



PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS



PERIOD ENDING: SEPTEMBER 30, 2018

Investment Performance Review for

Alameda County Employees' Retirement Association

3rd quarter summary

THE ECONOMIC CLIMATE

- The U.S., Mexico, and Canada reached a new trade agreement. The new deal, USMCA, involves few changes to NAFTA, but may create mildly more favorable terms for U.S. businesses.
- The U.S. continued to outshine other developed economies in Q2 with its strongest quarterly growth since 2014. A few smaller emerging market economies experienced idiosyncratic weakness that led to concerns of economic contagion, but fundamentals in most countries still appear strong.

PORTFOLIO IMPACTS

- Emerging market equities delivered slight losses in Q3, but seem to have stabilized as currency depreciation recently subsided (MSCI Emerging Markets Index -1.1%, JP Morgan EM Currency Index -1.6%). We maintain a positive outlook on emerging market equities.
- The Fed raised the target range for the fed funds rate by 0.25% to a range of 2.00%-2.25%. The probability of a December rate hike was 78%, as of October 8th.
- U.S. trade discussions have narrowed in on China. Negotiations between the two countries in recent months do not appear to have produced tangible results.

THE INVESTMENT CLIMATE

- Another strong quarter of U.S. corporate earnings is expected in Q3 on both an absolute and relative basis. S&P 500 earnings and revenue growth are forecast to be 19.3% and 6.9% YoY, respectively.
- Fixed income yields around the world rose slightly. The U.S. Treasury yield hit a 7-year high of 3.23%, reigniting investor concerns over rising interest rates.
- The Italian coalition government sparred with the European Commission over its fiscal spending plans. Fading ECB stimulus will likely lift interest rates on European bonds, which is creating doubts around the sustainability of Italy's debt.

ASSET ALLOCATION ISSUES

- Capital market returns have been largely flat-to-negative in 2018, with U.S. equities being the exception. Diversification remains important, but has been painful for investors in this environment.
- Trade conflicts between the U.S. and its trading partners appear to be mostly resolved. All eyes are on negotiations between U.S. and Chinese representatives, though it increasingly appears that these negotiations are broader in nature than trade alone.

A neutral to mild risk overweight may be warranted in today's environment

U.S. economics summary

- Real GDP growth was 2.9% year-over-year in the second quarter. Expectations for third quarter growth have risen alongside recently strengthening U.S. economic data.
- U.S. inflation fell slightly to 2.3% YoY, moving closer to the U.S. Core CPI rate of 2.2% YoY.
- Non-farm payrolls added 134,000 jobs in September, missing the consensus estimate of 185,000. Hurricane Florence likely contributed to the miss, as leisure and hospitality employment fell by 17,000, the largest drop in a year.
- The U3 unemployment rate fell from 3.9% to 3.7% in September, the lowest rate since 1969. The U6 unemployment increased from 7.4% to 7.5%.
- The United States, Mexico, and Canada reached an agreement on a new trade deal to replace NAFTA.

The new deal, USMCA, included provisions aimed towards protecting the business interests of North American auto manufacturers as well as workers' wages. The deal also partially opened the Canadian dairy market to U.S. farmers.

- The U.S. imposed 10% tariffs on \$200 billion of Chinese goods on September 24th. The White House claimed that the tariff rate will advance from 10% to 25% at year-end if no progress is made through negotiations in the meantime. China retaliated with tariffs of 10% on \$60 billion of U.S. imports.
- As expected, the Federal Open Market Committee raised the target range for the fed funds rate by 0.25%, moving the new range to 2.00%-2.25%. The market implied odds for an additional December rate hike were 78%, as of October 8th.

	Most Recent	12 Months Prior
GDP (YoY)	2.9% <i>6/30/18</i>	2.1% <i>6/30/17</i>
Inflation (CPI YoY, Core)	2.2% <i>9/30/18</i>	1.7% <i>9/30/17</i>
Expected Inflation (5yr-5yr forward)	2.2% <i>9/30/18</i>	2.0% <i>9/30/17</i>
Fed Funds Target Range	2.00 – 2.25% <i>9/30/18</i>	1.00 – 1.25% <i>9/30/17</i>
10 Year Rate	3.1% <i>9/30/18</i>	2.3% <i>9/30/17</i>
U-3 Unemployment	3.7% <i>9/30/18</i>	4.2% <i>9/30/17</i>
U-6 Unemployment	7.5% <i>9/30/18</i>	8.3% <i>9/30/17</i>

International economics summary

- The U.S., Mexico, and Canada reached an agreement on a trade deal to replace NAFTA. The new U.S.-Mexico-Canada Agreement (USMCA) involves few material changes to NAFTA, but the terms appear mildly more favorable for U.S. businesses.
- U.S. negotiations with China, its largest trading partner, continued with little apparent progress. The U.S. imposed 10% tariffs on \$200 billion of Chinese goods on September 24th. The White House claimed that the tariff rate will advance from 10% to 25% at year-end if no progress is made in the meantime. China responded with retaliatory tariffs of 10% on \$60 billion of U.S. imports.
- Trade negotiations with other trading partners appear to be mostly resolved, easing concerns of a global trade war.
- Developed market economies are expected to grow less quickly in the coming years, while emerging economy growth rates are expected to rise.
- PMI readings around the globe have weakened during 2018, led by the Eurozone. U.S. PMIs remain very high, indicating expansion in the manufacturing and services sectors.
- The Italian coalition government sparred with the European Commission over its fiscal spending plans. Fading ECB stimulus will likely lift interest rates on European bonds, creating doubts around the sustainability of Italy's debt.
- The U.S. dollar appreciated by 1% during the quarter. A stable dollar would help dampen the volatility of unhedged equity investments, particularly in emerging markets where currency moves have been larger.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.9% <i>6/30/18</i>	2.7% <i>8/31/18</i>	3.8% <i>9/30/18</i>
Eurozone	2.1% <i>6/30/18</i>	2.1% <i>9/30/18</i>	8.3% <i>6/30/18</i>
Japan	1.3% <i>6/30/18</i>	1.3% <i>8/31/18</i>	2.4% <i>6/30/18</i>
BRICS Nations	5.8% <i>6/30/18</i>	2.5% <i>6/30/18</i>	5.5% <i>6/30/18</i>
Brazil	1.0% <i>6/30/18</i>	4.5% <i>9/30/18</i>	12.2% <i>9/30/18</i>
Russia	1.9% <i>6/30/18</i>	3.4% <i>9/30/18</i>	4.6% <i>8/31/18</i>
India	8.2% <i>6/30/18</i>	3.7% <i>8/31/18</i>	8.8% <i>12/31/17</i>
China	6.7% <i>6/30/18</i>	2.3% <i>8/31/18</i>	3.8% <i>6/30/18</i>

Total Fund

Manager Allocation Analysis (One Quarter)

Period Ending: September 30, 2018

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Absolute Return ¹	\$597,654,687	\$109,754,560	-\$77,409	\$707,331,838
Alta	\$14,068,415	\$0	\$1,139,322	\$15,207,737
AQR	\$425,731,537	-\$616,361	\$2,366,138	\$427,481,313
Baird Advisors	\$662,613,858	-\$134,889	\$957,899	\$663,436,868
Bivium Cash	\$201	\$0	\$1	\$202
BlackRock Russell 1000 Index Fund	\$1,824,129,693	\$12,351,227	\$136,464,924	\$1,972,945,844
Brandywine	\$328,219,978	\$0	-\$1,925,355	\$326,294,623
Capital Group	\$860,777,274	-\$324,286	-\$6,175,731	\$854,277,257
Cash Account	\$141,245,441	-\$126,523,180	\$302,397	\$15,024,658
Huber	\$9,677,864	\$0	\$796,148	\$10,474,013
Kennedy	\$124,487,689	-\$778,507	\$101,381	\$123,810,563
Loomis Sayles	\$331,289,062	-\$266,411	\$2,892,658	\$333,915,309
Matarin	\$10,863	\$0	\$57	\$10,920
Mondrian	\$649,853,808	-\$21,328	\$9,969,373	\$659,801,854
Next Century-SCG	\$121,231,986	-\$305,939	\$12,262,275	\$133,188,323
Next Century-USCG	\$27	-\$15	\$0	\$12
OakBrook	\$11,714,243	\$0	\$1,020,641	\$12,734,884
Private Equity	\$476,366,957	\$4,470,210	\$20,481,124	\$501,318,291
Pzena	\$217,989,398	-\$22,279,355	\$4,934,875	\$200,644,919
Quest	\$14,311,513	\$0	\$1,311,167	\$15,622,679
Real Assets	\$318,551,035	\$120,214	-\$1,919,117	\$316,752,132
Real Estate	\$535,065,820	\$11,013,596	\$9,858,859	\$555,938,273
Sec. Lending	\$0	-\$1,240,581	\$1,240,581	\$0
TCW	\$215,194,885	-\$28,571,399	\$17,999,522	\$204,623,008
Templeton	\$214,133,364	\$0	-\$5,478,694	\$208,654,670
Transition Account	\$587,233	-\$589,301	\$2,836	\$768
Vulcan Value	\$17,701,904	\$0	\$919,296	\$18,621,200
Total	\$8,112,608,735	-\$43,941,746	\$209,445,168	\$8,278,112,157

¹ Preliminary ending market value.

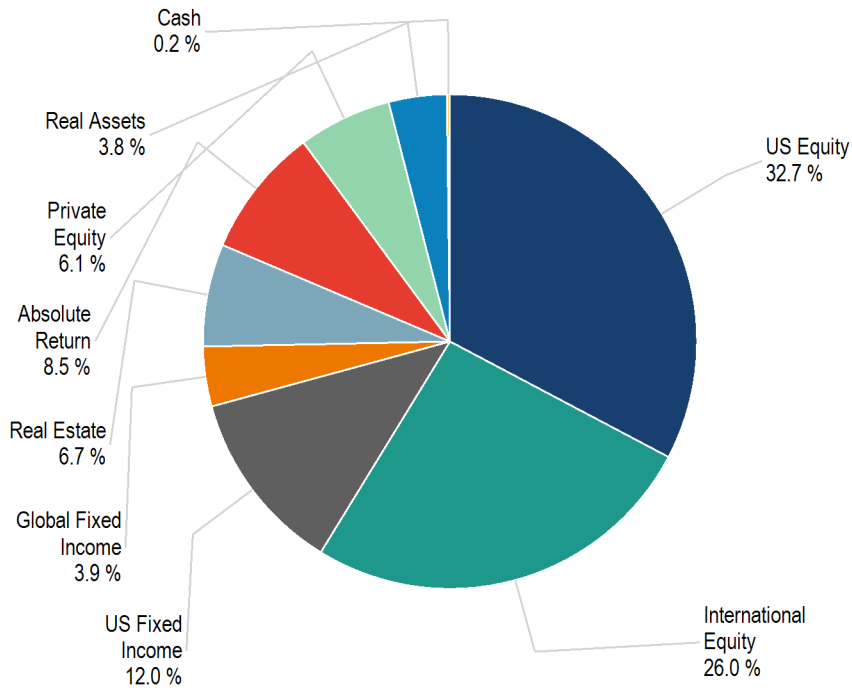
Bivium
 Manager Allocation Analysis (One Quarter)

Period Ending: September 30, 2018

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Alta	\$14,068,415	\$0	\$1,139,322	\$15,207,737
Bivium Cash	\$201	\$0	\$1	\$202
Huber	\$9,677,864	\$0	\$796,148	\$10,474,013
Matarin	\$10,863	\$0	\$57	\$10,920
OakBrook	\$11,714,243	\$0	\$1,020,641	\$12,734,884
Quest	\$14,311,513	\$0	\$1,311,167	\$15,622,679
Vulcan Value	\$17,701,904	\$0	\$919,296	\$18,621,200
Total	\$67,485,003	\$0	\$5,186,632	\$72,671,635

Total Fund
Asset Allocation Analysis

Period Ending: September 30, 2018



	Current Balance	Current Allocation
US Equity	\$2,707,885,070	32.7%
International Equity	\$2,150,215,094	26.0%
US Fixed Income	\$997,352,177	12.0%
Global Fixed Income	\$326,294,623	3.9%
Real Estate	\$555,938,275	6.7%
Absolute Return	\$707,331,838	8.5%
Private Equity	\$501,318,291	6.1%
Real Assets	\$316,752,132	3.8%
Cash	\$15,024,658	0.2%
Total	\$8,278,112,157	100.0%

	Policy	Current Allocation	Difference
US Equity	28.0%	32.7%	4.7%
International Equity	26.0%	26.0%	0.0%
US Fixed Income	12.8%	12.0%	-0.7%
Global Fixed Income	2.3%	3.9%	1.7%
Real Estate	8.0%	6.7%	-1.3%
Absolute Return	9.0%	8.5%	-0.5%
Private Equity	9.0%	6.1%	-2.9%
Real Assets	5.0%	3.8%	-1.2%
Cash	--	0.2%	0.2%
Total	100.0%	100.0%	

Total Fund Performance Summary

Period Ending: September 30, 2018

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date*
Total Fund (Gross)	2.58	32	2.98	57	8.43	21	11.27	9	8.25	21	10.89	13	8.98	7	9.73	Sep-85
Total Fund (Net)	2.54	35	2.88	61	8.22	23	10.99	10	7.94	42	10.56	21	8.65	16	9.53	
<i>Policy Index¹</i>	2.75	27	3.77	37	8.10	28	11.80	6	8.82	11	11.20	6	9.11	4	10.03	Sep-85
<i>Allocation Index</i>	2.83	26	3.71	40	7.97	30	11.58	7	8.52	15	10.85	14	8.66	16	--	Sep-85
<i>InvestorForce Public DB > \$1B Gross Median</i>	2.31		3.11		7.25		9.87		7.62		9.55		7.85		8.71	Sep-85
US Equity (Gross)	6.86	38	10.65	54	19.38	11	17.12	31	13.08	46	17.03	23	12.55	14	11.88	Sep-85
US Equity (Net)	6.78	44	10.52	58	19.08	14	16.78	49	12.73	62	16.66	47	12.21	29	--	
<i>Russell 3000</i>	7.12	21	11.29	35	17.58	39	17.07	35	13.46	26	16.86	33	12.01	41	11.38	Sep-85
<i>InvestorForce All DB US Eq Gross Median</i>	6.68		10.75		17.20		16.74		12.98		16.57		11.80		11.13	Sep-85
BlackRock Russell 1000 Index Fund (Gross)	7.43	44	--	--	--	--	--	--	--	--	--	--	--	--	10.89	Apr-18
BlackRock Russell 1000 Index Fund (Net)	7.43	44	--	--	--	--	--	--	--	--	--	--	--	--	10.89	
<i>Russell 1000</i>	7.42	45	11.25	32	17.76	41	17.07	29	13.67	43	16.90	38	12.09	45	10.88	Apr-18
<i>eV US Large Cap Core Equity Gross Median</i>	7.22		10.22		17.02		16.18		13.36		16.58		11.92		9.88	Apr-18
Large Cap Active Equity (Gross)	5.63	--	9.38	--	18.12	--	16.90	--	13.16	--	16.68	--	13.27	--	8.18	Mar-00
Large Cap Active Equity (Net)	5.44	--	9.06	--	17.57	--	16.43	--	12.74	--	16.23	--	12.84	--	7.75	
<i>Russell 1000</i>	7.42	--	11.25	--	17.76	--	17.07	--	13.67	--	16.90	--	12.09	--	5.86	Mar-00
Bivium (Gross)	7.69	21	11.81	22	18.59	25	16.00	37	12.15	51	16.39	42	11.76	50	10.56	Jul-08
Bivium (Net)	7.58	26	11.57	28	18.12	30	15.51	46	11.67	62	15.90	49	11.32	67	10.12	
<i>Russell 3000 +1%¹</i>	7.38	34	11.77	23	18.58	25	18.07	16	14.46	15	18.13	14	13.52	11	--	Jul-08
<i>Russell 3000</i>	7.12	40	11.29	30	17.58	36	17.07	24	13.46	29	16.86	32	12.01	49	10.89	Jul-08

Total Fund and asset class composites are ranked against InvestorForce universes. Managers are ranked against eVestment Alliance style universes.

Ranking of 1 is a top ranking and a ranking of 100 is a bottom ranking. The InvestorForce Public DB > \$1B Gross universe consists of 78 members with a total market value of \$825 Billion.

Effective 1/1/2017, only traditional asset class (public equity, public fixed income, public real estate) investment management fees will be included in the gross of fee return calculation.

* Effective Q1 2014, inception to date returns are as of the managers first full month. Prior was managers first full quarter.

¹ See Policy Index and Benchmark History.

Total Fund
Performance Summary

Period Ending: September 30, 2018

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Pzena (Gross)	2.22	98	1.36	99	7.60	89	15.61	29	11.45	50	15.99	33	10.92	48	6.11	Jan-06
Pzena (Net)	2.08	99	0.98	99	6.99	94	15.07	40	10.96	62	15.48	46	10.45	65	5.67	
<i>Russell 1000 Value +2%</i>	5.95	47	7.39	55	11.45	55	15.55	30	12.72	18	17.03	15	11.80	23	9.26	Jan-06
<i>Russell 1000 Value</i>	5.70	53	6.95	62	9.45	76	13.55	73	10.72	68	15.02	58	9.79	82	7.24	Jan-06
TCW (Gross)	8.44	45	16.88	16	28.76	24	18.18	63	14.89	64	17.17	70	14.96	21	7.69	Jun-99
TCW (Net)	8.15	54	16.57	19	28.25	27	17.79	67	14.54	71	16.79	76	14.57	29	--	
<i>Russell 1000 Growth +2%¹</i>	9.35	24	16.15	22	28.30	27	22.55	7	18.59	4	20.77	4	16.53	3	8.07	Jun-99
<i>Russell 1000 Growth</i>	9.17	27	15.45	29	26.30	39	20.55	25	16.58	34	18.69	40	14.31	34	5.66	Jun-99
Small Cap Equity (Gross)	5.04	--	13.19	--	21.07	--	16.93	--	11.17	--	17.70	--	11.62	--	13.89	Jul-85
Small Cap Equity (Net)	4.59	--	12.51	--	19.86	--	15.89	--	10.22	--	16.70	--	10.73	--	--	
<i>Russell 2000</i>	3.58	--	11.61	--	15.24	--	17.12	--	11.07	--	16.43	--	11.11	--	9.91	Jul-85
Kennedy (Gross)	0.08	82	5.37	83	6.53	81	14.63	59	11.11	37	17.65	18	--	--	14.09	Sep-10
Kennedy (Net)	-0.54	90	4.71	89	5.45	87	13.64	72	10.19	60	16.68	39	--	--	13.18	
<i>Russell 2000 Value +2.5%</i>	2.12	40	10.93	19	11.83	31	18.62	15	12.42	16	17.78	16	--	--	14.88	Sep-10
<i>Russell 2000 Value</i>	1.60	49	10.04	26	9.33	49	16.12	35	9.92	66	15.26	74	9.52	94	12.36	Sep-10
Next Century-SCG (Gross)	10.11	23	21.40	22	39.95	10	18.75	63	10.70	89	16.22	89	11.31	95	12.65	Oct-02
Next Century-SCG (Net)	9.86	24	20.69	26	38.59	13	17.70	75	9.75	91	15.19	93	10.31	97	11.67	
<i>Russell 2000 Growth +2.5%</i>	5.71	76	13.53	80	23.56	69	20.48	42	14.65	27	20.03	29	15.17	39	14.57	Oct-02
<i>Russell 2000 Growth</i>	5.52	77	13.16	82	21.06	79	17.98	73	12.14	75	17.52	76	12.65	83	12.06	Oct-02

¹ See Policy Index and Benchmark History.

Total Fund Performance Summary

Period Ending: September 30, 2018

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
International Equity (Gross)	0.03	58	-2.79	52	2.32	33	11.78	16	5.51	27	9.06	32	6.71	24	8.32	Dec-90
International Equity (Net)	-0.03	60	-2.96	55	2.03	39	11.40	21	5.11	43	8.63	44	6.29	36	--	
<i>MSCI ACWI ex USA IMI Gross¹</i>	0.48	42	-1.93	35	2.26	34	10.65	34	4.86	53	7.97	65	5.81	47	6.42	Dec-90
<i>InvestorForce All DB ex-US Eq Gross Median</i>	0.25		-2.71		1.61		10.08		4.91		8.49		5.70		6.91	Dec-90
AQR (Gross)	0.56	59	-4.50	87	-0.27	77	10.46	42	5.35	41	9.47	36	7.16	31	2.34	Oct-07
AQR (Net)	0.41	69	-4.90	92	-0.80	85	9.90	53	4.82	61	8.92	52	6.62	53	1.85	
<i>MSCI ACWI ex USA Gross</i>	0.80	39	-1.61	36	2.25	39	10.49	42	4.60	65	7.74	83	5.67	84	1.30	Oct-07
Capital Group (Gross)	-0.72	76	-1.89	46	4.75	31	14.91	12	5.95	53	9.77	52	6.71	64	8.59	Dec-90
Capital Group (Net)	-0.76	77	-1.95	47	4.65	31	14.68	13	5.67	56	9.43	57	6.34	69	--	
<i>MSCI ACWI ex USA Gross</i>	0.80	39	-1.61	41	2.25	53	10.49	57	4.60	77	7.74	85	5.67	81	6.40	Dec-90
<i>MSCI ACWI ex USA Growth Gross</i>	-0.20	68	-1.43	38	3.46	41	11.00	50	5.70	56	8.59	72	6.20	72	--	Dec-90
Mondrian (Gross)	1.53	44	-1.95	35	0.76	40	8.90	60	4.56	54	7.11	79	5.56	46	7.33	Nov-03
Mondrian (Net)	1.53	44	-2.04	36	0.50	53	8.54	65	4.21	74	6.77	95	5.23	56	7.03	
<i>MSCI ACWI ex USA Gross</i>	0.80	63	-1.61	22	2.25	19	10.49	40	4.60	53	7.74	64	5.67	45	7.15	Nov-03
<i>MSCI ACWI ex USA Value Gross</i>	1.85	31	-1.81	24	1.02	37	9.94	43	3.45	79	6.84	94	5.09	59	6.99	Nov-03
Templeton (Gross)	-2.56	74	-5.74	86	1.34	66	10.13	83	6.41	67	10.79	78	--	--	6.95	Apr-11
Templeton (Net)	-2.74	77	-6.08	90	0.68	74	9.42	89	5.69	89	9.99	91	--	--	6.22	
<i>MSCI ACWI ex US Small Cap Gross</i>	-1.42	52	-3.83	53	2.24	59	11.65	69	6.52	63	9.44	97	9.11	96	4.96	Apr-11

¹ See Policy Index and Benchmark History.

Total Fund Performance Summary

Period Ending: September 30, 2018

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Fixed Income (Gross)	0.15	74	-1.87	91	-1.24	82	3.99	31	3.72	30	4.59	20	6.70	16	7.28	Sep-86
Total Fixed Income (Net)	0.12	77	-1.94	92	-1.41	84	3.80	35	3.52	35	4.37	26	6.48	19	--	
<i>Fixed Income Blend¹</i>	-0.08	84	-0.87	76	-0.82	73	2.18	75	2.17	82	2.22	90	4.13	83	6.36	Sep-86
<i>InvestorForce All DB Total Fix Inc Gross Median</i>	0.39		0.10		-0.24		3.22		3.01		3.55		5.28		6.81	Sep-86
US Fixed Income (Gross)	0.39	46	0.03	62	-0.29	42	3.47	31	4.03	27	4.94	11	6.86	15	7.17	Sep-86
US Fixed Income (Net)	0.35	51	-0.05	65	-0.45	50	3.31	34	3.85	28	4.76	13	6.67	17	--	
<i>BBgBarc US Aggregate TR</i>	0.02	82	-0.14	69	-1.22	77	1.31	83	2.16	77	2.02	84	3.77	84	6.10	Sep-86
<i>InvestorForce All DB US Fix Inc Gross Median</i>	0.35		0.29		-0.47		2.67		2.89		3.24		5.07		6.58	Sep-86
Baird Advisors (Gross)	0.14	66	-0.01	69	-0.78	47	2.40	15	3.37	10	3.60	11	5.44	12	4.92	Oct-01
Baird Advisors (Net)	0.12	68	-0.05	75	-0.86	53	2.32	17	3.28	11	3.51	12	5.34	13	4.83	
<i>BBgBarc US Aggregate TR</i>	0.02	87	-0.14	88	-1.22	89	1.31	90	2.16	91	2.02	94	3.77	95	4.04	Oct-01
Loomis Sayles (Gross)	0.87	1	0.11	42	0.70	4	5.51	1	5.28	1	7.47	1	9.40	1	8.21	Dec-00
Loomis Sayles (Net)	0.79	2	-0.05	75	0.38	5	5.18	1	4.93	1	7.12	1	9.03	1	7.86	
<i>BBgBarc US Credit BAA TR</i>	1.35	1	0.11	42	-0.84	52	3.97	2	3.93	4	4.27	4	6.83	2	6.14	Dec-00
Global Fixed Income (Gross)	-0.59	88	-7.26	94	-4.04	95	5.45	23	2.74	58	3.50	61	6.01	26	7.36	Nov-01
Global Fixed Income (Net)	-0.59	88	-7.32	94	-4.24	95	5.18	36	2.46	62	3.18	82	5.70	28	7.05	
<i>FTSE WGBI TR</i>	-1.62	99	-4.92	81	-1.54	53	1.68	99	0.20	95	-0.06	99	2.21	99	4.36	Nov-01
<i>InvestorForce All DB Gbl Fix Inc Gross Median</i>	0.49		-1.86		-1.02		4.86		3.37		4.01		5.45		6.47	Nov-01
Brandywine (Gross)	-0.59	73	-7.26	95	-4.04	95	5.45	24	2.74	50	3.50	47	6.01	27	7.36	Nov-01
Brandywine (Net)	-0.59	73	-7.32	97	-4.24	96	5.18	25	2.46	54	3.18	54	5.70	33	7.05	
<i>FTSE WGBI TR</i>	-1.62	95	-4.92	82	-1.54	75	1.68	86	0.20	87	-0.06	97	2.21	93	4.36	Nov-01

¹ See Policy Index and Benchmark History.

Total Fund
Performance Summary

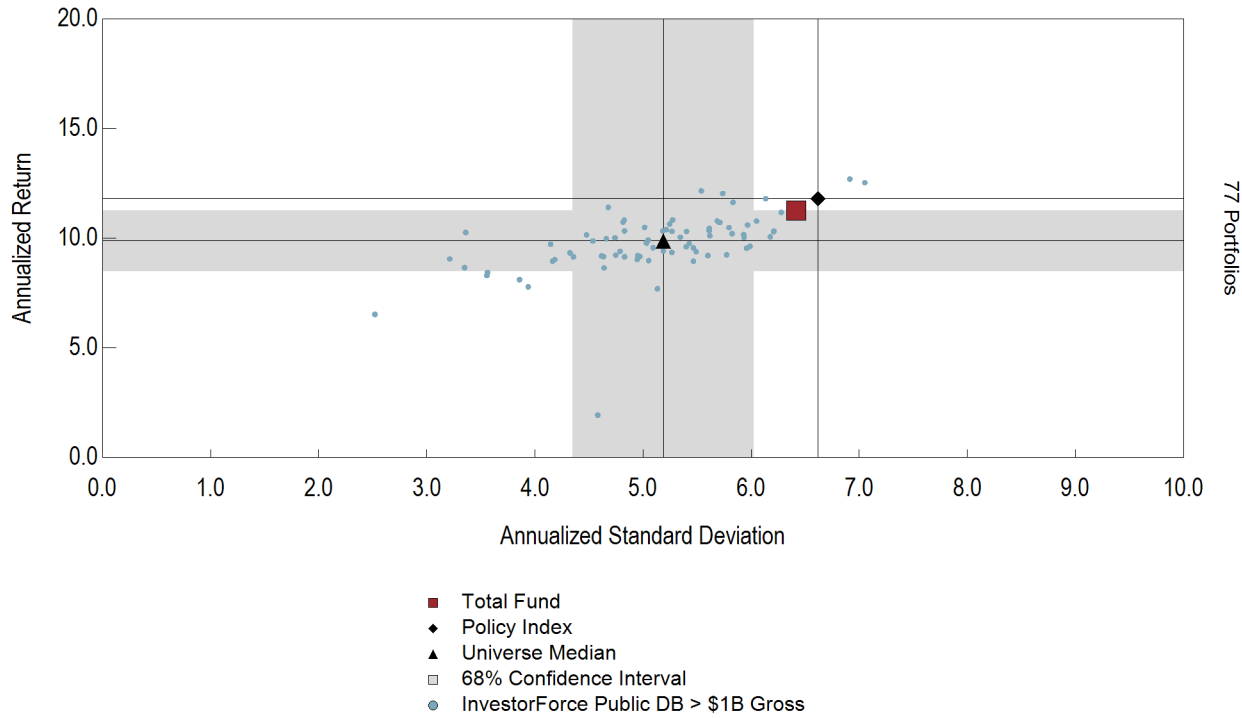
Period Ending: September 30, 2018

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Absolute Return (Gross)	-0.07	82	-2.16	94	0.48	84	2.61	70	3.69	53	3.61	73	--	--	3.61	Sep-11
Absolute Return (Net)	-0.07	82	-2.16	94	0.48	84	2.61	70	3.69	53	3.61	73	--	--	3.61	
<i>HFRI Fund of Funds Composite Index</i>	0.21	72	0.67	81	3.02	70	3.27	63	3.16	65	3.60	75	2.55	86	3.60	Sep-11
<i>InvestorForce All DB Hedge Funds Gross Median</i>	0.72		2.29		4.83		4.01		3.83		5.00		4.13		5.00	Sep-11
Private Equity (Gross)	4.30	--	8.83	--	17.05	--	12.02	--	16.49	--	14.36	--	--	--	3.26	Nov-08
Private Equity (Net)	4.30	--	8.83	--	17.05	--	12.02	--	16.49	--	14.36	--	--	--	3.26	
<i>Thomson Reuters C A Global All PE 1 Qtr Lag</i>	5.21	--	8.15	--	17.23	--	11.50	--	13.04	--	11.56	--	9.40	--	9.57	Nov-08
Real Assets (Gross)	-0.60	--	2.59	--	7.92	--	2.69	--	-4.50	--	-4.11	--	--	--	-4.11	Sep-11
Real Assets (Net)	-0.60	--	2.59	--	7.92	--	2.69	--	-4.50	--	-4.11	--	--	--	-4.11	
<i>Real Asset Blend¹</i>	-0.19	--	3.52	--	6.31	--	9.57	--	7.30	--	6.60	--	--	--	6.60	Sep-11
Cash (Gross)	0.44	--	0.84	--	1.32	--	0.90	--	0.56	--	0.43	--	0.41	--	3.19	Sep-85
Cash (Net)	0.44	--	0.84	--	1.32	--	0.90	--	0.56	--	0.43	--	0.41	--	3.19	
<i>91 Day T-Bills</i>	0.49	--	0.95	--	1.64	--	0.86	--	0.53	--	0.39	--	0.31	--	3.28	Sep-85
Real Estate (Gross)	1.81	60	4.03	57	8.74	28	9.73	19	11.80	15	12.09	25	5.85	37	7.11	Mar-86
Real Estate (Net)	1.81	60	4.03	57	8.74	28	9.33	29	11.13	29	11.30	45	5.04	63	6.03	
<i>NCREIF-ODCE</i>	2.09	39	4.18	55	8.68	29	8.80	45	10.71	41	11.17	50	5.58	44	7.33	Mar-86
<i>InvestorForce All DB Real Estate Pub+Priv Gross Median</i>	1.94		4.30		8.03		8.71		10.58		11.12		5.33		7.46	Mar-86

¹ See Policy Index and Benchmark History.

