# Callan

October 31, 2021

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 October 31, 2021, with the distribution as of September 30, 2021. 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**

	October 31, 2021 Market Value	Net New Inv.	Inv. Return	September 30, 2021 Market Value
North Carolina SRP 401k & 457				
Tier II Passive	\$5,483,024,697	\$(1,167,831)	\$299,544,232	\$5,184,648,297
Fixed Income Passive	101,479,596	(135,403)	(37,274)	101,652,273
Treasury Inflation Protected	366,334,916	414,086	2,890,724	363,030,107
Large Cap Passive	3,897,329,986	(4,394,841)	255,450,826	3,646,274,000
SMID Cap Passive	444,671,134	464,526	20,790,152	423,416,456
International Passive	103,888,253	554,128	2,340,776	100,993,349
Inflation Responsive Fund	569,320,813	1,929,672	18,109,029	549,282,112
Tier II Active	\$10,772,209,776	\$(18,972,655)	\$235,726,758	\$10,555,455,672
Stable Value Fund	2,389,288,583	(9,481,470)	3,370,562	2,395,399,491
Fixed Income Fund	2,300,664,571	343,881	171,642	2,300,149,048
Large Cap Core Equity Fund	2,580,962,793	(16,789,937)	138,523,267	2,459,229,463
Small/Mid Cap Equity Fund	1,140,775,960	1,947,829	45,892,477	1,092,935,654
International Equity Fund	2,360,517,868	5,007,042	47,768,810	2,307,742,016
Total Fund	\$16,255,234,473	\$(20,140,486)	\$535,270,990	\$15,740,103,969



The table below details the rates of return for the fund's investment managers over various time periods ended October 31, 2021. 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.

		Last	Year		
	Last	3	to	Last	
	Month	Months	Date	Year	
Tier 2: Passive (Net of Fee)					
Fixed Income Passive	(0.04%)	(1.09%)	(1.63%)	(0.53%)	
Blmbg Aggregate	(0.03%)	(1.08%)	(1.58%)	(0.48%)	
Treasury Inflation Protected Securities	0.79%	0.25%	4.80%	6.87%	
Blmbg US TIPS 1-10 Yr	0.81%	0.20%	4.93%	7.05%	
Large Cap Passive	7.00%	5.12%	24.02%	42.89%	
S&P 500 Index	7.01%	5.13%	24.04%	42.91%	
SMID Cap Passive	4.90%	3.91%	19.44%	49.44%	
Russell 2500 Index	4.90%	3.91%	19.41%	49.43%	
International Passive	2.31%	0.80%	8.34%	29.59%	
MSCI ACWI ex US	2.39%	0.99%	8.43%	29.66%	
Inflation Responsive Fund	3.29%	2.15%	17.10%	27.97%	
Inflation Responsive Benchmark	3.32%	2.19%	17.08%	27.94%	
BlackRock Strategic Completion	3.29%	2.17%	17.15%	28.01%	
BlackRock Custom Benchmark	3.32%	2.19%	17.08%	27.94%	



The table below details the rates of return for the fund's investment managers over various time periods ended October 31, 2021. 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.

	Last	Last	Last	Last	
	3	5	7	10	
	Years	Years	Years	Years	
Tier 2: Passive (Net of Fee)					
Fixed Income Passive	5.56%	3.04%	3.06%	2.92%	
Blmbg Aggregate	5.63%	3.10%	3.11%	3.00%	
Large Cap Passive	21.49%	18.93%	14.69%	16.15%	
S&P 500 Index	21.48%	18.93%	14.72%	16.21%	
SMID Cap Passive	18.35%	16.22%	12.21%	14.21%	
Russell 2500 Index	18.43%	16.31%	12.26%	14.25%	
International Passive	12.13%	9.97%	6.27%	6.90%	
MSCI ACWI ex US	12.00%	9.77%	6.19%	6.66%	
Inflation Responsive Fund	10.07%	6.87%	5.06%	3.64%	
Inflation Responsive Benchmark	9.89%	5.88%	3.72%	2.32%	



The table below details the rates of return for the fund's investment managers over various time periods ended October 31, 2021. 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.

	Last		Year		
	Last	3	to	Last	
	Month	Months	Date	Year	
Tier 2: Active (Net of Fee)					
Stable Value Fund	0.14%	0.41%	1.48%	1.86%	
3 Yr Constant Maturity Yield	0.06%	0.14%	0.32%	0.35%	
T-Bill + 1.5%	0.12%	0.38%	1.28%	1.56%	
Fixed Income Fund	0.01%	(1.11%)	(1.03%)	1.36%	
Blmbg Aggregate	(0.03%)	(1.08%)	(1.58%)	(0.48%)	
TCW Core Plus	0.01%	(0.92%)	(0.85%)	0.72%	
Blmbg Aggregate	(0.03%)	(1.08%)	(1.58%)	(0.48%)	
Prudential Core Plus	0.01%	(1.28%)	(1.14%)	2.10%	
Blmbg Aggregate	(0.03%)	(1.08%)	(1.58%)	(0.48%)	
Large Cap Core Equity Fund	5.64%	4.64%	21.81%	44.48%	
Russell 1000 Index	6.94%	4.98%	23.18%	43.51%	
Hotchkis & Wiley Large Cap Value	5.89%	5.95%	29.34%	64.87%	
Russell 1000 Value Index	5.08%	3.43%	22.03%	43.76%	
Macquarie Large Cap Value	4.28%	3.32%	17.85%	39.67%	
Russell 1000 Value Index	5.08%	3.43%	22.03%	43.76%	
Sands Capital Large Cap Growth	4.97%	6.96%	18.28%	41.30%	
Russell 1000 Growth Index	8.66%	6.41%	24.20%	43.21%	
Loomis SaylesLarge Cap Growth	5.84%	1.55%	18.07%	31.63%	
Russell 1000 Growth Index	8.66%	6.41%	24.20%	43.21%	
BlackRock Russell 1000 Index	6.95%	4.98%	23.32%	43.84%	
Russell 1000 Index	6.94%	4.98%	23.18%	43.51%	
Small/Mid Cap Equity Fund	4.19%	2.45%	19.11%	48.54%	
Russell 2500 Index	4.90%	3.91%	19.41%	49.43%	
Earnest Partners Small/Mid Cap	3.82%	4.22%	-	-	
Russell 2500 Index	4.90%	3.91%	19.41%	49.43%	
Wedge Small/Mid Cap Value	3.06%	1.33%	22.27%	53.72%	
Russell 2500 Value Index	4.75%	4.11%	25.84%	58.14%	
Brown Advisory Small/Mid Cap Growth	5.52%	1.56%	13.07%	39.32%	
Russell 2500 Growth Index	5.13%	3.66%	10.21%	37.12%	
BlackRock Russell 2500 Index	4.90%	3.92%	19.44%	49.53%	
Russell 2500 Index	4.90%	3.91%	19.41%	49.43%	
Intermetional Equity Fired	2.070/	(0.200/)	E F00/	26.229/	
International Equity Fund	2.07%	(0.29%)	<b>5.52%</b>	<b>26.23%</b>	
MSCI ACWI ex US Mondrian ACWI ex-US Value	2.39%	0.99%	8.43%	29.66%	
MSCI ACWI ex US Value	1.60% 1.65%	0.71% 1.09%	8.58% 10.00%	32.25% 37.09%	
Baillie Gifford ACWI ex-US Growth	2.70%	(0.66%)	10.90% 3.17%	21.24%	
MSCI ACWI ex US Growth	3.10%	0.90%	5.84%	22.73%	
MISCI ACMI EX OS GIOWIII	3.10%	0.30%	J.04 %	ZZ.1 J /0	



The table below details the rates of return for the fund's investment managers over various time periods ended October 31, 2021. 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.

	Last	Last	Last	Last	
	3 Vaara	5 Vac-ro	7 Vaces	10 Yaara	
	Years	Years	Years	Years	
Tier 2: Active (Net of Fee)					
Stable Value Fund	2.30%	2.22%	2.13%	2.18%	
3 Yr Constant Maturity Yield	0.99%	1.39%	1.27%	1.05%	
T-Bill + 1.5%	2.62%	2.65%	2.37%	2.13%	
Fixed Income Fund	6.93%	4.22%	4.12%	4.03%	
Blmbg Aggregate	5.63%	3.10%	3.11%	3.00%	
TCW Core Plus	6.77%	J. 10 /0 -	J.1170 -	J.00 /0 -	
Blmbg Aggregate	5.63%	3.10%	3.11%	3.00%	
Prudential Core Plus	7.16%	4.67%	-	J.00 /0 -	
Blmbg Aggregate	5.63%	3.10%	3.11%	3.00%	
Dimby Aggregate	3.0370	3.1070	3.1170	3.00 //	
Large Cap Core Equity Fund	22.75%	-	-	-	
Russell 1000 Index	22.01%	19.16%	14.79%	16.30%	
Hotchkis & Wiley Large Cap Value	15.58%	15.07%	11.00%	14.40%	
Russell 1000 Value Index	13.90%	12.39%	9.75%	12.85%	
Macquarie Large Cap Value	10.85%	11.19%	-	-	
Russell 1000 Value Index	13.90%	12.39%	9.75%	12.85%	
Sands Capital Large Cap Growth	37.74%	30.46%	21.00%	21.74%	
Russell 1000 Growth Index	29.41%	25.49%	19.48%	19.42%	
Loomis SaylesLarge Cap Growth	26.07%	21.80%	18.70%	-	
Russell 1000 Growth Index	29.41%	25.49%	19.48%	19.42%	
Constitution Constitution of	47 400/				
Small/Mid Cap Equity Fund	17.42%	40.040/	40.000/	44.050/	
Russell 2500 Index	18.43%	16.31% 10.19%	12.26%	14.25% -	
Wedge Small/Mid Cap Value Russell 2500 Value Index	12.01%	12.20%	8.34% 9.57%	- 12.40%	
	13.91%	19.19%	9.57 % 16.15%	16.46%	
Brown Advisory Small/Mid Cap Growth Russell 2500 Growth Index	22.65%	20.68%	15.04%	16.46%	
Russell 2500 Growth Index	23.10%	20.08%	15.04%	10.11%	
International Equity Fund	13.36%	10.74%	7.58%	7.96%	
MSCI ACWI ex US	12.00%	9.77%	6.19%	6.66%	
Mondrian ACWI ex-US Value	8.76%	7.45%	4.81%	5.66%	
MSCI ACWI ex US Value	6.88%	6.66%	3.42%	4.68%	
Baillie Gifford ACWI ex-US Growth	18.12%	14.32%	10.67%	10.43%	
MSCI ACWI ex US Growth	16.85%	12.67%	8.79%	8.50%	



# Callan

**September 30, 2021** 

The North Carolina Supplemental Retirement Plans Executive Summary

Investment Measurement Service Quarterly Review

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#### **U.S. EQUITY**

#### Returns compress over mounting concerns

- S&P 500 rose 0.6% in 3Q21, and smaller cap growth indices posted their first negative quarter since the March 2020 low.
- Slowing economic growth, supply chain disruptions, and inflationary pressure, as well as uncertainty around monetary policy, decreased investors' risk appetite.
- In general, high quality topped lower quality in large cap.
- Economically sensitive sectors such as Industrials (-4.2%) lagged; Financials (+2.7%) benefited.
- Growth outperformed value in large cap, and value outperformed growth in small cap.
- YTD, small value outperformed small growth by a whopping 2,000 bps (Russell 2000 Value: 22.9% vs. Russell 2000 Growth: 2.8%), a stark reversal from the prior year.

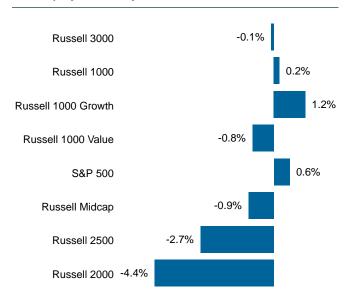
#### Diversification and rebalancing are best defense

- Few if any pockets of opportunity remain in the equity markets as valuations have hit or exceeded long-term averages given the recent market run.
- Investors are grappling with exposures to risk assets: What to do? Where to go?
- The whipsaw effect over the last two years illustrates the need to remain committed to a long-term plan that emphasizes diversification and disciplined rebalancing.

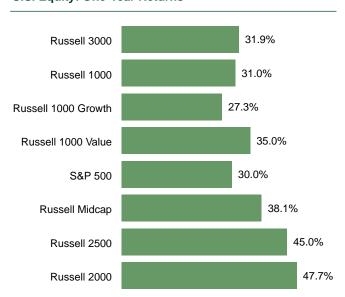
## Inflation and equity: not so bad, up to a point

- Investors typically fare OK with expected inflation levels but are impaired when inflation is unexpectedly higher.
- Pre-GFC, stocks and interest rate movements (proxy for inflation) were highly correlated until 10-year U.S. Treasury yields reached 4.5%.
- Post-GFC, stocks and interest rate movements were highly correlated until 10-year yields reached 3.5%.
- The current 10-Year Treasury yield is 1.5%.

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

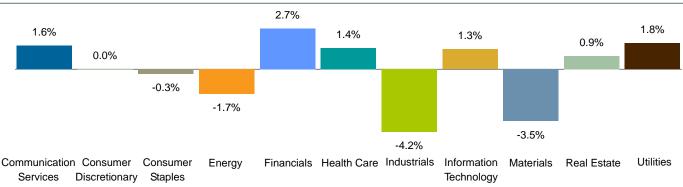


## U.S. Equity: One-Year Returns



Sources: FTSE Russell, S&P Dow Jones Indices

#### S&P Sector Returns, Quarter Ended September 30, 2021



Source: S&P Dow Jones Indices



#### **GLOBAL EQUITY**

#### Fears of stagflation stoke market volatility

- Delta variant flare-ups and slowdown in China weighed on global recovery.
- COVID-driven supply chain disruption continues to push inflation higher.
- Small cap outpaced large as global recovery concerns disproportionately punished large cap companies.
- Emerging markets struggled relative to developed markets as growth prospects were under pressure for China and Brazil.

#### Market pivots to cyclicals

- Energy crunch fueled the sector to the highest return in the quarter as demand outstripped supply.
- Financials outperformed; Real Estate and Utilities generally underperformed with higher interest rate expectations.
- Sentiment and momentum signals added value in developed markets but not in emerging markets.

