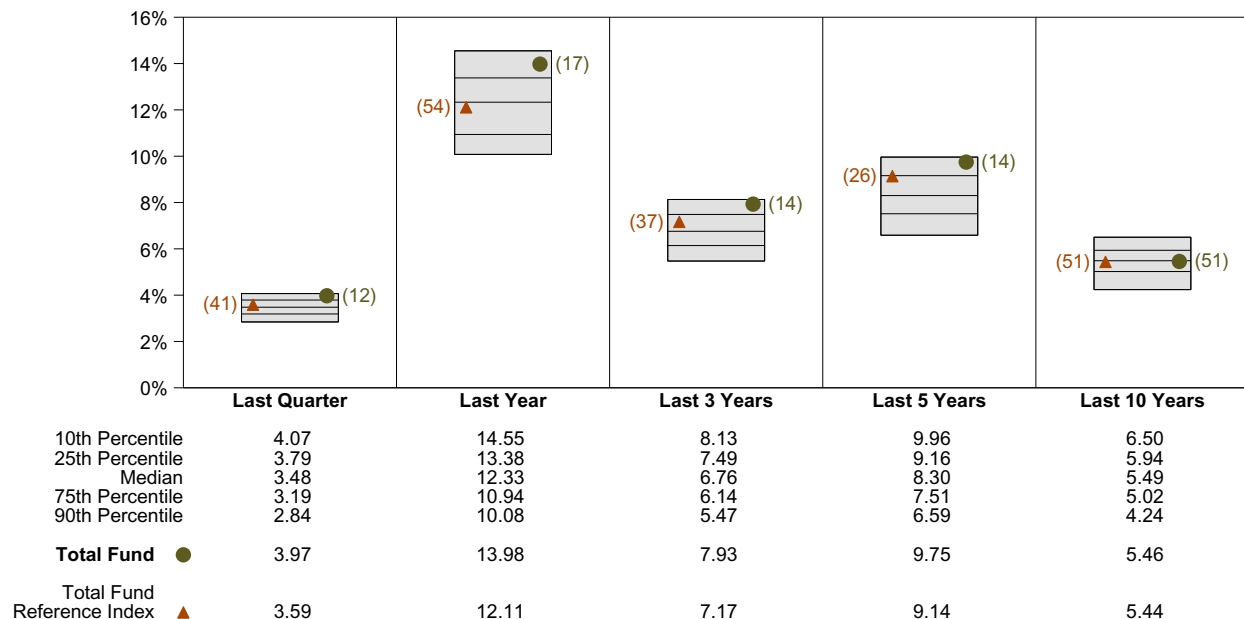
### Quarterly Summary and Highlights

- Total Fund's portfolio posted a 3.97% return for the quarter placing it in the 12 percentile of the Callan Public Fund Sponsor Database group for the quarter and in the 17 percentile for the last year.
- Total Fund's portfolio outperformed the Total Fund Reference Index by 0.39% for the quarter and outperformed the Total Fund Reference Index for the year by 1.86%.

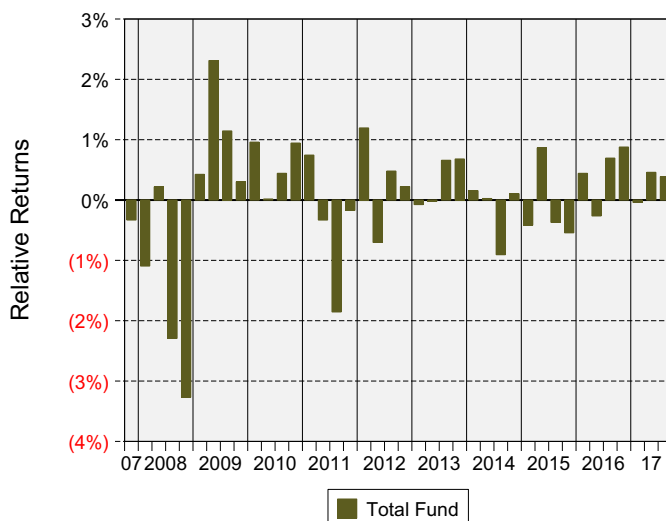
### Quarterly Asset Growth

Beginning Market Value	\$5,141,650,162
Net New Investment	\$-91,561,937
Investment Gains/(Losses)	\$202,990,888
Ending Market Value	\$5,253,079,114

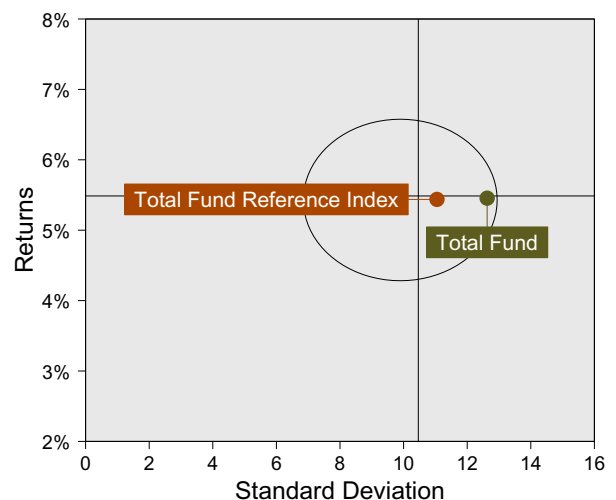
### Performance vs Callan Public Fund Sponsor Database (Gross)



### Relative Return vs Total Fund Reference Index



### Callan Public Fund Sponsor Database (Gross) Annualized Ten Year Risk vs Return

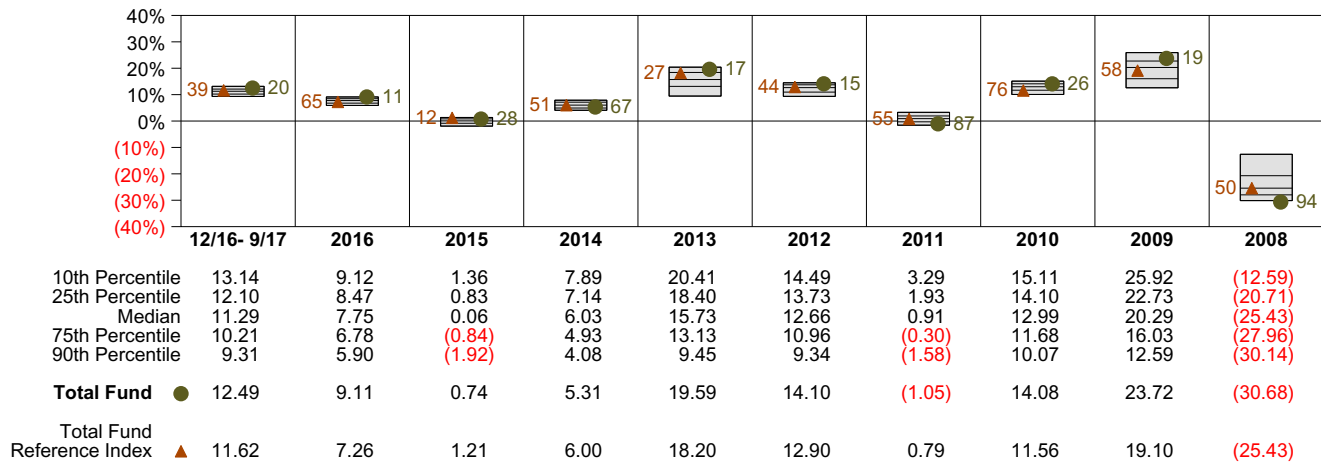


## Total Fund Return Analysis Summary

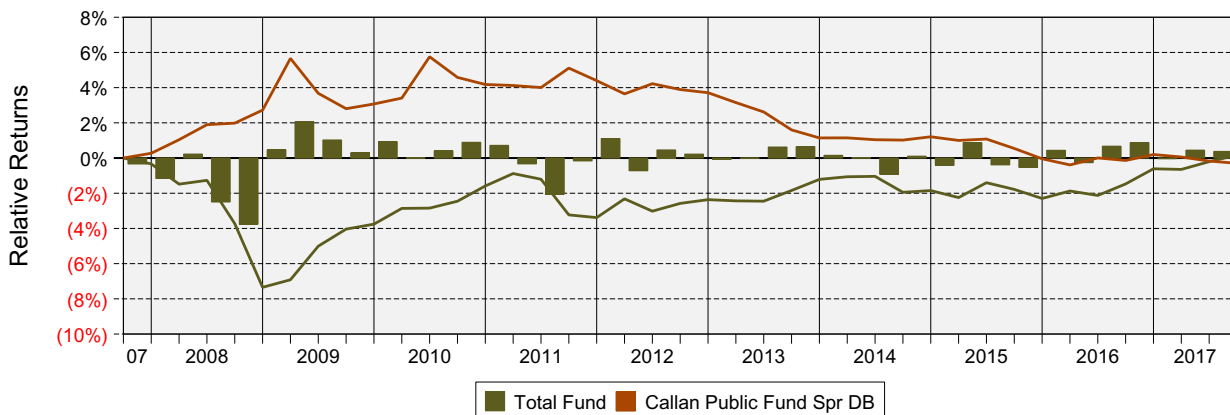
### Return Analysis

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

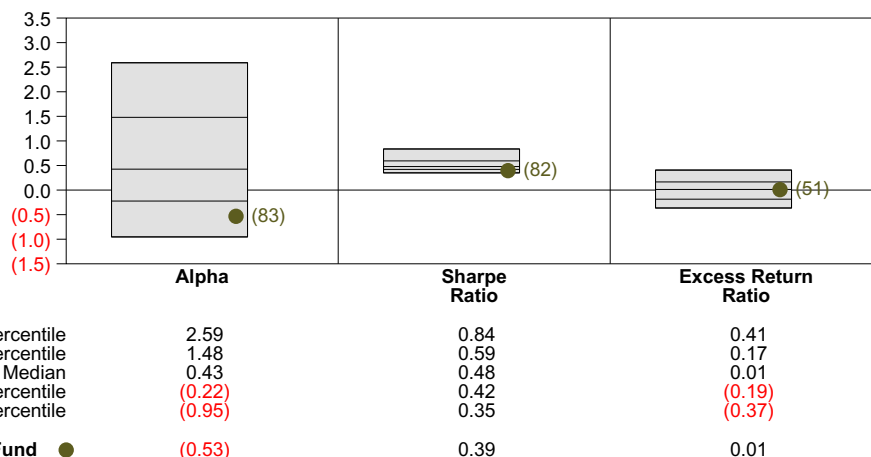
### Performance vs Callan Public Fund Sponsor Database (Gross)