Total Fund
Risk vs. Return (3 Years)

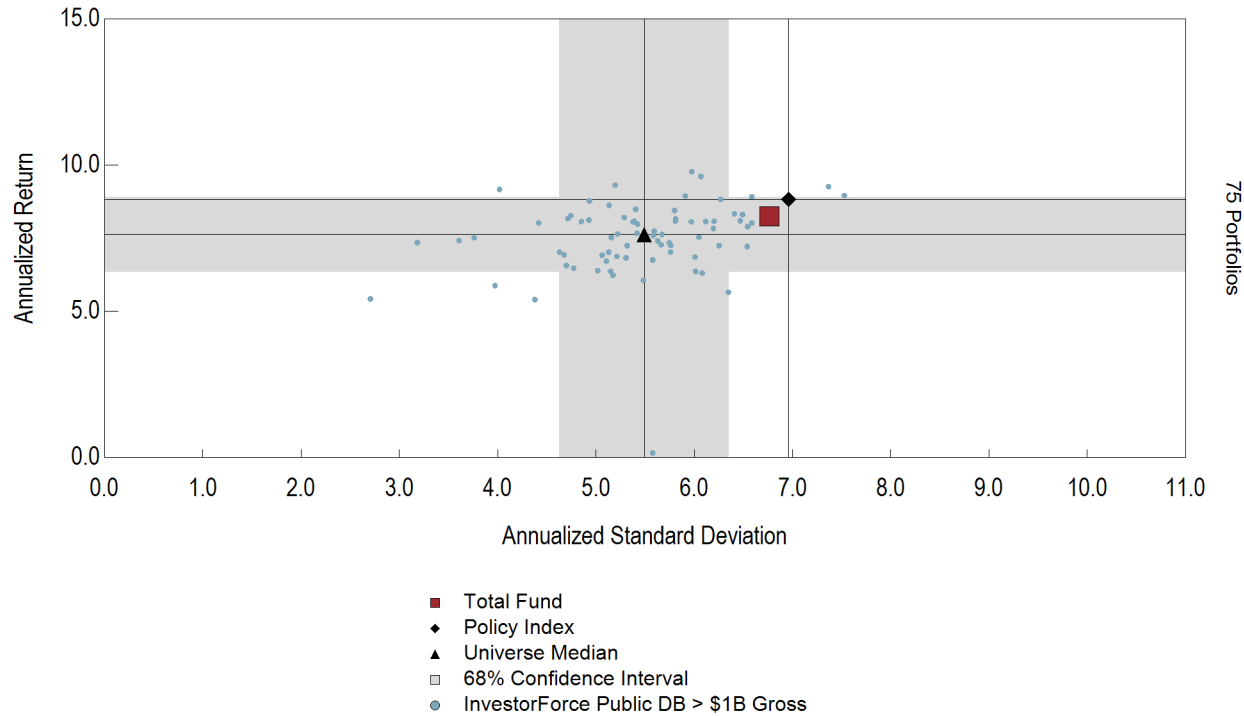
Period Ending: September 30, 2018



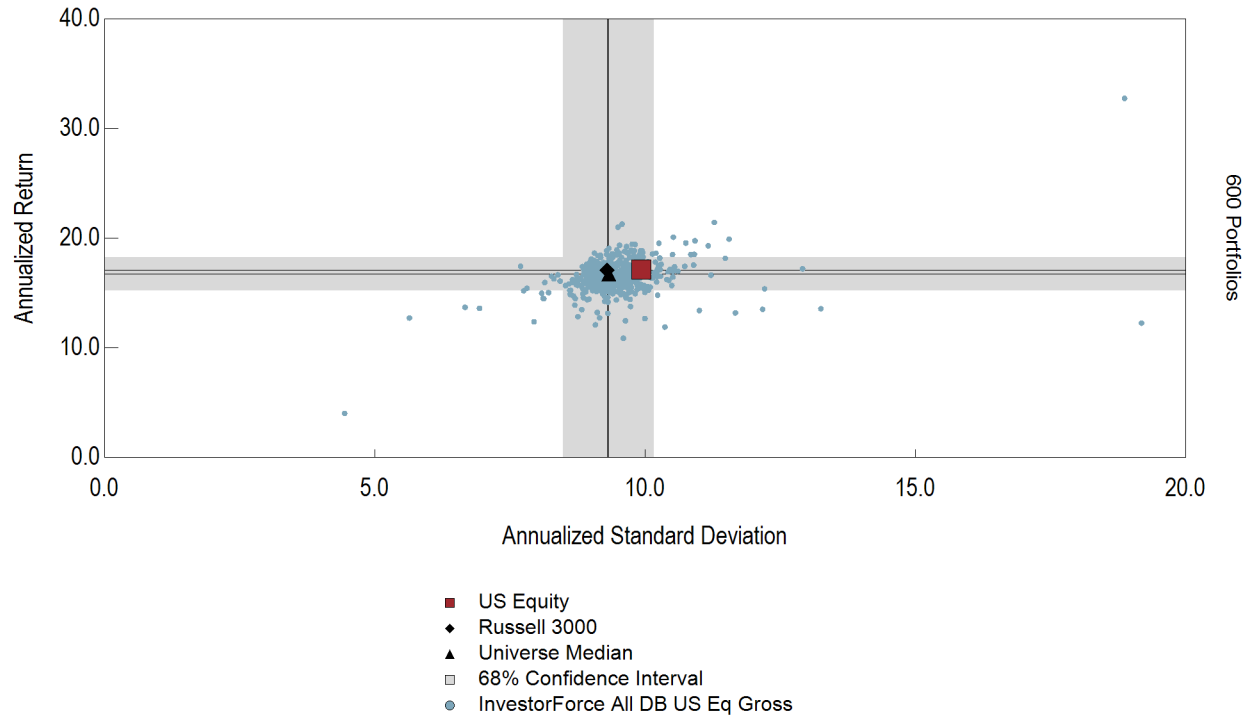
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	11.27%	9	6.41%	98	1.62	78	-0.41	86	1.30%	72
Policy Index	11.80%	6	6.62%	99	1.65	69	--	--	0.00%	1
Allocation Index	11.58%	7	6.67%	99	1.61	81	-0.49	89	0.46%	7
InvestorForce Public DB > \$1B Gross Median	9.87%	--	5.19%	--	1.74	--	0.24	--	1.06%	--

Total Fund
Risk vs. Return (5 Years)

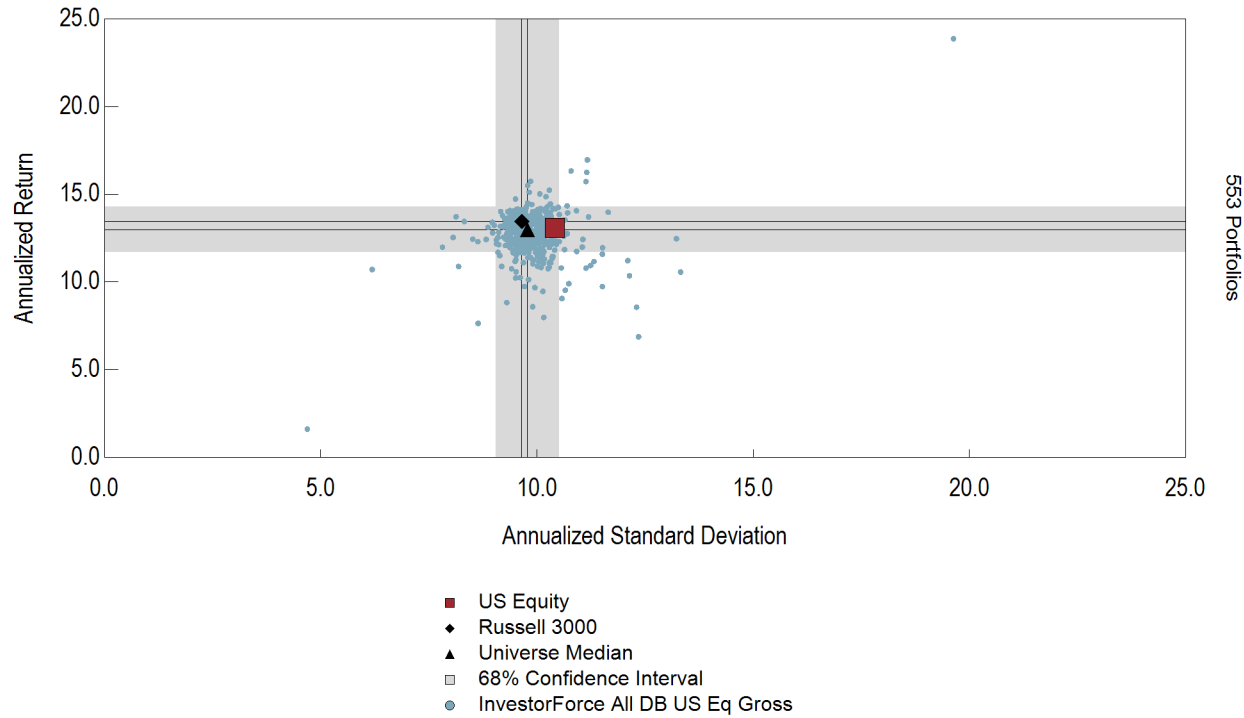
Period Ending: September 30, 2018



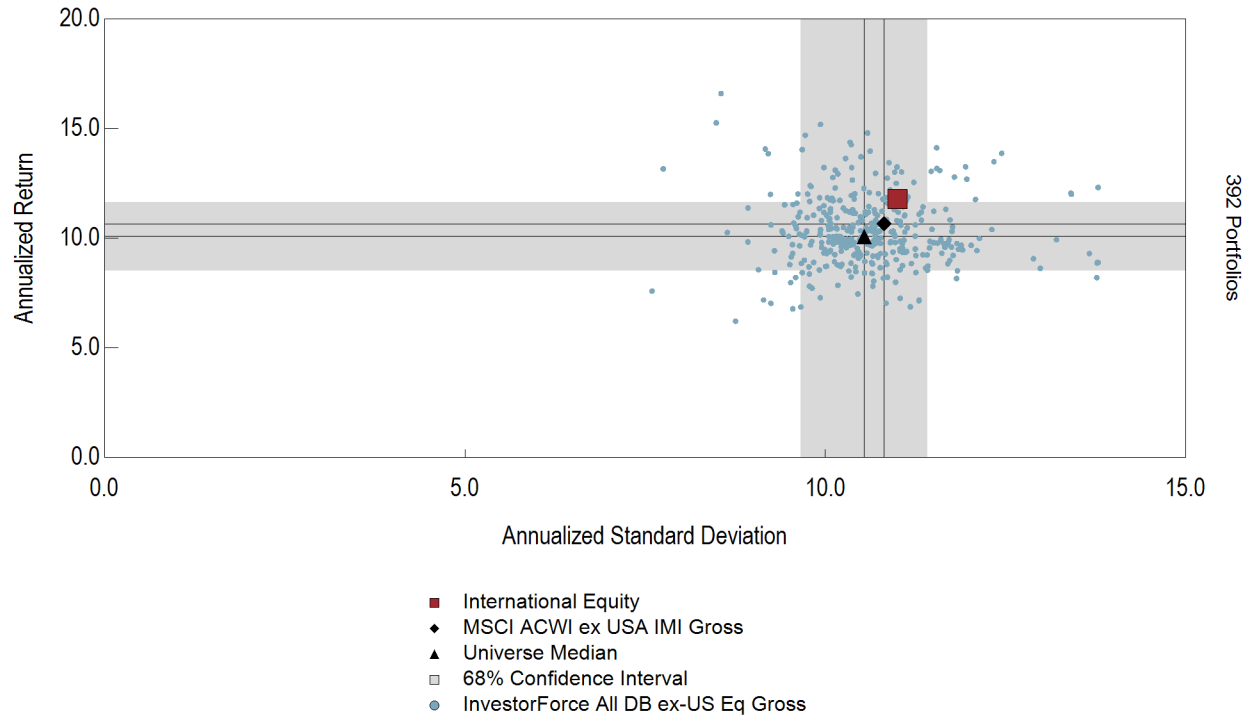
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	8.25%	21	6.76%	98	1.14	79	-0.46	89	1.24%	70
Policy Index	8.82%	11	6.96%	98	1.19	66	--	--	0.00%	1
Allocation Index	8.52%	15	6.96%	98	1.15	78	-0.80	96	0.38%	3
InvestorForce Public DB > \$1B Gross Median	7.62%	--	5.49%	--	1.26	--	0.23	--	1.13%	--



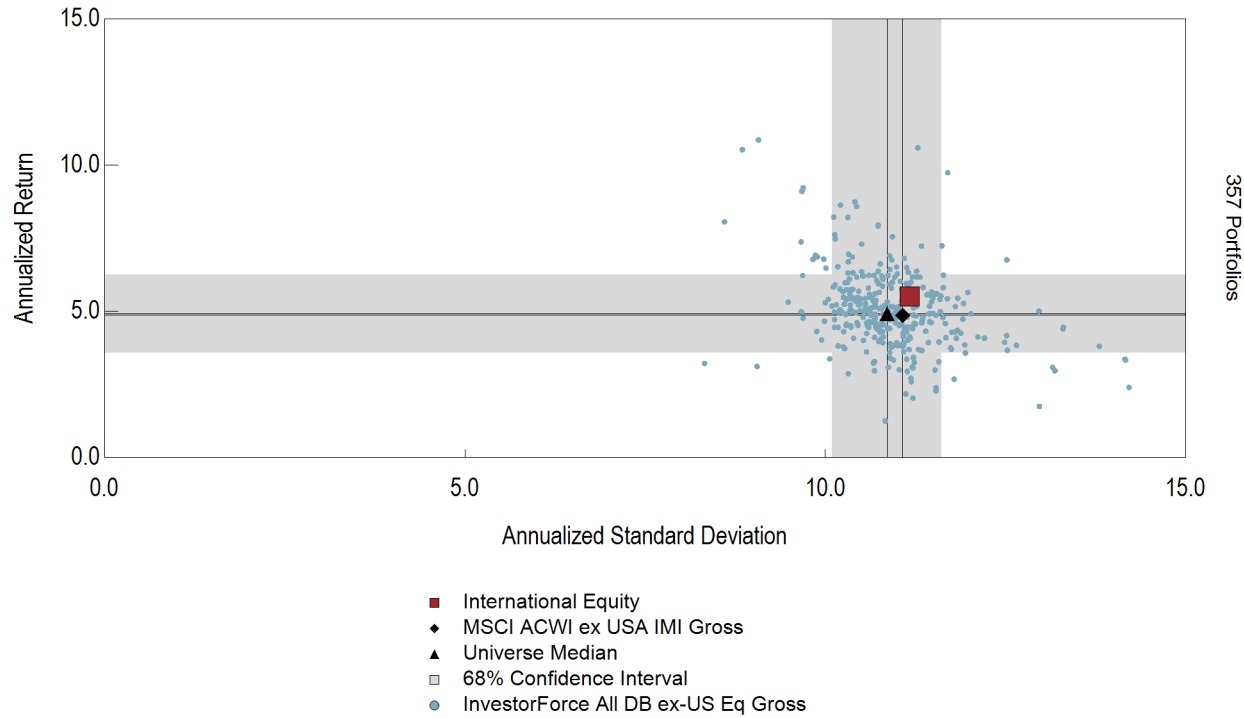
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
US Equity	17.12%	31	9.93%	89	1.64	67	0.03	31	2.03%	60
Russell 3000	17.07%	35	9.30%	47	1.74	37	--	--	0.00%	1
InvestorForce All DB US Eq Gross Median	16.74%	--	9.33%	--	1.69	--	-0.24	--	1.82%	--



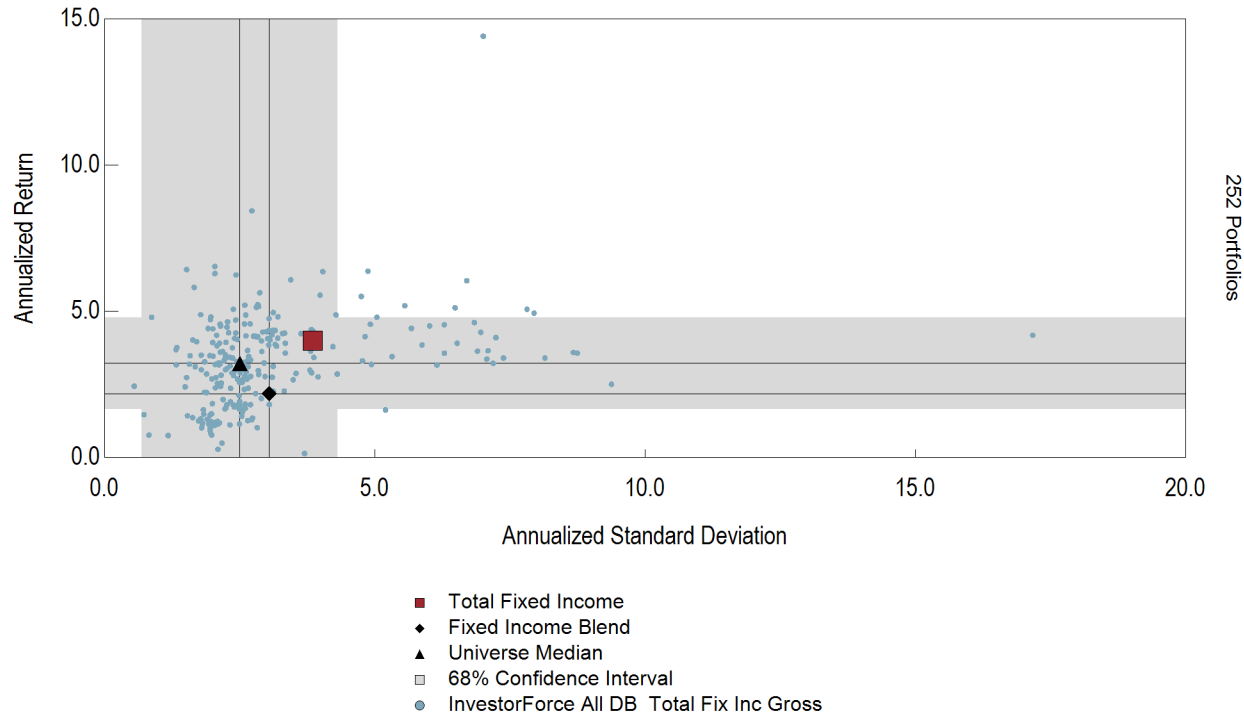
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
US Equity	13.08%	46	10.41%	91	1.21	71	-0.16	37	2.32%	67
Russell 3000	13.46%	26	9.65%	37	1.34	26	--	--	0.00%	1
InvestorForce All DB US Eq Gross Median	12.98%	--	9.78%	--	1.28	--	-0.35	--	1.87%	--



	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
International Equity	11.78%	16	11.00%	75	0.99	24	0.81	9	1.40%	7
MSCI ACWI ex USA IMI Gross	10.65%	34	10.82%	67	0.91	41	--	--	0.00%	1
InvestorForce All DB ex-US Eq Gross Median	10.08%	--	10.54%	--	0.88	--	0.01	--	2.78%	--



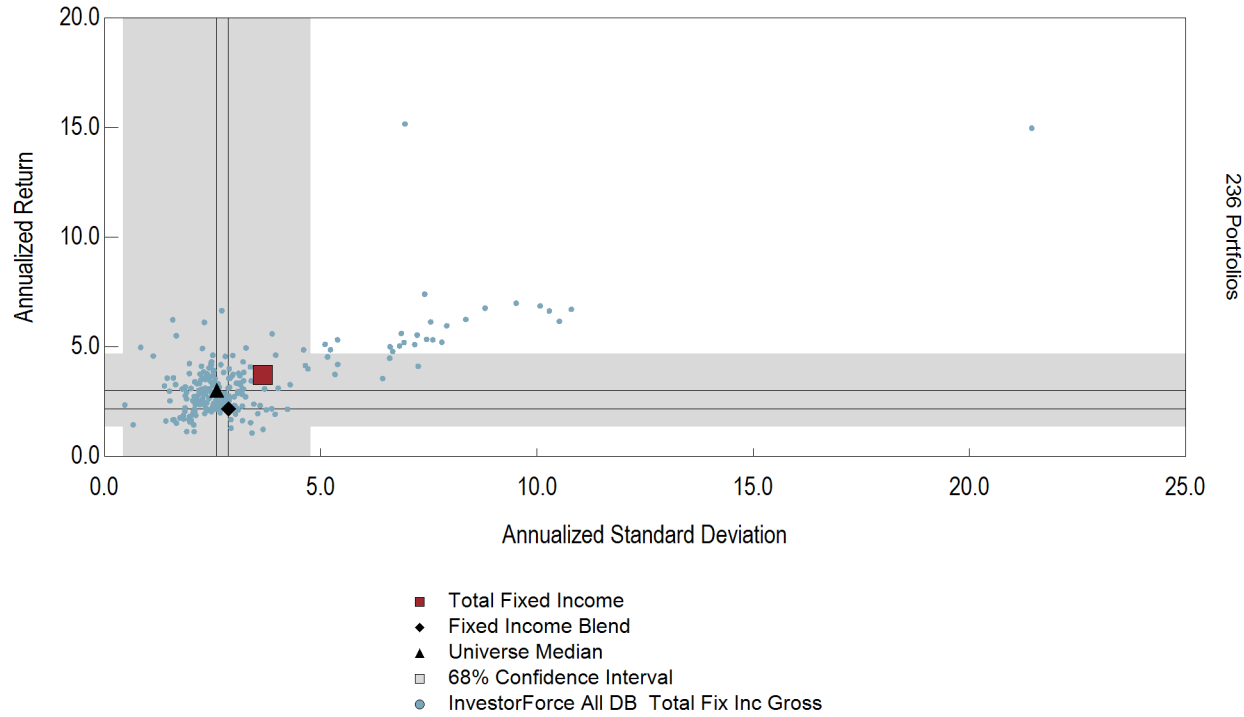
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
International Equity	5.51%	27	11.18%	73	0.45	33	0.48	25	1.36%	6
MSCI ACWI ex USA IMI Gross	4.86%	53	11.07%	64	0.39	54	--	--	0.00%	1
InvestorForce All DB ex-US Eq Gross Median	4.91%	--	10.86%	--	0.40	--	0.24	--	2.78%	--



	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fixed Income	3.99%	31	3.85%	84	0.81	47	0.98	47	1.85%	60
Fixed Income Blend	2.18%	75	3.05%	73	0.43	73	--	--	0.00%	1
InvestorForce All DB Total Fix Inc Gross Median	3.22%	--	2.50%	--	0.78	--	0.95	--	1.46%	--

Total Fixed Income
Risk vs. Return (5 Years)

Period Ending: September 30, 2018



	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fixed Income	3.72%	30	3.67%	82	0.87	47	0.87	17	1.79%	58
Fixed Income Blend	2.17%	82	2.87%	61	0.57	89	--	--	0.00%	1
InvestorForce All DB Total Fix Inc Gross Median	3.01%	--	2.60%	--	0.83	--	0.52	--	1.47%	--

Equity environment

- U.S. equities delivered strong returns during the quarter (S&P 500 +7.7%), and have outperformed year-to-date. We remain concerned about the large valuation difference between U.S. and international equities, though the relatively positive outlook for the domestic economy should justify some of the valuation difference.
- Emerging market equities delivered slight losses in Q3, but seem to have stabilized as currency depreciation subsided (MSCI Emerging Markets Index -1.1%, JP Morgan EM Currency Index -1.6%). Many emerging market currencies have rebounded from their lows. We maintain a positive outlook on emerging market equities.
- Developed non-U.S. equities have remained range bound following the selloff in the first quarter. International equity performance outside of emerging markets has been flat (MSCI EAFE +1.4% unhedged, +2.9% hedged).
- Another strong quarter of U.S. corporate earnings is expected in Q3 on both an absolute and relative basis. S&P 500 earnings and revenue growth is expected to be 19.3% and 6.9% YoY, respectively. Earnings growth in 2019 is expected to be 10.2% YoY.
- Large cap equities (Russell 1000 7.4%) outperformed small cap (Russell 2000 3.6%) during the quarter. Value stocks lagged growth by a similar margin (Russell 1000 Value 5.7% vs. Russell 1000 Growth 9.2%).
- The performance gap between growth and value equities widened further in Q3. The differential continued to be driven by strong returns generated by large names in the tech sector.

	QTD TOTAL RETURN		YTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (Russell 1000)	7.4%		10.5%		17.8%	
US Small Cap (Russell 2000)	3.6%		11.5%		15.2%	
US Large Value (Russell 1000 Value)	5.7%		3.9%		9.5%	
US Large Growth (Russell 1000 Growth)	9.2%		17.1%		26.3%	
International Large (MSCI EAFE)	1.4%	2.9%	0.1%	2.9%	2.7%	7.1%
Eurozone (Euro Stoxx 50)	(0.2%)	1.2%	(2.5%)	1.6%	(4.6%)	(0.3%)
U.K. (FTSE 100)	(1.8%)	(0.2%)	(2.7%)	2.0%	3.2%	7.4%
Japan (NIKKEI 225)	6.2%	8.7%	6.8%	7.4%	19.7%	20.7%
Emerging Markets (MSCI Emerging Markets)	(1.1%)	(0.2%)	(7.7%)	(3.8%)	(0.8%)	1.9%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 9/30/18

Domestic equity

U.S. equities delivered strong returns during the quarter (S&P 500 +7.7%), and have outperformed year-to-date. Fears of trade conflict crowded the headlines, with the focus nearly all on China as the U.S. successfully concluded negotiations with other trading partners. Equity markets on both sides have generally rallied on news of potential resolution, though the performance gap between U.S. and Chinese equities has trended wider. Trade frictions will likely remain a headwind to performance.

Another strong quarter of U.S. corporate earnings is expected in Q3 on both an absolute and relative basis. S&P 500 earnings and revenue growth are expected to be 19.3% and 6.9% YoY, respectively. Earnings growth in 2019 is expected to be 10.2% YoY. If analyst forecasts are as overly optimistic as they typically are, this would put 2019 earnings growth at a more average rate of 5-6%. While average earnings growth can be conducive to moderate positive equity returns, current relatively high valuations could case concerns once growth rates decelerate.

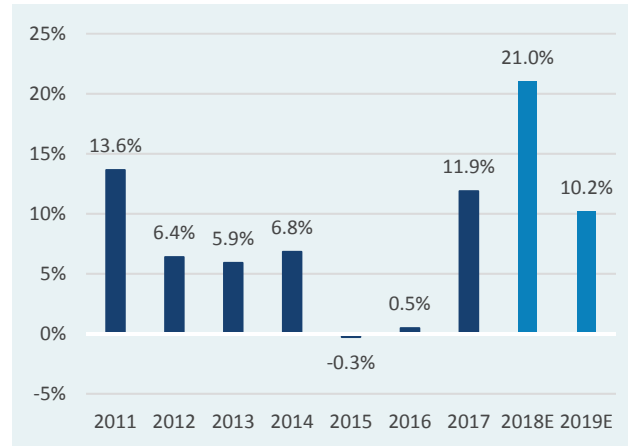
U.S. equities have risen with earnings growth and strong fundamentals, despite trade concerns

U.S. EQUITIES



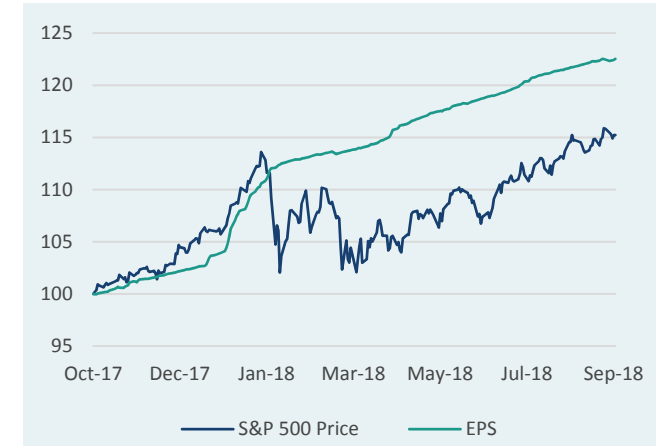
Source: Russell Investments, as of 9/30/18

CALENDAR YEAR EARNINGS GROWTH



Source: FactSet, as of 10/12/18

S&P 500 PRICE & EARNINGS



Source: Bloomberg, as of 9/30/18

Domestic equity size & style

Large cap equities (Russell 1000 7.4%) outperformed small cap equities (Russell 2000 3.6%) during the quarter.

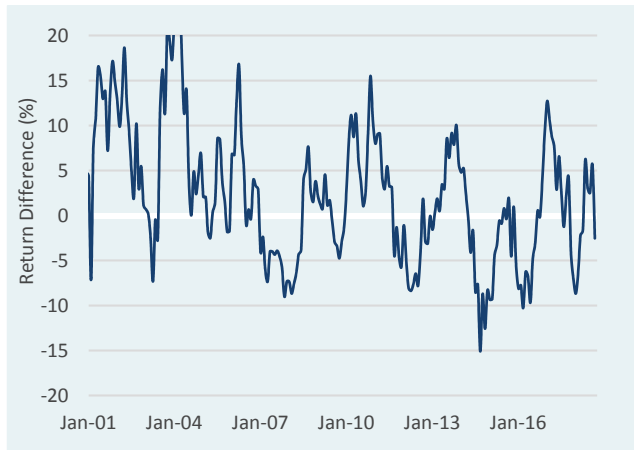
Growth stocks outpaced value stocks by a similar margin (Russell 1000 Growth 9.2% vs. Russell 1000 Value 5.7%).

Differences between sector composition in large-cap style benchmarks have explained much of the recent growth outperformance. Nearly 50% of the Russell 1000 Growth Index is in the more cyclical Information Technology and Consumer Discretionary sectors, which have been by far

and away the best performing sectors over the past year.

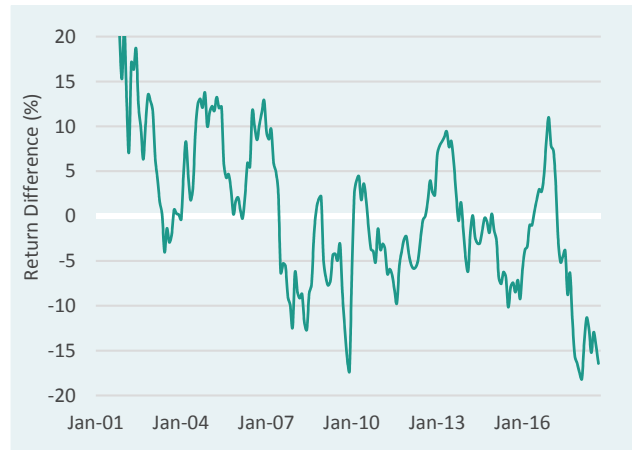
Size and value factor performance continues to frustrate investors. While the extent of underperformance is not anomalous, it may be testament to the long-term nature of factor investing. Unless an investor believes that these risk premia no longer exist, maintaining exposure and avoiding capitulation should be the primary goal.

