



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: SEPTEMBER 30, 2016

Executive Performance Summary Review for

Tennessee Consolidated Retirement System

3rd quarter summary

THE ECONOMIC CLIMATE

- The U.S. labor market continues to improve but at a slower pace. Real wage growth has risen but not as quickly as other periods of similar labor market tightness. Consumer expenditures remain the primary positive contributor to GDP growth.
- U.S. inflation has risen steadily with Core CPI at 2.3% YoY as of August. Energy and gasoline prices continue to weigh on the Headline CPI figure of 1.1% YoY.
- The presidential election approaches. There has historically been a weak relationship between election outcomes and market performance. This election appears to have unique characteristics and may cause more unpredictable effects.

MARKET PORTFOLIO IMPACTS

- Central bank discussions indicate we may be nearing fiscal expansion as a next form of policy accommodation. As fiscal policies are typically less analyzed and less understood by investors, markets may be more prone to surprise in this environment.

THE INVESTMENT CLIMATE

- U.S. corporate earnings are expected to decline by -2.1%, which would be the sixth consecutive quarter of YoY decline. Almost all of this decline is attributable to energy sector weakness.
- Low inflation and low bond yields may help to explain higher than usual equity valuations. However, this does not negate the fact that higher equity valuations historically have materially reduced subsequent returns.

ASSET ALLOCATION ISSUES

- We continue to remain underweight risk and believe that downside market potential outweighs upside market potential.
- Emerging market earnings per share growth turned positive in 2016, reversing a 5-year downward trend. Valuations remain below average on a relative basis and upside potential seems attractive. Investors may consider moving to an overweight in emerging market equities, though risks should be carefully considered.

We remain underweight to risk

Investors should be watchful of corporate earnings, and U.S. inflation trends

U.S. economics summary

- U.S. real GDP grew 1.4% YoY in Q2, up from 0.8% in Q1. This positive growth reflects contributions from greater consumer expenditures, exports, and non-residential fixed investments. These were partially offset by a decrease in private inventory investment.
- Headline inflation (CPI) rose 1.1% as of August YoY while core CPI rose 2.3%. Lower energy prices, and gasoline in particular (-17.8%), have weighed heavily on the headline inflation figure. Medical care services (+4.9%) and shelter (+3.4%) contributed to higher prices.
- If the U.S. economy continues to move closer to full employment and higher inflation, the market has expected the Fed to want to push harder for rate

“normalization”. However, the fear of disrupting financial markets and raising rates too early, too quickly, remains.

- Over the last few quarters we have continued to see the slow and steady return to the workforce of discouraged workers. This may help explain why productivity growth and wage inflation are lower than might be expected at this level of unemployment.
- Additions to nonfarm payrolls averaged slightly under 200,000 in the third quarter as the overall labor market continued to show strength. The unemployment rate increased slightly to 5.0% as more people entered the labor force.

	Most Recent	12 Months Prior
GDP (<i>annual YoY</i>)	1.4% 6/30/16	3.9% 6/30/15
Inflation (<i>CPI YoY, Headline</i>)	1.1% 8/31/16	0.2% 8/31/15
Expected Inflation (<i>5yr-5yr forward</i>)	1.8% 9/30/16	1.8% 9/30/15
Fed Funds Rate	0.25% 9/30/16	0.12% 9/30/15
10 Year Rate	1.6% 9/30/16	2.0% 9/30/15
U-3 Unemployment	5.0% 9/30/16	5.1% 9/30/15
U-6 Unemployment	9.7% 9/30/16	10.0% 9/30/15

International economics summary

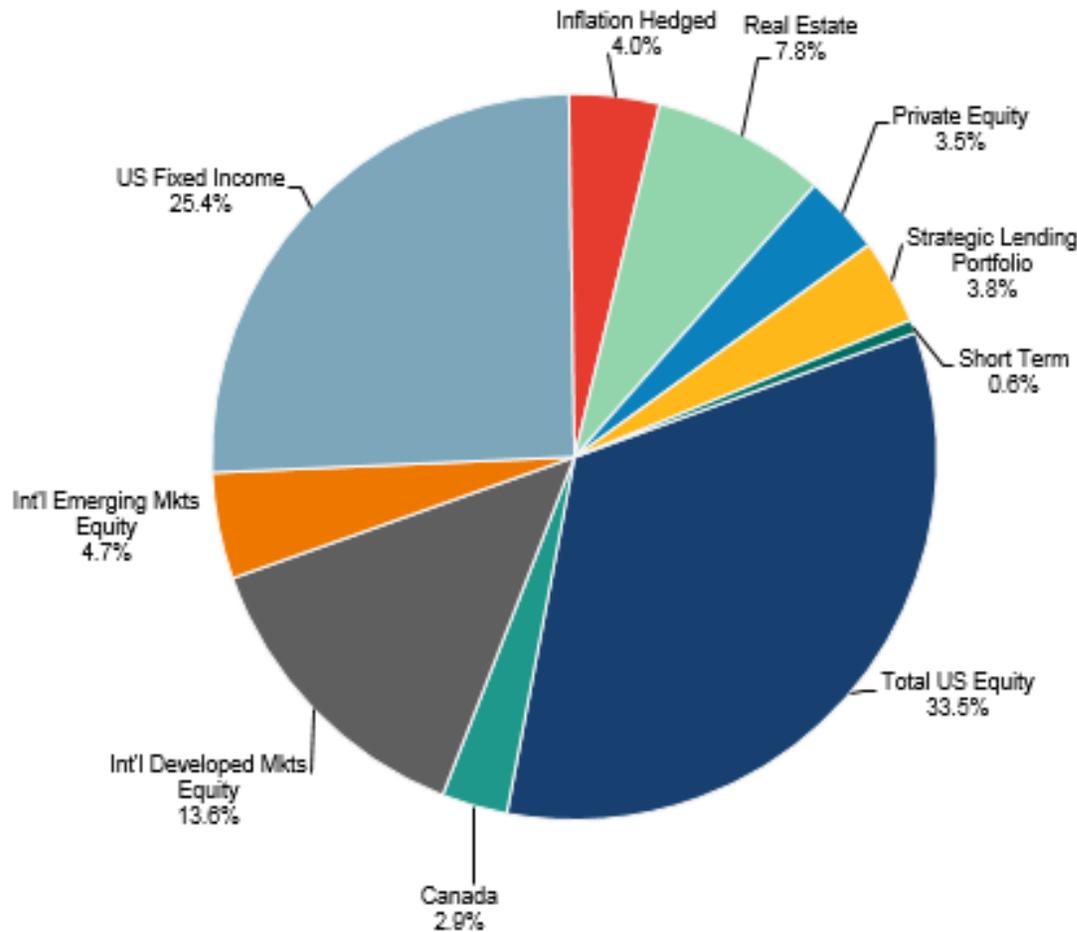
- Developed economies continued to experience slow growth and low inflation. While inflation ticked up slightly in the Eurozone to 0.4%, it remains materially under the ECB’s target of “below, but close to, 2%”.
- The ECB left monetary policy unchanged at its September meeting, and cut economic growth expectations for the next three years.
- The BOJ shook up its monetary policy after completing a “comprehensive assessment of its current easing programs”. The central bank stated it will intentionally overshoot its inflation target of 2% and introduced a 0% target for the 10-year yield.
- Britain elected new prime minister Theresa May, who will be responsible for implementing Brexit. Increased uncertainty surrounding the timing and nature of the political change will continue. The potential impact of this uncertainty led to the first rate cut by the BOE since 2009.
- The IMF once again downgraded global growth forecasts for 2016 and 2017, this time to just above 3%. It now warns against economic stagnation and states that countries have found themselves in the position of relying on monetary and fiscal policy to lift growth prospects, and that this may be unsustainable.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	1.4% <i>6/30/16</i>	1.1% <i>8/31/16</i>	5.0% <i>9/30/16</i>
Western Europe	1.8% <i>6/30/16</i>	0.4% <i>9/30/16</i>	8.5% <i>6/30/16</i>
Japan	0.8% <i>6/30/16</i>	(0.5%) <i>8/31/16</i>	3.2% <i>6/30/16</i>
BRIC Nations	5.1% <i>6/30/16</i>	3.8% <i>6/30/16</i>	5.5% <i>6/30/16</i>
Brazil	(3.8%) <i>6/30/16</i>	9.0% <i>8/31/16</i>	11.7% <i>9/30/16</i>
Russia	(0.6%) <i>6/30/16</i>	6.9% <i>8/31/16</i>	5.6% <i>6/30/16</i>
India	7.1% <i>6/30/16</i>	5.1% <i>8/31/16</i>	7.1% <i>12/31/15</i>
China	6.7% <i>6/30/16</i>	1.3% <i>8/31/16</i>	4.1% <i>6/30/16</i>

