

August 31, 2019



## The North Carolina Supplemental Retirement Plans

Investment Measurement Service  
Monthly Review

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## Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of August 31, 2019, with the distribution as of July 31, 2019. 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

	August 31, 2019 Market Value	Net New Inv.	Inv. Return	July 31, 2019 Market Value
<b>North Carolina SRP 401k &amp; 457</b>				
<b>Tier II Passive</b>	<b>\$3,399,326,325</b>	<b>\$(4,263,276)</b>	<b>\$(54,070,953)</b>	<b>\$3,457,660,555</b>
Fixed Income Passive	85,971,223	1,814,940	2,146,163	82,010,121
Treasury Inflation Protected	215,918,395	3,214,609	2,882,831	209,820,955
Large Cap Passive	2,719,903,749	(6,173,900)	(44,413,341)	2,770,490,990
SMID Cap Passive	302,962,446	(2,798,239)	(12,823,734)	318,584,419
International Passive	74,570,512	(320,686)	(1,862,872)	76,754,070
<b>Tier II Active</b>	<b>\$8,665,777,683</b>	<b>\$(1,226,507)</b>	<b>\$(106,857,185)</b>	<b>\$8,773,861,376</b>
Stable Value Fund	2,105,878,980	6,619,489	4,912,586	2,094,346,904
Fixed Income Fund	1,769,042,052	6,354,427	45,210,607	1,717,477,017
Inflation Responsive Fund	404,153,540	751,540	5,640,575	397,761,425
Large Cap Core Equity Fund	1,831,464,153	(13,720,197)	(58,649,953)	1,903,834,303
Small/Mid Cap Equity Fund	816,919,473	(1,487,609)	(44,227,300)	862,634,382
International Equity Fund	1,738,319,486	255,841	(59,743,700)	1,797,807,346
<b>Total Fund</b>	<b>\$12,065,104,009</b>	<b>\$(5,489,783)</b>	<b>\$(160,928,138)</b>	<b>\$12,231,521,930</b>

## Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended August 31, 2019. 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 August 31, 2019

	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years
<b>Tier 2: Passive (Net of Fee)</b>					
Fixed Income Passive	2.60%	9.10%	10.07%	3.04%	3.29%
Blmbg Barclays Aggregate	2.59%	9.10%	10.17%	3.09%	3.35%
Treasury Inflation Protected Securities	1.37%	6.85%	5.96%	-	-
Blmbg US TIPS 1-10 Yr	1.28%	6.68%	5.88%	2.49%	1.75%
Large Cap Passive	(1.60%)	18.36%	2.93%	12.70%	10.06%
S&P 500 Index	(1.58%)	18.34%	2.92%	12.70%	10.11%
SMID Cap Passive	(4.01%)	15.56%	(7.22%)	8.95%	7.03%
Russell 2500 Index	(4.00%)	15.67%	(7.14%)	9.04%	7.06%
International Passive	(2.41%)	8.97%	(3.03%)	6.13%	1.56%
MSCI ACWI ex US	(3.09%)	8.76%	(3.27%)	5.87%	1.37%

## Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended August 31, 2019. 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 August 31, 2019

	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years
<b>Tier 2: Active (Net of Fee)</b>					
<b>Stable Value Fund</b>	<b>0.23%</b>	<b>1.72%</b>	<b>2.50%</b>	<b>2.23%</b>	<b>2.08%</b>
3 Yr Constant Maturity Yield	0.12%	1.35%	2.27%	1.98%	1.57%
T-Bill + 1.5%	0.33%	2.62%	3.86%	3.00%	2.45%
<b>Fixed Income Fund</b>	<b>2.63%</b>	<b>10.42%</b>	<b>11.22%</b>	<b>4.03%</b>	<b>4.18%</b>
Blmbg Barclays Aggregate	2.59%	9.10%	10.17%	3.09%	3.35%
TCW Core Plus	2.57%	9.53%	10.60%	-	-
Blmbg Barclays Aggregate	2.59%	9.10%	10.17%	3.09%	3.35%
Prudential Core Plus	2.68%	11.33%	11.90%	4.71%	-
Blmbg Barclays Aggregate	2.59%	9.10%	10.17%	3.09%	3.35%
<b>Inflation Responsive Fund</b>	<b>1.42%</b>	<b>10.44%</b>	<b>6.81%</b>	<b>4.63%</b>	<b>1.97%</b>
Inflation Responsive Benchmark	1.09%	10.10%	6.31%	2.52%	0.37%
BlackRock Strategic Completion	1.42%	10.46%	-	-	-
BlackRock Custom Benchmark	1.09%	10.10%	4.41%	-	-
<b>Large Cap Core Equity Fund</b>	<b>(3.07%)</b>	<b>17.65%</b>	<b>1.28%</b>	-	-
Russell 1000 Index	(1.83%)	18.48%	2.49%	12.57%	9.85%
Hotchkis & Wiley Large Cap Value	(6.10%)	14.33%	(6.04%)	9.16%	6.21%
Russell 1000 Value Index	(2.94%)	13.75%	0.62%	8.08%	6.59%
Macquarie Large Cap Value	(3.02%)	9.33%	(0.91%)	7.82%	-
Russell 1000 Value Index	(2.94%)	13.75%	0.62%	8.08%	6.59%
Sands Capital Large Cap Growth	(2.71%)	25.19%	3.50%	19.61%	11.97%
Russell 1000 Growth Index	(0.77%)	23.28%	4.27%	17.03%	13.06%
Loomis Sayles Large Cap Growth	(1.99%)	21.17%	6.79%	15.34%	14.50%
Russell 1000 Growth Index	(0.77%)	23.28%	4.27%	17.03%	13.06%
BlackRock Russell 1000 Index	(1.90%)	18.35%	2.33%	-	-
Russell 1000 Index	(1.83%)	18.48%	2.49%	12.57%	9.85%
<b>Small/Mid Cap Equity Fund</b>	<b>(5.12%)</b>	<b>15.74%</b>	<b>(7.68%)</b>	-	-
Russell 2500 Index	(4.00%)	15.67%	(7.14%)	9.04%	7.06%
Hotchkis & Wiley Mid Cap Value	(11.42%)	(2.47%)	(27.31%)	(0.09%)	(1.31%)
Russell 2500 Value Index	(4.87%)	10.36%	(9.97%)	5.52%	4.76%
Earnest Partners Small/Mid Cap Value	(3.70%)	19.02%	(2.17%)	9.74%	7.60%
Russell 2500 Value Index	(4.87%)	10.36%	(9.97%)	5.52%	4.76%
Wedge Small/Mid Cap Value	(4.93%)	11.64%	(10.23%)	4.93%	4.89%
Russell 2500 Value Index	(4.87%)	10.36%	(9.97%)	5.52%	4.76%
Brown Advisory Small/Mid Cap Growth	(3.45%)	29.59%	5.18%	13.98%	13.28%
Russell 2500 Growth Index	(2.84%)	22.27%	(3.70%)	13.16%	9.65%
BlackRock Russell 2500 Index	(4.04%)	15.33%	(7.49%)	-	-
Russell 2500 Index	(4.00%)	15.67%	(7.14%)	9.04%	7.06%
<b>International Equity Fund</b>	<b>(3.32%)</b>	<b>10.84%</b>	<b>(1.28%)</b>	<b>6.13%</b>	<b>2.96%</b>
Mondrian ACWI ex-US Value	(3.88%)	5.05%	(2.61%)	3.91%	0.86%
Baillie Gifford ACWI ex-US Growth	(2.79%)	16.82%	0.25%	8.78%	5.50%
MSCI ACWI ex US	(3.09%)	8.76%	(3.27%)	5.87%	1.37%

June 30, 2019



## **The North Carolina Supplemental Retirement Plans Executive Summary**

**Investment Measurement Service  
Quarterly Review**

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**June 30, 2019**

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**U.S. EQUITY**

Markets continued to march upward, and U.S. equities neared record highs. Growth outpaced value, as the dovish stance of the Fed was a headwind for valuation-sensitive stocks. Small cap stocks lagged large caps, possibly from economic weakness.

**Large Cap U.S. Equity** (S&P 500: +4.3%; Russell 1000: +4.2%)

- U.S. equity showed strong gains as market participants anticipated another round of monetary easing from the Fed.
- Financials (+8.0%) was the best-performing sector; Energy (-2.8%) was the only sector to experience negative returns over the quarter.
- Trade rhetoric weighed on U.S. stocks in May followed by a June rebound.
- Given the increase in risk appetite, cyclicals outperformed while defensive sectors such as Utilities underperformed.

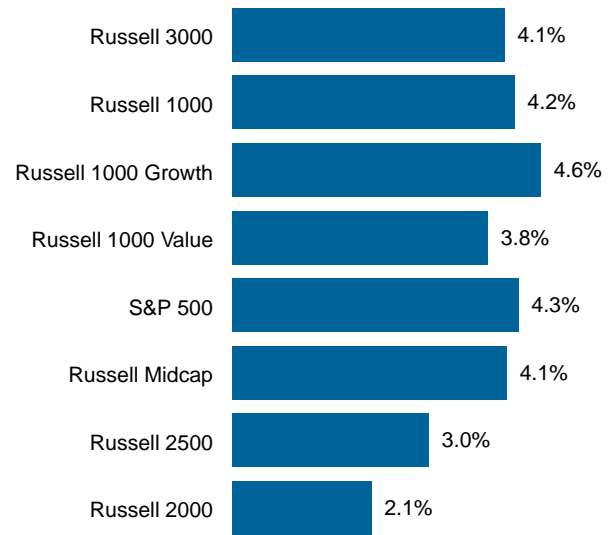
**Growth vs. Value** (Russell 1000 Growth: +4.6%; Russell 1000 Value: +3.8%)

- Value factors (P/B, P/E trailing, and yield) were mixed while growth factors (EPS growth, sales growth) were positive in the quarter.

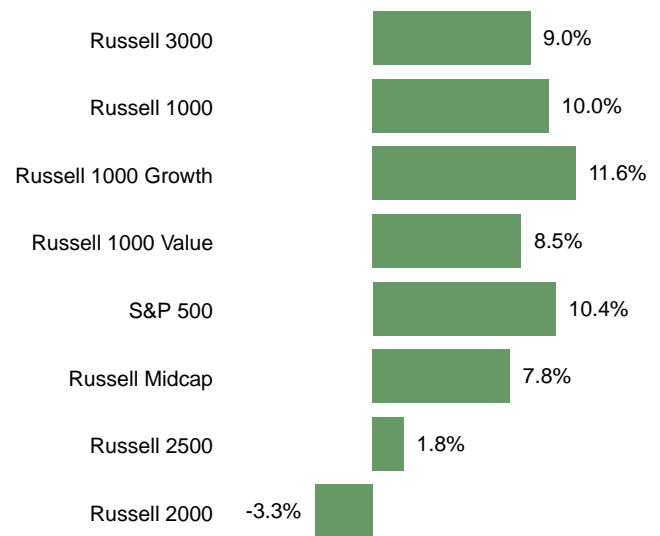
**Small Cap** (Russell 2000: +2.1%)

- Market conditions (e.g., more dovish Fed, strong U.S. dollar, trade tensions) should have benefited small cap companies, but did not.
- A slowing economy may explain weakness for small caps. Large caps tend to have stronger balance sheets and are more capable of weathering downturns.

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

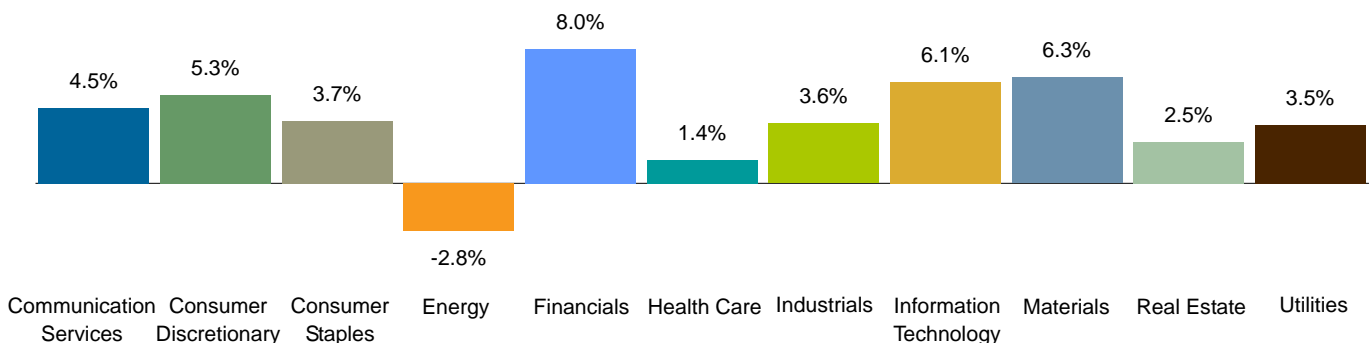


**U.S. Equity: One-Year Returns**



Sources: FTSE Russell, Standard & Poor's

**S&P Sector Returns, Quarter Ended June 30, 2019**



Source: Standard & Poor's

**NON-U.S./GLOBAL EQUITY**

Global equity markets were largely positive in the second quarter although investor sentiment was fairly muted as both U.S./China tariff fatigue and Brexit uncertainty continued. Some non-U.S. markets benefited from a weakening U.S. dollar relative to local currencies. Global equities were boosted by dovish central bank commentary that led to lower interest rates around the globe.

**Global/Non-U.S. Developed** (MSCI EAFE: +3.7%; MSCI World ex USA: +3.8%; MSCI ACWI ex USA: +3.0%; MSCI Europe: +4.5%; MSCI Japan: +1.0%)

- Developed markets rallied as central banks around the world expressed more accommodative paths with interest rates and quantitative easing.
- U.K. equities finished the quarter slightly up (+0.9%) as Brexit uncertainty continues. Prime Minister Theresa May announced her resignation during the quarter.
- Relative to other developed non-U.S. markets, Europe had a strong quarter fueled by robust returns from Germany, France, and Switzerland (30% combined weight), which benefited from declining bond yields.
- EAFE sector performance was positive across the board with the exception of real estate. Cyclical drove the majority of returns as these are highly correlated with U.S. cyclicals, which benefited from declining interest rates.
- Factor performance in non-U.S. developed markets favored growth over value, large caps over small caps, and cyclicals over defensives.

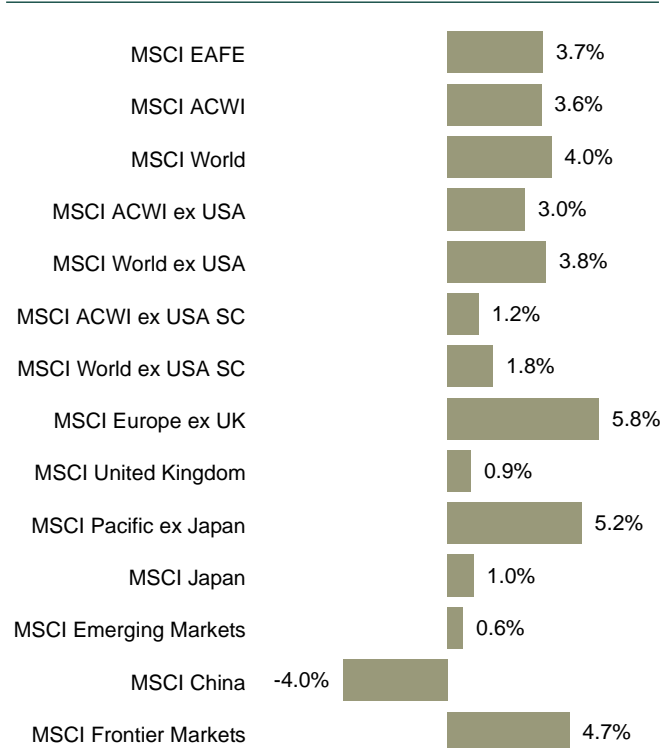
**Emerging Markets** (MSCI Emerging Markets Index: +0.6%)

- Emerging market returns were lackluster although, regionally, returns were bar-belled as many Asian countries were held back by trade concerns while EM ex-Asia tended to perform well. Russia (+16.9%) performed strongly with the help of the ruble appreciating by 4.2% relative to the U.S. dollar. Brazil (+7.2%) was also a top contributor due to the initial success of keeping pension reforms on track. China (-4.0%) faltered on tariff concerns.
- Argentina (+31.7%) was the top country performer, aided by MSCI's announcement of its inclusion in the MSCI Emerging Markets Index at the end of May (eight stocks in total).
- The MSCI EM Value Index outperformed the MSCI EM Growth Index as many growth-oriented sector and country returns were impacted by trade disputes.

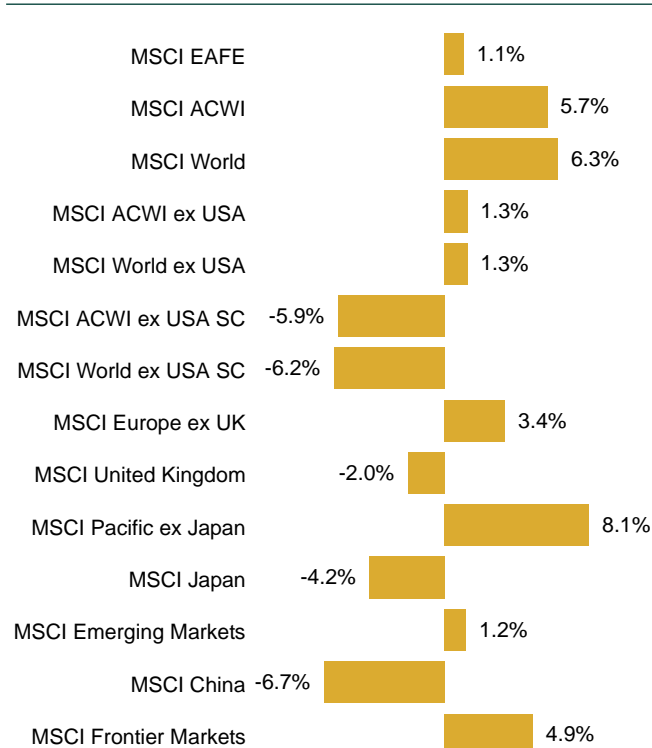
**Non-U.S. Small Cap** (MSCI World ex USA Small Cap: +1.8%; MSCI EM Small Cap: +1.0%; MSCI ACWI ex USA Small Cap: +1.2%)

- Non-U.S. small caps lagged large caps as investors preferred lower earnings risk and higher earnings momentum. Emerging market small caps lagged large caps as investors searched for a combination of lower volatility and higher growth that was absent in smaller companies as tariff uncertainty persisted.

**Global Equity: Quarterly Returns**



**Global Equity: One-Year Returns**



Source: MSCI



**FIXED INCOME**

U.S. economic data continued to be mixed as a strong labor market and rising personal income offset waning business confidence and declining industrial production. The Federal Reserve’s dovish statements and announced policy objective to “sustain the expansion” caused risk assets and U.S. Treasury yields to rally. Uncertainty surrounding trade policy and muted inflation data provided the Fed with additional cover for its rationale to potentially cut rates later this year.