### Cumulative and Quarterly Relative Return vs Total Fund Reference Index



### Risk Adjusted Return Measures vs Total Fund Reference Index Rankings Against Callan Public Fund Sponsor Database (Gross) Ten Years Ended September 30, 2017





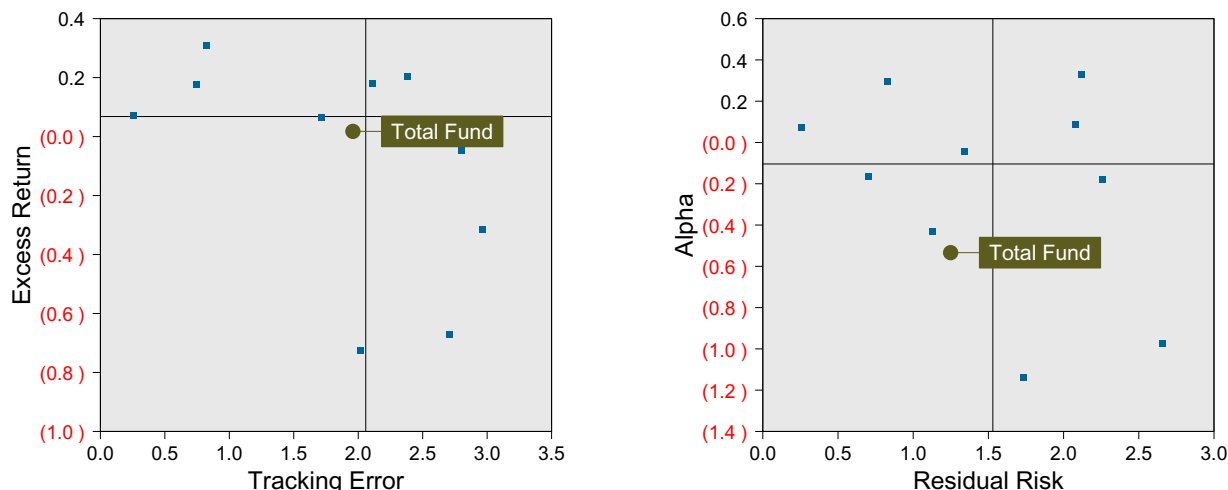
## Total Fund

### Total Fund vs Target Risk Analysis

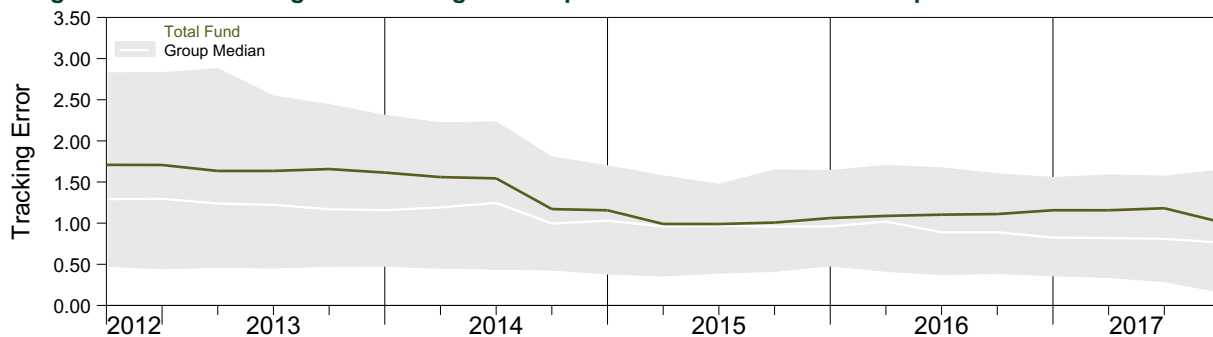
#### Risk Analysis

The graphs below analyze the performance and risk of the fund relative to the appropriate target mix. This relative performance is compared to a peer group of funds wherein each member fund is measured against its own target mix. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the target. The second scatter chart displays the relationship, sometimes called Information Ratio, between alpha (market-risk or "beta" adjusted return) and residual risk (non-market or "unsystematic" risk). The third chart shows tracking error patterns over time compared to the range of tracking error patterns for the peer group. The last two charts show the ranking of the fund's risk statistics versus the peer group.

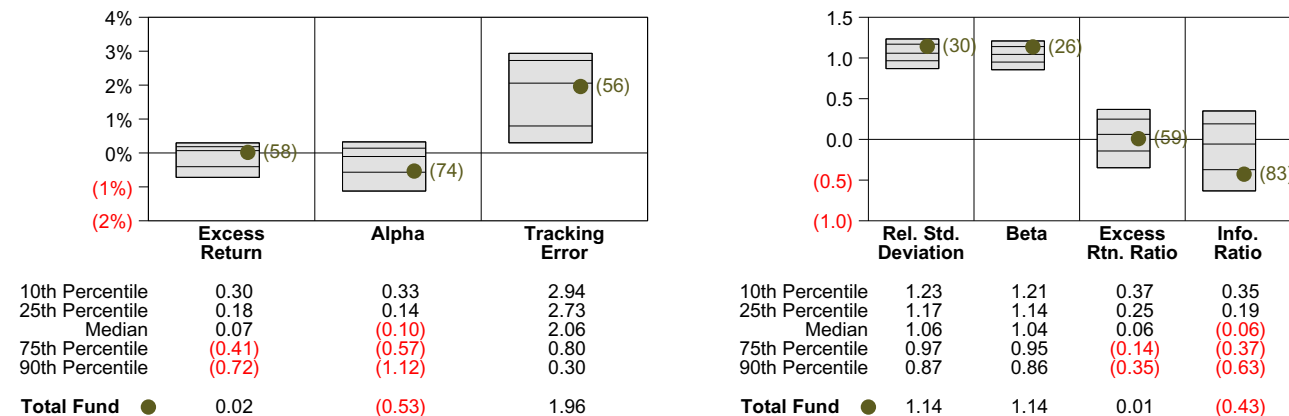
#### Risk Analysis vs Callan Public Fund Sponsor Database Ten Years Ended September 30, 2017



#### Rolling 12 Quarter Tracking Error vs Targets Compared to Callan Public Fund Sponsor Database



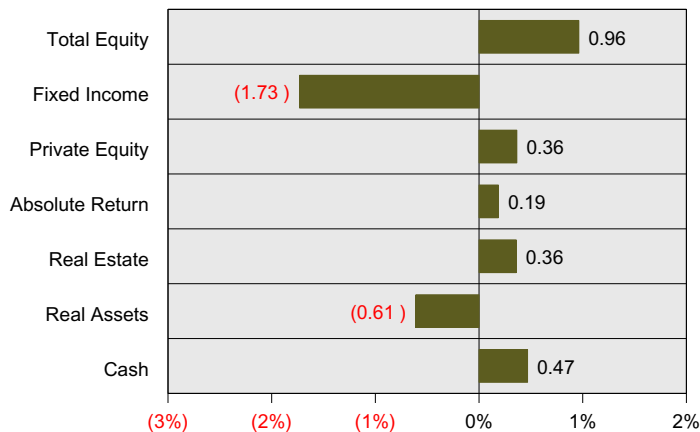
#### Risk Statistics Rankings vs Targets Rankings Against Callan Public Fund Sponsor Database Ten Years Ended September 30, 2017



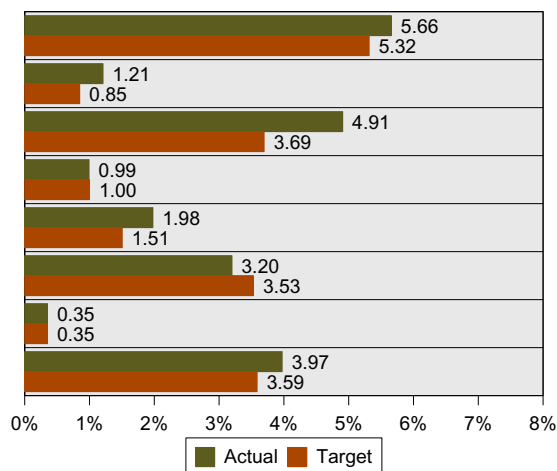
## Quarterly Total Fund Relative Attribution - September 30, 2017

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

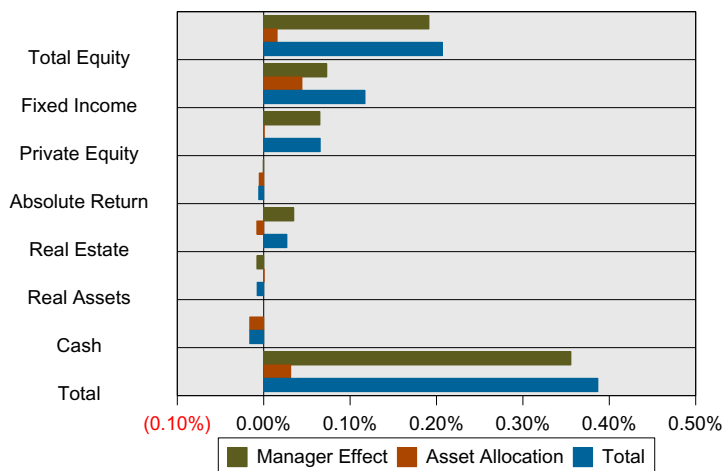
### Asset Class Under or Overweighting



### Actual vs Target Returns



### Relative Attribution by Asset Class



### Relative Attribution Effects for Quarter ended September 30, 2017

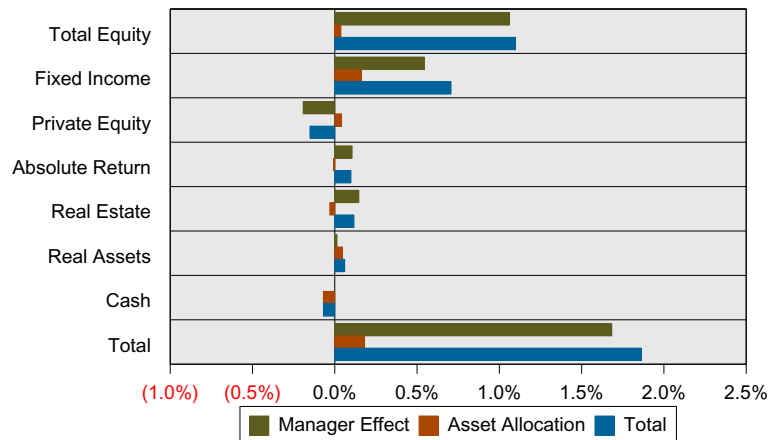
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Total Equity	56%	55%	5.66%	5.32%	0.19%	0.02%	0.21%
Fixed Income	20%	22%	1.21%	0.85%	0.07%	0.04%	0.12%
Private Equity	5%	5%	4.91%	3.69%	0.07%	0.00%	0.07%
Absolute Return	8%	8%	0.99%	1.00%	(0.00%)	(0.01%)	(0.01%)
Real Estate	7%	7%	1.98%	1.51%	0.03%	(0.01%)	0.03%
Real Assets	2%	3%	3.20%	3.53%	(0.01%)	0.00%	(0.01%)
Cash	0%	0%	0.35%	0.35%	0.00%	(0.02%)	(0.02%)
<b>Total</b>			<b>3.97%</b>	<b>3.59%</b>	<b>0.36%</b>	<b>0.03%</b>	<b>0.39%</b>