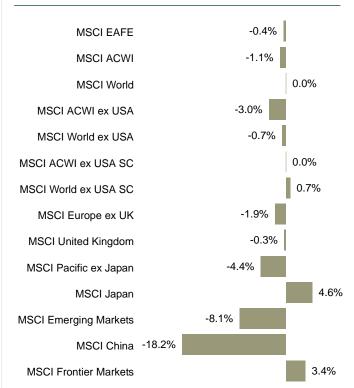
#### U.S. dollar vs. other currencies

 The U.S. dollar rose against other major currencies as the Fed signaled tapering is imminent, which notably detracted from global ex-U.S. results.

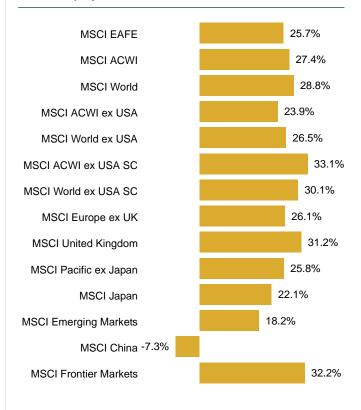
#### Growth vs. value

 Value outpaced growth in emerging markets due to the Energy rally, while both were relatively flat in developed markets.

## **Global Equity: Quarterly Returns**



#### **Global Equity: One-Year Returns**



Source: MSCI



#### **U.S. FIXED INCOME**

#### Treasury yields largely unchanged from 2Q21

- Yields ended a volatile quarter only slightly higher after the Fed signaled it may soon begin tapering its bond buying program.
- 2-year and 10-year Treasury yields rose 3 and 7 bps, respectively.
- TIPS outperformed nominal Treasuries, and 10-year breakeven spreads widened 5 bps to 2.37%.

#### Bloomberg Aggregate flat as spreads widened

- Minor gains in Treasuries and agency MBS were offset by declines in government-related, CMBS, and corporates.
- IG corporate trailed Treasuries by 15 bps (duration-adjusted) as spreads widened within long bonds.

## High yield and leveraged loans continue rally

- Leverage loans (+1.1%) outperformed high yield, driven by favorable supply/demand dynamics.
- High yield issuers' default rate declined to 0.9% in September, the lowest since March 2014.

#### **Munis underperform Treasuries**

- Supply was modest and demand was fueled by expectations for higher tax rates and strong credit fundamentals.
- Lower-quality bonds continued their trend of outperformance as investors sought yield.

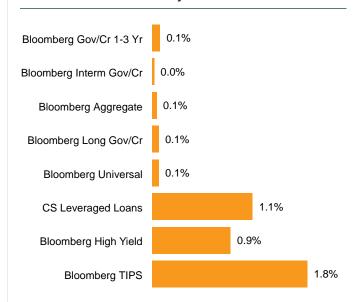
#### Fed reiterates that current price pressures are transitory

- Inflation is being temporarily influenced by pandemic-related supply bottlenecks (e.g., used cars and housing).
- Used autos spiked (+32% YOY), but rents (with a greater weight in the index) have started to apply price pressure.
- Fed's flexible average inflation targeting (FAIT) allows inflation to overshoot the 2% neutral rate; PCE (Fed's preferred inflation measure) rose 4.3% in August.

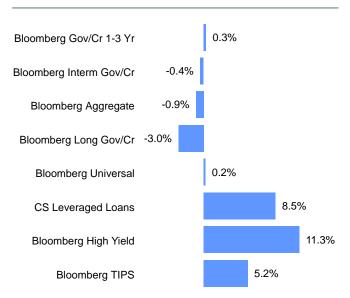
#### Policy adjustments may be on the horizon

- Fed signaled it would move up its taper announcement.
- Sep '21 Fed Funds rate forecast illustrated a potential rate hike in 2022, with a 25 bps increase; the previous dot plot had no hikes until 2023.

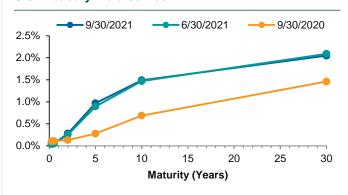
#### U.S. Fixed Income: Quarterly Returns



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



#### **U.S. Treasury Yield Curves**



Sources: Bloomberg, Credit Suisse



#### **GLOBAL FIXED INCOME**

#### Global fixed income flat on a hedged basis

- Returns were muted and U.S. dollar strength eroded returns for unhedged U.S. investors.
- The dollar gained roughly 2% vs. a basket of developed market currencies.

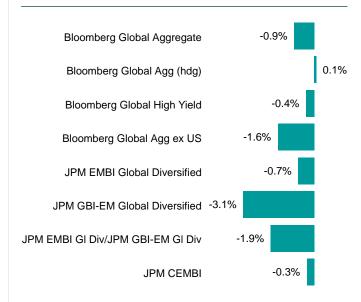
#### **Emerging market debt falls**

- The U.S. dollar-denominated index (EMBI Global Diversified) declined as the Delta variant in some countries raised concerns, and the local Index (JPM GBI-EM Global Diversified) lost further ground due to currency depreciation.
- Most emerging currencies depreciated versus the dollar.
   Notables include Brazil real (-7.9%) and South Africa rand (-5.1%).
- EM corporates fared better amid improving corporate fundamentals and the global economic recovery.

#### Inflation overseas

- Yields have increased as non-U.S. developed market countries also deal with supply bottlenecks and pressure from energy prices.
- Euro zone inflation has been elevated, but not at same level as the U.S.
- Central bank policy is mixed.
- The U.K.'s Bank of England has signaled a potential tightening of its monetary policy by the end of 2021.
- The European Central Bank remains on hold.

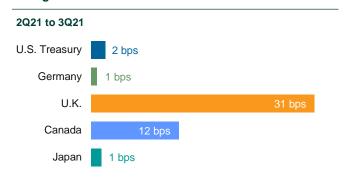
#### **Global Fixed Income: Quarterly Returns**



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



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



Sources: Bloomberg, JP Morgan



## **Investment Fund Balances**

The table below compares the fund's investment fund balances as of September 30, 2021 with that of June 30, 2021. 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**

	Septembe		June 30, 2021			
	Market		Net New	Invest.	Market	
	Value	Weight	Invest.	Return	Value	Weight
North Carolina SRP 401k & 457						
Tier II Passive	\$5,184,648,297	32.94%	\$(80,429,127)	\$26,828,779	\$5,238,248,645	33.09%
Fixed Income Passive	101,652,273	0.65%	90,932	70,624	101,490,716	0.64%
Treasury Inflation Protected	363,030,107	2.31%	16,211,973	5,688,727	341,129,407	2.16%
Large Cap Passive	3,646,274,000	23.17%	(94,243,924)	26,159,354	3,714,358,570	23.47%
International Passive	100,993,349	0.64%	1,097,444	(3,231,885)	103,127,790	0.65%
SMID Cap Passive	423,416,456	2.69%	(4,618,361)	(11,814,691)	439,849,508	2.78%
Inflation Responsive Fund	549,282,112	3.49%	1,032,808	9,956,651	538,292,653	3.40%
Tier II Active	\$10,555,455,672	67.06%	\$58,951,229	\$(93,648,248)	\$10,590,152,691	66.91%
Stable Value Fund	2,395,399,491	15.22%	9,442,745	9,931,399	2,376,025,347	15.01%
Fixed Income Fund	2,300,149,048	14.61%	25,712,926	1,126,591	2,273,309,531	14.36%
Large Cap Core Equity Fund	2,459,229,463	15.62%	(42,145,618)	8,439,182	2,492,935,899	15.75%
International Equity Fund	2,307,742,016	14.66%	70,974,110	(104,235,405)	2,341,003,312	14.79%
Small/Mid Cap Equity Fund	1,092,935,654	6.94%	(5,032,933)	(8,910,015)	1,106,878,602	6.99%
Total Fund	\$15,740,103,969	100.0%	\$(21,477,898)	\$(66,819,469)	\$15,828,401,335	100.0%



The table below details the rates of return and peer group rankings for the Fund's investment funds over various time periods ended September 30, 2021. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns and Rankings for Periods Ended September 30, 2021

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	<u> </u>
Tier 2: Passive (Net of Fee)										
Fixed Income Passive Blmbg Aggregate Callan Core Bond MFs	0.06% 0.05% 0.09%	61 65	(0.94%) (0.90%) 0.11%	94 94	5.29% 5.36% 5.97%	92 91	2.89% 2.94% 3.45%	99 92	3.13% 3.21% -	(10/10) (10/10)
Treasury Inflation Protected Securities Blmbg US TIPS 1-10 Yr Callan TIPS MFs	1.66% 1.68% 1.63%	44 40	5.56% 5.75% 5.43%	45 39	6.40% 6.41% 6.97%	63 63	3.84% 4.13%	69	5.75% 5.77% -	(7/18) (7/18)
Large Cap Passive S&P 500 Index Callan Large Cap Core MFs	0.57% 0.58% 0.00%	28 28	30.00% 30.00% 30.48%	64 64	16.01% 15.99% 14.47%	28 28	16.90% 16.90% 15.35%	25 25	16.71% 16.79% -	(4/09) (4/09)
International Passive MSCI ACWI ex US Callan Non US Equity MFs	(3.11%) (2.99%) (1.03%)	78 77	23.94% 23.92% 25.46%	65 65	8.18% 8.03% 8.46%	52 53	9.15% 8.94% 8.96%	48 51	9.30% 9.23% -	(4/09) (4/09)
SMID Cap Passive Russell 2500 Index Callan SMID Core MFs	(2.69%) (2.68%) (1.29%)	69 69	45.04% 45.03% 44.88%	50 50	12.39% 12.47% 10.34%	17 17	14.18% 14.25% 12.36%	17 13	16.48% 16.54% -	(4/09) (4/09)
Inflation Responsive Fund Inflation Responsive Benchmark Callan Real Assets MFs	1.82% 1.80% 1.19%	26 28	22.13% 21.95% 23.60%	57 57	8.28% 8.18% 7.31%	34 36	6.11% 4.87% 5.95%	42 81	3.20% 1.76% -	(9/11) (9/11)
Tier 2: Active (Net of Fee)										
Stable Value Fund 3 Yr US Treas Rolling T-Bill + 1.5% Callan Stable Value CT	<b>0.41%</b> 0.10% 0.39% 0.31%	<b>19</b> 97 24	<b>1.92%</b> 0.31% 1.57% 1.36%	<b>5</b> 99 32	<b>2.32%</b> 1.05% 2.68% 1.77%	<b>1</b> 98 1	<b>2.23%</b> 1.40% 2.66% 1.75%	<b>2</b> 92 1	<b>2.48%</b> 1.06% 2.04%	(7/09) (7/09) (7/09)
Fixed Income Fund Blmbg Aggregate Callan Core Plus MFs	<b>0.05%</b> 0.05% 0.17%	<b>82</b> 82	<b>0.87%</b> (0.90%) 1.35%	<b>69</b> 99	<b>6.64%</b> 5.36% 6.14%	<b>15</b> 89	<b>4.06%</b> 2.94% 3.84%	<b>23</b> 98	<b>4.88%</b> 3.92% -	(4/09) (4/09)
Large Cap Core Equity Fund Russell 1000 Index Callan Lg Cap Broad MF	<b>0.30%</b> 0.21% 0.01%	<b>37</b> 41	<b>34.72%</b> 30.96% 29.28%	<b>21</b> 40	<b>17.05%</b> 16.43% 15.75%	<b>44</b> 47	- 17.11% 16.44%	47	<b>17.66%</b> 16.76% -	(10/17) (10/17)
International Equity Fund  MSCI ACWI ex US  Callan Non US Equity MFs	<b>(4.32%)</b> (2.99%) (1.03%)	<b>89</b> 77	<b>21.60%</b> 23.92% 25.46%	<b>76</b> 65	<b>9.84%</b> 8.03% 8.46%	<b>39</b> 53	<b>9.79%</b> 8.94% 8.96%	<b>41</b> 51	<b>10.22%</b> 9.23% -	(4/09) (4/09)
Small/Mid Cap Equity Fund Russell 2500 Index Callan SMID Broad MFs	(0.83%) (2.68%) (1.54%)	<b>43</b> 79	<b>44.61%</b> 45.03% 39.99%	<b>35</b> 33	<b>11.72%</b> 12.47% 12.38%	<b>55</b> 49	- 14.25% 15.79%	54	<b>12.51%</b> 13.39% -	. ,



The table below details the rates of return and peer group rankings for the Fund's investment funds over various time periods ended September 30, 2021. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