SMALL CAP VS LARGE CAP (YOY)



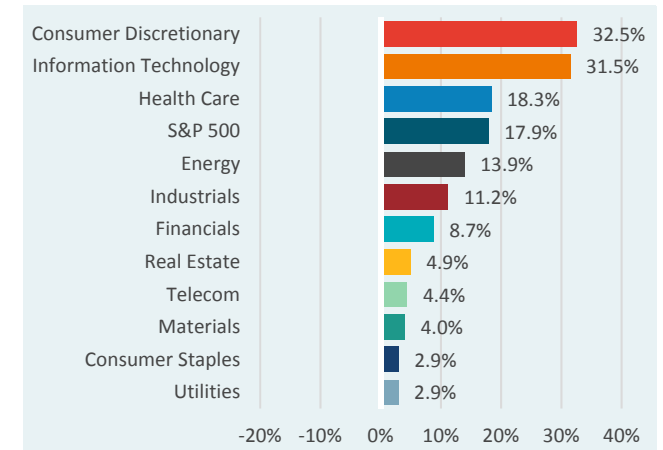
Source: FTSE, as of 9/30/18

VALUE VS GROWTH (YOY)



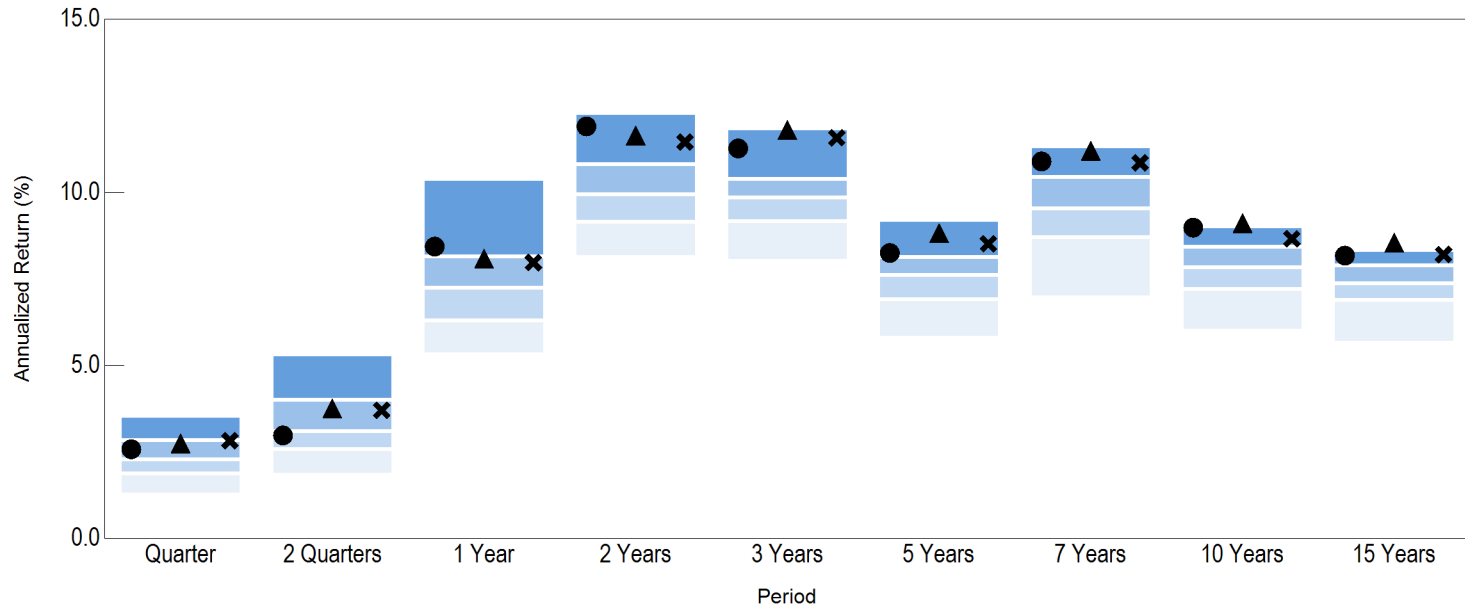
Source: FTSE, as of 9/30/18

1-YEAR S&P 500 SECTOR RETURNS



Source: Morningstar, as of 9/30/18

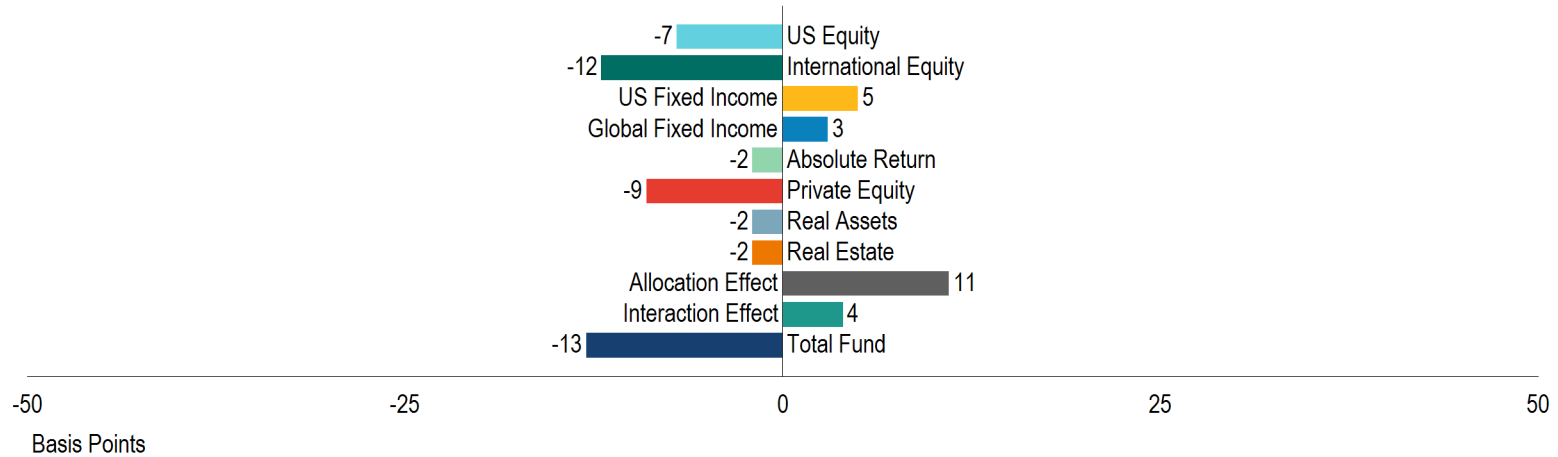
InvestorForce Public DB > \$1B Gross Return Comparison



	Return (Rank)								
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years	15 Years
5th Percentile	3.54	5.31	10.39	12.28	11.85	9.20	11.33	9.01	8.32
25th Percentile	2.86	4.02	8.16	10.82	10.39	8.14	10.46	8.44	7.90
Median	2.31	3.11	7.25	9.97	9.87	7.62	9.55	7.85	7.39
75th Percentile	1.89	2.60	6.32	9.15	9.19	6.92	8.71	7.22	6.90
95th Percentile	1.29	1.85	5.33	8.15	8.04	5.81	6.97	6.02	5.66
# of Portfolios	78	77	77	77	77	75	74	71	67
● Total Fund	2.58 (32)	2.98 (57)	8.43 (21)	11.91 (8)	11.27 (9)	8.25 (21)	10.89 (13)	8.98 (7)	8.17 (9)
▲ Policy Index	2.75 (27)	3.77 (37)	8.10 (28)	11.65 (9)	11.80 (6)	8.82 (11)	11.20 (6)	9.11 (4)	8.55 (1)
✕ Allocation Index	2.83 (26)	3.71 (40)	7.97 (30)	11.45 (10)	11.58 (7)	8.52 (15)	10.85 (14)	8.66 (16)	8.20 (8)

Total Fund
Performance Attribution (One Quarter)

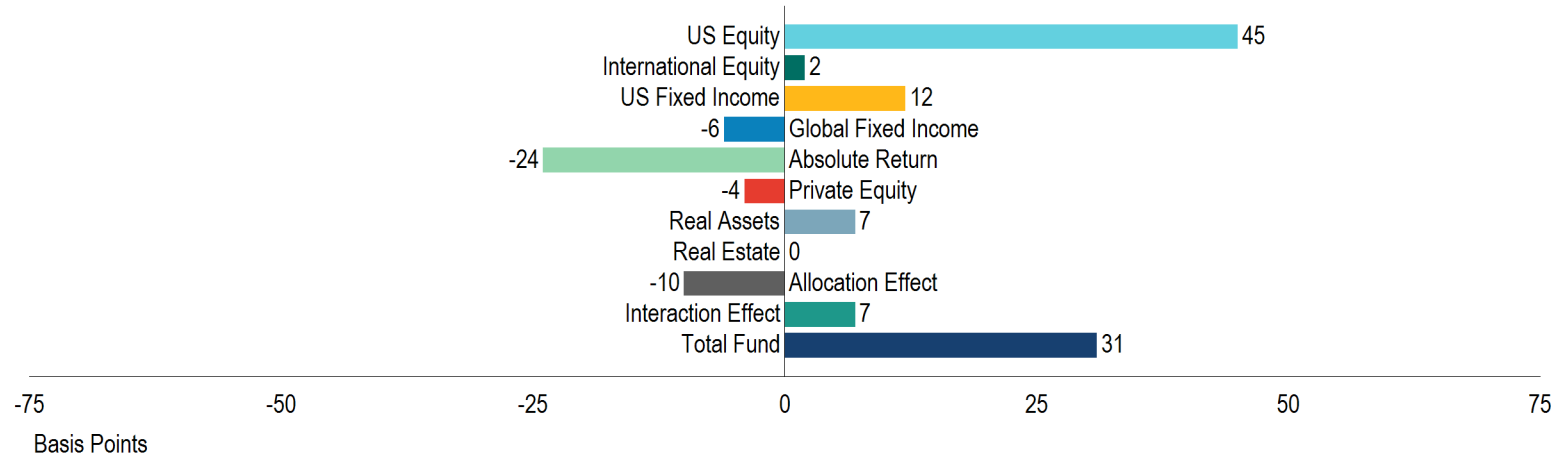
Period Ending: September 30, 2018



	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
US Equity	6.86%	7.12%	-0.27%	-0.07%	0.19%	-0.01%	0.11%
International Equity	0.03%	0.48%	-0.45%	-0.12%	-0.02%	0.00%	-0.14%
US Fixed Income	0.39%	0.02%	0.37%	0.05%	0.01%	0.00%	0.06%
Global Fixed Income	-0.59%	-1.62%	1.03%	0.03%	-0.08%	0.02%	-0.04%
Absolute Return	-0.07%	0.21%	-0.28%	-0.02%	0.04%	0.01%	0.02%
Private Equity	4.30%	5.21%	-0.91%	-0.09%	-0.07%	0.02%	-0.14%
Real Assets	-0.60%	-0.19%	-0.42%	-0.02%	0.03%	0.00%	0.01%
Real Estate	1.81%	2.09%	-0.28%	-0.02%	0.01%	0.00%	-0.01%
Total	2.60%	2.73%	-0.13%	-0.28%	0.11%	0.04%	-0.13%

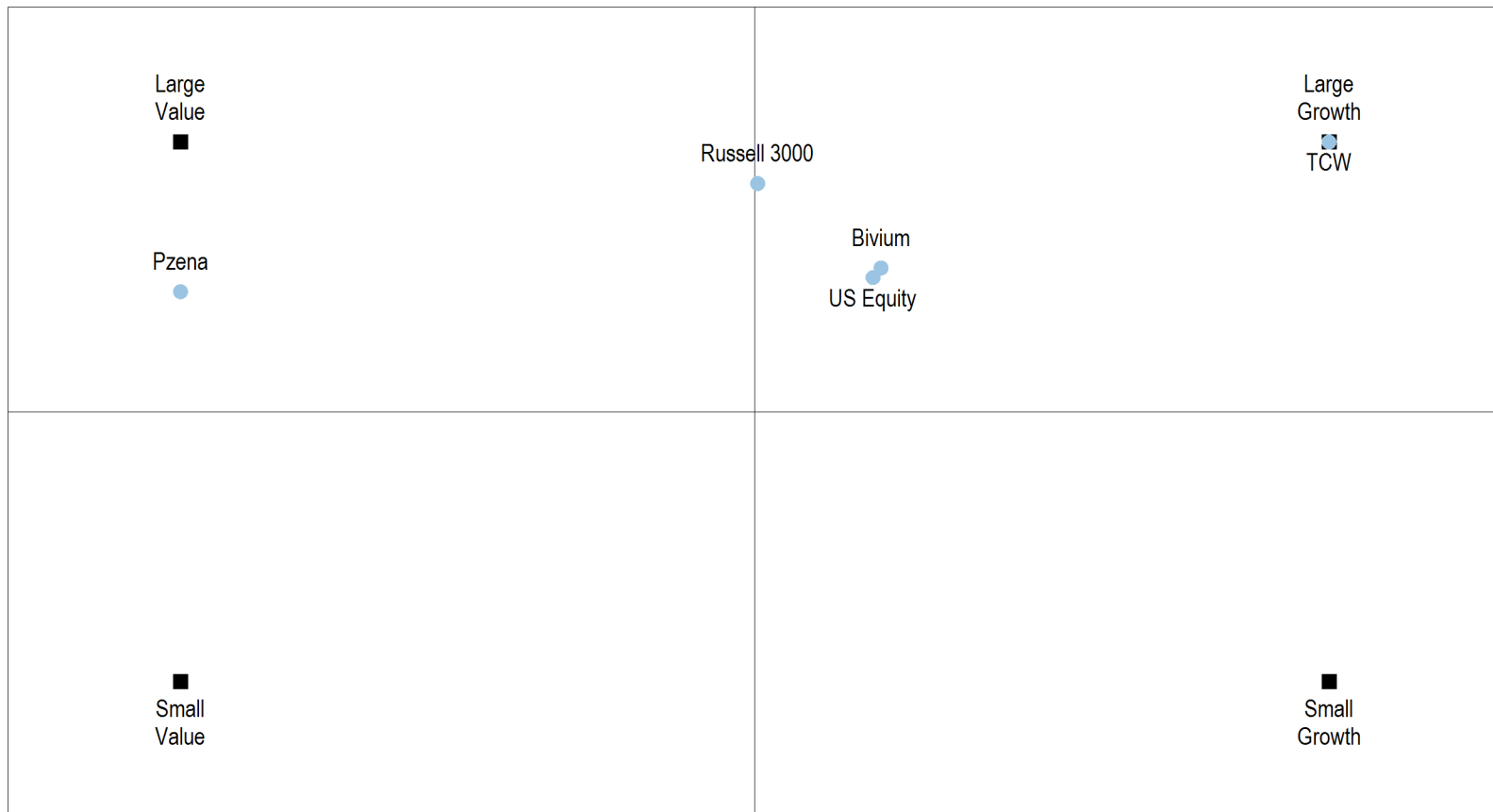
Total Fund
Performance Attribution (One Year)

Period Ending: September 30, 2018



	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
US Equity	19.38%	17.58%	1.80%	0.45%	0.39%	0.09%	0.93%
International Equity	2.32%	2.26%	0.06%	0.02%	-0.17%	0.04%	-0.12%
US Fixed Income	-0.29%	-1.22%	0.93%	0.12%	0.03%	0.00%	0.15%
Global Fixed Income	-4.04%	-1.54%	-2.51%	-0.06%	-0.19%	-0.06%	-0.30%
Absolute Return	0.48%	3.02%	-2.55%	-0.24%	0.13%	0.03%	-0.07%
Private Equity	17.05%	17.23%	-0.18%	-0.04%	-0.28%	-0.01%	-0.33%
Real Assets	7.92%	6.31%	1.61%	0.07%	0.01%	-0.02%	0.07%
Real Estate	8.74%	8.68%	0.06%	0.00%	-0.02%	0.00%	-0.02%
Total	8.38%	8.07%	0.31%	0.33%	-0.10%	0.07%	0.31%

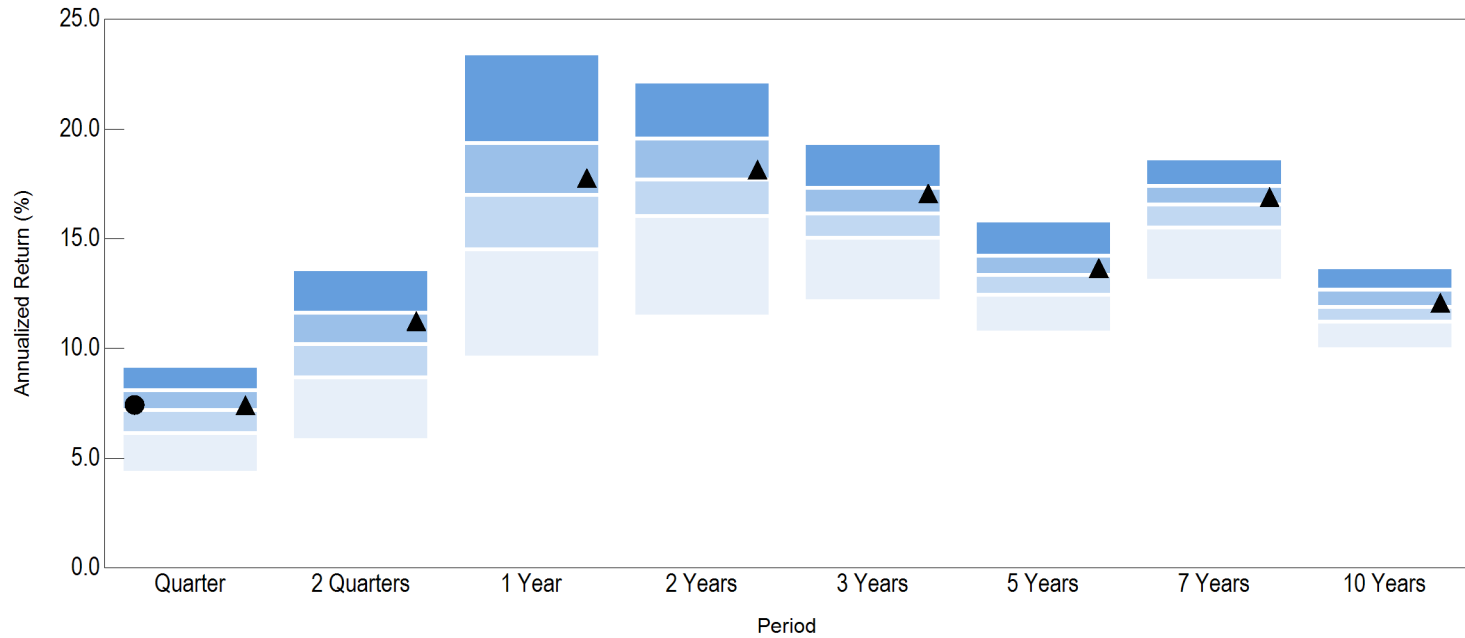
US Effective Style Map



US Effective Style Map



eV US Large Cap Core Equity Gross Return Comparison



	Return (Rank)													
5th Percentile	9.20	13.59	23.44	22.16	19.34	15.82	18.65	13.70						
25th Percentile	8.11	11.66	19.39	19.58	17.35	14.24	17.42	12.68						
Median	7.22	10.22	17.02	17.71	16.18	13.36	16.58	11.92						
75th Percentile	6.17	8.69	14.54	16.04	15.07	12.45	15.51	11.25						
95th Percentile	4.35	5.85	9.62	11.47	12.16	10.73	13.09	9.97						
# of Portfolios	305	305	305	300	293	279	251	218						
● BlackRock Russell 1000 Index Fund	7.43	(44)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)
▲ Russell 1000	7.42	(45)	11.25	(32)	17.76	(41)	18.15	(44)	17.07	(29)	13.67	(43)	16.90	(38)

Characteristics

	Portfolio	Russell 1000
Number of Holdings	983	984
Weighted Avg. Market Cap. (\$B)	206.4	206.5
Median Market Cap. (\$B)	10.6	10.6
Price To Earnings	31.4	24.6
Price To Book	6.7	5.2
Price To Sales	4.3	4.3
Return on Equity (%)	23.3	21.6
Yield (%)	1.8	1.8
Beta (holdings; domestic)	1.0	1.0

Top Holdings

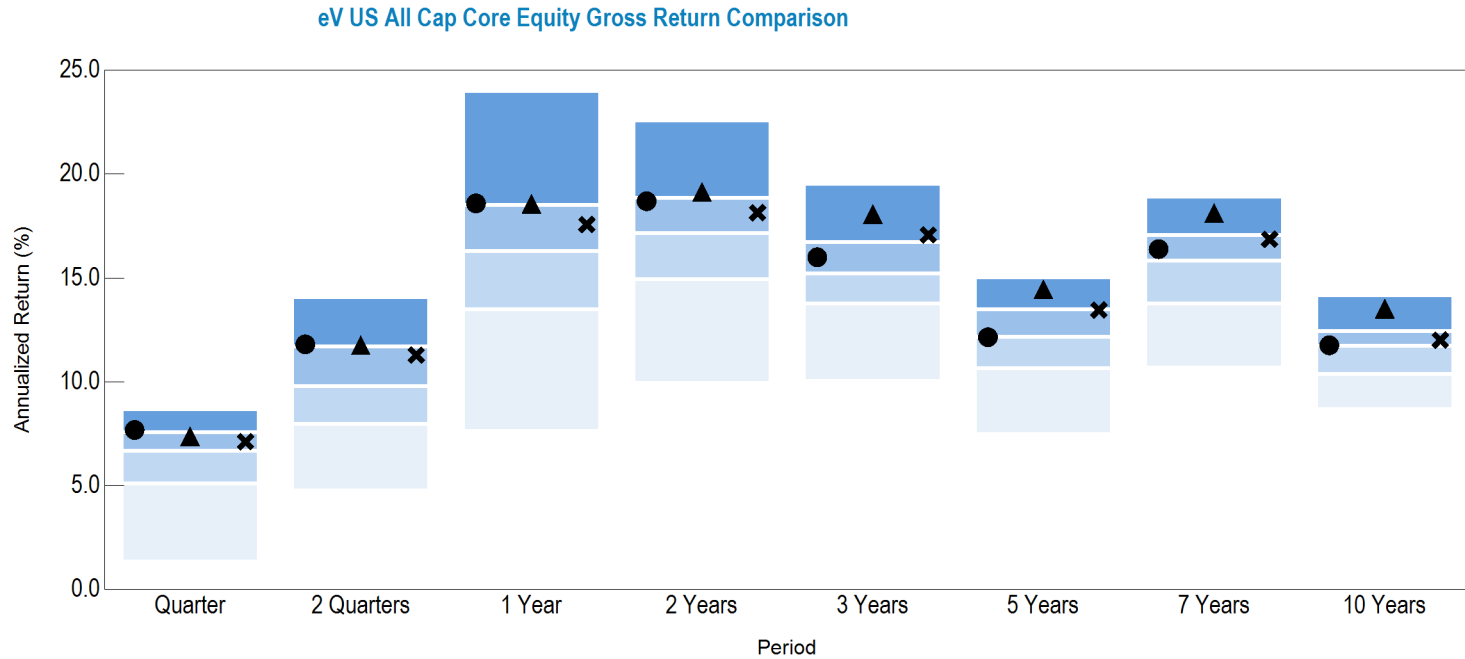
APPLE	4.0%
MICROSOFT	3.2%
AMAZON.COM	3.0%
BERKSHIRE HATHAWAY 'B'	1.5%
FACEBOOK CLASS A	1.4%
JP MORGAN CHASE & CO.	1.4%
JOHNSON & JOHNSON	1.4%
ALPHABET 'C'	1.3%
ALPHABET A	1.3%
EXXON MOBIL	1.3%

Best Performers

	Return %
ADVANCED MICRO DEVICES (AMD)	106.1%
SQUARE CL.A (SQ)	60.6%
PAYCOM SOFTWARE (PAYC)	57.2%
TWILIO 'A' (TWLO)	54.0%
ATLASSIAN 'A' (TEAM)	53.8%
MOLINA HEALTHCARE (MOH)	51.8%
DEXCOM (DXCM)	50.6%
MATCH GROUP (MTCH)	49.5%
FORTINET (FTNT)	47.8%
IAC/INTERACTIVECORP (IAC)	42.1%

Worst Performers

	Return %
FLOOR & DECOR HOLDINGS 'A' (FND)	-38.8%
TWITTER (TWTR)	-34.8%
IPG PHOTONICS (IPGP)	-29.3%
VISTEON (VC)	-28.1%
ZILLOW GROUP CLASS A (ZG)	-26.0%
ZILLOW GROUP CLASS C (Z)	-25.1%
WESTERN DIGITAL (WDC)	-23.7%
WYNN RESORTS (WYNN)	-23.7%
EXTRACTION OIL & GAS (XOG)	-23.1%
TESLA (TSLA)	-22.8%



	Return (Rank)							
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	8.67	14.06	23.98	22.58	19.52	15.01	18.90	14.16
25th Percentile	7.60	11.71	18.54	18.86	16.74	13.52	17.10	12.47
Median	6.69	9.81	16.33	17.18	15.25	12.18	15.85	11.74
75th Percentile	5.14	7.98	13.52	14.96	13.80	10.66	13.79	10.41
95th Percentile	1.38	4.79	7.65	9.97	10.04	7.50	10.71	8.70
# of Portfolios	121	121	120	119	117	105	98	86
● Bivium	7.69 (21)	11.81 (22)	18.59 (25)	18.70 (29)	16.00 (37)	12.15 (51)	16.39 (42)	11.76 (50)
▲ Russell 3000 +1%	7.38 (34)	11.77 (23)	18.58 (25)	19.14 (23)	18.07 (16)	14.46 (15)	18.13 (14)	13.52 (11)
✕ Russell 3000	7.12 (40)	11.29 (30)	17.58 (36)	18.14 (37)	17.07 (24)	13.46 (29)	16.86 (32)	12.01 (49)

Characteristics

	Portfolio	Russell 3000
Number of Holdings	150	3,024
Weighted Avg. Market Cap. (\$B)	168.0	191.0
Median Market Cap. (\$B)	63.0	1.8
Price To Earnings	36.2	24.1
Price To Book	5.4	4.9
Price To Sales	4.3	4.1
Return on Equity (%)	20.6	20.2
Yield (%)	1.7	1.8
Beta (holdings; domestic)	1.1	1.1

Top Holdings

ORACLE	5.6%
MCKESSON	3.2%
MASTERCARD	3.1%
STATE STREET	3.1%
KKR AND A	3.0%
NATIONAL OILWELL VARCO	2.9%
SKYWORKS SOLUTIONS	2.8%
QORVO	2.8%
PARKER-HANNIFIN	2.7%
HILTON WORLDWIDE HDG.	2.5%

Best Performers

	Return %
HCA HEALTHCARE (HCA)	35.9%
ILLUMINA (ILMN)	31.4%
QUALCOMM (QCOM)	29.5%
ELI LILLY (LLY)	26.4%
CVS HEALTH (CVS)	23.3%
SOUTHWEST AIRLINES (LUV)	23.1%
EXPRESS SCRIPTS HOLDING (ESRX)	23.1%
CIGNA (CI)	22.5%
PFIZER (PFE)	22.5%
APPLE (AAPL)	22.4%

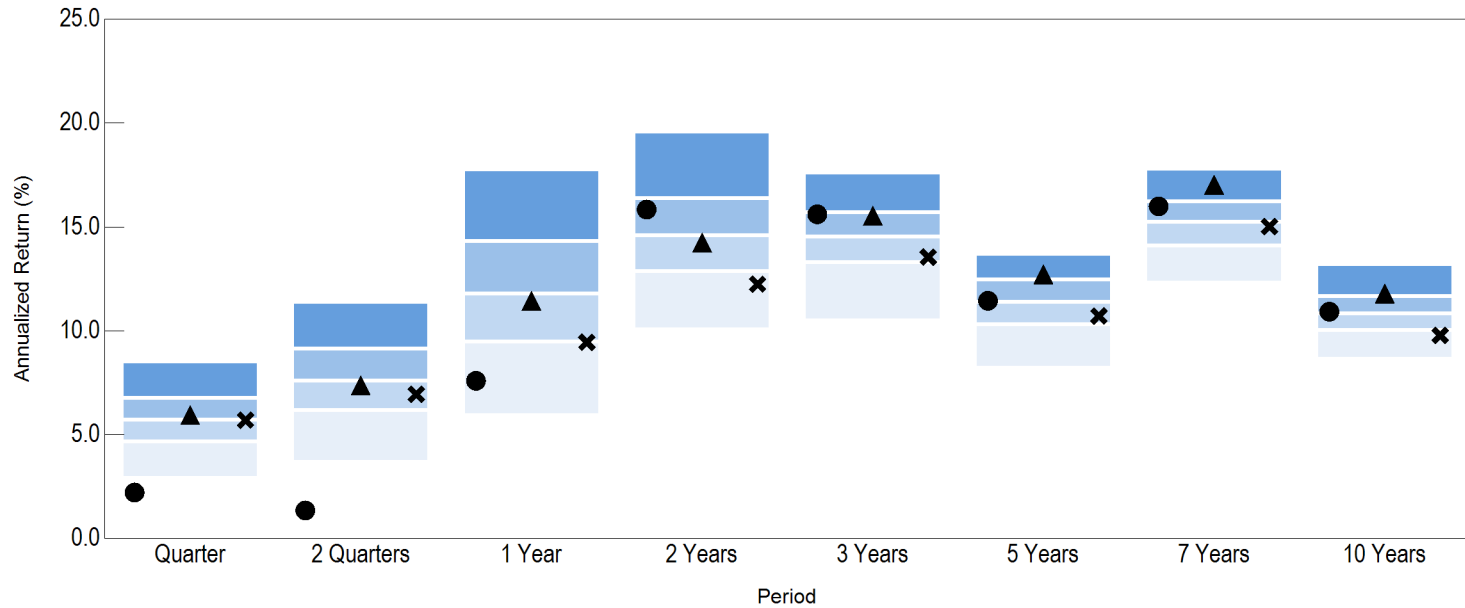
Worst Performers

	Return %
NXP SEMICONDUCTORS (NXPI)	-21.5%
LAS VEGAS SANDS (LVS)	-21.3%
GENERAL ELECTRIC (GE)	-16.3%
APPLIED MATS. (AMAT)	-15.9%
FACEBOOK CLASS A (FB)	-15.4%
FORD MOTOR (F)	-15.3%
ELECTRONIC ARTS (EA)	-14.6%
MICRON TECHNOLOGY (MU)	-13.7%
GENERAL MOTORS (GM)	-13.6%
KRAFT HEINZ (KHC)	-11.4%

Bivium Performance Attribution vs. Russell 3000

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.07%	-0.04%	-0.02%	0.00%	-0.07%	0.58%	6.31%	5.94%			
Materials	0.22%	0.24%	0.21%	-0.23%	7.98%	0.05%	0.15%	3.08%			
Industrials	0.26%	0.28%	-0.01%	-0.01%	11.85%	9.12%	9.92%	10.29%			
Consumer Discretionary	0.11%	0.15%	0.03%	-0.07%	7.72%	6.61%	6.81%	13.13%			
Consumer Staples	0.07%	-0.12%	0.09%	0.10%	3.34%	5.31%	1.08%	6.23%			
Health Care	-0.14%	-0.19%	0.06%	-0.01%	12.32%	13.69%	14.77%	13.80%			
Financials	-0.75%	-0.40%	-0.19%	-0.16%	0.97%	3.75%	19.95%	14.22%			
Information Technology	-0.73%	-0.67%	0.24%	-0.29%	6.62%	9.33%	35.61%	24.80%			
Communication Services	-0.01%	-0.01%	0.00%	0.00%	7.24%	7.90%	1.45%	1.83%			
Utilities	0.10%	-0.03%	0.10%	0.03%	1.38%	2.55%	0.65%	2.91%			
Real Estate	0.22%	0.04%	0.21%	-0.03%	1.39%	0.44%	0.59%	3.77%			
Cash	-0.18%	0.00%	-0.18%	0.00%	0.49%	--	2.71%	0.00%			
Portfolio	-0.89%	=	-0.76%	+	0.54%	+	-0.68%	6.25%	7.14%	100.00%	100.00%

eV US Large Cap Value Equity Gross Return Comparison



	Return (Rank)							
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	8.51	11.40	17.78	19.58	17.60	13.69	17.79	13.19
25th Percentile	6.79	9.15	14.34	16.42	15.73	12.48	16.27	11.70
Median	5.75	7.61	11.81	14.61	14.56	11.42	15.27	10.85
75th Percentile	4.69	6.21	9.49	12.91	13.33	10.33	14.13	10.07
95th Percentile	2.93	3.71	5.95	10.09	10.53	8.24	12.35	8.68
# of Portfolios	334	334	334	333	332	323	296	267
● Pzena	2.22 (98)	1.36 (99)	7.60 (89)	15.84 (33)	15.61 (29)	11.45 (50)	15.99 (33)	10.92 (48)
▲ Russell 1000 Value +2%	5.95 (47)	7.39 (55)	11.45 (55)	14.25 (56)	15.55 (30)	12.72 (18)	17.03 (15)	11.80 (23)
✕ Russell 1000 Value	5.70 (53)	6.95 (62)	9.45 (76)	12.25 (83)	13.55 (73)	10.72 (68)	15.02 (58)	9.79 (82)

Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	41	727
Weighted Avg. Market Cap. (\$B)	89.4	119.7
Median Market Cap. (\$B)	42.8	9.7
Price To Earnings	17.4	20.6
Price To Book	2.0	2.9
Price To Sales	1.8	3.0
Return on Equity (%)	9.1	12.9
Yield (%)	2.8	2.5
Beta (holdings; domestic)	1.2	1.0

Top Holdings

FORD MOTOR	3.8%
EDISON INTL.	3.4%
ROYAL DUTCH SHELL A ADR 1:2	3.4%
AMERICAN INTL.GP.	3.3%
HEWLETT PACKARD ENTER.	3.2%
VOYA FINANCIAL	3.2%
METLIFE	3.2%
CITIGROUP	3.2%
ORACLE	3.2%
INTERPUBLIC GROUP	3.1%

Best Performers

	Return %
EXPRESS SCRIPTS HOLDING (ESRX)	23.1%
DOVER (DOV)	21.6%
MERCK & COMPANY (MRK)	17.7%
ORACLE (ORCL)	17.5%
HP (HPQ)	14.2%
AMGEN (AMGN)	13.1%
HEWLETT PACKARD ENTER. (HPE)	12.4%
CARDINAL HEALTH (CAH)	11.6%
MICRO FOCUS INTL.SPN.ADR 1:1 (MFGP)	10.9%
KKR AND A (KKR)	10.4%

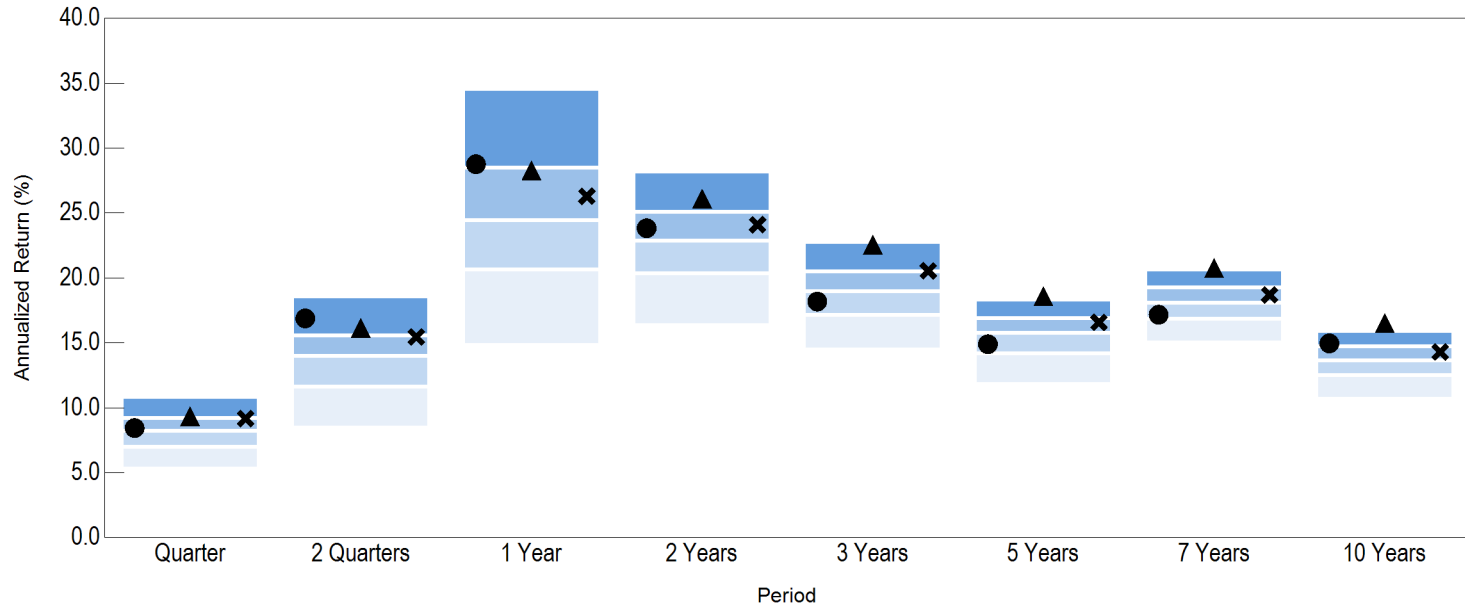
Worst Performers

	Return %
NEWELL BRANDS (NWL)	-20.5%
GENERAL ELECTRIC (GE)	-16.3%
FORD MOTOR (F)	-15.3%
NEWS 'A' (NWSA)	-14.2%
OMNICOM GROUP (OMC)	-10.0%
HALLIBURTON (HAL)	-9.6%
STATE STREET (STT)	-9.5%
WELLS FARGO & CO (WFC)	-4.5%
FRANKLIN RESOURCES (BEN)	-4.4%
CENOVUS ENERGY (NYS) (CVE)	-3.0%

Pzena Performance Attribution vs. Russell 1000 Value

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.39%	-0.21%	-0.13%	-0.05%	-0.62%	1.28%	13.90%	11.00%			
Materials	0.24%	--	0.24%	--	--	-0.08%	0.00%	4.12%			
Industrials	-0.25%	-0.29%	-0.09%	0.13%	4.67%	8.32%	4.37%	7.91%			
Consumer Discretionary	-2.06%	-1.18%	-0.18%	-0.70%	-11.95%	2.15%	13.34%	8.34%			
Consumer Staples	0.12%	0.41%	0.06%	-0.35%	10.28%	4.72%	1.08%	7.29%			
Health Care	-0.74%	-0.70%	-0.09%	0.04%	10.61%	15.63%	13.05%	13.91%			
Financials	-0.73%	-0.31%	-0.22%	-0.20%	2.86%	4.20%	38.17%	23.29%			
Information Technology	0.29%	0.21%	0.04%	0.04%	9.93%	7.80%	11.78%	9.93%			
Communication Services	-0.06%	--	-0.06%	--	--	7.46%	0.00%	3.68%			
Utilities	0.26%	0.32%	0.08%	-0.13%	7.94%	2.44%	3.37%	5.74%			
Real Estate	0.24%	--	0.24%	--	--	0.76%	0.00%	4.79%			
Cash	-0.05%	0.00%	-0.05%	0.00%	0.49%	--	0.94%	0.00%			
Portfolio	-3.14%	=	-1.75%	+	-0.17%	+	-1.22%	2.55%	5.70%	100.00%	100.00%

eV US Large Cap Growth Equity Gross Return Comparison



	Quarter		2 Quarters		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
5th Percentile	10.80	18.55	34.54	28.17	22.75	18.30	20.64	15.91								
25th Percentile	9.24	15.59	28.54	25.13	20.54	16.91	19.30	14.74								
Median	8.26	14.03	24.48	22.89	18.99	15.78	18.13	13.69								
75th Percentile	7.02	11.67	20.68	20.40	17.20	14.24	16.87	12.55								
95th Percentile	5.35	8.48	14.84	16.38	14.52	11.86	15.06	10.73								
# of Portfolios	253	253	253	249	246	242	226	216								
● TCW	8.44 (45)	16.88 (16)	28.76 (24)	23.83 (42)	18.18 (63)	14.89 (64)	17.17 (70)	14.96 (21)								
▲ Russell 1000 Growth +2%	9.35 (24)	16.15 (22)	28.30 (27)	26.10 (17)	22.55 (7)	18.59 (4)	20.77 (4)	16.53 (3)								
✕ Russell 1000 Growth	9.17 (27)	15.45 (29)	26.30 (39)	24.10 (38)	20.55 (25)	16.58 (34)	18.69 (40)	14.31 (34)								

Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	34	542
Weighted Avg. Market Cap. (\$B)	195.5	291.6
Median Market Cap. (\$B)	54.0	12.7
Price To Earnings	55.6	28.6
Price To Book	14.0	9.2
Price To Sales	8.2	5.5
Return on Equity (%)	26.2	32.1
Yield (%)	0.5	1.2
Beta (holdings; domestic)	1.1	1.1

Top Holdings

AMAZON.COM	7.5%
VISA 'A'	6.5%
ALPHABET 'C'	6.0%
ADOBE (NAS)	5.8%
SALESFORCE.COM	5.5%
FACEBOOK CLASS A	4.8%
SERVICENOW	4.0%
AMERICAN TOWER	4.0%
PAYPAL HOLDINGS	3.6%
MASTERCARD	3.6%

Best Performers

	Return %
ILLUMINA (ILMN)	31.4%
WEST PHARM.SVS. (WST)	24.5%
SPLUNK (SPLK)	22.0%
ULTA BEAUTY (ULTA)	20.8%
XYLEM (XYL)	18.9%
NVIDIA (NVDA)	18.7%
AMAZON.COM (AMZN)	17.8%
STARBUCKS (SBUX)	17.2%
SALESFORCE.COM (CRM)	16.6%
ALIGN TECHNOLOGY (ALGN)	14.3%

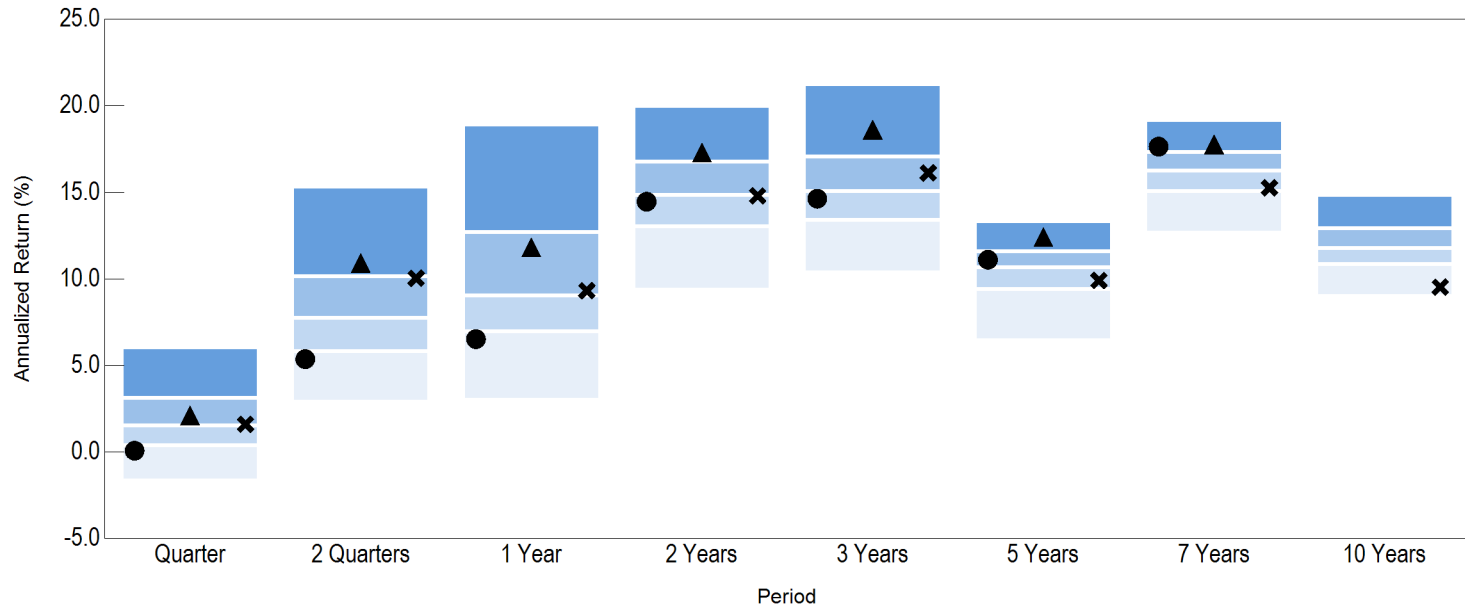
Worst Performers

	Return %
FACEBOOK CLASS A (FB)	-15.4%
S&P GLOBAL (SPGI)	-3.9%
CHARLES SCHWAB (SCHW)	-3.6%
BOOKING HOLDINGS (BKNG)	-2.1%
EQUINIX REIT (EQIX)	1.2%
AMERICAN TOWER (AMT)	1.3%
MONSTER BEVERAGE (MNST)	1.7%
TRANSUNION (TRU)	2.8%
BIOMARIN PHARM. (BMRN)	2.9%
IHS MARKIT (INFO)	4.6%

TCW Performance Attribution vs. Russell 1000 Growth

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.16%	0.15%	-0.04%	0.04%	10.41%	-5.08%	1.26%	0.99%			
Materials	0.15%	0.15%	0.08%	-0.07%	7.98%	-0.10%	0.99%	1.80%			
Industrials	-0.39%	-0.75%	-0.11%	0.47%	4.36%	10.66%	4.42%	11.88%			
Consumer Discretionary	0.66%	0.69%	0.00%	-0.04%	12.92%	9.05%	17.04%	17.95%			
Consumer Staples	0.05%	0.03%	0.02%	0.00%	7.14%	6.65%	4.79%	5.73%			
Health Care	0.25%	0.25%	0.00%	0.00%	14.65%	12.81%	13.44%	13.38%			
Financials	-0.39%	-0.15%	-0.15%	-0.09%	-0.18%	3.24%	6.99%	4.40%			
Information Technology	-0.61%	-0.60%	0.01%	-0.03%	8.43%	9.87%	43.66%	41.55%			
Communication Services	0.00%	--	0.00%	--	--	9.06%	0.00%	0.15%			
Utilities	0.00%	--	--	--	--	--	0.00%	0.00%			
Real Estate	-0.37%	0.02%	-0.44%	0.05%	1.30%	0.19%	7.10%	2.16%			
Cash	-0.03%	0.00%	-0.03%	0.00%	0.49%	--	0.31%	0.00%			
Portfolio	-0.52%	=	-0.21%	+	-0.66%	+	0.34%	8.68%	9.19%	100.00%	100.00%

eV US Small Cap Value Equity Gross Return Comparison



	Quarter		2 Quarters		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
5th Percentile	6.03		15.31		18.90		19.98		21.25		13.34		19.17		14.83	
25th Percentile	3.14		10.18		12.73		16.81		17.09		11.61		17.35		12.97	
Median	1.58		7.77		9.07		14.88		15.12		10.70		16.28		11.81	
75th Percentile	0.41		5.86		6.99		13.07		13.44		9.45		15.08		10.89	
95th Percentile	-1.63		2.92		3.03		9.41		10.41		6.49		12.69		9.02	
# of Portfolios	221		221		221		221		216		207		195		175	
● Kennedy	0.08	(82)	5.37	(83)	6.53	(81)	14.46	(56)	14.63	(59)	11.11	(37)	17.65	(18)	--	(--)
▲ Russell 2000 Value +2.5%	2.12	(40)	10.93	(19)	11.83	(31)	17.30	(24)	18.62	(15)	12.42	(16)	17.78	(16)	--	(--)
✕ Russell 2000 Value	1.60	(49)	10.04	(26)	9.33	(49)	14.80	(51)	16.12	(35)	9.92	(66)	15.26	(74)	9.52	(94)

Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	308	1,387
Weighted Avg. Market Cap. (\$B)	2.8	2.1
Median Market Cap. (\$B)	1.5	0.8
Price To Earnings	14.8	14.5
Price To Book	2.6	1.8
Price To Sales	2.9	2.6
Return on Equity (%)	7.8	7.1
Yield (%)	1.4	1.8
Beta (holdings; domestic)	1.1	1.1

Top Holdings

LIVANOVA	1.0%
ALLEGHENY TECHS.	0.9%
AMERIS BANCORP	0.9%
OASIS PETROLEUM	0.8%
G-III APPAREL GROUP	0.8%
STERLING BANCORP	0.7%
BELDEN	0.7%
TRIUMPH BANCORP	0.7%
NEW JERSEY RES.	0.7%
VERITEX HOLDINGS	0.7%

Best Performers

	Return %
REATA PHARMS.CL.A (RETA)	133.8%
RADISYS (RSYS)	133.2%
LIQTECH INTERNATIONAL (LIQT)	122.9%
TANDEM DIABETES CARE (TNDM)	94.6%
CATASYS (CATS)	91.2%
CORINDUS VASC.ROBOTICS (CVRS)	72.0%
UNISYS (UIS)	58.1%
RADIANT LOGISTICS (RLGT)	51.2%
INTEGRATED DEVICE TECH. (IDTI)	47.5%
AVEO PHARMACEUTICALS (AVEO)	46.5%

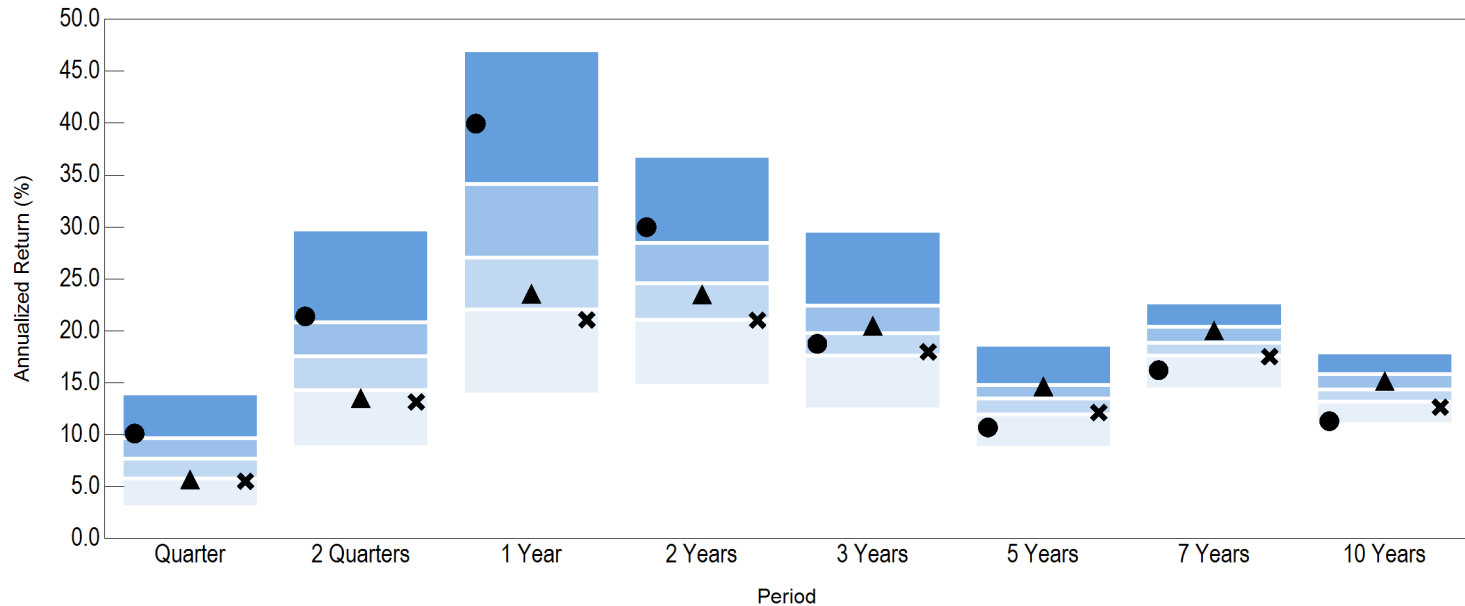
Worst Performers

	Return %
GASTAR EXPLORATION (GSTCQ)	-86.3%
ENDOLOGIX (ELGX)	-66.3%
MAIDEN HOLDINGS (MHLA)	-62.6%
CTI BIOPHARMA (CTIC)	-56.6%
FRANCESCA'S HOLDINGS (FRAN)	-50.9%
VENATOR MATERIALS (VNTR)	-45.0%
TRONOX CLASS A (TROX)	-39.1%
SANDRIDGE ENERGY (SD)	-38.6%
MELINTA THERAPEUTICS (MLNT)	-37.8%
FUSION CONNECT (FSNN)	-34.8%

Kennedy Performance Attribution vs. Russell 2000 Value

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.12%	0.09%	0.05%	-0.03%	0.61%	-0.66%	5.18%	7.38%			
Materials	-0.48%	-0.25%	-0.02%	-0.21%	-4.41%	1.21%	8.27%	4.49%			
Industrials	-0.41%	-0.40%	0.20%	-0.21%	1.66%	5.07%	17.86%	11.79%			
Consumer Discretionary	-0.54%	-0.63%	-0.02%	0.10%	-2.83%	2.61%	9.64%	11.50%			
Consumer Staples	0.10%	-0.09%	0.14%	0.06%	-10.26%	-6.81%	1.08%	2.75%			
Health Care	0.38%	0.39%	0.00%	0.00%	15.81%	7.58%	4.64%	4.69%			
Financials	-0.91%	-1.13%	0.04%	0.17%	-3.23%	0.72%	24.07%	28.45%			
Information Technology	0.26%	0.24%	0.00%	0.03%	3.86%	1.64%	11.89%	10.65%			
Communication Services	-0.19%	-0.35%	-0.13%	0.30%	-34.77%	30.22%	0.09%	0.55%			
Utilities	-0.06%	-0.05%	-0.01%	0.01%	2.80%	3.67%	5.22%	5.93%			
Real Estate	0.17%	0.12%	0.08%	-0.03%	0.12%	-0.87%	8.68%	11.82%			
Cash	-0.04%	0.00%	-0.04%	0.00%	0.49%	--	3.38%	0.00%			
Unclassified	0.00%	--	--	--	--	--	0.00%	0.00%			
Portfolio	-1.60%	=	-2.07%	+	0.30%	+	0.18%	0.14%	1.73%	100.00%	100.00%

eV US Small Cap Growth Equity Gross Return Comparison



	Return (Rank)							
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	13.97	29.76	47.00	36.80	29.64	18.66	22.74	17.89
25th Percentile	9.73	20.86	34.20	28.47	22.49	14.80	20.40	15.85
Median	7.75	17.60	27.11	24.59	19.80	13.51	18.91	14.38
75th Percentile	5.82	14.35	22.07	21.11	17.65	12.01	17.66	13.24
95th Percentile	3.04	8.85	13.87	14.76	12.46	8.80	14.39	11.09
# of Portfolios	165	165	165	161	159	152	146	135
● Next Century-SCG	10.11 (23)	21.40 (22)	39.95 (10)	29.98 (19)	18.75 (63)	10.70 (89)	16.22 (89)	11.31 (95)
▲ Russell 2000 Growth +2.5%	5.71 (76)	13.53 (80)	23.56 (69)	23.52 (57)	20.48 (42)	14.65 (27)	20.03 (29)	15.17 (39)
✕ Russell 2000 Growth	5.52 (77)	13.16 (82)	21.06 (79)	21.02 (76)	17.98 (73)	12.14 (75)	17.52 (76)	12.65 (83)

Characteristics

	Portfolio	Russell 2000 Growth
Number of Holdings	62	1,253
Weighted Avg. Market Cap. (\$B)	3.4	2.7
Median Market Cap. (\$B)	2.6	1.0
Price To Earnings	16.3	19.0
Price To Book	10.5	5.9
Price To Sales	5.8	3.7
Return on Equity (%)	6.4	6.9
Yield (%)	0.1	0.5
Beta (holdings; domestic)	1.2	1.3

Top Holdings

KINSALE CAPITAL GROUP	4.1%
CAREDX	3.8%
HEALTHEQUITY	2.9%
RBC BEARINGS	2.8%
BOINGO WIRELESS	2.8%
AT HOME GROUP	2.7%
TACTILE SYSTEMS TECH.	2.5%
TECHTARGET	2.5%
LIGAND PHARMS.'B'	2.3%
ANGI HOMESERVICES	2.3%

Best Performers

	Return %
CAREDX (CDNA)	135.7%
LIVERAMP HOLDINGS (RAMP)	65.0%
CARGURUS (CARG)	60.3%
STAAR SURGICAL (STAA)	54.8%
BOINGO WIRELESS (WIFI)	54.5%
NMI HOLDINGS CL.A (NMIH)	39.0%
SENDGRID (SEND)	38.7%
TACTILE SYSTEMS TECH. (TCMD)	36.6%
GOOSEHEAD INSURANCE A (GSHD)	35.7%
VIEWRAY (VRAY)	35.3%

Worst Performers

	Return %
USA TECHNOLOGIES (USAT)	-48.6%
TECHTARGET (TTGT)	-31.6%
SUMMIT MATERIALS 'A' (SUM)	-30.7%
AXOGEN (AXGN)	-26.7%
AT HOME GROUP (HOME)	-19.5%
CUTERA (CUTR)	-19.2%
EAGLE MATERIALS (EXP)	-18.8%
LGI HOMES (LGIH)	-17.8%
GRANITE CON. (GVA)	-17.7%
ASTEC INDUSTRIES (ASTE)	-15.5%

Next Century-SCG Performance Attribution vs. Russell 2000 Growth

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.29%	--	0.29%	--	--	-6.27%	0.00%	2.45%			
Materials	-1.07%	-0.86%	-0.04%	-0.17%	-19.18%	1.08%	5.09%	4.23%			
Industrials	-1.22%	-0.85%	-0.09%	-0.27%	-0.63%	3.98%	24.43%	18.52%			
Consumer Discretionary	-0.25%	-0.46%	0.04%	0.17%	1.87%	4.90%	9.60%	15.19%			
Consumer Staples	0.02%	-0.07%	0.05%	0.05%	0.47%	2.95%	1.06%	2.94%			
Health Care	4.79%	5.65%	-0.08%	-0.78%	29.22%	7.77%	22.70%	26.33%			
Financials	0.35%	0.34%	-0.02%	0.02%	6.42%	1.90%	8.03%	7.53%			
Information Technology	-1.69%	-1.60%	0.06%	-0.15%	0.72%	9.13%	20.84%	19.04%			
Communication Services	0.90%	0.31%	0.11%	0.48%	54.49%	15.03%	1.99%	0.79%			
Utilities	0.00%	--	0.00%	--	--	4.47%	0.00%	0.42%			
Real Estate	0.09%	--	0.09%	--	--	1.84%	0.00%	2.54%			
Cash	-0.32%	0.00%	-0.32%	0.00%	0.49%	--	6.25%	0.00%			
Unclassified	0.00%	--	--	--	--	--	0.00%	0.00%			
Portfolio	1.90%	=	2.46%	+	0.11%	+	-0.66%	7.47%	5.57%	100.00%	100.00%

International developed equity

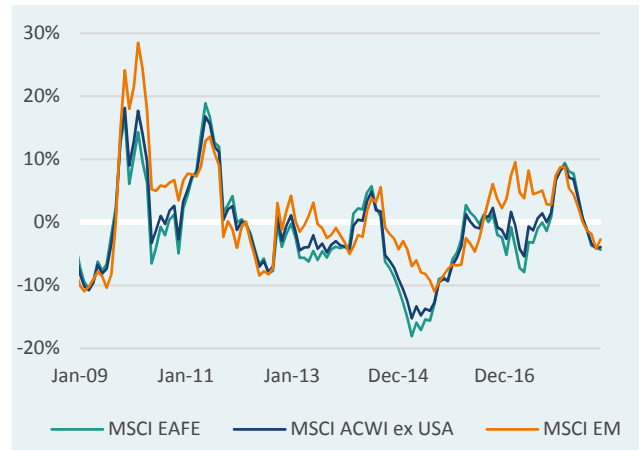
Unhedged international equities underperformed U.S. equities during Q3 (MSCI EAFE +1.4% vs. S&P 500 +7.7%). On a currency hedged basis, international equities delivered returns of 2.9%.

Currency movement continued to create losses for unhedged equity investors. U.S. investors that hedged their international equity exposure outperformed their unhedged peers by approximately 5% year-to-date (MSCI EAFE Index).

Regional divergence in earnings remained a story in Q3. Year-over-year growth in forward earnings reached 23% for U.S. equities, while estimates fell from 14% to 9% in emerging markets and from 12% to 10% in international developed markets, according to MSCI estimates.

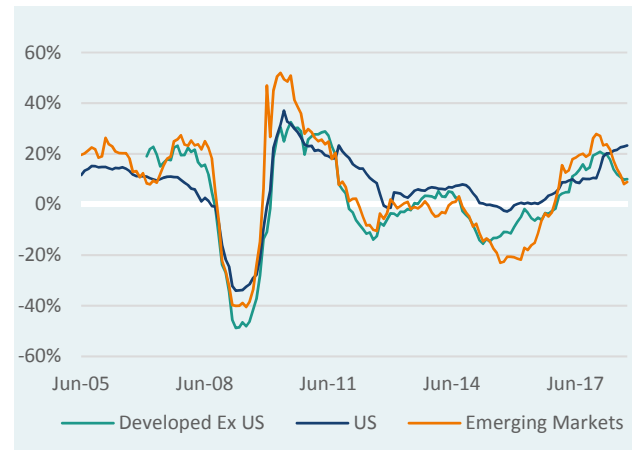
Differences in forward P/E multiples between U.S. and non-U.S. equities remained high. At quarter-end, this valuation gap relative to international developed equity ranked in the 96th percentile since 2005. The U.S.-EM valuation gap ranked in the 89th percentile over the same period.

EFFECT OF CURRENCY (1-YEAR ROLLING)



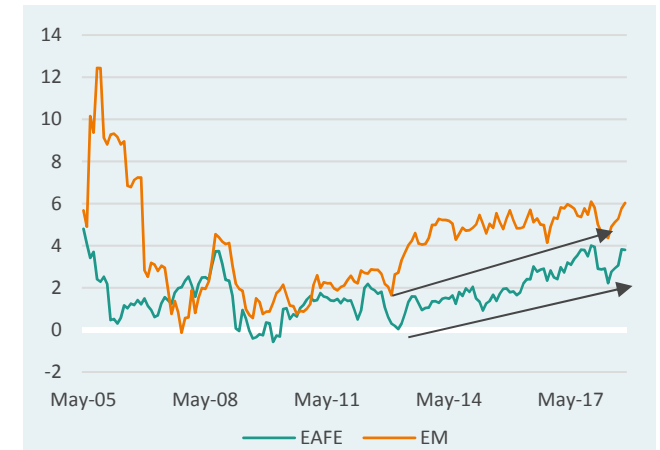
Source: MSCI, as of 9/30/18

EARNINGS GROWTH (YOY)



Source: MSCI, as of 9/30/18 – YoY growth in forward earnings

FORWARD P/E SPREADS RELATIVE TO U.S.



Source: MSCI, as of 9/30/18

Emerging market equity

Emerging market equities delivered a slight loss in Q3 but seem to have stabilized as currency depreciation subsided (MSCI Emerging Markets Index -1.1%, JP Morgan EM Currency Index -1.6%). Many of these currencies have rebounded from their lows.

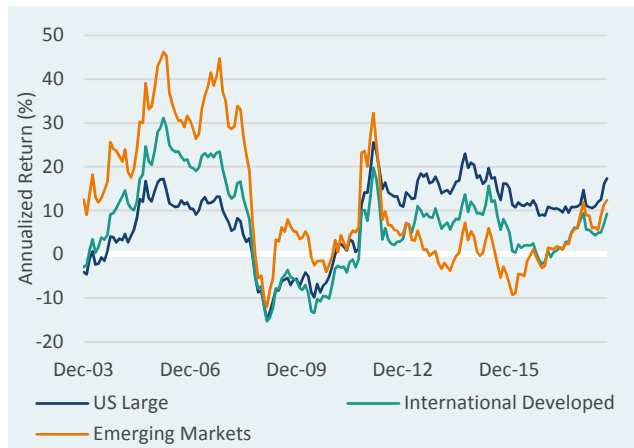
Developed markets are expected to grow less quickly in the coming years while emerging economic growth is expected to rise. A positive growth premium of emerging economies relative to developed economies has

historically acted as a tailwind for EM outperformance.