\* Current Quarter Target = 55.0% MSCI ACWI IMI, 22.0% Blmbg Aggregate, 8.0% 3-month Treasury Bill+3.0%, 7.0% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.0% Principal Blended Benchmark.

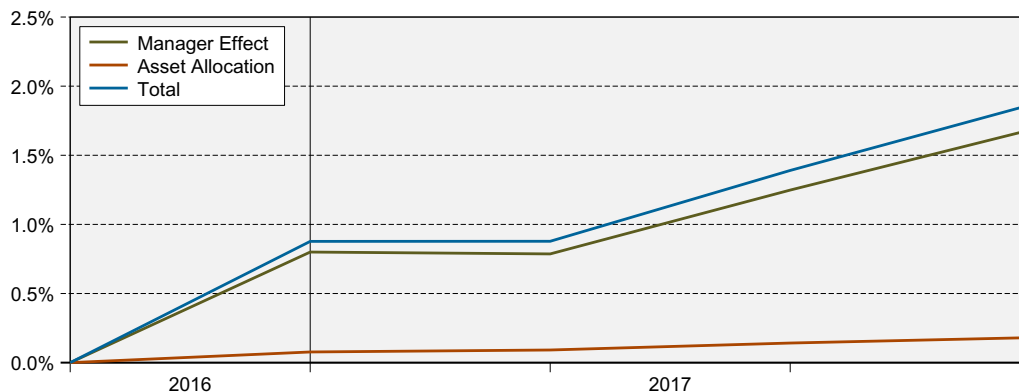
## Cumulative Total Fund Relative Attribution - September 30, 2017

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

### One Year Relative Attribution Effects



### Cumulative Relative Attribution Effects



### One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Total Equity	56%	55%	20.74%	18.73%	1.06%	0.04%	1.10%
Fixed Income	21%	22%	2.51%	0.07%	0.54%	0.16%	0.71%
Private Equity	5%	5%	17.17%	21.51%	(0.19)%	0.04%	(0.15)%
Absolute Return	8%	8%	4.92%	3.66%	0.11%	(0.01)%	0.10%
Real Estate	8%	7%	9.04%	7.23%	0.15%	(0.03)%	0.12%
Real Assets	2%	3%	6.62%	6.01%	0.01%	0.05%	0.06%
Cash	1%	0%	1.49%	1.49%	0.00%	(0.07)%	(0.07)%
<b>Total</b>			<b>13.98%</b>	<b>12.11%</b>	<b>+ 1.68%</b>	<b>+ 0.18%</b>	<b>1.86%</b>

\* Current Quarter Target = 55.0% MSCI ACWI IMI, 22.0% Blmgb Aggregate, 8.0% 3-month Treasury Bill+3.0%, 7.0% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.0% Principal Blended Benchmark.

## Investment Manager Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods ended September 30, 2017. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

### Returns and Rankings for Periods Ended September 30, 2017

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception
<b>Total Domestic Equity</b>	<b>4.73%</b>		<b>20.47%</b>		<b>11.40%</b>		<b>14.33%</b>		<b>7.10%</b> (7/98)
Russell 3000 Index	4.57%		18.71%		10.74%		14.23%		6.58% (7/98)
BlackRock Russell 1000 Value	3.13%	81	-		-		-		5.35% (3/17)
Russell 1000 Value Index	3.11%	81	15.12%	88	8.53%	69	13.20%	69	3.44% (3/17)
Callan Large Cap Value	4.09%		18.37%		9.07%		13.74%		-
Northern Trust Global	4.49%	55	18.64%	52	10.89%	36	14.30%	47	10.39% (8/88)
S&P 500 Index	4.48%	55	18.61%	53	10.81%	37	14.22%	49	10.34% (8/88)
Callan Large Cap Core	4.57%		18.76%		10.34%		14.13%		-
Polen Capital Management	4.04%	84	20.68%	56	16.25%	4	15.46%	37	15.80% (7/12)
S&P 500 Index	4.48%	77	18.61%	78	10.81%	70	14.22%	71	14.84% (7/12)
Callan Large Cap Growth	5.39%		21.21%		11.91%		14.95%		-
Earnest Partners LLC	4.47%	42	23.17%	8	13.24%	8	15.79%	21	10.80% (5/05)
Russell MidCap Index	3.47%	68	15.32%	73	9.54%	52	14.26%	44	9.83% (5/05)
Callan Mid Capitalization	4.11%		17.75%		9.89%		14.02%		-
Dimensional Fund Advisors Inc.	6.28%	30	20.52%	56	11.24%	74	14.86%	60	12.58% (11/96)
Russell 2000 Value Index	5.11%	56	20.55%	55	12.12%	57	13.27%	83	10.00% (11/96)
Callan Small Cap Value	5.29%		21.41%		12.52%		15.13%		-
CastleArk Management	6.64%	36	20.35%	62	10.08%	65	-		10.83% (9/13)
Russell 2000 Growth Index	6.22%	50	20.98%	58	12.17%	50	14.28%	49	11.62% (9/13)
Callan Small Cap Growth	6.22%		21.83%		12.16%		14.19%		-
<b>Total Global Equity</b>	<b>5.55%</b>		<b>21.42%</b>		<b>9.83%</b>		<b>11.34%</b>		<b>8.72%</b> (4/10)
MSCI World	4.84%		18.17%		7.69%		10.99%		9.29% (4/10)
BlackRock Global Alpha Tilts	5.96%	33	22.67%	26	-		-		23.61% (3/16)
MSCI ACWI Gross	5.31%	52	19.29%	61	8.02%	65	10.79%	74	21.87% (3/16)
Callan Global Equity	5.39%		20.35%		8.74%		11.83%		-
MFS Investment Management	4.93%	63	19.53%	58	10.95%	17	-		12.18% (12/12)
MSCI ACWI Gross	5.31%	52	19.29%	61	8.02%	65	10.79%	74	11.03% (12/12)
Callan Global Equity	5.39%		20.35%		8.74%		11.83%		-

## Investment Manager Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment managers over various time periods ended September 30, 2017. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

