Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

PERIOD ENDING: DECEMBER 31, 2017

Executive Performance Summary Review for

Tennessee Consolidated Retirement System

4th quarter summary

THE ECONOMIC CLIMATE

— Global growth forecasts for 2018 have been revised higher, most notably in the Eurozone. U.S. expected 2018 GDP growth is 2.6%, above the expansion average.

— The Eurozone has experienced an impressive economic recovery. In the third quarter, real GDP accelerated to 2.6%, the fastest pace of growth since 2011.

— The House and Senate agreed to a final tax bill that was signed into law by President Trump on December 22nd. The bill, formally known as the Tax Cuts & Jobs Act, represents a major overhaul of the U.S. tax system.

PORTFOLIO IMPACTS

— A synchronized pickup in global economic growth, low inflation, strong employment, and accommodative central banks should support global equities moving forward. We recommend maintaining an overweight equity position.

— Markets remain expensive by most measures. However, it is important to note the merits and flaws of various valuation metrics.

THE INVESTMENT CLIMATE

— Global equities produced strong returns over the quarter and finished the year on a positive note. Emerging market equities led the way, driven by high earnings growth and expansion of valuation multiples off of low levels.

— The outlook for U.S. equity earnings has improved further, following the signing of the Tax Cuts and Jobs Act. S&P 500 earnings expectations for 2018 were revised upwards from 11.1% to 13.1%.

— U.S. high yield spreads became increasingly tight. Credit premiums are near all time lows, which may warrant an underweight to U.S. credit.

ASSET ALLOCATION ISSUES

— Risk assets continue to deliver strong performance, fueled by improving fundamentals and accelerating growth. The current environment appears accommodative for further gains.

— Equity volatility is very low, helped by stable economic conditions and inflation. Historically, low volatility has indicated less risk of an equity downside event.

We believe a moderate overweight to risk is warranted

U.S. economics summary

— U.S. real GDP grew 2.3% from the previous year in Q3, the fastest pace in more than two years. Growth was driven by consumer spending, private inventory accumulation, and business investment.

— Growth in business investment has provided a material support to the economy over recent periods for the first time in the recovery. Rising domestic and external demand has influenced companies to ramp up production. Survey based measures indicate firms are planning to increase capex over the next six months.

— Core inflation rose slightly from 1.7% to 1.8% over the quarter, driven by higher shelter prices. Strong demand, higher raw material prices, and a weaker dollar may provide modest pressures on inflation, but overall levels remain low. Any material rise in inflation would likely be met by more aggressive monetary tightening than what is priced into markets.

— The U3 unemployment rate fell further from 4.2% to 4.1%, its lowest level in 17 years.

— Net job creation averaged 204,000 per month in Q3 - above the expansion average of 196,000. Despite robust job gains and low unemployment, wage growth remained modest at 2.5% YoY.

— The Fed raised interest rates for the third time this year to a target rate of 1.25-1.50%. Fed dot plots indicate three more interest rate hikes in 2018, while the market is only forecasting two. Officials noted that strong economic growth is expected to continue, and raised the 2018 GDP forecast from 2.1% to 2.5%.

	Most Recent	**12 Months Prior**
GDP *(YoY)*	2.3% *9/30/17*	1.5% *9/30/16*
Inflation *(CPI YoY, Core)*	1.8% *12/31/17*	2.2% *12/31/16*
Expected Inflation *(5yr-5yr forward)*	2.1% *12/31/17*	2.1% *12/31/16*
Fed Funds Target Range	1.25 – 1.50% *12/31/17*	0.50 – 0.75% *12/31/16*
10 Year Rate	2.4% *12/31/17*	2.4% *12/31/16*
U-3 Unemployment	4.1% *12/31/17*	4.7% *12/31/16*
U-6 Unemployment	8.1% *12/31/17*	9.1% *12/31/16*

International economics summary

— Economic growth advanced in the third quarter across developed and emerging markets. The United States grew at 2.3% YoY, the Eurozone improved to 2.6%, and overall growth in the BRICS nations accelerated to 5.6%. Central bank policy is still broadly accommodative, which is supportive of continued progress.

— Expectations for global GDP growth for the next two years has been revised upward in the past six months, according to the consensus estimate from Bloomberg. The upward revision to global growth forecasts were driven by the Eurozone and emerging markets.

— A pickup in lending and investment, strong external demand, and accommodative monetary policy has helped fuel an impressive economic recovery in the Eurozone. GDP grew 2.6% in Q3 from the previous year and the unemployment rate fell to 8.8%, the lowest level in nine years.

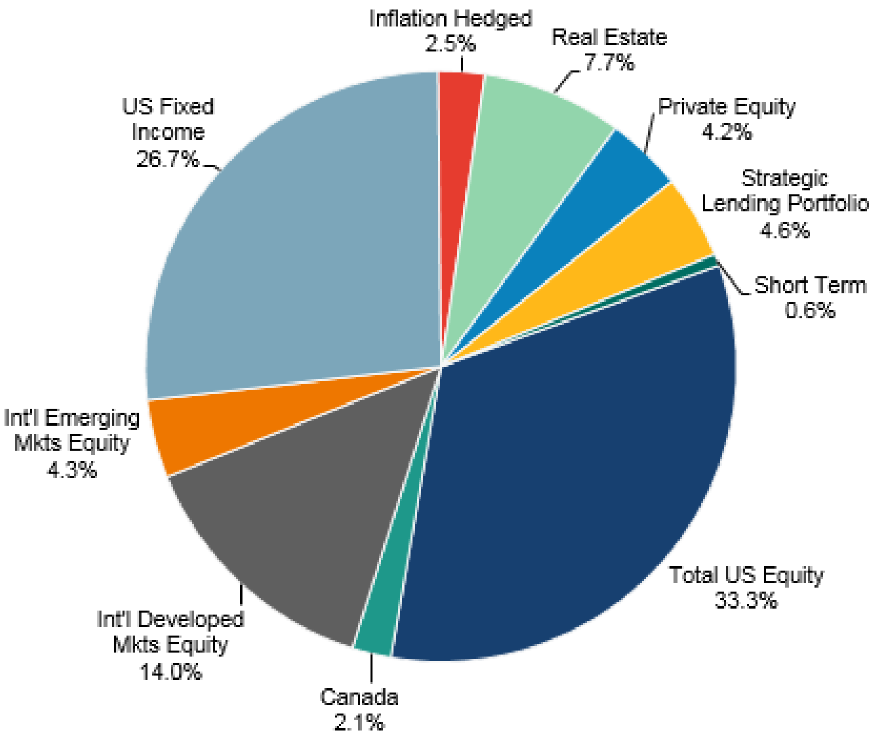
— PMIs across major markets were all above 50, indicating further expansion in the manufacturing sector.

— There are still concerns of a hard landing in China because the central bank has been tightening financial conditions on the short-end of the yield curve to reign in excessive leverage. Thus far, this process has been successful with economic growth slowing only moderately.