**U.S. Fixed Income** (Bloomberg Barclays US Aggregate Bond Index: +3.1%)

- U.S. Treasuries gained 3.0% as the U.S. Treasury yield curve shifted lower across maturities, most dramatically at the 2-year key rate, as traders priced in expectations for the Fed to pre-emptively ease in order to boost domestic economic growth.
- The overall shape of the yield curve did not materially change during the quarter. The yield differential between the 10-year and 2-year key rates remained positive and widened 11 basis points during the quarter to close at 25 bps. However, the front-end of the curve remained inverted, with the 5-year offering less yield than the 2-year key rate.
- Nominal Treasuries outperformed TIPS as inflation expectations fell; the 10-year breakeven spread was only 1.69% as of quarter-end versus 1.88% at the end of the first quarter.

**Investment Grade Corporates** (Bloomberg Barclays Corporate: +4.5%)

- Credit spreads rallied on the back of dovish Fed policy.
- Gross new corporate supply this quarter was \$290.5 billion, which was 14% lower than a year ago. Year-to-date supply was 18% lower than in the first half of 2018. New issuance favored the 6-12 year maturities relative to last year.
- AAA-rated corporates (+5.0%) were the best performers in absolute return terms. BBB-rated lagged AAA by 18 bps, but posted a positive excess return over the index (+1.4%).

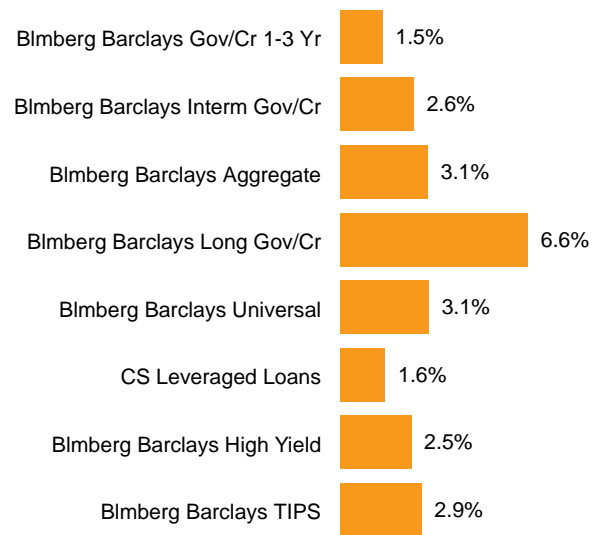
**High Yield** (Bloomberg Barclays Corporate High Yield: +2.5%)

- High yield corporates posted positive results for the quarter, but lagged investment grade corporates on both absolute and excess returns. High yield gained 9.9% for the first half of 2019.
- Interest rate sensitive BB-rated issues posted the highest return (+3.1%) while CCC-rated issues rose 0.3%.

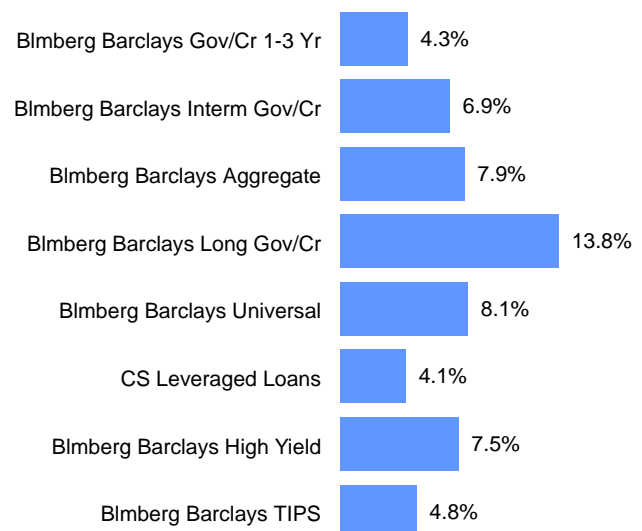
**Leveraged Loans** (CS Leveraged Loans: +1.6%)

- Bank loans participated in the risk-on rally, but lagged both longer duration IG and HY corporates as interest rates declined.

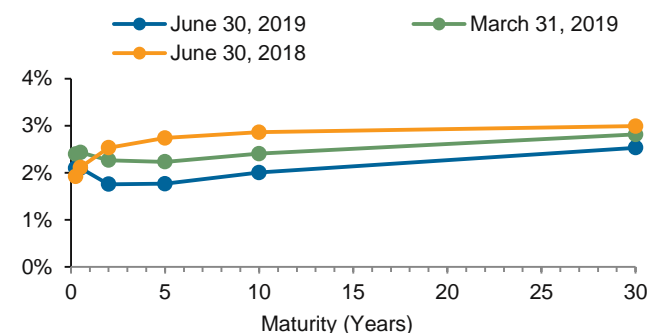
**U.S. Fixed Income: Quarterly Returns**



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



**U.S. Treasury Yield Curves**



Sources: Bloomberg, Bloomberg Barclays, Credit Suisse

- Retail outflows remain unabated as the Fed’s dovish tone dampened enthusiasm for floating rate assets. New CLO issuance running ahead of expectations has also put technical pressure on the sector as investors absorbed the new float.
- Bank loans have less sensitivity to interest rates, but may have a similar spread duration profile to that of high yield bonds.

**NON-U.S. FIXED INCOME**

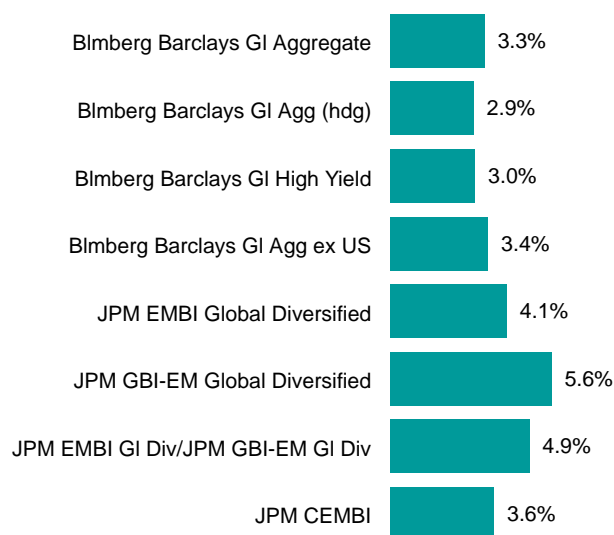
**Global Fixed Income** (Bloomberg Barclays Global Aggregate: +3.3%, unhedged)

- Other developed market sovereign bonds rose in tandem with the rally in Treasuries and have pushed European sovereigns further into negative yields. The U.S. dollar depreciated modestly versus the euro and yen, but gained versus the U.K. pound.

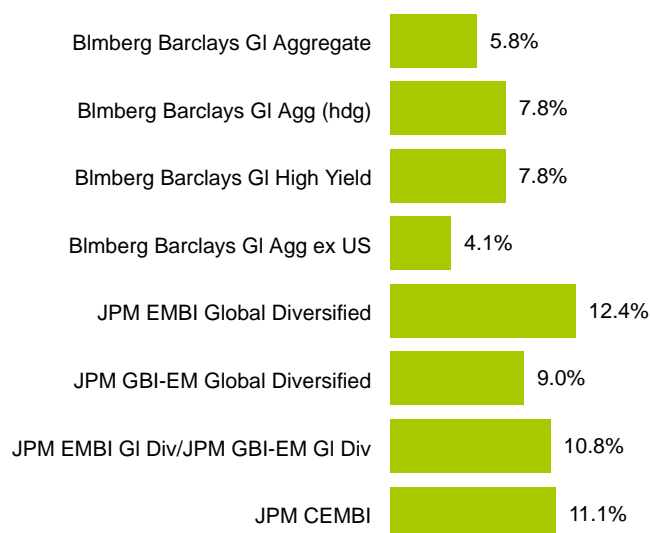
**US\$ EMD** (JPM EMBI Global Diversified: +4.1%), **Local Currency EMD** (JPM GBI-EM Global Diversified: +5.6%)

- Most emerging market currencies appreciated against the U.S. dollar.
- Top performers included Russia (+10.4%) and Turkey (+10.1%), while Argentina was the worst performer (-5.0%), and one of the few countries to post a negative result this quarter.

**Global Fixed Income: Quarterly Returns**

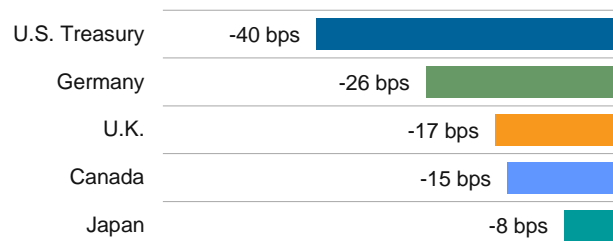


**Global Fixed Income: One-Year Returns**



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

**1Q19 to 2Q19**



Sources: Bloomberg, Bloomberg Barclays, JP Morgan

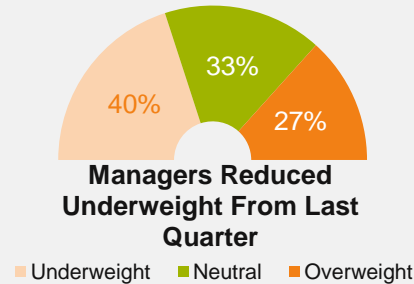
# Summary Expectations – 3Q2019

## Macro

### Outlook for U.S. economy and expected rate hikes (next 3-9 mos.)

Consensus: **Stark contrast from a quarter ago, now 69% for 2 hikes**  
 15% Expect 1-2 hikes in 2019  
 69% 2 hikes  
 15% 2-3 hikes

### Relative Portfolio Duration



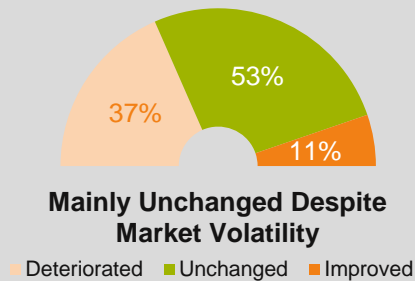
### Shape of the Yield Curve (next 3-9 mos.)

Consensus: **Non-directional**  
 18% Expect Flattener  
 12% Neutral  
 71% Steepener

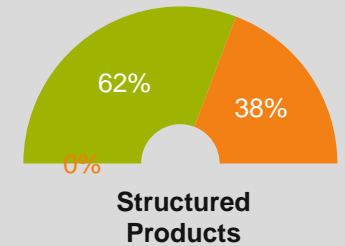
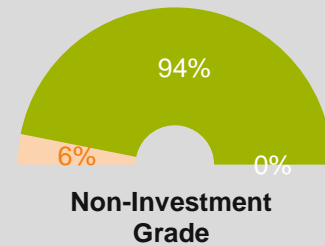
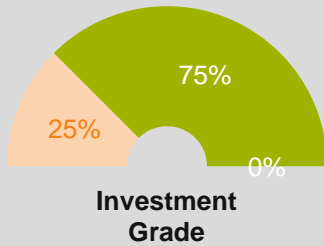


## Fundamentals

### Corporate Fundamentals Q/Q

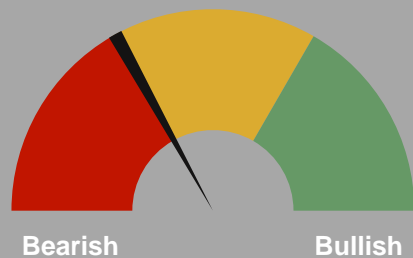


### Sector Outlooks – Stable with lowered optimism from a quarter ago



## Positioning\*

### Current Active Risk Budget



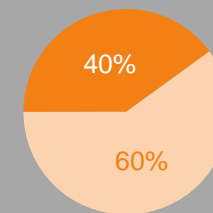
### Top 3 Sector Overweights\*

- 1 – CMBS/ABS
- 2 – MBS/NRMBS
- 3 – HY Corporates

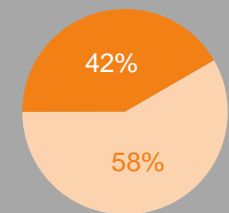
### Top 3 Sector Underweights

- 1 – US Treasuries
- 2 – Gov't Agencies
- 3 – IG Corporates

### Favor TIPS



### Favor DM vs EM



\*Sector over/underweights compiled mainly from multi-sector respondents; multiple sectors listed within rankings denote ties

# Summary Expectations – 2Q2019

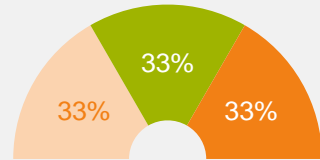
## Macro

### Outlook for U.S. economy and expected rate hikes (next 3-9 mos.)

Consensus: **Zero hikes in 2019 and slowing US economy**

- 91% Expect 0 hikes in 2019
- 5% 0-1 hike
- 5% 2-3 hikes

### Relative Portfolio Duration



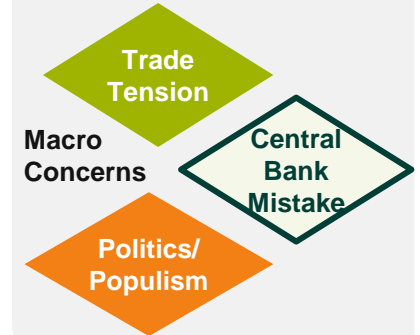
**Managers Reduced Underweight From Last Quarter**

Underweight Neutral Overweight

### Shape of the Yield Curve (next 3-9 mos.)

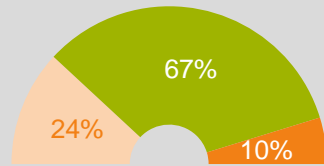
Consensus: **Non-directional**

- 48% Expect Flattener
- 24% Neutral
- 36% Steepener



## Fundamentals

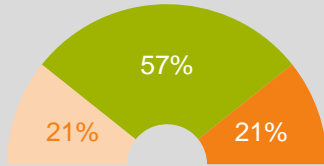
### Corporate Fundamentals Q/Q



**Mainly Unchanged Despite Market Volatility**

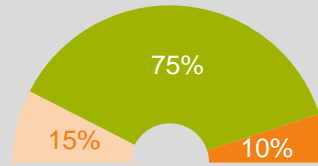
Deteriorated Unchanged Improved

### Sector Outlooks – Stable with lowered optimism from a quarter ago

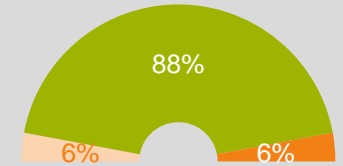


**Investment Grade**

Deteriorating Stable Improving



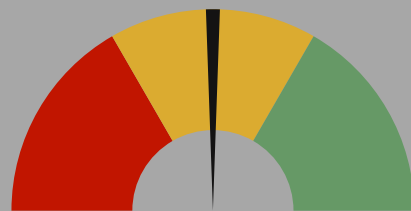
**Non-Investment Grade**



**Structured Products**

## Positioning\*

### Current Active Risk Budget



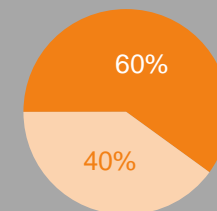
### Top 3 Sector Overweights\*

- 1 – CMBS/NRMBS
- 2 – CORP (IG & HY)
- 3 – ABS/CLO

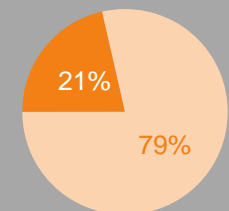
### Top 3 Sector Underweights

- 1 – US Treasuries
- 2 – Gov't Agencies
- 3 – Agency MBS

### Favor TIPS



### Favor DM vs EMD



Yes No

\*Sector over/underweights compiled mainly from multi-sector respondents; multiple sectors listed within rankings denote ties

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## Disclosure

This report provides forward-looking insights on market conditions from several respected money management firms with the objective of providing Callan with a broad perspective of key market drivers. Over 20 managers complete a quarterly questionnaire on their 3-9 month forward-looking views on the US economy, health of corporate fundamentals, market valuations and technicals, and how these views translate to their portfolio positioning.

This report is for informational purposes only and should not be construed as legal or tax advice on any matter. Any decision you make on the basis of the content is your sole responsibility. You should consult with legal and tax advisers before applying any of this information to your particular situation. 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. Past performance is no guarantee of future results.

# Fees

A	B	C	D	E	F C+D+E	G B*F	H	I F-H
Funds and Sub-Advisors	Assets*	Inv. Mgmt. Fee	Custodial Expenses <sup>1</sup>	NC Budget <sup>2</sup>	Total Estimated Expense (%)	Total Estimated Expenses (\$) <sup>3</sup>	Callan Median Expense <sup>4</sup>	Difference
<b>North Carolina Stable Value Fund</b>	<b>\$2,094,599,397</b>	<b>0.306%</b>	<b>0.002%</b>	<b>0.025%</b>	<b>0.333%</b>	<b>\$6,975,016</b>	<b>0.38%</b>	<b>-0.05%</b>
Galliard	\$2,101,377,842	0.306%	0.000%			\$6,430,216	0.33%	-0.02%
<b>North Carolina Fixed Income Passive Fund</b>	<b>\$80,565,791</b>	<b>0.020%</b>	<b>0.033%</b>	<b>0.025%</b>	<b>0.078%</b>	<b>\$62,680</b>	<b>0.15%</b>	<b>-0.07%</b>
Blackrock	\$80,565,791	0.020%	0.010%			\$16,113	0.05%	-0.03%
<b>North Carolina Fixed Income Fund</b>	<b>\$1,708,312,307</b>	<b>0.129%</b>	<b>0.010%</b>	<b>0.025%</b>	<b>0.164%</b>	<b>\$2,799,924</b>	<b>0.41%</b>	<b>-0.25%</b>
50% TCW	\$852,788,912	0.147%	0.000%			\$1,252,747	0.22%	-0.07%
50% Prudential	\$855,523,369	0.110%	0.010%			\$941,076	0.22%	-0.11%
<b>North Carolina Inflation Sensitive Fund</b>	<b>\$395,498,642</b>	<b>0.090%</b>	<b>0.015%</b>	<b>0.025%</b>	<b>0.130%</b>	<b>\$515,730</b>	<b>0.85%</b>	<b>-0.72%</b>
Blackrock	\$395,498,629	0.090%	0.010%			\$355,949	0.58%	-0.49%
<b>North Carolina Large Cap Passive Fund</b>	<b>\$2,731,893,581</b>	<b>0.005%</b>	<b>0.011%</b>	<b>0.025%</b>	<b>0.041%</b>	<b>\$1,120,076</b>	<b>0.08%</b>	<b>-0.04%</b>
Blackrock	\$2,731,893,581	0.005%	0.010%			\$136,595	0.03%	-0.03%
<b>North Carolina Large Cap Core Fund</b>	<b>\$1,892,956,791</b>	<b>0.286%</b>	<b>0.041%</b>	<b>0.025%</b>	<b>0.352%</b>	<b>\$6,657,529</b>	<b>0.73%</b>	<b>-0.38%</b>
18.75% Hotchkis & Wiley	\$359,677,050	0.400%	0.000%			\$1,438,708	0.40%	0.00%
18.75% Macquarie Large Cap Value	\$355,435,019	0.277%	0.000%			\$985,977	0.40%	-0.12%
18.75% Sands Capital Management	\$354,507,949	0.450%	0.000%			\$1,595,286	0.44%	0.01%
18.75% Loomis Sayles	\$358,170,704	0.381%	0.000%			\$1,364,630	0.43%	-0.05%
25% BlackRock Advisors Inc., Large Cap Index*	\$465,166,069	0.005%	0.010%			\$23,258	0.03%	-0.03%
<b>North Carolina SMID Cap Passive Fund</b>	<b>\$316,982,674</b>	<b>0.005%</b>	<b>0.015%</b>	<b>0.025%</b>	<b>0.045%</b>	<b>\$143,593</b>	<b>0.20%</b>	<b>-0.15%</b>
Blackrock	\$316,982,674	0.005%	0.010%			\$15,849	0.06%	-0.06%
<b>North Carolina SMID Cap Core Fund</b>	<b>\$857,271,351</b>	<b>0.375%</b>	<b>0.012%</b>	<b>0.025%</b>	<b>0.412%</b>	<b>\$3,527,672</b>	<b>0.92%</b>	<b>-0.51%</b>
15.80% Hotchkis & Wiley	\$136,329,359	0.500%	0.000%			\$681,647	0.62%	-0.12%
15.80% Earnest Partners	\$134,939,818	0.470%	0.000%			\$634,217	0.72%	-0.25%
15.80% Wedge	\$134,996,690	0.611%	0.000%			\$824,965	0.72%	-0.11%
23.80% Brown Advisory	\$205,182,661	0.515%	0.000%			\$1,057,511	0.75%	-0.23%
28.80% BlackRock Advisors Inc., SMID Index*	\$245,822,819	0.005%	0.010%			\$12,291	0.06%	-0.06%
<b>North Carolina International Passive Fund</b>	<b>\$78,339,187</b>	<b>0.025%</b>	<b>0.039%</b>	<b>0.025%</b>	<b>0.088%</b>	<b>\$69,095</b>	<b>0.25%</b>	<b>-0.16%</b>
Blackrock	\$78,339,187	0.025%	0.020%			\$19,193	0.08%	-0.06%
<b>North Carolina International Equity</b>	<b>\$1,815,451,555</b>	<b>0.334%</b>	<b>0.010%</b>	<b>0.025%</b>	<b>0.369%</b>	<b>\$6,702,647</b>	<b>0.82%</b>	<b>-0.45%</b>
50% Baillie Gifford Growth	\$915,081,606	0.281%	0.000%			\$2,570,464	0.55%	-0.27%
50% Mondrian Investment Partners Value	\$898,900,582	0.387%	0.000%			\$3,476,947	0.52%	-0.13%
<b>North Carolina TIPS Fund</b>	<b>\$207,649,996</b>	<b>0.025%</b>	<b>0.005%</b>	<b>0.025%</b>	<b>0.055%</b>	<b>\$114,000</b>	<b>0.40%</b>	<b>-0.35%</b>
Blackrock	\$207,649,996	0.025%	0.000%			\$51,912	0.14%	-0.12%
<b>Total</b>	<b>\$12,179,521,273</b>	<b>0.196%</b>	<b>0.018%</b>	<b>0.025%</b>	<b>0.236%</b>	<b>\$28,687,963</b>	<b>0.33%</b>	

\*Individual Manager Assets do not sum to Fund asset class totals due to residual/closing accounts.