## Returns and Rankings for Periods Ended September 30, 2021

	Loot		Last		Last 3		Last 5		Since	
	Last Quarter		Year		Years		Years		Inception	
Tier 2: Active (Net of Fee)										
Stable Value Fund	0.41%	19	1.92%	5	2.32%	1	2.23%	2	<b>2.48%</b> (7/09)	
3 Yr US Treas Rolling	0.10%	97	0.31%	99	1.05%	98	1.40%	92	1.06% (7/09)	
T-Bill + 1.5%	0.39%	24	1.57%	32	2.68%	1	2.66%	1	2.04% (7/09)	
Callan Stable Value CT	0.31%		1.36%		1.77%		1.75%		-	
Fixed Income Fund	0.05%	82	0.87%	69	6.64%	15	4.06%	23	4.88% (4/09)	
Blmbg Aggregate	0.05%	82	(0.90%)	99	5.36%	89	2.94%	98	3.92% (4/09)	
Callan Core Plus MFs	0.17%		1.35%		6.14%		3.84%		-	
TCW Core Plus	0.06%	80	0.40%	84	6.50%	19	_		4.51% (1/17)	
Blmbg Aggregate	0.05%	82	(0.90%)	99	5.36%	89	2.94%	98	3.76% (1/17)	
Callan Core Plus MFs	0.17%		1.35%		6.14%		3.84%		-	
Prudential Core Plus	0.05%	82	1.42%	46	6.87%	10	4.49%	11	4.64% (1/15)	
Blmbg Aggregate	0.05%	82	(0.90%)	99	5.36%	89	2.94%	98	3.11% (1/15)	
Callan Core Plus MFs	0.17%		1.35%		6.14%		3.84%		-	
Large Cap Core Equity Fund	0.30%	37	34.72%	21	17.05%	44	-		17.66% (10/17)	
Russell 1000 Index	0.21%	41	30.96%	40	16.43%	47	17.11%	47	16.76% (10/17)	
Callan Lg Cap Broad MF	0.01%		29.28%		15.75%		16.44%		-	
Hotchkis & Wiley Large Cap Value	(1.66%)	81	58.41%	4	10.53%	23	13.40%	17	16.19% (4/09)	
Russell 1000 Value Index	(0.78%)	50	35.01%	43	10.07%	33	10.94%	61	14.16% (4/09)	
Callan Lg Cap Value MF	(0.80%)		34.08%		9.27%		11.48%		-	
Macquarie Large Cap Value	0.25%	15	30.32%	76	7.15%	85	9.80%	90	8.68% (6/15)	
Russell 1000 Value Index	(0.78%)	50	35.01%	43	10.07%	33	10.94%	61	9.27% (6/15)	
Callan Lg Cap Value MF	(0.80%)		34.08%		9.27%		11.48%		-	
Sands Capital Large Cap Growth	4.08%	2	32.95%	4	29.04%	1	28.37%	1	24.01% (4/09)	
Russell 1000 Growth Index	1.16%	27	27.32%	35	22.00%	29	22.84%	33	19.57% (4/09)	
Callan Large Cap Grwth MF	0.42%		26.37%		21.14%		22.29%		-	
Loomis SaylesLarge Cap Growth	(1.96%)	94	21.26%	94	20.15%	70	19.76%	82	18.22% (8/14)	
Russell 1000 Growth Index	1.16%	27	27.32%	35	22.00%	29	22.84%	33	18.54% (8/14)	
Callan Large Cap Grwth MF	0.42%		26.37%		21.14%		22.29%		-	
BlackRock Russell 1000 Index	0.20%	42	31.27%	41	16.41%	26	-		16.44% (11/17)	
Russell 1000 Index	0.21%	41	30.96%	46	16.43%	26	17.11%	24	16.47% (11/17)	
Callan Large Cap Core MFs	0.00%		30.48%		14.47%		15.35%		-	



The table below details the rates of return and peer group rankings for the Fund's investment funds over various time periods ended September 30, 2021. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

## Returns and Rankings for Periods Ended September 30, 2021

	Last Quarter		Last r Year		Last 3 Years		Last 5 Years		Since Inception
Tier 2: Active (Net of Fee)									
International Equity Fund  MSCI ACWI ex US	(4.32%)	<b>89</b>	<b>21.60%</b> 23.92%	76	<b>9.84%</b> 8.03%	39	<b>9.79%</b> 8.94%	41	<b>10.22%</b> (4/09) 9.23% (4/09)
Callan Non US Equity MFs	(2.99%) (1.03%)	77	25.46%	65	8.46%	53	8.96%	51	9.23 76 (4/09)
Mondrian ACWI ex-US Value	(3.28%)	79	28.10%	32	6.21%	70	6.72%	78	7.95% (4/09)
MSCI ACWI ex US MSCI ACWI ex US Value	(2.99%) (2.32%)	77 65	23.92% 31.38%	65 15	8.03% 3.81%	53 86	8.94% 6.43%	51 80	9.23% (4/09) 7.75% (4/09)
Callan Non US Equity MFs	(1.03%)		25.46%		8.46%		8.96%		-
Baillie Gifford ACWI ex-US Growth MSCI ACWI ex US	(4.92%) (2.99%)	96 77	16.03% 23.92%	93 65	13.47% 8.03%	13 53	13.11% 8.94%	10 51	12.96% (4/09) 9.23% (4/09)
MSCI ACWI ex US Growth Callan Non US Equity MFs	(3.62%) (1.03%)	80	16.95% 25.46%	89	11.94% 8.46%	26	11.22% 8.96%	29	10.58% (4/09)
Small/Mid Cap Equity Fund Russell 2500 Index	<b>(0.83%)</b> (2.68%)	<b>43</b> 79	<b>44.61%</b> 45.03%	<b>35</b> 33	<b>11.72%</b> 12.47%	<b>55</b> 49	<u>-</u> 14.25%	54	<b>12.51%</b> (10/17) 13.39% (10/17)
Callan SMID Broad MFs	(1.54%)		39.99%		12.38%		15.79%	•	-
Earnest Partners Small/Mid Cap Russell 2500 Index	1.93% (2.68%)	4 69	- 45.03%	50	- 12.47%	17	- 14.25%	13	-
Callan SMID Core MFs	(1.29%)	69	44.88%	50	10.34%	17	12.36%	13	-
Wedge Small/Mid Cap Value	(1.71%)	42	52.88%	39	7.05%	97	9.09%	85	11.92% (1/12)
Russell 2500 Value Index Callan SMID Value MFs	(2.07%) (1.86%)	55	54.38% 51.11%	36	8.87% 9.27%	66	10.49% 11.37%	70	12.05% (1/12)
Brown Advisory Small/Mid Cap Growth Russell 2500 Growth Index Callan SMID Growth MFs	(1.98%) (3.53%) (0.99%)	78 98	31.12% 31.98% 31.80%	56 50	16.30% 16.01% 16.40%	50 51	16.85% 18.21% 19.13%	64 60	18.24% (4/09) 18.37% (4/09)
BlackRock Russell 2500 Index Russell 2500 Index Callan SMID Core MFs	(2.69%) (2.68%) (1.29%)	69 69	45.38% 45.03% 44.88%	49 50	12.76% 12.47% 10.34%	16 17	- 14.25% 12.36%	13	13.50% (11/17) 13.24% (11/17)



# North Carolina Supplemental Retirement Plans Quarterly Manager Review **Stoplight Report**

3<sup>rd</sup> Quarter 2021

## **Manager Assessment**

	Organization	People	Process and Philosophy	Product Dynamics	Short Term Performance	Long Term Performance	Overall	OVERALL STATUS	<u>NOTES</u>
LARGE CAP CORE									
BlackRock								Satisfactory	
LARGE CAP VALUE						ı		•	
Hotchkis & Wiley Large Cap Fundamental Value	•	•	•	•	•	•	•	Satisfactory	Large relative underperformance in 1Q20 was followed by large relative outperformance in 4Q20 through 3Q21 due to cyclicals and Energy rally, resulting in large magnitude of outperformance relative to benchmark and peers over trailing one-year period. Large magnitude of outperformance resulted in improvement of 3/5/7 year periods, driven by cyclical exposure and greater exposure to value factor (e.g. stocks with low price/fundamentals). Performance results (and magnitude) within expectations given process and expected higher volatility.
Macquarie Large Cap Value Focus	•	•	•	•	•		•	Cautionary	Remain Cautionary due to former PM Ty Nutt retirement in July 2019 and transition of role to Nik Lalvani - Macquarie promoted Associate PM Erin Ksenak to PM in December 2020 (4th voting member on the team) and analyst Vincent Celentano to Associate PM. Continue to monitor the team, process, and performance subsequent to transition. Cautionary on short-term performance due to poor results over trailing 1/3/5 year periods (despite outperforming in 3021); holdings and overweight to Energy were the main detractors in recent periods. Remain Cautionary on long-term results. Notable Macquarie acquired Waddell & Reed Financial and entered into a long-term partnership with LPL Financial in December 2020.
LARGE CAP GROWTH									
Loomis Sayles Large Cap Growth	•	•	•	•	•	•	•	Satisfactory	Portfolio lags benchmark and peers in 3Q21 and trailing 1/3/5 year periods, attributable to not owning strong performers in benchmark (particularly Apple). Underweight to speculative stocks, which performed well over trailing one-year period (e.g. Tesla). Long-term results remain within expectations of concentrated, high quality growth portfolio. Notable on growth in portfolio AUM to \$70+ billion over last five years given concentration (35 holdings).

<sup>•</sup> Positive status; no issues • Notable status; noteworthy item with no concerns • Cautionary status; noteworthy item & monitoring closely • 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.



# North Carolina Supplemental Retirement Plans Quarterly Manager Review **Stoplight Report**

3<sup>rd</sup> Quarter 2021

## **Manager Assessment**

								_	
	Organization	People	Process and Philosophy	Product Dynamics	Short Term Performance	Long Term Performance	Overall	OVERALL STATUS	<u>NOTES</u>
Sands Capital Management Select Growth	•	•	•	•	•	•	•	Satisfactory	Frank Sands Sr. passed away in March 2021; does not impact the day to day management. Current four- person PM team in place since 10/17. Disruption /innovation exposure has positively impacted results over recent time periods. Strong Q3 21 performance supports significant short and long-term performance.
SMID CAP CORE									
BlackRock								Satisfactory	
EARNEST Partners SMID Core	•	•	•	•	•	•	•	Satisfactory	Strategy lagged benchmark over trailing one-year period due to less exposure to cyclical stocks and higher beta factor exposure within SMID opportunity set.  Strategy outpaced benchmark in 3Q21 but lagged during 2Q21 and 4Q20 due to stock selection in Health Care and Technology and less exposure to cyclical factors.  Intermediate and long-term results outpace benchmark over multiple trailing periods.
SMID CAP VALUE									
WEDGE Capital US SMID Cap Value	•	•	•	•	•	•	•	Satisfactory (on NC watch list)	Brian Pratt (former co-lead of mid cap research) left the firm due to a serious health issue in 4Q20. Andrew Rosenberg (large cap team lead), joined Mike Ritzer as the new co-lead of mid cap research. Portfolio continues to trail benchmark over the trailing 1/3/5/7 year periods due to a combination of poor stock selection (e.g. PG&E), style headwinds for low-multiple (value) strategies, and the underperformance of quality factors. Portfolio relative results improving short-term, outpacing benchmark in 3Q21 (and 3 of last 4 quarters).
SMID CAP GROWTH	1	1	1	1	1	, ,			
Brown Advisory US SMID Cap Growth	•	•	•	•	•	•	•	Satisfactory	Portfolio underperformed the benchmark and peers 1Q21 and 4Q20, leading to underperformance over the trailing one-year period (despite outpacing benchmark in 2Q and 3Q21). Underperformance was due to a larger market cap bias and higher quality orientation (i.e. avoiding companies with negative earnings). The fund outperformed the benchmark over trailing 3/5/7 periods. Notable strategy AUM above \$7.5 billion and holdings near all-time high (76) -notable but not actionable.

<sup>•</sup> Positive status; no issues • Notable status; noteworthy item with no concerns • Cautionary status; noteworthy item & monitoring closely • 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.



# North Carolina Supplemental Retirement Plans Quarterly Manager Review **Stoplight Report**

3<sup>rd</sup> Quarter 2021

## **Manager Assessment**

				·					
	Organization	People	Process and Philosophy	Product Dynamics	Short Term Performance	Long Term Performance	Overall	OVERALL STATUS	<u>NOTES</u>
INTERNATIONAL EQUIT	Υ	1	T	1	1		T .	T	Double live and a second secon
Baillie Gifford ACWI Ex-US Alpha	•							Satisfactory	Portfolio manager retirements, Andrew Strathdee and Jonathan Bates in 2019 easily adjusted for given robust bench strength.
BlackRock								Satisfactory	
Mondrian Investment Partners Focused ACWI Ex-US	•	•	•	•	•	•	•	Satisfactory (on NC watch list)	Hamish Parker, who served as chair of the ESG Steering Committee, retired in the first quarter of 2021; Alex Simcox, senior portfolio manager on the international strategy, assumed Parker's role as chair.
CORE & CORE PLUS FIX	XED IN	СОМЕ							
BlackRock								Satisfactory	
PGIM Core Plus Bond								Satisfactory	
TCW Core Plus	•	•	•	•	•	•	•	Satisfactory	Continuing to monitor AUM growth and any potential impact to consistency of the investment strategy due to Rivelle's pending retirement.
INFLATION SENSITIVE									
BlackRock Strategic Completion Fund	•	•	•	•	•	•	•	Satisfactory	
STABLE VALUE									
Galliard Stable Value	•	•	•	•	•	•	•	Cautionary (on NC watch list)	Monitoring the sale of parent company WFAM to private equity owners GTCR and Reverence Capital, and impact on Galliard's autonomy, key professional stability, and the back-office. WFAM's sale follows two significant organizational developments in 2019: the sale of the firm's recordkeeping business and the coinciding retirements of the firm's founding partners. Recordkeeping clients represented a third of the WFAM Stable Return Fund; the put queue subsequently increased and has come down since peaking in 2020. Departure of CPM Laura Sell was material. Depth and experience among the remaining team members alleviate concerns related to

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.



interruptions to portfolio management.

<sup>•</sup> Positive status; no issues • Notable status; noteworthy item with no concerns • Cautionary status; noteworthy item & monitoring closely • Under Review status; noteworthy item with concerns

3rd Quarter 2021

#### **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.

Performance in down markets has been mixed more recently as the COVID-related selloff in Q1 of 2020 was unlike past market downturns. Different from past downturns, the more speculative and expensive stocks held their value, while lower priced stocks with better fundamentals sold off more in the downturn. While Mondrian's underperformance for 2020 was disappointing, it is to be expected given their value oriented and defensive style. The growth style of investing has 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. While Mondrian's primary benchmark remains the MSCI ACWI ex-US, the performance relative to the value oriented benchmark remains favorable. Callan remains cautionary in light of the recent performance and modest AUM decline.

Mondrian trailed benchmark for the quarter with a return of -3.2% versus the benchmark return of -3.0%. The positive impact of the overweight position in the strong Japanese equity market was more than offset by the overweight position in the weak Hong Kong market and the underweight position in the strong Dutch equity market. Hong Kong was the weakest performer in developed markets as the region suffered from continued travel restrictions, contagion from the Chinese government's increasing regulatory crackdowns, and concerns over fallout from the Evergrande debt crisis.

Weaker stock selection in Germany was driven by the position in Continental, the German tires and auto parts supplier, which suffered from the intensifying semiconductor shortage and the sharp decline in global auto production. The conglomerate CK Hutchison was weak along with the broader Hong Kong market despite no major company specific issues in the quarter.

This was only partially offset by strong returns from stocks in the UK. Notably Royal Dutch Shell, the Anglo-Dutch energy company, was buoyed by strong oil and gas prices.

The overweight position in the strong energy sector and the underweight position in the weak materials sector added to relative returns.

