

MEETING MATERIALS

Merced County Employees' Retirement Association

Third Quarter 2019 Full Review

December 12, 2019



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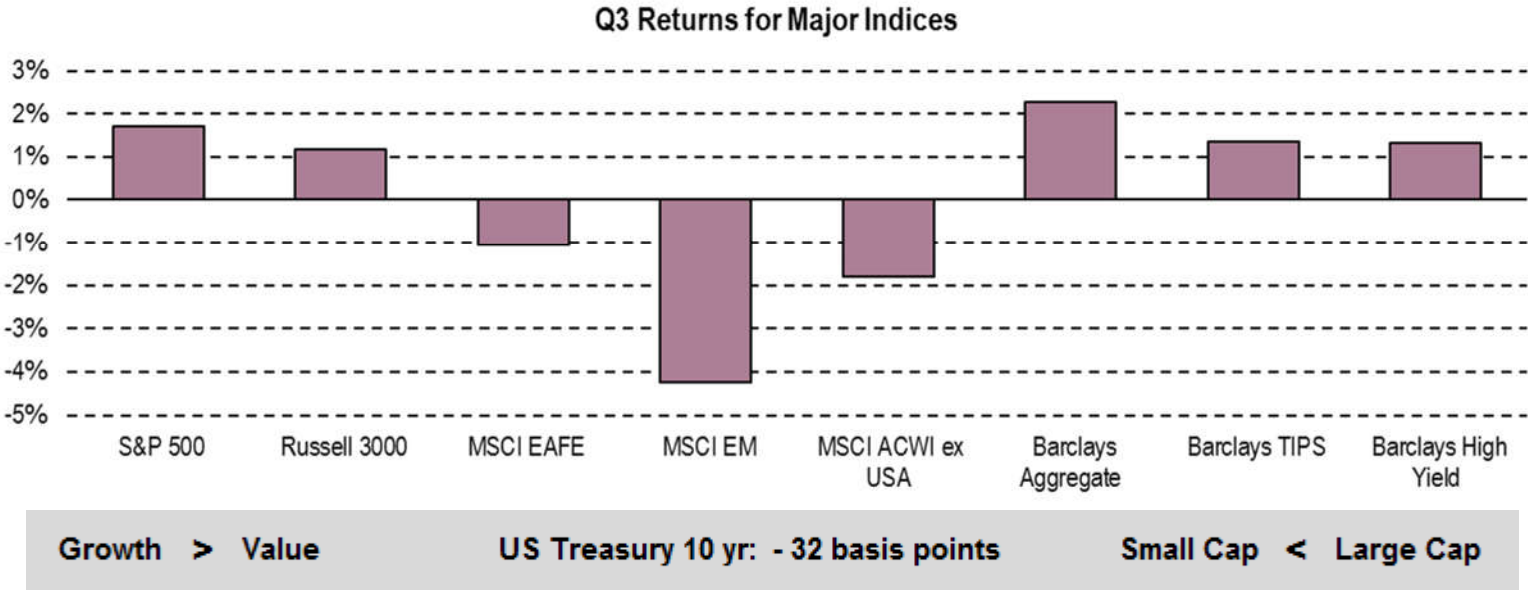
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**Executive Summary
As of September 30, 2019**

Market Summary for the Third Quarter 2019

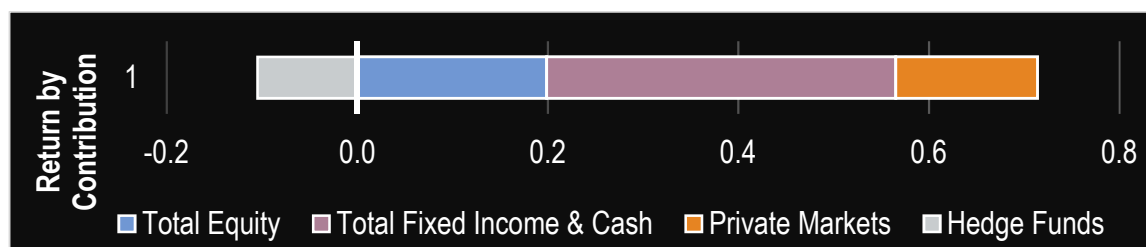
The combination of economic data reflecting a deceleration of growth and continued trade tensions has pushed Global Equity markets sideways. US Equity was up +1.2%, while International Developed Equity was down -1.1%, as expressed by the Russell 3000 and MSCI EAFE Indexes, respectively. Emerging Equity markets experienced the most significant declines, with the asset class benchmark (MSCI Emerging Markets Index) posting a -4.2% return. Fixed Income markets were up in the quarter, as recent interest rate movements were historically consistent with oncoming recessions.



Executive Summary – Q3 2019

Total Market Value		QTD Absolute Results		QTD Relative Results
Q3 2019	\$866,302,483	MCERA	+0.6	MCERA vs Policy Benchmark +0.6
Q2 2019	\$862,466,585	Policy Benchmark	+0.0	

Contribution to QTD Return



Major aggregates posted mixed results for Q3 2019.

In Q3, Total Fixed Income & Cash was the key positive contributor, mainly from the U.S. Fixed Income composite, which posted a return of +1.9%. Opportunistic Credit and Cash did not meaningfully contribute to overall returns for the quarter.

The US Equity sleeve was responsible for all of the positive contribution within Total Equity, as it reported +1.5% for the period. International Developed Equity and Emerging Markets Equity both detracted, posting returns of -1.1% and -0.9%, respectively.

Within Private Markets, positive contributions came from Private Equity and Real Assets. Hedge Funds detracted, posting a return of -1.2%.

Policy Target Check		Overall Portfolio Trailing Performance				
2 assets class not within range: <i>U.S. Equity & Private Equity</i>		Trailing Returns			5-Year Std Dev	5-Year Sharpe
		1-Year	3-Year	5-Year		
MCERA		3.4	7.7	6.3	6.7	0.8
Policy BMK		2.8	7.9	6.6	6.4	0.9



Public Manager Highlights Q3 2019

6 out of 9 Active Public Managers¹ either outpaced or matched their respective benchmarks for Q3 2019.

Total Equity (Active):

- The US Equity sleeve (+1.5%) exceeded the custom segment benchmark (+0.7%) by 80 basis points. In this space, Mellon Dynamic continued to record strong results, reporting a +2.9% return, and largely responsible for the positive excess return at the segment level. The outperformance is attributable to the month of August, as the fund's long Treasury exposure offset most of the losses from the US equity positions. The fund ended the quarter with 109% exposure to US stocks, 9% US bonds, and -18% cash. Relative to its peers, this manager was top quartile.
- The two U.S. small cap managers (DFA & PanAgora), posted negative absolute returns, but both were able to exceed the Russell 2000 by 90 basis points. PanAgora exceeded the benchmark primarily through strong security selection, especially in the Consumer Discretionary and Communication Services sectors.

Total Fixed Income (Active):

- The U.S. Fixed Income composite posted a return of +1.9 for the quarter. The only active manager in this sleeve, Barrow Hanley reported a return of +2.4%, outperforming the Barclays U.S. Aggregate Index by 10 basis points. The manager's overweight to Industrials and Utilities, along with its longer duration in US Treasuries, helped relative performance.
- PIMCO and GoldenTree did not meaningfully contribute during the quarter. PIMCO's exposure to local currency emerging market debt (including Argentina) and short exposure to non-U.S. developed market duration detracted. GoldenTree had a challenging August, as only its bond holdings contributed on a positive basis.

Public Passive Managers:

- Nothing to report for all passive managers (including SSgA Real Asset Fund).

¹ Excludes Private Markets and Hedge Fund managers.



Manager Updates / Recommendations / Watch List

Asset Allocation and Manager Update

- We expect Private Equity to remain underweight relative to targets for the next several years. As such, other asset classes will be overweight during that time, including Public Equities and Fixed Income.
- The Board approved to fully replace Mellon International with a 50/50 allocation to GQG International Equity and First Eagle International Value Equity, respectively. Meketa is working with staff on the replacement process.
- The Board approved to terminate Wells Fargo Berkeley Street Emerging Markets strategy with a 70/30 allocation to Artisan Developing World and RWC Emerging Markets Equity, respectively. Meketa is working with staff on the replacement process.

Performance Report Update

- For Q1 2020, Meketa will be evaluating the current benchmarks in place for MCERA, as most are still carry overs from the previous consultant. Meketa feels that with all the changes to the asset allocation and manager line up, it would be prudent to confirm that the benchmarks are appropriate, valid and effective in measuring the performance at the segment and total portfolio levels.

Watch List

No funds on the watch list.

Active Manager Expectations

Manager	Strategy Description	Beta (High/Low/Neutral)	Tracking Error Range (bps)	Environments Manager Underperforms
Domestic Equity				
DFA U.S. Small Cap Trust	Very diversified small cap portfolio, tilts toward value	Neutral	2.0% to 2.7%	In growth-oriented markets
PanAgora U.S. Small Cap Core Stock Selector	Diversified, quantitatively managed small cap portfolio	Neutral	2.5% to 4.0%	In low quality rallies or at market inflection points
Mellon Capital MCM Dynamic U.S. Equity	Very diversified, quantitative, large cap core portfolio	Neutral (higher in more recent periods)	2.5% to 5.0%	When investors misprice forward looking return/risk characteristics; when returns are concentrated in one sector
Developed Markets Equity (Non-U.S.)				
Driehaus International Small Cap Growth	Diversified growth manager that seeks to invest in companies experiencing positive growth inflections, using a combination of fundamental and macroeconomic analysis.	Low	4.0% to 7.0%	At market inflection points, with abrupt leadership change. Deep value, low quality market environments.
Acadian ACWI ex US Small Cap Equity	Very diversified international small cap portfolio, employing highly adaptive quantitative models	Neutral	2.5% to 4.5%	During narrow markets, abrupt changes in leadership. In "value" challenged periods.
Emerging Markets Equity				
Wells Capital Berkeley St Emerging Markets	Diversified, quality-at-a-reasonable price manager	Low	3.5% to 4.0%	Deep value, low quality market environments
Investment Grade Bonds				
Barrow Hanley Core Fixed Income	Conservative, low tracking-error core strategy focused on bottom-up security selection	Neutral	0.2% to 0.7%	At market inflection points, but should track the index very closely
Opportunistic Credit				
PIMCO Income	Global multi-sector, benchmark agnostic approach, utilizing firm's resources to identify best income ideas while staying senior in the capital structure	Low	1.5% to 3.5%	During periods of lower quality bond rallies and volatility in interest rates and certain currencies
GoldenTree Multi-Sector Credit	Bottom-up security selection, managing risk and adding value through credit sector rotation	Low	2.5% to 4.5%	During initial periods of economic recovery and rapid spread tightening