— Low inflation in developed economies has persisted, contributing to slower monetary tightening as central banks have been reluctant to raise rates too quickly.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.3% *9/30/17*	2.1% *12/31/17*	4.1% *12/31/17*
Western Europe	2.5% *9/30/17*	1.6% *12/31/17*	7.4% *12/31/17*
Japan	2.1% *9/30/17*	0.6% *11/30/17*	2.7% *11/30/17*
BRICS Nations	5.6% *9/30/17*	2.0% *12/31/17*	5.7% *9/30/17*
Brazil	1.4% *9/30/17*	3.0% *12/31/17*	12.1% *12/31/17*
Russia	1.8% *9/30/17*	2.5% *12/31/17*	5.1% *11/30/17*
India	5.3% *9/30/17*	4.9% *11/30/17*	8.0% *12/31/16*
China	6.8% *9/30/17*	1.8% *12/31/17*	4.0% *9/30/17*

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	6.3	11.2	21.1	16.9	11.1	11.1	15.6	13.5	8.6
S&P 500	6.6	11.4	21.8	16.8	11.4	11.4	15.8	13.8	8.5
Russell 1000	6.6	11.4	21.7	16.8	11.2	11.2	15.7	13.7	8.6
Russell 1000 Growth	7.9	14.2	30.2	18.1	13.8	13.8	17.3	14.8	10.0
Russell 1000 Value	5.3	8.6	13.7	15.5	8.7	8.7	14.0	12.5	7.1
Russell MidCap	6.1	9.8	18.5	16.1	9.6	9.6	15.0	12.8	9.1
Russell 2000	3.3	9.2	14.6	17.9	10.0	10.0	14.1	11.6	8.7
Russell 2000 Growth	4.6	11.1	22.2	16.6	10.3	10.3	15.2	12.3	9.2
Russell 2000 Value	2.0	7.3	7.8	19.2	9.5	9.5	13.0	10.8	8.2
International Equity									
MSCI ACWI	5.7	11.2	24.0	15.6	9.3	9.3	10.8	8.7	4.7
MSCI World ex USA	4.2	10.1	24.2	13.0	7.4	7.4	7.5	5.6	1.9
MSCI EAFE	4.2	9.9	25.0	12.4	7.8	7.8	7.9	6.0	1.9
MSCI Emerging Markets	7.4	15.9	37.3	23.5	9.1	9.1	4.3	2.6	1.7
Fixed Income									
91 Day T-Bills	0.3	0.6	0.9	0.6	0.4	0.4	0.3	0.2	0.3
BBgBarc US Aggregate TR	0.4	1.2	3.5	3.1	2.2	2.2	2.1	3.2	4.0
BBgBarc US Govt/Credit TR	0.5	1.3	4.0	3.5	2.4	2.4	2.1	3.4	4.1
BBgBarc US Municipal TR	0.7	1.8	5.4	2.8	3.0	3.0	3.0	4.6	4.5
BBgBarc US High Yield TR	0.5	2.5	7.5	12.2	6.4	6.4	5.8	7.0	8.0
Citi WGBI	1.0	2.9	7.5	4.5	1.7	1.7	0.1	1.2	2.7
Citi WGBI ex US	1.6	4.2	10.3	6.0	2.0	2.0	-0.3	0.7	2.4
Real Estate									
FTSE NAREIT All REIT	2.4	3.6	9.3	9.3	6.9	6.9	9.9	10.9	7.7
NCREIF Property Index	1.8	3.5	7.0	7.5	9.4	9.4	10.2	10.8	6.1
Alternatives									
HFRI Fund of Funds Composite Index	2.0	4.3	7.7	4.0	2.6	2.6	4.0	2.7	1.1
Inflation									
Consumer Price Index	-0.1	0.6	2.1	2.1	1.6	1.6	1.4	1.7	1.6



	Actual $	Actual %
Total US Equity	16,647,824,897	33.3%
Canada	1,069,905,011	2.1%
Int'l Developed Mkts Equity	7,026,770,117	14.0%
Int'l Emerging Mkts Equity	2,137,493,897	4.3%
US Fixed Income	13,345,436,945	26.7%
Inflation Hedged	1,270,741,019	2.5%
Real Estate	3,840,118,072	7.7%
Private Equity	2,093,748,723	4.2%
Strategic Lending Portfolio	2,283,803,409	4.6%
Short Term	320,650,698	0.6%
TOTAL	50,036,492,788	100.0%

	TARGET	ACTUAL	DIFF
Total US Equity	31.0%	33.3%	2.3%
Canada	2.0%	2.1%	0.1%
Int'l Developed Mkts Equity	13.0%	14.0%	1.0%
Int'l Emerging Mkts Equity	4.0%	4.3%	0.3%
US Fixed Income	25.0%	26.7%	1.7%
Inflation Hedged	0.0%	2.5%	2.5%
Real Estate	10.0%	7.7%	-2.3%
Private Equity	7.0%	4.2%	-2.8%
Strategic Lending Portfolio	7.0%	4.6%	-2.4%
Short Term	1.0%	0.6%	-0.4%

	09/30/17	12/31/17	DIFF
Total US Equity	33.4%	33.3%	-0.1%
Canada	2.1%	2.1%	0.0%
Int'l Developed Mkts Equity	14.5%	14.0%	-0.4%
Int'l Emerging Mkts Equity	4.2%	4.3%	0.1%
US Fixed Income	26.9%	26.7%	-0.3%
Inflation Hedged	2.6%	2.5%	-0.1%
Real Estate	7.8%	7.7%	-0.1%
Private Equity	3.9%	4.2%	0.3%
Strategic Lending Portfolio	4.4%	4.6%	0.2%
Short Term	0.2%	0.6%	0.4%

Total Fund
Performance Summary

Period Ending: December 31, 2017

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Total Fund	**3.93**	**42**	**7.64**	**54**	**16.27**	**46**	**7.83**	**56**	**9.01**	**58**	**6.32**	**22**
Policy Index [1]	3.90	44	7.28	70	15.57	67	7.87	54	9.02	58	6.57	12
Excess Return	0.03		0.36		0.70		-0.04		-0.01		-0.25	
Allocation Index [2]	3.93	42	7.33	69	15.52	68	7.77	60	8.69	67	6.34	21
InvestorForce Public DB > $1B Gross Median	3.78		7.69		16.16		7.93		9.29		5.90	
North American Equity	**6.64**	**--**	**11.94**	**--**	**21.57**	**--**	**10.12**	**--**	**14.09**	**--**	**--**	**--**
N.A. Equity Custom [3]	6.35	--	11.47	--	20.78	--	10.69	--	14.52	--	--	--
Excess Return	0.29		0.47		0.79		-0.57		-0.43			
US Equity	**6.76**	**13**	**11.86**	**17**	**21.80**	**29**	**10.66**	**64**	**15.18**	**59**	**8.30**	**63**
US Equity Custom [4]	6.53	23	11.26	37	21.13	44	11.41	25	15.74	25	8.69	40
Excess Return	0.23		0.60		0.67		-0.75		-0.56		-0.39	
InvestorForce All DB US Eq Gross Median	6.21		11.11		20.79		10.96		15.34		8.55	
Index	6.61	53	11.40	55	21.74	49	11.57	33	15.85	43	8.58	58
S&P 500	6.64	53	11.42	55	21.83	49	11.41	37	15.79	43	8.50	60
Excess Return	-0.03		-0.02		-0.09		0.16		0.06		0.08	
eV US Large Cap Equity Gross Median	6.72		11.69		21.58		10.76		15.46		8.84	
Quant	7.46	30	13.18	26	22.96	41	9.46	75	14.21	76	7.96	73
S&P 500	6.64	53	11.42	55	21.83	49	11.41	37	15.79	43	8.50	60
Excess Return	0.82		1.76		1.13		-1.95		-1.58		-0.54	
eV US Large Cap Equity Gross Median	6.72		11.69		21.58		10.76		15.46		8.84	
Sector	6.93	44	12.29	40	23.10	40	11.27	40	15.62	47	8.35	63
S&P 500	6.64	53	11.42	55	21.83	49	11.41	37	15.79	43	8.50	60
Excess Return	0.29		0.87		1.27		-0.14		-0.17		-0.15	
eV US Large Cap Equity Gross Median	6.72		11.69		21.58		10.76		15.46		8.84	
Mid Cap [5]	6.89	30	10.49	45	18.41	55	11.31	34	15.71	41	9.44	59
S&P MidCap 400 [5]	6.25	43	9.68	61	16.24	69	11.14	35	15.01	54	9.85	46
Excess Return	0.64		0.81		2.17		0.17		0.70		-0.41	
eV US Mid Cap Equity Gross Median	5.89		10.14		19.45		10.25		15.15		9.69	

1 Effective 1/1/17, Policy Index is 31% S&P 1500/ 2% S&P TSX 60/ 13% MSCI EAFE IMI net/ 4% MSCI Emerging Markets net/ 25% Citigroup LPF/ 10% NCREIF 1Q Lag/ 7% S&P 500 + 3% 1Q Lag/ / 7% Strategic Lending/ 1% 91 Day T-Bill.
2 Effective 10/1/17, Total Fund Allocation Index is 32.91% S&P 1500/ 2.12% S&P TSX 60/ 13.80% MSCI EAFE IMI net/ 4.25% MSCI Emerging Markets net/ 27.19% Citigroup LPF/ 2.64% Citigroup TIPS/ 7.80% NCREIF 1Q Lag/ 3.92% S&P 500 + 3% 1Q Lag/ 4.37% 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.