Name	Last 3 Months	Last 6 Months	1 Yr	2 Yrs	3 Yrs	3 Yrs	5 Yrs	7 Yrs	10 Yrs
US Equity									
Russell 3000	4.4	7.1	15.0	7.0	10.4	10.4	16.4	13.2	7.4
S&P 500	3.9	6.4	15.4	7.1	11.2	11.2	16.4	13.2	7.2
Russell 1000	4.0	6.7	14.9	6.9	10.8	10.8	16.4	13.2	7.4
Russell 1000 Growth	4.6	5.2	13.8	8.3	11.8	11.8	16.6	14.1	8.8
Russell 1000 Value	3.5	8.2	16.2	5.4	9.7	9.7	16.2	12.3	5.9
Russell MidCap	4.5	7.8	14.2	6.8	9.7	9.7	16.7	14.1	8.3
Russell 2000	9.0	13.2	15.5	8.1	6.7	6.7	15.8	12.5	7.1
Russell 2000 Growth	9.2	12.8	12.1	8.0	6.6	6.6	16.1	13.3	8.3
Russell 2000 Value	8.9	13.6	18.8	8.1	6.8	6.8	15.4	11.6	5.8
International Equity									
MSCI ACWI	5.3	6.3	12.0	2.2	5.2	5.2	10.6	7.8	4.3
MSCI World ex USA	6.3	5.2	7.2	-1.9	0.3	0.3	6.9	4.1	1.9
MSCI EAFE	6.4	4.9	6.5	-1.4	0.5	0.5	7.4	4.2	1.8
MSCI Emerging Markets	9.0	9.7	16.8	-2.9	-0.6	-0.6	3.0	2.3	3.9
Fixed Income									
91 Day T-Bills	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.8
Barclays Aggregate	0.5	2.7	5.2	4.1	4.0	4.0	3.1	4.1	4.8
Barclays Govt/Credit	0.4	3.1	5.9	4.3	4.2	4.2	3.2	4.3	4.9
Barclays Municipal	-0.3	2.3	5.6	4.4	5.5	5.5	4.5	4.6	4.7
Barclays High Yield	5.6	11.4	12.7	4.3	5.3	5.3	8.3	8.8	7.7
Citi WGBI	0.3	3.7	9.7	2.7	1.8	1.8	0.8	1.9	4.1
Citi WGBI ex US	0.6	4.7	12.6	2.3	1.2	1.2	0.2	1.4	3.9
Real Estate									
FTSE NAREIT All REIT	-1.0	6.3	20.6	13.8	13.7	13.7	15.7	15.2	6.0
NCREIF Property Index	1.8	3.8	9.2	11.3	11.3	11.3	11.2	11.1	7.2
Alternatives									
HFRI Fund of Funds Composite Index	2.4	3.0	0.5	0.2	2.2	2.2	3.2	2.5	1.8
Inflation									
Consumer Price Index	0.2	1.4	1.5	0.7	1.0	1.0	1.2	1.6	1.8

Tennessee Consolidated Retirement System
Asset Allocation Analysis

Period Ending: September 30, 2016



	Actual \$	Actual %
Total US Equity	14,896,286,631	33.5%
Canada	1,306,055,594	2.9%
Int'l Developed Mkts Equity	6,060,122,466	13.6%
Int'l Emerging Mkts Equity	2,104,098,830	4.7%
US Fixed Income	11,294,524,717	25.4%
Inflation Hedged	1,785,668,595	4.0%
Real Estate	3,441,950,181	7.8%
Private Equity	1,574,679,677	3.5%
Strategic Lending Portfolio	1,679,878,214	3.8%
Short Term	261,333,078	0.6%
TOTAL	44,404,597,983	100.0%

	TARGET	ACTUAL	DIFF
Total US Equity	33.0%	33.5%	0.5%
Canada	4.0%	2.9%	-1.1%
Int'l Developed Mkts Equity	13.0%	13.6%	0.6%
Int'l Emerging Mkts Equity	5.0%	4.7%	-0.3%
US Fixed Income	25.0%	25.4%	0.4%
Inflation Hedged	4.0%	4.0%	0.0%
Real Estate	7.0%	7.8%	0.8%
Private Equity	3.0%	3.5%	0.5%
Strategic Lending Portfolio	5.0%	3.8%	-1.2%
Short Term	1.0%	0.6%	-0.4%