Manager Monitor

Manager	Significant Events (Yes/No)	Last Meeting with Board of Retirement	Last Meeting with MIG	Comments
Domestic Equity Assets				
Mellon Capital BNY Mellon MCM Dynamic US Equity Fund	No	-	Mar 2017	Merger of smaller boutiques – Met Mellon in March 2017 to go over HY Beta Strategy & conference call for Carbon Efficiency strategy.
Mellon Capital EB DV Large Cap Stock Index Fund	No	-	Mar 2017	Merger of smaller boutiques – Met Mellon in March 2017 to go over HY Beta Strategy & conference call for Carbon Efficiency strategy.
DFA US Small Cap Trust	No	-	Sep 2019	On site with DFA to discuss non-U.S. equities in September of this year.
PanAgora US Small Cap Core Stock Selector	No	-	Aug 2018	CEO Eric Sorensen, who is credited with turning the firm around, has not announced a plan to retire and no formal succession plan is in place. We do not recommend any changes at this time.
Developed Markets Equity (Non-U.S.) Assets				
Driehaus International Small Cap Growth	No	-	Aug 2019	Review of strategy, no changes to conviction level.
Acadian ACWI ex US Small Cap Equity	No	-	Mar 2019	Onsite meeting to go over Non-US small cap strategies.
Mellon Capital EB DV International Stock Index Fund	No	-	Mar 2017	Merger of smaller boutiques – Met Mellon in March 2017 to go over HY Beta Strategy & conference call for Carbon Efficiency strategy.
Emerging Markets Equity Assets				
Wells Capital Berkeley Street Emerging Markets Fund	No	-	July 2019	Met with Bob Hrabchak (product specialist) with overview of EM strategy – very quality oriented and valuation sensitive with a long-term view.
US Fixed Income Assets				
Barrow Hanley Core Fixed Income Fund	No	Apr 2019	Apr 2019	Standard update from Barrow team – review of Core Fixed and Short Duration.
Vanguard Short Term Treasury Index Fund	No	-	Aug 2019	Review of High Yield strategy.
Opportunistic Credit				
PIMCO Income Fund	No	-	Mar 2019	Regular high-level meeting discussing positioning and detractors for Income and Total Return strategies.
GoldenTree Multi-Sector Credit	No	-	July 2019	Meeting in London for regular strategy update.
Private Equity Program	N/A	N/A	N/A	Oversight by Cliffwater.
Real Assets Program	N/A	N/A	N/A	Oversight by Cliffwater.
Hedge Fund Program	N/A	N/A	N/A	Oversight by Cliffwater.

Active Manager Peer Rankings

Investment Managers	Product	Peer Group	Market Value (\$ mm)	YTD September	1 YR	3 YR	5 YR	10 YR	Client Inception	Years in portfolio
DFA	US Small Cap Equity Strategy	US Small Cap Core	17.6	63	61	62	60	52	Jun-14	5.3
PanAgora	US Small Cap Core Stock Selector	US Small Cap Core	17.9	48	70	53	48	6	Sep-13	6.0
Mellon Capital	Dynamic US Equity Strategy	US Large Cap Core	94.2	4	29	6	3	1	Dec-12	6.8
Acadian	All-Country World ex US Small Cap	Non-US Div Small Cap	9.8	77	65	35	56	29	May-19	0.3
Driehaus	International Small Cap Growth	Non-US Div Small Cap	10.4	9	16	10	9	7	May-19	0.3
Wells Capital	Berkeley Street Emerging Markets	Emerging Markets	67.9	11	11	30	20	32	Mar-12	7.5
Barrow Hanley	Core Fixed Income	US Core Fixed Income	61.1	62	46	68	57	77	Mar-10	9.5
PIMCO	Income Fund	GI Multi-Sector Fixed Income	20.4	81	48	17	7	1	May-19	0.3
GoldenTree	Multi-Sector Credit Strategy	GI Multi-Sector Fixed Income	20.8	63	79	20	12	--	Jun-19	0.3

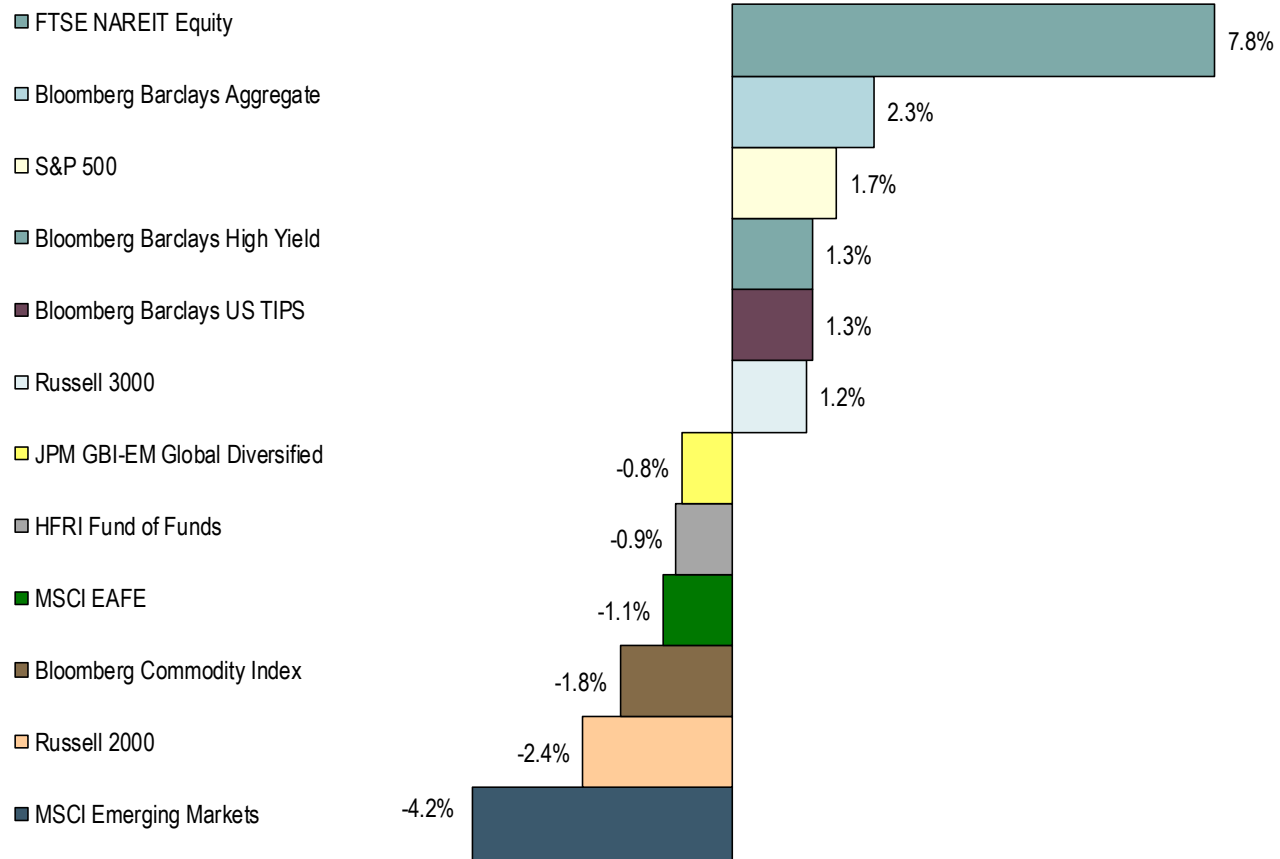
Source: eVestment universe data.

Shaded values are rankings prior to Client inception in the strategy.

Ranks are based on gross of fee returns for extended periods (shaded values).

The World Markets Third Quarter of 2019

The World Markets¹ Third Quarter of 2019



¹ Source: InvestorForce.