We believe positive emerging economy growth trends, attractive valuations, a strong earnings environment, and depressed currencies should provide an environment of strong relative equity performance across these markets.

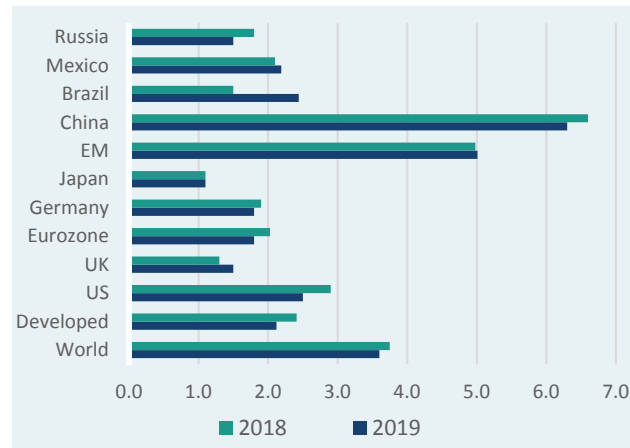
Conditions remain positive for medium-term EM equity performance, though volatility may persist

EQUITY PERFORMANCE (3YR ROLLING)



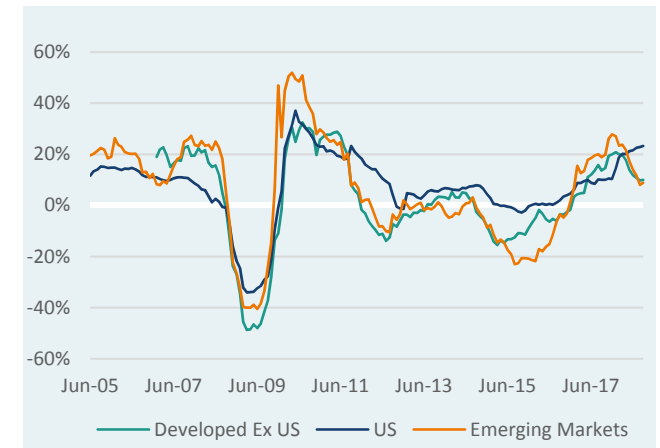
Source: Standard & Poor's, MSCI, as of 9/30/18

GDP GROWTH EXPECTATIONS (%)



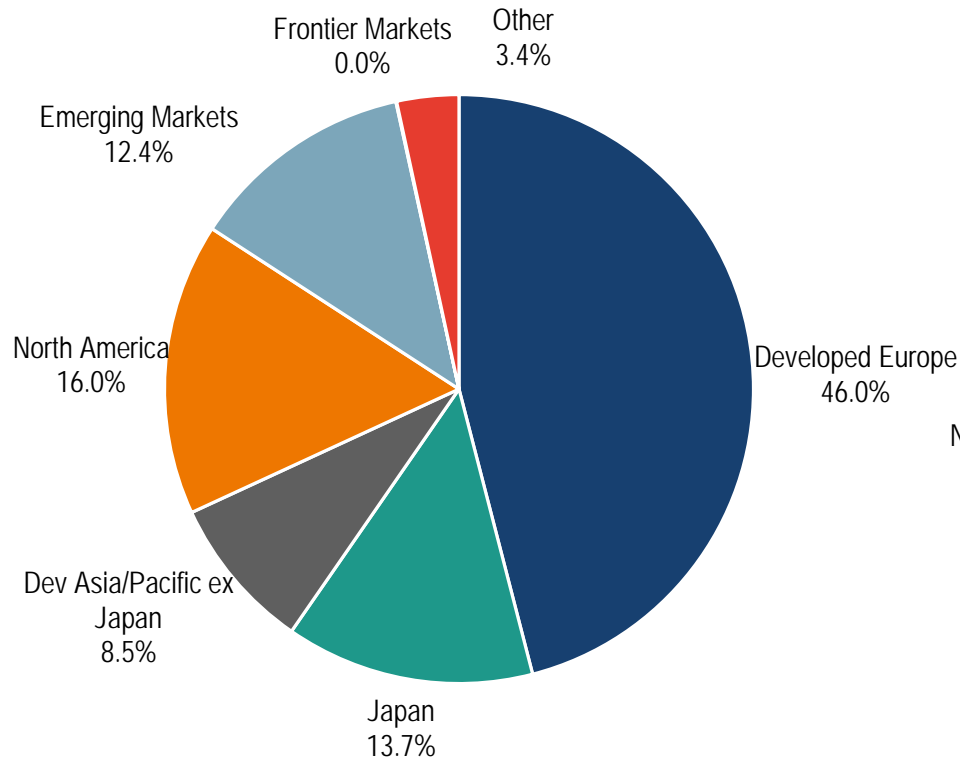
Source: Bloomberg, as of 9/30/18

EARNINGS GROWTH (YOY)

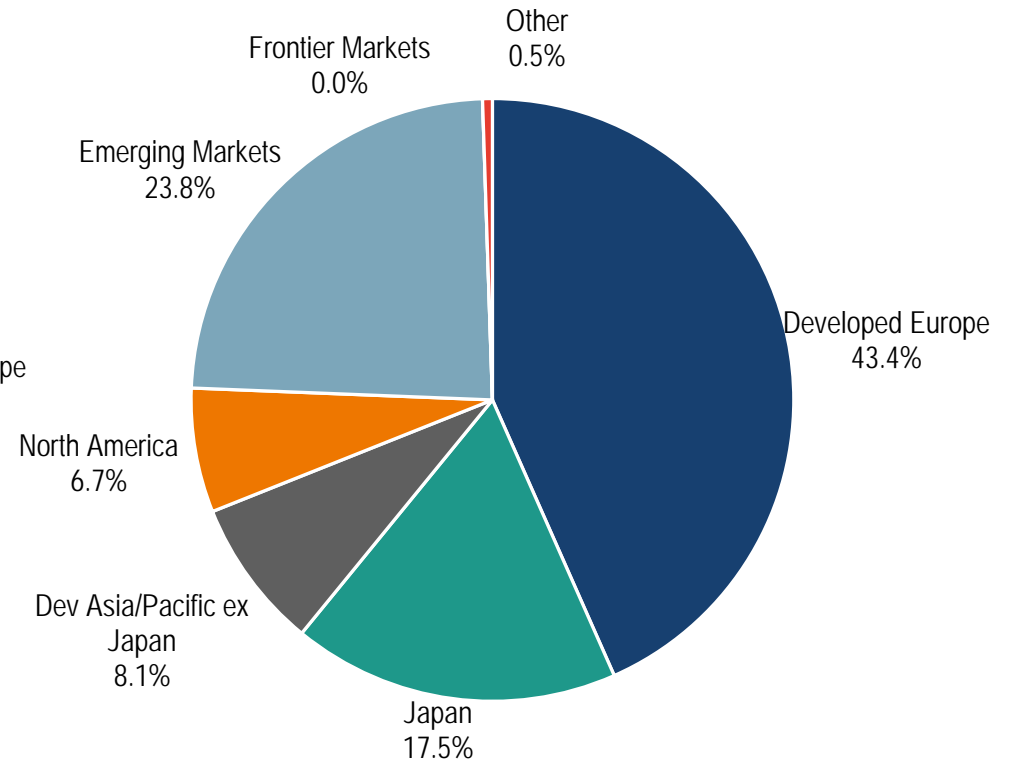


Source: MSCI, as of 9/30/18 – YoY growth in forward earnings

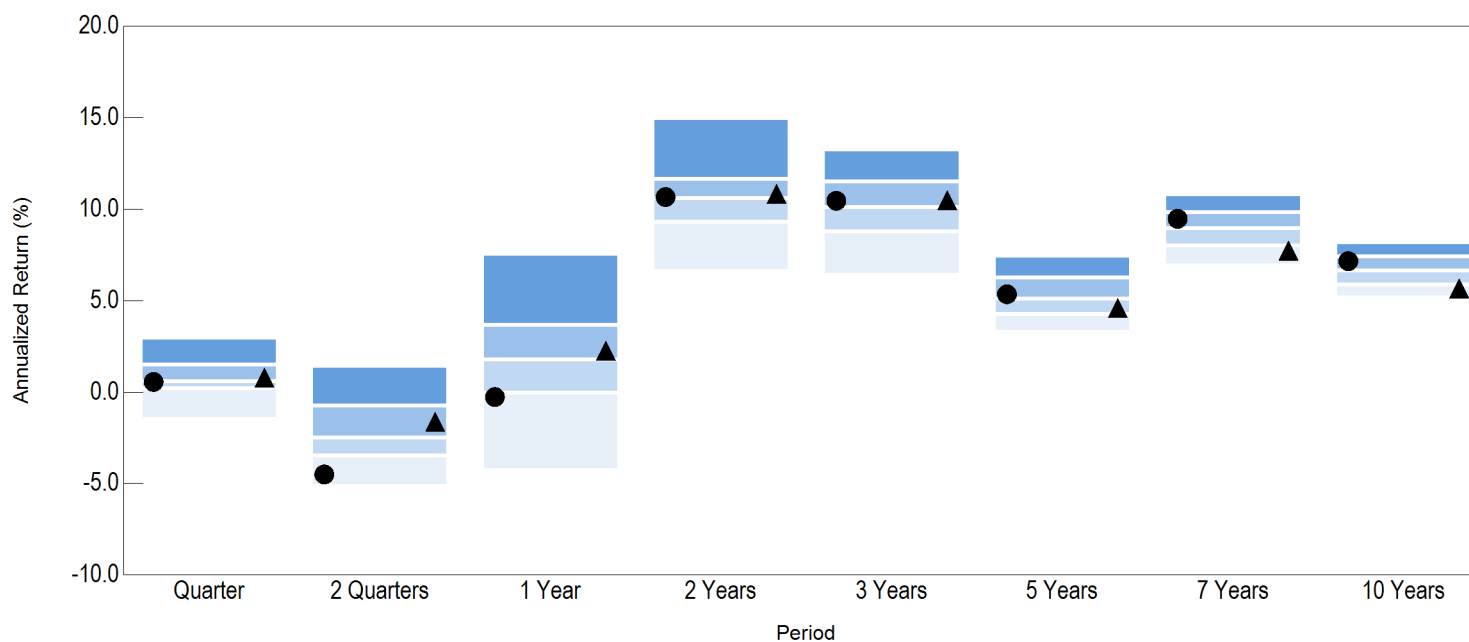
International Equity



MSCI ACWI ex US IMI



eV ACWI ex-US Large Cap Core Eq Gross Return Comparison



	Return (Rank)							
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	2.96	1.40	7.56	14.95	13.26	7.45	10.82	8.16
25th Percentile	1.52	-0.71	3.69	11.66	11.53	6.28	9.87	7.46
Median	0.62	-2.46	1.80	10.62	10.13	5.12	8.97	6.68
75th Percentile	0.25	-3.43	-0.01	9.35	8.80	4.28	8.03	5.89
95th Percentile	-1.45	-5.12	-4.24	6.64	6.41	3.32	6.95	5.19
# of Portfolios	63	63	63	62	62	53	45	38
● AQR	0.56 (59)	-4.50 (87)	-0.27 (77)	10.66 (49)	10.46 (42)	5.35 (41)	9.47 (36)	7.16 (31)
▲ MSCI ACWI ex USA Gross	0.80 (39)	-1.61 (36)	2.25 (39)	10.84 (47)	10.49 (42)	4.60 (65)	7.74 (83)	5.67 (84)

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	702	2,166
Weighted Avg. Market Cap. (\$B)	52.8	62.2
Median Market Cap. (\$B)	14.5	7.7
Price To Earnings	18.2	18.8
Price To Book	3.4	2.6
Price To Sales	2.3	2.4
Return on Equity (%)	19.3	15.6
Yield (%)	3.0	3.0
Beta (holdings; global)	1.0	1.0

Top Holdings

ROCHE HOLDING	2.6%
TOTAL	2.5%
NESTLE 'R'	2.4%
NOVO NORDISK 'B'	2.0%
ENI	1.8%
BP	1.5%
SAP	1.5%
ALLIANZ	1.5%
COVESTRO (XET)	1.5%
THALES	1.4%

Best Performers

	Return %
IDEMITSU KOSAN (J:IDKO)	49.6%
EISAI (J:ES@N)	39.1%
YANGZIJANG SHIPBUILDING (HOLDINGS) (T:YSHL)	36.7%
WIRECARD (D:WDI)	35.8%
SHIONOGI (J:SQ@N)	28.0%
EDF (F:EDF)	27.7%
JFE HOLDINGS (J:JFEH)	23.4%
MARUBENI (J:MRBU)	22.0%
BRAMBLES (A:BXBX)	21.8%
RECRUIT HOLDINGS (J:RHCL)	21.0%

Worst Performers

	Return %
LI & FUNG (K:FUNG)	-38.2%
SUMCO (J:UMCO)	-28.2%
KERRY PROPERTIES (K:KERP)	-28.1%
WYNN MACAU (K:WYNN)	-25.7%
CONTINENTAL (D:CON)	-24.4%
EASYJET (UKIR:EZJ)	-22.4%
KONAMI HOLDINGS (J:KONA)	-22.0%
BAYER (D:BAYN)	-20.1%
ORIGIN ENERGY (EX BORAL) (A:ORGX)	-19.4%
DAITO TST.CONSTRUCTION (J:DITC)	-19.3%

AQR Performance Attribution vs. MSCI ACWI ex USA Gross

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.02%	-0.11%	0.15%	-0.07%	3.06%	4.42%	8.85%	7.43%			
Materials	-0.41%	-0.28%	-0.03%	-0.10%	-2.43%	0.42%	12.31%	8.16%			
Industrials	0.01%	0.00%	0.02%	-0.01%	2.76%	2.85%	13.33%	11.66%			
Consumer Discretionary	0.07%	0.03%	-0.07%	0.11%	-1.98%	-2.71%	14.47%	11.25%			
Consumer Staples	0.25%	0.20%	0.04%	0.01%	2.36%	-0.52%	6.24%	9.67%			
Health Care	0.23%	0.13%	0.05%	0.05%	6.81%	4.48%	8.74%	8.09%			
Financials	-0.05%	-0.03%	-0.04%	0.03%	1.31%	1.64%	15.90%	21.92%			
Information Technology	-0.21%	-0.17%	0.00%	-0.04%	-4.05%	-2.37%	12.36%	11.88%			
Communication Services	-0.06%	0.02%	-0.07%	-0.01%	2.51%	3.57%	1.16%	3.72%			
Utilities	0.04%	0.04%	0.01%	0.00%	0.47%	-0.94%	2.21%	3.01%			
Real Estate	-0.11%	-0.04%	-0.05%	-0.02%	-4.77%	-3.61%	4.44%	3.20%			
Cash	0.00%	--	--	--	--	--	0.00%	0.00%			
Portfolio	-0.28%	=	-0.21%	+	0.00%	+	-0.06%	0.49%	0.77%	100.00%	100.00%

AQR Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	--	0.38%	0.00%	0.17%	--	0.00%	0.00%	--	0.00%
Belgium	10.79%	-5.17%	1.17%	0.74%	0.12%	-0.03%	0.00%	0.07%	0.16%
Czech Republic*	--	3.97%	0.00%	0.04%	--	0.00%	0.00%	--	0.00%
Denmark	2.16%	2.43%	1.94%	1.13%	0.00%	0.01%	-0.01%	0.00%	0.00%
Finland	7.68%	3.19%	1.68%	0.71%	0.03%	0.02%	-0.01%	0.04%	0.09%
France	3.28%	2.88%	9.38%	7.51%	0.03%	0.03%	-0.01%	0.01%	0.06%
Germany	-1.77%	-0.62%	8.55%	6.46%	-0.07%	-0.04%	-0.01%	-0.02%	-0.15%
Greece*	--	-18.10%	0.00%	0.08%	--	0.01%	0.00%	--	0.02%
Hungary*	--	4.66%	0.00%	0.07%	--	0.00%	0.00%	--	0.00%
Ireland	--	-5.25%	0.00%	0.38%	--	0.02%	0.00%	--	0.03%
Italy	-3.83%	-4.16%	1.93%	1.64%	0.01%	-0.02%	0.00%	0.00%	-0.01%
Netherlands	0.38%	-1.56%	4.74%	2.35%	0.05%	-0.07%	-0.02%	0.05%	0.02%
Norway	--	6.85%	0.00%	0.51%	--	-0.03%	0.00%	--	-0.03%
Poland*	--	11.00%	0.00%	0.27%	--	-0.02%	0.00%	--	-0.03%
Portugal	--	-0.40%	0.00%	0.11%	--	0.00%	0.00%	--	0.00%
Russia*	--	7.18%	0.00%	0.85%	--	-0.08%	0.03%	--	-0.05%
Spain	-1.39%	-2.39%	1.96%	2.10%	0.02%	0.00%	0.00%	0.00%	0.03%
Sweden	0.73%	6.54%	2.63%	1.61%	-0.09%	0.04%	0.01%	-0.06%	-0.10%
Switzerland	7.23%	7.30%	7.32%	5.30%	0.00%	0.08%	0.04%	0.00%	0.11%
United Kingdom	-3.34%	-1.60%	12.95%	12.36%	-0.22%	-0.01%	0.00%	-0.01%	-0.24%

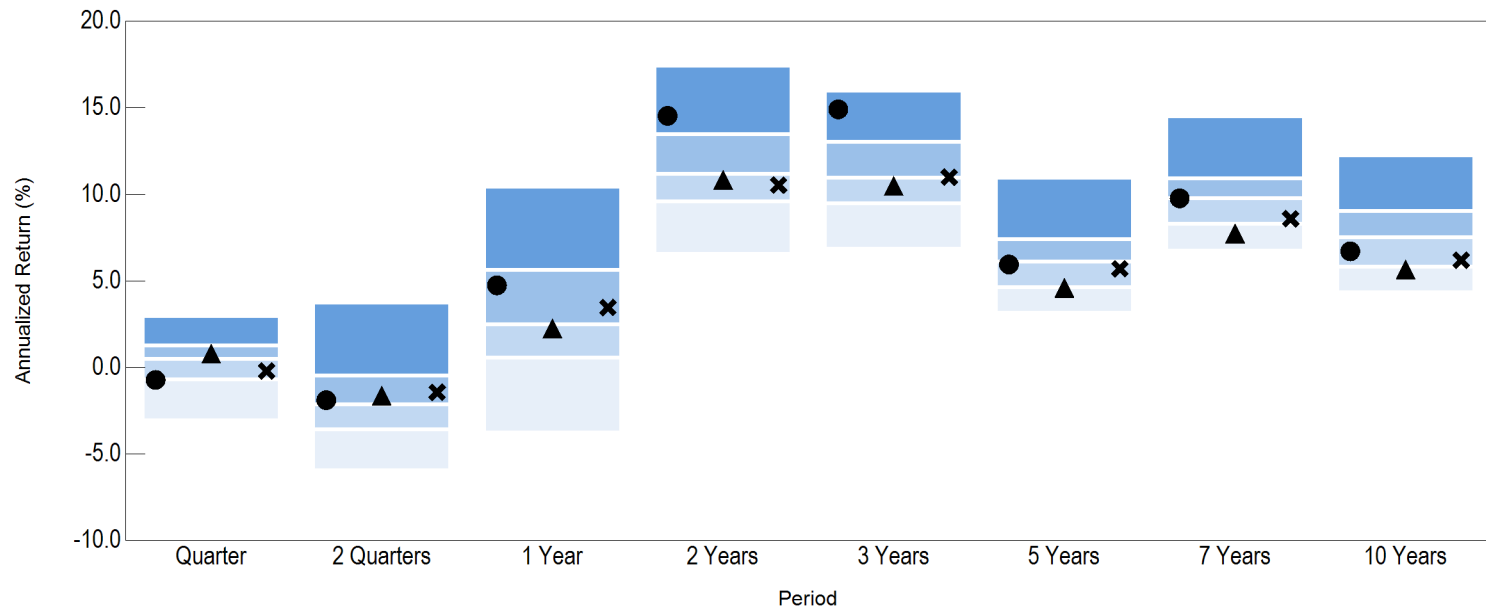
AQR Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
AsiaPacific									
Australia	1.99%	-0.89%	4.19%	4.81%	0.14%	0.00%	0.01%	-0.02%	0.14%
China*	--	-7.27%	0.00%	8.14%	--	0.74%	-0.01%	--	0.72%
Hong Kong	-8.97%	-0.92%	3.00%	2.50%	-0.20%	-0.01%	0.00%	-0.04%	-0.25%
India*	--	-2.29%	0.00%	2.15%	--	-0.04%	0.12%	--	0.08%
Indonesia*	--	1.98%	0.00%	0.47%	--	-0.02%	0.02%	--	0.00%
Japan	0.41%	3.69%	18.94%	16.72%	-0.56%	0.10%	-0.04%	-0.07%	-0.58%
Korea*	--	0.37%	0.00%	3.65%	--	0.06%	-0.02%	--	0.05%
Malaysia*	--	3.84%	0.00%	0.58%	--	-0.03%	0.01%	--	-0.01%
New Zealand	--	2.56%	0.00%	0.15%	--	0.00%	0.00%	--	0.00%
Pakistan*	--	-4.69%	0.00%	0.02%	--	0.00%	0.00%	--	0.00%
Philippines*	--	1.04%	0.00%	0.23%	--	0.00%	0.00%	--	0.00%
Singapore	-5.80%	2.18%	0.62%	0.88%	-0.07%	0.00%	0.00%	0.02%	-0.05%
Taiwan*	--	7.16%	0.00%	2.89%	--	-0.16%	0.00%	--	-0.16%
Thailand*	--	13.69%	0.00%	0.55%	--	-0.05%	-0.01%	--	-0.07%
Americas									
Brazil*	--	6.19%	0.00%	1.46%	--	-0.13%	0.06%	--	-0.07%
Canada	0.15%	0.88%	8.61%	6.64%	-0.05%	-0.05%	0.03%	-0.01%	-0.08%
Chile*	--	-1.93%	0.00%	0.28%	--	0.01%	0.00%	--	0.01%
Colombia*	--	-2.44%	0.00%	0.12%	--	0.00%	0.00%	--	0.00%
Mexico*	--	6.92%	0.00%	0.72%	--	0.00%	-0.04%	--	-0.04%
Peru*	--	-2.13%	0.00%	0.10%	--	0.00%	0.00%	--	0.00%

AQR Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	--	-7.46%	0.00%	0.03%	--	0.00%	0.00%	--	0.00%
Israel	--	5.02%	0.00%	0.37%	--	-0.01%	0.00%	--	-0.01%
Qatar*	--	11.51%	0.00%	0.21%	--	-0.02%	0.00%	--	-0.02%
South Africa*	--	-7.12%	0.00%	1.58%	--	0.09%	0.05%	--	0.14%
Turkey*	--	-20.54%	0.00%	0.19%	--	0.00%	0.05%	--	0.04%
United Arab Emirates*	--	1.20%	0.00%	0.16%	--	0.00%	0.00%	--	0.00%
Totals									
Americas	0.15%	2.02%	8.61%	9.33%	-0.25%	0.00%	0.06%	0.02%	-0.16%
Europe	0.90%	0.96%	54.25%	44.39%	-0.07%	-0.02%	0.01%	-0.02%	-0.10%
Asia/Pacific	-0.54%	0.60%	26.75%	43.74%	-0.23%	-0.08%	0.09%	0.09%	-0.13%
Other	--	-4.34%	0.00%	2.54%	--	0.06%	0.09%	--	0.15%
Cash	0.49%	--	10.39%	0.00%	0.00%	-0.12%	0.00%	0.00%	-0.12%
Unclassified	--	--	0.00%	0.00%	--	0.00%	0.00%	--	0.00%
Total	0.41%	0.77%	100.00%	100.00%	-0.55%	-0.16%	0.26%	0.09%	-0.36%
Totals									
Developed	0.40%	1.32%	89.61%	75.14%	-0.78%	0.07%	-0.01%	-0.15%	-0.87%
Emerging*	--	-0.91%	0.00%	24.86%	--	0.36%	0.27%	--	0.63%
Cash	0.49%	--	10.39%	0.00%	0.00%	-0.12%	0.00%	0.00%	-0.12%

eV All ACWI ex-US Equity Gross Return Comparison



	Return (Rank)							
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	2.96	3.73	10.42	17.42	15.97	10.95	14.52	12.24
25th Percentile	1.29	-0.45	5.65	13.50	13.05	7.42	10.93	9.07
Median	0.51	-2.10	2.50	11.20	10.97	6.14	9.80	7.55
75th Percentile	-0.65	-3.55	0.60	9.61	9.49	4.64	8.32	5.86
95th Percentile	-3.03	-5.93	-3.73	6.59	6.89	3.18	6.78	4.37
# of Portfolios	289	289	289	286	277	237	204	169
● Capital Group	-0.72 (76)	-1.89 (46)	4.75 (31)	14.54 (19)	14.91 (12)	5.95 (53)	9.77 (52)	6.71 (64)
▲ MSCI ACWI ex USA Gross	0.80 (39)	-1.61 (41)	2.25 (53)	10.84 (59)	10.49 (57)	4.60 (77)	7.74 (85)	5.67 (81)
✕ MSCI ACWI ex USA Growth Gross	-0.20 (68)	-1.43 (38)	3.46 (41)	10.54 (64)	11.00 (50)	5.70 (56)	8.59 (72)	6.20 (72)

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	219	2,166
Weighted Avg. Market Cap. (\$B)	57.3	62.2
Median Market Cap. (\$B)	16.7	7.7
Price To Earnings	22.6	18.8
Price To Book	4.2	2.6
Price To Sales	4.0	2.4
Return on Equity (%)	18.6	15.6
Yield (%)	2.2	3.0
Beta (holdings; global)	1.1	1.0

Top Holdings

AIRBUS	2.8%
VALE ON ADR 1:1	2.3%
AIA GROUP	2.2%
TAIWAN SEMICON.MNFG.	2.1%
OCADO GROUP	2.0%
ASTRAZENECA	2.0%
SAMSUNG ELECTRONICS	1.8%
PING AN INSURANCE (GROUP) OF CHINA 'H'	1.6%
ENEL	1.6%
SAFRAN	1.6%

Best Performers

	Return %
SOFTBANK GROUP (J:SFTB)	40.6%
SEMEN INDONESIA (PERSERO) (ID:GSK)	34.0%
AGGREKO (UKIR:AGK)	28.9%
SHIONOGI (J:SQ@N)	28.0%
TAIWAN SEMICON.MNFG. (TW:TSM)	21.1%
TAIWAN SEMICON.SPN.ADR 1:5 (TSM)	20.8%
ASAHI KASEI (J:AC@N)	20.5%
SES FDR (PAR) (F:SESG)	19.8%
VALE ON (BR:VA3)	19.5%
VALE ON ADR 1:1 (VALE)	19.0%

Worst Performers

	Return %
THOMAS COOK GROUP (UKIR:TCG)	-46.9%
RENESAS ELECTRONICS (J:RENE)	-36.2%
ALTICE EUROPE (H:ATC)	-33.8%
JD.COM 'A' ADR 1:2 (JD)	-33.0%
CYBERDYNE (J:DYNE)	-32.6%
AKBANK (TK:AKB)	-29.8%
SHAFSN.PHARM. (GROUP) 'H' (K:SFPG)	-27.3%
AAC TECHNOLOGIES HDG. (K:AACA)	-25.9%
WYNN MACAU (K:WYNN)	-25.7%
CIELO ON (BR:VIS)	-25.0%

Capital Group Performance Attribution vs. MSCI ACWI ex USA Gross

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.21%	-0.25%	-0.18%	0.22%	1.88%	4.51%	2.70%	7.43%			
Materials	0.43%	0.67%	0.00%	-0.24%	8.69%	0.50%	4.75%	8.17%			
Industrials	0.00%	0.00%	-0.02%	0.02%	2.91%	2.80%	10.83%	11.59%			
Consumer Discretionary	-1.43%	-0.81%	-0.18%	-0.44%	-9.48%	-2.64%	17.23%	11.30%			
Consumer Staples	0.00%	-0.04%	0.03%	0.00%	-1.23%	-0.50%	7.30%	9.69%			
Health Care	-0.20%	-0.13%	-0.07%	-0.01%	1.96%	4.36%	6.03%	8.11%			
Financials	-0.39%	-0.18%	0.00%	-0.20%	-0.26%	1.57%	21.22%	21.82%			
Information Technology	0.56%	0.56%	-0.15%	0.15%	2.18%	-2.36%	16.30%	11.92%			
Communication Services	0.09%	0.14%	-0.01%	-0.04%	6.31%	3.65%	3.51%	3.73%			
Utilities	-0.10%	-0.11%	0.00%	0.01%	-4.30%	-0.88%	2.96%	3.03%			
Real Estate	0.05%	0.07%	-0.10%	0.08%	-0.37%	-3.51%	5.55%	3.20%			
Cash	-0.02%	0.00%	-0.02%	0.00%	0.49%	--	1.62%	0.00%			
Portfolio	-1.21%	=	-0.07%	+	-0.69%	+	-0.45%	-0.44%	0.77%	100.00%	100.00%

Capital Group Performance Attribution vs. MSCI ACWI ex USA Gross

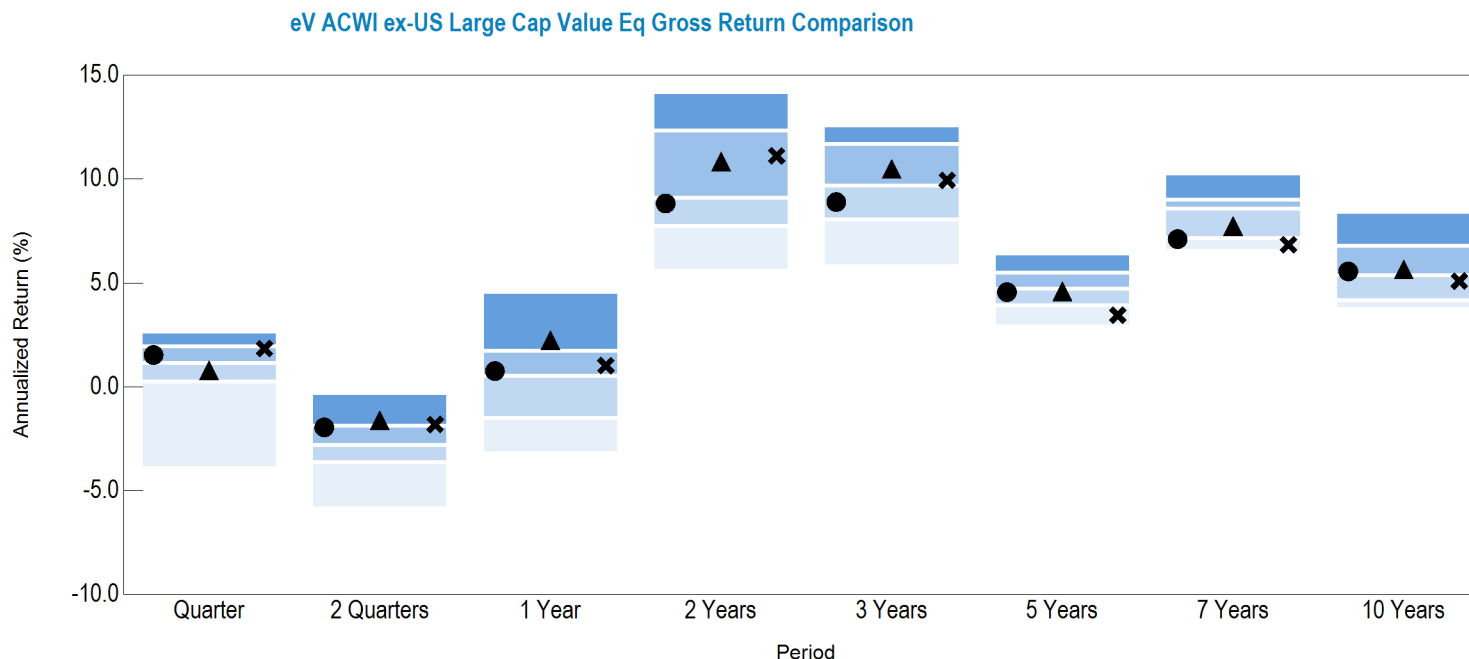
	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	--	0.38%	0.00%	0.17%	--	0.00%	0.00%	--	0.00%
Belgium	-3.56%	-5.17%	0.32%	0.74%	0.01%	0.03%	0.00%	-0.01%	0.03%
Czech Republic*	--	3.97%	0.00%	0.04%	--	0.00%	0.00%	--	0.00%
Denmark	4.36%	2.43%	3.13%	1.13%	0.02%	0.03%	-0.01%	0.04%	0.08%
Finland	--	3.19%	0.00%	0.71%	--	-0.01%	0.00%	--	-0.01%
France	5.27%	2.88%	9.54%	7.51%	0.18%	0.04%	-0.01%	0.05%	0.25%
Germany	3.51%	-0.62%	6.58%	6.46%	0.27%	0.00%	0.00%	0.00%	0.27%
Greece*	--	-18.10%	0.00%	0.08%	--	0.01%	0.00%	--	0.02%
Hungary*	--	4.66%	0.00%	0.07%	--	0.00%	0.00%	--	0.00%
Ireland	-7.95%	-5.25%	0.64%	0.38%	-0.01%	-0.02%	0.00%	-0.01%	-0.03%
Italy	-5.16%	-4.16%	1.63%	1.64%	-0.02%	0.00%	0.00%	0.00%	-0.02%
Luxembourg	19.83%	0.77%	0.30%	0.00%	0.00%	0.00%	0.00%	0.06%	0.05%
Netherlands	-6.61%	-1.56%	2.26%	2.35%	-0.12%	0.00%	0.00%	0.00%	-0.11%
Norway	0.65%	6.85%	0.57%	0.51%	-0.03%	0.00%	0.00%	0.00%	-0.03%
Poland*	--	11.00%	0.00%	0.27%	--	-0.02%	0.00%	--	-0.03%
Portugal	--	-0.40%	0.00%	0.11%	--	0.00%	0.00%	--	0.00%
Russia*	-4.66%	7.18%	0.59%	0.85%	-0.14%	-0.03%	0.03%	0.04%	-0.08%
Spain	0.23%	-2.39%	1.44%	2.10%	0.06%	0.02%	0.00%	-0.02%	0.06%
Sweden	-0.19%	6.54%	0.69%	1.61%	-0.11%	-0.04%	-0.01%	0.06%	-0.09%
Switzerland	2.92%	7.30%	2.52%	5.30%	-0.23%	-0.11%	-0.05%	0.12%	-0.27%
United Kingdom	-3.82%	-1.60%	15.95%	12.36%	-0.28%	-0.07%	-0.03%	-0.08%	-0.47%