	06/30/16	09/30/16	DIFF
Total US Equity	33.2%	33.5%	0.3%
Canada	3.5%	2.9%	-0.6%
Int'l Developed Mkts Equity	12.3%	13.6%	1.3%
Int'l Emerging Mkts Equity	4.5%	4.7%	0.2%
US Fixed Income	26.6%	25.4%	-1.2%
Inflation Hedged	4.9%	4.0%	-0.9%
Real Estate	7.5%	7.8%	0.3%
Private Equity	3.4%	3.5%	0.1%
Strategic Lending Portfolio	3.6%	3.8%	0.2%
Short Term	0.4%	0.6%	0.2%

Total Fund Performance Summary

Period Ending: September 30, 2016

	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Total Fund	3.41	10.95	7.17	9.63	8.72	5.99
<i>Policy Index</i> ¹	<u>3.37</u>	<u>11.87</u>	<u>7.25</u>	<u>9.69</u>	<u>8.71</u>	<u>6.31</u>
Excess Return	0.04	-0.92	-0.08	-0.06	0.01	-0.32
<i>Allocation Index</i> ²	<u>3.32</u>	<u>11.90</u>	<u>7.07</u>	<u>9.39</u>	<u>8.32</u>	<u>6.03</u>
North American Equity	3.96	12.76	8.96	14.34	--	--
<i>N.A. Equity Custom</i> ³	<u>4.04</u>	<u>15.55</u>	<u>9.77</u>	<u>14.98</u>	--	--
Excess Return	-0.08	-2.79	-0.81	-0.64		
US Equity	3.90	12.55	9.97	15.66	12.98	7.10
<i>US Equity Custom</i> ⁴	<u>3.98</u>	<u>15.49</u>	<u>10.93</u>	<u>16.44</u>	<u>13.29</u>	<u>7.44</u>
Excess Return	-0.08	-2.94	-0.96	-0.78	-0.31	-0.34
Index	3.84	15.85	11.31	16.45	13.23	7.35
<i>S&P 500</i>	<u>3.85</u>	<u>15.43</u>	<u>11.16</u>	<u>16.37</u>	<u>13.17</u>	<u>7.24</u>
Excess Return	-0.01	0.42	0.15	0.08	0.06	0.11
Quant	2.99	9.59	8.33	14.41	11.95	6.66
<i>S&P 500</i>	<u>3.85</u>	<u>15.43</u>	<u>11.16</u>	<u>16.37</u>	<u>13.17</u>	<u>7.24</u>
Excess Return	-0.86	-5.84	-2.83	-1.96	-1.22	-0.58
Sector	4.12	12.47	10.92	15.74	12.90	7.13
<i>S&P 500</i>	<u>3.85</u>	<u>15.43</u>	<u>11.16</u>	<u>16.37</u>	<u>13.17</u>	<u>7.24</u>
Excess Return	0.27	-2.96	-0.24	-0.63	-0.27	-0.11
Mid Cap ⁵	3.91	13.87	9.84	17.07	14.44	8.50
<i>S&P MidCap 400</i> ⁵	<u>4.14</u>	<u>15.33</u>	<u>9.35</u>	<u>16.50</u>	<u>13.95</u>	<u>8.74</u>
Excess Return	-0.23	-1.46	0.49	0.57	0.49	-0.24

1 Effective 1/1/13, Policy Index is 33% S&P 1500/ 4% S&P TSX 60/ 13% MSCI EAFE IMI net/ 5% MSCI Emerging Markets net/ 25% Citigroup LPF/ 4% Citigroup TIPS/ 7% NCREIF 1Q Lag/ 3% S&P 500 + 3% 1Q Lag/ 1% 91 Day T-Bill / 5% Strategic Lending.

2 Effective 7/1/16, Total Fund Allocation Index is 33% S&P 1500/ 4% S&P TSX 60/ 13% MSCI EAFE IMI net/ 5% MSCI Emerging Markets net/ 25.27% Citigroup LPF/ 5.09% Citigroup TIPS/ 7% NCREIF 1Q Lag/ 3% S&P 500 + 3% 1Q Lag/ 3.64% Strategic Lending/ 1% 91 Day T-Bill.

3 Effective 1/1/13, benchmark is 89.19% S&P 1500/ 10.81% S&P TSX 60; linked to 87.5% S&P 1500/ 12.5% S&P TSX 60 Index.

4 Effective 7/1/04, benchmark is S&P 1500.

5 Effective 7/1/08, strategy was changed from SMID Cap. Benchmark is linked to 100% S&P 100 Index.

Total Fund Performance Summary

Period Ending: September 30, 2016

	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Small Cap⁶	7.25	18.41	9.16	17.60	--	--
<i>S&P 600 SmallCap</i>	<u>7.20</u>	<u>18.12</u>	<u>9.04</u>	<u>17.86</u>	<u>14.64</u>	<u>8.71</u>
Excess Return	0.05	0.29	0.12	-0.26		
Canada	4.44	15.16	0.06	3.50	--	--
<i>S&P/TSX 60</i>	<u>4.52</u>	<u>15.25</u>	<u>0.09</u>	<u>3.50</u>	<u>3.39</u>	<u>3.66</u>
Excess Return	-0.08	-0.09	-0.03	0.00		
International Equity	7.33	11.48	2.02	8.32	5.91	3.89
<i>Int'l Equity Custom⁷</i>	<u>6.88</u>	<u>10.46</u>	<u>0.66</u>	<u>6.33</u>	<u>3.65</u>	<u>1.54</u>
Excess Return	0.45	1.02	1.36	1.99	2.26	2.35
Int'l Developed Mkts Equity	7.21	8.73	2.95	9.87	6.99	4.63
<i>MSCI EAFE IMI net</i>	<u>6.74</u>	<u>7.29</u>	<u>1.08</u>	<u>7.86</u>	<u>4.71</u>	<u>2.27</u>
Excess Return	0.47	1.44	1.87	2.01	2.28	2.36
American Century	7.84	10.57	6.91	15.12	11.28	--
<i>MSCI EAFE Small Cap</i>	<u>8.64</u>	<u>12.33</u>	<u>5.08</u>	<u>11.07</u>	<u>8.11</u>	<u>4.39</u>
Excess Return	-0.80	-1.76	1.83	4.05	3.17	
Baring Asset Mgmt	7.48	8.81	0.71	7.61	5.75	--
<i>MSCI EAFE</i>	<u>6.43</u>	<u>6.52</u>	<u>0.48</u>	<u>7.39</u>	<u>4.24</u>	<u>1.82</u>
Excess Return	1.05	2.29	0.23	0.22	1.51	
FIAM	7.70	11.77	5.59	12.51	9.19	--
<i>MSCI EAFE Small Cap</i>	<u>8.64</u>	<u>12.33</u>	<u>5.08</u>	<u>11.07</u>	<u>8.11</u>	<u>4.39</u>
Excess Return	-0.94	-0.56	0.51	1.44	1.08	