<sup>1</sup> Based on annualized monthly fee accruals as of 06/30/2019

<sup>2</sup> The cost of the budget associated with the management of the Supplemental Retirement Plans, borne by each investment option in proportion to the pro-rate share of the applicable assets in that fund.

<sup>3</sup> Manager fee estimates reflect investment management fee only, does not include \$31 per participant record-keeping fee.

<sup>4</sup> The median expenses for White Label composites are compared against their respective Callan Mutual Fund Institutional Universe, while the individual managers are compared to peers with the same vehicle and strategy assets. The total fund median represents asset-weighted investment management fees for plans greater than \$1 billion in the Callan DC index.

# Performance Watch List Score Card

## North Carolina Supplemental Retirement Plans Active Management Scorecard

Large Cap Equity									
	3 Years to 6/30/2019		3 Years to 3/31/2019		3 Years to 12/31/2018		3 Years to 09/30/2018		
	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	5 Year Risk
Hotchkis & Wiley Large Cap Value									
Macquarie Large Cap Value									
Sands Capital Large Cap Growth									
Loomis Large Cap Growth									
Small/Mid Cap									
	3 Years to 6/30/2019		3 Years to 3/31/2019		3 Years to 12/31/2018		3 Years to 09/30/2018		
	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	5 Year Risk
Hotchkis & Wiley SMID Cap Value									
EARNEST Partners SMID Cap Value									
WEDGE SMID Cap Value									
Brown Advisory									
International Equity									
	3 Years to 6/30/2019		3 Years to 3/31/2019		3 Years to 12/31/2018		3 Years to 09/30/2018		
	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	5 Year Risk
Baillie Gifford ACWI ex US Growth									
Mondrian ACWI ex US Value									
Fixed Income									
	3 Years to 6/30/2019		3 Years to 3/31/2019		3 Years to 12/31/2018		3 Years to 09/30/2018		
	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	5 Year Risk
TCW Core Plus*									
Prudential Core Plus									
Stable Value									
	3 Years to 6/30/2019		3 Years to 3/31/2019		3 Years to 12/31/2018		3 Years to 09/30/2018		
	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	5 Year Risk
Stable Value									

\*TCW Core Plus first full quarter was 1Q 2017. Prior performance is that of the composite.

Manager Assessment

	Organization	People	Process and Philosophy	Product Dynamics	Short Term Performance	Long Term Performance	Overall	OVERALL STATUS	NOTES
<b>LARGE CAP CORE</b>									
BlackRock	●	●	●	●	●	●	●	Satisfactory	
<b>LARGE CAP VALUE</b>									
Hotchkis & Wiley Large Cap Fundamental Value	●	●	●	●	●	●	●	Satisfactory	Recent performance volatility within expectations given deep-value process.
Macquarie Large Cap Value Focus	●	●	●	●	●	●	●	Satisfactory	Concern over Lead PM Ty Nutt's retirement in July 2019; monitoring transition to Nik Lalvani closely and additional planned junior PM hire. Outstanding lawsuit between former PM and Macquarie has been resolved (1/1/19). Performance in line with expectations.
<b>LARGE CAP GROWTH</b>									
Loomis Sayles Large Cap Growth	●	●	●	●	●	●	●	Satisfactory	
Sands Capital Management Select Growth	●	●	●	●	●	●	●	Satisfactory	
<b>SMID CAP CORE</b>									
BlackRock	●	●	●	●	●	●	●	Satisfactory	
<b>SMID CAP VALUE</b>									
Wedge Capital US SMID Cap Value	●	●	●	●	●	●	●	Satisfactory (on NC watch list)	Recent performance, while within expectations, has triggered NC watch list.
<b>SMID CAP GROWTH</b>									
Brown Advisory US SMID Cap Growth	●	●	●	●	●	●	●	Satisfactory	
Earnest Partners US SMID Cap Growth	●	●	●	●	●	●	●	Satisfactory	
<b>MID CAP VALUE</b>									
Hotchkis & Wiley Mid Cap Value	●	●	●	●	●	●	●	Satisfactory (on NC watch list)	Recent underperformance within expectations given deep-value process but notable for magnitude. Overall investment team remains exceptionally stable.

● Positive status; no issues    ● Cautionary status; noteworthy item but no concerns    ● Under Review status; noteworthy item with concerns

Product Dynamics: reflects noteworthy highlights of the portfolio and strategy including assets and portfolio characteristics.  
Short-Term Performance: reflects periods of three years and under with a focus on whether or not the manager is performing within expectations.  
Long-Term Performance: reflects periods of five years and longer with a focus on whether or not the manager is performing within expectations.



Manager Assessment

	Organization	People	Process and Philosophy	Product Dynamics	Short Term Performance	Long Term Performance	Overall	OVERALL STATUS	NOTES
<b>INTERNATIONAL EQUITY</b>									
Baillie Gifford ACWI Ex-US Alpha	●	●	●	●	●	●	●	Satisfactory	Retirement of PM Andrew Strathdee in June 2019 appeared seamless given the depth and breadth of team.
BlackRock	●	●	●	●	●	●	●	Satisfactory	
Mondrian Investment Partners Focused ACWI Ex-US	●	●	●	●	●	●	●	Satisfactory <i>(on NC watch list)</i>	Liz Desmond appointed Deputy CEO; Desmond's day to day responsibilities are not changing and she continues to manage the International Equity group and portfolios. Outperformance in 4Q18 confirms consistency of process and ability to protect in down markets, however, strategy continues to lag on a 3-year basis due to underperformance in 2017 (challenged due to narrow, growth market).
<b>CORE &amp; CORE PLUS FIXED INCOME</b>									
BlackRock	●	●	●	●	●	●	●	Satisfactory	
PGIM Core Plus Bond	●	●	●	●	●	●	●	Satisfactory	Announced series of changes across FI platform. Core Plus team remains intact with some changes in reporting lines.
TCW Core Plus	●	●	●	●	●	●	●	Satisfactory	Cautionary on Team due to resignation of Head of Credit Research, Jamie Farnham; replaced by special situations analyst Steve Purdy.
<b>INFLATION SENSITIVE</b>									
BlackRock Strategic Completion Fund	●	●	●	●	●	●	●	Satisfactory	
<b>STABLE VALUE</b>									
Galliard Stable Value	●	●	●	●	●	●	●	Under Review <i>(on NC watch list)</i>	Concern over key executive turnover, however, Galliard has spent several years planning for succession. Remaining founding partners Richard Merriam and Karl Tourville have formally announced their retirements. Monitoring integration with parent company Wells Fargo and renegotiation of long-term compensation arrangements which may impact Galliard's ability to retain talent and assets.

● Positive status; no issues    ● Cautionary status; noteworthy item but no concerns    ● Under Review status; noteworthy item with concerns

*Product Dynamics:* reflects noteworthy highlights of the portfolio and strategy including assets and portfolio characteristics.  
*Short-Term Performance:* reflects periods of three years and under with a focus on whether or not the manager is performing within expectations.  
*Long-Term Performance:* reflects periods of five years and longer with a focus on whether or not the manager is performing within expectations.

### Hotchkis & Wiley MidCap

Hotchkis and Wiley (H&W) utilizes a disciplined equity approach that seeks to determine the present value of a company's future cash flows in order to maximize long-term performance with below-market volatility.

Underperformance is notable for the high magnitude but within expectations of the strategy and market conditions. Callan remains cautious of the risk-adjusted return profile. The firm has not changed the investment process and we would expect results to trail the benchmark when defensive stocks and sectors are in favor. Future portfolio results will continue to be tied to the performance within Energy and Financials sectors, areas currently overweight in the portfolio and differentiated from the benchmark.

The investment philosophy of H&W is rooted in exploiting the behavioral biases of the broader stock market. H&W invests in companies where, in their analysis, the present value of future cash flows exceeds the current market price. They believe these opportunities emerge because other investors ("the market") extrapolates the most recent trends of earnings and margin changes into the future, which leads to favoring "popular" investments and shunning unglamorous investments—regardless of the market valuation.

The portfolio holds 50 to 80 securities at a given time. Lead portfolio manager Stan Majcher does consider benchmark weights when constructing the portfolio. Risk is managed through limits to individual sectors, industries and securities, which are limited to a maximum of 35%, 15% and 5% of total portfolio assets at market, respectively.

The portfolio underperformed the Russell Midcap Value Index benchmark and peers over trailing one- and three-year periods. The performance profile remains volatile: during Q4 2018, the fund fell (15.2%) versus the index (10.5%). The portfolio will typically bounce back in rallies. The portfolio ranked in the bottom decile in 2018 as the cyclical and deeper value exposure sharply declined during the market sell-off in Q4 2018. The magnitude of underperformance in Q4 2018 (and 2018) has impacted the trailing three-year results as well. Sell decisions are based on valuation, risk and portfolio guidelines.

Portfolio manager Majcher is indifferent to sector weights relative to the benchmark – the portfolio is underweight Real Estate (3.1% vs. 16.6% index), Utilities (3.1% vs. 6.8% index), Health Care (1.6% vs. 5.1% index) Materials (0% vs. 5.8% index), and Staples (1.7% vs. 3.1% index). These sectors comprise approximately 40% of the benchmark but only 9% of the portfolio. Not being exposed to Real Estate, Utilities, and Staples was a major headwind to results in 2018 as investors sought defensive and safety stocks amidst the heightened uncertainty regarding tariffs, global growth, and interest rates. Conversely, Majcher determined that the Energy sector remains the most attractive and is the largest overweight in the portfolio; other overweight sectors include Financials, Technology, Consumer Discretionary, and Industrials. The substantial overweight to energy was the single largest performance detractor in Q2 2019.

### **Wedge Smid Cap**

WEDGE Capital Management was founded in 1984 and based in North Carolina. The organization is 100% employee owned by eight partners. WEDGE employs a well-resourced investment team with significant experience in the industry and at the firm. The Smid Value strategy is a 50/50 blend of WEDGE Small Cap Value and Mid Cap Value portfolio. The investment approach is a fundamentally based, value-oriented discipline, employing up front quantitative screens and qualitative analysis. Quantitative screens search for attractive value and quality characteristics to define a pool of candidates; fundamental research is then applied to identify attractive unrecognized value opportunities. WEDGE believes they can produce superior long term returns by employing rigorous quantitative research and independent qualitative analysis.

The WEDGE Smid Value strategy has produced competitive performance results, outperforming the Russell 2500 Value Index on a long-term basis. WEDGE significantly underperformed in fourth quarter 2016 when higher risk, lower quality securities performed very well post-election; this time period negatively impacts shorter term results. Underperformance over the last year is also influenced by an underweight to REITs as well as stock selection in consumer durables and utilities. A notable detractor within utilities was PG&E, which was sold in mid-January prior to the bankruptcy filing.

This strategy should not perform well in vertical up markets with narrow leadership and typically protects in down markets. Effective August 31, 2019, Wedge has agreed to a new fee schedule that will lower the investment management fee from 0.61% to 0.52%.

### **Mondrian International**

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

Mondrian's fundamental approach employs a combination of top-down and bottom-up processes to identify quality businesses trading at favorable valuation defined by four-stage dividend discount model. The strategy offers defensive-value characteristics with an absolute-return performance pattern. As such, the strategy has delivered long-term outperformance relative to the index and peers by consistently compounding excess returns garnered from downside protection.

Outperformance in fourth quarter of 2018 relative to the MSCI ACWI ex-US index confirms the consistency of the process and ability to protect in down markets. However, the strategy continues to lag on a 3-year basis due to the underperformance in 2017. The strategy was challenged in 2017 given the narrow, growth market. Mondrian's value oriented and defensive style, understandably did not capture the upside in 2017. Markets have been remarkably strong since the global financial crisis in 2008, which tends to be a headwind for all of their strategies on a relative basis. Callan is cautionary in light of the recent performance and modest AUM decline. However, history has shown over the long term, and especially in periods of stress, Mondrian is able to beat their benchmark by playing superior defense.

## Investment Fund Balances

The table below compares the fund's investment fund balances as of June 30, 2019 with that of March 31, 2019. 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 Funds

	June 30, 2019		Net New Invest.	Invest. Return	March 31, 2019	
	Market Value	Weight			Market Value	Weight
<b>North Carolina SRP 401k &amp; 457</b>						
<b>Tier II Passive</b>	<b>\$3,415,431,230</b>	<b>28.04%</b>	<b>\$(15,197,598)</b>	<b>\$132,037,389</b>	<b>\$3,298,591,439</b>	<b>27.94%</b>
Fixed Income Passive	80,565,791	0.66%	1,682,449	2,370,025	76,513,317	0.65%
Treasury Inflation Protected	207,649,996	1.70%	6,810,373	5,033,386	195,806,237	1.66%
Large Cap Passive	2,731,893,581	22.43%	(23,186,656)	113,139,019	2,641,941,218	22.38%
International Passive	78,339,187	0.64%	812,722	2,408,487	75,117,978	0.64%
SMID Cap Passive	316,982,674	2.60%	(1,316,486)	9,086,472	309,212,689	2.62%
<b>Tier II Active</b>	<b>\$8,764,090,044</b>	<b>71.96%</b>	<b>\$17,873,299</b>	<b>\$240,079,810</b>	<b>\$8,506,136,935</b>	<b>72.06%</b>
Stable Value Fund	2,094,599,397	17.20%	3,230,533	13,294,496	2,078,074,367	17.60%
Fixed Income Fund	1,708,312,307	14.03%	18,384,010	58,201,900	1,631,726,397	13.82%
Inflation Responsive Fund	395,498,642	3.25%	7,603,985	3,382,277	384,512,380	3.26%
Large Cap Core Equity Fund	1,892,956,791	15.54%	(35,529,543)	69,840,174	1,858,646,160	15.74%
International Equity Fund	1,815,451,555	14.91%	13,918,346	66,393,561	1,735,139,648	14.70%
Small/Mid Cap Equity Fund	857,271,351	7.04%	10,265,966	28,967,402	818,037,983	6.93%
<b>Total Fund</b>	<b>\$12,179,521,274</b>	<b>100.0%</b>	<b>\$2,675,700</b>	<b>\$372,117,199</b>	<b>\$11,804,728,374</b>	<b>100.0%</b>

## Investment Fund Balances

The table below compares the fund's investment fund balances as of June 30, 2019 with that of March 31, 2019.