### Returns and Rankings for Periods Ended September 30, 2017

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
<b>Total International Equity</b>	<b>6.85%</b>		<b>20.40%</b>		<b>6.93%</b>		<b>10.36%</b>		<b>7.55%</b>	(5/96)
MSCI EAFE Index	5.40%		19.10%		5.04%		8.38%		4.78%	(5/96)
AQR Emerging Markets	7.80%	54	26.65%	22	-		-		26.71%	(8/16)
MSCI EM Gross	8.04%	49	22.91%	66	5.28%	75	4.36%	83	23.28%	(8/16)
Callan Emerging Broad	7.98%		24.28%		6.61%		5.59%		-	
Brandes Investment Partners	4.96%	83	16.77%	85	4.88%	80	9.65%	42	8.53%	(2/98)
MSCI EAFE Index	5.40%	70	19.10%	64	5.04%	78	8.38%	70	4.88%	(2/98)
Callan NonUS Eq	6.05%		20.37%		6.62%		9.40%		-	
William Blair & Company	8.55%	6	19.83%	56	6.78%	46	9.37%	51	8.24%	(12/03)
MSCI ACWI ex-US Index	6.25%	46	20.15%	52	5.19%	74	7.45%	89	7.51%	(12/03)
Callan NonUS Eq	6.05%		20.37%		6.62%		9.40%		-	
Dimensional Fund Advisors Inc.	7.60%	71	25.37%	31	9.96%	73	13.67%	53	6.15%	(5/06)
Blended Benchmark	7.46%	72	21.84%	71	11.13%	58	12.85%	66	4.02%	(5/06)
Callan Intl Small Cap	8.62%		23.62%		11.65%		14.18%		-	
<b>Total Fixed Income</b>	<b>1.21%</b>		<b>2.51%</b>		<b>3.22%</b>		<b>2.74%</b>		<b>7.72%</b>	(12/87)
Blmbg Aggregate	0.85%		0.07%		2.71%		2.06%		6.43%	(12/87)
BlackRock US Debt Idx Fd	0.88%	63	0.19%	84	-		-		0.92%	(6/16)
Blmbg Aggregate	0.85%	79	0.07%	91	2.71%	89	2.06%	96	1.75%	(6/16)
Callan Core Bond FI	0.92%		0.64%		3.12%		2.46%		-	
Reams Asset Management	1.01%	76	0.46%	99	3.06%	82	2.38%	99	5.70%	(1/01)
Blmbg Aggregate	0.85%	94	0.07%	100	2.71%	97	2.06%	100	4.79%	(1/01)
Callan Core Plus FI	1.16%		1.88%		3.41%		3.11%		-	
Loomis, Sayles & Company, L.P.	1.72%	3	6.95%	1	4.83%	3	4.98%	1	9.29%	(12/87)
Blmbg Aggregate	0.85%	94	0.07%	100	2.71%	97	2.06%	100	6.43%	(12/87)
Callan Core Plus FI	1.16%		1.88%		3.41%		3.11%		-	
<b>Total Private Equity</b>	<b>4.91%</b>		<b>17.17%</b>		<b>12.11%</b>		<b>11.89%</b>		<b>7.67%</b>	(6/10)
Abbott Capital Management 2010	6.47%		18.41%		12.96%		11.08%		(10.00%)	(6/10)
Abbott Capital Management 2011	5.94%		17.61%		11.87%		8.24%		(7.20%)	(6/11)
Abbott Capital Management 2012	4.77%		16.47%		8.14%		4.10%		3.29%	(7/12)
Abbott Capital Management 2013	5.21%		16.75%		7.05%		-		2.81%	(5/13)
Abbott Capital Management 2014	3.06%		11.37%		2.77%		-		(0.74%)	(4/14)
Abbott Capital Management 2015	1.71%		6.84%		-		-		4.76%	(4/15)
Abbott Capital Management 2016	1.94%		(1.66%)		-		-		(0.31%)	(3/16)
Mesirow V	4.06%		21.66%		16.86%		17.20%		13.24%	(6/10)
Mesirow VI	3.70%		11.91%		2.26%		-		2.66%	(7/13)
Mesirow VII	(26.42%)		-		-		-		-	
NB Secondary Opp Fund III	6.97%		24.08%		23.09%		-		11.21%	(12/13)
NB Secondary Opp Fund IV	41.06%		-		-		-		41.06%	(4/17)
Private Advisors VI	6.10%		13.36%		-		-		(3.65%)	(4/15)
Private Advisors VII	6.77%		-		-		-		(2.27%)	(1/17)
Russell 3000 (1 Qtr in Arrears) + 3%	3.69%		21.51%		12.13%		17.62%		15.67%	(1/17)
<b>Absolute Return</b>	<b>0.99%</b>		<b>4.92%</b>		<b>5.45%</b>		<b>-</b>		<b>5.38%</b>	(6/14)
Allianz SA 1000	1.54%	56	9.74%	13	10.38%	1	-		10.05%	(6/14)
T-Bills + 10%	2.66%	2	10.66%	8	10.32%	1	10.22%	1	10.29%	(6/14)
Callan Abs Rtn Hedge FoF	1.76%		6.76%		3.01%		4.88%		-	
Newton	0.11%	91	(0.34%)	93	3.06%	45	-		3.31%	(8/14)
1-month LIBOR + 4%	1.29%	61	4.92%	65	4.50%	14	4.37%	70	4.48%	(8/14)
Callan Abs Rtn Hedge FoF	1.76%		6.76%		3.01%		4.88%		-	
UBS A & Q	1.12%	68	4.86%	66	-		-		3.45%	(12/14)
1-month LIBOR + 4%	1.29%	61	4.92%	65	4.50%	14	4.37%	70	4.52%	(12/14)
Callan Abs Rtn Hedge FoF	1.76%		6.76%		3.01%		4.88%		-	
<b>Real Assets</b>	<b>3.20%</b>		<b>6.62%</b>		<b>-</b>		<b>-</b>		<b>8.38%</b>	(1/16)
Principal DRA	3.20%	38	6.62%	33	-		-		8.38%	(1/16)
Principal Blended Benchmark (1)	3.53%	28	6.01%	35	-		-		7.69%	(1/16)
Callan Alternative Inv DB	2.57%		2.55%		1.03%		2.20%		-	
<b>Total Real Estate</b>	<b>1.98%</b>		<b>9.04%</b>		<b>11.14%</b>		<b>11.86%</b>		<b>6.58%</b>	(7/86)
Real Estate	1.98%	39	9.04%	39	11.14%	41	11.86%	34	6.58%	(7/86)
Blended Benchmark (2)	1.51%	59	7.23%	53	10.45%	51	10.66%	52	-	
Callan Total Real Est DB	1.69%		7.76%		10.50%		10.83%		-	
<b>Total Fund</b>	<b>3.97%</b>		<b>13.98%</b>		<b>7.93%</b>		<b>9.75%</b>		<b>9.66%</b>	(1/79)
Total Fund Reference Index*	3.59%		12.11%		7.17%		9.14%		-	

(1) Current Principal Blended Benchmark = 35% Barclays US Treasury US TIPS Idx, 15% Bloomberg Commodity Idx, 20% S&P Global Infrastructure Idx, 20% S&P Global Natural Resources Idx and 10% FTSE EPRA/NAREIT Developed Market Idx.  
(2) Blended Benchmark = NCREIF (NPI) through 6/30/06, NCREIF (NPI 1 Qtr Arrears) through 12/31/13 and NFI-ODCE (1 Qtr Arrears) thereafter.

## Investment Manager Returns and Peer Group Rankings

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

	12/2016- 9/2017		2016		2015		2014		2013	
<b>Total Domestic Equity</b>	<b>13.99%</b>		<b>13.91%</b>		<b>(0.07%)</b>		<b>11.63%</b>		<b>33.86%</b>	
Russell 3000 Index	13.91%		12.74%		0.48%		12.56%		33.55%	
Northern Trust Global	14.27%	47	12.01%	21	1.49%	46	13.77%	47	32.46%	77
S&P 500 Index	14.24%	47	11.96%	21	1.38%	51	13.69%	48	32.39%	77
Callan Large Cap Core	14.07%		10.42%		1.40%		13.63%		34.49%	
Polen Capital Management	21.42%	47	1.70%	72	15.51%	3	17.60%	6	23.45%	99
S&P 500 Index	14.24%	98	11.96%	2	1.38%	93	13.69%	25	32.39%	79
Callan Large Cap Growth	20.79%		3.39%		6.43%		11.82%		35.60%	
Earnest Partners LLC	17.06%	29	16.52%	29	1.25%	27	10.38%	46	31.29%	90
Russell MidCap Index	11.74%	55	13.80%	42	(2.44%)	67	13.22%	23	34.76%	63
Callan Mid Capitalization	12.46%		12.23%		(0.80%)		9.88%		35.85%	
Dimensional Fund Advisors Inc.	4.51%	74	29.36%	32	(6.06%)	76	5.04%	67	42.70%	23
Russell 2000 Value Index	5.68%	55	31.74%	14	(7.47%)	83	4.22%	82	34.52%	81
Callan Small Cap Value	5.94%		27.86%		(3.73%)		5.81%		38.72%	
CastleArk Management	18.92%	53	6.01%	68	(4.90%)	78	6.15%	31	-	
Russell 2000 Growth Index	16.81%	62	11.32%	36	(1.38%)	50	5.60%	32	43.30%	74
Callan Small Cap Growth	19.20%		8.62%		(1.29%)		3.40%		46.83%	
<b>Total Global Equity</b>	<b>22.31%</b>		<b>8.65%</b>		<b>(2.08%)</b>		<b>2.32%</b>		<b>24.81%</b>	
MSCI World	16.01%		7.51%		(0.87%)		4.94%		26.68%	
BlackRock Global Alpha Tilts	21.03%	34	-		-		-		-	
MSCI ACWI Gross	17.75%	58	8.48%	27	(1.84%)	71	4.71%	47	23.44%	78
Callan Global Equity	18.86%		6.21%		0.17%		4.57%		27.96%	
MFS Investment Management	24.29%	14	6.06%	52	(0.49%)	60	5.59%	34	23.08%	79
MSCI ACWI Gross	17.75%	58	8.48%	27	(1.84%)	71	4.71%	47	23.44%	78
Callan Global Equity	18.86%		6.21%		0.17%		4.57%		27.96%	