⁶ Use 100% Russell 2000 Futures returns January 2011-June 2012. Use weighted blend of Russell 2000 Futures and Small Cap Fund returns July 2012- October 2012. Use 100% Small Cap Fund returns November 2012-present.

⁷ Effective 1/1/13, benchmark is 72.22% MSCI EAFE IMI net/ 27.78% MSCI Emerging Mkts net; linked to 100% MSCI EAFE IMI net (10/08-12/12) and 100% MSCI EAFE net Index (7/04-9/08).

Total Fund Performance Summary

Period Ending: September 30, 2016

	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
GE Asset	8.21	3.65	-0.28	8.37	4.53	--
<i>MSCI Europe</i>	<u>5.40</u>	<u>2.49</u>	<u>-0.56</u>	<u>7.46</u>	<u>3.79</u>	<u>1.50</u>
Excess Return	2.81	1.16	0.28	0.91	0.74	
Marathon	6.43	5.93	3.42	10.05	7.55	5.46
<i>MSCI EAFE net</i>	<u>6.43</u>	<u>6.52</u>	<u>0.48</u>	<u>7.39</u>	<u>4.24</u>	<u>1.82</u>
Excess Return	0.00	-0.59	2.94	2.66	3.31	3.64
Pacific Indexed ⁸	9.74	15.70	2.83	7.67	5.00	2.65
<i>MSCI Pacific net</i> ⁹	<u>8.46</u>	<u>14.74</u>	<u>2.31</u>	<u>7.31</u>	<u>5.22</u>	<u>2.50</u>
Excess Return	1.28	0.96	0.52	0.36	-0.22	0.15
PanAgora Asset Mgmt	7.80	8.30	3.62	9.96	6.96	3.75
<i>MSCI EAFE</i>	<u>6.43</u>	<u>6.52</u>	<u>0.48</u>	<u>7.39</u>	<u>4.24</u>	<u>1.82</u>
Excess Return	1.37	1.78	3.14	2.57	2.72	1.93
TT International	6.18	3.81	2.16	9.92	5.45	--
<i>MSCI EAFE</i>	<u>6.43</u>	<u>6.52</u>	<u>0.48</u>	<u>7.39</u>	<u>4.24</u>	<u>1.82</u>
Excess Return	-0.25	-2.71	1.68	2.53	1.21	
Walter Scott	5.84	18.21	3.76	9.27	8.01	6.58
<i>MSCI EAFE net</i> ¹⁰	<u>6.43</u>	<u>6.52</u>	<u>0.48</u>	<u>7.39</u>	<u>4.24</u>	<u>1.60</u>
Excess Return	-0.59	11.69	3.28	1.88	3.77	4.98
Int'l Emerging Mkts Equity	7.63	19.89	-0.68	--	--	--
<i>MSCI Emerging Markets ND Custom</i>	<u>7.26</u>	<u>18.43</u>	<u>-0.86</u>	--	--	--
Excess Return	0.37	1.46	0.18			

⁸ Effective 9/4/10, internally managed by TCRS staff. Amundi Pacific terminated.

⁹ Effective 7/1/04.

¹⁰ Effective 3/1/09. Benchmark is linked to MSCI Europe Index.

Total Fund Performance Summary

Period Ending: September 30, 2016

	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
US Fixed Income	0.86	9.24	7.22	5.47	7.06	6.58
<i>Citigroup LPF¹¹</i>	<u>0.62</u>	<u>9.27</u>	<u>7.07</u>	<u>4.72</u>	<u>6.05</u>	<u>6.29</u>
Excess Return	0.24	-0.03	0.15	0.75	1.01	0.29
Corporate	2.21	12.69	8.68	7.58	8.92	7.92
<i>Citigroup LPF Credit¹²</i>	<u>2.21</u>	<u>14.11</u>	<u>8.39</u>	<u>6.70</u>	<u>7.54</u>	<u>7.09</u>
Excess Return	0.00	-1.42	0.29	0.88	1.38	0.83
Gov't 5 Plus	-0.28	10.31	8.74	4.92	7.44	6.77
<i>Citigroup LPF Treas/Govt Spons¹⁴</i>	<u>-0.54</u>	<u>9.90</u>	<u>8.62</u>	<u>4.67</u>	<u>7.07</u>	<u>7.12</u>
Excess Return	0.26	0.41	0.12	0.25	0.37	-0.35
MBS	0.52	3.77	3.70	2.88	3.78	4.27
<i>Citi BIG Mortgage</i>	<u>0.57</u>	<u>3.56</u>	<u>3.57</u>	<u>2.63</u>	<u>3.51</u>	<u>4.68</u>
Excess Return	-0.05	0.21	0.13	0.25	0.27	-0.41
Total Return Fund*	0.39	11.35	9.31	7.08	9.38	7.54
<i>Citigroup LPF Treas/Govt Spons¹³</i>	<u>-0.54</u>	<u>9.90</u>	<u>8.62</u>	<u>4.67</u>	<u>6.50</u>	<u>6.54</u>
Excess Return	0.93	1.45	0.69	2.41	2.88	1.00
Inflation Hedged	1.23	7.34	2.78	2.04	4.02	4.65
<i>Citi TIPS</i>	<u>1.02</u>	<u>7.03</u>	<u>2.67</u>	<u>2.00</u>	<u>4.17</u>	<u>4.57</u>
Excess Return	0.21	0.31	0.11	0.04	-0.15	0.08

¹¹ Effective 9/1/11. Benchmark is linked to 50% Citigroup BIG/ 50% Citigroup LPF (4/1/11-8/31/11) and 100% Citigroup BIG (8/1/05-3/31/11).