Capital Group Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
AsiaPacific									
Australia	-7.46%	-0.89%	0.67%	4.81%	-0.32%	0.02%	0.09%	0.28%	0.06%
China*	-9.81%	-7.27%	6.41%	8.14%	-0.21%	0.16%	0.00%	0.04%	-0.01%
Hong Kong	-2.26%	-0.92%	8.29%	2.50%	-0.03%	-0.16%	0.01%	-0.07%	-0.26%
India*	-11.19%	-2.29%	6.48%	2.15%	-0.22%	0.08%	-0.17%	-0.43%	-0.75%
Indonesia*	4.42%	1.98%	2.20%	0.47%	0.01%	0.08%	-0.07%	0.04%	0.06%
Japan	0.38%	3.69%	11.06%	16.72%	-0.57%	-0.27%	0.16%	0.19%	-0.48%
Korea*	0.41%	0.37%	1.99%	3.65%	0.00%	0.03%	-0.01%	0.00%	0.02%
Malaysia*	--	3.84%	0.00%	0.58%	--	-0.03%	0.01%	--	-0.01%
New Zealand	3.28%	2.56%	0.08%	0.15%	0.00%	0.00%	0.00%	0.00%	0.00%
Pakistan*	--	-4.69%	0.00%	0.02%	--	0.00%	0.00%	--	0.00%
Philippines*	-7.03%	1.04%	0.17%	0.23%	-0.02%	0.00%	0.00%	0.00%	-0.01%
Singapore	-2.00%	2.18%	1.13%	0.88%	-0.04%	0.00%	0.00%	-0.01%	-0.05%
Taiwan*	15.84%	7.16%	3.38%	2.89%	0.25%	0.03%	0.00%	0.04%	0.32%
Thailand*	2.44%	13.69%	0.18%	0.55%	-0.06%	-0.03%	-0.01%	0.04%	-0.07%
Americas									
Brazil*	11.43%	6.19%	3.51%	1.46%	0.03%	0.18%	0.02%	0.05%	0.28%
Canada	-8.45%	0.88%	0.54%	6.64%	-0.61%	0.15%	-0.11%	0.56%	0.00%
Chile*	--	-1.93%	0.00%	0.28%	--	0.01%	0.00%	--	0.01%
Colombia*	--	-2.44%	0.00%	0.12%	--	0.00%	0.00%	--	0.00%
Mexico*	-2.68%	6.92%	0.56%	0.72%	-0.03%	0.00%	-0.04%	0.01%	-0.06%
Peru*	--	-2.13%	0.00%	0.10%	--	0.00%	0.00%	--	0.00%
United States	4.56%	7.36%	2.46%	0.00%	0.00%	0.14%	0.00%	-0.07%	0.07%

Capital Group Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	--	-7.46%	0.00%	0.03%	--	0.00%	0.00%	--	0.00%
Israel	12.41%	5.02%	0.96%	0.37%	0.03%	0.02%	0.01%	0.04%	0.09%
Qatar*	--	11.51%	0.00%	0.21%	--	-0.02%	0.00%	--	-0.02%
South Africa*	-6.29%	-7.12%	1.67%	1.58%	0.01%	-0.01%	0.00%	0.00%	0.01%
Turkey*	-29.82%	-20.54%	0.29%	0.19%	-0.02%	0.00%	-0.02%	-0.01%	-0.05%
United Arab Emirates*	14.98%	1.20%	0.18%	0.16%	0.02%	0.00%	0.00%	0.00%	0.03%
Totals									
Americas	6.40%	2.02%	7.07%	9.33%	0.53%	0.01%	-0.12%	-0.13%	0.30%
Europe	0.16%	0.96%	46.15%	44.39%	-0.28%	0.00%	-0.08%	-0.01%	-0.38%
Asia/Pacific	-2.22%	0.60%	42.05%	43.74%	-1.21%	-0.01%	0.00%	0.05%	-1.17%
Other	-1.45%	-4.34%	3.11%	2.54%	0.07%	-0.01%	-0.01%	0.02%	0.06%
Cash	0.49%	--	1.62%	0.00%	0.00%	-0.02%	0.00%	0.00%	-0.02%
Unclassified	--	--	0.00%	0.00%	--	0.00%	0.00%	--	0.00%
Total	-0.44%	0.77%	100.00%	100.00%	-0.90%	-0.03%	-0.21%	-0.08%	-1.21%
Totals									
Developed	0.11%	1.32%	70.74%	75.14%	-0.92%	-0.02%	0.04%	0.05%	-0.85%
Emerging*	-1.91%	-0.91%	27.63%	24.86%	-0.05%	-0.04%	-0.25%	-0.01%	-0.35%
Cash	0.49%	--	1.62%	0.00%	0.00%	-0.02%	0.00%	0.00%	-0.02%



	Return (Rank)							
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	2.66	-0.32	4.55	14.17	12.56	6.40	10.27	8.43
25th Percentile	1.97	-1.86	1.77	12.36	11.70	5.51	9.02	6.82
Median	1.17	-2.79	0.55	9.11	9.70	4.74	8.61	5.40
75th Percentile	0.28	-3.60	-1.50	7.78	8.07	3.94	7.19	4.18
95th Percentile	-3.90	-5.84	-3.17	5.61	5.84	2.91	6.55	3.76
# of Portfolios	22	22	22	22	22	19	17	14
● Mondrian	1.53 (44)	-1.95 (35)	0.76 (40)	8.83 (60)	8.90 (60)	4.56 (54)	7.11 (79)	5.56 (46)
▲ MSCI ACWI ex USA Gross	0.80 (63)	-1.61 (22)	2.25 (19)	10.84 (37)	10.49 (40)	4.60 (53)	7.74 (64)	5.67 (45)
✕ MSCI ACWI ex USA Value Gross	1.85 (31)	-1.81 (24)	1.02 (37)	11.12 (36)	9.94 (43)	3.45 (79)	6.84 (94)	5.09 (59)

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	67	2,166
Weighted Avg. Market Cap. (\$B)	52.9	62.2
Median Market Cap. (\$B)	33.7	7.7
Price To Earnings	13.2	18.8
Price To Book	1.5	2.6
Price To Sales	1.3	2.4
Return on Equity (%)	10.9	15.6
Yield (%)	4.2	3.0
Beta (holdings; global)	1.0	1.0

Top Holdings

SANOFI	3.9%
ENI	3.3%
ENEL	3.2%
CK HUTCHISON HOLDINGS	3.2%
UNITED OVERSEAS BANK	3.2%
LLOYDS BANKING GROUP	3.1%
BP	2.9%
HONDA MOTOR	2.9%
TELIA COMPANY	2.9%
GLAXOSMITHKLINE	2.8%

Best Performers

	Return %
WOOD GROUP (JOHN) (UKIR:WG.)	22.8%
ISUZU MOTORS (J:IM@N)	19.9%
FUJITSU (J:FT@N)	18.5%
FUJIFILM HOLDINGS (J:FP@N)	16.2%
ERICSSON B (W:SL@G)	14.6%
QBE INSURANCE GROUP (A:QBEX)	14.1%
NOVARTIS 'R' (S:NOVN)	14.0%
SANOFI (F:SQ@F)	10.9%
CK HUTCHISON HOLDINGS (K:CHGK)	9.8%
SEKISUI CHEMICAL (J:EK@N)	9.3%

Worst Performers

	Return %
COCA-COLA BOTTLERS JAPAN HOLDINGS (J:KITK)	-33.0%
TRAVIS PERKINS (UKIR:TPK)	-26.0%
KINGFISHER (UKIR:KGF)	-14.2%
SSE (UKIR:SSE)	-12.1%
G4S (UKIR:GFS)	-9.3%
TESCO (UKIR:TSCO)	-7.7%
WPP (UKIR:WPP)	-6.9%
TELEFONICA (E:TEF)	-6.8%
NATIONAL GRID (UKIR:NG.)	-6.8%
LLOYDS BANKING GROUP (UKIR:LLOY)	-5.5%

Mondrian Performance Attribution vs. MSCI ACWI ex USA Gross

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.43%	0.16%	0.14%	0.13%	6.94%	4.42%	4.68%	7.43%			
Materials	0.17%	0.29%	0.01%	-0.13%	4.28%	0.42%	2.06%	8.16%			
Industrials	0.48%	0.26%	0.07%	0.14%	6.10%	2.85%	13.84%	11.66%			
Consumer Discretionary	0.68%	0.44%	-0.41%	0.66%	1.09%	-2.71%	29.49%	11.25%			
Consumer Staples	-0.26%	-0.46%	0.07%	0.14%	-5.36%	-0.52%	2.44%	9.67%			
Health Care	0.71%	0.37%	0.16%	0.18%	9.06%	4.48%	13.55%	8.09%			
Financials	0.90%	0.86%	0.05%	0.00%	5.91%	1.64%	23.15%	21.92%			
Information Technology	0.62%	1.31%	0.29%	-0.98%	7.35%	-2.37%	3.59%	11.88%			
Communication Services	-0.44%	-0.12%	-0.01%	-0.30%	0.60%	3.57%	0.05%	3.72%			
Utilities	-0.94%	-0.28%	-0.12%	-0.54%	-10.28%	-0.94%	7.16%	3.01%			
Real Estate	0.17%	0.09%	0.06%	0.01%	-0.57%	-3.61%	0.00%	3.20%			
Cash	0.00%	--	--	--	--	--	0.00%	0.00%			
Portfolio	2.54%	=	2.93%	+	0.30%	+	-0.69%	3.31%	0.77%	100.00%	100.00%

Mondrian Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	--	0.38%	0.00%	0.17%	--	0.00%	0.00%	--	0.00%
Belgium	--	-5.17%	0.00%	0.74%	--	0.05%	0.00%	--	0.05%
Czech Republic*	--	3.97%	0.00%	0.04%	--	0.00%	0.00%	--	0.00%
Denmark	2.43%	2.43%	4.32%	1.13%	0.00%	0.05%	-0.02%	0.00%	0.03%
Finland	--	3.19%	0.00%	0.71%	--	-0.01%	0.00%	--	-0.01%
France	--	2.88%	0.00%	7.51%	--	-0.13%	0.04%	--	-0.09%
Germany	2.67%	-0.62%	31.77%	6.46%	0.21%	-0.44%	-0.14%	0.84%	0.48%
Greece*	--	-18.10%	0.00%	0.08%	--	0.01%	0.00%	--	0.02%
Hungary*	--	4.66%	0.00%	0.07%	--	0.00%	0.00%	--	0.00%
Ireland	--	-5.25%	0.00%	0.38%	--	0.02%	0.00%	--	0.03%
Italy	4.48%	-4.16%	3.07%	1.64%	0.14%	-0.08%	-0.01%	0.12%	0.18%
Netherlands	-2.17%	-1.56%	3.03%	2.35%	-0.01%	-0.02%	-0.01%	0.00%	-0.04%
Norway	--	6.85%	0.00%	0.51%	--	-0.03%	0.00%	--	-0.03%
Poland*	--	11.00%	0.00%	0.27%	--	-0.02%	0.00%	--	-0.03%
Portugal	--	-0.40%	0.00%	0.11%	--	0.00%	0.00%	--	0.00%
Russia*	--	7.18%	0.00%	0.85%	--	-0.08%	0.03%	--	-0.05%
Spain	-6.82%	-2.39%	0.04%	2.10%	-0.09%	0.07%	0.01%	0.09%	0.08%
Sweden	--	6.54%	0.00%	1.61%	--	-0.07%	-0.01%	--	-0.08%
Switzerland	9.55%	7.30%	26.00%	5.30%	0.12%	0.81%	0.37%	0.46%	1.76%
United Kingdom	-5.11%	-1.60%	20.61%	12.36%	-0.44%	-0.17%	-0.09%	-0.29%	-0.99%

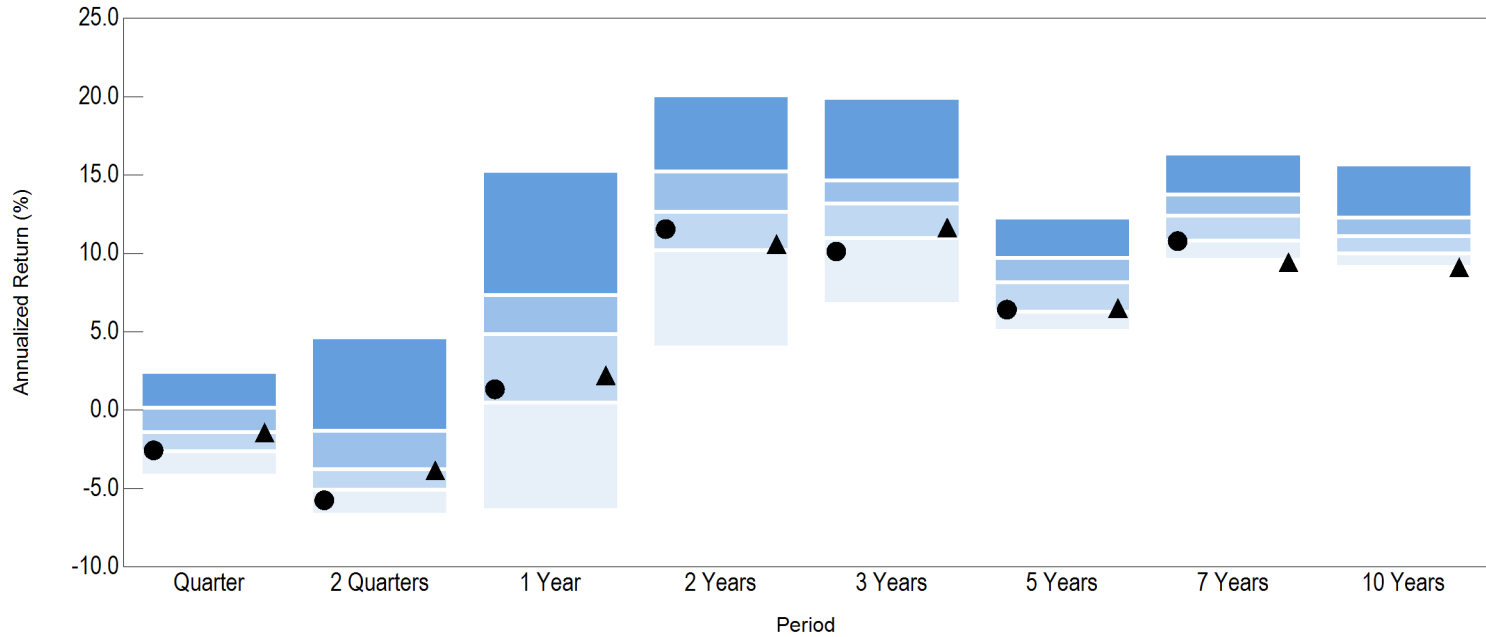
Mondrian Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
AsiaPacific									
Australia	--	-0.89%	0.00%	4.81%	--	0.02%	0.10%	--	0.12%
China*	--	-7.27%	0.00%	8.14%	--	0.74%	-0.01%	--	0.72%
Hong Kong	--	-0.92%	0.00%	2.50%	--	0.07%	-0.01%	--	0.06%
India*	--	-2.29%	0.00%	2.15%	--	-0.04%	0.12%	--	0.08%
Indonesia*	--	1.98%	0.00%	0.47%	--	-0.02%	0.02%	--	0.00%
Japan	1.48%	3.69%	5.99%	16.72%	-0.38%	-0.50%	0.29%	0.24%	-0.35%
Korea*	--	0.37%	0.00%	3.65%	--	0.06%	-0.02%	--	0.05%
Malaysia*	--	3.84%	0.00%	0.58%	--	-0.03%	0.01%	--	-0.01%
New Zealand	--	2.56%	0.00%	0.15%	--	0.00%	0.00%	--	0.00%
Pakistan*	--	-4.69%	0.00%	0.02%	--	0.00%	0.00%	--	0.00%
Philippines*	--	1.04%	0.00%	0.23%	--	0.00%	0.00%	--	0.00%
Singapore	--	2.18%	0.00%	0.88%	--	-0.01%	0.00%	--	0.00%
Taiwan*	--	7.16%	0.00%	2.89%	--	-0.16%	0.00%	--	-0.16%
Thailand*	--	13.69%	0.00%	0.55%	--	-0.05%	-0.01%	--	-0.07%
Americas									
Brazil*	--	6.19%	0.00%	1.46%	--	-0.13%	0.06%	--	-0.07%
Canada	--	0.88%	0.00%	6.64%	--	0.17%	-0.12%	--	0.05%
Chile*	--	-1.93%	0.00%	0.28%	--	0.01%	0.00%	--	0.01%
Colombia*	--	-2.44%	0.00%	0.12%	--	0.00%	0.00%	--	0.00%
Mexico*	--	6.92%	0.00%	0.72%	--	0.00%	-0.04%	--	-0.04%
Peru*	--	-2.13%	0.00%	0.10%	--	0.00%	0.00%	--	0.00%

Mondrian Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	--	-7.46%	0.00%	0.03%	--	0.00%	0.00%	--	0.00%
Israel	--	5.02%	0.00%	0.37%	--	-0.01%	0.00%	--	-0.01%
Qatar*	--	11.51%	0.00%	0.21%	--	-0.02%	0.00%	--	-0.02%
South Africa*	--	-7.12%	0.00%	1.58%	--	0.09%	0.05%	--	0.14%
Turkey*	--	-20.54%	0.00%	0.19%	--	0.00%	0.05%	--	0.04%
United Arab Emirates*	--	1.20%	0.00%	0.16%	--	0.00%	0.00%	--	0.00%
Totals									
Americas	--	2.02%	0.00%	9.33%	--	0.05%	-0.09%	--	-0.04%
Europe	2.76%	0.96%	88.84%	44.39%	0.61%	-0.10%	0.19%	0.61%	1.30%
Asia/Pacific	1.48%	0.60%	5.99%	43.74%	0.85%	-0.18%	0.51%	-0.74%	0.44%
Other	--	-4.34%	0.00%	2.54%	--	0.06%	0.09%	--	0.15%
Cash	0.49%	--	5.17%	0.00%	0.00%	-0.06%	0.00%	0.00%	-0.06%
Total	2.57%	0.77%	100.00%	100.00%	1.46%	-0.23%	0.70%	-0.13%	1.80%
Totals									
Developed	2.68%	1.32%	94.83%	75.14%	0.56%	0.09%	0.43%	0.15%	1.23%
Emerging*	--	-0.91%	0.00%	24.86%	--	0.36%	0.27%	--	0.63%
Cash	0.49%	--	5.17%	0.00%	0.00%	-0.06%	0.00%	0.00%	-0.06%

eV ACWI ex-US Small Cap Equity Gross Return Comparison



	Quarter		2 Quarters		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
Return (Rank)																
5th Percentile	2.45		4.62		15.27		20.07		19.90		12.26		16.34		15.66	
25th Percentile	0.20		-1.30		7.39		15.24		14.66		9.74		13.76		12.31	
Median	-1.37		-3.75		4.86		12.67		13.21		8.17		12.42		11.12	
75th Percentile	-2.61		-5.06		0.51		10.23		11.00		6.29		10.86		10.02	
95th Percentile	-4.13		-6.65		-6.36		4.04		6.81		5.07		9.63		9.17	
# of Portfolios	54		54		54		53		50		36		30		27	
● Templeton	-2.56	(74)	-5.74	(86)	1.34	(66)	11.55	(65)	10.13	(83)	6.41	(67)	10.79	(78)	--	(--)
▲ MSCI ACWI ex US Small Cap Gross	-1.42	(52)	-3.83	(53)	2.24	(59)	10.59	(73)	11.65	(69)	6.52	(63)	9.44	(97)	9.11	(96)

Characteristics

	Portfolio	MSCI ACWI ex US Small Cap Gross
Number of Holdings	99	4,290
Weighted Avg. Market Cap. (\$B)	2.3	2.4
Median Market Cap. (\$B)	1.5	0.9
Price To Earnings	19.3	18.5
Price To Book	3.4	2.5
Price To Sales	1.8	2.5
Return on Equity (%)	14.8	12.9
Yield (%)	2.4	2.4
Beta (holdings; global)	0.9	0.9

Top Holdings

TECHNOGYM	2.2%
AMER SPORTS	2.1%
TSUMURA	2.1%
THULE GROUP	2.0%
HUHTAMAKI	2.0%
INTERPUMP GROUP	1.9%
BUCHER INDUSTRIES	1.9%
ANICOM HOLDINGS	1.9%
DEWAN HOUSING FINANCE	1.8%
GERRESHEIMER	1.8%

Best Performers

	Return %
AMER SPORTS (M:AMEAS)	29.6%
LIVANOVA (LIVN)	24.2%
HYUNDAI MIPO DOCKYARD (KO:HMO)	21.2%
TOMRA SYSTEMS (N:TOM)	18.8%
DESCENTE (J:DCNT)	18.4%
ZOJIRUSHI (J:ZOJR)	15.7%
TECHTRONIC INDS. (K:TRON)	15.5%
MORITA HOLDINGS (J:MOFP)	12.8%
RATIONAL (D:RAA)	10.4%
GRAN TIERRA ENERGY (TSE) (C:GTE)	10.0%

Worst Performers

	Return %
DEWAN HOUSING FINANCE (IN:DWH)	-59.2%
IDOM (J:GULL)	-37.9%
XXL (N:XXL)	-36.4%
BETER BED HOLDING (H:BET)	-34.4%
GOODBABY INTL.HOLDINGS (K:GBIH)	-33.9%
MAVI GIYIM SANAYI VE TICARET (TK:MGV)	-30.0%
STELLA INTL.HOLDINGS (K:STLI)	-25.1%
KING YUAN ELTN. (TW:KYE)	-21.6%
ALAMOS GOLD 'A' (NYS) (AGI)	-19.0%
OUTOTEC (M:OTE1)	-17.9%

Templeton Performance Attribution vs. MSCI ACWI ex US Small Cap Gross

	Total Effects	Attribution Effects				Returns		Sector Weights					
		Selection Effect	Allocation Effect	Currency Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark				
Energy	-0.08%	-0.14%	-0.01%	0.06%	0.01%	2.27%	4.24%	3.53%	3.81%				
Materials	0.03%	-0.26%	0.10%	0.07%	0.12%	-5.78%	-3.62%	5.95%	10.71%				
Industrials	-0.31%	-0.38%	0.03%	0.08%	-0.04%	-1.56%	-0.08%	21.49%	19.51%				
Consumer Discretionary	-0.19%	0.04%	-0.21%	-0.05%	0.03%	-2.56%	-3.21%	27.68%	14.99%				
Consumer Staples	-0.28%	-0.19%	-0.02%	-0.05%	-0.03%	-6.22%	-2.98%	7.79%	6.68%				
Health Care	0.04%	0.16%	-0.08%	-0.02%	-0.03%	5.94%	4.21%	6.01%	7.44%				
Financials	-1.43%	-1.24%	0.00%	0.05%	-0.24%	-11.92%	-0.99%	12.99%	10.90%				
Information Technology	0.34%	0.27%	-0.02%	0.06%	0.01%	-1.10%	-3.93%	12.68%	12.04%				
Communication Services	-0.03%	--	-0.03%	0.00%	--	--	1.88%	0.00%	1.24%				
Utilities	0.05%	--	0.02%	0.03%	--	--	-2.02%	0.00%	2.71%				
Real Estate	0.08%	0.31%	-0.03%	0.05%	-0.25%	2.16%	-0.61%	1.88%	9.97%				
Cash	0.00%	--	--	--	--	--	--	0.00%	0.00%				
Unclassified	0.00%	--	--	--	--	--	--	0.00%	0.00%				
Portfolio	-1.80%	=	-1.43%	+	-0.24%	+	0.29%	+	-0.42%	-3.08%	-1.28%	100.00%	100.00%

Templeton Performance Attribution vs. MSCI ACWI ex US Small Cap Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	--	1.54%	0.00%	0.62%	--	-0.01%	0.00%	--	-0.01%
Belgium	4.78%	-0.38%	2.62%	1.25%	0.06%	0.01%	-0.01%	0.07%	0.13%
Czech Republic*	--	-11.09%	0.00%	0.01%	--	0.00%	0.00%	--	0.00%
Denmark	4.50%	-3.41%	1.02%	1.34%	0.11%	0.01%	0.00%	-0.02%	0.09%
Finland	6.84%	-2.62%	4.42%	1.09%	0.10%	-0.06%	-0.02%	0.32%	0.34%
France	--	-3.01%	0.00%	2.75%	--	0.06%	0.01%	--	0.08%
Germany	-1.43%	-0.77%	7.99%	4.17%	-0.03%	0.00%	-0.02%	-0.03%	-0.07%
Greece*	--	3.43%	0.00%	0.16%	--	-0.01%	0.00%	--	-0.01%
Hungary*	--	-4.94%	0.00%	0.03%	--	0.00%	0.00%	--	0.00%
Ireland	--	-4.36%	0.00%	0.58%	--	0.02%	0.00%	--	0.02%
Italy	3.98%	-0.36%	5.24%	2.63%	0.11%	0.01%	-0.01%	0.11%	0.22%
Netherlands	-6.91%	-0.98%	3.76%	1.92%	-0.11%	0.00%	-0.01%	-0.11%	-0.24%
Norway	-36.38%	5.11%	0.70%	1.37%	-0.57%	-0.04%	0.00%	0.28%	-0.33%
Poland*	9.13%	-2.23%	0.81%	0.19%	0.02%	-0.02%	0.01%	0.07%	0.08%
Portugal	--	-4.56%	0.00%	0.29%	--	0.01%	0.00%	--	0.01%
Russia*	--	-9.18%	0.00%	0.19%	--	0.01%	0.01%	--	0.02%
Spain	-13.23%	-1.15%	1.64%	1.98%	-0.24%	0.00%	0.00%	0.04%	-0.20%
Sweden	-3.82%	4.90%	4.93%	3.70%	-0.32%	0.06%	0.01%	-0.11%	-0.37%
Switzerland	-1.07%	-2.41%	3.23%	3.18%	0.06%	0.00%	-0.02%	0.00%	0.04%
United Kingdom	-0.51%	-4.14%	5.56%	13.65%	0.50%	0.22%	0.09%	-0.30%	0.51%

Templeton Performance Attribution vs. MSCI ACWI ex US Small Cap Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
AsiaPacific									
Australia	--	-0.74%	0.00%	5.13%	--	-0.08%	0.11%	--	0.02%
China*	9.26%	-9.34%	0.80%	2.68%	0.50%	0.17%	0.00%	-0.35%	0.32%
Hong Kong	-3.49%	-6.06%	9.43%	1.48%	0.04%	-0.48%	0.02%	0.20%	-0.22%
India*	-59.24%	-12.96%	2.14%	3.01%	-1.47%	0.07%	0.10%	0.43%	-0.88%
Indonesia*	--	-8.01%	0.00%	0.47%	--	0.02%	0.02%	--	0.04%
Japan	-2.99%	0.08%	22.52%	23.10%	-0.73%	-0.02%	0.03%	0.02%	-0.69%
Korea*	0.42%	1.47%	2.97%	3.73%	-0.04%	-0.01%	0.00%	0.01%	-0.04%
Malaysia*	--	0.08%	0.00%	0.66%	--	-0.02%	0.02%	--	0.00%
New Zealand	--	1.62%	0.00%	0.67%	--	-0.03%	0.01%	--	-0.01%
Pakistan*	--	-3.75%	0.00%	0.16%	--	0.00%	0.00%	--	0.01%
Philippines*	-2.03%	-6.37%	0.53%	0.17%	0.01%	-0.02%	0.00%	0.02%	0.00%
Singapore	--	1.15%	0.00%	1.13%	--	-0.02%	0.00%	--	-0.02%
Taiwan*	-6.27%	-4.38%	5.61%	4.00%	-0.08%	-0.06%	0.00%	-0.03%	-0.17%
Thailand*	2.44%	21.10%	0.44%	0.71%	-0.13%	-0.05%	-0.01%	0.05%	-0.14%
Americas									
Brazil*	-2.94%	-3.81%	2.75%	0.97%	0.01%	0.00%	-0.07%	0.02%	-0.04%
Canada	-1.51%	0.64%	8.33%	7.04%	-0.14%	-0.01%	0.01%	-0.03%	-0.17%
Chile*	--	0.86%	0.00%	0.30%	--	-0.01%	0.00%	--	0.00%
Colombia*	--	-16.21%	0.00%	0.07%	--	0.01%	0.00%	--	0.01%
Mexico*	--	11.99%	0.00%	0.58%	--	-0.04%	-0.03%	--	-0.07%
Peru*	--	-4.00%	0.00%	0.02%	--	0.00%	0.00%	--	0.00%
United States	4.37%	7.36%	2.26%	0.00%	0.00%	0.17%	0.02%	-0.09%	0.10%

Templeton Performance Attribution vs. MSCI ACWI ex US Small Cap Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	--	-16.43%	0.00%	0.14%	--	0.02%	0.00%	--	0.02%
Israel	--	14.54%	0.00%	1.25%	--	-0.18%	-0.01%	--	-0.19%
Qatar*	--	1.59%	0.00%	0.16%	--	0.00%	0.00%	--	0.00%
South Africa*	--	-2.30%	0.00%	0.95%	--	-0.01%	0.03%	--	0.02%
Turkey*	-29.95%	-22.64%	0.32%	0.24%	-0.02%	0.00%	-0.01%	-0.01%	-0.04%
United Arab Emirates*	--	-5.11%	0.00%	0.09%	--	0.00%	0.00%	--	0.00%
Totals									
Americas	-0.80%	0.76%	13.33%	8.97%	-0.06%	-0.01%	-0.06%	-0.03%	-0.16%
Europe	-0.82%	-1.66%	41.91%	41.11%	0.29%	-0.01%	0.05%	0.01%	0.34%
Asia/Pacific	-5.71%	-1.59%	44.44%	47.10%	-2.20%	-0.01%	0.29%	0.12%	-1.79%
Other	-29.95%	2.89%	0.32%	2.82%	-0.39%	-0.15%	0.01%	0.35%	-0.18%
Total	-3.08%	-1.28%	100.00%	100.00%	-2.36%	-0.18%	0.29%	0.45%	-1.80%
Totals									
Developed	-1.73%	-0.65%	83.63%	80.32%	-1.12%	0.02%	0.24%	-0.05%	-0.91%
Emerging*	-10.00%	-3.86%	16.37%	19.68%	-1.23%	0.08%	0.06%	0.21%	-0.89%

Interest rate environment

- The Federal Reserve raised the target range for the fed funds rate by 0.25%, to a range of 2.00%-2.25%. The odds for a December rate hike were 78%, as of October 8th.
- Fixed income yields around the world moved slightly higher during the quarter. The U.S. Treasury yield rose to a 7-year high of 3.23%, reigniting investor concerns over rising interest rates. The spread between 2- and 10-year yields has remained steady at around 30 bps.
- In September, the European Central Bank left interest rates unchanged, and confirmed its intent to leave rates at current levels “at least through the summer of 2019, and in any case for as long as necessary to ensure the continued sustained convergence of inflation to levels that are below, but close to, 2% over the medium term.” The ECB

also stated that bond purchases of \$30 billion euros per month would be cut in half beginning in October, and would stop altogether at the end of the year.