3rd Quarter 2021

#### **WEDGE Smid Cap Value**

Callan continues to recommend retaining Wedge and keeping the SMID Value strategy on the watch list after a thorough review of the people, process, philosophy and performance that occurred in Q1 2020. Callan maintains the view that Wedge should remain on watch list, but no further action should be taken at this time. 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 portfolios. 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.

Wedge announced in 2020 that a Partner of the firm would be stepping down. Callan believes the departure is notable, but is not cause for immediate action due to the team approach and experience/tenure of remaining team members at WEDGE. The Smid Value strategy is supported by nine investment team members, including three that also support the Large Cap Value strategies. WEDGE drew from the large cap team for Pratt's replacement as institutional demand for active large cap strategies continue to wane. While the team remains well-resourced, there have been more departures than additions in the last five years, at a time when the firm's asset base and number of accounts has come down as well.

The Small/Mid Cap Value composite return for the quarter was -1.69% (-1.90% net of fee) versus the Russell 2500 Value Index return of -2.07%. For the year-to-date period, the composite return was 19.29% (18.55% net of fee) and the index return was 20.14%.

The top contributors in the quarter included both an overweight and positive stock selection in Financials. Positive stock selection in Capital Goods and Utilities also added value. Year-to-date, top contributors included Financials overweight and stock selection, Technology underweight and stock selection, and Capital Goods stock selection.

The main detractors in the quarterly relative performance included stock selection within other Finance segments, Energy and Healthcare. Year-to-date, the main detractors included Retail, Telecom, and Energy stock selection.

North Carolina Supplemental Retirement Plans Active Management Scorecard - Rolling 3 Years

				e Cap Equity					
	3 Years to	09/30/2021	3 Years to	06/30/2021	3 Years to	03/31/2021	3 Years to	12/31/2020	
	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									
·			Sma	all/Mid Cap					
	3 Years to	09/30/2021	3 Years to	06/30/2021	3 Years to	03/31/2021	3 Years to	12/31/2020	
	Above Benchmark	Above Peer Median	5 Year Risk						
EARNEST Partners SMID Cap Core*									
WEDGE SMID Cap Value									
Brown Advisory									
				ational Equity					
		09/30/2021	3 Years to	06/30/2021	3 Years to	03/31/2021	3 Years to	12/31/2020	
	Above	Above Peer							
	Benchmark	Median	Benchmark	Median	Benchmark	Median	Benchmark	Median	5 Year Risk
Baillie Gifford ACWI ex US Growth									
Mondrian ACWI ex US Value									
	0 // 4-	00/00/0004		ed Income	0 \/ + -	00/04/0004	0 V t-	40/04/0000	
		09/30/2021		06/30/2021	3 Years to			12/31/2020	
	Above Benchmark	Above Peer Median	5 Year Risk						
TCW Core Plus*	Denominark	iviedian	Benchinark	Median	Benchinark	ivieulan	Benchmark	ivieulan	5 Teal RISK
Prudential Core Plus									
Tradefilial Colo Filad			Sta	able Value					
	3 Years to	09/30/2021		06/30/2021	3 Years to	03/31/2021	3 Years to	12/31/2020	
	Above	Above Peer							
	Benchmark	Median	Benchmark	Median	Benchmark	Median	Benchmark	Median	5 Year Risk
Stable Value									

<sup>\*</sup>Composite returns used to populate history

North Carolina Supplemental Retirement Plans Active Management Scorecard - Rolling 5 Years

Hotchkis & Wiley Large Cap Value  Macquarie Large Cap Value*	5 Years to Above Benchmark	09/30/2021 Above Peer Median	5 Years to Above Benchmark	06/30/2021 Above Peer Median	5 Years to Above Benchmark	03/31/2021 Above Peer Median	5 Years to Above Benchmark	Above Peer	
Macquarie Large Cap Value*									
Macquarie Large Cap Value*							Denominark	Median	5 Year Risk
Condo Conital Large Con Crowth									
Sands Capital Large Cap Growth									
Loomis Large Cap Growth*									
				all/Mid Cap					
		09/30/2021	5 Years to		5 Years to		5 Years to		
	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	Above Benchmark	Above Peer Median	5 Year Risk
EARNEST Partners SMID Cap Core*									
WEDGE SMID Cap Value									
Brown Advisory									
				ational Equity					
		09/30/2021	5 Years to 06/30/2021		5 Years to 03/31/2021		5 Years to12/31/2020		
	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									
				ed Income					
	5 Years to		5 Years to		5 Years to		5 Years to		
	Above	Above Peer	Above	Above Peer	Above	Above Peer	Above	Above Peer	5 V Dist
TCW Core Plus*	Benchmark	Median	Benchmark	Median	Benchmark	Median	Benchmark	Median	5 Year Risk
Prudential Core Plus									
- Iddential Core Flus			Sta	able Value					
Г	5 Years to	09/30/2021	5 Years to		5 Years to	03/31/2021	5 Years to	12/31/2020	
	Above	Above Peer	Above	Above Peer	Above	Above Peer	Above	Above Peer	
	Benchmark	Median	Benchmark	Median	Benchmark	Median	Benchmark	Median	5 Year Risk
Stable Value									

<sup>\*</sup>Composite returns used to populate history

<b>,</b>	_	· ·	J	_	C+D+E	B*F		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 ⁴	Difference
NorthCarolina Stable Value Fund	\$2,395,399,491	0.266%	0.0020%	0.025%	0.29%	\$7,018,521	0.65%	-0.36%
Galliard	\$2,395,399,491	0.266%	0.0000%			\$6,371,763	0.35%	-0.08%
North Carolina Fixed Income Passive Fund	\$101,652,273	0.020%	0.0226%	0.025%	0.07%	\$68,717	0.08%	-0.01%
Blackrock	101,652,273	0.020%	0.0100%			\$20,330	0.02%	0.00%
North Carolina Fixed Income Fund	\$2,300,149,048	0.122%	0.0102%	0.025%	0.16%	\$3,625,035	0.38%	-0.22%
50% TCW	\$1,151,430,082	0.135%	0.0000%			\$1,550,976	0.21%	-0.08%
50% Prudential	\$1,148,718,954	0.110%	0.0100%			\$1,263,591	0.21%	-0.10%
North Carolina Inflation Sensitive Fund	\$549,282,112	0.090%	0.0137%	0.025%	0.13%	\$706,926	0.86%	-0.73%
Blackrock	\$549,282,101	0.090%	0.0100%			\$494,354	0.75%	-0.66%
North Carolina Large Cap Passive Fund	\$3,646,274,000	0.005%	0.0015%	0.025%	0.03%	\$1,148,576	0.17%	-0.14%
Blackrock	\$3,646,274,000	0.005%	0.0100%			\$182,314	0.02%	-0.02%
North Carolina Large Cap Core Fund	\$2,459,229,463	0.280%	0.0090%	0.025%	0.31%	\$7,717,062	0.62%	-0.31%
18.75% Hotchkis & Wiley	\$475,093,449	0.400%	0.0000%			\$1,900,374	0.39%	0.01%
18.75% Macquarie Large Cap Value	\$471,084,086	0.258%	0.0000%			\$1,217,281	0.39%	-0.13%
18.75% Sands Capital Management	\$463,985,290	0.450%	0.0000%			\$2,087,934	0.42%	0.03%
18.75% Loomis Sayles	\$451,916,806	0.364%	0.0000%			\$1,645,881	0.42%	-0.06%
25% BlackRock Advisors Inc., Large Cap Index*	\$597,149,833	0.005%	0.0100%			\$29,857	0.03%	-0.03%
North Carolina SMID Cap Passive Fund	\$423,416,456	0.005%	0.0156%	0.025%	0.05%	\$193,078	0.17%	-0.12%
Blackrock	\$423,416,456	0.005%	0.0100%			\$21,171	0.03%	-0.03%
North Carolina SMID Cap Core Fund	\$1,092,935,654	0.376%	0.0161%	0.025%	0.42%	\$4,556,449	0.84%	-0.42%
30% Earnest Partners (Smid value \$91,982 Balance in Core)	\$330,079,486	0.470%	0.0000%			\$1,551,374	0.67%	-0.20%
30% Wedge	\$329,739,683	0.406%	0.0000%			\$1,339,073	0.65%	-0.24%
30% Brown Advisory	\$324,902,157	0.373%	0.0000%			\$1,210,261	0.69%	-0.32%
10% BlackRock Advisors Inc., SMID Index*	\$108,122,347	0.005%	0.0100%			\$5,406	0.03%	-0.03%
North Carolina International Passive Fund	\$100,993,349	0.021%	0.0384%	0.025%	0.08%	\$85,238	0.06%	0.02%
Blackrock	\$100,993,349	0.021%	0.0200%			\$21,209	0.08%	-0.06%
North Carolina International Equity	\$2,307,742,016	0.321%	0.0258%	0.025%	0.37%	\$8,580,185	0.80%	-0.43%
50% Baillie Gifford Growth	\$975,326,497	0.257%	0.0000%			\$2,509,515	0.51%	-0.25%
50% Mondrian Investment Partners Value	\$1,016,407,121	0.385%	0.0000%			\$3,910,118	0.51%	-0.13%
North Carolina TIPS Fund	\$363,030,107	0.025%	0.0104%	0.025%	0.06%	\$219,270	0.35%	-0.29%
Blackrock	\$363,030,107	0.025%	0.0000%			\$90,758	0.13%	-0.11%
Total	\$15,740,103,969	0.174%	0.0150%	0.025%	0.22%	\$33,919,057	0.27%	

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С

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

<sup>&</sup>lt;sup>1</sup> Based on annualized monthly fee accruals as of 09/30/2021

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

<sup>&</sup>lt;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.

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	
Tier 2: Passive vs. Net of Fee Gr	oups									
Fixed Income Passive (i) Callan Core Bond MFs Blmbg Aggregate		<b>0.1</b> 61 0.1 65	<b>-0.9</b> 94	<b>5.3</b> 92 5.4 91	<b>2.9</b> 99 2.9 92		<b>0.5</b> 94 0.5 91	<b>-0.8</b> 100	0.1 99	
Treasury Inflation Protected (i) Callan TIPS MFs		<b>1.7</b> 44	<b>5.6</b> 45	<b>6.4</b> 63	<b>4.3</b> 41		<b>0.9</b> 18	0.4 28	1.3 88	
Blmbg US TIPS 1-10 Yr  Large Cap Passive (i)  Callan Large Cap Core MFs		1.7 40 <b>0.6</b> 28	<b>30.0</b> 64	6.4 63 <b>16.0</b> 28	3.8 69 16.9 25		1.0 5 0.9 29	0.1 23	0.0 100	
S&P 500 Index International Passive (i) Callan Non US Equity MFs		<b>0.6</b> 28 <b>-3.1</b> 78	<b>23.9</b> 65	16.0 28 <b>8.2</b> 52	16.9 25 <b>9.1</b> 48		0.9 29 <b>0.4</b> 44	0.8 9	0.3 100	
MSCI ACWI ex US		-3.0 77	23.9 65	8.0 53	8.9 51		0.4 48			
SMID Cap Passive (i) Callan SMID Core MFs Russell 2500 Index		<b>-2.7</b> 69	<b>45.0</b> 50 45.0 50	<b>12.4</b> 17 12.5 17	<b>14.2</b> 17 14.3 13		<ul><li>0.5 27</li><li>0.5 26</li></ul>	<b>-1.0</b> 94	<b>0.1</b> 100	
Inflation Responsive Fund (i) Callan Real Assets MFs		<b>1.8</b> 26	<b>22.1</b> 57	<b>8.3</b> 34	<b>6.1</b> 42		<b>0.5</b> 18	<b>1.4</b> 1	<b>0.9</b> 100	
Inflation Responsive Benchmark  Tier 2: Active vs. Net of Fee Gro	ins	1.8 28	22.0 57	8.2 36	4.9 81		0.4 42			
Stable Value Fund Callan Stable Value CT	ирэ	<b>0.4</b> 19	<b>1.9</b> 5	2.3 1	<b>2.2</b> 2		<b>7.2</b> 8	<b>-1.1</b> 1	<b>0.4</b> 33	
T-Bill + 1.5%  Fixed Income Fund Callan Core Plus MFs		<b>0.4</b> 24 <b>0.1</b> 82	1.6 32 0.9 69	<b>2.7</b> 1 <b>6.6</b> 15	2.7 1 4.1 23		<b>3.2</b> 59 <b>0.7</b> 38	<b>0.5</b> 20	<b>2.2</b> 69	
Blmbg Aggregate TCW Core Plus		<b>0.1</b> 82 <b>0.1</b> 80	-0.9 99 <b>0.4</b> 84	<b>5.4</b> 89 <b>6.5</b> 19	2.9 98		0.5 89			
Callan Core Plus MFs Blmbg Aggregate		0.1 82	-0.9 99	5.4 89	2.9 98		0.5 89			
Returns: above median third quartile fourth quartile	Return Consistency: above median third quartile fourth quartile		Sharpe Rat above months third qua fourth qu	edian rtile		Excess Real above real third questions fourth questions.	nedian artile	:		v median nd quartile

<sup>(</sup>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.