¹² Effective 7/1/11. Benchmark is linked to 50% Citigroup BIG Credit/ 50% Citigroup LPF (4/1/11-6/30/11) and 100% Citigroup BIG Credit Index (1/1/01-3/31/11).

¹³ Effective 9/1/11. Benchmark is linked to Citi 1-7 Govt (7/1/11-8/31/11), 50% Citigroup 1-5 Govt/ 50% Citigroup 1-7 Govt (4/1/11-6/30/11), and 100% Citigroup 1-5 Govt (9/1/09-3/31/11).

¹⁴ Effective 7/1/11. Benchmark is linked to 50% Citigroup Core 5+ Govt/ 50% Citigroup 7+ Govt (4/1/11-6/30/11), 100% Citigroup Core 5+ Govt (9/1/09-3/31/11), and 100% Citigroup Govt (7/1/04-8/31/09).

* Formerly Gov't 1-5.

Total Fund Performance Summary

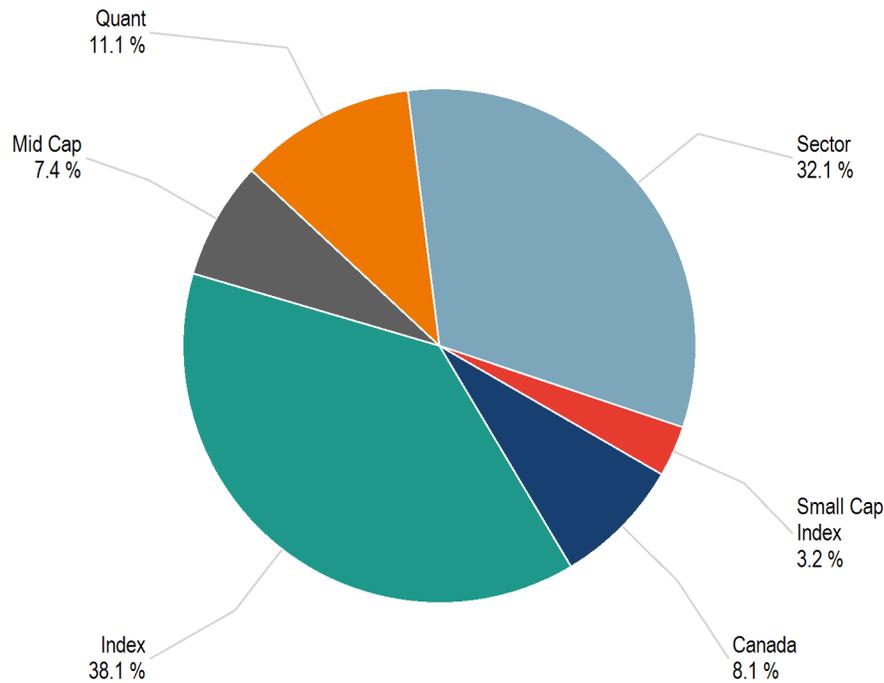
Period Ending: September 30, 2016

	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Real Estate	2.18	11.54	12.25	11.32	7.73	6.20
<i>NCREIF 1Q Lag</i>	<u>2.03</u>	<u>10.64</u>	<u>11.60</u>	<u>11.51</u>	<u>10.27</u>	<u>7.40</u>
Excess Return	0.15	0.90	0.65	-0.19	-2.54	-1.20
Traditional Private Equity *	4.37	9.74	16.69	15.26	15.39	--
<i>S&P 500 +3% 1Q Lag</i>	<u>2.78</u>	<u>6.99</u>	<u>14.67</u>	<u>15.11</u>	<u>17.93</u>	<u>10.47</u>
Excess Return	1.59	2.75	2.02	0.15	-2.54	
Strategic Lending Portfolio ¹⁵	4.02	7.76	4.91	--	--	--
<i>Strategic Lending¹⁶</i>	<u>4.32</u>	<u>9.02</u>	<u>4.47</u>	--	--	--
Excess Return	-0.30	-1.26	0.44			
Short Term	0.64	-0.38	0.99	1.01	1.26	--
<i>91 Day T-Bills</i>	<u>0.07</u>	<u>0.23</u>	<u>0.09</u>	<u>0.08</u>	<u>0.08</u>	<u>0.77</u>
Excess Return	0.57	-0.61	0.90	0.93	1.18	
Short Duration	0.40	1.43	1.13	1.40	1.50	--
<i>91 Day T-Bills</i>	<u>0.07</u>	<u>0.23</u>	<u>0.09</u>	<u>0.08</u>	<u>0.08</u>	<u>0.77</u>
Excess Return	0.33	1.20	1.04	1.32	1.42	
Cash	0.31	1.36	0.69	0.81	1.16	1.84
<i>91 Day T-Bills</i>	<u>0.07</u>	<u>0.23</u>	<u>0.09</u>	<u>0.08</u>	<u>0.08</u>	<u>0.77</u>
Excess Return	0.24	1.13	0.60	0.73	1.08	1.07

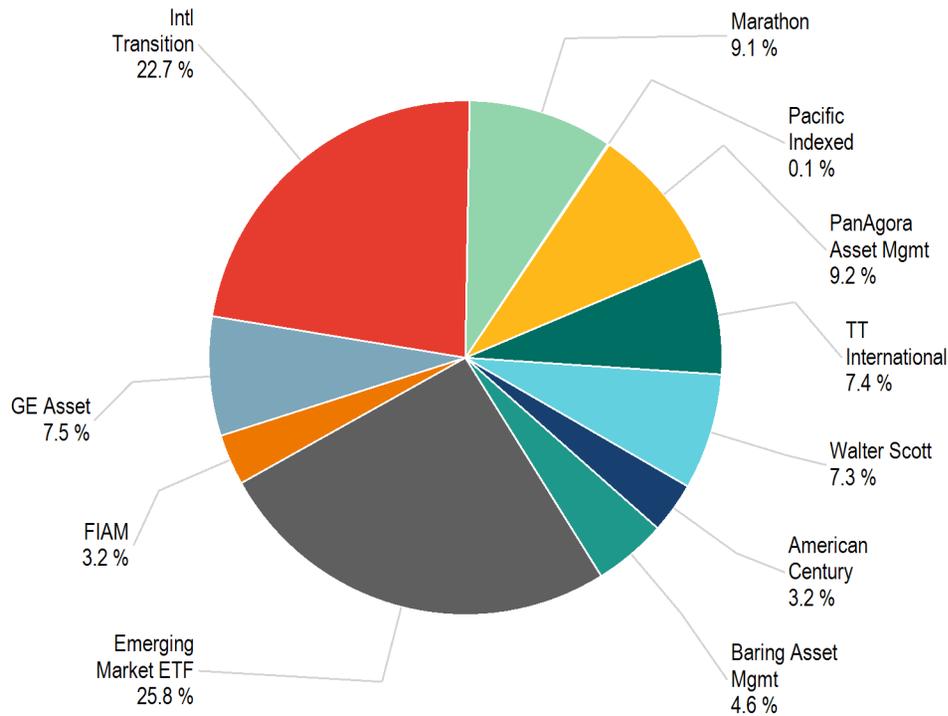
* Effective 4/1/12. One quarter lagged IRR returns are provided by TorreyCove Capital Partners. TorreyCove replaced Cambridge Associates effective 8/1/15.