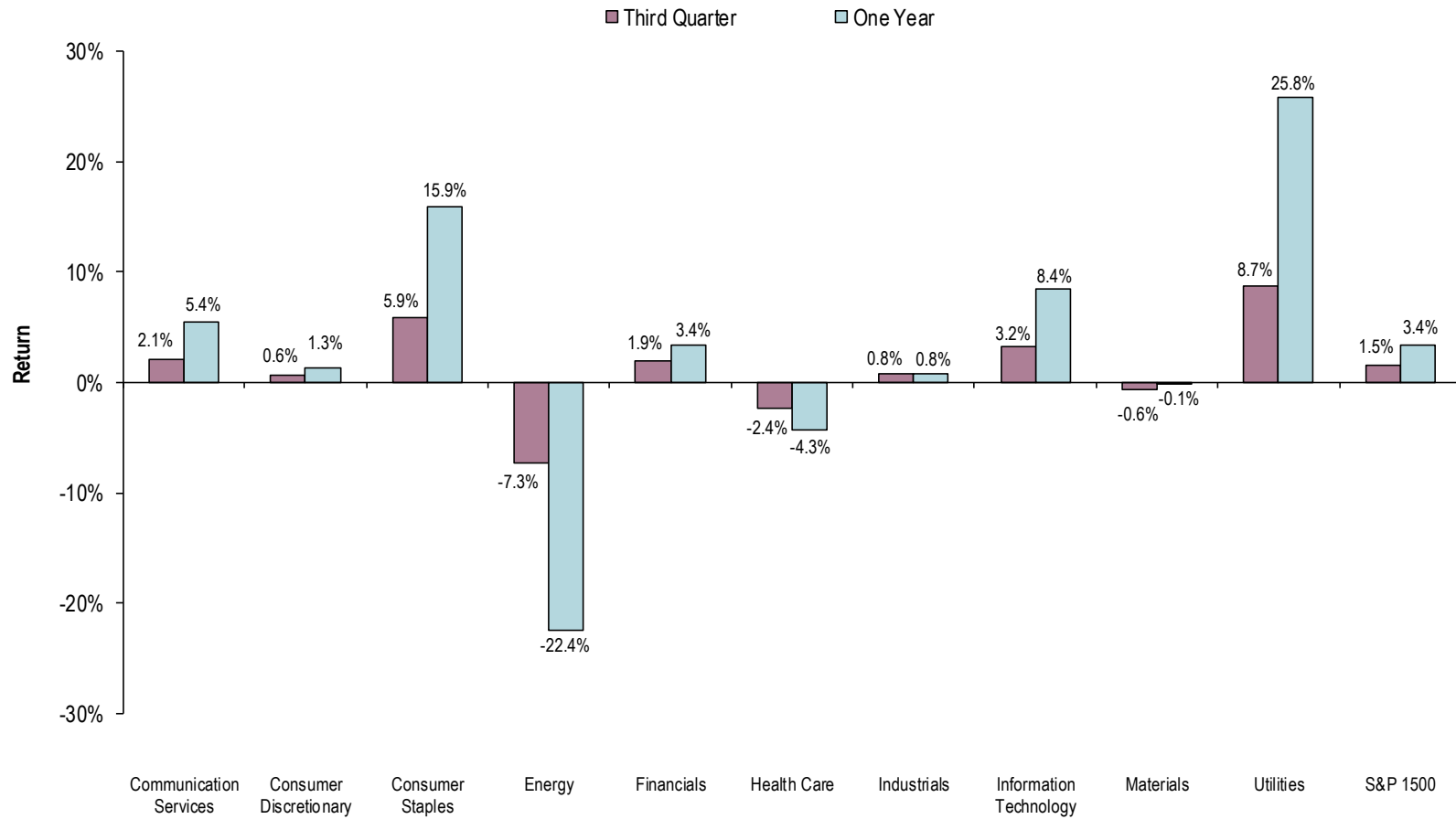


Index Returns¹

	3Q19 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Domestic Equity						
S&P 500	1.7	20.6	4.3	13.4	10.8	13.2
Russell 3000	1.2	20.1	2.9	12.8	10.4	13.1
Russell 1000	1.4	20.5	3.9	13.2	10.6	13.2
Russell 1000 Growth	1.5	23.3	3.7	16.9	13.4	14.9
Russell 1000 Value	1.4	17.8	4.0	9.4	7.8	11.5
Russell MidCap	0.5	21.9	3.2	10.7	9.1	13.1
Russell MidCap Growth	-0.7	25.2	5.2	14.5	11.1	14.1
Russell MidCap Value	1.2	19.5	1.6	7.8	7.6	12.3
Russell 2000	-2.4	14.2	-8.9	8.2	8.2	11.2
Russell 2000 Growth	-4.2	15.3	-9.6	9.8	9.1	12.2
Russell 2000 Value	-0.6	12.8	-8.2	6.5	7.2	10.1
Foreign Equity						
MSCI ACWI (ex. US)	-1.8	11.6	-1.2	6.3	2.9	4.5
MSCI EAFE	-1.1	12.8	-1.3	6.5	3.3	4.9
MSCI EAFE (Local Currency)	1.8	15.7	1.6	8.3	6.0	7.0
MSCI EAFE Small Cap	-0.4	12.1	-5.9	5.9	6.0	7.5
MSCI Emerging Markets	-4.2	5.9	-2.0	6.0	2.3	3.4
MSCI Emerging Markets (Local Currency)	-2.1	7.8	-0.2	7.6	5.5	5.9
Fixed Income						
Bloomberg Barclays Universal	2.1	8.8	10.1	3.2	3.6	4.1
Bloomberg Barclays Aggregate	2.3	8.5	10.3	2.9	3.4	3.7
Bloomberg Barclays US TIPS	1.3	7.6	7.1	2.2	2.4	3.5
Bloomberg Barclays High Yield	1.3	11.4	6.4	6.1	5.4	7.9
JPM GBI-EM Global Diversified	-0.8	7.9	10.1	3.1	0.6	2.4
Other						
FTSE NAREIT Equity	7.8	27.0	18.4	7.4	10.3	13.0
Bloomberg Commodity Index	-1.8	3.1	-6.6	-1.5	-7.2	-4.3
HFRI Fund of Funds	-0.9	5.2	0.0	3.2	2.0	2.7

¹ Source: InvestorForce.

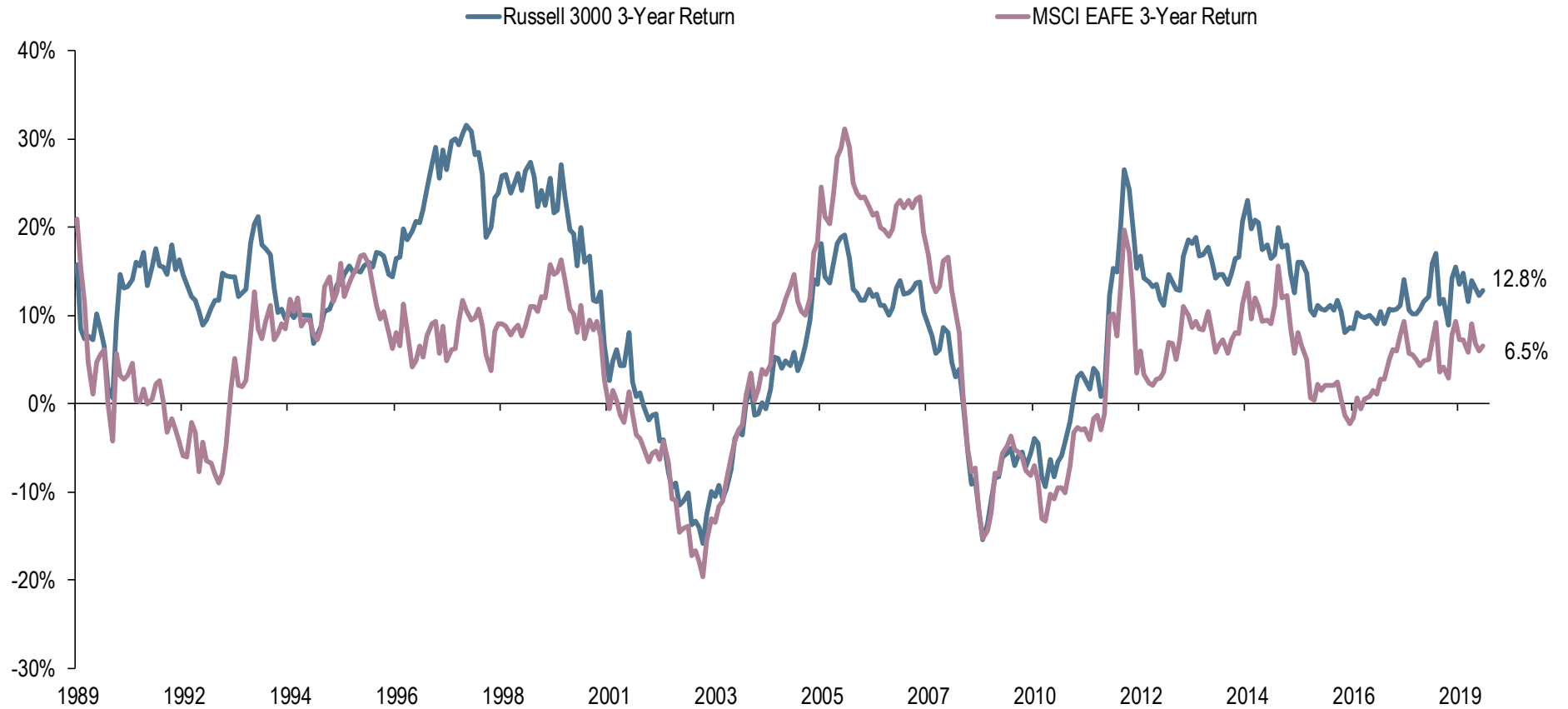
S&P Sector Returns¹



¹ Source: InvestorForce. Represents S&P 1500 (All Cap) data.



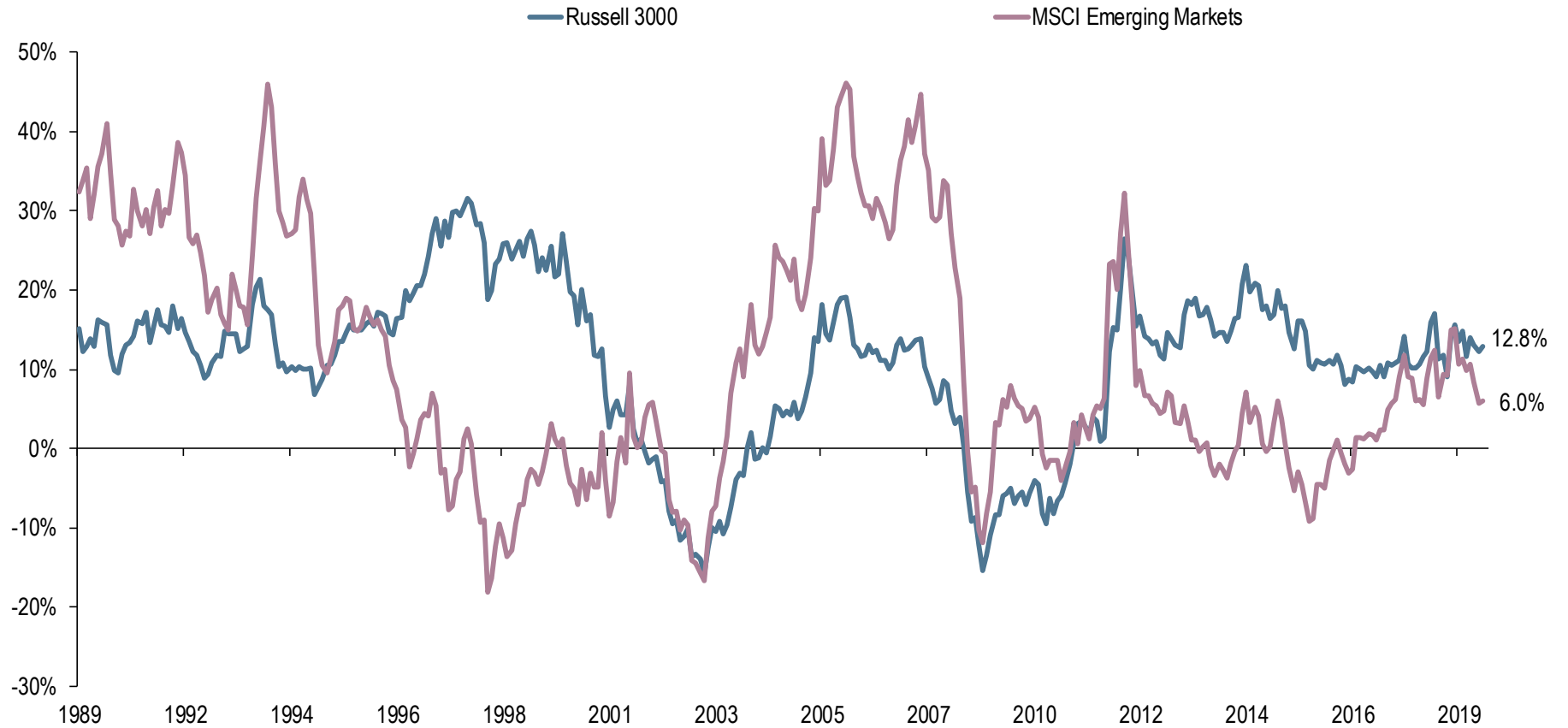
US and Developed Market Foreign Equity Rolling Three-Year Returns¹



¹ Source: InvestorForce.