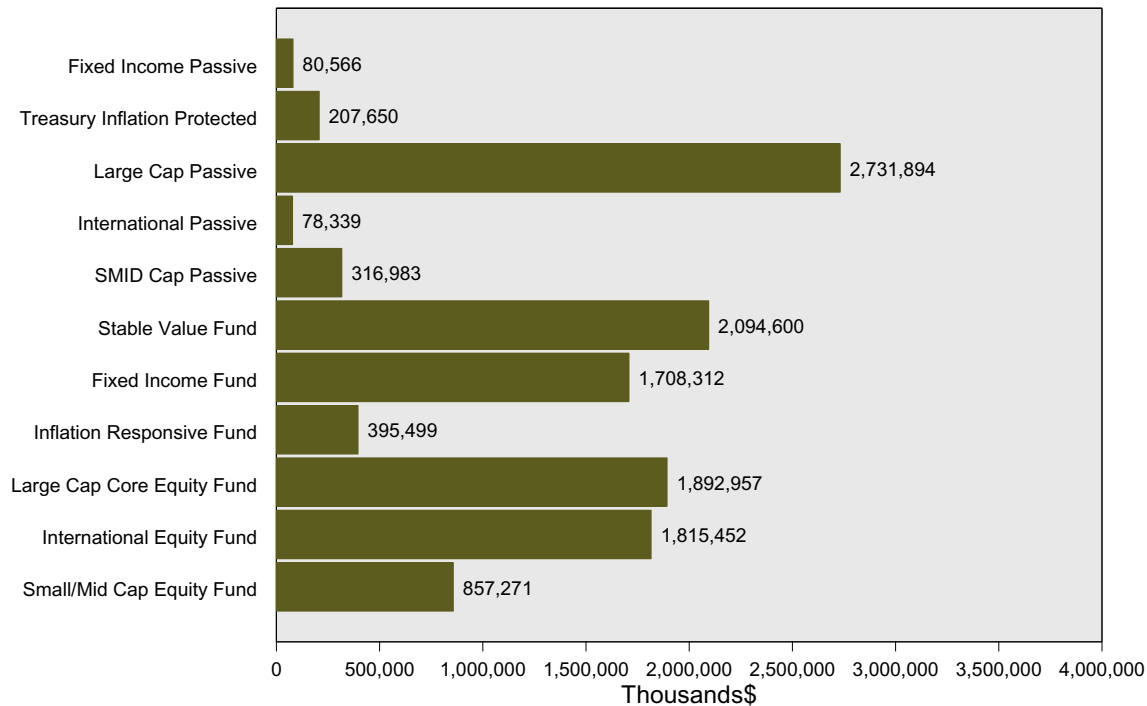
### Asset Distribution Across Investment Funds

	June 30, 2019		March 31, 2019	
	Market Value	Weight	Market Value	Weight
<b>North Carolina SRP 401k &amp; 457</b>				
<b>Tier I: GoalMaker</b>				
Post Retirement Conservative 11+	11,311,875	0.20%	9,623,777	0.18%
Post Retirement Conservative 6-10	68,246,245	1.19%	62,448,239	1.14%
Post Retirement Conservative 0-5	283,304,034	4.95%	273,988,145	5.00%
Pre Retirement Conservative 0-5	249,501,866	4.36%	238,489,306	4.35%
Pre Retirement Conservative 6-10	149,188,199	2.61%	143,314,666	2.62%
Pre Retirement Conservative 11-15	103,617,655	1.81%	100,805,331	1.84%
Pre Retirement Conservative 16-20	82,581,937	1.44%	79,463,357	1.45%
Pre Retirement Conservative 21-25	61,183,006	1.07%	58,898,070	1.08%
Pre Retirement Conservative 26+	83,301,701	1.46%	81,066,920	1.48%
Post Retirement Moderate 11+	15,554,977	0.27%	14,004,685	0.26%
Post Retirement Moderate 6-10	68,123,381	1.19%	62,119,836	1.13%
Post Retirement Moderate 0-5	314,072,174	5.49%	300,151,925	5.48%
Pre Retirement Moderate 0-5	515,065,617	9.00%	488,962,961	8.93%
Pre Retirement Moderate 6-10	520,642,190	9.09%	500,652,150	9.14%
Pre Retirement Moderate 11-15	410,529,469	7.17%	395,024,827	7.21%
Pre Retirement Moderate 16-20	325,986,224	5.69%	310,631,980	5.67%
Pre Retirement Moderate 21-25	232,551,793	4.06%	222,954,294	4.07%
Pre Retirement Moderate 26+	255,239,759	4.46%	244,747,852	4.47%
Post Retirement Aggressive 11+	8,455,755	0.15%	7,986,085	0.15%
Post Retirement Aggressive 6-10	24,357,242	0.43%	22,413,821	0.41%
Post Retirement Aggressive 0-5	120,541,808	2.11%	117,627,590	2.15%
Pre Retirement Aggressive 0-5	254,320,661	4.44%	239,032,888	4.36%
Pre Retirement Aggressive 6-10	366,391,339	6.40%	351,160,905	6.41%
Pre Retirement Aggressive 11-15	367,407,688	6.42%	347,915,394	6.35%
Pre Retirement Aggressive 16-20	365,186,930	6.38%	352,460,630	6.43%
Pre Retirement Aggressive 21-25	240,753,862	4.21%	231,069,012	4.22%
Pre Retirement Aggressive 26+	227,691,596	3.98%	221,009,582	4.03%
Post Retirement Aggressive 0-5	120,541,808	2.11%	117,627,590	2.15%
<b>Tier I: GoalMaker Total</b>	<b>\$5,725,108,983</b>	<b>100.0%</b>	<b>\$5,478,024,228</b>	<b>100.0%</b>

## Changes in Investment Fund Balances Period Ended June 30, 2019

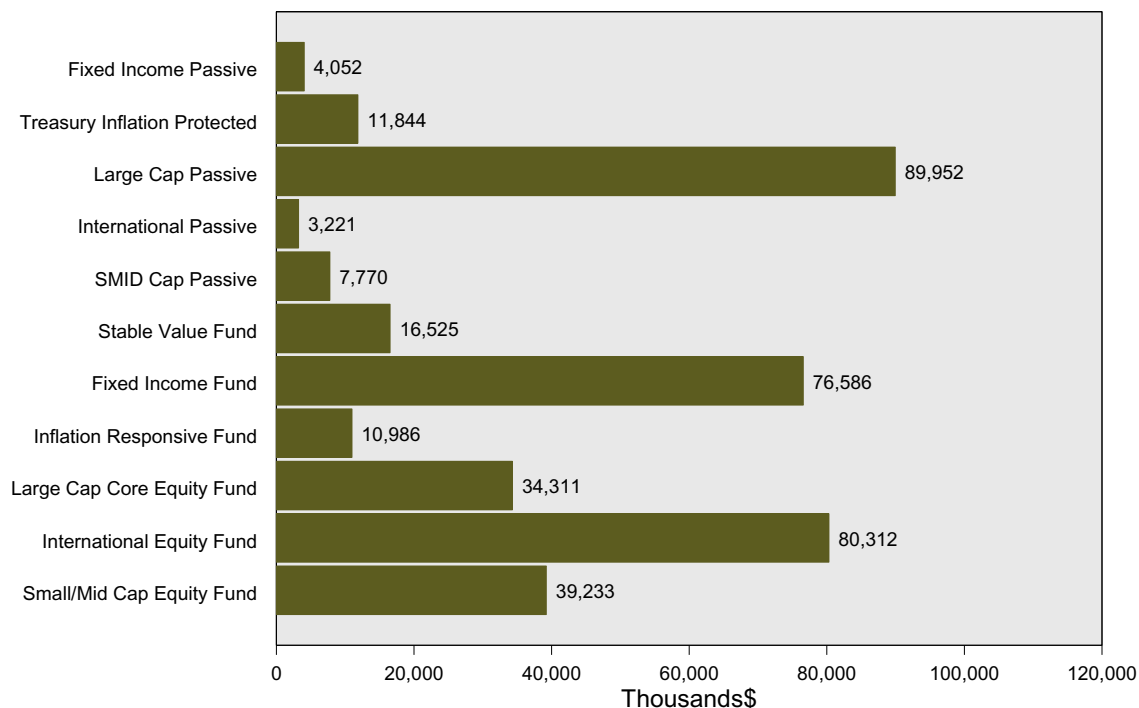
### Allocation Across Investment Options

The chart below illustrates the allocation of the aggregate fund assets across the various investment options for the quarter ended June 30, 2019.



### Changes in Fund Values

The chart below shows the net change in fund values across the various investment options for the quarter ended June 30, 2019. The change in value for each fund is the result of a combination of 3 factors: 1) market movements; 2) contributions or disbursements into or out of the funds by the participants (and any matching done by the company); and 3) transfers between funds by the participants.



## Investment Fund Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment funds over various time periods ended June 30, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

### Returns and Rankings for Periods Ended June 30, 2019

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception
<b>Tier 2: Passive (Net of Fee)</b>									
Fixed Income Passive	3.07%	51	7.77%	62	2.26%	80	2.88%	54	3.00% <sup>(10/10)</sup>
Blmbg Barclays Aggregate	3.08%	50	7.87%	39	2.31%	77	2.95%	37	3.10% <sup>(10/10)</sup>
Callan Core Bond MFs	3.08%		7.80%		2.53%		2.91%		-
Treasury Inflation Protected Securities	2.54%	57	4.68%	29	-		-		4.68% <sup>(7/18)</sup>
Blmbg US TIPS 1-10 Yr	2.53%	58	4.67%	29	1.93%	62	1.42%	43	4.67% <sup>(7/18)</sup>
Callan TIPS MFs	2.66%		4.37%		2.06%		1.36%		-
Large Cap Passive	4.30%	42	10.43%	32	14.18%	26	10.65%	20	15.88% <sup>(4/09)</sup>
S&P 500 Index	4.30%	42	10.42%	32	14.19%	26	10.71%	20	15.98% <sup>(4/09)</sup>
Callan Large Cap Core MFs	4.13%		8.54%		13.33%		9.55%		-
International Passive	3.16%	57	1.55%	35	9.67%	31	2.35%	50	9.00% <sup>(4/09)</sup>
MSCI ACWI ex US	2.98%	63	1.29%	35	9.39%	33	2.16%	50	8.94% <sup>(4/09)</sup>
Callan Non US Equity MFs	3.34%		(0.22%)		8.51%		2.29%		-
SMID Cap Passive	2.94%	58	1.67%	39	12.24%	29	7.63%	33	16.07% <sup>(4/09)</sup>
Russell 2500 Index	2.96%	58	1.77%	38	12.34%	28	7.66%	32	16.13% <sup>(4/09)</sup>
Callan SMID Core MFs	3.83%		0.87%		10.54%		6.69%		-

## Investment Fund Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment funds over various time periods ended June 30, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

### Returns and Rankings for Periods Ended June 30, 2019

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception
<b>Tier 2: Active (Net of Fee)</b>									
<b>Stable Value Fund</b>	<b>0.64%</b>	<b>1</b>	<b>2.45%</b>	<b>7</b>	<b>2.19%</b>	<b>8</b>	<b>2.05%</b>	<b>9</b>	<b>2.53%</b> (7/09)
3 Yr US Treas Rolling	0.48%	76	2.46%	6	1.94%	21	1.55%	45	1.16% (7/09)
T-Bill + 1.5%	1.00%	1	3.81%	1	2.88%	1	2.37%	1	1.99% (7/09)
Callan Stable Value CT	0.53%		2.02%		1.69%		1.51%		-
<b>Fixed Income Fund</b>	<b>3.54%</b>	<b>16</b>	<b>8.87%</b>	<b>12</b>	<b>3.38%</b>	<b>30</b>	<b>3.71%</b>	<b>17</b>	<b>4.87%</b> (4/09)
Blmbg Barclays Aggregate	3.08%	57	7.87%	48	2.31%	95	2.95%	65	3.98% (4/09)
Callan Core Plus MFs	3.16%		7.85%		3.20%		3.19%		-
TCW Core Plus	3.33%	33	8.27%	33	-	-	-	-	4.11% (1/17)
Blmbg Barclays Aggregate	3.08%	57	7.87%	48	2.31%	95	2.95%	65	3.84% (1/17)
Callan Core Plus MFs	3.16%		7.85%		3.20%		3.19%		-
Prudential Core Plus	3.75%	11	9.54%	1	4.24%	11	-	-	4.43% (1/15)
Blmbg Barclays Aggregate	3.08%	57	7.87%	48	2.31%	95	2.95%	65	2.84% (1/15)
Callan Core Plus MFs	3.16%		7.85%		3.20%		3.19%		-
<b>Inflation Responsive Fund</b>	<b>0.86%</b>	<b>80</b>	<b>4.22%</b>	<b>16</b>	<b>4.22%</b>	<b>31</b>	<b>1.69%</b>	<b>25</b>	<b>2.44%</b> (10/13)
Inflation Responsive Benchmark	0.78%	82	3.90%	22	1.72%	84	(0.10%)	55	0.75% (10/13)
Callan Real Assets MFs	1.59%		1.68%		3.85%		(0.01%)		-
BlackRock Strategic Completion	0.86%	81	-	-	-	-	-	-	5.64% (12/18)
BlackRock Custom Benchmark	0.78%	82	3.09%	37	2.31%	75	0.69%	41	5.48% (12/18)
Callan Real Assets MFs	1.59%		1.68%		3.85%		(0.01%)		-
<b>Large Cap Core Equity Fund</b>	<b>3.80%</b>	<b>65</b>	<b>9.61%</b>	<b>45</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>12.35%</b> (10/17)
Russell 1000 Index	4.25%	49	10.02%	40	14.15%	46	10.45%	42	11.30% (10/17)
Callan Lg Cap Broad MF	4.23%		9.03%		13.88%		9.72%		-
Hotchkis & Wiley Large Cap Value	4.52%	20	2.99%	75	13.20%	13	7.55%	46	16.41% (4/09)
Russell 1000 Value Index	3.84%	46	8.46%	35	10.19%	73	7.46%	48	14.56% (4/09)
Callan Lg Cap Value MF	3.67%		5.83%		11.17%		7.21%		-
Macquarie Large Cap Value	0.70%	95	6.93%	40	8.63%	89	-	-	7.82% (6/15)
Russell 1000 Value Index	3.84%	46	8.46%	35	10.19%	73	7.46%	48	7.60% (6/15)
Callan Lg Cap Value MF	3.67%		5.83%		11.17%		7.21%		-
Sands Capital Large Cap Growth	4.31%	65	12.32%	35	23.82%	1	13.54%	39	21.26% (4/09)
Russell 1000 Growth Index	4.64%	56	11.56%	44	18.07%	59	13.39%	40	17.57% (4/09)
Callan Large Cap Grwth MF	4.86%		11.03%		18.85%		13.05%		-
Loomis Sayles Large Cap Growth	5.24%	37	15.37%	11	18.47%	53	-	-	15.89% (8/14)
Russell 1000 Growth Index	4.64%	56	11.56%	44	18.07%	59	13.39%	40	13.99% (8/14)
Callan Large Cap Grwth MF	4.86%		11.03%		18.85%		13.05%		-
BlackRock Russell 1000 Index	4.19%	47	9.91%	38	-	-	-	-	10.26% (11/17)
Russell 1000 Index	4.25%	44	10.02%	37	14.15%	27	10.45%	24	10.39% (11/17)
Callan Large Cap Core MFs	4.13%		8.54%		13.33%		9.55%		-



## Investment Fund Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment funds over various time periods ended June 30, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

### Returns and Rankings for Periods Ended June 30, 2019

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception
<b>Tier 2: Active (Net of Fee)</b>									
<b>International Equity Fund</b>	<b>3.80%</b>	<b>40</b>	<b>3.76%</b>	<b>16</b>	<b>9.99%</b>	<b>26</b>	<b>3.68%</b>	<b>28</b>	<b>9.88%</b> <sup>(4/09)</sup>
MSCI ACWI ex US	2.98%	63	1.29%	35	9.39%	33	2.16%	50	8.94% <sup>(4/09)</sup>
Callan Non US Equity MFs	3.34%		(0.22%)		8.51%		2.29%		-
Mondrian ACWI ex-US Value	1.72%	80	3.80%	16	7.23%	68	1.76%	60	8.14% <sup>(4/09)</sup>
MSCI ACWI ex US	2.98%	63	1.29%	35	9.39%	33	2.16%	50	8.94% <sup>(4/09)</sup>
Callan Non US Equity MFs	3.34%		(0.22%)		8.51%		2.29%		-
Baillie Gifford ACWI ex-US Growth	5.91%	11	4.00%	15	13.23%	3	6.05%	6	12.21% <sup>(4/09)</sup>
MSCI ACWI ex US	2.98%	63	1.29%	35	9.39%	33	2.16%	50	8.94% <sup>(4/09)</sup>
Callan Non US Equity MFs	3.34%		(0.22%)		8.51%		2.29%		-
<b>Small/Mid Cap Equity Fund</b>	<b>3.49%</b>	<b>67</b>	<b>2.32%</b>	<b>53</b>	-		-		<b>6.88%</b> <sup>(10/17)</sup>
Russell 2500 Index	2.96%	73	1.77%	55	12.34%	49	7.66%	51	7.20% <sup>(10/17)</sup>
Callan SMID Broad MFs	4.14%		3.52%		12.23%		7.70%		-
Hotchkis & Wiley Mid Cap Value	(3.33%)	98	(13.63%)	97	7.21%	79	1.35%	81	16.24% <sup>(4/09)</sup>
Russell 2500 Value Index	1.89%	70	(1.92%)	45	8.98%	46	5.55%	29	14.85% <sup>(4/09)</sup>
Callan SMID Value MFs	2.61%		(4.00%)		8.83%		5.00%		-
Earnest Partners Small/Mid Cap Value	4.89%	13	6.13%	7	13.08%	1	8.25%	6	15.69% <sup>(4/09)</sup>
Russell 2500 Value Index	1.89%	70	(1.92%)	45	8.98%	46	5.55%	29	14.85% <sup>(4/09)</sup>
Callan SMID Value MFs	2.61%		(4.00%)		8.83%		5.00%		-
Wedge Small/Mid Cap Value	2.26%	54	(2.99%)	48	7.80%	77	5.85%	27	11.78% <sup>(1/12)</sup>
Russell 2500 Value Index	1.89%	70	(1.92%)	45	8.98%	46	5.55%	29	11.39% <sup>(1/12)</sup>
Callan SMID Value MFs	2.61%		(4.00%)		8.83%		5.00%		-
Brown Advisory Small/Mid Cap Growth	8.54%	12	15.99%	8	17.53%	33	13.44%	3	18.24% <sup>(4/09)</sup>
Russell 2500 Growth Index	4.14%	70	6.13%	72	16.14%	59	9.98%	59	17.50% <sup>(4/09)</sup>
Callan SMID Growth MFs	5.44%		7.80%		16.44%		10.65%		-
BlackRock Russell 2500 Index	2.94%	58	1.52%	40	-		-		6.46% <sup>(11/17)</sup>
Russell 2500 Index	2.96%	58	1.77%	38	12.34%	28	7.66%	32	6.59% <sup>(11/17)</sup>
Callan SMID Core MFs	3.83%		0.87%		10.54%		6.69%		-

## Investment Fund Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment funds over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

	<b>3 Years Ended 6/2019</b>		<b>3 Years Ended 3/2019</b>		<b>3 Years Ended 12/2018</b>		<b>3 Years Ended 9/2018</b>	
<b>Tier 2: Passive (Net of Fee)</b>								
Fixed Income Passive	2.26%	80	1.98%	86	2.01%	72	1.28%	73
Blmbg Barclays Aggregate	2.31%	77	2.03%	85	2.06%	68	1.31%	65
Callan Core Bond MFs	2.53%		2.33%		2.20%		1.58%	
Large Cap Passive	14.18%	26	13.50%	21	9.24%	10	17.28%	17
S&P 500 Index	14.19%	26	13.51%	21	9.26%	10	17.31%	16
Callan Large Cap Core MFs	13.33%		12.50%		7.94%		15.84%	
International Passive	9.67%	31	8.36%	24	4.95%	10	10.22%	27
MSCI ACWI ex US	9.39%	33	8.09%	29	4.48%	15	9.97%	32
Callan Non US Equity MFs	8.51%		6.50%		2.23%		8.89%	
SMID Cap Passive	12.24%	29	12.47%	13	7.29%	26	16.10%	19
Russell 2500 Index	12.34%	28	12.56%	13	7.32%	26	16.13%	19
Callan SMID Core MFs	10.54%		10.16%		5.73%		13.47%	

## Investment Fund Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment funds over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