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Small Cap [6]	**3.86**	**54**	**10.29**	**43**	**13.47**	**59**	**12.21**	**30**	**16.11**	**34**	**--**	**--**
S&P 600 SmallCap	*3.96*	*52*	*10.16*	*46*	*13.24*	*61*	*12.00*	*33*	*15.99*	*36*	--	--
Excess Return	-0.10		0.13		0.23		0.21		0.12			
eV US Small Cap Equity Gross Median	*4.03*		*9.91*		*15.07*		*10.83*		*15.19*		*9.97*	
Large Cap Overlay	**7.14**	**--**	**12.19**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
S&P 500	*6.64*	--	*11.42*	--	--	--	--	--	--	--	--	--
Excess Return	0.50		0.77									
Canada	**4.72**	**--**	**13.15**	**--**	**18.01**	**--**	**4.56**	**--**	**4.49**	**--**	**--**	**--**
S&P/TSX 60	*4.74*	--	*13.09*	--	*17.50*	--	*4.34*	--	*4.43*	--	--	--
Excess Return	-0.02		0.06		0.51		0.22		0.06			
International Equity	**5.24**	**30**	**11.35**	**47**	**29.47**	**36**	**9.62**	**31**	**8.53**	**37**	**3.85**	**17**
Int'l Equity Custom[7]	*5.24*	*30*	*11.01*	*57*	*27.95*	*61*	*8.36*	*68*	*7.11*	*77*	*1.77*	*79*
Excess Return	0.00		0.34		1.52		1.26		1.42		2.08	
InvestorForce All DB ex-US Eq Gross Median	*4.83*		*11.24*		*28.47*		*8.88*		*7.93*		*2.75*	
Int'l Developed Mkts Equity	**4.83**	**37**	**11.29**	**35**	**28.59**	**32**	**10.49**	**25**	**10.19**	**19**	**4.61**	**12**
MSCI EAFE IMI	*4.50*	*46*	*10.45*	*51*	*26.16*	*65*	*8.64*	*56*	*8.54*	*56*	*2.45*	*62*
Excess Return	0.33		0.84		2.43		1.85		1.65		2.16	
InvestorForce All DB Dev Mkt ex-US Eq Gross Median	*4.43*		*10.53*		*27.31*		*9.02*		*8.77*		*2.84*	
Acadian	4.27	91	15.12	39	35.94	44	--	--	--	--	--	--
MSCI EAFE Small Cap	*6.05*	*50*	*13.96*	*59*	*33.01*	*69*	--	--	--	--	--	--
Excess Return	-1.78		1.16		2.93							
eV EAFE Small Cap Equity Gross Median	*6.02*		*14.57*		*35.11*		*15.20*		*14.20*		*6.84*	
American Century	6.63	22	16.18	22	41.54	9	16.36	29	15.69	31	--	--
MSCI EAFE Small Cap	*6.05*	*50*	*13.96*	*59*	*33.01*	*69*	*14.20*	*65*	*12.85*	*71*	--	--
Excess Return	0.58		2.22		8.53		2.16		2.84			
eV EAFE Small Cap Equity Gross Median	*6.02*		*14.57*		*35.11*		*15.20*		*14.20*		*6.84*	

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 1/1/17, benchmark is 76.47% MSCI EAFE IMI net/ 23.53% MSCI Emerging Mkts net; linked to 72.22% MSCI EAFE IMI net/ 27.78% MSCI Emerging Mkts net (01/13-12/16); 100% MSCI EAFE IMI net (10/08-12/12) and 100% MSCI EAFE net Index (7/04-9/08).

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Baring Asset Mgmt	4.22	57	10.60	52	28.26	43	9.86	44	8.86	66	--	--
MSCI EAFE	*4.23*	*57*	*9.86*	*65*	*25.03*	*71*	*7.80*	*81*	*7.90*	*83*	--	--
Excess Return	-0.01		0.74		3.23		2.06		0.96			
eV All EAFE Equity Gross Median	*4.33*		*10.66*		*27.00*		*9.47*		*9.45*		*3.75*	
FIAM	6.65	22	13.43	68	32.21	75	14.46	64	13.40	64	--	--
MSCI EAFE Small Cap	*6.05*	*50*	*13.96*	*59*	*33.01*	*69*	*14.20*	*65*	*12.85*	*71*	--	--
Excess Return	0.60		-0.53		-0.80		0.26		0.55			
eV EAFE Small Cap Equity Gross Median	*6.02*		*14.57*		*35.11*		*15.20*		*14.20*		*6.84*	
Fiera Capital	3.91	69	10.01	61	31.41	26	--	--	--	--	--	--
MSCI EAFE	*4.23*	*57*	*9.86*	*65*	*25.03*	*71*	--	--	--	--	--	--
Excess Return	-0.32		0.15		6.38							
eV All EAFE Equity Gross Median	*4.33*		*10.66*		*27.00*		*9.47*		*9.45*		*3.75*	
JP Morgan	9.74	--	14.35	--	31.47	--	--	--	--	--	--	--
MSCI Pacific	*7.99*	--	*12.17*	--	*24.64*	--	--	--	--	--	--	--
Excess Return	1.75		2.18		6.83							
Marathon	3.63	76	7.95	90	23.46	82	9.32	52	10.17	38	5.04	31
MSCI EAFE	*4.23*	*57*	*9.86*	*65*	*25.03*	*71*	*7.80*	*81*	*7.90*	*83*	*1.94*	*91*
Excess Return	-0.60		-1.91		-1.57		1.52		2.27		3.10	
eV All EAFE Equity Gross Median	*4.33*		*10.66*		*27.00*		*9.47*		*9.45*		*3.75*	
Mondrian	4.35	50	10.03	61	22.95	86	--	--	--	--	--	--
MSCI EAFE	*4.23*	*57*	*9.86*	*65*	*25.03*	*71*	--	--	--	--	--	--
Excess Return	0.12		0.17		-2.08							
eV All EAFE Equity Gross Median	*4.33*		*10.66*		*27.00*		*9.47*		*9.45*		*3.75*	
PanAgora Asset Mgmt	3.66	76	9.14	78	24.12	77	9.51	50	10.05	39	3.98	44
MSCI EAFE	*4.23*	*57*	*9.86*	*65*	*25.03*	*71*	*7.80*	*81*	*7.90*	*83*	*1.94*	*91*
Excess Return	-0.57		-0.72		-0.91		1.71		2.15		2.04	
eV All EAFE Equity Gross Median	*4.33*		*10.66*		*27.00*		*9.47*		*9.45*		*3.75*	