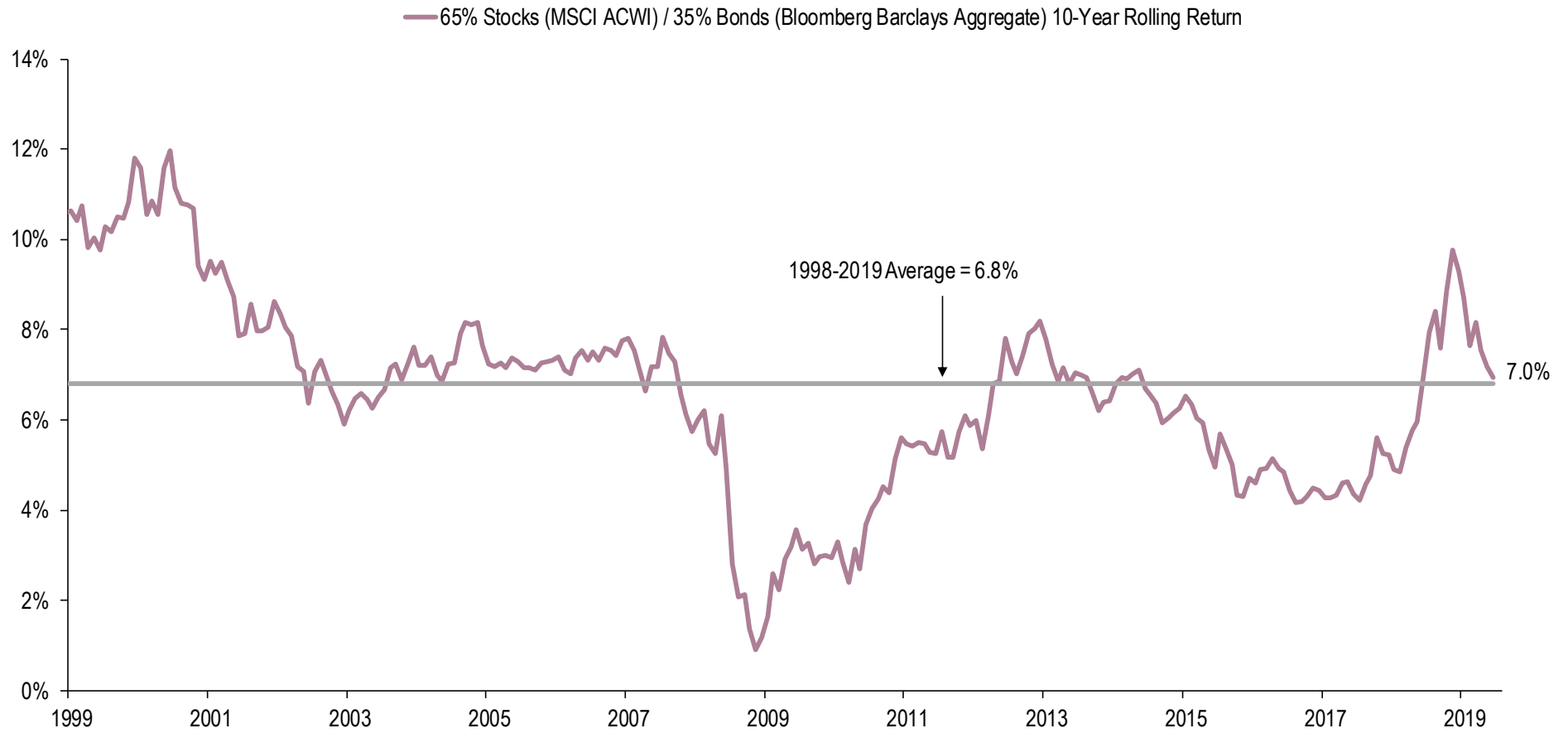
US and Emerging Market Equity Rolling Three-Year Returns¹



¹ Source: InvestorForce.



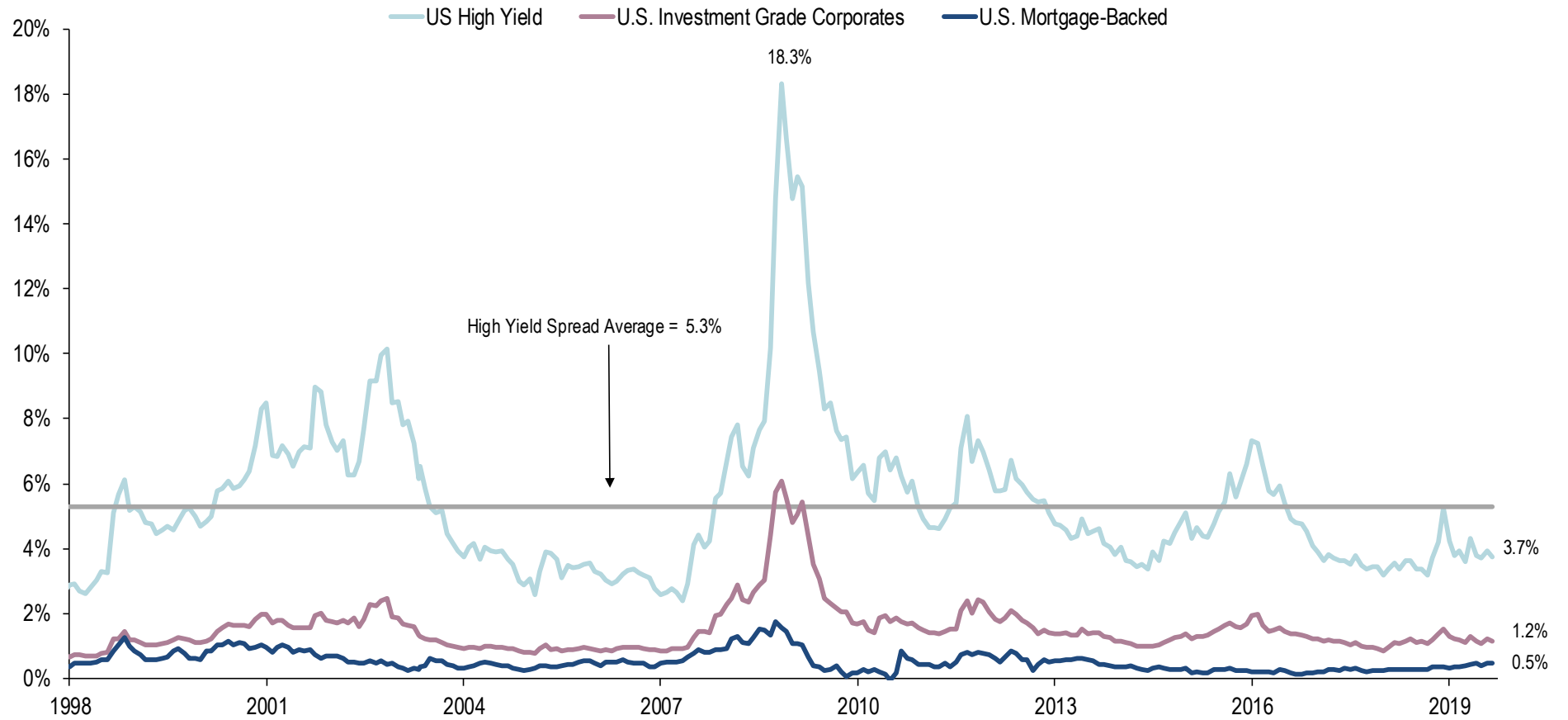
Rolling Ten-Year Returns: 65% Stocks and 35% Bonds¹



¹ Source: InvestorForce.



Credit Spreads vs. US Treasury Bonds^{1,2}

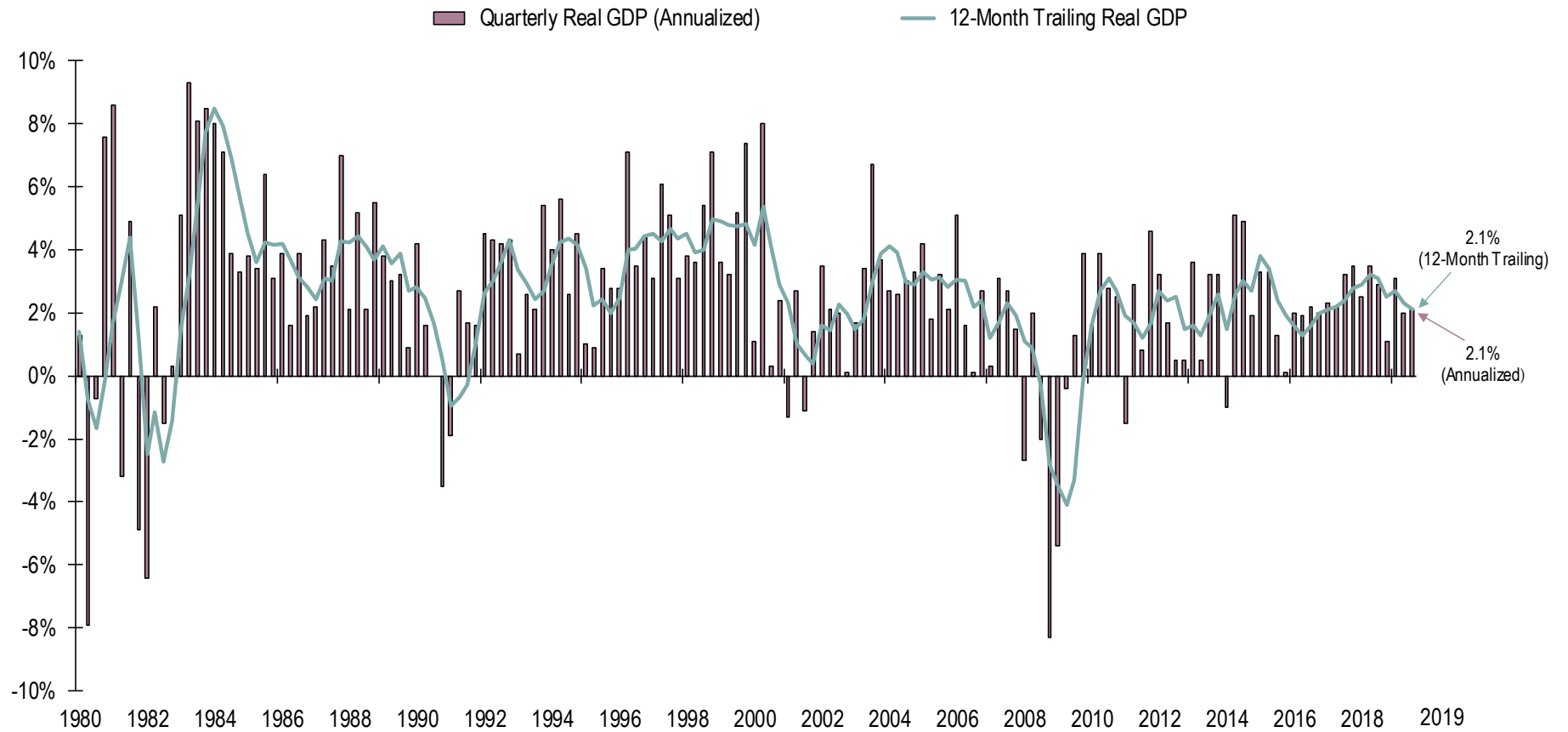


¹ Source: Barclays Live.

² The median high yield spread was 4.8% from 1997-2019.