	3 Years Ended 6/2019		3 Years Ended 3/2019		3 Years Ended 12/2018		3 Years Ended 9/2018	
<b>Tier 2: Active (Net of Fee)</b>								
<b>Stable Value Fund</b>	<b>2.19%</b>	<b>8</b>	<b>2.13%</b>	<b>8</b>	<b>2.08%</b>	<b>8</b>	<b>2.03%</b>	<b>7</b>
3 Yr US Treas Rolling T-Bill + 1.5%	1.94%	21	1.85%	22	1.73%	36	1.60%	42
Callan Stable Value CT	2.88%	1	2.69%	1	2.52%	1	2.34%	1
	1.69%		1.65%		1.59%		1.51%	
<b>Fixed Income Fund</b>	<b>3.38%</b>	<b>30</b>	<b>3.12%</b>	<b>43</b>	<b>2.98%</b>	<b>40</b>	<b>2.30%</b>	<b>44</b>
Blmbg Barclays Aggregate Callan Core Plus MFs	2.31%	95	2.03%	95	2.06%	81	1.31%	86
	3.20%		2.99%		2.63%		2.22%	
Prudential Core Plus Blmbg Barclays Aggregate Callan Core Plus MFs	4.24%	11	4.11%	13	3.92%	15	3.40%	15
	2.31%	95	2.03%	95	2.06%	81	1.31%	86
	3.20%		2.99%		2.63%		2.22%	
<b>Inflation Responsive Fund</b>	<b>4.22%</b>	<b>31</b>	<b>5.54%</b>	<b>35</b>	<b>4.64%</b>	<b>28</b>	<b>5.49%</b>	<b>38</b>
Inflation Responsive Benchmark Callan Real Assets MFs	1.72%	84	2.99%	78	2.08%	76	2.41%	85
	3.85%		4.85%		2.85%		5.17%	
<b>Large Cap Core Equity Fund</b>								
Hotchkis & Wiley Large Cap Value Russell 1000 Value Index Callan Lg Cap Value MF	13.20%	13	12.22%	19	7.51%	42	15.96%	21
	10.19%	73	10.45%	61	6.95%	55	13.55%	64
	11.17%		11.08%		7.06%		14.07%	
Macquarie Large Cap Value Russell 1000 Value Index Callan Lg Cap Value MF	8.63%	89	11.56%	33	8.55%	16	15.60%	28
	10.19%	73	10.45%	61	6.95%	55	13.55%	64
	11.17%		11.08%		7.06%		14.07%	
Sands Capital Large Cap Growth Russell 1000 Growth Index Callan Large Cap Grwth MF	23.82%	1	21.95%	2	10.25%	35	21.85%	3
	18.07%	59	16.53%	52	11.15%	21	20.55%	16
	18.85%		16.80%		9.78%		19.10%	
Loomis Sayles Large Cap Growth Russell 1000 Growth Index Callan Large Cap Grwth MF	18.47%	53	17.63%	37	11.69%	10	20.26%	20
	18.07%	59	16.53%	52	11.15%	21	20.55%	16
	18.85%		16.80%		9.78%		19.10%	
<b>International Equity Fund</b>	<b>9.99%</b>	<b>26</b>	<b>8.55%</b>	<b>21</b>	<b>5.07%</b>	<b>9</b>	<b>10.60%</b>	<b>18</b>
MSCI ACWI ex US Callan Non US Equity MFs	9.39%	33	8.09%	29	4.48%	15	9.97%	32
	8.51%		6.50%		2.23%		8.89%	
Mondrian ACWI ex-US Value MSCI ACWI ex US Callan Non US Equity MFs	7.23%	68	6.80%	43	4.20%	19	8.08%	66
	9.39%	33	8.09%	29	4.48%	15	9.97%	32
	8.51%		6.50%		2.23%		8.89%	
Baillie Gifford ACWI ex-US Growth MSCI ACWI ex US Callan Non US Equity MFs	13.23%	3	10.76%	3	6.41%	3	13.70%	7
	9.39%	33	8.09%	29	4.48%	15	9.97%	32
	8.51%		6.50%		2.23%		8.89%	
<b>Small/Mid Cap Equity Fund</b>								
Hotchkis & Wiley Mid Cap Value Russell 2500 Value Index Callan SMID Value MFs	7.21%	79	7.18%	75	2.38%	81	13.04%	73
	8.98%	46	9.85%	39	6.59%	35	14.51%	49
	8.83%		9.12%		5.65%		14.45%	
Earnest Partners Small/Mid Cap Value Russell 2500 Value Index Callan SMID Value MFs	13.08%	1	12.71%	5	7.69%	19	16.14%	12
	8.98%	46	9.85%	39	6.59%	35	14.51%	49
	8.83%		9.12%		5.65%		14.45%	
Wedge Small/Mid Cap Value Russell 2500 Value Index Callan SMID Value MFs	7.80%	77	8.07%	59	4.69%	57	12.69%	74
	8.98%	46	9.85%	39	6.59%	35	14.51%	49
	8.83%		9.12%		5.65%		14.45%	
Brown Advisory Small/Mid Cap Growth Russell 2500 Growth Index Callan SMID Growth MFs	17.53%	33	17.04%	34	8.21%	51	19.23%	34
	16.14%	59	15.60%	55	8.11%	52	17.96%	46
	16.44%		16.11%		8.34%		17.58%	

## Investment Fund Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment funds over various time periods ended June 30, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

### Returns and Rankings for Periods Ended June 30, 2019

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	
<b>Tier 2: Active (Gross of Fee)</b>										
<b>Stable Value Fund</b>										
Galliard Stable Value	0.67%	11	2.60%	20	2.35%	14	2.25%	28	2.51%	(1/11)
3 Yr US Treas Rolling T-Bill + 1.5%	0.48%	98	2.46%	60	1.94%	85	1.55%	91	1.14%	(1/11)
Callan Stable Value SA	1.00%	1	3.81%	1	2.88%	1	2.37%	1	2.05%	(1/11)
	0.65%		2.50%		2.27%		2.17%		-	
<b>Fixed Income Fund</b>										
TCW Core Plus	3.37%	12	8.43%	25	-		-		4.28%	(1/17)
Blmbg Barclays Aggregate	3.08%	72	7.87%	78	2.31%	91	2.95%	91	3.84%	(1/17)
Callan Core Bond FI	3.16%		8.10%		2.73%		3.27%		-	
Prudential Core Plus	3.75%	1	9.68%	1	4.45%	1	-		4.66%	(1/15)
Blmbg Barclays Aggregate	3.08%	72	7.87%	78	2.31%	91	2.95%	91	2.84%	(1/15)
Callan Core Bond FI	3.16%		8.10%		2.73%		3.27%		-	
<b>Inflation Responsive Fund</b>										
BlackRock Strategic Completion	0.88%	86	-		-		-		6.99%	(11/18)
BlackRock Custom Benchmark	0.78%	92	3.09%	47	2.31%	90	0.69%	49	6.74%	(11/18)
Callan Real Assets	1.64%		2.44%		4.41%		0.65%		-	
<b>Large Cap Core Equity Fund</b>										
Hotchkis & Wiley Large Cap Value	4.62%	16	3.39%	73	13.69%	10	8.04%	46	16.97%	(4/09)
Russell 1000 Value Index	3.84%	48	8.46%	28	10.19%	76	7.46%	64	14.56%	(4/09)
Callan Large Cap Value	3.77%		6.43%		11.16%		7.87%		-	
Macquarie Large Cap Value	0.78%	98	7.22%	40	8.93%	92	-		8.13%	(6/15)
Russell 1000 Value Index	3.84%	48	8.46%	28	10.19%	76	7.46%	64	7.60%	(6/15)
Callan Large Cap Value	3.77%		6.43%		11.16%		7.87%		-	
Sands Capital Large Cap Growth	4.43%	70	12.79%	47	24.39%	3	14.09%	31	21.87%	(4/09)
Russell 1000 Growth Index	4.64%	65	11.56%	56	18.07%	56	13.39%	46	17.57%	(4/09)
Callan Large Cap Growth	4.96%		12.47%		18.34%		13.19%		-	
Loomis Sayles Large Cap Growth	5.34%	43	15.79%	18	18.91%	45	-		16.33%	(8/14)
Russell 1000 Growth Index	4.64%	65	11.56%	56	18.07%	56	13.39%	46	13.99%	(8/14)
Callan Large Cap Growth	4.96%		12.47%		18.34%		13.19%		-	
BlackRock Russell 1000 Index	4.19%	55	9.92%	43	-		-		10.27%	(11/17)
Russell 1000 Index	4.25%	53	10.02%	43	14.15%	42	10.45%	41	10.39%	(11/17)
Callan Large Cap Core	4.28%		9.25%		13.81%		10.32%		-	
<b>International Equity Fund</b>										
Mondrian ACWI ex-US Value	1.82%	51	4.19%	6	7.66%	65	2.19%	38	8.64%	(4/09)
MSCI ACWI ex US	2.98%	12	1.29%	22	9.39%	45	2.16%	38	8.94%	(4/09)
Callan NonUS AC Value Eq	1.85%		(1.81%)		8.67%		2.07%		-	
Baillie Gifford ACWI ex-US Growth	5.98%	20	4.28%	24	13.62%	18	6.45%	20	12.70%	(4/09)
MSCI ACWI ex US	2.98%	98	1.29%	71	9.39%	75	2.16%	95	8.94%	(4/09)
Callan NonUS AC Gr Eq	4.90%		2.80%		10.88%		4.66%		-	
<b>Small/Mid Cap Equity Fund</b>										
Hotchkis & Wiley Mid Cap Value	(3.21%)	99	(13.21%)	100	7.76%	83	1.91%	93	16.89%	(4/09)
Russell 2500 Value Index	1.89%	68	(1.92%)	44	8.98%	70	5.55%	64	14.85%	(4/09)
Callan Small/MidCap Value	2.93%		(2.53%)		10.08%		5.86%		-	
Earnest Partners Small/Mid Cap Value	5.01%	15	6.60%	12	13.62%	19	8.78%	16	16.31%	(4/09)
Russell 2500 Value Index	1.89%	68	(1.92%)	44	8.98%	70	5.55%	64	14.85%	(4/09)
Callan Small/MidCap Value	2.93%		(2.53%)		10.08%		5.86%		-	
Wedge Small/Mid Cap Value	2.42%	60	(2.41%)	48	8.49%	77	6.57%	34	12.56%	(1/12)
Russell 2500 Value Index	1.89%	68	(1.92%)	44	8.98%	70	5.55%	64	11.39%	(1/12)
Callan Small/MidCap Value	2.93%		(2.53%)		10.08%		5.86%		-	
Brown Advisory Small/Mid Cap Growth	8.67%	12	16.55%	6	18.15%	41	14.05%	15	18.88%	(4/09)
Russell 2500 Growth Index	4.14%	62	6.13%	64	16.14%	70	9.98%	56	17.50%	(4/09)
Callan Sm/MidCap Growth	4.49%		8.58%		17.23%		11.20%		-	
BlackRock Russell 2500 Index	2.94%	64	1.53%	56	-		-		6.46%	(11/17)
Russell 2500 Index	2.96%	63	1.77%	55	12.34%	56	7.66%	69	6.59%	(11/17)
Callan Small/MidCap Core	3.72%		1.99%		12.60%		8.66%		-	

## Investment Fund Returns and Peer Group Rankings

The table below details the rates of return and peer group rankings for the Fund's investment funds over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

	3 Years Ended 6/2019		3 Years Ended 3/2019		3 Years Ended 12/2018		3 Years Ended 9/2018	
<b>Tier 2: Active (Gross of Fee)</b>								
<b>Stable Value Fund</b>								
Galliard Stable Value	2.35%	14	2.30%	25	2.25%	19	2.22%	20
3 Yr US Treas Rolling	1.94%	85	1.85%	88	1.73%	88	1.60%	90
T-Bill + 1.5%	2.88%	1	2.69%	17	2.52%	12	2.34%	13
Callan Stable Value SA	2.27%		2.24%		2.21%		2.16%	
<b>Fixed Income Fund</b>								
Prudential Core Plus	4.45%	1	4.34%	1	4.18%	1	3.65%	1
BImbg Barclays Aggregate	2.31%	91	2.03%	90	2.06%	88	1.31%	93
Callan Core Bond FI	2.73%		2.49%		2.46%		1.82%	
<b>Large Cap Core Equity Fund</b>								
Hotchkis & Wiley Large Cap Value	13.69%	10	12.71%	11	7.99%	33	16.49%	11
Russell 1000 Value Index	10.19%	76	10.45%	68	6.95%	59	13.55%	80
Callan Large Cap Value	11.16%		11.18%		7.27%		14.51%	
Macquarie Large Cap Value	8.93%	92	11.88%	31	8.86%	13	15.93%	20
Russell 1000 Value Index	10.19%	76	10.45%	68	6.95%	59	13.55%	80
Callan Large Cap Value	11.16%		11.18%		7.27%		14.51%	
Sands Capital Large Cap Growth	24.39%	3	22.53%	4	10.79%	41	22.44%	9
Russell 1000 Growth Index	18.07%	56	16.53%	56	11.15%	35	20.55%	26
Callan Large Cap Growth	18.34%		16.74%		10.41%		19.77%	
Loomis Sayles Large Cap Growth	18.91%	45	18.08%	34	12.12%	19	20.72%	21
Russell 1000 Growth Index	18.07%	56	16.53%	56	11.15%	35	20.55%	26
Callan Large Cap Growth	18.34%		16.74%		10.41%		19.77%	
<b>International Equity Fund</b>								
Mondrian ACWI ex-US Value	7.66%	65	7.24%	55	4.63%	46	8.54%	76
MSCI ACWI ex US	9.39%	45	8.09%	40	4.48%	50	9.97%	38
Callan NonUS AC Value Eq	8.67%		7.58%		4.50%		9.58%	
Baillie Gifford ACWI ex-US Growth	13.62%	18	11.15%	22	6.80%	17	14.13%	23
MSCI ACWI ex US	9.39%	75	8.09%	63	4.48%	50	9.97%	75
Callan NonUS AC Gr Eq	10.88%		9.14%		4.43%		11.34%	
<b>Small/Mid Cap Equity Fund</b>								
Hotchkis & Wiley Mid Cap Value	7.76%	83	7.73%	82	2.92%	91	13.65%	57
Russell 2500 Value Index	8.98%	70	9.85%	39	6.59%	41	14.51%	54
Callan Small/MidCap Value	10.08%		9.32%		5.93%		14.92%	
Earnest Partners Small/Mid Cap Value	13.62%	19	13.25%	21	8.22%	26	16.71%	23
Russell 2500 Value Index	8.98%	70	9.85%	39	6.59%	41	14.51%	54
Callan Small/MidCap Value	10.08%		9.32%		5.93%		14.92%	
Wedge Small/Mid Cap Value	8.49%	77	8.77%	70	5.38%	55	13.46%	59
Russell 2500 Value Index	8.98%	70	9.85%	39	6.59%	41	14.51%	54
Callan Small/MidCap Value	10.08%		9.32%		5.93%		14.92%	
Brown Advisory Small/Mid Cap Growth	18.15%	41	17.66%	42	8.79%	53	19.87%	39
Russell 2500 Growth Index	16.14%	70	15.60%	63	8.11%	55	17.96%	54
Callan Sm/MidCap Growth	17.23%		17.26%		10.03%		18.17%	

## Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

### Returns for Periods Ended June 30, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception
<b>Tier 1: GoalMaker Funds (Net of Fee)</b>					
Post Retirement Conservative 11+	2.58%	5.90%	-	-	5.90% <sup>(7/18)</sup>
Post Ret Conservative 11+ Index	2.33%	5.44%	-	-	5.44% <sup>(7/18)</sup>
Post Retirement Conservative 6-10	2.67%	6.15%	-	-	6.15% <sup>(7/18)</sup>
Post Ret Conservative 6-10 Index	2.39%	5.63%	-	-	5.63% <sup>(7/18)</sup>
Post Retirement Conservative 0-5	2.78%	6.39%	-	-	6.39% <sup>(7/18)</sup>
Post Ret Conservative 0-5 Index	2.48%	5.83%	-	-	5.83% <sup>(7/18)</sup>
Pre Retirement Conservative 0-5	2.99%	6.81%	5.45%	4.17%	5.98% <sup>(7/09)</sup>
Pre Ret Conservative 0-5 Index	2.66%	6.14%	4.99%	3.69%	4.97% <sup>(7/09)</sup>
Pre Retirement Conservative 6-10	3.17%	6.97%	6.53%	4.68%	6.98% <sup>(7/09)</sup>
Pre Ret Conservative 6-10 Index	2.79%	6.17%	5.97%	4.14%	5.88% <sup>(7/09)</sup>
Pre Retirement Conservative 11-15	3.31%	7.14%	8.23%	5.58%	8.41% <sup>(7/09)</sup>
Pre Ret Conservative 11-15 Index	2.92%	6.30%	7.59%	5.04%	7.69% <sup>(7/09)</sup>
Pre Retirement Conservative 16-20	3.47%	7.15%	10.15%	6.46%	9.95% <sup>(7/09)</sup>
Pre Ret Conservative 16-20 Index	3.05%	6.15%	9.44%	5.87%	9.35% <sup>(7/09)</sup>
Pre Retirement Conservative 21-25	3.60%	7.12%	-	-	7.12% <sup>(7/18)</sup>
Pre Ret Conservative 21-25 Index	3.17%	6.07%	-	-	6.07% <sup>(7/18)</sup>
Pre Retirement Conservative 26+	3.61%	6.75%	-	-	6.75% <sup>(7/18)</sup>
Pre Ret Conservative 26+ Index	3.18%	5.65%	-	-	5.65% <sup>(7/18)</sup>

## Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

### Returns for Periods Ended June 30, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception
<b>Tier 1: GoalMaker Funds (Net of Fee)</b>					
Post Retirement Moderate 11+	2.74%	6.02%	-	-	6.02% <sup>(7/18)</sup>
Post Ret Moderate 11+ Index	2.47%	5.52%	-	-	5.52% <sup>(7/18)</sup>
Post Retirement Moderate 6-10	2.88%	6.36%	-	-	6.36% <sup>(7/18)</sup>
Post Ret Moderate 6-10 Index	2.57%	4.90%	-	-	4.90% <sup>(7/18)</sup>
Post Retirement Moderate 0-5	3.11%	6.85%	-	-	6.85% <sup>(7/18)</sup>
Post Ret Moderate 0-5 Index	2.77%	6.16%	-	-	6.16% <sup>(7/18)</sup>
Pre Retirement Moderate 0-5	3.25%	7.02%	7.12%	4.98%	7.38% <sup>(7/09)</sup>
Pre Ret Moderate 0-5 Index	2.88%	6.21%	6.57%	4.43%	6.47% <sup>(7/09)</sup>
Pre Retirement Moderate 6-10	3.40%	7.01%	8.18%	5.56%	8.28% <sup>(7/09)</sup>
Pre Ret Moderate 6-10 Index	3.00%	6.07%	7.52%	4.99%	7.67% <sup>(7/09)</sup>
Pre Retirement Moderate 11-15	3.51%	6.93%	9.56%	6.16%	9.52% <sup>(7/09)</sup>
Pre Ret Moderate 11-15 Index	3.10%	5.91%	8.83%	5.55%	8.83% <sup>(7/09)</sup>
Pre Retirement Moderate 16-20	3.61%	6.75%	11.54%	6.95%	11.00% <sup>(7/09)</sup>
Pre Ret Moderate 16-20 Index	3.18%	5.65%	10.76%	6.33%	10.49% <sup>(7/09)</sup>
Pre Retirement Moderate 21-25	3.61%	6.49%	-	-	6.49% <sup>(7/18)</sup>
Pre Ret Moderate 21-25 Index	3.19%	5.33%	-	-	5.33% <sup>(7/18)</sup>
Pre Retirement Moderate 26+	3.64%	6.25%	-	-	6.25% <sup>(7/18)</sup>
Pre Ret Moderate 26+ Index	3.22%	5.07%	-	-	5.07% <sup>(7/18)</sup>

## Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods ended June 30, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