## Investment Manager Returns and Peer Group Rankings

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

	12/2016- 9/2017		2016		2015		2014		2013	
<b>Total International Equity</b>	<b>20.51%</b>		<b>5.78%</b>		<b>(0.41%)</b>		<b>(3.63%)</b>		<b>26.26%</b>	
MSCI EAFE Index	19.96%		1.00%		(0.81%)		(4.90%)		22.78%	
AQR Emerging Markets	29.43%	60	-		-		-		-	
MSCI EM Gross	28.14%	68	11.60%	49	(14.60%)	63	(1.82%)	62	(2.27%)	69
Callan Emerging Broad	29.87%		11.55%		(13.71%)		(1.09%)		0.25%	
Brandes Investment Partners	13.81%	99	8.50%	4	(1.25%)	67	(4.45%)	56	29.45%	8
MSCI EAFE Index	19.96%	80	1.00%	57	(0.81%)	62	(4.90%)	61	22.78%	47
Callan NonUS Eq	22.17%		1.50%		0.47%		(3.88%)		22.49%	
William Blair & Company	24.95%	21	(1.45%)	82	0.18%	53	(1.77%)	23	21.92%	53
MSCI ACWI ex-US Index	21.61%	57	5.01%	16	(5.25%)	92	(3.44%)	47	15.78%	89
Callan NonUS Eq	22.17%		1.50%		0.47%		(3.88%)		22.49%	
Dimensional Fund Advisors Inc.	23.25%	92	8.00%	8	3.99%	86	(4.99%)	67	32.60%	35
Blended Benchmark	25.42%	78	2.18%	34	9.59%	56	(4.95%)	67	29.30%	67
Callan Intl Small Cap	28.28%		0.14%		10.09%		(3.43%)		31.13%	
<b>Total Fixed Income</b>	<b>4.64%</b>		<b>7.40%</b>		<b>(2.49%)</b>		<b>4.00%</b>		<b>(0.53%)</b>	
Bimbg Aggregate	3.14%		2.65%		0.55%		5.97%		(2.02%)	
BlackRock US Debt Idx Fd	3.26%	73	-		-		-		-	
Bimbg Aggregate	3.14%	84	2.65%	85	0.55%	72	5.97%	69	(2.02%)	85
Callan Core Bond FI	3.48%		3.14%		0.84%		6.19%		(1.47%)	
Reams Asset Management	3.26%	98	4.38%	63	0.38%	49	4.09%	97	(1.08%)	75
Bimbg Aggregate	3.14%	99	2.65%	100	0.55%	38	5.97%	61	(2.02%)	96
Callan Core Plus FI	4.32%		4.67%		0.34%		6.18%		(0.67%)	
Loomis, Sayles & Company, L.P.	7.38%	1	13.97%	1	(6.10%)	100	5.94%	62	2.41%	4
Bimbg Aggregate	3.14%	99	2.65%	100	0.55%	38	5.97%	61	(2.02%)	96
Callan Core Plus FI	4.32%		4.67%		0.34%		6.18%		(0.67%)	
<b>Total Private Equity</b>	<b>13.38%</b>		<b>9.09%</b>		<b>12.34%</b>		<b>15.40%</b>		<b>8.66%</b>	
Abbott Capital Management 2010	14.01%		11.03%		12.32%		12.36%		7.33%	
Abbott Capital Management 2011	13.83%		10.43%		10.12%		9.17%		1.20%	
Abbott Capital Management 2012	12.80%		9.42%		2.45%		4.97%		(2.50%)	
Abbott Capital Management 2013	13.50%		5.25%		2.23%		(2.17%)		-	
Abbott Capital Management 2014	9.55%		2.86%		0.39%		-		-	
Abbott Capital Management 2015	6.40%		(5.11%)		-		-		-	
Abbott Capital Management 2016	(0.31%)		-		-		-		-	
Mesrow V	17.04%		12.03%		19.41%		21.07%		14.22%	
Mesrow VI	10.38%		3.32%		(3.99%)		2.22%		-	
NB Secondary Opp Fund III	15.92%		12.83%		33.37%		19.77%		-	
Private Advisors VI	10.94%		(1.34%)		-		-		-	
Russell 3000 (1 Qtr in Arrears) + 3%	15.67%		17.97%		2.56%		20.79%		24.63%	
<b>Absolute Return</b>	<b>4.42%</b>		<b>5.16%</b>		<b>4.92%</b>		<b>-</b>		<b>-</b>	
Allianz SA 1000	6.53%	19	11.15%	1	9.76%	1	-		-	
T-Bills + 10%	7.97%	6	10.33%	1	10.05%	1	10.03%	1	10.07%	34
Callan Abs Rtn Hedge FoF	3.57%		3.35%		(0.75%)		3.78%		8.92%	
Newton	4.40%	45	3.31%	52	1.50%	29	-		-	
1-month LIBOR + 4%	3.75%	48	4.49%	23	4.19%	8	4.16%	39	4.19%	89
Callan Abs Rtn Hedge FoF	3.57%		3.35%		(0.75%)		3.78%		8.92%	
UBS A & Q	3.27%	53	2.42%	71	4.09%	9	-		-	
1-month LIBOR + 4%	3.75%	48	4.49%	23	4.19%	8	4.16%	39	4.19%	89
Callan Abs Rtn Hedge FoF	3.57%		3.35%		(0.75%)		3.78%		8.92%	
<b>Real Assets</b>	<b>7.60%</b>		<b>7.00%</b>		<b>-</b>		<b>-</b>		<b>-</b>	
Principal DRA	7.60%	20	7.00%	69	-		-		-	
Principal Blended Benchmark (1)	6.62%	24	6.77%	71	-		-		-	
Callan Alternative Inv DB	2.19%		10.52%		(20.93%)		(2.44%)		(0.19%)	
<b>Total Real Estate</b>	<b>5.98%</b>		<b>11.38%</b>		<b>13.44%</b>		<b>13.87%</b>		<b>13.58%</b>	
Real Estate	5.98%	39	11.38%	29	13.44%	54	13.87%	46	13.58%	42
Blended Benchmark (1)	5.16%	53	9.69%	44	13.82%	52	11.26%	62	10.99%	59
Callan Total Real Est DB	5.26%		8.99%		14.21%		13.27%		11.85%	
<b>Total Fund</b>	<b>12.49%</b>		<b>9.11%</b>		<b>0.74%</b>		<b>5.31%</b>		<b>19.59%</b>	
Total Fund Reference Index*	11.62%		7.26%		1.21%		6.00%		18.20%	

\* Current Quarter Target = 55.0% MSCI ACWI IMI, 22.0% Bimbg Aggregate, 8.0% 3-month Treasury Bill+3.0%, 7.0% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.0% Principal Blended Benchmark.  
(1) Current Principal Blended Benchmark = 35% Barclays US Treasury US TIPS Idx, 15% Bloomberg Commodity Idx, 20% S&P Global Infrastructure Idx, 20% S&P Global Natural Resources Idx and 10% FTSE EPRA/NAREIT Developed Market Idx.  
(2) Blended Benchmark = NCREIF (NPI) through 6/30/06, NCREIF (NPI 1 Qtr Arrears) through 12/31/13 and NFI-ODCE (1 Qtr Arrears) thereafter.



## Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2017. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

### Returns for Periods Ended September 30, 2017

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception	
<b>Net of Fee Returns</b>						
Total Domestic Equity	4.64%	20.09%	11.05%	13.97%	6.76%	(7/98)
Russell 3000 Index	4.57%	18.71%	10.74%	14.23%	6.58%	(7/98)
BlackRock Russell 1000 Value	3.12%	-	-	-	5.34%	(3/17)
Russell 1000 Value Index	3.11%	15.12%	8.53%	13.20%	3.44%	(3/17)
Northern Trust Global	4.48%	18.62%	10.87%	14.27%	9.56%	(9/94)
S&P 500 Index	4.48%	18.61%	10.81%	14.22%	9.59%	(9/94)
Polen Capital Management	3.91%	20.09%	15.67%	14.89%	15.23%	(7/12)
S&P 500 Index	4.48%	18.61%	10.81%	14.22%	14.84%	(7/12)
Earnest Partners LLC	4.33%	22.51%	12.63%	15.17%	9.96%	(5/05)
Russell MidCap Index	3.47%	15.32%	9.54%	14.26%	9.83%	(5/05)
Dimensional Fund Advisors Inc.	6.14%	19.88%	10.65%	14.25%	11.90%	(11/96)
Russell 2000 Value Index	5.11%	20.55%	12.12%	13.27%	10.00%	(11/96)
CastleArk Management	6.47%	19.56%	9.35%	-	10.10%	(9/13)
Russell 2000 Growth Index	6.22%	20.98%	12.17%	14.28%	11.62%	(9/13)
Total Global Equity	5.46%	20.99%	9.43%	10.94%	8.27%	(4/10)
MSCI World	4.84%	18.17%	7.69%	10.99%	9.29%	(4/10)
BlackRock Global Alpha Tilts	5.95%	22.61%	-	-	23.55%	(3/16)
MSCI ACWI Gross	5.31%	19.29%	8.02%	10.79%	21.87%	(3/16)
MFS Investment Management	4.82%	19.03%	10.50%	-	11.73%	(12/12)
MSCI ACWI Gross	5.31%	19.29%	8.02%	10.79%	11.03%	(12/12)
Total International Equity	6.73%	19.83%	6.42%	9.82%	6.76%	(5/96)
MSCI EAFE Index	5.40%	19.10%	5.04%	8.38%	4.78%	(5/96)
AQR Emerging Markets	7.60%	25.73%	-	-	25.79%	(8/16)
MSCI EM Gross	8.04%	22.91%	5.28%	4.36%	23.28%	(8/16)
Brandes Investment Partners	4.86%	16.29%	4.45%	9.21%	7.78%	(2/98)
MSCI EAFE Index	5.40%	19.10%	5.04%	8.38%	4.88%	(2/98)
William Blair & Company	8.45%	19.36%	6.35%	8.93%	7.79%	(12/03)
MSCI ACWI ex-US Index	6.25%	20.15%	5.19%	7.45%	7.51%	(12/03)
Dimensional Fund Advisors Inc.	7.60%	25.37%	9.96%	13.61%	5.72%	(5/06)
Blended Benchmark	7.46%	21.84%	11.13%	12.85%	4.02%	(5/06)
Total Fixed Income	1.17%	2.33%	3.05%	2.58%	6.80%	(9/94)
Bimbg Aggregate	0.85%	0.07%	2.71%	2.06%	5.59%	(9/94)
BlackRock US Debt Idx Fd	0.87%	0.14%	-	-	0.86%	(6/16)
Bimbg Aggregate	0.85%	0.07%	2.71%	2.06%	1.75%	(6/16)
Reams Asset Management	0.97%	0.31%	2.90%	2.23%	5.45%	(1/01)
Bimbg Aggregate	0.85%	0.07%	2.71%	2.06%	4.79%	(1/01)
Loomis, Sayles & Company, L.P.	1.69%	6.81%	4.70%	4.86%	8.50%	(9/94)
Bimbg Aggregate	0.85%	0.07%	2.71%	2.06%	5.59%	(9/94)
Total Private Equity	4.91%	17.17%	12.11%	11.89%	7.67%	(6/10)
Abbott Capital Management 2010	6.47%	18.41%	12.96%	11.08%	(10.00%)	(6/10)
Abbott Capital Management 2011	5.94%	17.61%	11.87%	8.24%	(7.20%)	(6/11)
Abbott Capital Management 2012	4.77%	16.47%	8.14%	4.10%	3.29%	(7/12)
Abbott Capital Management 2013	5.21%	16.75%	7.05%	-	2.81%	(5/13)
Abbott Capital Management 2014	3.06%	11.37%	2.77%	-	(0.74%)	(4/14)
Abbott Capital Management 2015	1.71%	6.84%	-	-	4.76%	(4/15)
Abbott Capital Management 2016	1.94%	(1.66%)	-	-	(0.31%)	(3/16)
Mesirow V	4.06%	21.66%	16.86%	17.20%	13.24%	(6/10)
Mesirow IV	3.70%	11.91%	2.26%	-	2.66%	(7/13)
Mesirow VII	(26.42%)	-	-	-	-	-
NB Secondary Opp Fund III	6.97%	24.08%	23.09%	-	11.21%	(12/13)
NB Secondary Opp Fund IV	41.06%	-	-	-	41.06%	(4/17)
Private Advisors VI	6.10%	13.36%	-	-	(3.65%)	(4/15)
Private Advisors VII	6.77%	-	-	-	(2.27%)	(1/17)
Russell 3000 (1 Qtr in Arrears) + 3%	3.69%	21.51%	12.13%	17.62%	15.67%	(1/17)
Absolute Return	0.99%	4.92%	5.45%	-	5.38%	(6/14)
Allianz SA 1000	1.54%	9.74%	10.38%	-	10.05%	(6/14)
T-Bills + 10%	2.66%	10.66%	10.32%	10.22%	10.29%	(6/14)
Newton	0.11%	(0.34%)	3.06%	-	3.31%	(8/14)
1-month LIBOR + 4%	1.29%	4.92%	4.50%	4.37%	4.48%	(8/14)
UBS A & Q	1.12%	4.86%	-	-	3.45%	(12/14)
1-month LIBOR + 4%	1.29%	4.92%	4.50%	4.37%	4.52%	(12/14)
Real Assets	3.20%	6.62%	-	-	8.38%	(1/16)
Principal DRA	3.20%	6.62%	-	-	8.38%	(1/16)
Principal Blended Benchmark (1)	3.53%	6.01%	-	-	7.69%	(1/16)
Total Real Estate	1.91%	8.74%	10.85%	11.53%	5.41%	(7/86)
Real Estate	1.91%	8.74%	10.85%	11.53%	5.41%	(7/86)
Blended Benchmark (2)	1.51%	7.23%	10.45%	10.66%	-	-
Total Fund	3.90%	13.66%	7.63%	9.44%	9.29%	(1/79)
Total Fund Reference Index*	3.59%	12.11%	7.17%	9.14%	-	-

(1) Current Principal Blended Benchmark = 35% Barclays US Treasury US TIPS Idx, 15% Bloomberg Commodity Idx, 20% S&P Global Infrastructure Idx, 20% S&P Global Natural Resources Idx and 10% FTSE EPRA/NAREIT Developed Market Idx.  
(2) Blended Benchmark = NCREIF (NPI) through 6/30/06, NCREIF (NPI 1 Qtr Arrears) through 12/31/13 and NFI-ODCE (1 Qtr Arrears) thereafter.