¹⁵ Funded 8/1/13. Reported net of fees. Hayfin II & SOF, Orbimed Royalty Opp II, and Triton Debt Opp market values are rolled forward from Q2 2016, and adjusted for any Q3 cash flows.

¹⁶ Effective 1/1/13, benchmark is 50% Barclays HY 2% Issuer Capped/ 50% Credit Suisse Leveraged Loans.

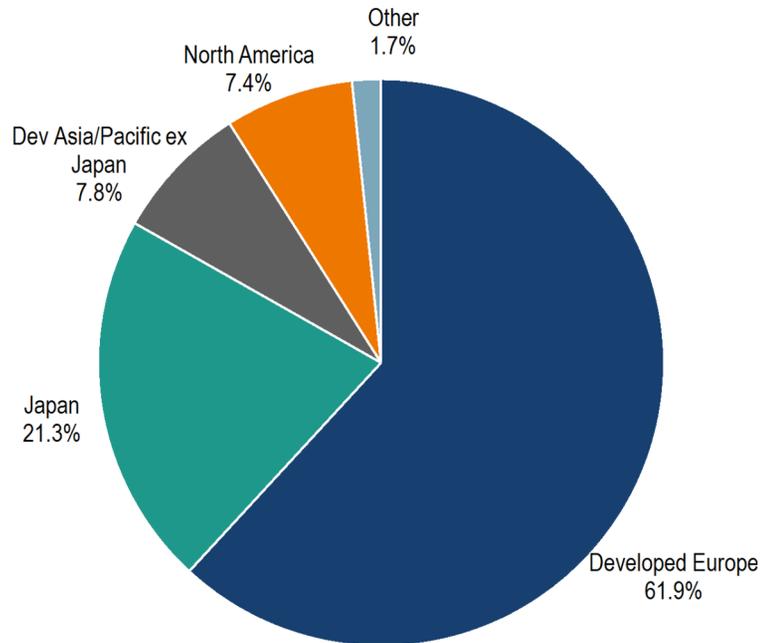


	Actual (\$)	Actual %
Canada	\$1,306,055,594	8.1%
Index	\$6,170,008,520	38.1%
Mid Cap	\$1,200,238,227	7.4%
Quant	\$1,800,925,373	11.1%
Sector	\$5,199,988,166	32.1%
Small Cap Index	\$525,126,345	3.2%
Total	\$16,202,342,225	100.0%

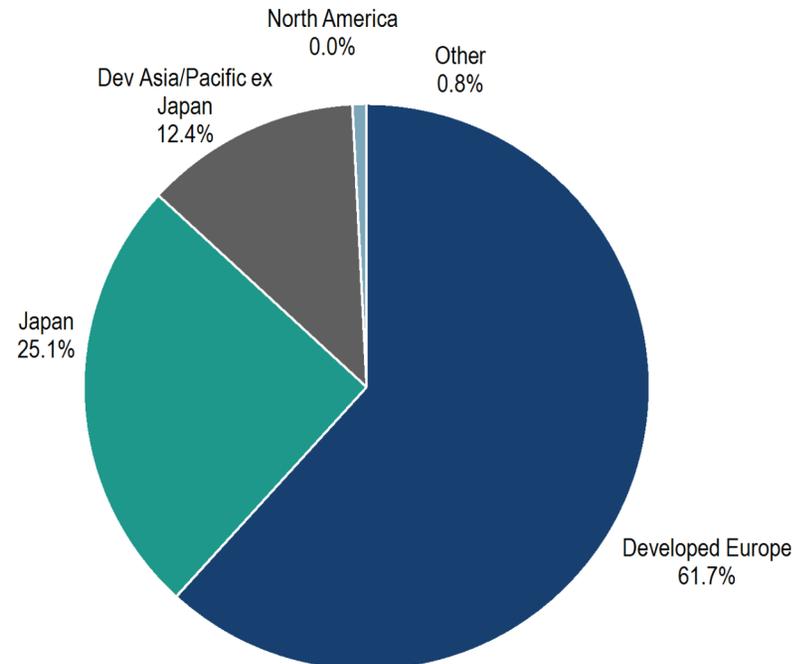


	Actual (\$)	Actual %
American Century	\$259,906,892	3.2%
Baring Asset Mgmt	\$374,730,959	4.6%
Emerging Market ETF	\$2,104,098,830	25.8%
FIAM	\$259,097,799	3.2%
GE Asset	\$609,654,882	7.5%
Intl Transition	\$1,855,545,489	22.7%
Marathon	\$744,503,693	9.1%
Pacific Indexed	\$8,308,777	0.1%
PanAgora Asset Mgmt	\$748,686,651	9.2%
TT International	\$601,087,172	7.4%
Walter Scott	\$598,600,152	7.3%
Total	\$8,164,221,296	100.0%