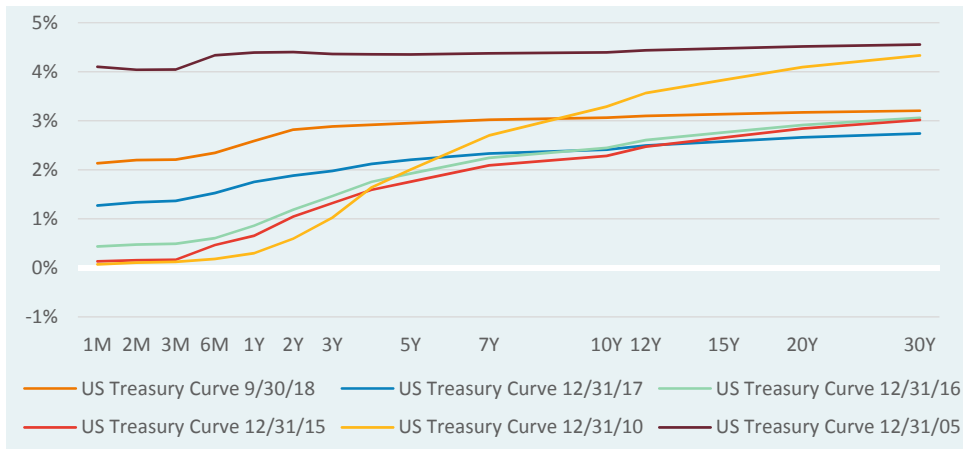
- The yield spread between Italian and German 10-year bonds has exhibited significant volatility following Italy’s political shakeup in the second quarter. Discussions around compliance with European Union budget rules, and the general fear that Italy may push either for structural monetary policy changes, or to leave the Eurozone, contributed to a tumultuous quarter.
- Emerging market local and hard yields were rangebound in Q3, but remained elevated due to continued idiosyncratic risks in countries such as Turkey and Argentina.

Area	Short Term (3M)	10 Year
United States	2.19%	3.06%
Germany	(0.56%)	0.47%
France	(0.56%)	0.80%
Spain	(0.39%)	1.50%
Italy	0.01%	3.15%
Greece	1.12%	4.18%
U.K.	0.77%	1.57%
Japan	(0.13%)	0.13%
Australia	1.89%	2.67%
China	2.97%	3.63%
Brazil	6.58%	11.76%
Russia	7.02%	8.69%

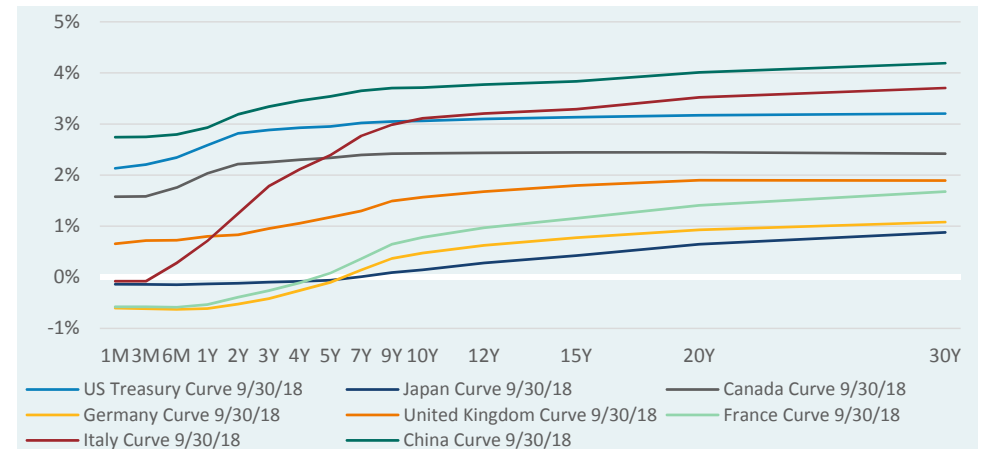
Source: Bloomberg, as of 9/30/18

Yield environment

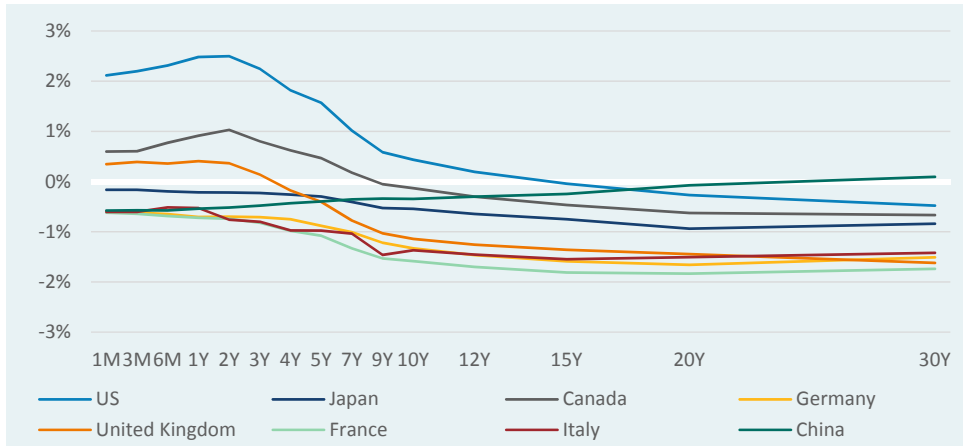
U.S. YIELD CURVE



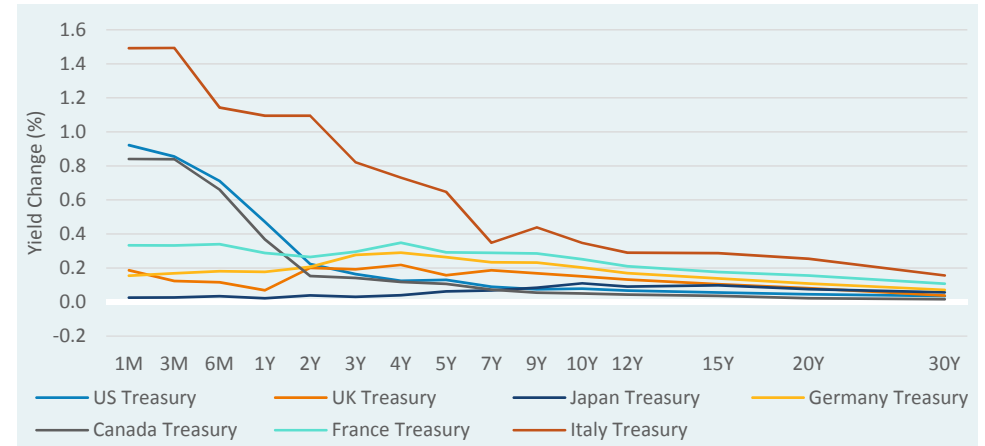
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/18

Currency

The U.S. dollar appreciated 1% during the quarter on a trade-weighted dollar basis. A stable dollar going forward would help dampen the volatility of unhedged equity investments, particularly in emerging markets where currency moves have been larger. Some of the worst performing emerging market currencies have partially recovered from 2nd quarter losses.

Major currencies have fluctuated widely relative to the U.S. dollar in 2018. Most currencies strengthened through the first quarter, but this trend reversed when international economic growth began to show weakness, which helped

push up the value of the dollar. Because foreign currencies have been positively correlated with equity markets, these movements have added to total volatility.

Wide short-term interest rate differentials between the U.S. and the rest of the world have created a tailwind for those hedging U.S. dollar exposures. For example, based on current FX forward pricing, an investor would lock in an annualized gain of 3.3% when hedging the euro, which is typically the biggest foreign currency exposure in portfolios.

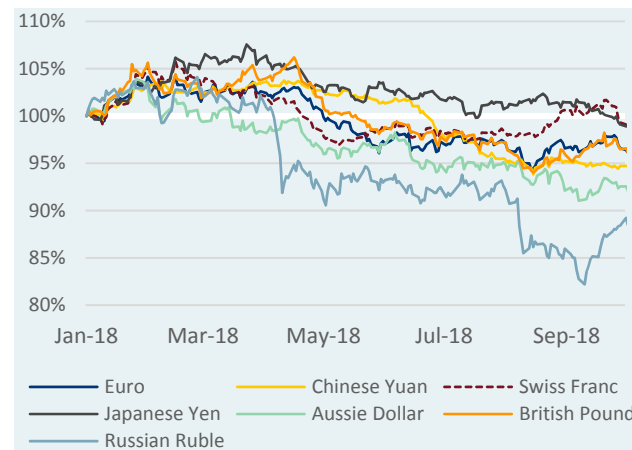
The U.S. dollar materially appreciated, reversing a multi-year downtrend

U.S. DOLLAR TRADE WEIGHTED INDEX



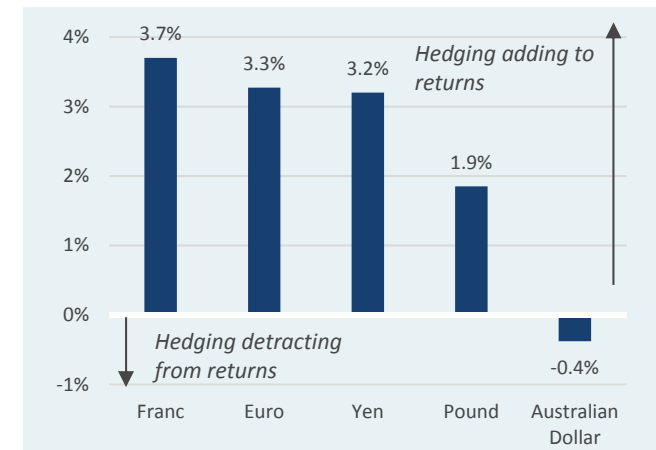
Source: Federal Reserve, as of 9/30/18

USD MOVES VS MAJOR CURRENCIES



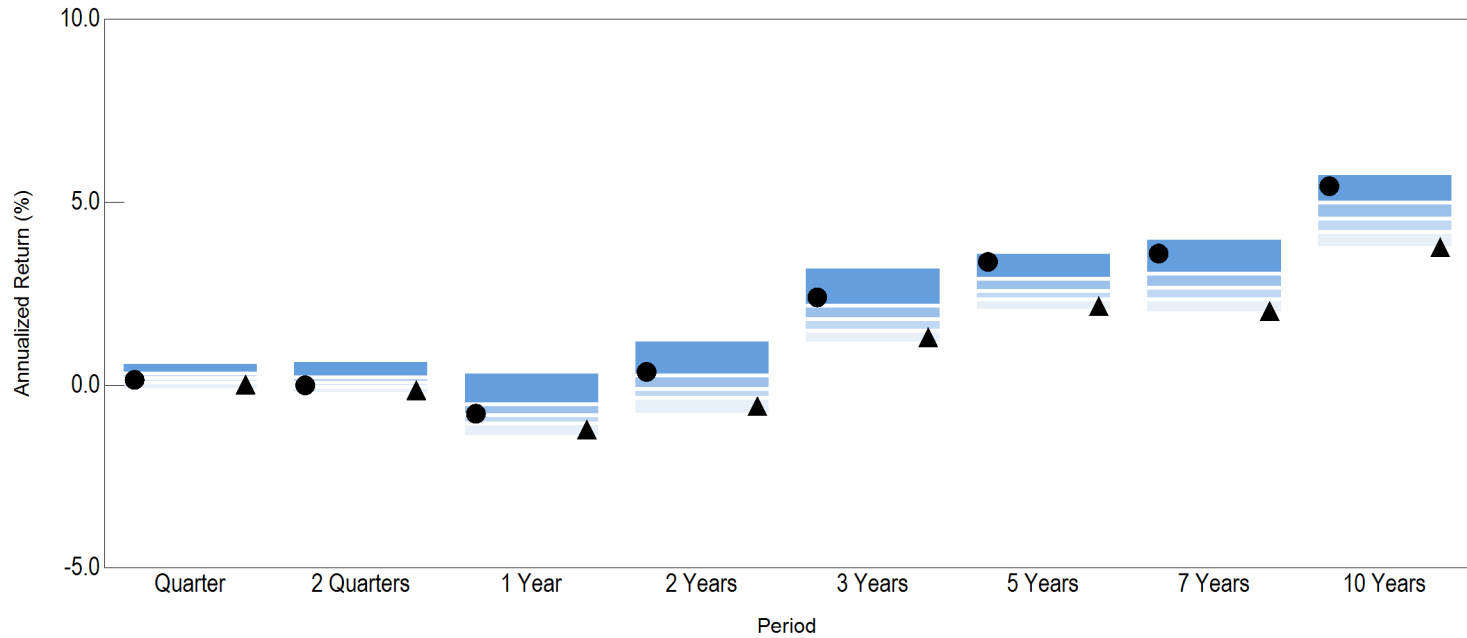
Source: Verus, Bloomberg, as of 9/30/18

ANNUALIZED FX HEDGING COSTS (GAINS)



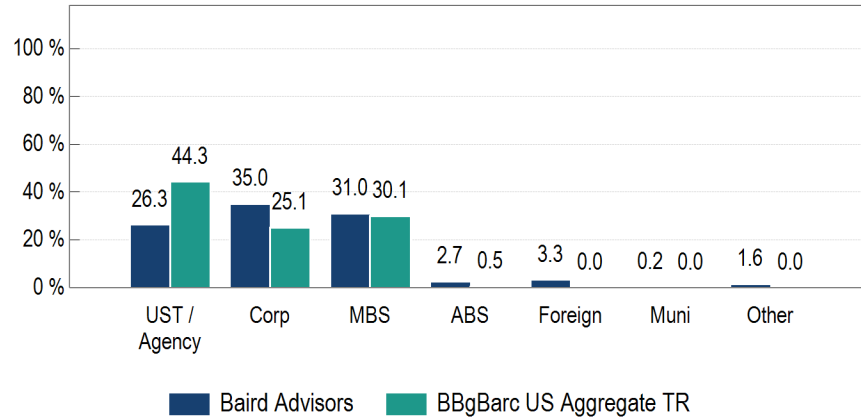
Source: Bloomberg, as of 9/30/18, based on 3-month FX forwards

eV US Core Fixed Inc Gross Return Comparison

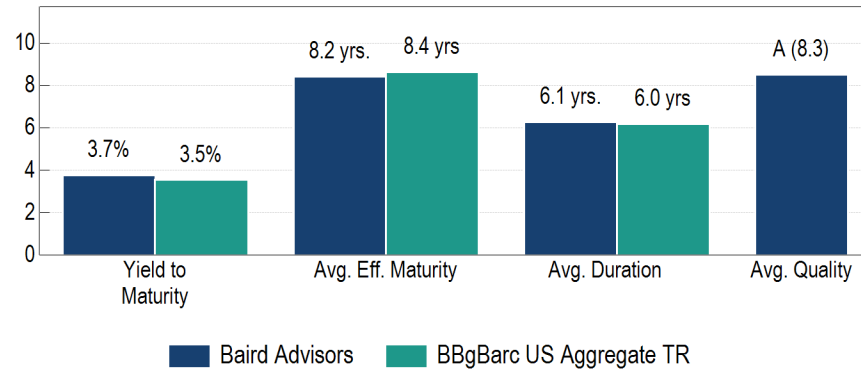


	Return (Rank)							
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	0.63	0.67	0.35	1.23	3.24	3.63	4.02	5.79
25th Percentile	0.32	0.22	-0.51	0.28	2.18	2.92	3.06	4.99
Median	0.20	0.07	-0.81	-0.10	1.81	2.59	2.67	4.56
75th Percentile	0.09	-0.05	-1.03	-0.34	1.49	2.36	2.36	4.20
95th Percentile	-0.12	-0.23	-1.40	-0.79	1.14	2.04	1.97	3.76
# of Portfolios	235	235	235	235	232	229	224	207
● Baird Advisors	0.14 (66)	-0.01 (69)	-0.78 (47)	0.36 (22)	2.40 (15)	3.37 (10)	3.60 (11)	5.44 (12)
▲ BBgBarc US Aggregate TR	0.02 (87)	-0.14 (88)	-1.22 (89)	-0.57 (90)	1.31 (90)	2.16 (91)	2.02 (94)	3.77 (95)

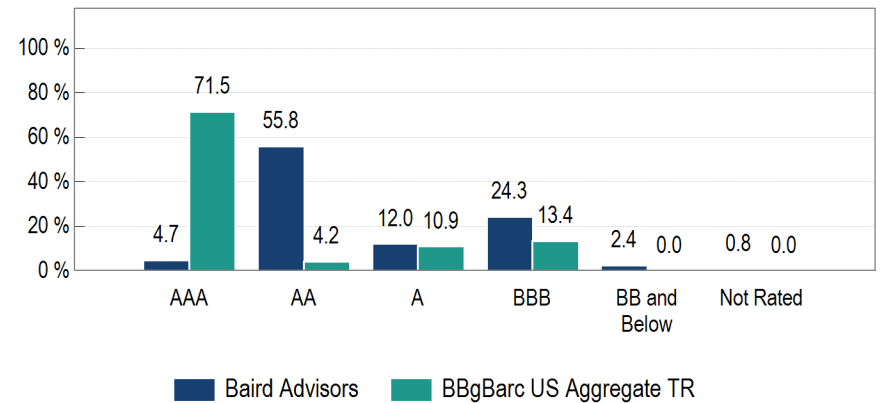
Sectors
Baird Advisors



Characteristics
Baird Advisors



Quality Ratings
Baird Advisors

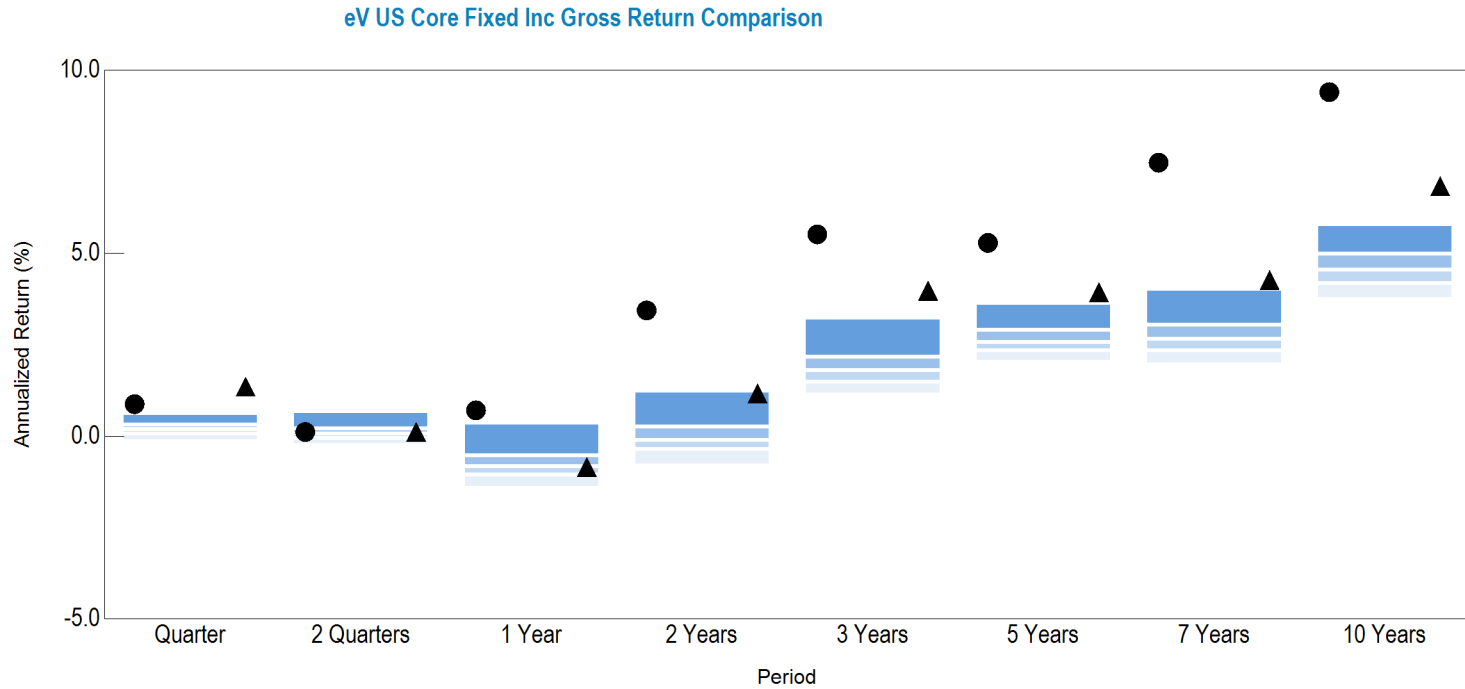


PERFORMANCE BY QUALITY

	<u>NUMBER OF ISSUES</u>	<u>FINAL MARKET VALUE (\$000)</u>	<u>FINAL MARKET VALUE %</u>	<u>QUARTERLY RETURN %</u>	<u>QUARTERLY CONTRIBUTION TO TOTAL RETURN %</u>
Cash & Equiv	1	11,278	1.7	0.51	0.01
Govt & Agency	101	339,680	51.2	-0.66	-0.34
AAA	23	60,373	9.1	0.30	0.03
AA	11	13,269	2.0	0.63	0.01
A	43	82,930	12.5	0.72	0.09
BAA	63	132,687	20.0	1.11	0.22
Below BAA	21	23,220	3.5	3.43	0.12
Other	0	-	0.0	0.00	0.00
Total Account	263	\$663,437	100.0	0.14	0.14

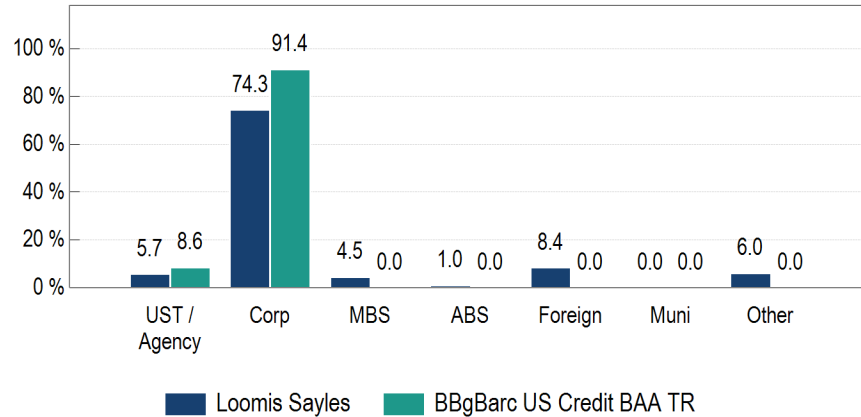
PERFORMANCE BY DURATION

	<u>NUMBER OF ISSUES</u>	<u>FINAL MARKET VALUE (\$000)</u>	<u>FINAL MARKET VALUE %</u>	<u>QUARTERLY RETURN %</u>	<u>QUARTERLY CONTRIBUTION TO TOTAL RETURN %</u>
Under 1 Year	31	39,806	6.0	0.75	0.05
1 - 3 Years	45	89,564	13.5	1.00	0.14
3 - 6 Years	114	305,181	46.0	0.20	0.09
Over 6 Years	73	228,886	34.5	-0.38	-0.13
Total Account	263	\$663,437	100.0	0.14	0.14

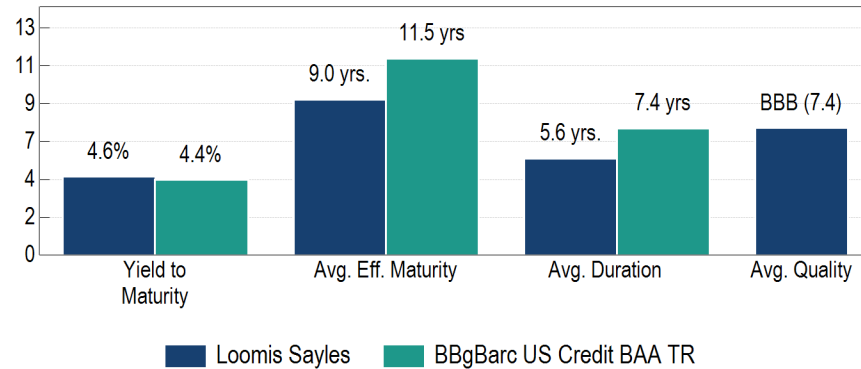


	Return (Rank)							
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	0.63	0.67	0.35	1.23	3.24	3.63	4.02	5.79
25th Percentile	0.32	0.22	-0.51	0.28	2.18	2.92	3.06	4.99
Median	0.20	0.07	-0.81	-0.10	1.81	2.59	2.67	4.56
75th Percentile	0.09	-0.05	-1.03	-0.34	1.49	2.36	2.36	4.20
95th Percentile	-0.12	-0.23	-1.40	-0.79	1.14	2.04	1.97	3.76
# of Portfolios	235	235	235	235	232	229	224	207
● Loomis Sayles	0.87 (1)	0.11 (42)	0.70 (4)	3.44 (1)	5.51 (1)	5.28 (1)	7.47 (1)	9.40 (1)
▲ BBgBarc US Credit BAA TR	1.35 (1)	0.11 (42)	-0.84 (52)	1.17 (6)	3.97 (2)	3.93 (4)	4.27 (4)	6.83 (2)

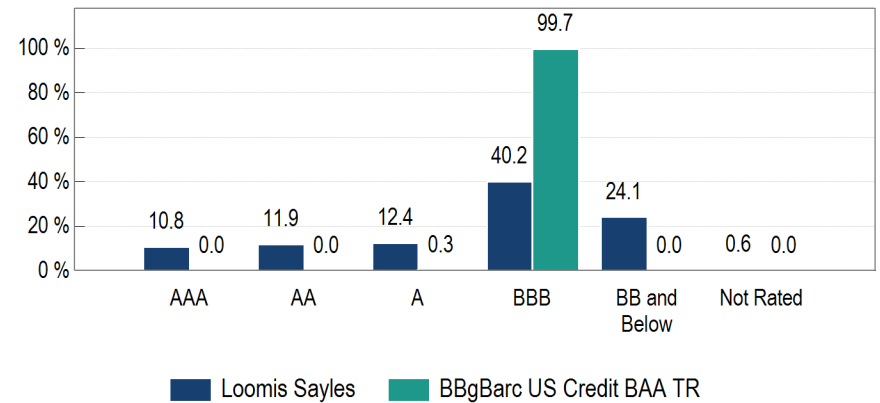
Sectors
Loomis Sayles



Characteristics
Loomis Sayles



Quality Ratings
Loomis Sayles



Attribution Summary

Returns	
Account Return	0.92
Benchmark Return	1.35
Excess Return	-0.43
Excess Due To:	
Sector Allocation	-0.07
Security Selection	-0.35
Trading	-0.01
Pricing Differences	-
Compounding	-

Attribution Details

Name	Acct Avg Weight	Acct Return	Acct Contrib	Bench Avg Weight	Bench Return	Bench Contrib	Quality Alloc	Security Selection	Total Effect
Quality	100.00	0.93	0.93	100.00	1.36	1.36	-0.07	-0.35	-0.43
CASH	4.73	-0.39	-	-	1.36	-	-	-0.03	-0.03
AAA	15.81	-0.61	-0.09	-	1.36	-	-	-0.28	-0.28
AA	3.40	0.54	0.02	-	1.36	-	-	-0.03	-0.03
A	11.28	0.88	0.10	0.03	0.84	-	-0.07	0.01	-0.06
BAA	35.76	1.50	0.54	99.97	1.36	1.36	-	0.05	0.05
BA	15.94	2.17	0.36	-	1.36	-	-	0.13	0.13
B	4.22	-3.63	-0.15	-	1.36	-	-	-0.22	-0.22
CAA	1.50	2.93	0.04	-	1.36	-	-	0.02	0.02
CA	0.03	1.67	-	-	1.36	-	-	-	-
C	0.10	4.25	-	-	1.36	-	-	-	-
NR	7.24	1.00	0.11	-	1.36	-	-	-	-

Loomis Sayles
Performance Attribution Analysis

Period Ending: September 30, 2018

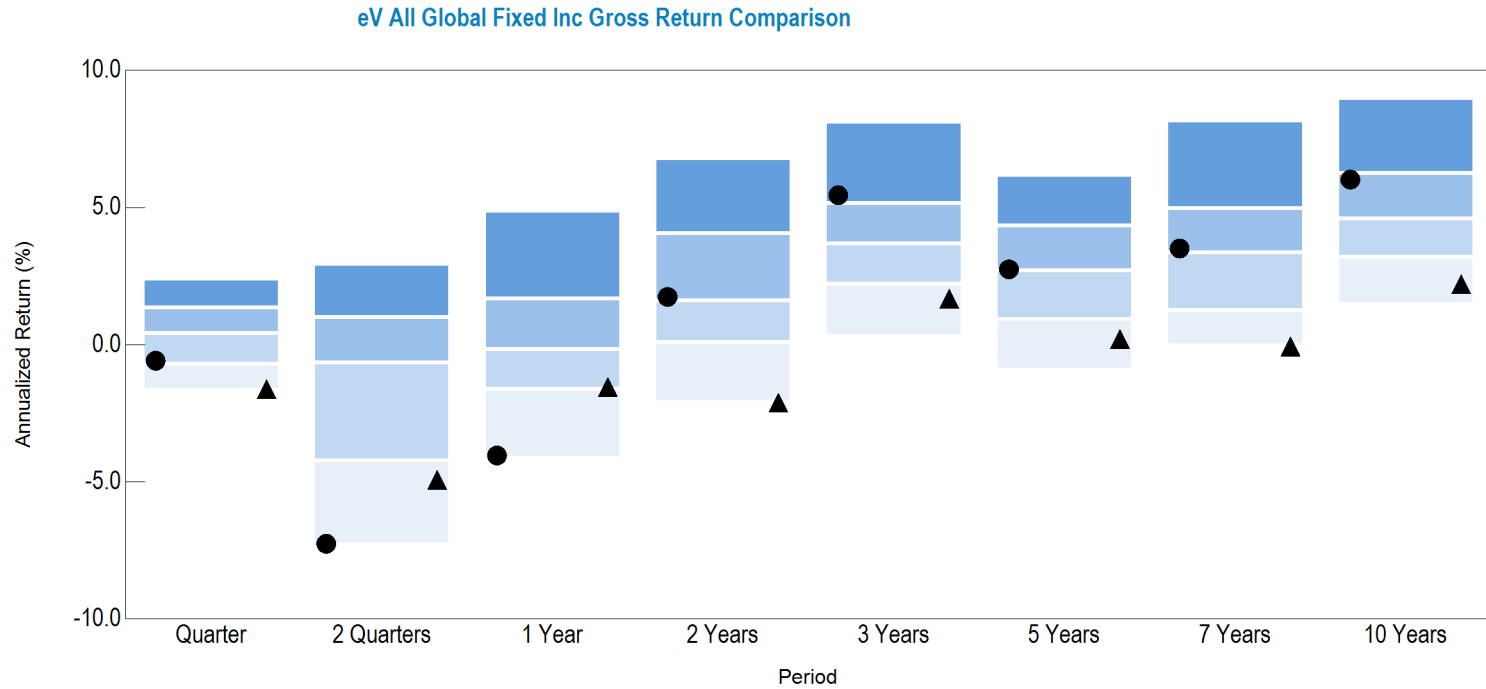
Attribution Summary

Returns	
Account Return	0.92
Benchmark Return	1.35
Excess Return	-0.43
Excess Due To:	
Sector Allocation	-0.35
Security Selection	-0.08
Trading	-0.01
Pricing Differences	-
Compounding	-