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
SSgA*	3.08	--	10.96	--	26.87	--	8.95	--	7.51	--	--	--
MSCI Europe	*2.21*	--	*8.80*	--	*25.51*	--	*6.69*	--	*7.37*	--	--	--
Excess Return	0.87		2.16		1.36		2.26		0.14			
TimesSquare	5.47	67	13.87	60	41.14	13	--	--	--	--	--	--
MSCI EAFE Small Cap	*6.05*	*50*	*13.96*	*59*	*33.01*	*69*	--	--	--	--	--	--
Excess Return	-0.58		-0.09		8.13							
eV EAFE Small Cap Equity Gross Median	*6.02*		*14.57*		*35.11*		*15.20*		*14.20*		*6.84*	
TT International	7.08	5	15.20	10	31.84	24	9.33	52	11.15	29	--	--
MSCI EAFE	*4.23*	*57*	*9.86*	*65*	*25.03*	*71*	*7.80*	*81*	*7.90*	*83*	--	--
Excess Return	2.85		5.34		6.81		1.53		3.25			
eV All EAFE Equity Gross Median	*4.33*		*10.66*		*27.00*		*9.47*		*9.45*		*3.75*	
Walter Scott	5.06	33	10.03	61	28.06	45	10.72	37	8.92	65	6.04	19
MSCI EAFE[8]	*4.23*	*57*	*9.86*	*65*	*25.03*	*71*	*7.80*	*81*	*7.90*	*83*	*1.32*	*96*
Excess Return	0.83		0.17		3.03		2.92		1.02		4.72	
eV All EAFE Equity Gross Median	*4.33*		*10.66*		*27.00*		*9.47*		*9.45*		*3.75*	
Int'l Emerging Mkts Equity	**6.70**	**64**	**11.65**	**88**	**32.56**	**77**	**7.18**	**89**	**2.49**	**97**	**--**	**--**
MSCI Emerging Markets ND Custom	*7.66*	*35*	*12.69*	*79*	*33.71*	*74*	*7.51*	*85*	*3.25*	*92*	--	--
Excess Return	-0.96		-1.04		-1.15		-0.33		-0.76			
eV Emg Mkts Equity Gross Median	*7.14*		*15.54*		*37.61*		*10.22*		*6.04*		*3.20*	
US Fixed Income	**1.27**	**26**	**2.34**	**32**	**6.57**	**30**	**3.40**	**45**	**3.53**	**36**	**5.85**	**27**
Citigroup LPF [9]	*1.23*	*26*	*2.31*	*32*	*6.18*	*32*	*3.11*	*54*	*3.08*	*48*	*5.43*	*35*
Excess Return	0.04		0.03		0.39		0.29		0.45		0.42	
InvestorForce All DB US Fix Inc Gross Median	*0.60*		*1.73*		*4.72*		*3.26*		*3.01*		*4.98*	
Corporate	**2.24**	**1**	**4.07**	**1**	**10.67**	**1**	**5.45**	**4**	**5.26**	**5**	**7.80**	**1**
Citigroup LPF Credit[10]	*2.28*	*1*	*4.15*	*1*	*10.06*	*1*	*5.15*	*11*	*4.47*	*18*	*6.86*	*22*
Excess Return	-0.04		-0.08		0.61		0.30		0.79		0.94	
eV US Corporate Fixed Inc Gross Median	*1.16*		*2.65*		*6.86*		*4.35*		*3.98*		*6.37*	

** Fornerly GE Asset Mgmt*
8 Effective 3/1/09. Benchmark is linked to MSCI Europe Index.
9 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).
10 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).

Total Fund
Performance Summary

Period Ending: December 31, 2017

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Gov't 5 Plus	**1.34**	**--**	**1.85**	**--**	**6.42**	**--**	**2.61**	**--**	**2.90**	**--**	**5.54**	**--**
Citigroup LPF Treas/Govt Spons [11]	1.31	--	1.85	--	6.12	--	2.40	--	2.75	--	5.75	--
Excess Return	0.03		0.00		0.30		0.21		0.15		-0.21	
MBS	**0.12**	**76**	**1.02**	**83**	**2.62**	**76**	**1.96**	**85**	**2.11**	**84**	**3.50**	**88**
Citi BIG Mortgage	0.10	76	1.09	72	2.47	87	1.87	91	2.01	93	3.85	78
Excess Return	0.02		-0.07		0.15		0.09		0.10		-0.35	
eV US Securitized Fixed Inc Gross Median	0.34		1.37		3.82		2.88		3.00		4.59	
Total Return Fund *	**1.43**	**--**	**2.18**	**--**	**6.60**	**--**	**3.18**	**--**	**3.78**	**--**	**6.40**	**--**
Citigroup LPF Treas/Govt Spons [12]	1.31	--	1.85	--	6.12	--	2.40	--	2.75	--	5.29	--
Excess Return	0.12		0.33		0.48		0.78		1.03		1.11	
Inflation Hedged	**1.51**	**23**	**2.44**	**34**	**3.46**	**35**	**2.25**	**40**	**0.21**	**59**	**3.62**	**59**
Citi TIPS	1.42	28	2.37	36	3.34	42	2.10	62	0.17	71	3.63	59
Excess Return	0.09		0.07		0.12		0.15		0.04		-0.01	
eV US TIPS / Inflation Fixed Inc Gross Median	1.28		2.24		3.23		2.17		0.26		3.69	
Real Estate	**2.31**	**14**	**4.90**	**9**	**9.78**	**9**	**10.63**	**24**	**11.39**	**34**	**5.98**	**11**
NCREIF 1Q Lag	1.70	66	3.48	54	6.90	54	9.83	47	10.35	82	6.23	7
Excess Return	0.61		1.42		2.88		0.80		1.04		-0.25	
InvestorForce All DB Real Estate Pub Gross Median	1.85		3.53		7.21		9.62		10.96		4.74	
Traditional Private Equity +	**2.99**	**--**	**7.69**	**--**	**16.79**	**--**	**14.77**	**--**	**16.10**	**--**	**--**	**--**
S&P 500 +3% 1Q Lag	5.12	--	8.69	--	21.61	--	13.82	--	17.23	--	--	--
Excess Return	-2.13		-1.00		-4.82		0.95		-1.13			
Strategic Lending Portfolio [13]	**1.62**	**--**	**3.86**	**--**	**8.62**	**--**	**6.59**	**--**	**--**	**--**	**--**	**--**
Strategic Lending [14]	0.82	--	2.35	--	5.87	--	5.44	--	--	--	--	--
Excess Return	0.80		1.51		2.75		1.15					
Short Term [15]	**0.20**	**--**	**0.38**	**--**	**0.57**	**--**	**0.82**	**--**	**0.78**	**--**	**1.45**	**--**
91 Day T-Bills	0.30	--	0.56	--	0.92	--	0.42	--	0.27	--	0.31	--
Excess Return	-0.10		-0.18		-0.35		0.40		0.51		1.14	

11 Effective 7/1/11. Benchmark is linked to 50% Citigroup Core 5+ Gov't/ 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).

12 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).