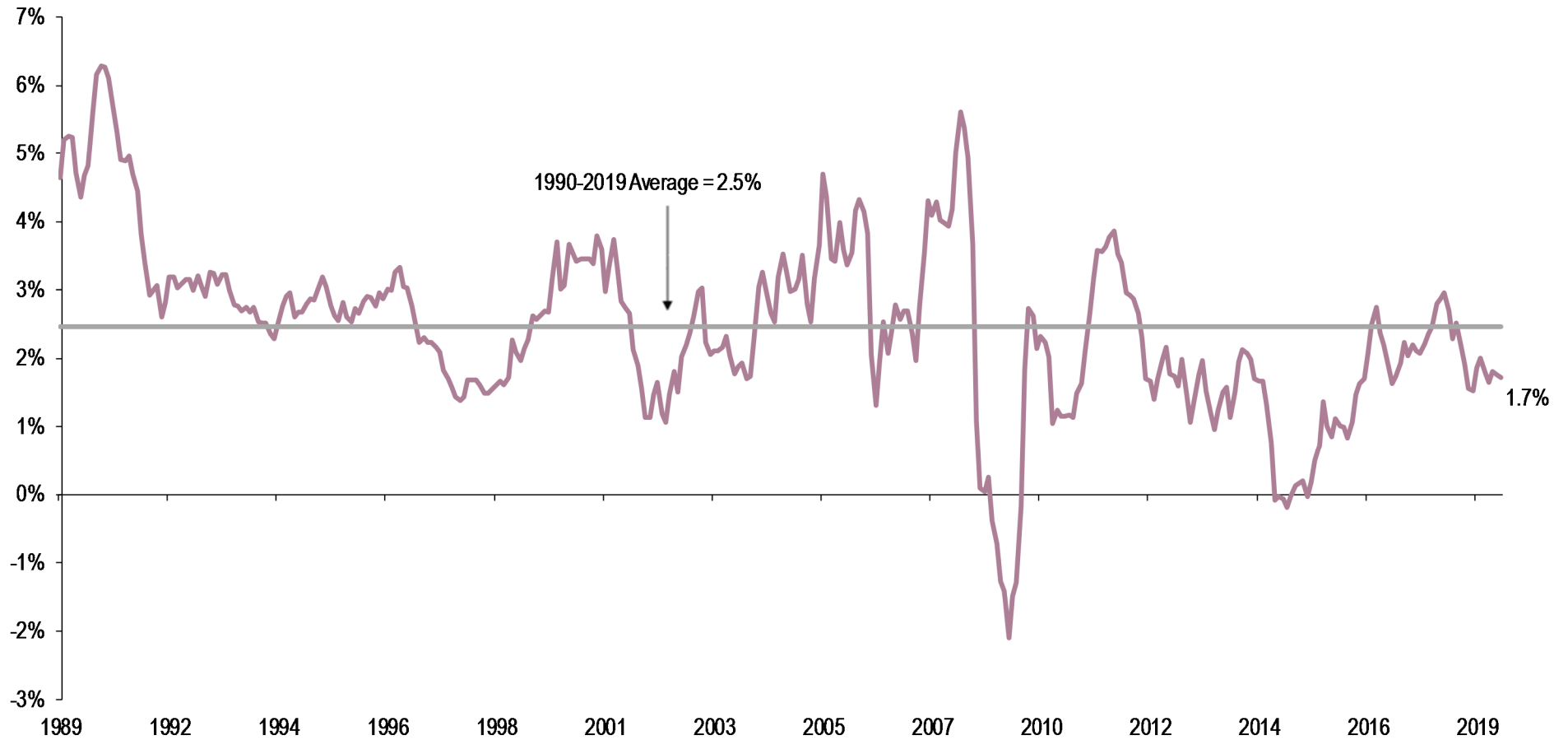
US Real Gross Domestic Product (GDP) Growth¹



¹ Source: Bureau of Economic Analysis. Data is as of Q3 2019 and represents the second estimate.



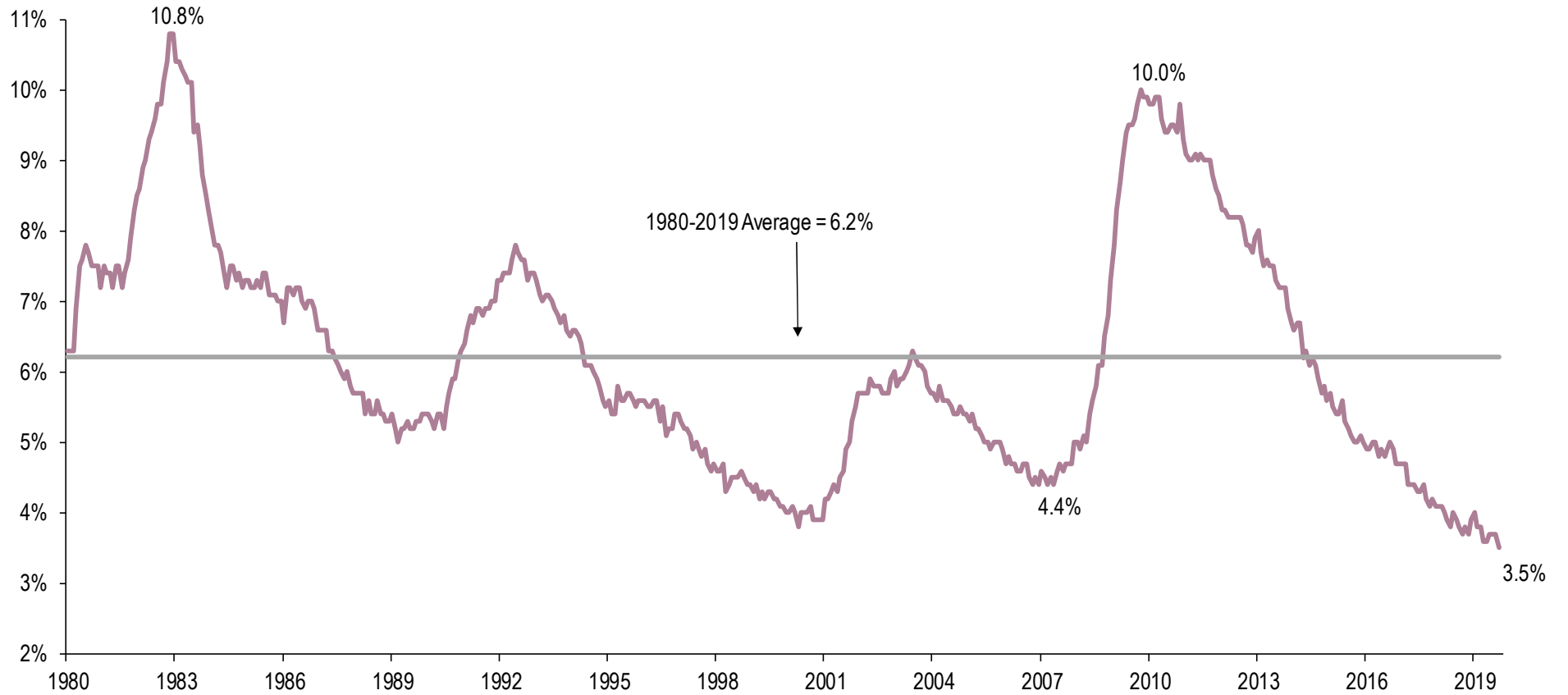
US Inflation (CPI) Trailing Twelve Months¹



¹ Source: Bureau of Labor Statistics. Data is non-seasonally adjusted CPI, which may be volatile in the short-term. Data is as of September 30, 2019.



US Unemployment¹



¹ Source: Bureau of Labor Statistics. Data is as of September 30, 2019.



Capital Markets Outlook & Risk Metrics

As of November 30, 2019

Capital Markets Outlook

Takeaways

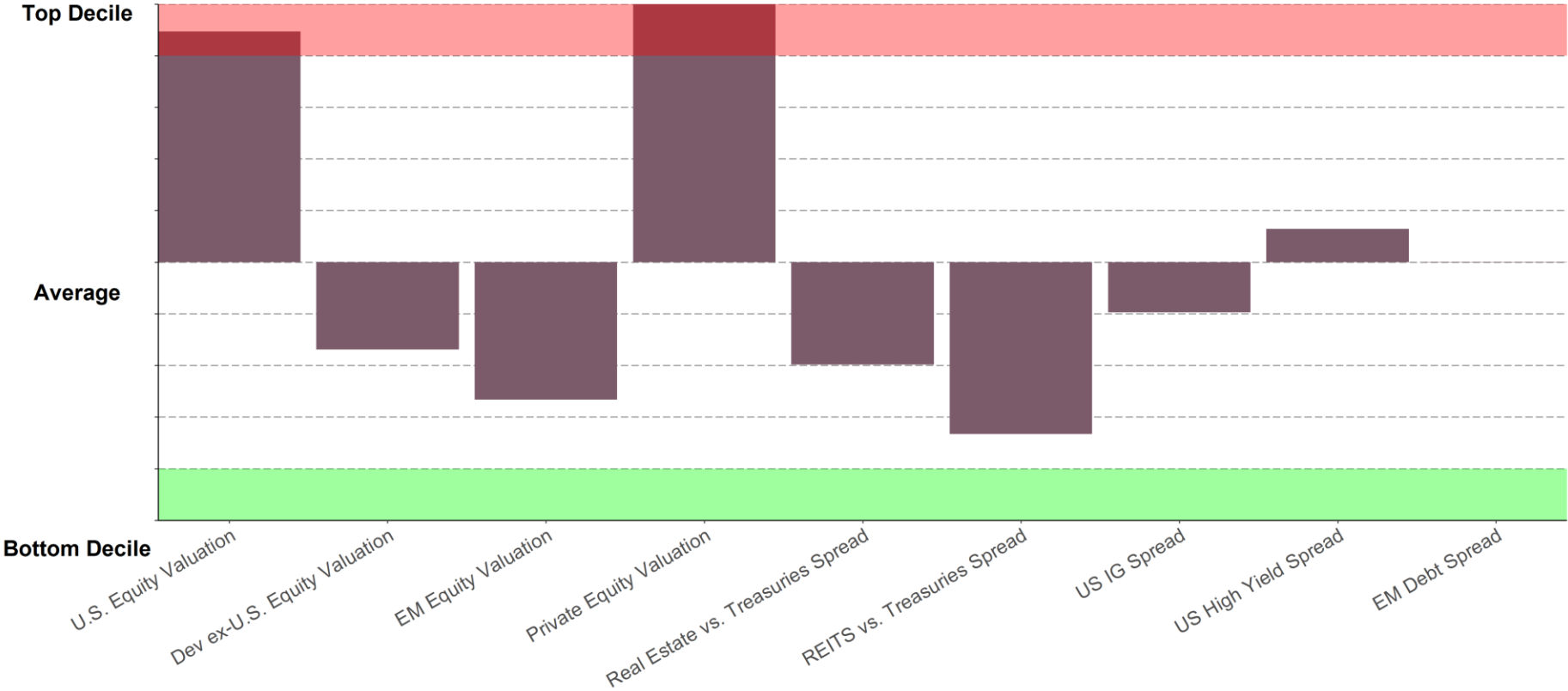
- From a market performance perspective, November saw most Global Equity markets, with the exception of Emerging Markets, continue their extraordinary year-to-date run. While certain trends continued to hold (e.g., growth outpacing value, US besting Non-US, and large cap outperforming small cap), bearing any kind of equity risk has been a profitable position as most indices have produced returns in the 10-30% range in 2019. Of note, this strong rebound followed the sharp declines during Q4 2018.
- US interest rates were relatively unchanged during November. As a reminder, in October the Federal Reserve lowered rates for a third time in 2019 and subsequently indicated a pause to any further lowering.
- After a short hiatus, trade war-related discussions once again returned to the forefront as a market driver. While several discussions in November pertained to tariff rollbacks, this situation remains in flux and is likely to continue as such over the near-term. These events remain complex and unpredictable.
- US Equity markets remain expensive whereas Non-US Equity markets remain reasonably valued relative to their histories.
- US Credit and Emerging Markets Debt spreads remain reasonably valued relative to their histories.
- Implied equity market volatility¹ remained at relatively low levels throughout November, generally staying below 13 throughout the entire month (the historical average is ≈19).
- The Market Sentiment Indicator² stayed **green** at month end.
- Market uncertainty, as measured by Systemic Risk, declined during November. Despite this sort of statistical behavior, recent economic data suggests that the global economy is in a slowing, but not yet recessionary, phase.