## Investment Manager Returns

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

	12/2016- 9/2017	2016	2015	2014	2013
<b>Net of Fee Returns</b>					
Total Domestic Equity	13.72%	13.55%	(0.39%)	11.28%	33.44%
Russell 3000 Index	13.91%	12.74%	0.48%	12.56%	33.55%
Northern Trust Global	14.25%	11.99%	1.47%	13.75%	32.43%
S&P 500 Index	14.24%	11.96%	1.38%	13.69%	32.39%
Polen Capital Management	20.98%	1.19%	14.94%	17.02%	22.84%
S&P 500 Index	14.24%	11.96%	1.38%	13.69%	32.39%
Earnest Partners LLC	16.59%	15.90%	0.71%	9.79%	30.60%
Russell MidCap Index	11.74%	13.80%	(2.44%)	13.22%	34.76%
Dimensional Fund Advisors Inc.	4.09%	28.68%	(6.57%)	4.47%	41.95%
Russell 2000 Value Index	5.68%	31.74%	(7.47%)	4.22%	34.52%
CastleArk Management	18.33%	5.30%	(5.54%)	5.45%	-
Russell 2000 Growth Index	16.81%	11.32%	(1.38%)	5.60%	43.30%
Total Global Equity	21.99%	8.26%	(2.44%)	1.95%	24.37%
MSCI World	16.01%	7.51%	(0.87%)	4.94%	26.68%
BlackRock Global Alpha Tilts	20.99%	-	-	-	-
MSCI ACWI Gross	17.75%	8.48%	(1.84%)	4.71%	23.44%
MFS Investment Management	23.91%	5.62%	(0.89%)	5.17%	22.47%
MSCI ACWI Gross	17.75%	8.48%	(1.84%)	4.71%	23.44%
Total International Equity	20.09%	5.27%	(0.89%)	(4.09%)	25.66%
MSCI EAFE Index	19.96%	1.00%	(0.81%)	(4.90%)	22.78%
AQR Emerging Markets	28.73%	-	-	-	-
MSCI EM Gross	28.14%	11.60%	(14.60%)	(1.82%)	(2.27%)
Brandes Investment Partners	13.46%	8.05%	(1.66%)	(4.84%)	28.93%
MSCI EAFE Index	19.96%	1.00%	(0.81%)	(4.90%)	22.78%
William Blair & Company	24.59%	(1.84%)	(0.22%)	(2.17%)	21.36%
MSCI ACWI ex-US Index	21.61%	5.01%	(5.25%)	(3.44%)	15.78%
Dimensional Fund Advisors Inc.	23.25%	8.00%	3.99%	(4.99%)	32.39%
Blended Benchmark	25.42%	2.18%	9.59%	(4.95%)	29.30%
Total Fixed Income	4.51%	7.21%	(2.63%)	3.85%	(0.69%)
Bimbg Aggregate	3.14%	2.65%	0.55%	5.97%	(2.02%)
BlackRock US Debt Idx Fd	3.22%	-	-	-	-
Reams Asset Management	3.15%	4.22%	0.23%	3.94%	(1.23%)
Bimbg Aggregate	3.14%	2.65%	0.55%	5.97%	(2.02%)
Loomis, Sayles & Company, L.P.	7.28%	13.82%	(6.20%)	5.82%	2.29%
Bimbg Aggregate	3.14%	2.65%	0.55%	5.97%	(2.02%)
Total Private Equity	13.38%	9.09%	12.34%	15.40%	8.66%
Abbott Capital Management 2010	14.01%	11.03%	12.32%	12.36%	7.33%
Abbott Capital Management 2011	13.83%	10.43%	10.12%	9.17%	1.20%
Abbott Capital Management 2012	12.80%	9.42%	2.45%	4.97%	(2.50%)
Abbott Capital Management 2013	13.50%	5.25%	2.23%	(2.17%)	-
Abbott Capital Management 2014	9.55%	2.86%	0.39%	-	-
Abbott Capital Management 2015	6.40%	(5.11%)	-	-	-
Abbott Capital Management 2016	(0.31%)	-	-	-	-
Mesirow V	17.04%	12.03%	19.41%	21.07%	14.22%
Mesirow VI	10.38%	3.32%	(3.99%)	2.22%	-
NB Secondary Opp Fund III	15.92%	12.83%	33.37%	19.77%	-
Private Advisors VI	10.94%	(1.34%)	-	-	-
Russell 3000 (1 Qtr in Arrears) + 3%	15.67%	17.97%	2.56%	20.79%	24.63%
Absolute Return	4.42%	5.16%	4.92%	-	-
Allianz SA 1000	6.53%	11.15%	9.76%	-	-
T-Bills + 10%	7.97%	10.33%	10.05%	10.03%	10.07%
Newton	4.40%	3.31%	1.50%	-	-
1-month LIBOR + 4%	3.75%	4.49%	4.19%	4.16%	4.19%
UBS A & Q	3.27%	2.42%	4.09%	-	-
1-month LIBOR + 4%	3.75%	4.49%	4.19%	4.16%	4.19%
Real Assets	7.60%	7.00%	-	-	-
Principal DRA	7.60%	7.00%	-	-	-
Principal Blended Benchmark (1)	6.62%	6.77%	-	-	-
Total Real Estate	5.76%	11.09%	13.15%	13.54%	13.15%
Real Estate	5.76%	11.09%	13.15%	13.54%	13.15%
Blended Benchmark (2)	5.16%	9.69%	13.82%	11.26%	10.99%
Total Fund	12.26%	8.80%	0.46%	5.02%	19.26%
Total Fund Reference Index*	11.62%	7.26%	1.21%	6.00%	18.20%

\* Current Quarter Target = 55.0% MSCI ACWI IMI, 22.0% Bimbg Aggregate, 8.0% 3-month Treasury Bill+3.0%, 7.0% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.0% Principal Blended Benchmark.

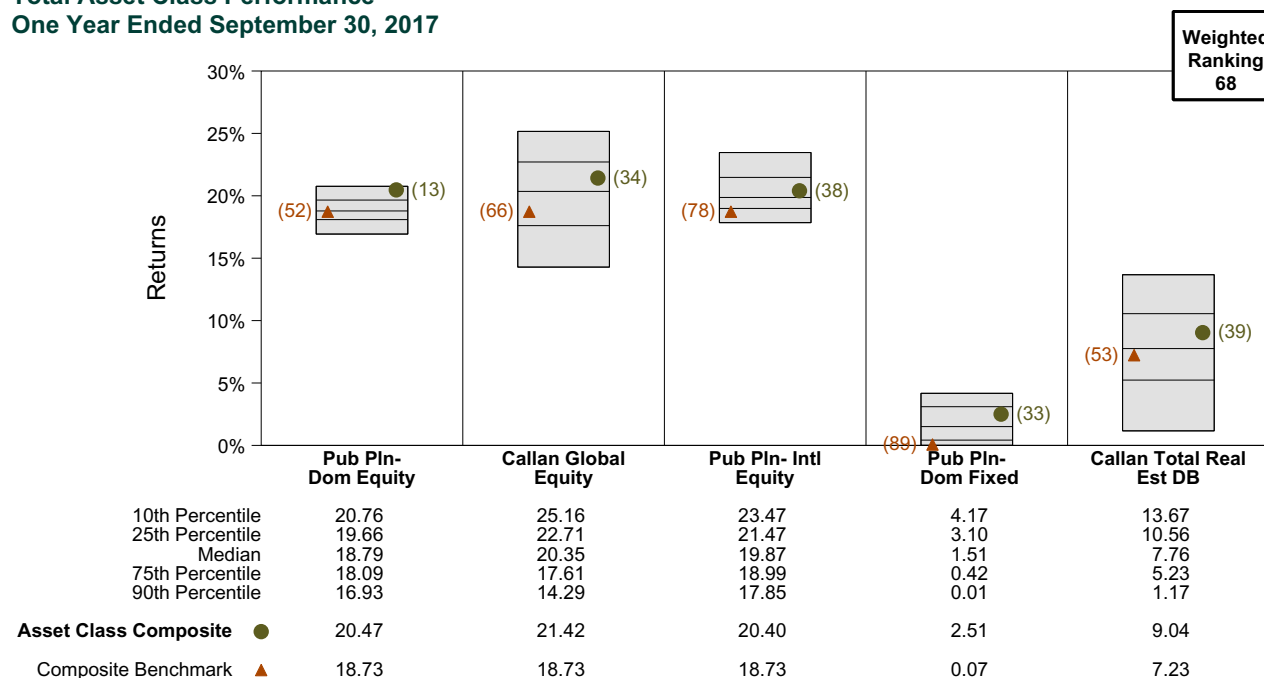
(1) Current Principal Blended Benchmark = 35% Barclays US Treasury US TIPS Idx, 15% Bloomberg Commodity Idx, 20% S&P Global Infrastructure Idx, 20% S&P Global Natural Resources Idx and 10% FTSE EPRA/NAREIT Developed Market Idx.