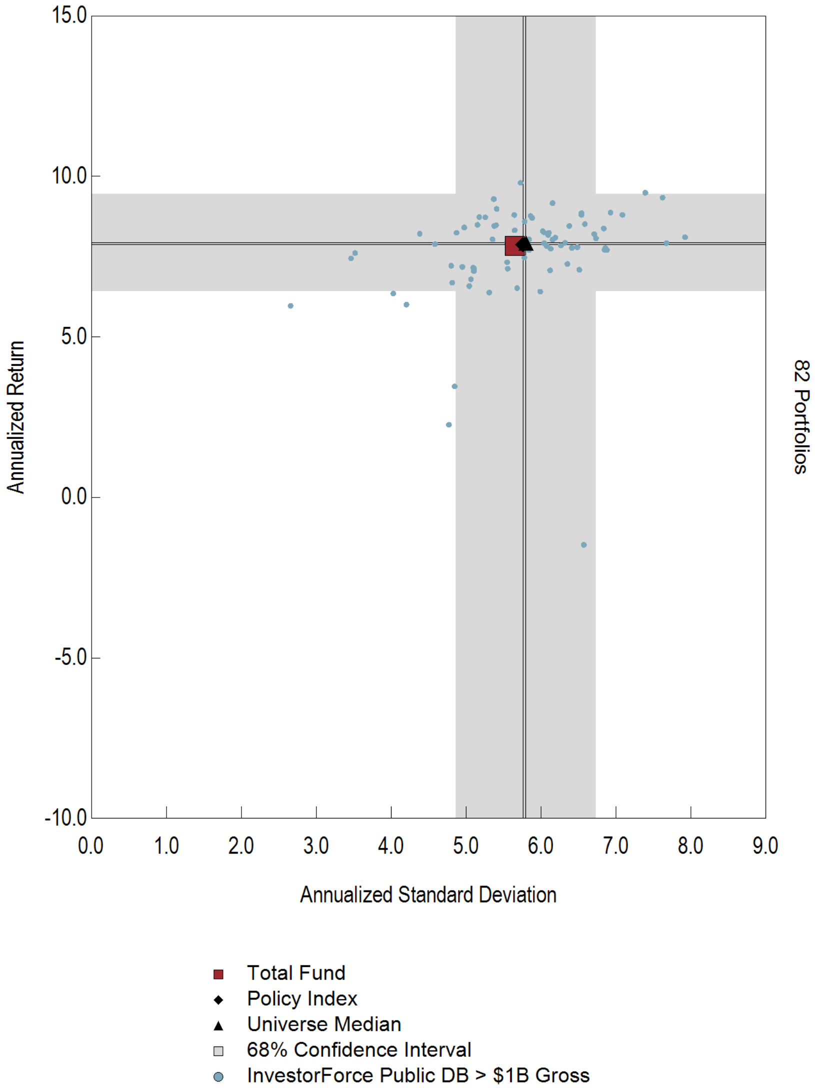
* *Formerly Gov't 1-5.*

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

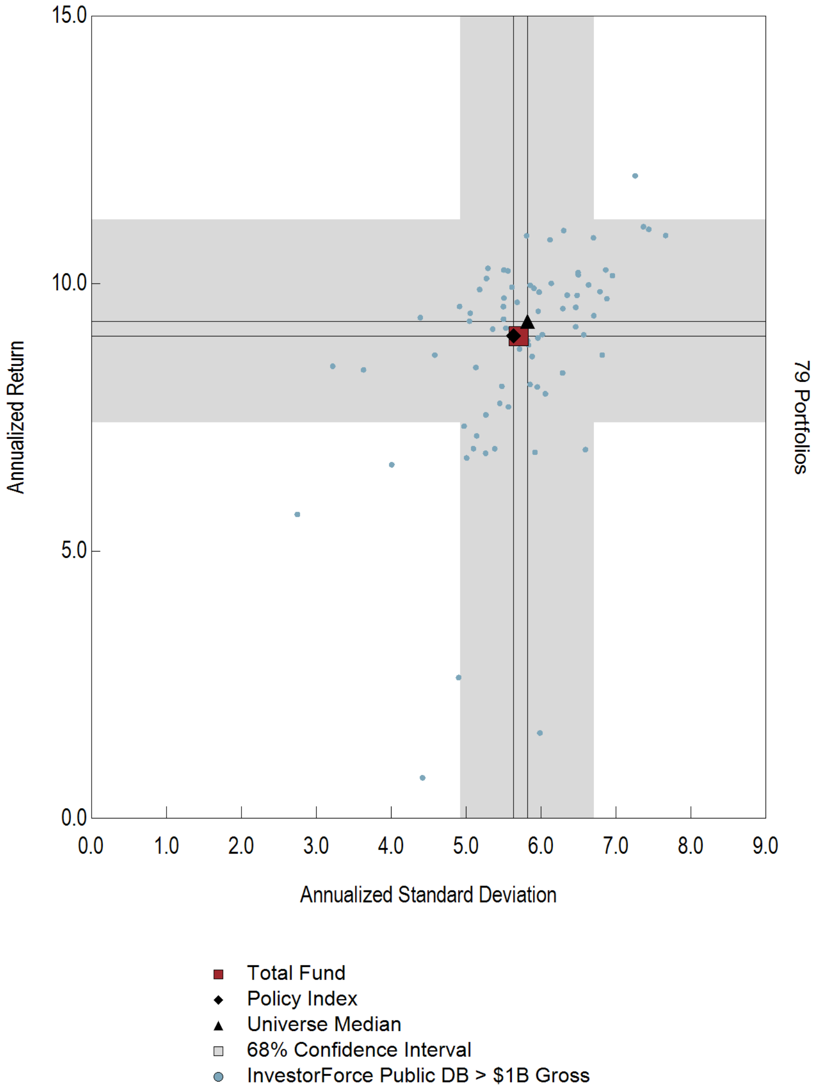
13 Funded 8/1/13. Reported net of fees. Blackstone, Hayfin SOF, and ICG Europe mvs are rolled forward from Q3 2017, and adjusted for any Q4 cash flows. Berkshire MF Debt II was funded in Nov. Neuberger liquidated to fund Lord Abbett in Dec.

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

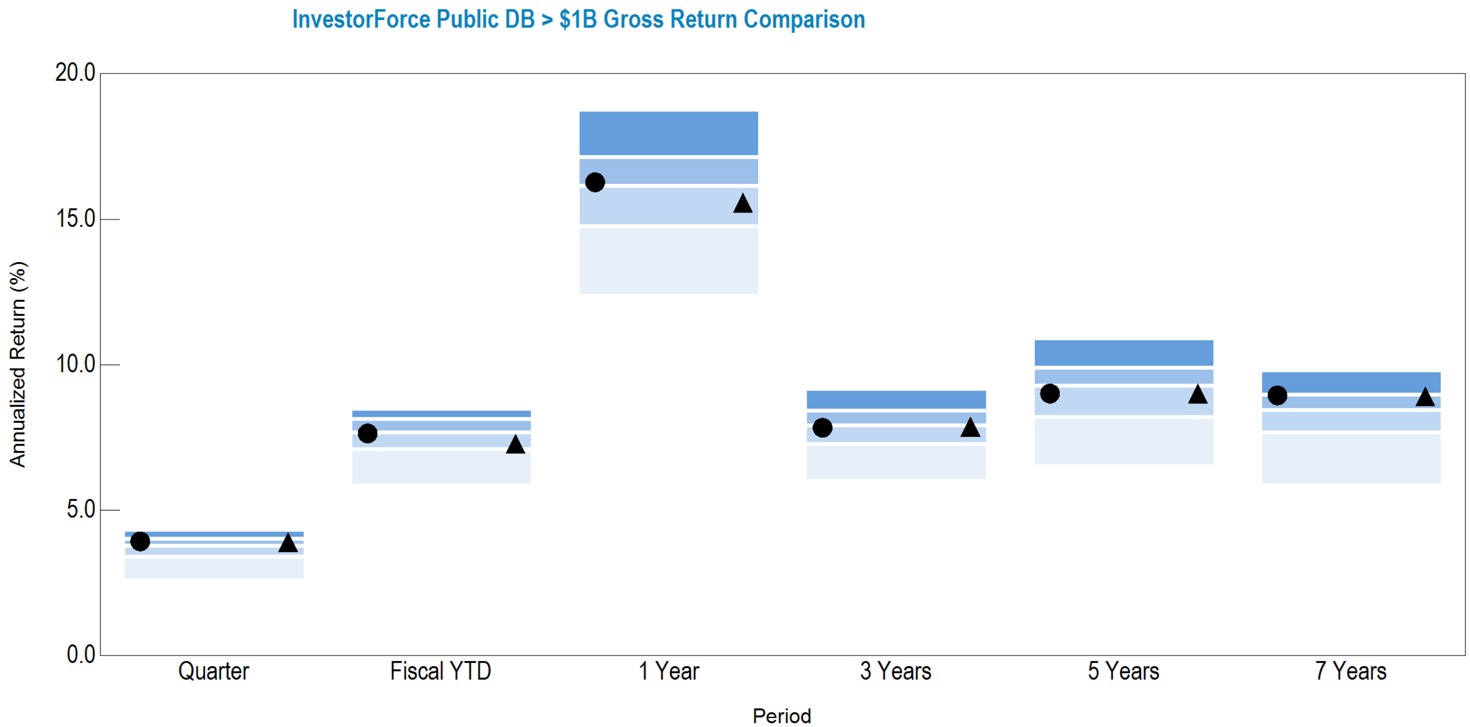
15 Effective 4/1/17, Composite does not include Short Duration and Short Duration Adjustment accounts.