¹ As measured by VIX Index.

² See Appendix for the rationale for selection and calculation methodology used for the risk metrics.



Risk Overview/Dashboard (1) (As of November 30, 2019)¹

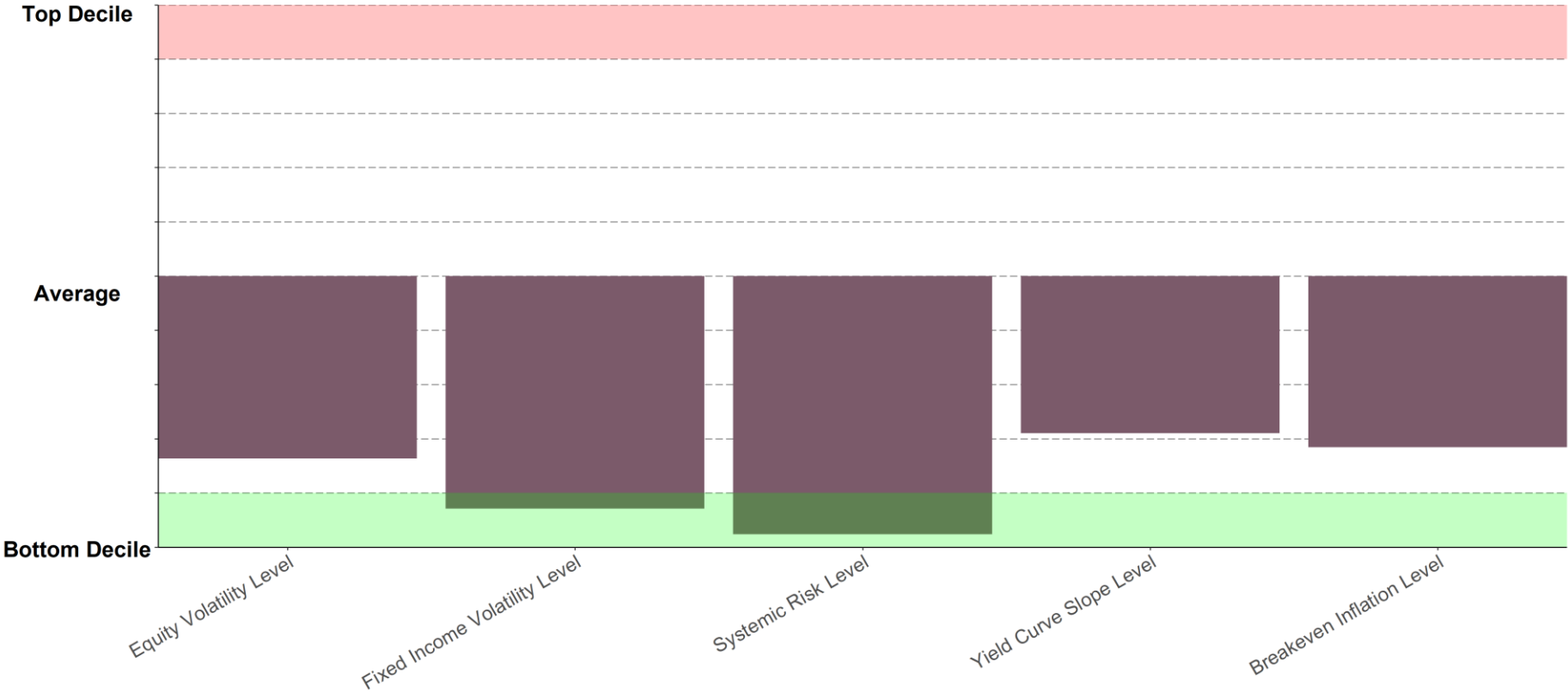


- Dashboard (1) summarizes the current state of the different valuation metrics per asset class relative to their own history.

¹ With the exception of Private Equity Valuation that are available annually and data is as of December 31, 2018.

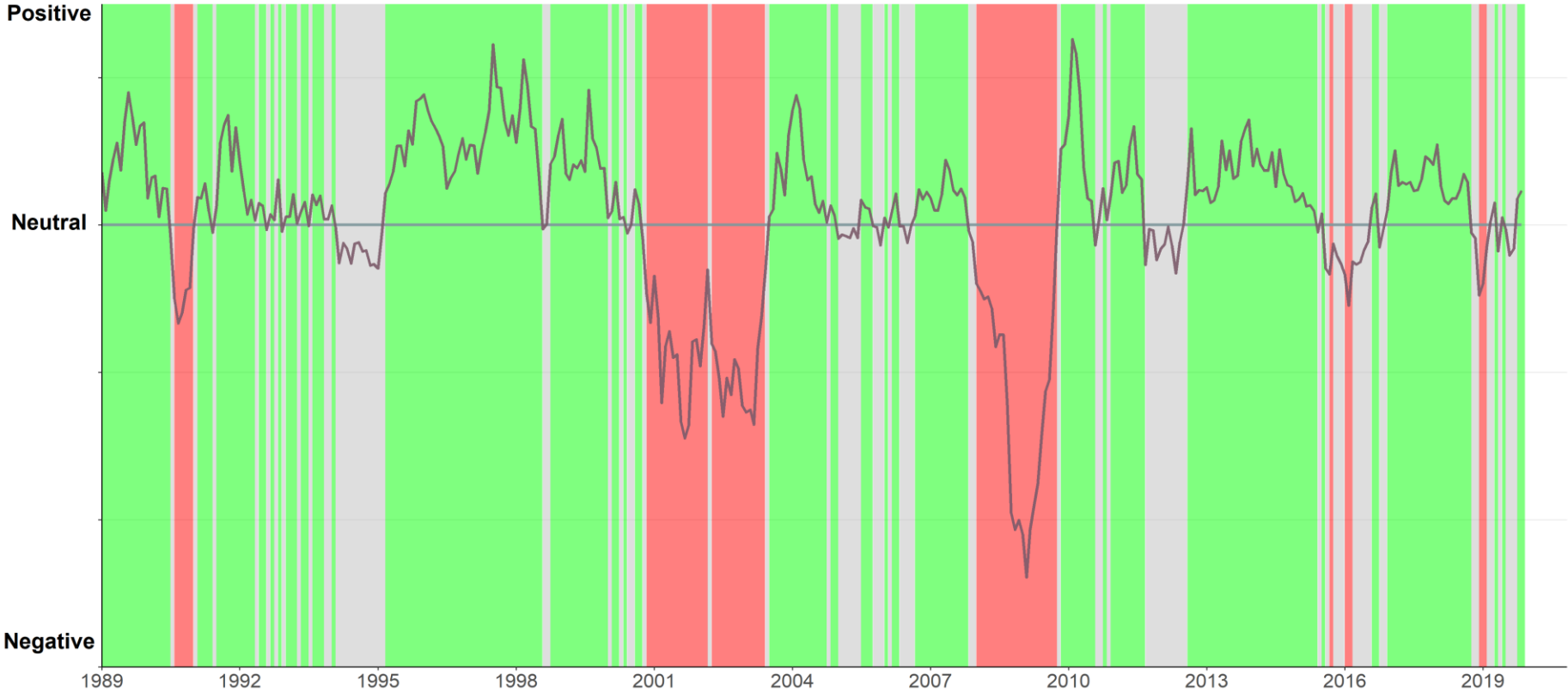


Risk Overview/Dashboard (2) (As of November 30, 2019)

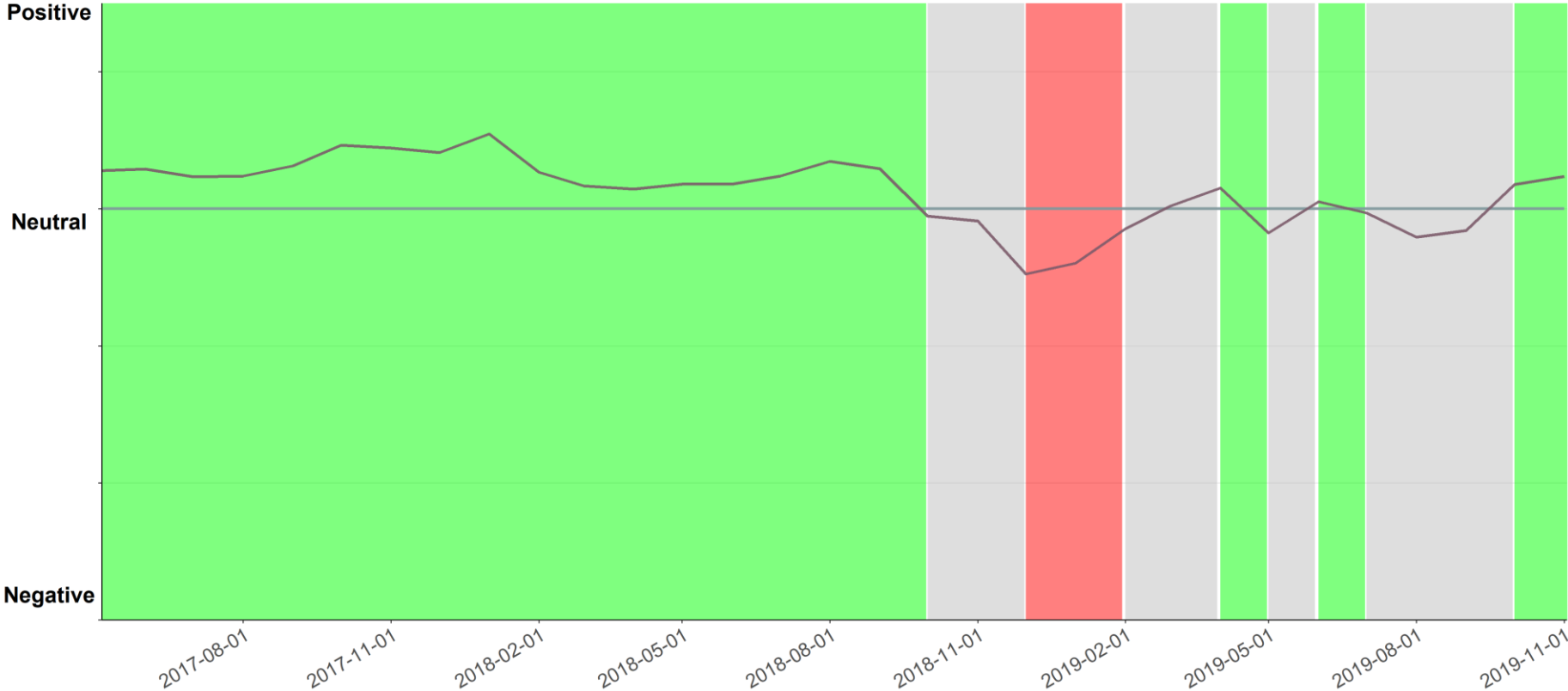


- Dashboard (2) shows how the current level of each indicator compares to its respective history.