### Returns for Periods Ended June 30, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception
<b>Tier 1: GoalMaker Funds (Net of Fee)</b>					
Post Retirement Aggressive 11+	3.00%	6.32%	-	-	6.32% <sup>(7/18)</sup>
Post Ret Aggressive 11+ Index	2.71%	5.74%	-	-	5.74% <sup>(7/18)</sup>
Post Retirement Aggressive 6-10	3.14%	6.53%	-	-	6.53% <sup>(7/18)</sup>
Post Ret Aggressive 6-10 Index	2.84%	5.88%	-	-	5.88% <sup>(7/18)</sup>
Post Retirement Aggressive 0-5	3.36%	6.96%	-	-	6.96% <sup>(7/18)</sup>
Post Ret Aggressive 0-5 Index	3.01%	6.19%	-	-	6.19% <sup>(7/18)</sup>
Pre Retirement Aggressive 0-5	3.52%	7.12%	8.53%	5.75%	8.76% <sup>(7/09)</sup>
Pre Ret Aggressive 0-5 Index	3.14%	6.23%	7.85%	5.17%	7.96% <sup>(7/09)</sup>
Pre Retirement Aggressive 6-10	3.60%	6.84%	9.53%	6.14%	9.61% <sup>(7/09)</sup>
Pre Ret Aggressive 6-10 Index	3.19%	5.77%	8.78%	5.52%	8.82% <sup>(7/09)</sup>
Pre Retirement Aggressive 11-15	3.61%	6.49%	10.98%	6.75%	10.62% <sup>(7/09)</sup>
Pre Ret Aggressive 11-15 Index	3.19%	5.33%	10.17%	6.10%	10.12% <sup>(7/09)</sup>
Pre Retirement Aggressive 16-20	3.63%	6.25%	12.92%	7.49%	12.08% <sup>(7/09)</sup>
Pre Ret Aggressive 16-20 Index	3.21%	5.06%	12.12%	6.87%	11.74% <sup>(7/09)</sup>
Pre Retirement Aggressive 21-25	3.63%	6.09%	-	-	6.09% <sup>(7/18)</sup>
Pre Ret Aggressive 21-25 Index	3.21%	4.85%	-	-	4.85% <sup>(7/18)</sup>
Pre Retirement Aggressive 26+	3.63%	6.09%	-	-	6.09% <sup>(7/18)</sup>
Pre Ret Aggressive 26+ Index	3.21%	4.85%	-	-	4.85% <sup>(7/18)</sup>



## Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

	<b>3 Years Ended 6/2019</b>	<b>3 Years Ended 3/2019</b>	<b>3 Years Ended 12/2018</b>	<b>3 Years Ended 9/2018</b>
<b>Tier 1: GoalMaker Funds (Net of Fee)</b>				
Pre Retirement Conservative 0-5	5.45%	4.92%	3.36%	4.98%
Pre Ret Conservative 0-5 Index	4.99%	4.51%	3.10%	4.60%
Pre Retirement Conservative 6-10	6.53%	5.93%	4.00%	6.17%
Pre Ret Conservative 6-10 Index	5.97%	5.45%	3.71%	5.76%
Pre Retirement Conservative 11-15	8.23%	7.65%	5.36%	8.26%
Pre Ret Conservative 11-15 Index	7.59%	7.11%	5.05%	7.82%
Pre Retirement Conservative 16-20	10.15%	9.51%	6.72%	10.49%
Pre Ret Conservative 16-20 Index	9.44%	8.91%	6.41%	10.07%

## Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

	<b>3 Years Ended 6/2019</b>	<b>3 Years Ended 3/2019</b>	<b>3 Years Ended 12/2018</b>	<b>3 Years Ended 9/2018</b>
<b>Tier 1: GoalMaker Funds (Net of Fee)</b>				
Pre Retirement Moderate 0-5	7.12%	6.51%	4.28%	6.98%
Pre Ret Moderate 0-5 Index	6.57%	6.03%	3.98%	6.57%
Pre Retirement Moderate 6-10	8.18%	7.58%	4.96%	8.37%
Pre Ret Moderate 6-10 Index	7.52%	7.00%	4.63%	7.93%
Pre Retirement Moderate 11-15	9.56%	8.90%	5.84%	10.05%
Pre Ret Moderate 11-15 Index	8.83%	8.27%	5.49%	9.60%
Pre Retirement Moderate 16-20	11.54%	10.84%	7.24%	12.40%
Pre Ret Moderate 16-20 Index	10.76%	10.18%	6.92%	11.99%

## Investment Fund Returns

The table below details the rates of return for the Fund's investment funds over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

	<b>3 Years Ended 6/2019</b>	<b>3 Years Ended 3/2019</b>	<b>3 Years Ended 12/2018</b>	<b>3 Years Ended 9/2018</b>
<b>Tier 1: GoalMaker Funds (Net of Fee)</b>				
Pre Retirement Aggressive 0-5	8.53%	7.88%	4.93%	8.90%
Pre Ret Aggressive 0-5 Index	7.85%	7.29%	4.60%	8.46%
Pre Retirement Aggressive 6-10	9.53%	8.84%	5.53%	10.16%
Pre Ret Aggressive 6-10 Index	8.78%	8.19%	5.16%	9.71%
Pre Retirement Aggressive 11-15	10.98%	10.29%	6.53%	11.97%
Pre Ret Aggressive 11-15 Index	10.17%	9.61%	6.18%	11.55%
Pre Retirement Aggressive 16-20	12.92%	12.22%	8.06%	14.30%
Pre Ret Aggressive 16-20 Index	12.12%	11.55%	7.75%	13.94%

**The North Carolina Supplemental Retirement Plans  
Investment Manager Performance Monitoring Summary Report  
June 30, 2019**

Investment Manager	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	3 Year Return Consistency	5 Year Sharpe Ratio	5 Year Excess Rtn Ratio	5 Year Tracking Error
<b>Tier 2: Passive vs. Net of Fee Groups</b>								
<b>Fixed Income Passive (i)</b> Callan Core Bond MFs Blmbg Barclays Aggregate	3.1 51	7.8 62	2.3 80	2.9 54		0.6 59	-1.1 94	0.1 99
<b>Treasury Inflation Protected (i)</b> Callan TIPS MFs Blmbg US TIPS 1-10 Yr	2.5 57	4.7 29	2.3 30	1.6 29		0.2 23	0.2 21	1.1 80
<b>Large Cap Passive (i)</b> Callan Large Cap Core MFs S&P 500 Index	4.3 42	10.4 32	14.2 26	10.6 20		0.9 16	-1.3 93	0.0 100
<b>International Passive (i)</b> Callan Non US Equity MFs MSCI ACWI ex US	3.2 57	1.6 35	9.7 31	2.4 50		0.1 49	0.3 31	0.7 100
<b>SMID Cap Passive (i)</b> Callan SMID Core MFs Russell 2500 Index	2.9 58	1.7 39	12.2 29	7.6 33		0.5 38	-0.3 51	0.1 99
<b>Tier 2: Active vs. Net of Fee Groups</b>								
<b>Stable Value Fund</b> Callan Stable Value CT T-Bill + 1.5%	0.6 1	2.5 7	2.2 8	2.1 9		10.1 42	-1.0 40	0.3 39
<b>Fixed Income Fund</b> Callan Core Plus MFs Blmbg Barclays Aggregate	3.5 16	8.9 12	3.4 30	3.7 17		0.8 20	1.4 1	0.6 93
<b>TCW Core Plus</b> Callan Core Plus MFs Blmbg Barclays Aggregate	3.3 33	8.3 33				0.6 71		
<b>Prudential Core Plus</b> Callan Core Plus MFs Blmbg Barclays Aggregate	3.7 11	9.5 1	4.2 11			0.6 71		

Returns:  
■ above median  
■ third quartile  
■ fourth quartile

Return Consistency:  
■ above median  
■ third quartile  
■ fourth quartile

Sharpe Ratio:  
■ above median  
■ third quartile  
■ fourth quartile

Excess Return Ratio:  
■ above median  
■ third quartile  
■ fourth quartile

Tracking Error:  
■ below median  
■ second quartile  
■ first quartile

(i) - Indexed scoring method used. Green: manager & index ranking differ by <= +/- 10%tile. Yellow: manager & index ranking differ by <= +/- 20%tile. Red: manager & index ranking differ by > +/- 20%tile.

**The North Carolina Supplemental Retirement Plans  
Investment Manager Performance Monitoring Summary Report  
June 30, 2019**

Investment Manager	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	3 Year Return Consistency	5 Year Sharpe Ratio	5 Year Excess Rtn Ratio	5 Year Tracking Error
<b>Inflation Responsive Fund</b> Callan Real Assets MFs Inflation Responsive Benchmark	0.9 80	4.2 16	4.2 31	1.7 25		0.1 43	1.2 4	1.4 98
<b>BlackRock Strategic Completion</b> Callan Real Assets MFs BlackRock Custom Benchmark	0.9 81							
	0.8 82	3.9 22	1.7 84	-0.1 55		-0.2 84		
<b>Large Cap Core Equity Fund</b> Callan Lg Cap Broad MF Russell 1000 Index	3.8 65	9.6 45						
	4.2 49	10.0 40	14.1 46	10.5 42		0.9 34		
<b>Hotchkis &amp; Wiley Large Cap Value</b> Callan Lg Cap Value MF Russell 1000 Value Index	4.5 20	3.0 75	13.2 13	7.6 46		0.5 82	0.0 47	4.8 9
	3.8 46	8.5 35	10.2 73	7.5 48		0.6 32		
<b>Macquarie Large Cap Value</b> Callan Lg Cap Value MF Russell 1000 Value Index	0.7 95	6.9 40	8.6 89					
	3.8 46	8.5 35	10.2 73	7.5 48		0.6 32		
<b>Sands Capital Large Cap Growth</b> Callan Large Cap Grwth MF Russell 1000 Growth Index	4.3 65	12.3 35	23.8 1	13.5 39		0.7 86	0.0 39	9.7 1
	4.6 56	11.6 44	18.1 59	13.4 40		1.0 25		
<b>Loomis Sayles Large Cap Growth</b> Callan Large Cap Grwth MF Russell 1000 Growth Index	5.2 37	15.4 11	18.5 53					
	4.6 56	11.6 44	18.1 59	13.4 40		1.0 25		
<b>BlackRock Russell 1000 Index</b> Callan Large Cap Core MFs Russell 1000 Index	4.2 47	9.9 38						
	4.2 44	10.0 37	14.1 27	10.5 24		0.9 23		
<b>International Equity Fund</b> Callan Non US Equity MFs MSCI ACWI ex US	3.8 40	3.8 16	10.0 26	3.7 28		0.2 27	0.9 2	1.7 97
	3.0 63	1.3 35	9.4 33	2.2 50		0.1 50		
<b>Mondrian ACWI ex-US Value</b> Callan Non US Equity MFs MSCI ACWI ex US	1.7 80	3.8 16	7.2 68	1.8 60		0.1 54	-0.1 63	2.9 82
	3.0 63	1.3 35	9.4 33	2.2 50		0.1 50		

Returns:  
 above median  
 third quartile  
 fourth quartile

Return Consistency:  
 above median  
 third quartile  
 fourth quartile

Sharpe Ratio:  
 above median  
 third quartile  
 fourth quartile

Excess Return Ratio:  
 above median  
 third quartile  
 fourth quartile

Tracking Error:  
 below median  
 second quartile  
 first quartile

**The North Carolina Supplemental Retirement Plans  
Investment Manager Performance Monitoring Summary Report  
June 30, 2019**

Investment Manager	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	3 Year Return Consistency	5 Year Sharpe Ratio	5 Year Excess Rtn Ratio	5 Year Tracking Error
<b>Baillie Gifford ACWI ex-US Growth</b> Callan Non US Equity MFs MSCI ACWI ex US	5.9 11	4.0 15	13.2 3	6.0 6		0.4 11	1.0 1	3.8 52
<b>Small/Mid Cap Equity Fund</b> Callan SMID Broad MFs Russell 2500 Index	3.5 67	2.3 53						
	3.0 73	1.8 55	12.3 49	7.7 51		0.5 48		
<b>Hotchkis &amp; Wiley Mid Cap Value</b> Callan SMID Value MFs Russell 2500 Value Index	-3.3 98	-13.6 97	7.2 79	1.3 81		0.0 81	-0.6 77	6.7 15
	1.9 70	-1.9 45	9.0 46	5.5 29		0.4 27		
<b>Earnest Partners Small/Mid Cap Value</b> Callan SMID Value MFs Russell 2500 Value Index	4.9 13	6.1 7	13.1 1	8.2 6		0.5 8	0.6 9	4.8 34
	1.9 70	-1.9 45	9.0 46	5.5 29		0.4 27		
<b>Wedge Small/Mid Cap Value</b> Callan SMID Value MFs Russell 2500 Value Index	2.3 54	-3.0 48	7.8 77	5.8 27		0.4 21	0.1 25	2.8 88
	1.9 70	-1.9 45	9.0 46	5.5 29		0.4 27		
<b>Brown Advisory Small/Mid Cap Growth</b> Callan SMID Growth MFs Russell 2500 Growth Index	8.5 12	16.0 8	17.5 33	13.4 3		0.8 12	0.7 12	5.0 11
	4.1 70	6.1 72	16.1 59	10.0 59		0.6 58		
<b>BlackRock Russell 2500 Index</b> Callan SMID Core MFs Russell 2500 Index	2.9 58	1.5 40						
	3.0 58	1.8 38	12.3 28	7.7 32		0.5 38		

Returns:  
■ above median  
■ third quartile  
■ fourth quartile

Return Consistency:  
■ above median  
■ third quartile  
■ fourth quartile

Sharpe Ratio:  
■ above median  
■ third quartile  
■ fourth quartile

Excess Return Ratio:  
■ above median  
■ third quartile  
■ fourth quartile

Tracking Error:  
■ below median  
■ second quartile  
■ first quartile

**The North Carolina Supplemental Retirement Plans  
Investment Manager Performance Monitoring Summary Report  
June 30, 2019**

Investment Manager	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	3 Year Return Consistency	5 Year Sharpe Ratio	5 Year Excess Rtn Ratio	5 Year Tracking Error
<b>Tier 2: Active vs. Gross of Fee Groups</b>								
<b>Stable Value Fund</b>								
<b>Galliard Stable Value</b> Callan Stable Value SA T-Bill + 1.5%	0.7 11	2.6 20	2.4 14	2.3 28		13.6 29	-0.3 32	0.3 30
<b>Fixed Income Fund</b>								
<b>TCW Core Plus</b> Callan Core Bond FI Blmbg Aggregate	3.4 12	8.4 25						
	3.1 72	7.9 78	2.3 91	2.9 91		0.6 91		
<b>Prudential Core Plus</b> Callan Core Bond FI Blmbg Aggregate	3.7 1	9.7 1	4.4 1					
	3.1 72	7.9 78	2.3 91	2.9 91		0.6 91		
<b>Inflation Responsive Fund</b>								
<b>BlackRock Strategic Completion</b> Callan Real Assets BlackRock Custom Benchmark	0.9 86	3.5 43	2.6 88	0.9 46		0.0 46	1.9 4	0.1 96
	0.8 92	3.1 47	2.3 90	0.7 49		-0.0 49		
<b>Large Cap Core Equity Fund</b>								
<b>Hotchkis &amp; Wiley Large Cap Value</b> Callan Large Cap Value Russell 1000 Value Index	4.6 16	3.4 73	13.7 10	8.0 46		0.5 77	0.1 54	4.8 7
	3.8 48	8.5 28	10.2 76	7.5 64		0.6 47		
<b>Macquarie Large Cap Value</b> Callan Large Cap Value Russell 1000 Value Index	0.8 98	7.2 40	8.9 92					
	3.8 48	8.5 28	10.2 76	7.5 64		0.6 47		
<b>Sands Capital Large Cap Growth</b> Callan Large Cap Growth Russell 1000 Growth Index	4.4 70	12.8 47	24.4 3	14.1 31		0.7 92	0.1 41	9.7 1
	4.6 65	11.6 56	18.1 56	13.4 46		1.0 39		
<b>Loomis Sayles Large Cap Growth</b> Callan Large Cap Growth Russell 1000 Growth Index	5.3 43	15.8 18	18.9 45					
	4.6 65	11.6 56	18.1 56	13.4 46		1.0 39		

Returns:  
■ above median  
■ third quartile  
■ fourth quartile

Return Consistency:  
■ above median  
■ third quartile  
■ fourth quartile

Sharpe Ratio:  
■ above median  
■ third quartile  
■ fourth quartile

Excess Return Ratio:  
■ above median  
■ third quartile  
■ fourth quartile

Tracking Error:  
■ below median  
■ second quartile  
■ first quartile

**The North Carolina Supplemental Retirement Plans  
Investment Manager Performance Monitoring Summary Report  
June 30, 2019**

Investment Manager	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	3 Year Return Consistency	5 Year Sharpe Ratio	5 Year Excess Rtn Ratio	5 Year Tracking Error
<b>BlackRock Russell 1000 Index</b> Callan Large Cap Core Russell 1000 Index	4.2 55	9.9 43						
	4.2 53	10.0 43	14.1 42	10.5 41		0.9 32		
<b>International Fund</b>								
<b>Mondrian ACWI ex-US Value</b> Callan NonUS AC Value Eq MSCI ACWI ex US	1.8 51	4.2 6	7.7 65	2.2 38		0.1 33	0.0 38	2.9 65
	3.0 12	1.3 22	9.4 45	2.2 38		0.1 42		
<b>Baillie Gifford ACWI ex-US Growth</b> Callan NonUS AC Gr Eq MSCI ACWI ex US	6.0 20	4.3 24	13.6 18	6.5 20		0.4 21	1.1 14	3.8 59
	3.0 98	1.3 71	9.4 75	2.2 95		0.1 95		
<b>Small/Mid Cap Equity Fund</b>								
<b>Hotchkis &amp; Wiley Mid Cap Value</b> Callan Small/MidCap Value Russell 2500 Value Index	-3.2 99	-13.2 100	7.8 83	1.9 93		0.1 93	-0.5 93	6.7 12
	1.9 68	-1.9 44	9.0 70	5.5 64		0.4 46		
<b>Earnest Partners Small/Mid Cap Value</b> Callan Small/MidCap Value Russell 2500 Value Index	5.0 15	6.6 12	13.6 19	8.8 16		0.5 16	0.7 15	4.8 38
	1.9 68	-1.9 44	9.0 70	5.5 64		0.4 46		
<b>Wedge Small/Mid Cap Value</b> Callan Small/MidCap Value Russell 2500 Value Index	2.4 60	-2.4 48	8.5 77	6.6 34		0.4 27	0.4 19	2.8 90
	1.9 68	-1.9 44	9.0 70	5.5 64		0.4 46		
<b>Brown Advisory Small/Mid Cap Growth</b> Callan Sm/MidCap Growth Russell 2500 Growth Index	8.7 12	16.6 6	18.1 41	14.1 15		0.8 14	0.8 18	5.0 28
	4.1 62	6.1 64	16.1 70	10.0 56		0.6 54		
<b>BlackRock Russell 2500 Index</b> Callan Small/MidCap Core Russell 2500 Index	2.9 64	1.5 56						
	3.0 63	1.8 55	12.3 56	7.7 69		0.5 69		

Returns:  
■ above median  
■ third quartile  
■ fourth quartile

Return Consistency:  
■ above median  
■ third quartile  
■ fourth quartile

Sharpe Ratio:  
■ above median  
■ third quartile  
■ fourth quartile

Excess Return Ratio:  
■ above median  
■ third quartile  
■ fourth quartile

Tracking Error:  
■ below median  
■ second quartile  
■ first quartile



# Galliard Stable Value Period Ended June 30, 2019

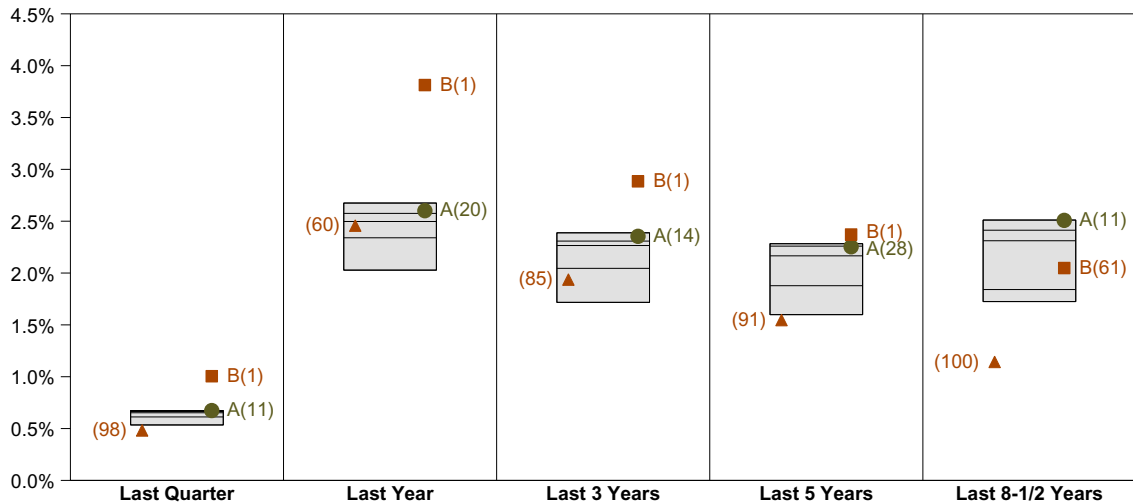
## Investment Philosophy

Galliard's primary emphasis in managing the stable value is safety of principal. Investment strategies and security selection are designed and implemented with this primary objective in mind. Liquidity is another key concern, for it must be sufficient to accommodate participant changes and provide plan sponsor flexibility.