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	
Prudential Core Plus Callan Core Plus MFs	<b>0.1</b> 82	<b>1.4</b> 46	<b>6.9</b> 10	<b>4.5</b> 11		<b>0.6</b> 61	<b>0.4</b> 33	<b>3.6</b> 23	
Blmbg Aggregate	0.1 82	-0.9 99	5.4 89	2.9 98		0.5 89			
Large Cap Core Equity Fund Callan Lg Cap Broad MF	<b>0.3</b> 37	<b>34.7</b> 21	<b>17.0</b> 44						
Russell 1000 Index	0.2 41	31.0 40	16.4 47	17.1 47		0.9 50			
Hotchkis & Wiley Large Cap Value Callan Lg Cap Value MF	<b>-1.7</b> 81	<b>58.4</b> 4	<b>10.5</b> 23	<b>13.4</b> 17		<b>0.5</b> 74	<b>0.3</b> 38	<b>9.2</b> 7	
Russell 1000 Value Index	-0.8 50	35.0 43	10.1 33	10.9 61		0.5 51			
Macquarie Large Cap Value Callan Lg Cap Value MF	<b>0.2</b> 15	<b>30.3</b> 76	<b>7.2</b> 85	<b>9.8</b> 90		<b>0.5</b> 67	<b>-0.3</b> 85	<b>3.6</b> 50	
Russell 1000 Value Index	-0.8 50	35.0 43	10.1 33	10.9 61		0.5 51			
Sands Capital Large Cap Growth Callan Large Cap Grwth MF	4.1 2	33.0 4	<b>29.0</b> 1	28.4 1		<b>1.1</b> 36	<b>0.5</b> 5	<b>10.1</b> 1	
Russell 1000 Growth Index	1.2 27	27.3 35	22.0 29	22.8 33		1.1 31			
Loomis SaylesLarge Cap Growth Callan Large Cap Grwth MF Russell 1000 Growth Index	<b>-2.0</b> 94	<b>21.3</b> 94 27.3 35	<b>20.1</b> 70 22.0 29	<b>19.8</b> 82 22.8 33		<b>1.1</b> 40 1.1 31	<b>-0.6</b> 69	<b>5.1</b> 32	
BlackRock Russell 1000 Index (i) Callan Large Cap Core MFs	0.2 42	<b>31.3</b> 41	<b>16.4</b> 26	22.0 33		1.1 31			
Russell 1000 Index	0.2 41	31.0 46	16.4 26	17.1 24		0.9 37			
International Equity Fund Callan Non US Equity MFs	<b>-4.3</b> 89	<b>21.6</b> 76	<b>9.8</b> 39	<b>9.8</b> 41		<b>0.5</b> 43	<b>0.4</b> 28	<b>1.9</b> 98	
MSCI ACWI ex US	-3.0 77	23.9 65	8.0 53	8.9 51		0.4 48			
Mondrian ACWI ex-US Value Callan Non US Equity MFs	<b>-3.3</b> 79	<b>28.1</b> 32	<b>6.2</b> 70	<b>6.7</b> 78		<b>0.3</b> 74	<b>-0.6</b> 84	<b>4.0</b> 63	
MSCI ACWI ex US	-3.0 77	23.9 65	8.0 53	8.9 51		0.4 48			
Baillie Gifford ACWI ex-US Growth Callan Non US Equity MFs	<b>-4.9</b> 96	<b>16.0</b> 93	<b>13.5</b> 13	<b>13.1</b> 10		<b>0.6</b> 23	<b>0.7</b> 11	<b>5.8</b> 35	
MSCI ACWI ex US	-3.0 77	23.9 65	8.0 53	8.9 51		0.4 48			
Returns:  above median  third quartile  fourth quartile  Return Consistency:  above median  third quartile  fourth quartile		Sharpe Rati above me third quai fourth qua	edian rtile		Excess Real above real third questions	artile	:	belo seco	ng Error: w median ond quartile quartile

<sup>(</sup>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.



Investment Manager		Last Quarter Return	Last Year Return	3 Year Return	5 Year Return C	3 Year Return Consistency	5 Year Sharpe Ratio	5 Year Excess Rtn Ratio	5 Year Tracking Error	
Small/Mid Cap Equity Fund Callan SMID Broad MFs		<b>-0.8</b> 43	<b>44.6</b> 35	<b>11.7</b> 55						
Russell 2500 Index		<b>-2.7</b> 79	<b>45</b> .0 33	12.5 49	14.3 54		0.5 56			
Earnest Partners Small/Mid ( Callan SMID Core MFs	Сар	<b>1.9</b> 4								
Russell 2500 Index		<b>-2.7</b> 69	45.0 50	12.5 17	14.3 13		0.5 26			
Wedge Small/Mid Cap Value Callan SMID Value MFs		<b>-1.7</b> 42	<b>52.9</b> 39	<b>7.1</b> 97	<b>9.1</b> 85		<b>0.3</b> 86	<b>-0.5</b> 91	<b>2.6</b> 88	
Russell 2500 Value Index		-2.1 55	54.4 36	8.9 66	10.5 70		0.4 61			
Brown Advisory Small/Mid C Callan SMID Growth MFs	ap Growth	<b>-2.0</b> 78	<b>31.1</b> 56	<b>16.3</b> 50	<b>16.8</b> 64		<b>0.6</b> 81	<b>-0.3</b> 64	<b>4.6</b> 84	
Russell 2500 Growth Index		<b>-3.5</b> 98	32.0 50	<b>16</b> .0 51	18.2 60		0.7 69			
BlackRock Russell 2500 Inde	ex (i)	<b>-2.7</b> 69	<b>45.4</b> 49	<b>12.8</b> 16						
Russell 2500 Index		<b>-2.7</b> 69	45.0 50	12.5 17	14.3 13		0.5 26			
Returns:  above median third quartile fourth quartile	Return Consistency: above median third quartile fourth quartile		Sharpe Rat above mention third qua fourth que	edian rtile		Excess Real above real third qu	artile	:		v median nd quartile

<sup>(</sup>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.



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	
Tier 2: Active vs. Gross of Fee Groups Stable Value Fund	3								
Galliard Stable Value	<b>0.4</b> 25	<b>2.0</b> 37	<b>2.5</b> 28	<b>2.4</b> 30		<b>8.5</b> 43	<b>-0.7</b> 33	<b>0.4</b> 28	
Callan Stable Value SA T-Bill + 1.5%	0.4 84	1.6 88	2.7 3	2.7 12		3.2 91			
Fixed Income Fund									
TCW Core Plus Callan Core Bond FI	<b>0.1</b> 64	<b>0.5</b> 31	<b>6.6</b> 8	<b>3.9</b> 14		0.8 4	<b>1.3</b> 3	<b>0.8</b> 72	
Blmbg Aggregate	0.1 79	-0.9 94	5.4 93	2.9 96		0.5 96			
Prudential Core Plus Callan Core Bond Fl	<b>0.1</b> 80	<b>1.4</b> 4	<b>6.9</b> 4	<b>4.6</b> 1		<b>0.6</b> 38	<b>0.5</b> 63	<b>3.6</b> 1	
Blmbg Aggregate	0.1 79	-0.9 94	<b>5.4</b> 93	2.9 96		0.5 96			
Large Cap Core Equity Fund									
Hotchkis & Wiley Large Cap Value Callan Large Cap Value	<b>-1.6</b> 82	<b>59.0</b> 4	<b>11.0</b> 36	<b>13.9</b> 19		<b>0.5</b> 74	<b>0.3</b> 48	<b>9.2</b> 5	
Russell 1000 Value Index	-0.8 61	35.0 71	10.1 55	10.9 77		0.5 61			
Macquarie Large Cap Value Callan Large Cap Value	0.3 16	<b>30.6</b> 89	<b>7.4</b> 95	<b>10.1</b> 90		<b>0.5</b> 66	<b>-0.2</b> 93	<b>3.6</b> 53	
Russell 1000 Value Index	-0.8 61	35.0 71	10.1 55	10.9 77		0.5 61			
Sands Capital Large Cap Growth Callan Large Cap Growth	<b>4.2</b> 2	<b>33.5</b> 3	<b>29.6</b> 2	<b>28.9</b> 2		<b>1.1</b> 32	<b>0.6</b> 6	<b>10.1</b> 3	
Russell 1000 Growth Index	1.2 39	27.3 49	22.0 39	22.8 44		1.1 30			
Loomis SaylesLarge Cap Growth Callan Large Cap Growth	<b>-1.9</b> 92	<b>21.7</b> 92	<b>20.6</b> 59	<b>20.2</b> 78		<b>1.1</b> 37	<b>-0.5</b> 65	<b>5.1</b> 27	
Russell 1000 Growth Index	1.2 39	27.3 49	22.0 39	22.8 44		1.1 30			
BlackRock Russell 1000 Index (i) Callan Large Cap Core	<b>0.2</b> 46	<b>31.3</b> 50	<b>16.4</b> 43	<b>17.1</b> 38		<b>0.9</b> 54	<b>1.7</b> 1	0.0 99	
Russell 1000 Index	0.2 46	31.0 52	16.4 43	17.1 38		0.9 54			
above median a third quartile tr	urn Consistency: bove median nird quartile ourth quartile	Sharpe Rat above methird qua fourth qua	edian rtile		Excess Real above real third questions fourth of	artile	:	belo seco	ng Error: w median ond quartile quartile

<sup>(</sup>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.



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	
International Fund										
Mondrian ACWI ex-US Valu Callan NonUS Eq MSCI ACWI ex US	e	<b>-3.2</b> 88	<b>28.6</b> 32 23.9 65	<b>6.6</b> 77 8.0 62	<b>7.1</b> 89 8.9 64		<b>0.3</b> 84 0.4 58	<b>-0.5</b> 89	<b>4.0</b> 55	
Baillie Gifford ACWI ex-US Callan NonUS Eq MSCI ACWI ex US	Growth	<b>-4.8</b> 97	<b>16.3</b> 96	<b>13.8</b> 15	<b>13.5</b> 12 8.9 64		<b>0.4</b> 58 <b>0.4</b> 58		<b>5.8</b> 26	
Small/Mid Cap Equity Fund		<b>-3.</b> 0 84	23.9 65	8.0 62	8.9 64		0.4 58			
Earnest Partners Small/Mid Callan Small/MidCap Core		<b>2.1</b> 9	<b>42.4</b> 66	<b>16.4</b> 7	<b>18.1</b> 8		<b>0.8</b> 5	<b>0.6</b> 13	<b>6.1</b> 33	
Russell 2500 Index		-2.7 70	45.0 57	12.5 44	14.3 40		0.5 50			
Wedge Small/Mid Cap Value Callan Small/MidCap Value	•	<b>-1.6</b> 41	<b>53.5</b> 60	<b>7.6</b> 77	9.7 69		0.3 69	<b>-0.3</b> 82	<b>2.6</b> 95	
Russell 2500 Value Index  Brown Advisory Small/Mid Callan Sm/MidCap Growth	Cap Growth	-2.1 65 -1.9 83	<b>31.6</b> 62	8.9 72 <b>16.8</b> 60	10.5 65 17.4 76		0.4 55 0.6 77	<b>-0.2</b> 77	<b>4.6</b> 91	
Russell 2500 Growth Index		<b>-3.5</b> 93	32.0 61	16.0 69	18.2 68		0.7 74			
BlackRock Russell 2500 Inc Callan Small/MidCap Core	lex (i)	<b>-2.7</b> 70	<b>45.4</b> 56	<b>12.8</b> 39	<b>14.2</b> 41		<b>0.5</b> 51	<b>-0.7</b> 93	<b>0.1</b> 100	
Russell 2500 Index		-2.7 70	<b>45</b> .0 57	12.5 44	14.3 40		0.5 50			
Returns:  above median third quartile fourth quartile	Return Consistency: above median third quartile fourth quartile		Sharpe Rat above methird qua fourth que	edian rtile		Excess Re above r third qu fourth q	artile	:	below seco	g Error: w median nd quartile quartile

<sup>(</sup>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.



# **Investment Fund Balances**

The table below compares the fund's investment fund balances as of September 30, 2021 with that of June 30, 2021.

# **Asset Distribution Across Investment Funds**

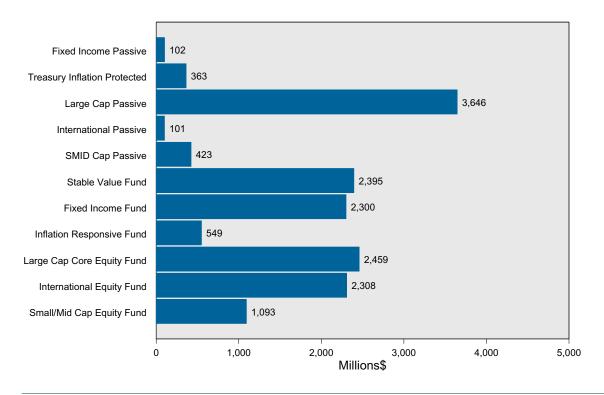
	September 3	<b>30, 2021</b>	June 30	), 2021
	Market		Market	
	Value	Weight	Value	Weight
lorth Carolina SRP 401k & 457				
ier I: GoalMaker				
Post Retirement Conservative 11+	31,088,574	0.41%	28,767,541	0.38%
Post Retirement Conservative 6-10	120,723,959	1.58%	113,961,954	1.49%
Post Retirement Conservative 0-5	402,768,109	5.28%	395,192,049	5.17%
Pre Retirement Conservative 0-5	325,582,762	4.27%	330,367,052	4.33%
Pre Retirement Conservative 6-10	193,724,461	2.54%	198,308,346	2.60%
Pre Retirement Conservative 11-15	138,802,340	1.82%	139,900,252	1.83%
Pre Retirement Conservative 16-20	102,556,729	1.35%	106,127,061	1.39%
Pre Retirement Conservative 21-25	85,022,799	1.12%	84,625,976	1.11%
Pre Retirement Conservative 26+	102,555,849	1.35%	104,817,396	1.37%
Post Retirement Moderate 11+	36,591,482	0.48%	33,479,773	0.44%
Post Retirement Moderate 6-10	134,360,080	1.76%	126,873,918	1.66%
Post Retirement Moderate 0-5	454,745,069	5.97%	448,100,822	5.87%
Pre Retirement Moderate 0-5	686,587,781	9.01%	679,710,130	8.90%
Pre Retirement Moderate 6-10	652,877,498	8.57%	661,429,265	8.66%
Pre Retirement Moderate 11-15	526,172,035	6.90%	529,224,568	6.93%
Pre Retirement Moderate 16-20	415,750,574	5.46%	421,995,750	5.52%
Pre Retirement Moderate 21-25	297,044,030	3.90%	299,071,557	3.92%
Pre Retirement Moderate 26+	327,422,367	4.30%	335,443,937	4.39%
Post Retirement Aggressive 11+	16,196,366	0.21%	15,589,100	0.20%
Post Retirement Aggressive 6-10	44,513,287	0.58%	43,646,618	0.57%
Post Retirement Aggressive 0-5	180,734,878	2.37%	170,140,599	2.23%
Pre Retirement Aggressive 0-5	353,188,569	4.63%	349,132,087	4.57%
Pre Retirement Aggressive 6-10	482,170,623	6.33%	485,360,022	6.35%
Pre Retirement Aggressive 11-15	489,291,625	6.42%	484,898,193	6.35%
Pre Retirement Aggressive 16-20	442,293,760	5.80%	456,303,094	5.97%
Pre Retirement Aggressive 21-25	310,074,580	4.07%	316,759,323	4.15%
Pre Retirement Aggressive 26+	268,566,056	3.52%	279,032,998	3.65%
ier I: GoalMaker Total	\$7,621,406,242	100.0%	\$7,638,259,381	100.0%



## Changes in Investment Fund Balances Period Ended September 30, 2021

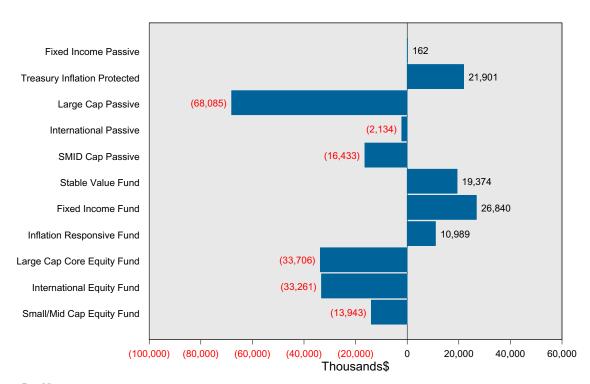
#### **Allocation Across Investment Options**

The chart below illustrates the allocation of the aggregate fund assets across the various investment options for the quarter ended September 30, 2021.