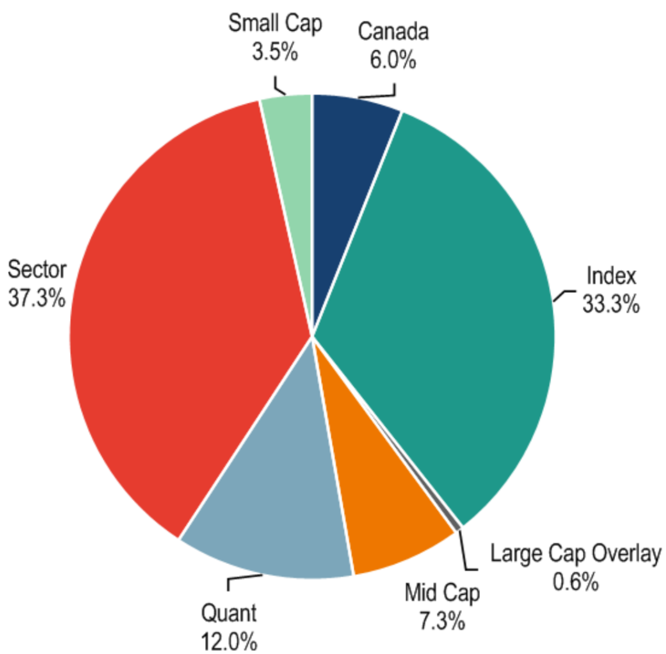
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Total Fund	7.83%	56	5.65%	42	1.31	36
Policy Index	7.87%	54	5.76%	46	1.29	47
InvestorForce Public DB > $1B Gross Median	7.93%	--	5.80%	--	1.28	--



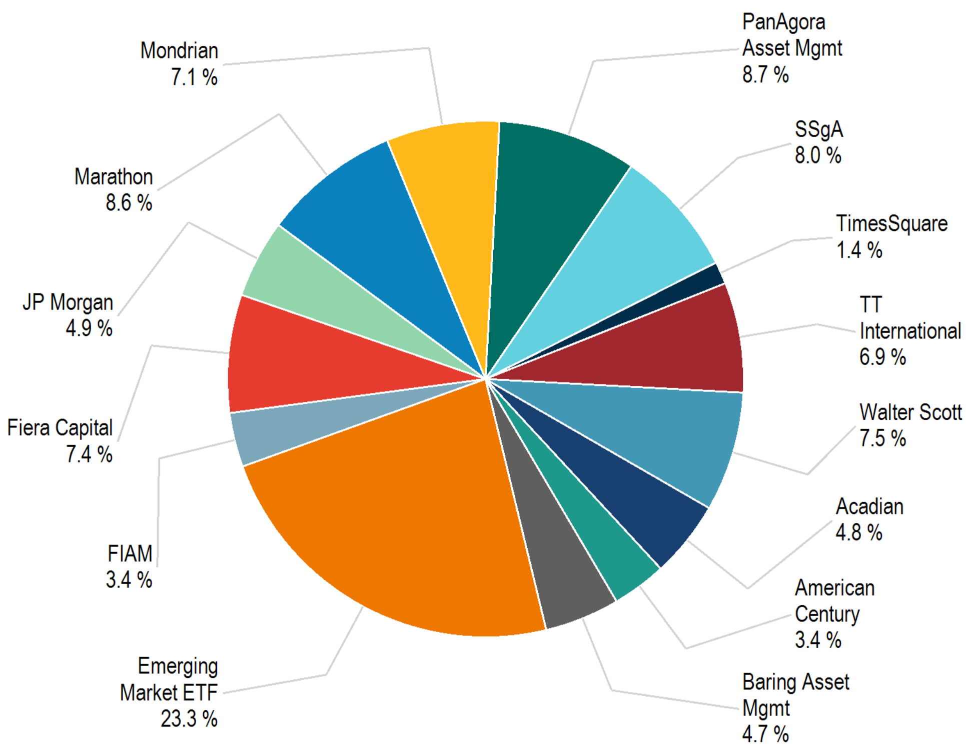
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Total Fund	9.01%	58	5.70%	48	1.53	45
Policy Index	9.02%	58	5.63%	43	1.55	40
InvestorForce Public DB > $1B Gross Median	9.29%	--	5.82%	--	1.49	--



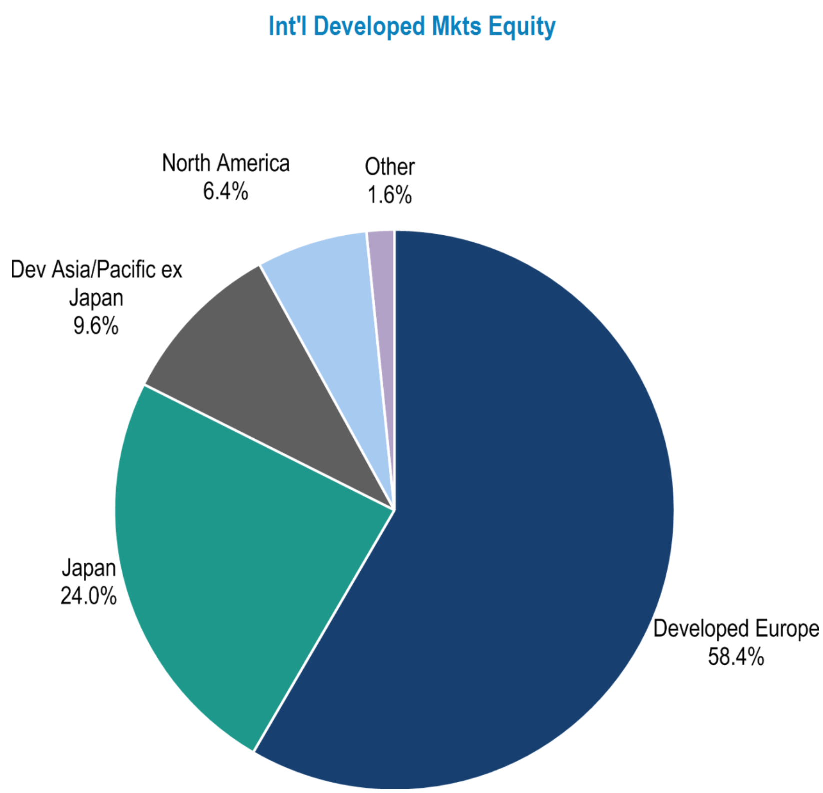
	Return (Rank)											
5th Percentile	4.32		8.48		18.75		9.16		10.91		9.79	
25th Percentile	4.04		8.15		17.16		8.44		9.92		9.00	
Median	3.78		7.69		16.16		7.93		9.29		8.45	
75th Percentile	3.42		7.11		14.77		7.29		8.22		7.68	
95th Percentile	2.60		5.86		12.38		6.02		6.52		5.87	
# of Portfolios	100		98		98		82		79		70	
● Total Fund	3.93	(42)	7.64	(54)	16.27	(46)	7.83	(56)	9.01	(58)	8.95	(29)
▲ Policy Index	3.90	(44)	7.28	(70)	15.57	(67)	7.87	(54)	9.02	(58)	8.91	(30)