Market Sentiment Indicator (All History) (As of November 30, 2019)



Market Sentiment Indicator (Last Three Years) (As of November 30, 2019)



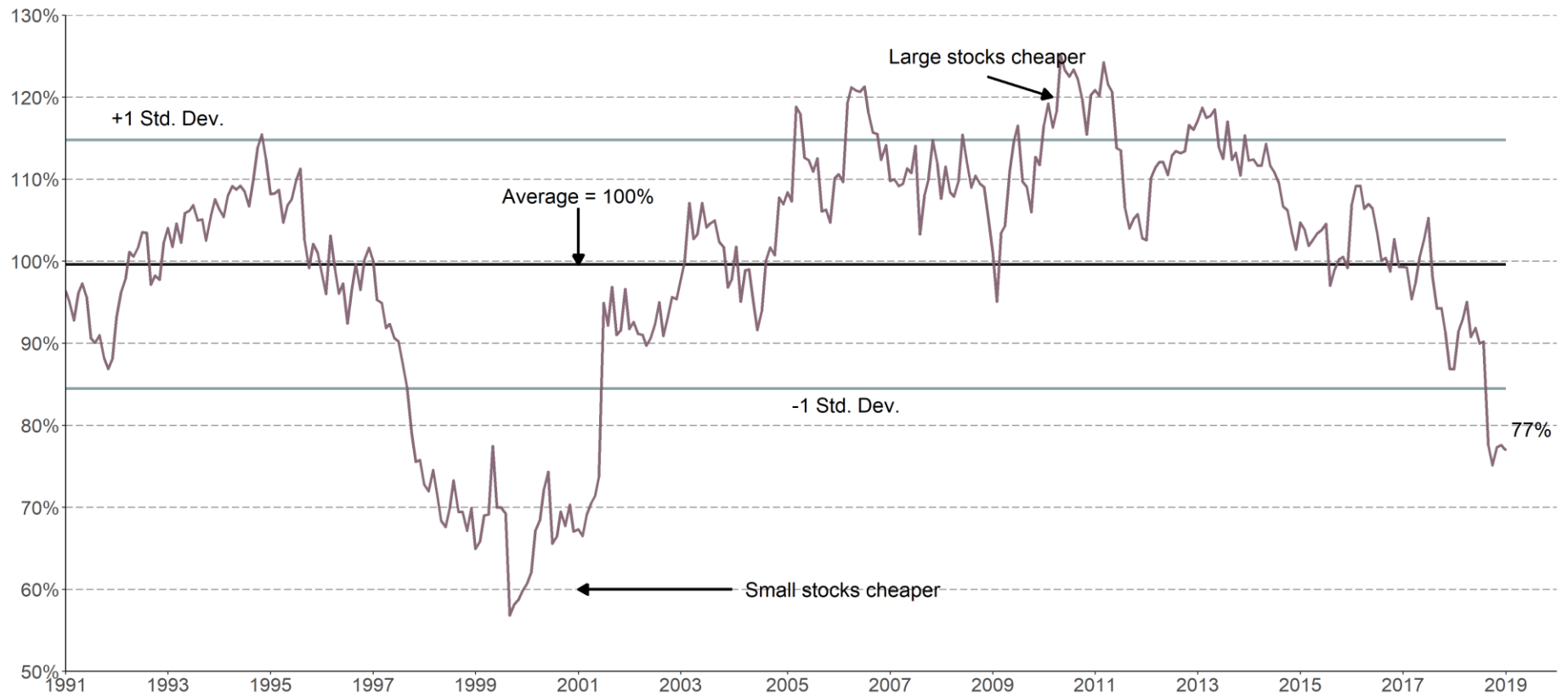
US Equity Cyclically Adjusted P/E¹ (As of November 30, 2019)



- This chart details one valuation metric for US equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

¹ US Equity Cyclically Adjusted P/E on S&P 500 Index – Source: Robert Shiller, Yale University and Meketa Investment Group.

Small Cap P/E vs. Large Cap P/E¹ (As of November 30, 2019)



- This chart compares the relative attractiveness of small cap US equities vs. large cap US equities on a valuation basis. A higher (lower) figure indicates that large cap (small cap) is more attractive.

¹ Small Cap P/E (Russell 2000 Index) vs. Large Cap P/E (Russell 1000 Index) - Source: Russell Investments. Earnings figures represent 12-month "as reported" earnings.



Growth P/E vs. Value P/E¹ (As of November 30, 2019)

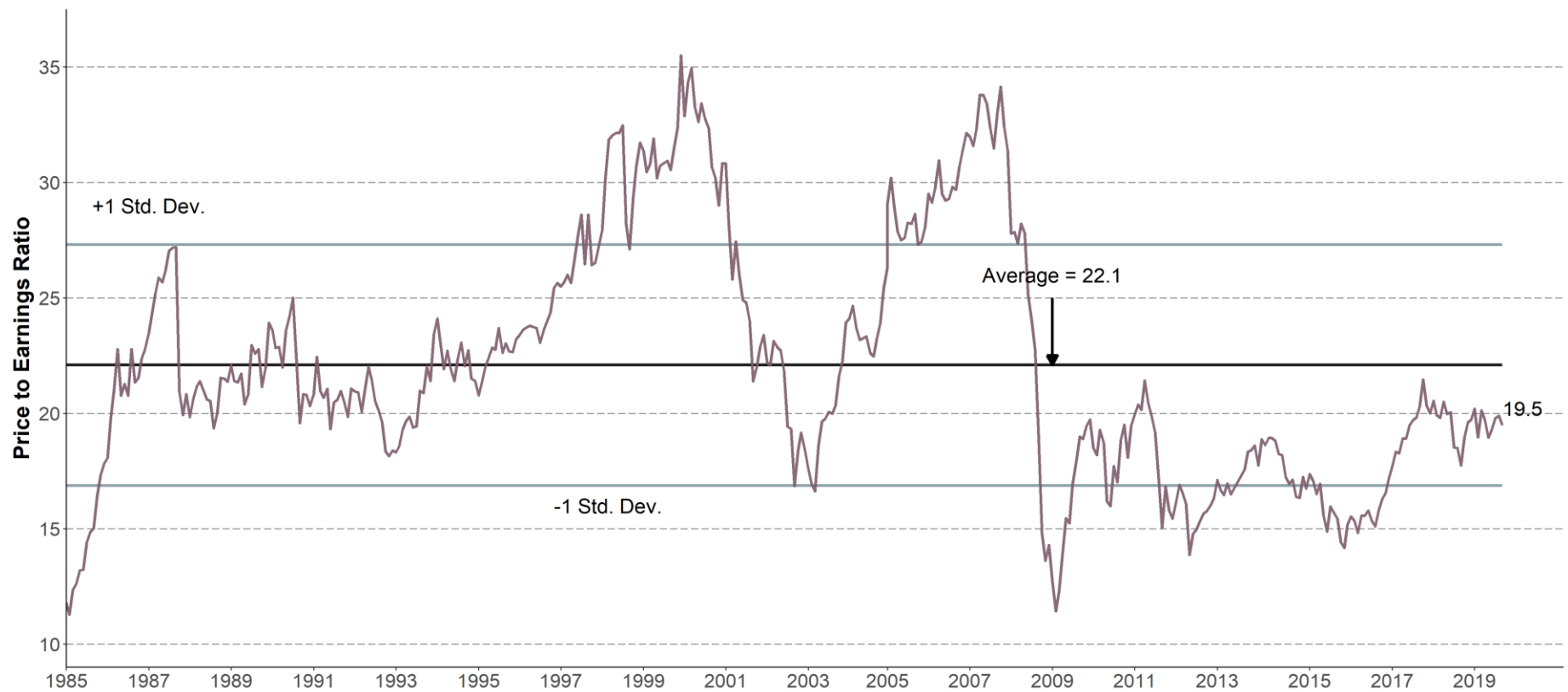


- This chart compares the relative attractiveness of US growth equities vs. US value equities on a valuation basis. A higher (lower) figure indicates that value (growth) is more attractive.

¹ Growth P/E (Russell 3000 Growth Index) vs. Value (Russell 3000 Value Index) P/E - Source: Bloomberg, MSCI, and Meketa Investment Group. Earnings figures represent 12-month "as reported" earnings.



Developed International Equity Cyclically Adjusted P/E¹ (As of November 30, 2019)



- This chart details one valuation metric for developed international equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

¹ Developed International Equity (MSCI EAFE ex Japan Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years.