## **Changes in Fund Values**

The chart below shows the net change in fund values across the various investment options for the quarter ended September 30, 2021. 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.





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 9/2021		3 Years Ended 6/2021		3 Years Ended 3/2021		3 Years Ended 12/2020	
Tier 2: Passive (Net of Fee)								
Fixed Income Passive	5.29%	92	5.28%	96	4.59%	91	5.28%	83
Blmbg Aggregate	5.36%	91	5.34%	92	4.65%	89	5.34%	79
Callan Core Bond MFs	5.97%		5.99%		5.22%		5.83%	
Large Cap Passive	16.01%	28	18.69%	29	16.81%	27	14.21%	26
S&P 500 Index	15.99%	28	18.67%	29	16.78%	27	14.18%	27
Callan Large Cap Core MFs	14.47%		16.86%		14.84%		11.69%	
International Passive	8.18%	52	9.60%	43	6.61%	44	5.13%	45
MSCI ACWI ex US	8.03%	53	9.38%	44	6.51%	45	4.88%	48
Callan Non US Equity MFs	8.46%		8.62%		6.22%		4.48%	
SMID Cap Passive	12.39%	17	15.15%	15	15.26%	13	11.22%	13
Russell 2500 Index	12.47%	17	15.24%	14	15.34%	13	11.33%	12
Callan SMID Core MFs	10.34%		12.32%		11.66%		7.13%	
Inflation Responsive Fund	8.28%	34	7.32%	48	4.59%	70	3.48%	45
Inflation Responsive Benchmark	8.18%	36	7.05%	52	4.36%	76	3.08%	56
Callan Real Assets MFs	7.31%		7.21%		4.97%		3.34%	



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 9/2021		3 Years Ended 6/2021		3 Years Ended 3/2021		3 Years Ended 12/2020	
Tier 2: Active (Net of Fee)								
Stable Value Fund 3 Yr US Treas Rolling T-Bill + 1.5% Callan Stable Value CT	<b>2.32%</b> 1.05% 2.68% 1.77%	<b>1</b> 98 1	2.37% 1.25% 2.84% 1.85%	<b>1</b> 98 1	<b>2.42%</b> 1.43% 2.99% 1.90%	<b>1</b> 96 1	<b>2.43%</b> 1.61% 3.11% 1.92%	<b>1</b> 86 1
Fixed Income Fund Blmbg Aggregate Callan Core Plus MFs	<b>6.64%</b> 5.36% 6.14%	<b>15</b> 89	<b>6.66%</b> 5.34% 6.20%	<b>15</b> 90	<b>5.68%</b> 4.65% 5.28%	<b>15</b> 86	<b>6.53%</b> 5.34% 5.89%	<b>14</b> 79
Prudential Core Plus Blmbg Aggregate Callan Core Plus MFs	6.87% 5.36% 6.14%	10 89	6.94% 5.34% 6.20%	10 90	5.65% 4.65% 5.28%	16 86	6.78% 5.34% 5.89%	11 79
Large Cap Core Equity Fund Russell 1000 Index Callan Lg Cap Broad MF	<b>17.05%</b> 16.43% 15.75%	<b>44</b> 47	<b>19.54%</b> 19.16% 18.13%	<b>45</b> 46	<b>18.33%</b> 17.31% 16.29%	<b>41</b> 47	<b>16.23%</b> 14.82% 13.50%	<b>44</b> 47
Hotchkis & Wiley Large Cap Value Russell 1000 Value Index Callan Lg Cap Value MF	10.53% 10.07% 9.27%	23 33	12.89% 12.42% 11.76%	34 36	12.21% 10.96% 10.35%	30 42	5.11% 6.07% 5.97%	60 48
Macquarie Large Cap Value Russell 1000 Value Index Callan Lg Cap Value MF	7.15% 10.07% 9.27%	85 33	9.93% 12.42% 11.76%	77 36	9.81% 10.96% 10.35%	65 42	6.22% 6.07% 5.97%	43 48
Sands Capital Large Cap Growth Russell 1000 Growth Index Callan Large Cap Grwth MF	29.04% 22.00% 21.14%	1 29	30.12% 25.14% 24.11%	2 28	30.01% 22.80% 21.77%	2 33	35.14% 22.99% 22.59%	1 46
Loomis SaylesLarge Cap Growth Russell 1000 Growth Index Callan Large Cap Grwth MF	20.15% 22.00% 21.14%	70 29	23.66% 25.14% 24.11%	57 28	20.72% 22.80% 21.77%	68 33	19.95% 22.99% 22.59%	83 46
International Equity Fund  MSCI ACWI ex US  Callan Non US Equity MFs	<b>9.84%</b> 8.03% 8.46%	<b>39</b> 53	<b>11.69%</b> 9.38% 8.62%	<b>33</b> 44	<b>8.90%</b> 6.51% 6.22%	<b>35</b> 45	<b>7.18%</b> 4.88% 4.48%	<b>39</b> 48
Mondrian ACWI ex-US Value MSCI ACWI ex US MSCI ACWI ex US Value Callan Non US Equity MFs	6.21% 8.03% 3.81% 8.46%	70 53 86	7.79% 9.38% 5.22% 8.62%	62 44 84	4.89% 6.51% 2.40% 6.22%	69 45 87	2.35% 4.88% (0.41%) 4.48%	74 48 88
Baillie Gifford ACWI ex-US Growth MSCI ACWI ex US MSCI ACWI ex US Growth Callan Non US Equity MFs	13.47% 8.03% 11.94% 8.46%	13 53 26	15.52% 9.38% 13.23% 8.62%	8 44 21	13.14% 6.51% 10.31% 6.22%	9 45 22	12.32% 4.88% 10.02% 4.48%	11 48 20
Small/Mid Cap Equity Fund Russell 2500 Index Callan SMID Broad MFs	<b>11.72%</b> 12.47% 12.38%	<b>55</b> 49	<b>13.74%</b> 15.24% 15.09%	<b>58</b> 48	<b>13.60%</b> 15.34% 15.63%	<b>59</b> 51	<b>10.25%</b> 11.33% 14.72%	<b>57</b> 57
Wedge Small/Mid Cap Value Russell 2500 Value Index Callan SMID Value MFs	7.05% 8.87% 9.27%	97 66	8.68% 10.60% 11.01%	99 61	8.11% 10.88% 10.95%	95 51	2.32% 4.34% 4.91%	79 63
Brown Advisory Small/Mid Cap Growth Russell 2500 Growth Index Callan SMID Growth MFs	16.30% 16.01% 16.40%	50 51	19.93% 20.15% 18.29%	46 45	19.68% 19.96% 18.81%	47 47	20.25% 19.91% 19.53%	40 43



The table below details the rates of return and peer group rankings for the Fund's investment funds over various time periods ended September 30, 2021. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

## Returns and Rankings for Periods Ended September 30, 2021

	Last Quarter		Last Year		Last 3 Years		Last 5 Years		Since Inception	<u>1</u>
Tier 2: Active (Gross of Fee) Stable Value Fund										
Galliard Stable Value 3 Yr US Treas Rolling T-Bill + 1.5% Callan Stable Value SA	0.45% 0.10% 0.39% 0.41%	25 96 84	2.04% 0.31% 1.57% 1.90%	37 97 88	2.45% 1.05% 2.68% 2.34%	28 97 3	2.38% 1.40% 2.66% 2.29%	30 95 12	2.48% 1.03% 2.09%	(1/11) (1/11) (1/11)
Fixed Income Fund										
TCW Core Plus Blmbg Aggregate Callan Core Bond FI	0.09% 0.05% 0.13%	64 79	0.52% ( <mark>0.90%)</mark> 0.11%	31 94	6.63% 5.36% 6.00%	8 93	- 2.94% 3.57%	96	4.66% 3.76% -	(1/17) (1/17)
Prudential Core Plus Blmbg Aggregate Callan Core Bond FI	0.05% 0.05% 0.13%	80 79	1.42% (0.90%) 0.11%	4 94	6.89% 5.36% 6.00%	4 93	4.61% 2.94% 3.57%	1 96	4.79% 3.11% -	(1/15) (1/15)
Large Cap Core Equity Fund										
Hotchkis & Wiley Large Cap Value Russell 1000 Value Index Callan Large Cap Value	(1.56%) (0.78%) (0.48%)	82 61	58.99% 35.01% 40.20%	4 71	10.95% 10.07% 10.21%	36 55	13.85% 10.94% 12.06%	19 77	16.72% 14.16% -	(4/09) (4/09)
Macquarie Large Cap Value Russell 1000 Value Index Callan Large Cap Value	0.32% (0.78%) (0.48%)	16 61	30.65% 35.01% 40.20%	89 71	7.44% 10.07% 10.21%	95 55	10.10% 10.94% 12.06%	90 77	8.98% 9.27% -	(6/15) (6/15)
Sands Capital Large Cap Growth Russell 1000 Growth Index Callan Large Cap Growth	4.21% 1.16% 0.81%	2 39	33.53% 27.32% 27.28%	3 49	29.59% 22.00% 21.35%	2 39	28.94% 22.84% 22.19%	2 44	24.61% 19.57% -	(4/09) (4/09)
Loomis SaylesLarge Cap Growth Russell 1000 Growth Index Callan Large Cap Growth	(1. <mark>87%)</mark> 1.16% 0.81%	92 39	21.68% 27.32% 27.28%	92 49	20.58% 22.00% 21.35%	59 39	20.20% 22.84% 22.19%	78 44	18.66% 18.54% -	(8/14) (8/14)
BlackRock Russell 1000 Index Russell 1000 Index Callan Large Cap Core	0.20% 0.21% 0.16%	46 46	31.27% 30.96% 31.32%	50 52	16.42% 16.43% 15.82%	43 43	- 17.11% 16.68%	38	16.45% 16.47% -	(11/17) (11/17)
International Equity Fund										
Mondrian ACWI ex-US Value MSCI ACWI ex US MSCI ACWI ex US Value Callan NonUS Eq	(3.17%) (2.99%) (2.32%) (1.19%)	88 84 73	28.60% 23.92% 31.38% 26.46%	32 65 20	6.62% 8.03% 3.81% 9.18%	77 62 96	7.14% 8.94% 6.43% 10.11%	89 64 94	8.44% 9.23% 7.75%	(4/09) (4/09) (4/09)
Baillie Gifford ACWI ex-US Growth MSCI ACWI ex US MSCI ACWI ex US Growth Callan NonUS Eq	(4.84%) (2.99%) (3.62%) (1.19%)	97 84 92	16.33% 23.92% 16.95% 26.46%	96 65 95	13.77% 8.03% 11.94% 9.18%	15 62 29	13.45% 8.94% 11.22% 10.11%	12 64 36	13.42% 9.23% 10.58%	(4/09) (4/09) (4/09)
Small/Mid Cap Equity Fund										
Earnest Partners Small/Mid Cap Russell 2500 Index Callan Small/MidCap Core	2.06% (2.68%) (0.97%)	9 70	- 45.03% 46.67%	57	- 12.47% 12.08%	44	- 14.25% 13.79%	40	- - -	
Wedge Small/Mid Cap Value Russell 2500 Value Index Callan Small/MidCap Value	(1.61%) (2.07%) (1.76%)	41 65	53.51% 54.38% 57.59%	60 54	7.56% 8.87% 10.47%	77 72	9.68% 10.49% 11.63%	69 65	12.63% 12.05% -	(1/12) (1/12)
Brown Advisory Small/Mid Cap Growth Russell 2500 Growth Index Callan Sm/MidCap Growth	(1.89%) (3.53%) 0.16%	83 93	31.56% 31.98% 34.81%	62 61	16.80% 16.01% 18.35%	60 69	17.39% 18.21% 20.54%	76 68	18.85% 18.37% -	(4/09) (4/09)
BlackRock Russell 2500 Index Russell 2500 Index Callan Small/MidCap Core	(2.69%) (2.68%) (0.97%)	70 70	45.39% 45.03% 46.67%	56 57	12.76% 12.47% 12.08%	39 44	- 14.25% 13.79%	40	13.50% 13.24% -	(11/17) (11/17)