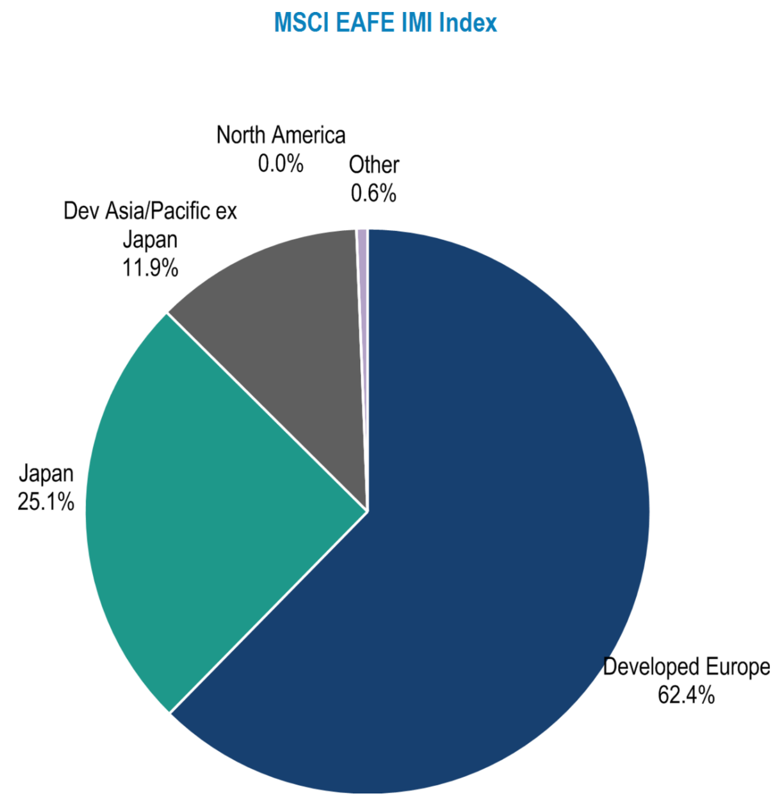


	Actual $	Actual %
Canada	1,069,905,011	6.0%
Index	5,905,589,739	33.3%
Large Cap Overlay	98,378,992	0.6%
Mid Cap	1,300,104,904	7.3%
Quant	2,121,960,925	12.0%
Sector	6,604,676,612	37.3%
Small Cap	617,113,725	3.5%
TOTAL	17,717,729,908	100.0%

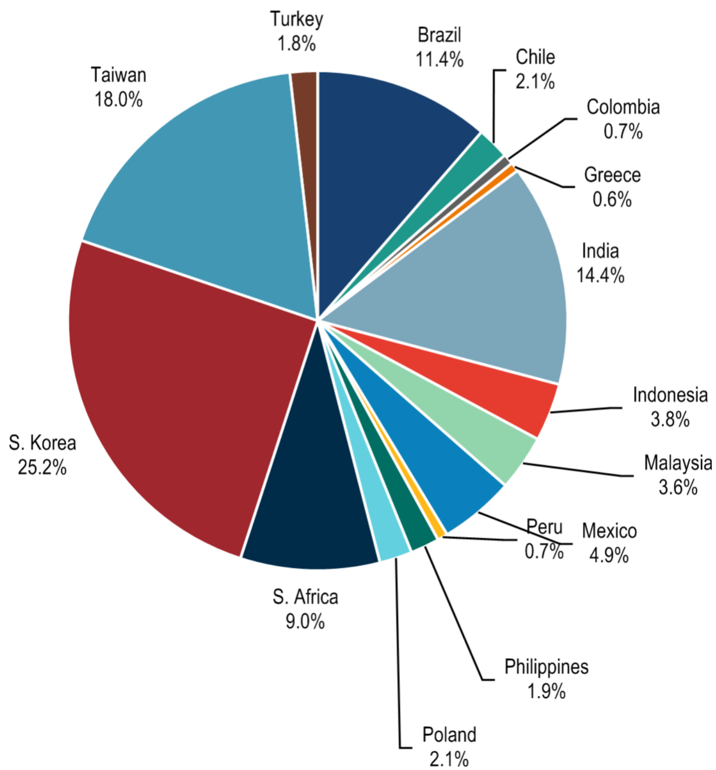


	Actual	Actual
Acadian	$440,829,876	4.8%
American Century	$311,838,808	3.4%
Baring Asset Mgmt	$429,786,251	4.7%
Emerging Market ETF	$2,137,493,897	23.3%
FIAM	$312,420,759	3.4%
Fiera Capital	$677,519,913	7.4%
Int'l Transition	-$296	0.0%
JP Morgan	$445,080,619	4.9%
Marathon	$789,595,386	8.6%
Mondrian	$648,971,224	7.1%
PanAgora Asset Mgmt	$794,486,847	8.7%
SSgA	$733,238,806	8.0%
TimesSquare	$130,689,151	1.4%
TT International	$628,980,829	6.9%
Walter Scott	$683,331,944	7.5%
Total	**$9,164,264,014**	**100.0%**

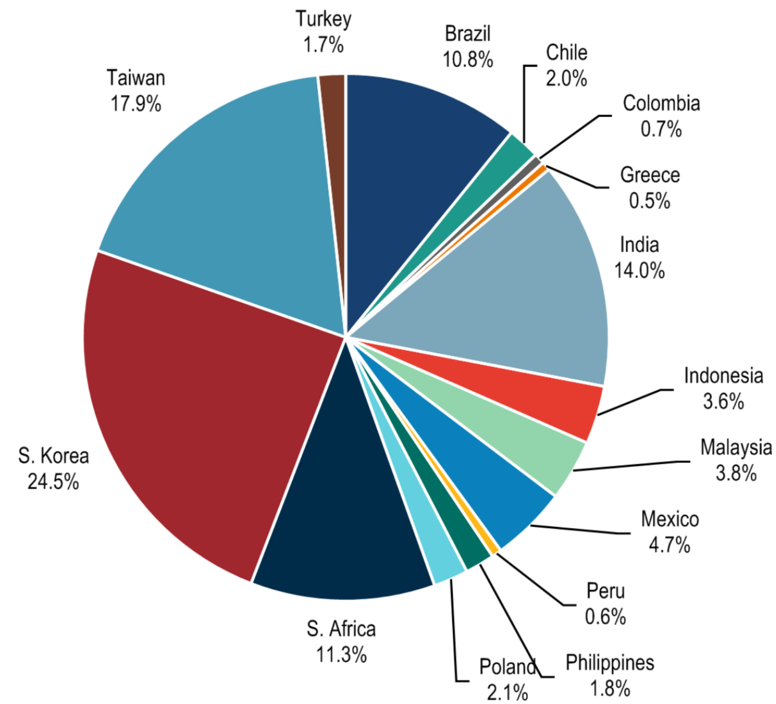

Int'l Developed Mkts Equity
North America
6.4%
Other
1.6%
Dev Asia/Pacific ex Japan
9.6%
Japan
24.0%
Developed Europe
58.4%