## Quarterly Summary and Highlights

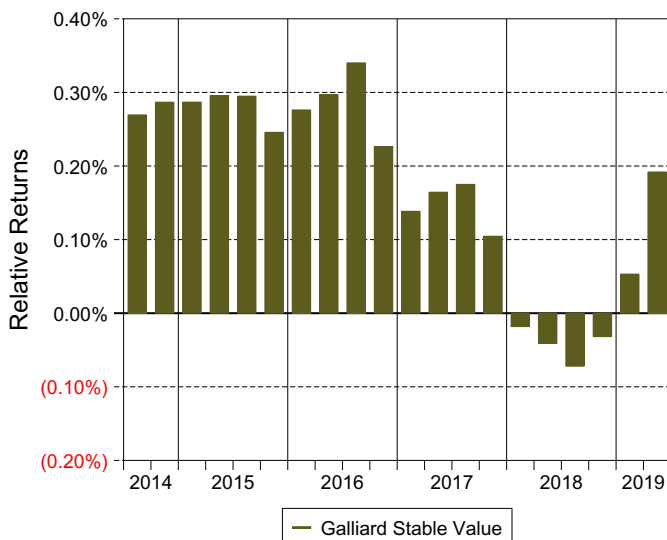
- Galliard Stable Value's portfolio posted a 0.67% return for the quarter placing it in the 11 percentile of the Callan Stable Value SA group for the quarter and in the 20 percentile for the last year.
- Galliard Stable Value's portfolio outperformed the 3 Yr Constant Maturity Yield by 0.19% for the quarter and outperformed the 3 Yr Constant Maturity Yield for the year by 0.14%.

## Performance vs Callan Stable Value SA (Gross)

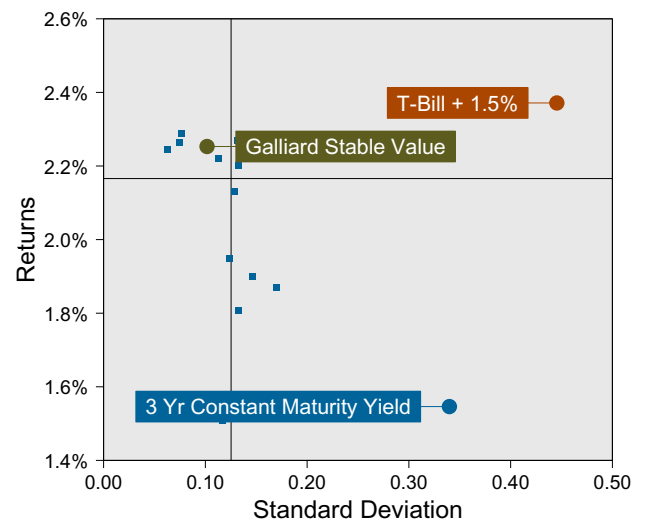


10th Percentile	0.67	2.68	2.39	2.28	2.51
25th Percentile	0.66	2.58	2.31	2.26	2.41
Median	0.65	2.50	2.27	2.17	2.31
75th Percentile	0.61	2.34	2.05	1.88	1.84
90th Percentile	0.53	2.03	1.72	1.60	1.72
Galliard Stable Value (A)	0.67	2.60	2.35	2.25	2.51
T-Bill + 1.5% (B)	1.00	3.81	2.88	2.37	2.05
3 Yr Constant Maturity Yield (A)	0.48	2.46	1.94	1.55	1.14

## Relative Returns vs 3 Yr Constant Maturity Yield



## Callan Stable Value SA (Gross) Annualized Five Year Risk vs Return



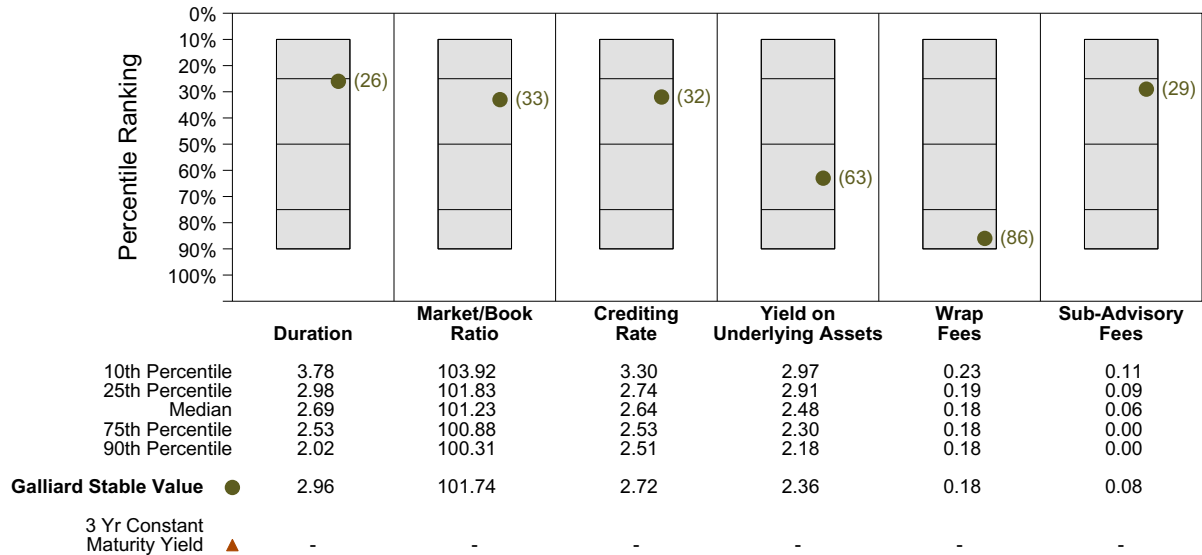
# Galliard Stable Value

## Stable Value Characteristics Analysis Summary

### Portfolio Characteristics

This graph compares the stable value fund's portfolio characteristics with the range of characteristics for the portfolios which make up the fund's style group. This analysis illustrates whether the fund's current structure is consistent with other funds employing the same style.

### Portfolio Characteristics Percentile Rankings Rankings Against Callan Stable Value SA as of June 30, 2019



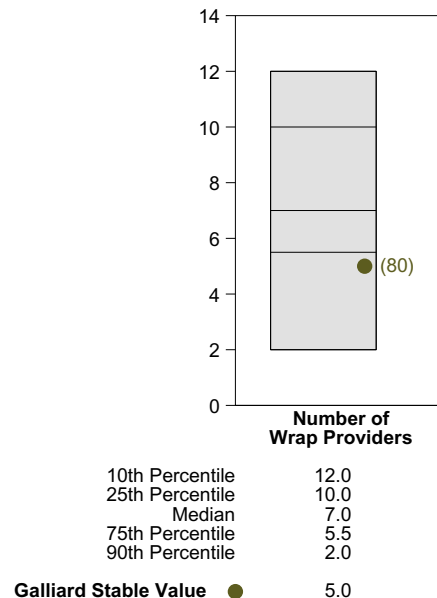
### Wrap Structure and Diversification

The graph below represents the stable value fund's wrap contract structure as of the most recent reporting period. The fund's overall wrap structure may include exposure to constant duration or maturing synthetic GIC contracts, traditional GIC contracts, cash, or other exposures. These contracts allow stable value portfolios to maintain book value accounting practices and a stable net asset value.

#### Portfolio Wrap Exposure June 30, 2019



#### Wrap Contract Diversification June 30, 2019

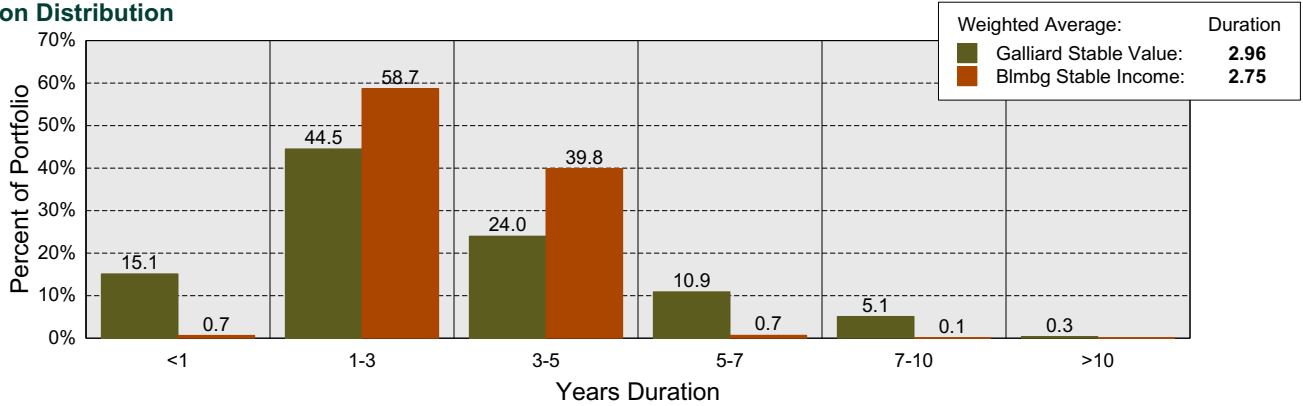


# Galliard Stable Value Stable Value Portfolio Characteristics Summary As of June 30, 2019

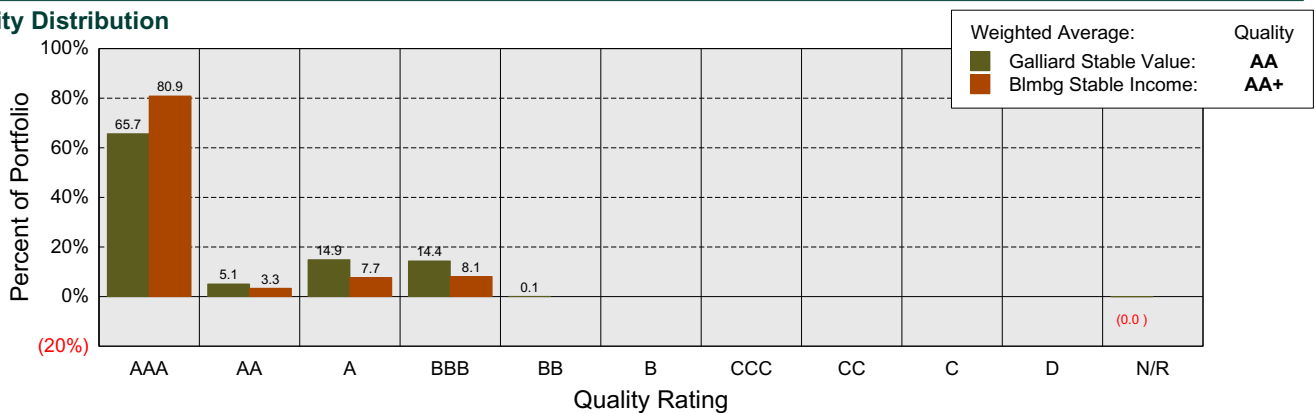
## Portfolio Structure Comparison

The charts below compare the structure of the portfolio to that of the index from two perspectives that have the greatest influence on return. The first chart compares the portfolio's duration distribution versus the benchmark, and the second chart compares the distributions across quality ratings.

### Duration Distribution



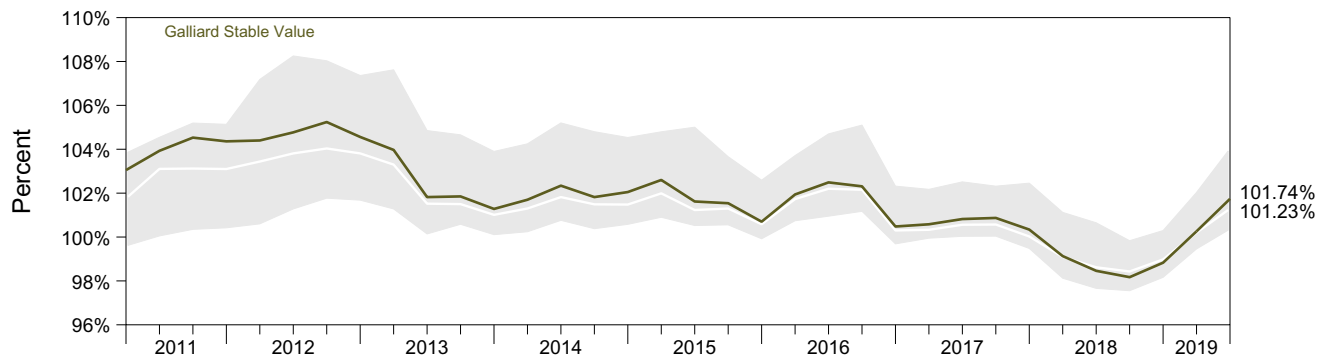
### Quality Distribution



### Market-to-Book Ratio Over Time

The chart below depicts the historical movement of the stable value portfolio's market-to-book ratio over time. This statistic measures the overall "health" of the underlying portfolio. Portfolios with market-to-book ratios closer to 100% will be better positioned to absorb flows and should offer greater return stability over time. As a backdrop the range (from 10th to 90th percentile) is shown along with a white median line for the Callan Stable Value SA Universe.

### Market-to-Book Ratio



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## Second Quarter 2019 DC Trends

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### Another State Offers Retirement Saving Option to Fill Gap – April 1, 2019

New Jersey joins a number of states in expanding retirement savings opportunities to employees without access to an employer savings plan.

In the absence of a federal solution, several states have moved forward with a medley of savings programs. Since 2012, over half of the states have introduced legislation to set up or study options for state-sponsored retirement programs targeting workers whose employer does not offer a qualified defined contribution (DC) plan.

To date, new programs have adopted one of these four models:

- Auto-IRA (California, Connecticut, Illinois, Maryland, Oregon, and Seattle)
- Multiple Employer Plan (Massachusetts and Vermont)
- Marketplace (New Jersey and Washington)
- Voluntary Payroll Deduction IRA (New York)

New Jersey becomes the latest state to address the savings availability gap with an auto-IRA program—the [New Jersey Secure Choice Savings Program](#). The law requires employers with more than 25 employees that do not offer a qualified retirement plan to participate in the new program. Eligible employees will be automatically enrolled in an IRA at a 3% deferral rate. Employees may change the deferral rate or opt out at any time, and employers with fewer than 25 employees may participate in the program.

On a federal level, support for these programs has ebbed and flowed. In 2016, the U.S. Department of Labor created a safe harbor exempting such state savings programs from the Employee Retirement Income Security Act (ERISA). The safe harbor was then reversed in 2017. Senate Democrats previously introduced a bill that would amend ERISA to explicitly exempt state IRA-based plans. On July 28, 2017, the U.S. Department of the Treasury announced it would terminate the myRA program, a federal low-cost program designed to encourage saving among lower-income and underserved American workers. The program was plagued by a limited budget and savings constraints on participants.

The retirement landscape continues to evolve based, in part, on the contraction of pension plans and increased reliance on DC plans. The expansion of state programs is one of several strategies being explored to address the availability of savings programs. The programs are hindered by structural limitations—IRAs have a much lower savings threshold than qualified DC plans (\$6,000 compared to \$19,000 in 2019, or \$7,000 and \$25,000 for employees over age 50).

### The Impact of Vendor Consolidation: Wells Fargo and Principal – April 10, 2019

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## Second Quarter 2019 DC Trends

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Principal Financial Group is acquiring Wells Fargo's Institutional Retirement and Trust (IRT) for \$1.2 billion. This includes the retirement plan administrative services, executive deferred compensation, institutional trust and custody, and institutional asset advisory businesses.

After much speculation, Wells Fargo and Principal announced the sale of Wells Fargo's IRT business to Principal. The IRT business covers 3.9 million participants across 5,000 employer benefit plans as of the end of 2018, according to the Callan database, and approximately 2,700 of those are defined contribution plans. The deal is expected to close in the third quarter.

Important to note for this acquisition:

- This acquisition expands Principal's retirement recordkeeping footprint—increasing its book of business to 7.5 million participants across 56,000 plans. In all, the unit will have more than \$500 billion under administration, making it the third largest by participant count.
- With the acquisition, Principal has also secured access to the Wells Fargo recordkeeping platform and experienced staff, adding to its existing services and capabilities. One of the decision points following the merger will be which system survives long-term. If Principal elects to maintain a single system, the plans on the other system will need to be converted. If both systems are retained, the resources available to maintain and update would be split.

Plan sponsors continue to struggle with a vendor landscape that can change abruptly, impacting their ability to select and monitor an appropriate service provider. Although plan sponsors may not be subject to this acquisition, they may be impacted by future transactions. Plan sponsors who currently use Wells Fargo as their service provider should evaluate the surviving provider, in this case Principal, and confirm the vendor selection is appropriate for the plan.

### **Settlement Covers Use of 403(b) Participant Data – May 7, 2019**

In a settlement of the class action filed over mismanagement of its 403(b) plan, Vanderbilt University agreed to pay \$14.5 million and provide other non-monetary relief, including contractual protections addressing the use of participant data.

In August 2016, Vanderbilt University employees filed a lawsuit against fiduciaries to the university's 403(b) plan, alleging that they had failed to manage the plan with loyalty or prudence. Specifically, they claimed that their four recordkeepers received excessively high fees and that the investment menu of 340 funds was filled with redundant, expensive options.