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 9/2021		3 Years Ended 6/2021		3 Years Ended 3/2021		3 Years Ended 12/2020	
Tier 2: Active (Gross of Fee) Stable Value Fund								
Galliard Stable Value	2.45%	28	2.51%	27	2.55%	24	2.57%	30
3 Yr US Treas Rolling	1.05%	97	1.25%	97	1.43%	96	1.61%	96
T-Bill + 1.5%	2.68%	3	2.84%	1	2.99%	1	3.11%	11
Callan Stable Value SA	2.34%		2.40%		2.46%		2.49%	
Fixed Income Fund								
Prudential Core Plus	6.89%	4	6.99%	3	5.71%	15	6.87%	2
Blmbg Aggregate	5.36%	93	5.34%	93	4.65%	95	5.34%	97
Callan Core Bond FI	6.00%		6.04%		5.30%		5.92%	
Large Cap Core Equity Fund								
Hotchkis & Wiley Large Cap Value	10.95%	36	13.32%	37	12.65%	30	5.52%	55
Russell 1000 Value Index	10.07%	55	12.42%	49	10.96%	46	6.07%	46
Callan Large Cap Value	10.21%		12.41%		10.81%		5.98%	
Macquarie Large Cap Value	7.44%	95	10.23%	88	10.11%	65	6.50%	39
Russell 1000 Value Index	10.07%	55	12.42%	49	10.96%	46	6.07%	46
Callan Large Cap Value	10.21%		12.41%		10.81%		5.98%	
Sands Capital Large Cap Growth	29.59%	2	30.67%	3	30.56%	2	35.71%	2
Russell 1000 Growth Index	22.00%	39	25.14%	37	22.80%	36	22.99%	46
Callan Large Cap Growth	21.35%		24.17%		21.98%		22.64%	
Loomis SaylesLarge Cap Growth	20.58%	59	24.11%	52	21.17%	58	20.39%	71
Russell 1000 Growth Index	22.00%	39	25.14%	37	22.80%	36	22.99%	46
Callan Large Cap Growth	21.35%		24.17%		21.98%		22.64%	
International Equity Fund								
Mondrian ACWI ex-US Value	6.62%	77	8.20%	69	5.29%	73	2.73%	73
MSCI ACWI ex US	8.03%	62	9.38%	56	6.51%	58	4.88%	58
MSCI ACWI ex US Value	3.81%	96	5.22%	93	2.40%	94	(0.41%)	95
Callan NonUS Eq	9.18%		9.81%		7.35%		5.69%	
Baillie Gifford ACWI ex-US Growth	13.77%	15	15.83%	10	13.44%	7	12.62%	11
MSCI ACWI ex US	8.03%	62	9.38%	56	6.51%	58	4.88%	58
MSCI ACWI ex US Growth	11.94%	29	13.23%	24	10.31%	27	10.02%	20
Callan NonUS Eq	9.18%		9.81%		7.35%		5.69%	
Small/Mid Cap Equity Fund								
Wedge Small/Mid Cap Value	7.56%	77	9.22%	74	8.65%	80	2.86%	72
Russell 2500 Value Index	8.87%	72	10.60%	59	10.88%	51	4.34%	46
Callan Small/MidCap Value	10.47%		11.52%		10.90%		4.14%	
Brown Advisory Small/Mid Cap Growth	16.80%	60	20.46%	58	20.22%	61	20.82%	57
Russell 2500 Growth Index	16.01%	69	20.15%	59	19.96%	63	19.91%	68
Callan Sm/MidCap Growth	18.35%		21.98%		21.71%		22.55%	



The table below details the rates of return for the Fund's investment funds over various time periods ended September 30, 2021. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

# Returns for Periods Ended September 30, 2021

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception
Tier 1: GoalMaker Funds (Net of Fee)					
Post Retirement Conservative 11+	0.25%	7.63%	7.07%	-	6.80% (7/18)
Post Ret Conservative 11+ Index	0.24%	6.86%	6.26%	-	6.05% (7/18)
Post Retirement Conservative 6-10	0.12%	7.85%	7.27%	_	7.01% (7/18)
Post Ret Conservative 6-10 Index	0.13%	7.05%	6.41%	-	6.23% (7/18)
Post Retirement Conservative 0-5	0.05%	8.94%	7.70%	_	7.46% (7/18)
Post Ret Conservative 0-5 Index	0.04%	8.13%	6.86%	-	6.70% (7/18)
Pre Retirement Conservative 0-5	(0.16%)	9.84%	8.26%	6.74%	6.45% (7/09)
Pre Ret Conservative 0-5 Index	(0.13%)	9.06%	7.38%	6.12%	5.47% (7/09)
Pre Retirement Conservative 6-10	(0.42%)	11.77%	8.92%	7.67%	7.43% (7/09)
Pre Ret Conservative 6-10 Index	(0.35%)	11.13%	8.05%	7.03%	6.38% (7/09)
Pre Retirement Conservative 11-15	(0.55%)	13.91%	9.60%	8.95%	8.79% (7/09)
Pre Ret Conservative 11-15 Index	(0.48%)	13.40%	8.80%	8.32%	8.07% (7/09)
Pre Retirement Conservative 16-20	(0.89%)	16.29%	10.28%	10.36%	10.23% (7/09)
Pre Ret Conservative 16-20 Index	(0.71%)	16.07%	9.46%	9.70%	9.63% (7/09)
Pre Retirement Conservative 21-25	(1.01%)	19.16%	11.01%	_	10.94% (7/18)
Pre Ret Conservative 21-25 Index	(0.82%)	19.20%	10.27%	-	10.25% (7/18)
Pre Retirement Conservative 26+	(1.17%)	22.03%	11.46%	_	11.46% (7/18)
Pre Ret Conservative 26+ Index	(0.97%)	22.37%	10.75%	-	10.81% (7/18)



The table below details the rates of return for the Fund's investment funds over various time periods ended September 30, 2021. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

# Returns for Periods Ended September 30, 2021

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception
Tier 1: GoalMaker Funds (Net of Fee)	)				
Post Retirement Moderate 11+ Post Ret Moderate 11+ Index	0.05% 0.07%	10.78% 10.27%	8.12% 7.38%	-	7.91% (7/18) 7.24% (7/18)
D 4 D 6					, ,
Post Retirement Moderate 6-10 Post Ret Moderate 6-10 Index	(0.11%) (0.45%)	11.66% 14.43%	8.55% 8.16%	-	8.37% (7/18) 8.05% (7/18)
Post Retirement Moderate 0-5	(0.30%)	12.86%	9.16%	_	9.01% (7/18)
Post Ret Moderate 0-5 Index	(0.25%)	12.33%	8.38%	-	8.30% (7/18)
Pre Retirement Moderate 0-5	(0.53%)	13.97%	9.59%	8.44%	7.95% (7/09)
Pre Ret Moderate 0-5 Index	(0.41%)	13.54%	8.78%	7.83%	7.08% (7/09)
Pre Retirement Moderate 6-10	(0.80%)	16.50%	10.26%	9.41%	8.87% (7/09)
Pre Ret Moderate 6-10 Index	(0.64%)	16.30%	9.46%	8.78%	8.26% (7/09)
Pre Retirement Moderate 11-15	(1.00%)	19.20%	10.88%	10.54%	10.08% (7/09)
Pre Ret Moderate 11-15 Index	(0.82%)	19.24%	10.13%	9.92%	9.42% (7/09)
Pre Retirement Moderate 16-20	(1.17%)	22.03%	11.46%	11.96%	11.48% (7/09)
Pre Ret Moderate 16-20 Index	(0.97%)	22.37%	10.75%	11.36%	10.98% (7/09)
Pre Retirement Moderate 21-25	(1.31%)	24.04%	11.77%	-	11.83% (7/18)
Pre Ret Moderate 21-25 Index	(1.05%)	24.65%	11.05%	-	11.16% (7/18)
Pre Retirement Moderate 26+	(1.40%)	26.29%	12.09%	-	12.24% (7/18)
Pre Ret Moderate 26+ Index	(1.15%)	27.11%	11.41%	-	11.61% (7/18)



The table below details the rates of return for the Fund's investment funds over various time periods ended September 30, 2021. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended September 30, 2021

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception
Tier 1: GoalMaker Funds (Net of Fee)					
Post Retirement Aggressive 11+	(0.25%)	19.18%	10.86%	-	10.65% (7/18)
Post Ret Aggressive 11+ Index	(0.18%)	14.14%	8.67%	-	8.65% (7/18)
Post Retirement Aggressive 6-10	(0.42%)	20.35%	11.32%	-	11.16% (7/18)
Post Ret Aggressive 6-10 Index	(0.30%)	15.58%	9.18%		9.20% (7/18)
Post Retirement Aggressive 0-5	(0.58%)	21.40%	11.80%	-	11.65% (7/18)
Post Ret Aggressive 0-5 Index	(0.47%)	16.77%	9.72%		9.74% (7/18)
Pre Retirement Aggressive 0-5	(0.78%)	22.94%	12.19%	10.83%	9.77% (7/09)
Pre Ret Aggressive 0-5 Index	(0.65%)	19.14%	10.35%	9.57%	8.75% (7/09)
Pre Retirement Aggressive 6-10	(1.15%)	23.89%	12.18%	11.39%	10.50% (7/09)
Pre Ret Aggressive 6-10 Index	(0.91%)	21.61%	10.65%	10.31%	9.57% (7/09)
Pre Retirement Aggressive 11-15 Pre Ret Aggressive 11-15 Index	(1.31%)	25.32%	12.15%	12.20%	11.38% (7/09)
	(1.05%)	24.65%	11.05%	11.36%	10.80% (7/09)
Pre Retirement Aggressive 16-20	(1.41%)	26.43%	12.16%	13.25%	12.62% (7/09)
Pre Ret Aggressive 16-20 Index	(1.16%)	26.78%	11.33%	12.58%	12.24% (7/09)
Pre Retirement Aggressive 21-25	(1.47%)	27.05%	12.13%	-	12.30% (7/18)
Pre Ret Aggressive 21-25 Index	(1.19%)	28.23%	11.49%		11.71% (7/18)
Pre Retirement Aggressive 26+	(1.47%)	27.05%	12.13%	-	12.30% (7/18)
Pre Ret Aggressive 26+ Index	(1.19%)	28.23%	11.49%		11.71% (7/18)



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.

	3 Years Ended 9/2021	3 Years Ended 6/2021	3 Years Ended 3/2021	3 Years Ended 12/2020	
Tier 1: GoalMaker Funds (Net of Fee)					
Post Retirement Conservative 11+	7.07%	7.29%	-	-	
Post Ret Conservative 11+ Index	6.26%	6.49%	-	-	
Post Retirement Conservative 6-10	7.27%	7.58%	-	-	
Post Ret Conservative 6-10 Index	6.41%	6.72%	-	-	
Post Retirement Conservative 0-5	7.70%	8.09%	-	-	
Post Ret Conservative 0-5 Index	6.86%	7.26%	-	-	
Pre Retirement Conservative 0-5	8.26%	8.79%	7.81%	7.63%	
Pre Ret Conservative 0-5 Index	7.38%	7.90%	7.03%	6.75%	
Pre Retirement Conservative 6-10	8.92%	9.61%	8.57%	8.27%	
Pre Ret Conservative 6-10 Index	8.05%	8.71%	7.73%	7.29%	
Pre Retirement Conservative 11-15	9.60%	10.45%	9.36%	8.85%	
Pre Ret Conservative 11-15 Index	8.80%	9.62%	8.56%	7.86%	
Pre Retirement Conservative 16-20	10.28%	11.36%	10.22%	9.50%	
Pre Ret Conservative 16-20 Index	9.46%	10.47%	9.30%	8.36%	
Pre Retirement Conservative 21-25	11.01%	12.28%	-	-	
Pre Ret Conservative 21-25 Index	10.27%	11.46%	-	-	
Pre Retirement Conservative 26+	11.46%	12.92%	-	-	
Pre Ret Conservative 26+ Index	10.75%	12.12%	-	-	



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.

	3 Years Ended 9/2021	3 Years Ended 6/2021	3 Years Ended 3/2021	3 Years Ended 12/2020	
Tier 1: GoalMaker Funds (Net of Fee)					
Post Retirement Moderate 11+	8.12%	8.58%	-	-	
Post Retirement Moderate 6-10 Post Ret Moderate 6-10 Index	8.55% 8.16%	9.14% 8.91%	- -	-	
Post Retirement Moderate 0-5	9.16%	9.91%	-	-	
Pre Retirement Moderate 0-5 Pre Ret Moderate 0-5 Index	9.59% 8.78%	10.46% 9.60%	9.30% 8.47%	8.75% 7.79%	
Pre Retirement Moderate 6-10 Pre Ret Moderate 6-10 Index	10.26% 9.46%	11.33% 10.47%	10.08% 9.20%	9.28% 8.23%	
Pre Retirement Moderate 11-15 Pre Ret Moderate 11-15 Index	10.88% 10.13%	12.15% 11.33%	10.81% 9.91%	9.76% 8.65%	
Pre Retirement Moderate 16-20 Pre Ret Moderate 16-20 Index	11.46% 10.75%	12.92% 12.12%	11.53% 10.62%	10.20% 9.05%	
Pre Retirement Moderate 21-25 Pre Ret Moderate 21-25 Index	11.77% 11.05%	13.37% 12.55%	-	- -	
Pre Retirement Moderate 26+ Pre Ret Moderate 26+ Index	12.09% 11.41%	13.86% 13.07%	<u>-</u>	-	



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.

	3 Years Ended 9/2021	3 Years Ended 6/2021	3 Years Ended 3/2021	3 Years Ended 12/2020	
Tier 1: GoalMaker Funds (Net of Fee)					
Post Retirement Aggressive 11+	10.86%	11.69%	-	-	
Post Ret Aggressive 11+ Index	8.67%	9.47%	-	-	
Post Retirement Aggressive 6-10	11.32%	12.30%	-	-	
Post Ret Aggressive 6-10 Index	9.18%	10.11%	-	-	
Post Retirement Aggressive 0-5	11.80%	12.90%	_	-	
Post Ret Aggressive 0-5 Index	9.72%	10.77%	-	-	
Pre Retirement Aggressive 0-5	12.19%	13.46%	12.05%	10.97%	
Pre Ret Aggressive 0-5 Index	10.35%	11.56%	10.11%	8.84%	
Pre Retirement Aggressive 6-10	12.18%	13.64%	12.16%	10.86%	
Pre Ret Aggressive 6-10 Index	10.65%	12.00%	10.43%	8.94%	
Pre Retirement Aggressive 11-15	12.15%	13.76%	12.27%	10.71%	
Pre Ret Aggressive 11-15 Index	11.05%	12.55%	10.91%	9.11%	
Pre Retirement Aggressive 16-20	12.16%	13.90%	12.43%	10.65%	
Pre Ret Aggressive 16-20 Index	11.33%	12.97%	11.33%	9.30%	
Pre Retirement Aggressive 21-25	12.13%	13.95%	-	-	
Pre Ret Aggressive 21-25 Index	11.49%	13.20%	-	-	
Pre Retirement Aggressive 26+	12.13%	13.95%	_	-	
Pre Ret Aggressive 26+ Index	11.49%	13.20%	-	-	



# Galliard Stable Value Period Ended September 30, 2021

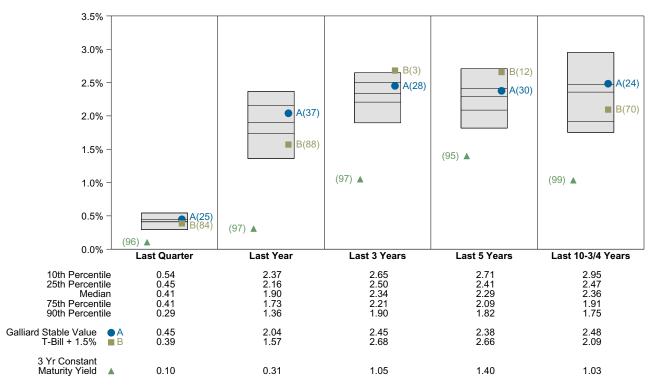
#### **Investment Philosophy**

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 0.45% return for the quarter placing it in the 25 percentile of the Callan Stable Value SA group for the quarter and in the 37 percentile for the last year.
- Galliard Stable Value's portfolio outperformed the 3 Yr Constant Maturity Yield by 0.34% for the quarter and outperformed the 3 Yr Constant Maturity Yield for the year by 1.73%.