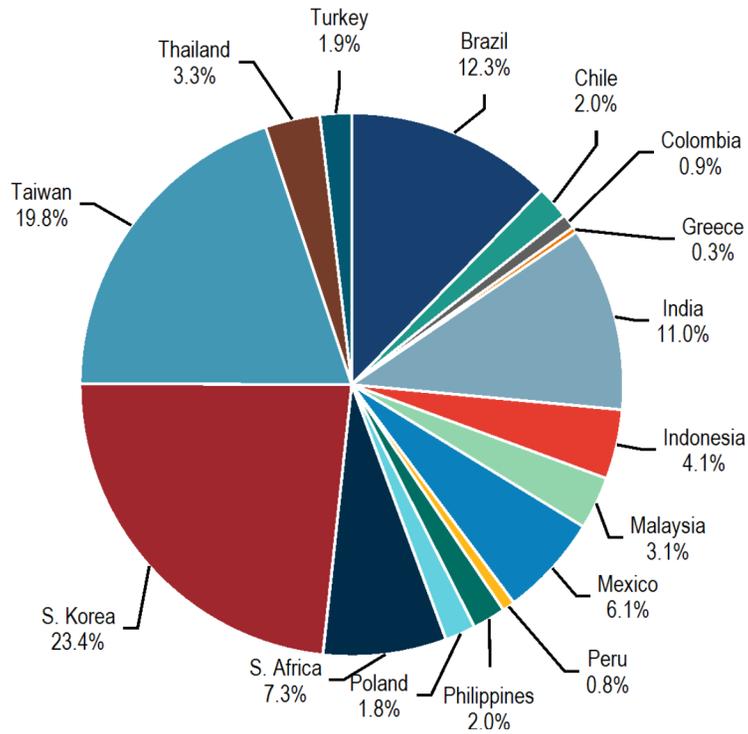
Developed International Equity



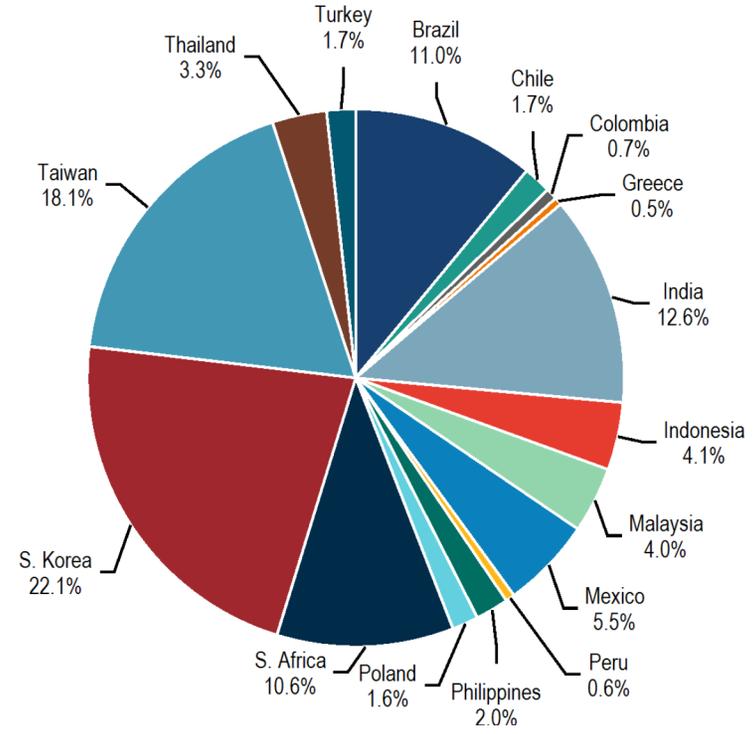
MSCI EAFE IMI Index



Emerging Market ETF

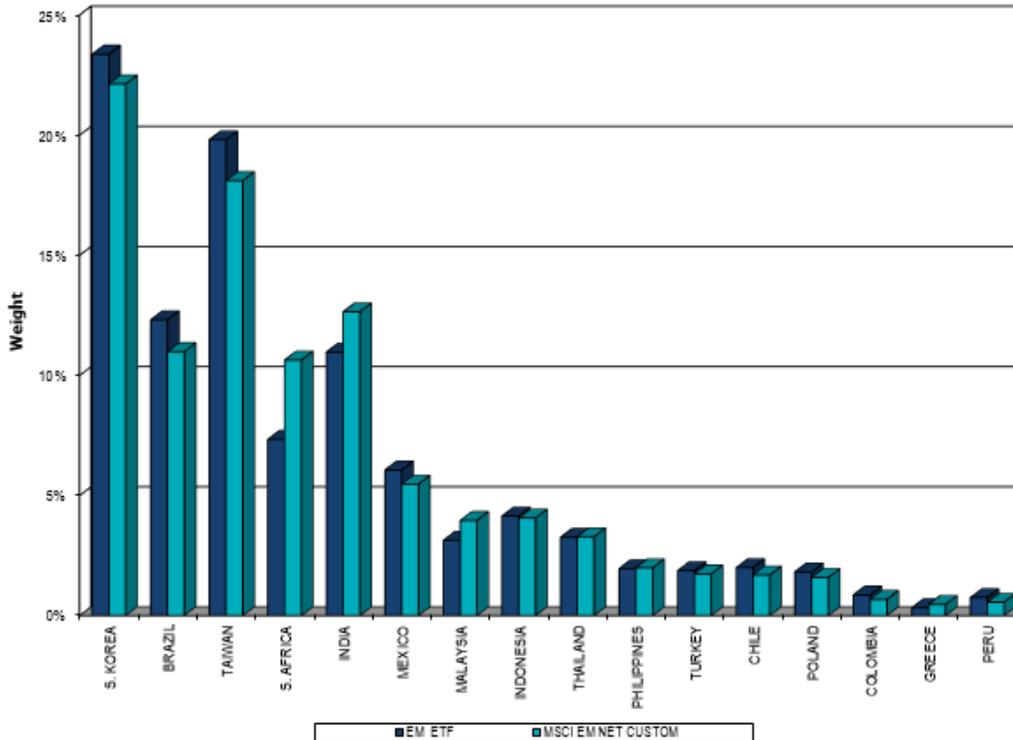


MSCI Emerging Market Net Custom Index

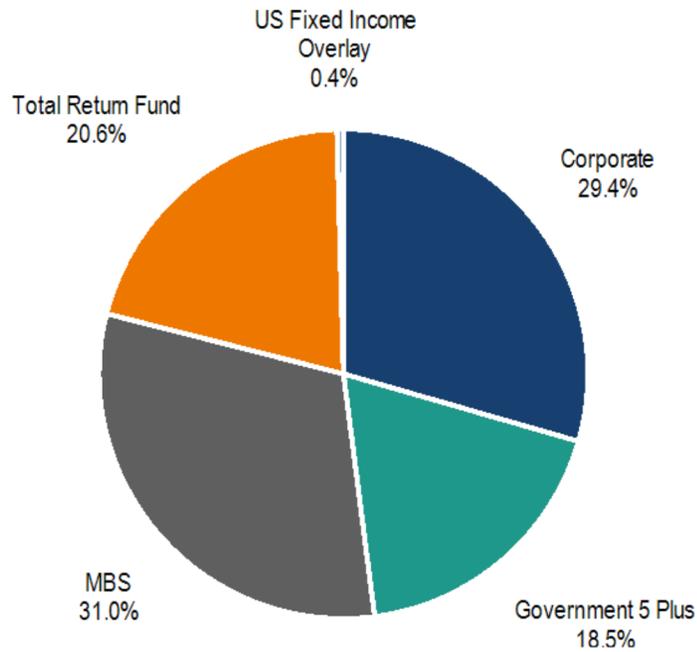


Int'l Emerging Markets Equity
Portfolio Country Weights

Period Ending: September 30, 2016



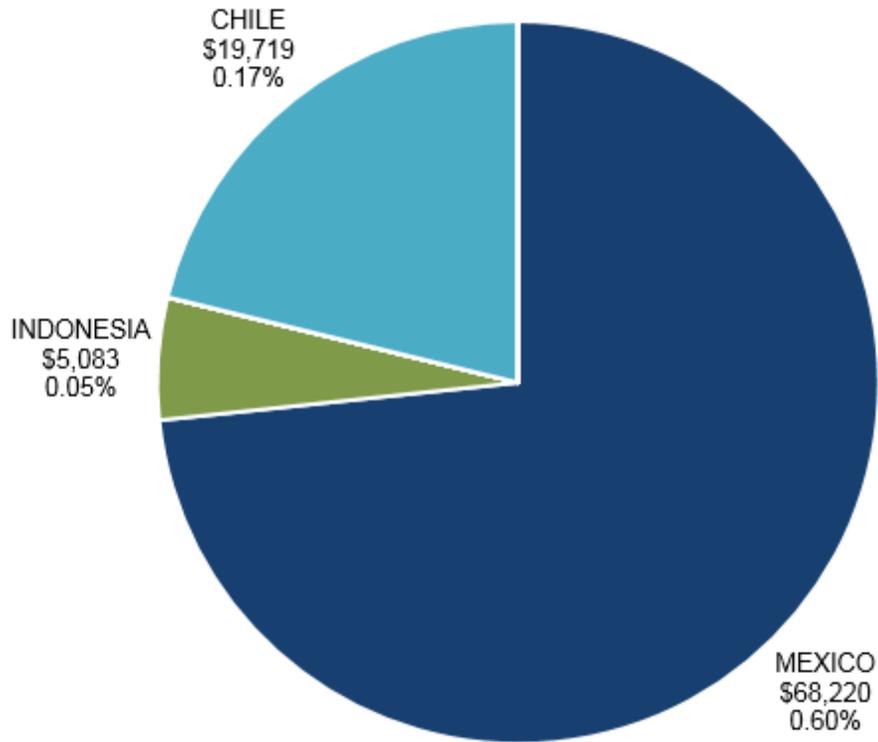
COUNTRY	TCRS MARKET VALUE (\$ 000)	EM ETF	MSCI EM NET CUSTOM	DIFF
S. KOREA	\$ 491,719	23.4%	22.1%	+1.2%
BRAZIL	\$ 259,015	12.3%	11.0%	+1.3%
TAIWAN	\$ 416,682	19.8%	18.1%	+1.7%
S. AFRICA	\$ 154,423	7.3%	10.6%	-3.3%
INDIA	\$ 230,781	11.0%	12.6%	-1.7%
MEXICO	\$ 127,555	6.1%	5.5%	+0.6%
MALAYSIA	\$ 66,000	3.1%	4.0%	-0.8%
INDONESIA	\$ 87,237	4.1%	4.1%	+0.1%
THAILAND	\$ 68,638	3.3%	3.3%	-0.0%
PHILIPPINES	\$ 41,184	2.0%	2.0%	-0.0%
TURKEY	\$ 39,450	1.9%	1.7%	+0.1%
CHILE	\$ 42,074	2.0%	1.7%	+0.3%
POLAND	\$ 38,292	1.8%	1.6%	+0.2%
COLOMBIA	\$ 18,142	0.9%	0.7%	+0.2%
GREECE	\$ 6,983	0.3%	0.5%	-0.1%
PERU	\$ 15,924	0.8%	0.6%	+0.2%
	\$ 2,104,099	100.0%	100.0%	0.0%



	Actual \$	Actual %
■ Corporate	3,325,392,839	29.4%
■ Government 5 Plus	2,091,862,676	18.5%
■ MBS	3,500,324,050	31.0%
■ Total Return Fund	2,327,920,748	20.6%
■ US Fixed Income Overlay	49,024,404	0.4%
TOTAL	11,294,524,717	100.0%

Emerging Markets Investment Grade Bond
Portfolio Country Weights

Period Ending: September 30, 2016



COUNTRY	TCRS MARKET VALUE (\$ 000)	TCRS FI	LPF	DIFF
OTHER*	\$ -		0.80%	-0.80%
MEXICO	\$ 68,220	0.60%	0.73%	-0.13%