(2) Blended Benchmark = NCREIF (NPI) through 6/30/06, NCREIF (NPI 1 Qtr Arrears) through 12/31/13 and NFI-ODCE (1 Qtr Arrears) thereafter.

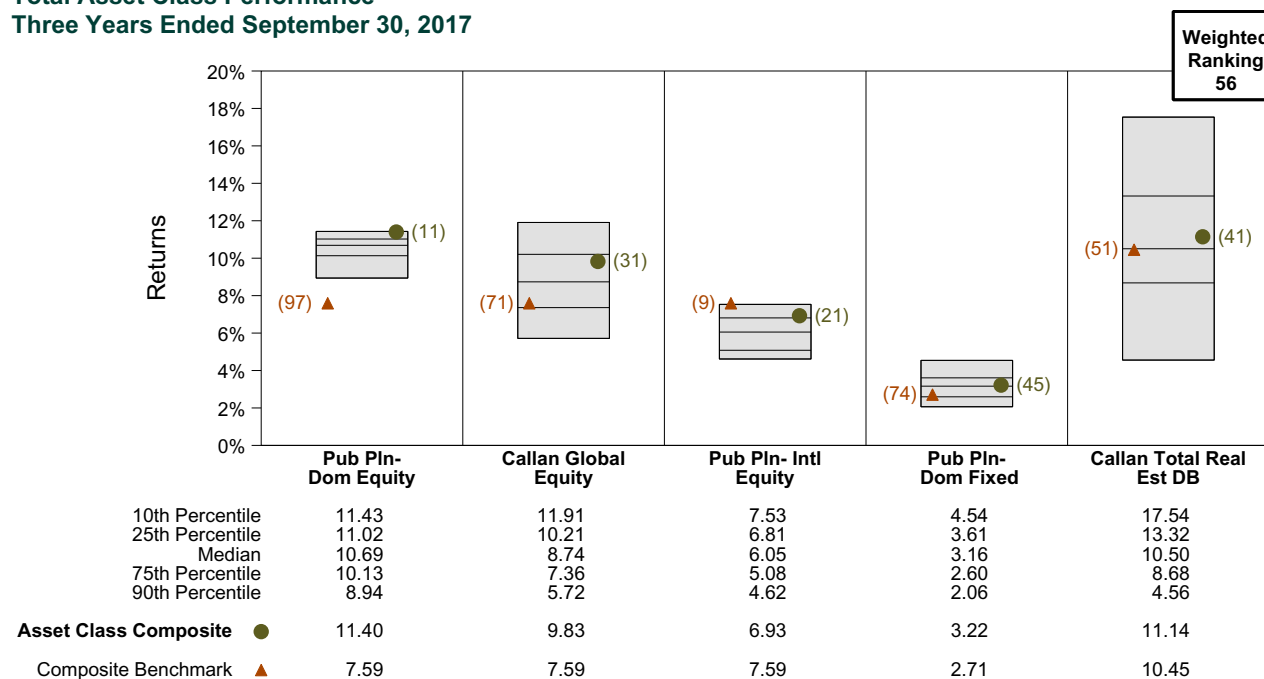
## Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.

### Total Asset Class Performance One Year Ended September 30, 2017



### Total Asset Class Performance Three Years Ended September 30, 2017

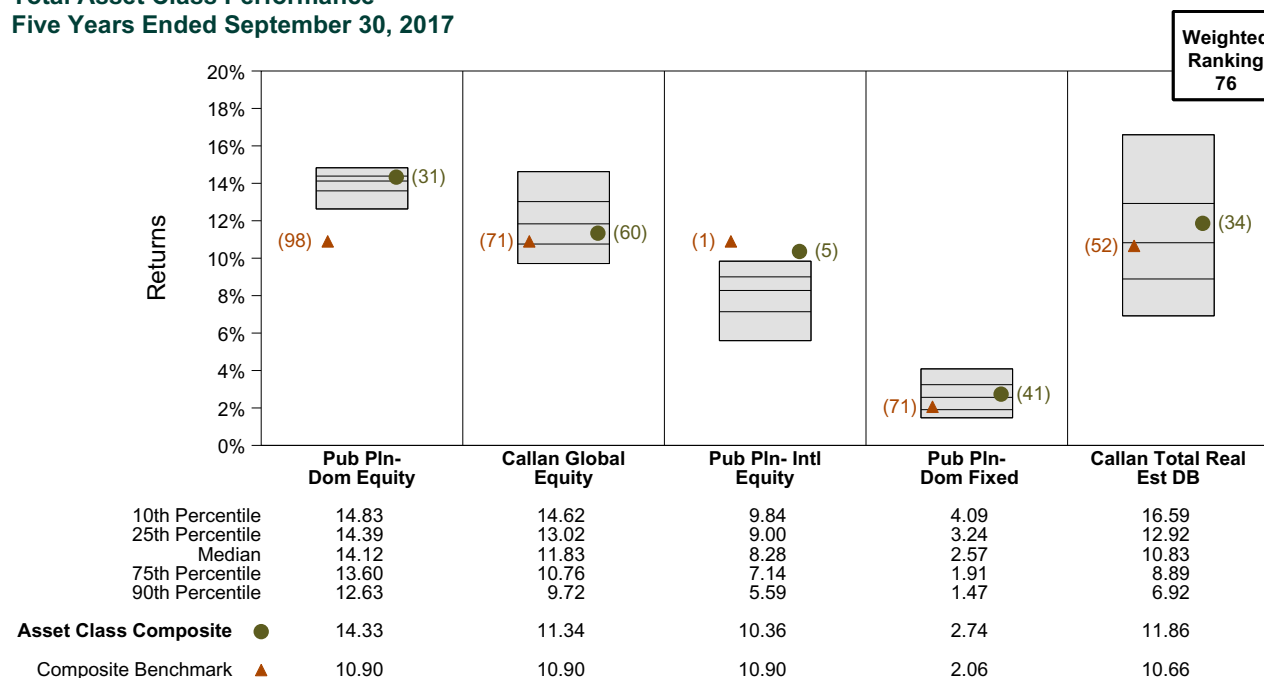


\* Current Quarter Target = 55.0% MSCI ACWI IMI, 22.0% Blmbg Aggregate, 8.0% 3-month Treasury Bill+3.0%, 7.0% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.0% Principal Blended Benchmark.

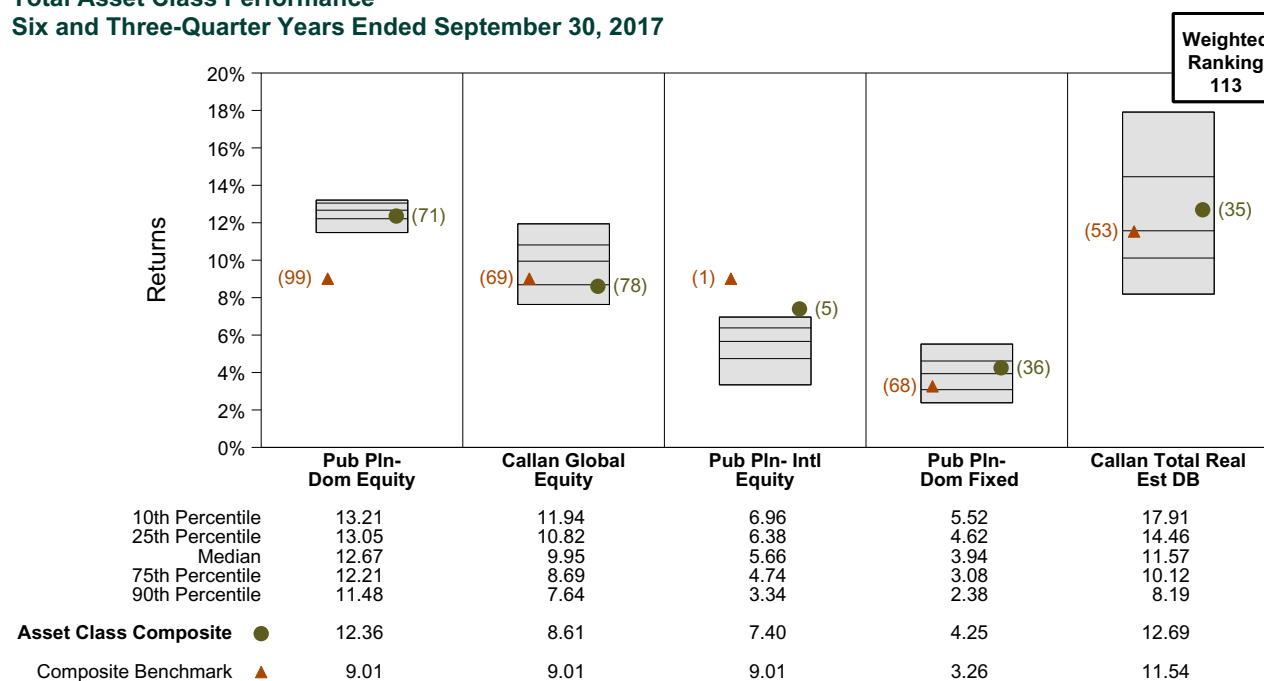
## Asset Class Rankings

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.

### Total Asset Class Performance Five Years Ended September 30, 2017



### Total Asset Class Performance Six and Three-Quarter Years Ended September 30, 2017



\* Current Quarter Target = 55.0% MSCI ACWI IMI, 22.0% Blmbg Aggregate, 8.0% 3-month Treasury Bill+3.0%, 7.0% NFI-ODCE (1 Qtr in Arrears), 5.0% Russell 3000 (1 Qtr in Arrears)+3.0% and 3.0% Principal Blended Benchmark.



## Research and Educational Programs

The Callan Institute provides both research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit [www.callan.com/library](http://www.callan.com/library) to see all of our publications, and [www.callan.com/blog](http://www.callan.com/blog) to view our blog "Perspectives." For more information contact Anna West at 415.974.5060 / [institute@callan.com](mailto:institute@callan.com).

## New Research from Callan's Experts



**The Private Debt Pie: Do You Want a Slice? Do You Need One?** | As institutional investors consider the merits and risks of constructing private debt allocations in their portfolios, Callan's Jay Kloepfer, the director of Capital Markets Research; and Jay Nayak, a consultant in our Private Equity Research

group, prepared a set of answers to some key questions about private debt.