In a January 2018 ruling, U.S. District Judge Waverly D. Crenshaw, Jr. dismissed the claims for breach of duty of loyalty. However, the ruling stated that the fiduciaries had violated their duty of prudence by neglecting to attain competitive bids for certain plan services.

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## Second Quarter 2019 DC Trends

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The plaintiffs later amended their complaint in June, further alleging that TIAA—one of the plan's four recordkeepers during the class period—inappropriately used participant data to market products or services outside the defined contribution plan. According to the complaint, the plan fiduciaries allowed TIAA to exploit its position as recordkeeper, contrary to the best interests of participants.

In addition to the \$14.5 million payment, the settlement stipulates that the university will conduct a request for proposal for recordkeeping and administrative services, and will communicate to Fidelity, the lone remaining recordkeeper, and any subsequent service provider that it cannot use participant data acquired via recordkeeping services to market unrelated products. The settlement is awaiting approval from the U.S. District Court for the Middle District of Tennessee.

The payment is the largest such one in a recent series of class actions filed against universities related to mismanagement of retirement plans. In a similar class action involving Northwestern University, the U.S. District Court for the Northern District of Illinois dismissed plaintiffs' allegations, stating it could not conclude that participant data constitutes a plan asset based on "ordinary notions of property rights under non-ERISA law." The ruling has been appealed.

The university's decision to pursue a settlement underscores the various risks of the current litigation environment. Plan sponsors should not only continue to carefully monitor investment options and plan fees, but should also be cognizant of new and arising issues, such as the use of participant data by service providers. Maintaining a close eye on the current legal climate should increase sponsors' awareness and help them avoid potential legal issues of their own.

### **A Break in the Partisan Storm Clouds: The SECURE Act Passes the House – May 24, 2019**

In a rare show of bipartisan cooperation on May 23, Congress overwhelmingly passed the Setting Every Community Up for Retirement Enhancement (SECURE) Act. This legislation marks the most substantial legislation since the 2006 Pension Protection Act.

Passing by a 417-3 margin, the SECURE Act includes many similar provisions to other pieces of draft legislation aimed at overhauling the retirement system (e.g., the Retirement Enhancement and Savings Act). Major provisions of the bill include:

- Increasing the age for required minimum distributions from 70 ½ to 72
- Requiring disclosures for how a participant's balance would translate into a future income stream
- Modifying the safe harbor around the selection of a lifetime income provider to give fiduciaries assurances that providers are adequately capitalized
- Allowing 529 distributions to be used to repay student loans (up to \$10,000 annually)
- Increasing the limit on auto-escalation from 10% to 15%

Also, the bill paves the way for open multi-employer plans (MEPs) by removing the need for employers in a MEP to share a “common nexus” (common affiliation) and removing the so-called “bad apple rule.” Its implication: If one plan in the pool is no longer a qualified plan, the entire pool loses its qualified status.

Having cleared the House, the bill is expected to be taken up by the Senate in short order. If passed, it will represent sweeping change to the retirement landscape.



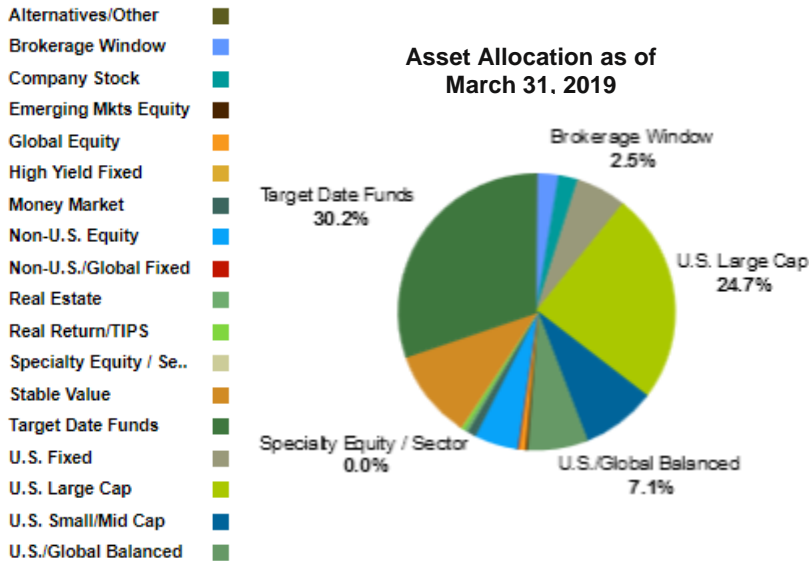


# Structure Utilization

## Asset Allocation

### TDFs Decline in 1st Quarter

Target date funds ended the quarter with 30% of assets, down from 33% the previous quarter. Among those classes that increased, U.S. large cap (25%) and U.S./global balanced (7%) were up roughly 1 percentage point.



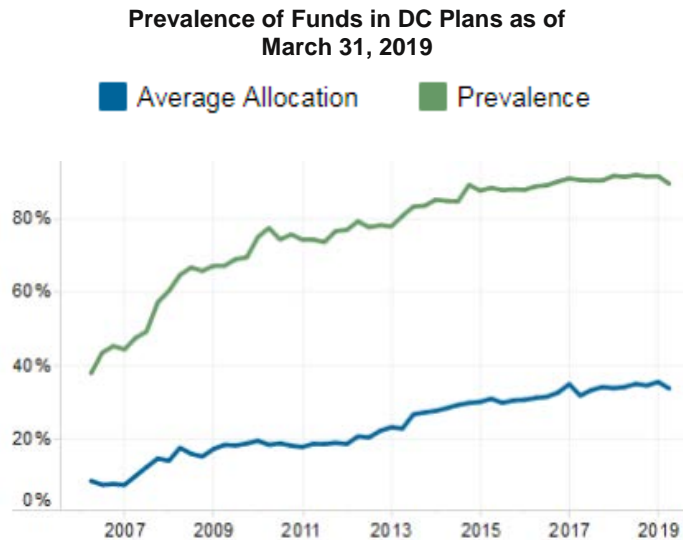
## Prevalence

### Stable Value Continues Steady Ascension

In the prevalence of funds table, the green bars indicate the prevalence of asset classes within DC plans, and the blue bars measure the average allocation to that particular asset class when offered as an option.

Stable value's prevalence within DC plans rose for the sixth consecutive quarter and is now at 76%, up approximately 4 percentage points from a year ago. This could be in response to the premium afforded to stable value relative to money market options. Additionally, more plans are now offering emerging market equity (18%) as an investment option compared to the previous quarter.

The presence of company stock (21%) continues to decline, alongside asset classes such as global equity (16%).



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## Glossary

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**Total Pure Equity** - The sum of “pure” equity across the glide path. Pure equity is composed of large-cap domestic equity, small/mid-cap domestic equity, international equity, emerging market equity and global equity. Excluded are REIT exposures.

**Total Target Date Family Performance** - The weighted performance across all of the underlying target date vintages. Family performance can be weighted equally, according to client assets within each vintage or according to manager assets within each vintage.

**Callan Consensus** - An equally weighted index of the universe of available TDF “series” or “families” (currently 44) – including both mutual funds and collective trusts. The funds’ glidepaths are mapped into 26 asset classes. The CAI Consensus Glidepath Index is created as an equal-weighted average of all the provider glidepaths, and will change dynamically over time as provider glidepaths evolve and/or the provider universe expands.



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## Equity Market Indicators

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

**Russell 1000 Growth** measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

**Russell 1000 Value** measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

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

**Russell 2500 Growth Index** measures the performance of those Russell 2500 companies with higher price-to-book ratios and higher forecasted growth values.

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

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

## Fixed Income Market Indicators

**90-Day U.S. Treasury Bills** provide a measure of riskless return. The rate of return is the average interest rate available on the beginning of each month for a Treasury Bill maturing in ninety days.

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

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## International Equity Market Indicators

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

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## Callan Databases

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

### Equity Funds

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

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

**Large Cap Growth** - Mutual Funds that invest mainly in large companies that are expected to have above average prospects for long-term growth in earnings and profitability. Future growth prospects take precedence over valuation levels in the stock selection process. Invests in companies with P/E ratios, Price-to-Book values, Return-on-Assets values, Growth-in-Earnings values above the broader market. The companies typically have zero dividends or dividend yields below the broader market. Invests in securities which exhibit greater volatility than the broader market as measured by the securities' Beta and Standard Deviation.

**Large Cap Value** - Mutual funds that invest in predominantly large capitalization companies believed to be currently undervalued in the general market. The companies are expected to have a near-term earnings rebound and eventual realization of expected value. Valuation issues take precedence over near-term earnings prospects in the stock selection process. Invests in companies with P/E ratios and Price-to-Book values below the broader market. Usually exhibits lower risk than the broader market as measured by the Beta and Standard Deviation.

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

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

**Small/Middle Capitalization** - Managers who invest primarily in small to middle capitalization range companies with market capitalization below core equity companies. The market capitalization is about the upper quartile of the Small Cap group and the lower decile of the Mid Cap group. The Small/Mid Cap Broad style invests in securities with greater volatility than the broader market as measured by the risk statistics Beta and Standard Deviation. This style consists of the Small/Mid Cap Growth and the Small/Mid Cap Value Style Groups and other funds classified strictly as Small/Mid Cap Broad.

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## Callan Databases

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

### Fixed Income Funds

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

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

**Stable Value** - The Stable Value database group is comprised of funds that invest primarily in Guaranteed Investment Contracts (GICs) and Synthetic Investment Contracts (SICs) to provide principal protection, stable book value and a guaranteed rate of return over a contractually specified time period. Common benchmarks for the universe include but not limited to, are the Ryan Labs GIC Master indices and the Hueler Stable Value Index.

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## Risk/Reward Statistics

The risk statistics used in this report examine performance characteristics of a manager or a portfolio relative to a benchmark (market indicator) which assumes to represent overall movements in the asset class being considered. The main unit of analysis is the excess return, which is the portfolio return minus the return on a risk free asset (3 month T-Bill).

**Alpha** measures a portfolio's return in excess of the market return adjusted for risk. It is a measure of the manager's contribution to performance with reference to security selection. A positive alpha indicates that a portfolio was positively rewarded for the residual risk which was taken for that level of market exposure.

**Beta** measures the sensitivity of rates of portfolio returns to movements in the market index. A portfolio's beta measures the expected change in return per 1% change in the return on the market. If a beta of a portfolio is 1.5, a 1 percent increase in the return on the market will result, on average, in a 1.5 percent increase in the return on the portfolio. The converse would also be true.

**Downside Risk** stems from the desire to differentiate between "good risk" (upside volatility) and "bad risk" (downside volatility). Whereas standard deviation punishes both upside and downside volatility, downside risk measures only the standard deviation of returns below the target. Returns above the target are assigned a deviation of zero. Both the frequency and magnitude of underperformance affect the amount of downside risk.

**Excess Return Ratio** is a measure of risk adjusted relative return. This ratio captures the amount of active management performance (value added relative to an index) per unit of active management risk (tracking error against the index.) It is calculated by dividing the manager's annualized cumulative excess return relative to the index by the standard deviation of the individual quarterly excess returns. The Excess Return Ratio can be interpreted as the manager's active risk/reward tradeoff for diverging from the index when the index is mandated to be the "riskless" market position.

**Information Ratio** measures the manager's market risk-adjusted excess return per unit of residual risk relative to a benchmark. It is computed by dividing alpha by the residual risk over a given time period. Assuming all other factors being equal, managers with lower residual risk achieve higher values in the information ratio. Managers with higher information ratios will add value relative to the benchmark more reliably and consistently.

**R-Squared** indicates the extent to which the variability of the portfolio returns are explained by market action. It can also be thought of as measuring the diversification relative to the appropriate benchmark. An r-squared value of .75 indicates that 75% of the fluctuation in a portfolio return is explained by market action. An r-squared of 1.0 indicates that a portfolio's returns are entirely related to the market and it is not influenced by other factors. An r-squared of zero indicates that no relationship exists between the portfolio's return and the market.

**Relative Standard Deviation** is a simple measure of a manager's risk (volatility) relative to a benchmark. It is calculated by dividing the manager's standard deviation of returns by the benchmark's standard deviation of returns. A relative standard deviation of 1.20, for example, means the manager has exhibited 20% more risk than the benchmark over that time period. A ratio of .80 would imply 20% less risk. This ratio is especially useful when analyzing the risk of investment grade fixed-income products where actual historical durations are not available. By using this relative risk measure over rolling time periods one can illustrate the "implied" historical duration patterns of the portfolio versus the benchmark.

**Residual Portfolio Risk** is the unsystematic risk of a fund, the portion of the total risk unique to the fund (manager) itself and not related to the overall market. This reflects the "bets" which the manager places in that particular asset market. These bets may reflect emphasis in particular sectors, maturities (for bonds), or other issue specific factors which the manager considers a good investment opportunity. Diversification of the portfolio will reduce or eliminate the residual risk of that portfolio.



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## Risk/Reward Statistics

**Rising Declining Periods** refer to the sub-asset class cycles vis-a-vis the broader asset class. This is determined by evaluating the cumulative relative sub-asset class index performance to that of the broader asset class index. For example, to determine the Growth Style cycle, the S&P 500 Growth Index (sub-asset class) performance is compared to that of the S&P 500 Index (broader asset class).

**Sharpe Ratio** is a commonly used measure of risk-adjusted return. It is calculated by subtracting the "risk-free" return (usually 3 Month Treasury Bill) from the portfolio return and dividing the resulting "excess return" by the portfolio's risk level (standard deviation). The result is a measure of return gained per unit of risk taken.

**Sortino Ratio** is a downside risk-adjusted measure of value-added. It measures excess return over a benchmark divided by downside risk. The natural appeal is that it identifies value-added per unit of truly bad risk. The danger of interpretation, however, lies in these two areas: (1) the statistical significance of the denominator, and (2) its reliance on the persistence of skewness in return distributions.

**Standard Deviation** is a statistical measure of portfolio risk. It reflects the average deviation of the observations from their sample mean. Standard deviation is used as an estimate of risk since it measures how wide the range of returns typically is. The wider the typical range of returns, the higher the standard deviation of returns, and the higher the portfolio risk. If returns are normally distributed (ie. has a bell shaped curve distribution) then approximately 2/3 of the returns would occur within plus or minus one standard deviation from the sample mean.

**Total Portfolio Risk** is a measure of the volatility of the quarterly excess returns of an asset. Total risk is composed of two measures of risk: market (non-diversifiable or systematic) risk and residual (diversifiable or unsystematic) risk. The purpose of portfolio diversification is to reduce the residual risk of the portfolio.

**Tracking Error** is a statistical measure of a portfolio's risk relative to an index. It reflects the standard deviation of a portfolio's individual quarterly or monthly returns from the index's returns. Typically, the lower the Tracking Error, the more "index-like" the portfolio.

**Treynor Ratio** represents the portfolio's average excess return over a specified period divided by the beta relative to its benchmark over that same period. This measure reflects the reward over the risk-free rate relative to the systematic risk assumed.

Note: Alpha, Total Risk, and Residual Risk are annualized.



## 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. Please note that if an investment manager receives a product or service on a complimentary basis (e.g. attending and educational event), they are not included in the list below. Callan is committed to ensuring that we do not consider an investment manager's business relationship with Callan, or lack thereof, in performing evaluations for or making suggestions or recommendations to its other clients. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our list.

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

Manager Name
Aberdeen Standard Investments
Acadian Asset Management LLC
AEGON USA Investment Management
Alcentra
AllianceBernstein
Allianz Global Investors
Allianz Life Insurance Company of North America
American Century Investments
Amundi Pioneer Asset Management
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Atlanta Capital Management Co., LLC
Aviva Investors Americas
AXA Investment Managers
Baillie Gifford International, LLC
Baird Advisors
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
BlackRock
BMO Global Asset Management
BNP Paribas Asset Management
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
BrightSphere Investment Group
Brown Brothers Harriman & Company
Cambiar Investors, LLC
Capital Group
Carillon Tower Advisers
CastleArk Management, LLC
Causeway Capital Management
Chartwell Investment Partners

Manager Name
ClearBridge Investments, LLC
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments
Columbus Circle Investors
Credit Suisse Asset Management
DePrince, Race & Zollo, Inc.
Diamond Hill Capital Management, Inc.
Dimensional Fund Advisors LP
Doubleline
Duff & Phelps Investment Management Co.
DWS
EARNEST Partners, LLC
Eaton Vance Management
Epoch Investment Partners, Inc.
Fayez Sarofim & Company
Federated Investors
Fidelity Institutional Asset Management
Fiera Capital Corporation
Financial Engines
First Hawaiian Bank Wealth Management Division
First State Investments
Fisher Investments
Franklin Templeton
Fred Alger Management, Inc.
GAM (USA) Inc.
Glenmeade Investment Management, LP
GlobeFlex Capital, L.P.
Goldman Sachs
Green Square Capital LLC
Guggenheim Investments
GW&K Investment Management
Harbor Capital Group Trust
Hartford Investment Management Co.
Heitman LLC

Manager Name
Hotchkis & Wiley Capital Management, LLC
HSBC Global Asset Management
Income Research + Management, Inc.
Insight Investment Management Limited
Intech Investment Management, LLC
Intercontinental Real Estate Corporation
Invesco
Investec Asset Management
Ivy Investments
J.P. Morgan
Janus
Jennison Associates LLC
Jobs Peak Advisors
KeyCorp
Lazard Asset Management
Legal & General Investment Management America
Lincoln National Corporation
Logan Circle Partners, L.P.
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
Los Angeles Capital Management
LSV Asset Management
MacKay Shields LLC
Macquarie Investment Management (MIM)
Manulife Asset Management
Marathon Asset Management, L.P.
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
Mountain Pacific Advisors, LLC
MUFG Union Bank, N.A.
Natixis Investment Managers
Neuberger Berman
Newton Investment Management
Nikko Asset Management Co., Ltd.
Northern Trust Asset Management
Nuveen
OFI Global Asset Management
Osterweis Capital Management, LLC
P/E Investments

Manager Name
Pacific Investment Management Company
Pathway Capital Management
Peregrine Capital Management, Inc.
Perkins Investment Management
PGIM Fixed Income
PineBridge Investments
PNC Capital Advisors, LLC
Principal Global Investors
Putnam Investments, LLC
QMA LLC
RBC Global Asset Management
Regions Financial Corporation
Robeco Institutional Asset Management, US Inc.
Rockefeller Capital Management
Rothschild & Co. Asset Management US
Russell Investments
Schroder Investment Management North America Inc.
Smith Graham & Co. Investment Advisors, L.P.
Smith Group Asset Management
South Texas Money Management, Ltd.
State Street Global Advisors
Stone Harbor Investment Partners, L.P.
Sun Life Investment Management
T. Rowe Price Associates, Inc.
The Boston Company Asset Management
The TCW Group, Inc.
Thompson, Siegel & Walmsley LLC
Thornburg Investment Management, Inc.
Tri-Star Trust Bank
UBS Asset Management
VanEck
Versus Capital Group
Victory Capital Management Inc.
Virtus Investment Partners, Inc.
Vontobel Asset Management, Inc.
Voya
WCM Investment Management
WEDGE Capital Management
Wellington Management Company, LLP
Wells Fargo Asset Management
Western Asset Management Company LLC
Westfield Capital Management Company, LP
William Blair & Company LLC