INDONESIA	\$ 5,083	0.05%	0.34%	-0.30%
TURKEY	\$ -		0.33%	-0.33%
PHILIPPINES	\$ -		0.26%	-0.26%
COLOMBIA	\$ -		0.25%	-0.25%
PERU	\$ -		0.14%	-0.14%
S. KOREA	\$ -		0.12%	-0.12%
BRAZIL	\$ -		0.11%	-0.11%
S. AFRICA	\$ -		0.08%	-0.08%
CHILE	\$ 19,719	0.17%	0.04%	+0.13%
POLAND	\$ -		0.04%	-0.04%
MALAYSIA	\$ -		0.03%	-0.03%
INDIA	\$ -		0.01%	-0.01%
TAIWAN	\$ -			0.00%
THAILAND	\$ -			0.00%
	\$ 93,022	0.82%	3.28%	-2.46%

* Includes Bahrain, British Virgin, Curacao, Iceland, Isle of Man, Panama, Qatar, Slovakia, Slovenia and Uruguay.

** Countries excluded: United States, Japan, Germany, France, The United Kingdom, Italy, Canada, Australia, Spain, Israel, Belgium, Ireland, Luxembourg, Netherlands, Norway, Sweden and Switzerland.

Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: $\text{Portfolio Return} - [\text{Risk-free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk-free Rate})]$.

Benchmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

Beta: A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation: A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: $\text{excess return} / \text{tracking error}$.

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Price-to-Earnings Ratio (P/E): Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

R-Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$.

Sortino Ratio: Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

Standard Deviation: A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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