**Callan 2017 Nuclear Decommissioning Funding Study** | This study, done annually, offers key insights into the status of nuclear decommissioning funding in the U.S. The 2017 study covers 54 utilities with an ownership interest in the 99 operating nuclear reactors and 11 of the non-operating reactors in the U.S. It found that the health of nuclear decommissioning funding has remained fairly stable, hovering near 70% over the past decade.



**Callan 2017 Private Equity Survey**  
Callan conducted a survey of institutional private equity investors. We focused on deployment models, patterns of investment and commitment activities

over time, governance and oversight, staffing and resources, and responsibilities for program administration functions. Our Survey included 69 institutional investors with private equity programs totaling \$103.3 billion. Our Survey found that an array of administration issues affect how institutional private equity portfolios are constructed, monitored, and managed. We found these factors led to less than ideal choices for implementing the programs, often including sub-optimal use of the discretionary consultant/fund-of-funds model for certain private equity programs.

**The Triple Play: Adding Timberland, Farmland, and Infrastructure to Portfolios** | Timberland, farmland, and infrastructure offer diversification, stable income, and inflation protection for institutional investor portfolios. Callan believes a combination of these three real assets offers distinct advantages.

**Reaching for Higher Ground: The Evolution of TDFs** | Target date funds (TDFs) are an improvement over former common defaults, but they need to evolve. The solutions include using uncorrelated asset classes, in-plan annuities, "dynamic" qualified default investment alternatives, or guaranteed income products.

## Periodicals

**Private Markets Trends, Summer 2017** | Gary Robertson discusses the surge of money into the private markets as high prices persist.

**Hedge Fund Monitor, 3rd Quarter 2017** | Jim McKee discusses four major secular trends that are on a predictable course to increasingly weigh on markets over the longer term: demographics, fiscal policy, monetary policy, and market valuations.

**Market Pulse Flipbook, 2nd Quarter 2017** | A quarterly market reference guide covering investment and fund sponsor trends in the U.S. economy, U.S. and non-U.S. equities and fixed income, alternatives, and defined contribution plans.

**Capital Market Review, 2nd Quarter 2017** | A quarterly newsletter providing insights on the economy and recent performance in equity, fixed income, alternatives, international, real estate, and other capital markets.

**Monthly Periodic Table of Investment Returns** | This update reflects the latest results for major indices.

## Events

Miss out on a Callan conference or workshop? Event summaries and speakers' presentations are available on our website: [www.callan.com/library/](http://www.callan.com/library/)

Mark your calendars for our upcoming **Regional Workshops**, October 24 in New York and October 26 in Chicago, where we'll cover highlights from our soon-to-be published *Investment Management Fee Survey* and other aspects of fees.

Callan's **National Conference** will be held January 29–31, 2018, at the Palace Hotel in San Francisco.

**For more information about events, please contact Barb Gerraty: 415.274.3093 / [gerraty@callan.com](mailto:gerraty@callan.com)**

## The Center for Investment Training Educational Sessions

The Center for Investment Training, better known as the "Callan College," provides a foundation of knowledge for industry professionals who are involved in the investment decision-making process. It was founded in 1994 to provide clients and non-clients alike with basic- to intermediate-level instruction. Our next sessions are:

### Introduction to Investments

*San Francisco, April 10-11, 2018*

*San Francisco, July 24-25, 2018*

*Chicago, October 2-3, 2018*

This program familiarizes fund sponsor trustees, staff, and asset management advisers with basic investment theory, terminology, and practices. It lasts one-and-a-half days and is designed for individuals who have less than two years of experience with asset-management oversight and/or support responsibilities. Tuition for the Introductory "Callan College" session is \$2,350 per person. Tuition includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

### Customized Sessions

The "Callan College" is equipped to customize a curriculum to meet the training and educational needs of a specific organization. These tailored sessions range from basic to advanced and can take place anywhere—even at your office.

**Learn more at [www.callan.com/events/callan-college-intro](http://www.callan.com/events/callan-college-intro) or contact Kathleen Cunnie: 415.274.3029 / [cunnie@callan.com](mailto:cunnie@callan.com)**

## Education: By the Numbers

**525**

Attendees (on average) of the Institute's annual National Conference

**50+**

Unique pieces of research the Institute generates each year

**3,500**

Total attendees of the "Callan College" since 1994

**1980**

Year the Callan Institute was founded



"We think the best way to learn something is to teach it. Entrusting client education to our consultants and specialists ensures that they have a total command of their subject matter. This is one reason why education and research have been cornerstones of our firm for more than 40 years."

Ron Peyton, Executive Chairman



## List of Callan's Investment Manager Clients

Confidential – For Callan Client Use Only

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

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

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

Manager Name
1607 Capital Partners, LLC
Aberdeen Asset Management PLC
Acadian Asset Management LLC
AEGON USA Investment Management
AEW Capital Management
Affiliated Managers Group, Inc.
Alcentra
AllianceBernstein
Allianz Global Investors
Allianz Life Insurance Company of North America
American Century Investments
AMP Capital Investors Limited
Amundi Smith Breeden LLC
Angelo, Gordon & Co.
Apollo Global Management
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Aristotle Capital Management, LLC
Artisan Holdings
Atlanta Capital Management Co., LLC
Aviva Investors Americas
AXA Investment Managers
Baillie Gifford Overseas Limited
Baird Advisors
Bank of America
Barings LLC
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
BlackRock
BMO Global Asset Management
BNP Paribas Investment Partners
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC

Manager Name
Brigade Capital Management, LP
Brown Brothers Harriman & Company
Cambiar Investors, LLC
Capital Group
CastleArk Management, LLC
Causeway Capital Management
CBRE Global Investors
Chartwell Investment Partners
ClearBridge Investments, LLC
Cohen & Steers Capital Management, Inc.
Columbia Management Investment Advisers, LLC
Columbus Circle Investors
Conning Asset Management Company
Corbin Capital Partners, L.P.
Cornerstone Capital Management
Cramer Rosenthal McGlynn, LLC
Credit Suisse Asset Management
Crestline Investors, Inc.
D.E. Shaw Investment Management, L.L.C.
DePrince, Race & Zollo, Inc.
Deutsche Asset Management
Diamond Hill Capital Management, Inc.
Dimensional Fund Advisors LP
Doubleline
Duff & Phelps Investment Mgmt. Co.
Eagle Asset Management, Inc.
EARNEST Partners, LLC
Eaton Vance Management
Epoch Investment Partners, Inc.
Fayez Sarofim & Company
Federated Investors
Fidelity Institutional Asset Management
Fiera Capital Corporation
First Eagle Investment Management, LLC
First Hawaiian Bank Wealth Management Division
Fisher Investments



Manager Name
Franklin Templeton
Franklin Templeton Institutional
Fred Alger Management, Inc.
Fuller & Thaler Asset Management, Inc.
GAM (USA) Inc.
GMO
Goldman Sachs Asset Management
Goodwin Capital Advisers
Guggenheim Investments
Guggenheim Partners Asset Management
GW&K Investment Management
Harbor Capital Group Trust
Hartford Funds
Hartford Investment Management Co.
Heitman LLC
Henderson Global Investors
Holland Capital Management
Hotchkis & Wiley Capital Management, LLC
HSBC Global Asset Management
Income Research + Management, Inc.
Insight Investment Management Limited
INTECH Investment Management, LLC
Invesco
Investec Asset Management
Ivy Investments
Janus Capital Management, LLC
Jarislowsky Fraser Global Investment Management
Jensen Investment Management
Jobs Peak Advisors
Johnson Institutional Management
J.P. Morgan Asset Management
J.P. Morgan Chase & Company
Kayne Anderson Capital Advisors LP
KeyCorp
Lazard Asset Management
Legal & General Investment Management America
Lincoln National Corporation
LM Capital Group, LLC
LMCG Investments, LLC
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
Los Angeles Capital Management
LSV Asset Management
Mackay Shields LLC
Macquarie Investment Management (formerly Delaware Investments)
Man Investments Inc.
Manulife Asset Management
McKinley Capital Management, LLC
MFS Investment Management
MidFirst Bank
Mondrian Investment Partners Limited
Montag & Caldwell, LLC
Morgan Stanley Investment Management
Mountain Lake Investment Management LLC
MUFG Union Bank, N.A.
Neuberger Berman
Newton Investment Management (fka Newton Capital Mgmt)
Nicholas Investment Partners

Manager Name
Nikko Asset Management Co., Ltd.
Northern Trust Asset Management
Nuveen Investments, Inc.
OFI Global Asset Management
Old Mutual Asset Management
O'Shaughnessy Asset Management, LLC
Pacific Investment Management Company
Parametric Portfolio Associates
Peregrine Capital Management, Inc.
PGIM
PGIM Fixed Income
PGIM Real Estate
PineBridge Investments
Pioneer Investments
PNC Capital Advisors, LLC
PPM America
Principal Global Investors
Private Advisors, LLC
Putnam Investments, LLC
QMA (Quantitative Management Associates)
RBC Global Asset Management
Regions Financial Corporation
RidgeWorth Capital Management, Inc.
Rockefeller & Co., Inc.
Rockpoint Group
Rothschild Asset Management, Inc.
Russell Investments
Santander Global Facilities
Schroder Investment Management North America Inc.
Smith, Graham & Co. Investment Advisors, L.P.
Smith Group Asset Management
Standard Life Investments Limited
Standish
State Street Global Advisors
Stone Harbor Investment Partners, L.P.
T. Rowe Price Associates, Inc.
Taplin, Canida & Habacht
Teachers Insurance & Annuity Association of America
The Boston Company Asset Management, LLC
The Guardian Life Insurance Company of America
The Hartford
The Lionstone Group
The London Company
The TCW Group, Inc.
Thompson, Siegel & Walmsley LLC
Thornburg Investment Management, Inc.
Tri-Star Trust Bank
UBS Asset Management
Van Eck Global
Versus Capital Group
Victory Capital Management Inc.
Vontobel Asset Management, Inc.
Voya Financial
Voya Investment Management (fka ING)
WCM Investment Management
WEDGE Capital Management
Wellington Management Company, LLP
Wells Capital Management
Western Asset Management Company
William Blair & Company