Attribution Details

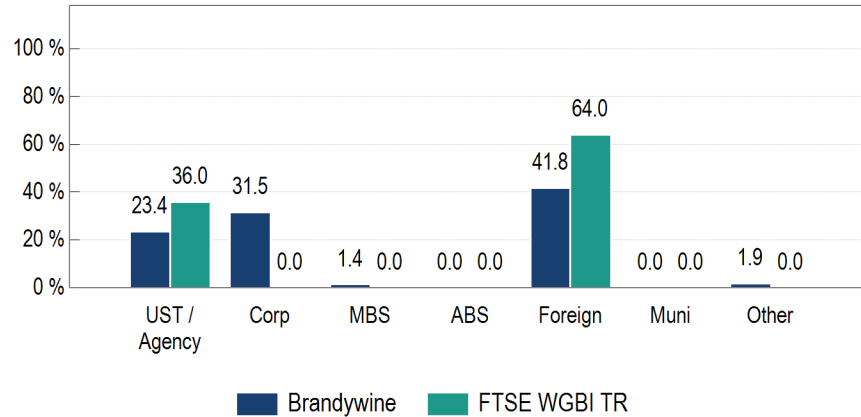
Name	Acct Avg Duration	Acct Avg Weight	Acct Return	Acct Lcl Return	Acct Rtn Over TSY	Acct Contrib	Bench Avg Duration	Bench Avg Weight	Bench Return	Bench Lcl Return	Bench Rtn Over	Bench Contrib	Yield Curve Total	Parallel Shift	Nonparallel Shift	Sector Allocation	Security Selection	Total Effect
Duration	-	100.00	0.93	1.19	-	0.93	-	100.00	1.36	1.35	-	1.36	-	-	-	-0.35	-0.08	-0.43
Less than 0.5	-	10.24	-1.27	0.88	-	-0.13	-	0.07	0.75	0.75	-	-	-	-	-	-0.03	-0.20	-0.24
0.5 - 1.0	-	3.08	1.17	1.58	-	0.05	-	0.49	0.97	0.97	-	-	-	-	-	-0.02	0.02	-0.01
1.0 - 1.5	-	4.90	1.25	1.25	-	0.06	-	3.73	0.83	0.83	-	0.03	-	-	-	-0.02	0.02	0.01
1.5 - 2.0	-	5.19	2.02	2.02	-	0.11	-	4.09	0.80	0.80	-	0.03	-	-	-	-	0.07	0.07
2.0 - 2.5	-	8.27	-0.28	-0.01	-	-0.03	-	5.16	0.80	0.80	-	0.04	-	-	-	-0.01	-0.10	-0.10
2.5 - 3.0	-	8.41	1.54	1.54	-	0.13	-	4.55	0.76	0.76	-	0.03	-	-	-	-0.01	0.06	0.05
3.0 - 3.5	-	4.64	1.15	1.15	-	0.05	-	4.70	0.86	0.86	-	0.04	-	-	-	-	0.02	0.01
3.5 - 4.0	-	3.02	1.94	1.61	-	0.06	-	5.11	0.89	0.89	-	0.05	-	-	-	-	0.04	0.04
4.0 - 4.5	-	6.22	0.58	0.58	-	0.04	-	6.27	0.90	0.90	-	0.06	-	-	-	-	-0.01	-0.01
4.5 - 5.0	-	5.21	1.55	1.31	-	0.07	-	3.87	1.13	1.13	-	0.05	-	-	-	-	0.02	0.03
5.0 - 5.5	-	4.98	1.55	1.31	-	0.10	-	3.45	1.04	1.04	-	0.04	-	-	-	-0.02	0.04	0.02
5.5 - 6.0	-	6.58	1.39	1.21	-	0.10	-	6.27	1.12	1.12	-	0.07	-	-	-	-	0.02	0.02
6.0 - 6.5	-	3.67	1.54	1.64	-	0.06	-	4.47	1.26	1.26	-	0.06	-	-	-	-	-	-
6.5 - 7.0	-	3.44	1.32	1.32	-	0.04	-	3.82	1.08	1.08	-	0.04	-	-	-	-	-	0.01
7.0 - 7.5	-	3.42	2.49	2.49	-	0.08	-	4.93	1.08	1.08	-	0.06	-	-	-	-	0.04	0.05
7.5 - 8.0	-	4.43	1.54	1.54	-	0.07	-	5.75	1.26	1.26	-	0.07	-	-	-	-	0.01	0.01
8.0 - 8.5	-	1.57	-0.92	-0.95	-	-0.02	-	1.81	1.90	1.90	-	0.04	-	-	-	-	-0.03	-0.03
8.5 - 9.0	-	0.44	4.09	1.94	-	0.02	-	0.89	1.19	1.19	-	0.01	-	-	-	-	0.02	0.02
9.0 - 9.5	-	1.39	4.92	2.90	-	0.07	-	0.55	1.62	1.62	-	0.01	-	-	-	-	0.05	0.05
9.5 - 10.0	-	1.07	-4.39	-1.92	-	-0.06	-	0.44	1.69	1.69	-	0.01	-	-	-	-	-0.08	-0.08
10.0 - 10.5	-	0.25	2.62	3.82	-	-0.01	-	0.77	1.77	1.77	-	0.01	-	-	-	-	-0.01	-0.01
10.5 - 11.0	-	0.68	2.75	0.88	-	0.02	-	1.37	2.37	2.37	-	0.03	-	-	-	-	-	-0.01

Name	Acct Avg Duration	Acct Avg Weight	Acct Return	Acct Lcl Return	Acct Rtn Over TSY	Acct Contrib	Bench Avg Duration	Bench Avg Weight	Bench Return	Bench Lcl Return	Bench Rtn Over	Bench Contrib	Yield Curve Total	Parallel Shift	Nonparallel Shift	Sector Allocation	Security Selection	Total Effect
11.0 - 11.5	-	0.48	3.87	3.87	-	0.02	-	2.26	2.03	2.03	-	0.04	-	-	-	-0.01	0.01	-
11.5 - 12.0	-	1.23	1.31	1.31	-	0.01	-	2.45	1.94	1.94	-	0.05	-	-	-	-	-0.01	-0.01
12.0 - 12.5	-	0.85	1.53	1.53	-	0.02	-	2.11	1.98	1.98	-	0.04	-	-	-	-	-0.01	-0.01
12.5 - 13.0	-	0.78	3.50	3.50	-	0.02	-	1.86	2.54	2.54	-	0.05	-	-	-	-0.02	0.01	-0.01
13.0 - 13.5	-	0.44	1.04	1.04	-	0.01	-	1.52	2.66	2.66	-	0.04	-	-	-	-0.01	-0.01	-0.02
13.5 - 14.0	-	0.75	3.79	3.79	-	0.03	-	1.99	1.72	1.72	-	0.03	-	-	-	-0.01	0.03	0.02
14.0 - 14.5	-	0.67	-0.64	-0.64	-	-	-	2.98	1.94	1.94	-	0.05	-	-	-	-0.01	-0.01	-0.03
14.5 - 15.0	-	0.52	1.91	1.91	-	-	-	3.77	2.12	2.12	-	0.08	-	-	-	-0.02	-0.01	-0.03
15.0 - 15.5	-	0.37	3.38	3.38	-	0.01	-	3.14	1.94	1.94	-	0.06	-	-	-	-0.01	-	-0.01
15.5 - 16.0	-	-	-	-	-	-	-	2.48	2.46	2.46	-	0.08	-	-	-	-0.04	-	-0.04
16.0 - 16.5	-	-	-	-	-	-	-	1.48	2.25	2.25	-	0.03	-	-	-	-0.01	-	-0.01
16.5 - 17.0	-	-	-	-	-	-	-	0.85	2.58	2.58	-	0.03	-	-	-	-0.02	-	-0.02
17.0 - 17.5	-	-	-	-	-	-	-	0.19	3.74	3.74	-	0.01	-	-	-	-	-	-
17.5 - 18.0	-	-	-	-	-	-	-	0.17	2.24	2.24	-	-	-	-	-	-	-	-
18.0 - 18.5	-	-	-	-	-	-	-	0.05	1.16	1.16	-	-	-	-	-	-	-	-
18.5 - 19.0	-	-	-	-	-	-	-	0.05	4.76	4.76	-	-	-	-	-	-	-	-
19.0 - 19.5	-	1.86	-4.36	-4.36	-	-0.13	-	0.07	-1.17	-1.17	-	-	-	-	-	-0.05	-0.09	-0.14
19.5 - 20.0	-	0.94	1.06	1.06	-	0.03	-	0.01	2.32	2.32	-	-	-	-	-	-0.02	0.02	-
Greater than 25.0	-	-	2.00	2.00	-	-	-	-	1.36	1.35	-	-	-	-	-	-	-	-

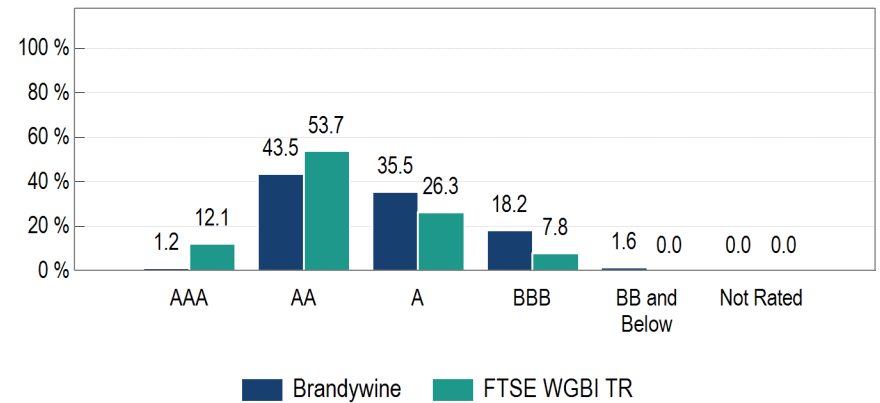


	Return (Rank)							
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	2.41	2.93	4.87	6.78	8.11	6.19	8.15	8.98
25th Percentile	1.37	1.03	1.71	4.09	5.18	4.36	4.98	6.28
Median	0.43	-0.65	-0.14	1.64	3.71	2.73	3.38	4.62
75th Percentile	-0.69	-4.21	-1.59	0.12	2.24	0.95	1.29	3.23
95th Percentile	-1.64	-7.27	-4.12	-2.08	0.32	-0.90	0.00	1.49
# of Portfolios	457	457	457	451	439	392	314	213
● Brandywine	-0.59 (73)	-7.26 (95)	-4.04 (95)	1.74 (49)	5.45 (24)	2.74 (50)	3.50 (47)	6.01 (27)
▲ FTSE WGBI TR	-1.62 (95)	-4.92 (82)	-1.54 (75)	-2.11 (96)	1.68 (86)	0.20 (87)	-0.06 (97)	2.21 (93)

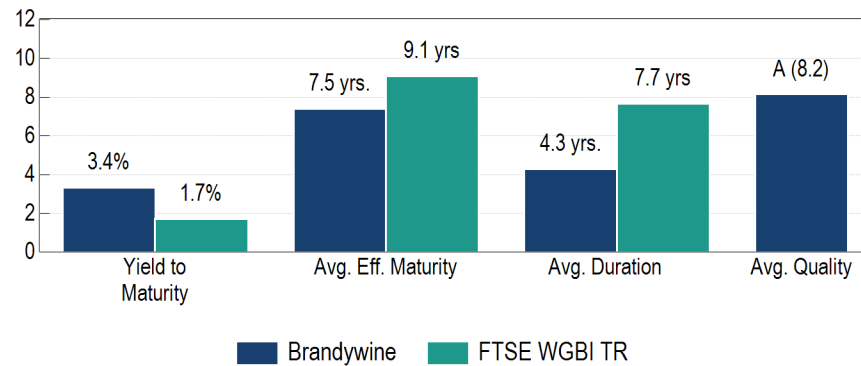
Sectors
Brandywine



Quality Ratings
Brandywine



Characteristics
Brandywine

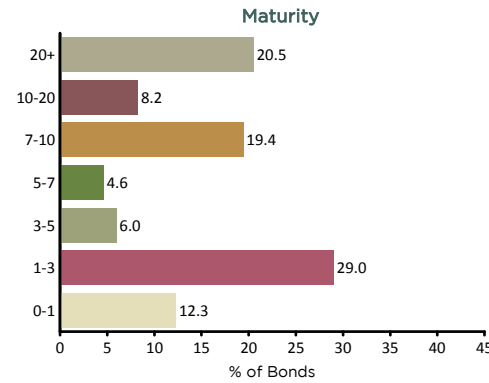


Brandywine Portfolio Characteristics

Period Ending: September 30, 2018

Portfolio Characteristics

	Portfolio	Primary Benchmark
Yield to Maturity (%)	4.78	1.72
Yield to Worst (%)	4.76	1.72
Modified Duration	4.72	7.72
Effective Duration	4.61	7.84
Average Maturity	9.32	9.15
Average Market Price	98.96	-
Average Coupon (%)	4.68	2.35
Current Yield (%)	4.67	-
# of Issues	124	1,031



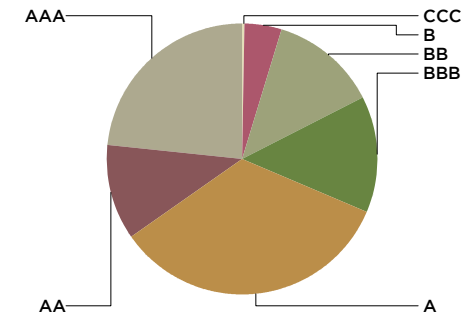
Sector Breakdown

	Market Value (%)	Duration Contribution (in Years)
Government Sovereign	68.75	4.27
Corporate Bond - High Yield	4.95	0.19
Corporate Bond - Investment Grade	18.63	0.15
Mortgage Backed Securities	2.14	0.08
Government Regional Agencies	2.90	0.02
Bank Loan	0.19	0.01
Supranational	0.67	0.00
Cash	1.66	-
Derivatives	0.10	-
Total:	100.00	4.72

PRIMARY BENCHMARK is FTSE WGBI (USD)

Portfolio Credit Quality (Blended Weighted Average Rating)

Combined Rating	%	Cumulative %
AAA	23.2	23.2
AA	11.5	34.7
A	33.8	68.6
BBB	14.0	82.5
BB	12.8	95.4
B	4.2	99.6
CCC	0.4	100.0
Average Quality: A		



All Averages are US DOLLAR - weighted by the net market value. Average Market Price includes accrued interest. The "Blended Weighted Average Rating" is determined as follows: in line with the methodology used by Barclays Global indices, the middle rating from the three major NRSROs (S & P, Moody's, and Fitch) will be assigned to each security. In the event that ratings are provided by only two agencies, the lowest rating will be assigned. If only one agency assigns a rating, that rating will be applied. If the security is not rated by one of the three major agencies, U.S. treasuries and certain U.S. agencies are given the U.S. issuer rating. Sovereign treasuries are given the sovereign issuer rating. All other unrated securities are given a rating equivalent to a defaulted bond. The equivalent numerical rating is assigned to each security based on the Security Level scale. A Portfolio Level scale is applied on the weighted average calculation to round for fractional numerical ratings and then converted to an alpha weighted average rating. Cash is included and received the highest rating.

Data included on this page show the aggregate holdings of the Brandywine Emerging Markets Debt Fund ("EMD Fund"), in which the portfolio is invested. Holdings in the EMD Fund are not subject to ACERA's Investment Guidelines. Please note that ACERA owns units of the EMD Fund, not the underlying holdings. Data and characteristics shown are for illustrative purposes only.

Derivatives market value represents the unrealized profit/loss of all derivatives in the portfolio.

Brandywine

Country & Currency Allocation

Period Ending: September 30, 2018

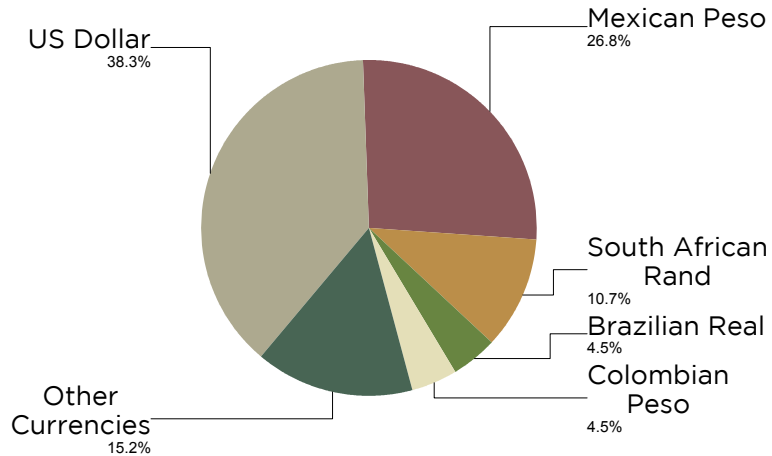
Country Allocation	9/30/2018			6/30/2018		Currency Allocation	9/30/2018			6/30/2018	
	Portfolio	Index	Active	Portfolio	Change		Portfolio	Index	Active	Portfolio	Change
Japan	-	19.01	(19.01)	-	-	US Dollar	1.95	36.29	(34.34)	3.96	(2.01)
Mexico	12.94	0.72	12.21	12.48	0.46	Euro	1.15	32.57	(31.42)	0.60	0.55
France	-	8.59	(8.59)	0.07	(0.07)	Mexican Peso	13.47	0.72	12.75	12.48	0.99
Italy	-	7.29	(7.29)	-	-	Japanese Yen	7.02	19.01	(11.99)	7.26	(0.24)
Australia	6.59	1.74	4.86	7.69	(1.10)	Swedish Krona	12.12	0.31	11.81	11.95	0.16
South Africa	5.28	0.46	4.82	5.62	(0.34)	Australian Dollar	8.17	1.74	6.44	8.28	(0.10)
Malaysia	5.15	0.40	4.75	5.19	(0.04)	Polish Zloty	6.19	0.52	5.67	4.40	1.79
United States	40.72	36.29	4.43	37.03	3.69	Norwegian Krone	5.84	0.20	5.64	5.80	0.04
*Brazil	4.37	-	4.37	4.68	(0.30)	Malaysian Ringgit	5.58	0.40	5.18	5.62	(0.04)
Spain	0.73	4.88	(4.15)	0.81	(0.08)	South African Rand	5.42	0.46	4.96	4.30	1.12
Poland	4.51	0.52	4.00	4.44	0.08	British Pound Sterling	10.15	5.30	4.85	10.12	0.03
*Colombia	3.82	-	3.82	3.98	(0.17)	*Brazilian Real	4.24	-	4.24	4.25	-
Germany	3.00	5.68	(2.68)	2.98	0.02	*Colombian Peso	3.82	-	3.82	3.98	(0.17)
*Indonesia	2.44	-	2.44	2.60	(0.17)	Canadian Dollar	5.44	1.65	3.79	5.31	0.13
Peru	2.04	-	2.04	2.07	(0.03)	*Indonesian Rupiah	2.44	-	2.44	2.60	(0.17)
Belgium	-	2.02	(2.02)	-	-	Peruvian Nuevo Sol	2.04	-	2.04	2.07	(0.04)
*Egypt	1.70	-	1.70	3.67	(1.97)	*Egyptian Pound	1.70	-	1.70	3.67	(1.97)
Netherlands	-	1.70	(1.70)	-	-	*New Turkish Lira	1.35	-	1.35	2.53	(1.18)
Canada	0.06	1.65	(1.59)	0.06	-	Czech Koruna	1.11	-	1.11	-	1.11
Austria	-	1.25	(1.25)	-	-	*Philippine Peso	0.82	-	0.82	0.82	-
Supranational	0.67	-	0.67	0.66	0.01	Danish Krone	-	0.51	(0.51)	-	-
Ireland	-	0.66	(0.66)	-	-	Singapore Dollar	-	0.33	(0.33)	-	-
United Kingdom	5.87	5.30	0.57	5.94	(0.07)	Total:	100.00	100.00	-	100.00	-
Denmark	-	0.51	(0.51)	-	-						
Finland	-	0.50	(0.50)	-	-						
Singapore	-	0.33	(0.33)	-	-						
Sweden	-	0.31	(0.31)	-	-						
Norway	-	0.20	(0.20)	-	-						
Other Countries	-	-	-	1.27	(1.27)						
Derivative P/L	0.10	-	0.10	(1.24)	1.34						
Total:	100.00	100.00	-	100.00	-						

*Emerging Markets are defined as non-WGBI markets with local currency long-term debt rating below A- (or the equivalent) assigned by all NRSROs that provide such a rating. NRSRO means one of the following Nationally Recognized Statistical Rating Organizations: Standard & Poor's Ratings Services, Moody's Investors Service and Fitch, Inc.

Brandywine
Duration Summary

Period Ending: September 30, 2018

Source of Portfolio Duration by Currency Denomination



Duration Contribution by Currency
(In Years)

Currency	9/30/2018					6/30/2018	
	0-3	>3-10	>10-20	>20+	Total	Total	Change
US Dollar	0.03	1.13	0.03	0.61	1.81	0.96	
Mexican Peso	-	-	0.21	1.06	1.26	(0.02)	
South African Rand	-	-	-	0.51	0.51	(0.03)	
*Brazilian Real	-	0.21	-	-	0.21	0.00	
*Colombian Peso	-	0.21	-	-	0.21	(0.01)	
Peruvian Nuevo Sol	-	-	0.19	-	0.19	(0.00)	
Malaysian Ringgit	0.05	0.13	-	-	0.18	(0.01)	
*Indonesian Rupiah	-	-	0.17	-	0.17	(0.01)	
Polish Zloty	0.05	-	-	-	0.05	(0.01)	
Australian Dollar	0.05	-	-	-	0.05	(0.01)	
British Pound Sterling	0.05	-	-	-	0.05	0.04	
Euro	-	-	-	0.04	0.04	(0.00)	
*Egyptian Pound	0.00	-	-	-	0.00	(0.00)	
*New Turkish Lira	-	-	-	-	-	(0.05)	
Total	0.23	1.68	0.59	2.21	4.72	0.84	

Duration Contribution by Country
vs. FTSE WGBI (USD)

(In Years)

Country	9/30/2018					Index	6/30/2018	
	0-3	>3-10	>10-20	>20+	Total		Active	Total Change
Japan	-	-	-	-	-	2.00	(2.00)	-
Mexico	-	-	0.21	1.06	1.26	0.04	1.23	(0.02)
France	-	-	-	-	-	0.68	(0.68)	(0.00)
United Kingdom	0.05	0.01	-	-	0.05	0.67	(0.62)	0.04
Italy	-	-	-	-	-	0.48	(0.48)	-
South Africa	-	-	-	0.51	0.51	0.03	0.47	(0.03)
Germany	0.00	-	-	-	0.00	0.43	(0.42)	0.00
United States	0.02	1.12	0.03	0.61	1.79	2.16	(0.37)	0.98
Spain	-	-	-	0.04	0.04	0.36	(0.32)	(0.00)
*Brazil	-	0.22	-	-	0.22	-	0.22	(0.02)
*Colombia	-	0.21	-	-	0.21	-	0.21	(0.01)
Belgium	-	-	-	-	-	0.19	(0.19)	-
Peru	-	-	0.19	-	0.19	-	0.19	(0.00)
*Indonesia	-	-	0.17	-	0.17	-	0.17	(0.01)
Malaysia	0.05	0.13	-	-	0.18	0.02	0.16	(0.01)
Netherlands	-	-	-	-	-	0.14	(0.14)	-
Austria	-	-	-	-	-	0.11	(0.11)	-
Canada	0.00	-	-	-	0.00	0.11	(0.11)	(0.00)
Australia	0.05	-	-	-	0.05	0.11	(0.06)	(0.01)
Ireland	-	-	-	-	-	0.05	(0.05)	-
Denmark	-	-	-	-	-	0.04	(0.04)	-
Finland	-	-	-	-	-	0.03	(0.03)	-
Poland	0.05	-	-	-	0.05	0.02	0.03	(0.01)
Singapore	-	-	-	-	-	0.02	(0.02)	-
Sweden	-	-	-	-	-	0.02	(0.02)	-
Norway	-	-	-	-	-	0.01	(0.01)	-
Supranational	0.00	-	-	-	0.00	-	0.00	(0.00)
*Egypt	0.00	-	-	-	0.00	-	0.00	(0.00)
European Union	-	-	-	-	-	-	-	-
Other Countries	-	-	-	-	-	-	-	(0.05)
Total	0.23	1.68	0.59	2.21	4.72	7.73	(3.01)	0.84

*Emerging Markets are defined as non-WGBI markets with local currency long-term debt rating below A- (or the equivalent) assigned by all NRSROs that provide such a rating. NRSRO means one of the following Nationally Recognized Statistical Rating Organizations: Standard & Poor's Ratings Services, Moody's Investors Service and Fitch, Inc.

Manager Compliance Checklist

Period Ending: September 30, 2018

MANAGER	INDEX OUTPERFORMANCE						DATABASE BENCHMARK		MANAGER TO BE PLACED ON WATCH LIST	MANAGER TO BE PLACED ON PROBATION
	AFTER FEE VS. INDEX		BEFORE FEE VS. INDEX		RISK ADJUSTED (SHARPE RATIO)		MEDIAN			
	3 YEAR	5 YEAR	3 YEAR	5 YEAR	3 YEAR	5 YEAR	3 YEAR	5 YEAR		
AQR (MSCI ACWI EX US GROSS)	NO	YES	NO	YES	NO	YES	YES	YES	NO	NO
BAIRD ADVISORS (BBGBARC US AGGREGATE)	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO
BIVIUM (RUSSELL 3000 +1%) ¹	NO	NO	NO	NO	NO	NO	YES	NO	YES	YES
BRANDYWINE FIXED INCOME (FTSE WGBI)	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO
CAPITAL GROUP (MSCI ACWI EX US GROSS)	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES
KENNEDY (RUSSELL 2000 VALUE +2.5%)	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO
LOOMIS SAYLES (BBGBARC US CREDIT BAA)	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO
MONDRIAN (MSCI ACWI EX US GROSS)	NO	NO	NO	NO	NO	YES	NO	NO	YES	YES
NEXT CENTURY-SCG (RUSSELL 2000 GROWTH +2.5%)	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES
PZENA (RUSSELL 1000 VALUE +2%)	NO	NO	YES	NO	NO	NO	YES	YES	YES	NO
TCW (RUSSELL 1000 GROWTH +2%) ²	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES
TEMPLETON (MSCI ACWI EX US SMALL CAP GROSS)	NO	NO	NO	NO	NO	YES	NO	NO	YES	YES

¹ Prior to 7/1/13, benchmark was linked to Russell 3000 +2%. ² Prior to 7/1/13, benchmark was linked to Russell 1000 Growth +2.5%.

Policy Index and Benchmark History

Period Ending: September 30, 2018

Total Plan Policy Index	As of:													
	10/1/17	7/1/16	1/1/13	10/1/11	4/1/11	1/1/09	7/1/06	4/1/03	6/1/01	10/1/97	1/1/96	10/1/94	1/1/92	1/1/80
91-day US T-Bill										1%	1%	1%	1%	2%
BBgBarc Aggregate	11.25%	11.25%	11.25%	15%	18%	18%	21%	23%	26%	33%	29%	32%	37%	30%
BBgBarc High Yield	1.50%	1.50%	1.50%	2.0%	2.4%	2%	3%	3%	3%					
Bloomberg Commodity	0.75%	0.75%												
FTSE WGBI	2.25%	2.25%	2.25%	3%	3.6%	3.6%	4%	4%	5%					
CPI-U +3% (RR)			5.00%	5%										
MSCI ACWI ex US						23%	22%	22%	22%					
MSCI ACWI ex US IMI	26.00%	26.00%	27.00%	25%	23%									
MSCI EAFE										10%	10%	10%	10%	
MSCI Emg Mkts Free ex Malaysia										3%				
MSCI World net														10%
NCREIF					6%	6%	9%	9%	9%					
NCREIF ODCE	8.00%	8.00%	6.00%	6%										
Russell 3000	28.00%	28.00%	32.00%	34%	37%	37%	41%	39%	35%	42%	49%	47%	40%	
HFRI FoF Composite	9.00%													
Thomson Reuters CJA Global All PE	9.00%													
Russell 3000 +1% (PE)		18.00%	15.00%	10%										
Russell 3000 +1.5% (PE)					10%	10%								
Russell 3000 +4% (AI)										2%				
S&P 500														55%
S&P Global Infrastructure	1.75%	1.75%												
S&P Global Natural Resources	2.50%	2.50%												
Wilshire RE										9%	11%	10%	12%	3%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

US Equity Benchmark	As of:	
	1/1/92	1/1/80
Russell 3000	100%	0%
S&P 500	0%	100%
	100.0%	100.0%

International Equity Benchmark	As of:				
	4/1/11	6/1/01	10/1/97	1/1/92	1/1/80
MSCI ACWI ex US		100%			
MSCI ACWI ex US IMI	100%				
MSCI EAFE			77%	100%	
MSCI Emg Mkts Free ex Malaysia			23%		
MSCI World net					100%
	100.0%	100.0%	100.0%	100.0%	100.0%

Fixed Income Benchmark	As of:	
	6/1/01	1/1/80
BBgBarc Aggregate	75%	100%
BBgBarc High Yield	10%	
FTSE WGBI	15%	
	100.0%	100.0%

Real Estate Benchmark	As of:
	1/1/80
NCREIF ODCE	100%
	100.0%

Real Assets Benchmark	As of:	
	7/1/16	10/1/11
CPI-U +3%		100%
Bloomberg Commodity	15%	
S&P Global Infrastructure	35%	
S&P Global Natural Resources	50%	
	100.0%	100.0%

Bivium Benchmark	As of:	
	7/1/13	8/1/08
Russell 3000 +1%	100%	
Russell 3000 +2%		100%
	100.0%	100.0%

Pzena Benchmark	As of:	
	2/1/06	
Russell 1000 Value +2%	100%	
	100.0%	

TCW Benchmark	As of:	
	7/1/13	7/1/99
Russell 1000 Growth +2%	100%	
Russell 1000 Growth +2.5%		100%
	100.0%	100.0%

Kennedy Benchmark	As of:	
	10/1/10	
Russell 2000 Value +2.5%	100%	
	100.0%	

Next Century Benchmark	As of:	
	11/1/02	
Russell 2000 Growth +2.5%	100%	
	100.0%	

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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