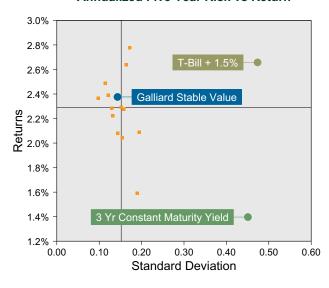
## Performance vs Callan Stable Value SA (Gross)



### Relative Returns vs 3 Yr Constant Maturity Yield

0.70% 0.60% 0.50% Relative Returns 0.40% 0.30% 0.20% 0.10% 0.00% (0.10%)(0.20%)16 2017 2018 2019 2020 2021 Galliard Stable Value

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





# **Galliard Stable Value Stable Value Characteristics Analysis Summary**

#### **Portfolio Characteristics**

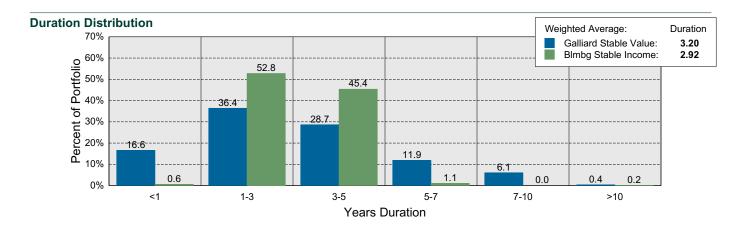
This graph compares the stable value fund's portfolio characteristics with the range of characteristics for the portfolios which make up the fund's style group. This analysis illustrates whether the fund's current structure is consistent with other funds employing the same style.

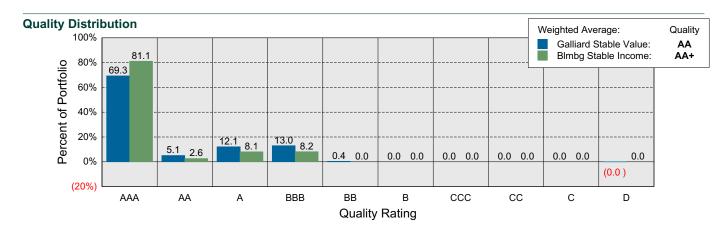


# Galliard Stable Value Stable Value Portfolio Characteristics Summary As of September 30, 2021

#### **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.

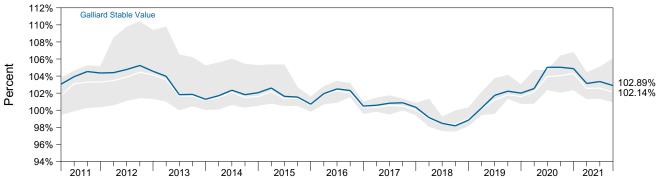




#### Market-to-Book Ratio Over Time

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





#### Lawsuit alleges 401(k) plan should have selected more expensive funds – September 1, 2021

A recent lawsuit alleges that the plan sponsor should have selected more expensive funds with a revenue sharing component, as the total investment management cost was cheaper on a net basis.

A lawsuit involving the Juniper Networks, Inc. 401(k) Plan included a slew of standard allegations—recordkeeping fees should have been benchmarked and negotiated, managed accounts fees were not commensurate with the value of services, and lower cost funds should have been selected. This lawsuit also included an unusual claim: that the plan fiduciaries should have selected more expensive investment options that included a revenue sharing component. The majority of recordkeepers, including the Juniper plan's recordkeeper, have the ability to reallocate revenue sharing back to the participant accounts that generated such revenue resulting in a lower total cost, and therefore the lawsuit alleges the net cost of the fund should be the primary consideration.

As an example, one of the funds listed in the complaint (AB Discovery Value Z share class) had a 0.79% expense ratio and no revenue sharing, for a net cost of 0.79%. However, the more expensive A share class, with a 1.13% expense ratio included 0.50% revenue share which, if it were reallocated back to participant accounts, would lead to a net lower cost fund (0.63%).

This is a novel allegation, although it falls in line with Callan's process of benchmarking investment costs net of revenue sharing. The process to reallocate revenue sharing back to participants is not perfect (e.g., what to do with trailing revenue for participants who take a distribution during the period) and capabilities vary based on the recordkeeper. Plan fiduciaries should be careful to review all costs and expenses related to their DC plan and document why certain fee decisions were made.

#### Lost but not forgotten: DOL guidance on missing participants – September 14, 2021

Retirement plan participants can go missing on occasion. This is an issue for plan sponsors as smaller or inactive plan balances may decrease the economies of scale, increase risk to the plan, and complicate the fiduciary's obligation to provide ongoing required notices. It is also an issue for participants who may be missing part of their retirement picture.

Participants can go missing following separation from service, address changes, name changes, as beneficiaries, or a variety of other circumstances. This missing group can include either participants whose mail is returned as undeliverable or those with outstanding stale dated checks (e.g., minimum required distributions that are forced out of the plan).

Beginning in 2017, the U.S. Department of Labor (DOL) implemented the Terminated Vested Participant Project (TVPP), which focused audit efforts on missing participant issues. In fiscal year 2020, the Employee Benefits Security Administration (EBSA) closed 1,122 civil investigations, with 67% of those audits resulting in monetary results for plans or other corrective action — \$1.48 billion tied directly to missing participant enforcement. And while the DOL has issued missing participant guidance for terminating defined contribution plans (e.g., FAB 2014-01), until now there has been little

regulatory guidance on what steps ongoing plans should take. In some cases, the plan document can provide guidance on how to handle these situations, but in general direction has been lacking.

In response to this gap, the EBSA released guidance earlier this year. Recommended steps include (in no particular order):

- Requesting participants confirm their contact information regularly (e.g., on the DC plan's website or company intranet)
- Including a reminder to update contact information on recurring communications
- Flagging undeliverable mail/email and uncashed checks for follow-up
- Conducting missing participant searches, reviewing other employer records (e.g., health plan or payroll records); using free online search engines, public record databases, and social media; employing a commercial locator service, a credit-reporting agency, or a proprietary internet search tool to locate individuals
- Utilizing government programs (e.g., U.S. Postal Service certified mail to the last known mailing address, Social Security Death Index)
- Attempting contact via other available means such as email addresses, telephone and text numbers, or contacting beneficiaries or the employee's emergency contacts
- For unionized employees, reaching out to the union's local offices and through union member communications to find missing retirees

Importantly, the guidance package noted that plan fiduciaries can consider the cost of the search and the size of the participant's account balance. And, as with all plan management tasks, documenting procedures and actions is key to good plan governance.

If a participant cannot be located, the plan sponsor has the option of forfeiting those accounts (which can be reinstated should the participants be found) or escheating to the state, depending on the terms of the plan document.

Plan sponsors should work with their recordkeeping partners to understand their ability to regularly audit plan census information and to search for missing participants. Determining which steps to take should incorporate a review of ERISA's fiduciary duties, including the duties to act with the care, skill, prudence and diligence, along with privacy concerns of social media or beneficiary outreach.

### New and Potentially Confusing Participant Disclosures - September 21, 2021

The Setting Every Community Up for Retirement Enhancement (SECURE) Act of 2019 requires defined contribution plans provide lifetime income estimates on participant statements at least annually. These income illustrations vary significantly from prior guidance and may be confusing to participants who are used to seeing their projected retirement income very

differently, Recently, the U.S. Department of Labor (DOL) issued "Temporary Implementing FAQs" clarifying that these disclosures will be required in 2022.

The SECURE Act requires that lifetime income illustrations be provided with participant statements at least once every 12 months. As required by the SECURE Act, the DOL published an interim final rule on September 18, 2020, explaining how to calculate the lifetime income illustrations. A final rule has not yet been issued, although the interim rule is effective September 18, 2021.

In a new set of FAQs, the DOL clarified the timing to provide the first annual illustration. For DC plans where the participants are able to direct the investment of their balance, their first lifetime illustration can be incorporated on any quarterly statement up to the second calendar quarter of 2022 (ending June 30, 2022). If the participant cannot direct how their balance is invested, the timeline is delayed to no later than October 15, 2022.

This new disclosure may be confusing for participants because it varies significantly from prior guidance and current practices. The DOL issued an Advance Notice of Proposed Rulemaking in 2013 describing how it anticipated lifetime income illustration would be calculated and displayed — namely that the current balance be projected to normal retirement age and converted into a monthly stream of income. The SECURE Act disclosure requirements take a very different tack. Regardless of whether the plan offers annuities, it requires the lifetime illustrations be in the form of:

- A life annuity with equal payments over the participant's lifetime
- A 100% qualified joint and survivor annuity with equal payments over the joint lives of the participants and a spouse

These estimated annuity streams are based on the balance on the last day of the statement period, and assumes the participant is age 67 on the statement date — regardless of their actual age or projected future contributions or earnings. This may lead to participant questions about why their projected retirement income is so low, especially in comparison to what they are used to seeing.

The FAQs clarify that, although the SECURE Act requires the lifetime income illustrations in a specific format, they don't preclude the plan administration from providing additional lifetime income illustrations.

Plan sponsors should work with their administrative services provider to understand how the illustrations will be calculated, displayed to participants, and carry appropriate descriptions. Plan sponsors may also wish to inquire about how call center representatives training and scripts will explain the variation to confused participants.

#### Watch What You Say: Employee Benefit Claims - September 29, 2021

While the internet has become the primary means of sharing basic employee benefit information, participants often prefer to talk to a real person regarding complicated or significant decisions. This person could be someone from plan sponsor's

staff or a representative from the plan administrator. A recent Employee Benefit Security Administration (EBSA) letter<sup>1</sup> implies these conversations could impact benefit claims.

Section 503 of the Employee Retirement Income Security Act (ERISA) requires that employee benefit plans (e.g., retirement or health and welfare) afford any participant whose claim was denied with a reasonable opportunity to go through a "full and fair review." The U.S. Department of Labor (DOL) regulations on this issue require employee benefit plans "establish and maintain reasonable procedures governing the filing of benefit claims, notification of benefit determinations, and appeal of adverse benefit determinations." These regulations further require that "a claimant shall be provided, upon request... copies of, all documents, records, and other information relevant to the claimant's claim for benefits."

The EBSA recently issued an Information Letter stating that the required disclosure of documents and records includes any recordings and/or transcripts of phone calls between the claimant and the fiduciary or administrator, even if the recording was made only for quality assurance purposes. EBSA further clarified that a recording made for quality assurance purposes would also likely make it relevant to the claims process as it demonstrates compliance with administrative processes or safeguards.<sup>3</sup>

This letter, along with the preamble to recent amendments to the relevant regulations, clarifies that plans cannot refuse "video, audio, or other electronic media" as types of evidence if a claim was denied. Plan sponsors and claims administrators should be prepared for these requests and should train personnel handling telephone calls with claimants accordingly.

Plan fiduciaries may wish to consider their internal systems for recording calls. Additionally, plan sponsors should review the contractual agreements in place with their recordkeeper around call center representative accuracy (e.g., descriptions of plan provisions and benefits) and remediation in the event those conversations are deemed inaccurate or misleading.

<sup>3</sup> 29 CFR 2560.503-1(m)(8)



<sup>1</sup> Information Letter 06-14-2021. An information letter is a non-binding written statement that calls attention to established principles under ERISA.

<sup>&</sup>lt;sup>2</sup> 29 C.F.R. § 2560.503-1

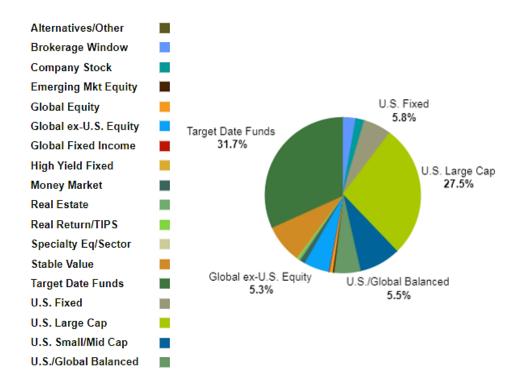
# **Structure Utilization**

#### **Asset Allocation**

# **Equities Gain at Expense of Safer Asset Classes**

In a continuation from the previous quarter, U.S. large cap (27.5%) had the largest percentage increase in allocation, while U.S. small/mid cap (8.6%) also had a small, albeit more modest, increase. Strong performance relative to fixed income and other asset classes drove the increases and offset the effect of net outflows from U.S. equities. In addition, global ex-U.S. equity (5.3%), global equity (0.6%), and emerging market equity (0.3%) also saw small increases.

On the other hand, stable value (8.1%) and U.S. fixed income (5.8%) saw the largest decreases in allocation, driven by material net outflows and relative underperformance.



#### **Prevalence**

### Prevalence of Specialty Fixed Income Offerings Increases

The prevalence of a high yield fixed income offering (7.9%) increased to its highest mark since 3Q16 (14.1%). In addition, global/global ex-U.S. fixed income (8.7%) also saw an increase in prevalence of more than a full percentage point.

Other notable movements included a 1.2 percentage point increase in the prevalence of a brokerage window (42.1%) and a 1.5 percentage point decrease in the offering of a balanced fund (47.6%).

## Glossary

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.

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



# **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.



#### **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 rations 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.



#### **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.



#### **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.



#### **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.