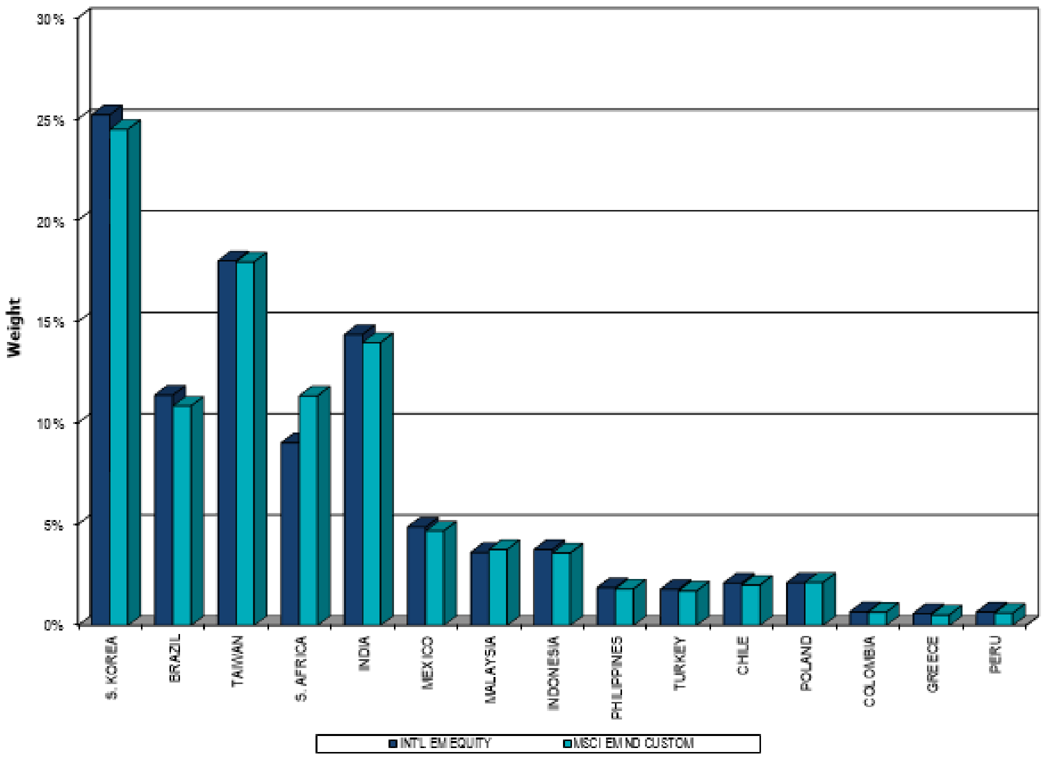

MSCI EAFE IMI Index
North America
0.0%
Other
0.6%
Dev Asia/Pacific ex Japan
11.9%
Japan
25.1%
Developed Europe
62.4%

Int'l Emerging Mkts Equity

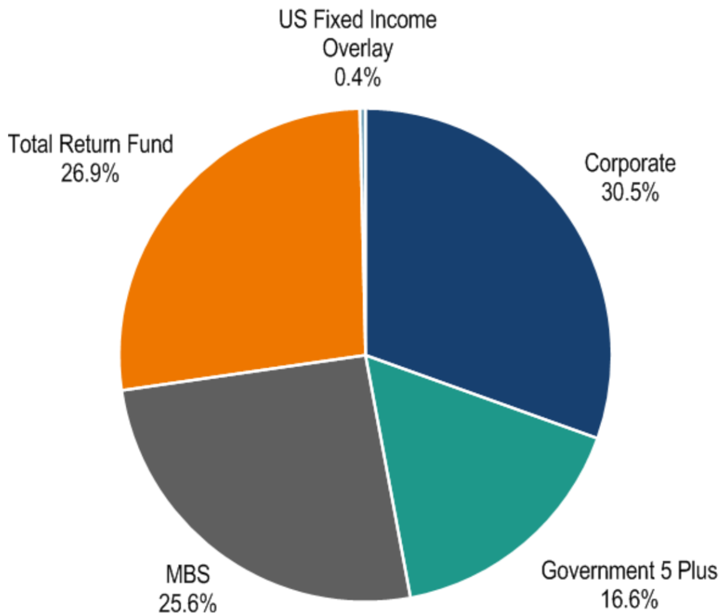


MSCI Emerging Markets ND Custom Index

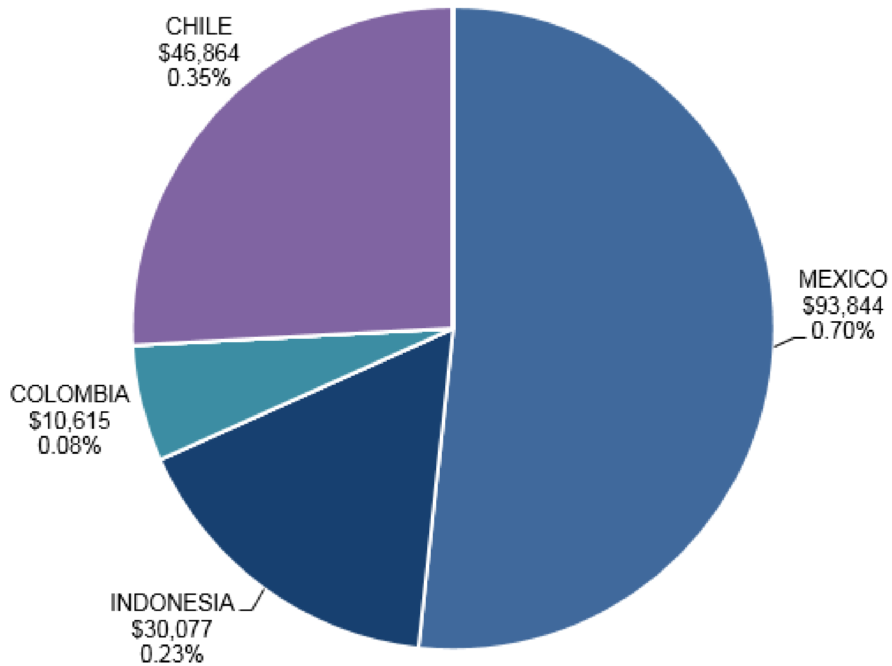




COUNTRY		TCRS MARKET VALUE ($ 000)	INT'L EM EQUITY	MSCI EM ND CUSTOM	DIFF
S. KOREA	$	538,732	25.2%	24.5%	+0.7%
BRAZIL	$	243,126	11.4%	10.8%	+0.5%
TAIWAN	$	384,750	18.0%	17.9%	+0.1%
S. AFRICA	$	192,761	9.0%	11.3%	-2.3%
INDIA	$	307,083	14.4%	14.0%	+0.4%
MEXICO	$	103,990	4.9%	4.7%	+0.2%
MALAYSIA	$	77,156	3.6%	3.8%	-0.1%
INDONESIA	$	80,197	3.8%	3.6%	+0.2%
PHILIPPINES	$	39,967	1.9%	1.8%	+0.1%
TURKEY	$	38,264	1.8%	1.7%	+0.1%
CHILE	$	44,750	2.1%	2.0%	+0.1%
POLAND	$	45,200	2.1%	2.1%	-0.0%
COLOMBIA	$	14,604	0.7%	0.7%	+0.0%
GREECE	$	12,667	0.6%	0.5%	+0.1%
PERU	$	14,247	0.7%	0.6%	+0.1%
	$	2,137,494	100.0%	100.0%	0.0%



	Actual $	Actual %
Corporate	4,066,358,681	30.5%
Government 5 Plus	2,215,833,248	16.6%
MBS	3,421,898,580	25.6%
Total Return Fund	3,591,998,615	26.9%
US Fixed Income Overlay	49,347,821	0.4%
TOTAL	13,345,436,945	100.0%



COUNTRY	TCRS MARKET VALUE ($ 000)	TCRS FI	LPF	DIFF
MEXICO	$ 93,844	0.70%	0.77%	-0.07%
INDONESIA	$ 30,077	0.23%	0.34%	-0.12%
OTHER*	$ -		0.28%	-0.28%
PHILIPPINES	$ -		0.24%	-0.24%
COLOMBIA	$ 10,615	0.08%	0.22%	-0.14%
PERU	$ -		0.20%	-0.20%
S. KOREA	$ -		0.11%	-0.11%
BRAZIL	$ -		0.09%	-0.09%
S. AFRICA	$ -		0.06%	-0.06%
CHILE	$ 46,864	0.35%	0.06%	+0.29%
MALAYSIA	$ -		0.05%	-0.05%
POLAND	$ -		0.04%	-0.04%
HUNGARY	$ -		0.02%	-0.02%
INDIA	$ -		0.01%	-0.01%
TURKEY	$ -		0.00%	0.00%
TAIWAN	$ -		0.00%	0.00%
THAILAND	$ -		0.00%	0.00%
	$ 181,400	1.36%	2.51%	-1.15%

* *Includes Bahrain, British Virgin, Curacao, Iceland, Isle of Man, Panama, Qatar, Slovakia, Slovenia and Uruguary.*
** *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: Portfolio Return - [Risk-free Rate + Portfolio Beta x (Market Return - 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: excess return divided by 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: Portfolio Excess Return / 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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