Emerging Market Equity Cyclically Adjusted P/E¹ (As of November 30, 2019)

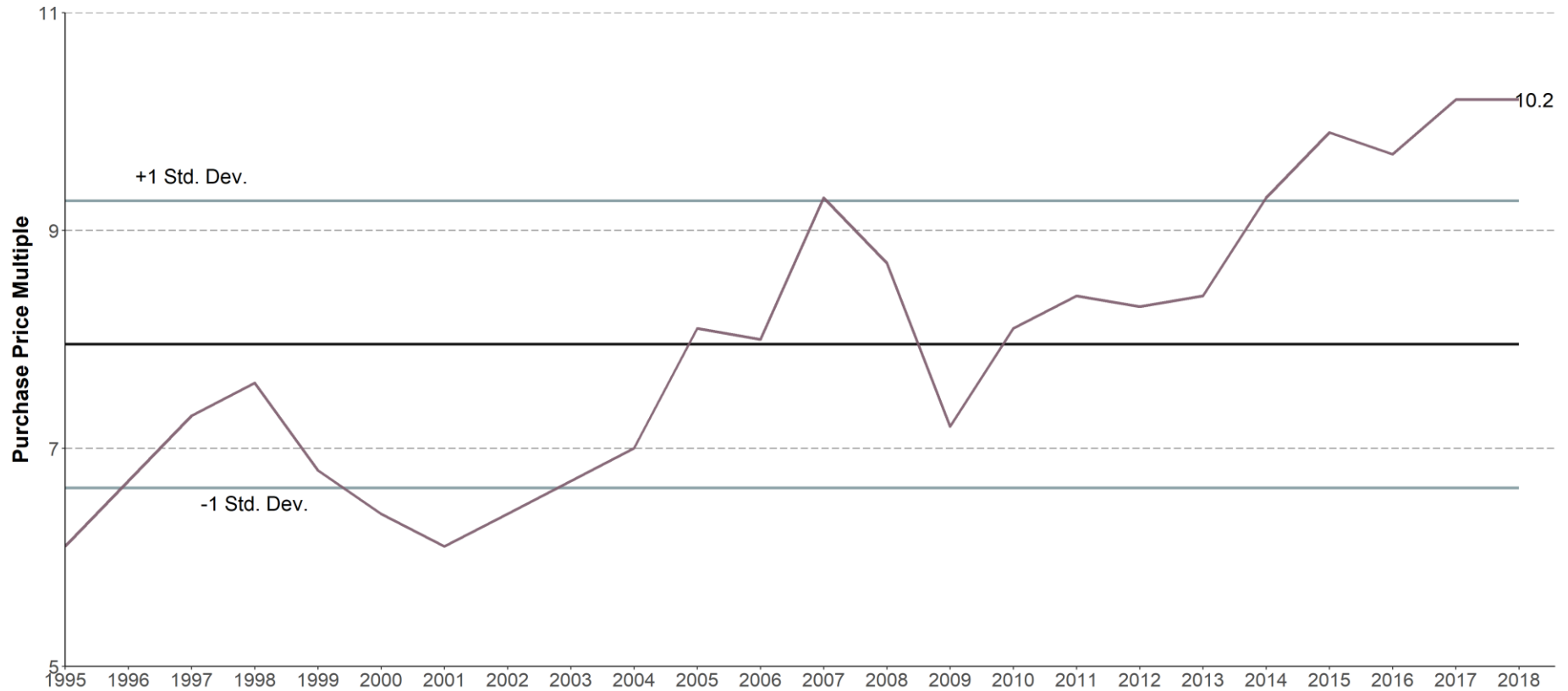


- This chart details one valuation metric for emerging markets equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

¹ Emerging Market Equity (MSCI Emerging Markets Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years.



Private Equity Multiples¹ (As of December 31, 2018)²



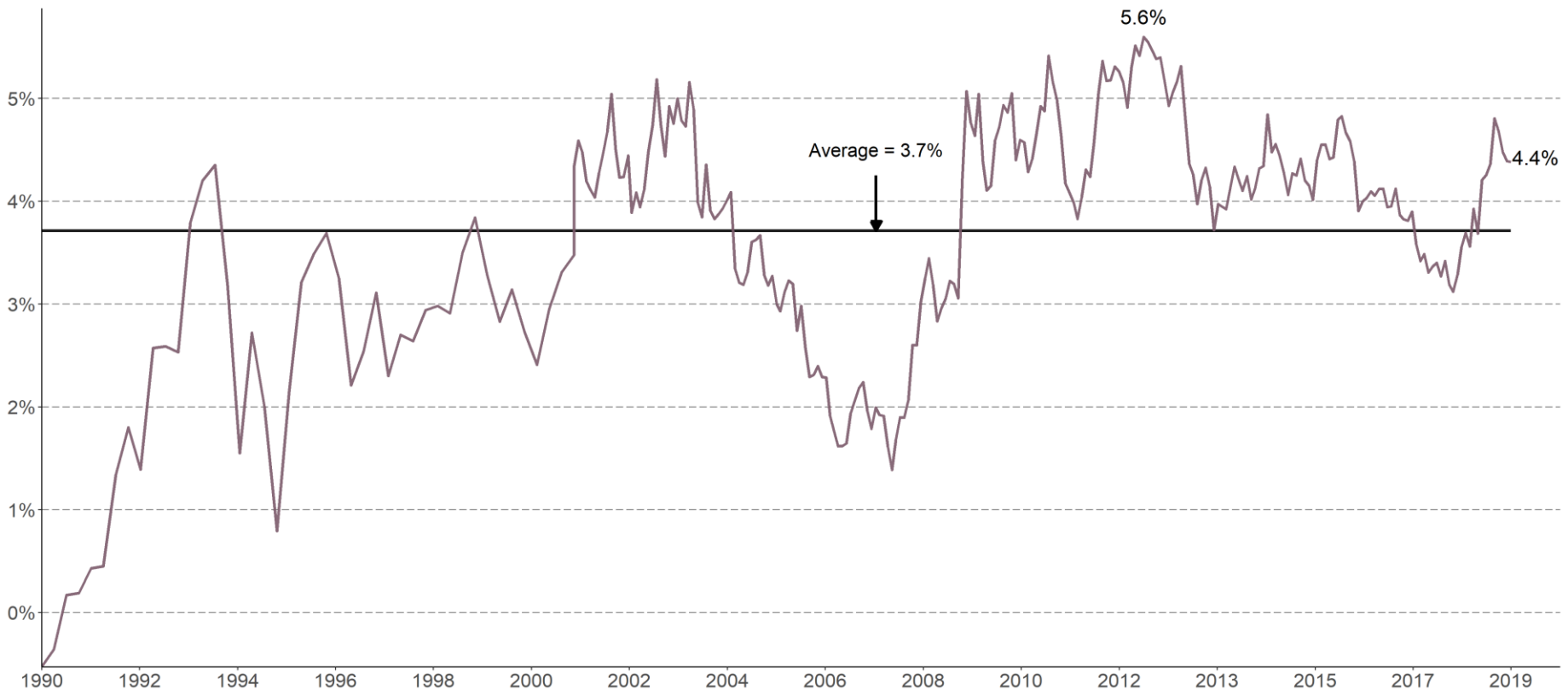
- This chart details one valuation metric for the private equity market. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

¹ Private Equity Multiples – Source: S&P LCD Average EBITDA Multiples Paid in All LBOs.

² Only annual figures available.



Core Real Estate Spread vs. Ten-Year Treasury¹
 (As of November 30, 2019)



- This chart details one valuation metric for the private core real estate market. A higher (lower) figure indicates cheaper (more expensive) valuation.

¹ Core Real Estate Spread vs. Ten-Year Treasury – Source: Real Capital Analytics, US Treasury, Bloomberg, and Meketa Investment Group. Core Real Estate is proxied by weighted sector transaction based indices from Real Capital Analytics and Meketa Investment Group.



REITs Dividend Yield Spread vs. Ten-Year Treasury¹ (As of November 30, 2019)

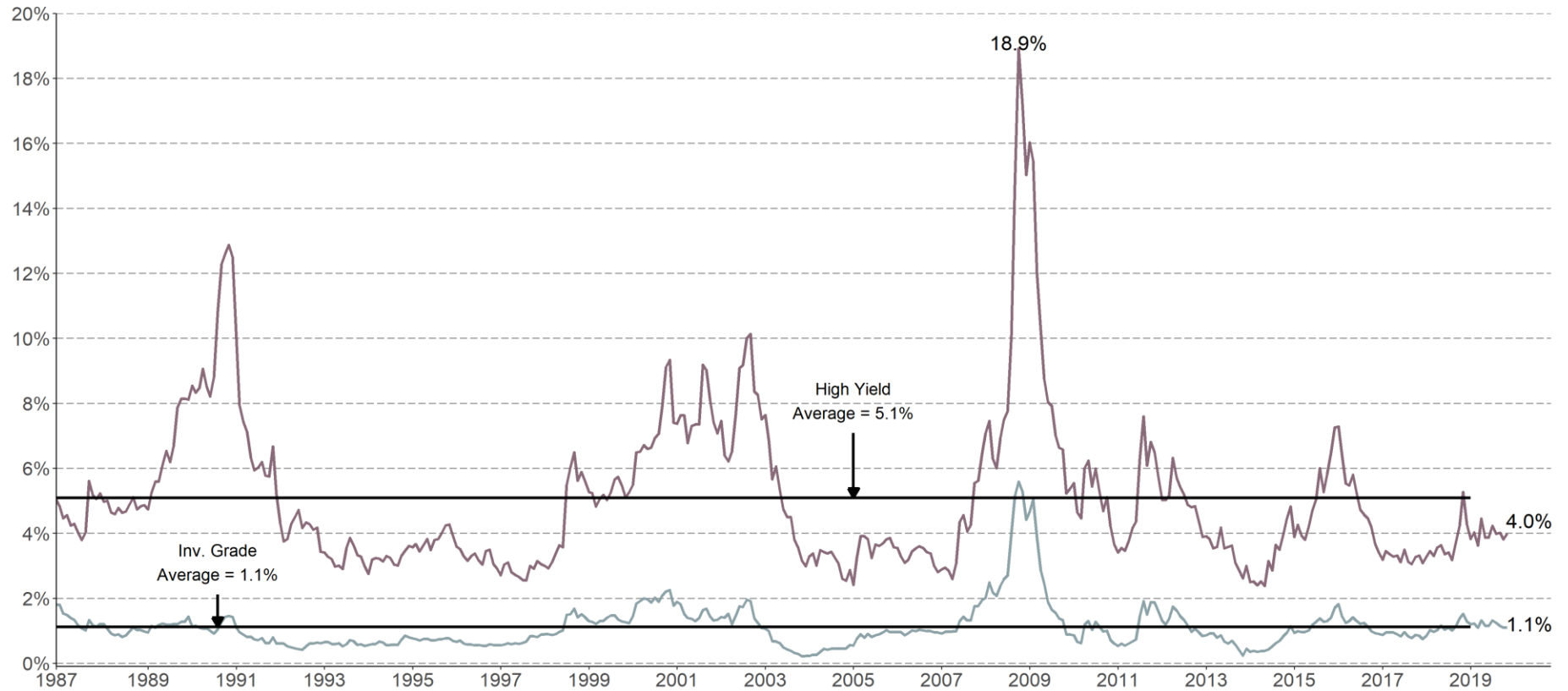


- This chart details one valuation metric for the public REITs market. A higher (lower) figure indicates cheaper (more expensive) valuation.

¹ REITs Dividend Yield Spread vs. Ten-Year Treasury – Source: NAREIT, US Treasury. REITs are proxied by the yield for the NAREIT Equity index.



Credit Spreads¹ (As of November 30, 2019)



- This chart details one valuation metric for the US credit markets. A higher (lower) figure indicates cheaper (more expensive) valuation relative to history.

¹ Credit Spreads – Source: Barclays Capital. High Yield is proxied by the Barclays High Yield index and Investment Grade Corporates are proxied by the Barclays US Corporate Investment Grade index.



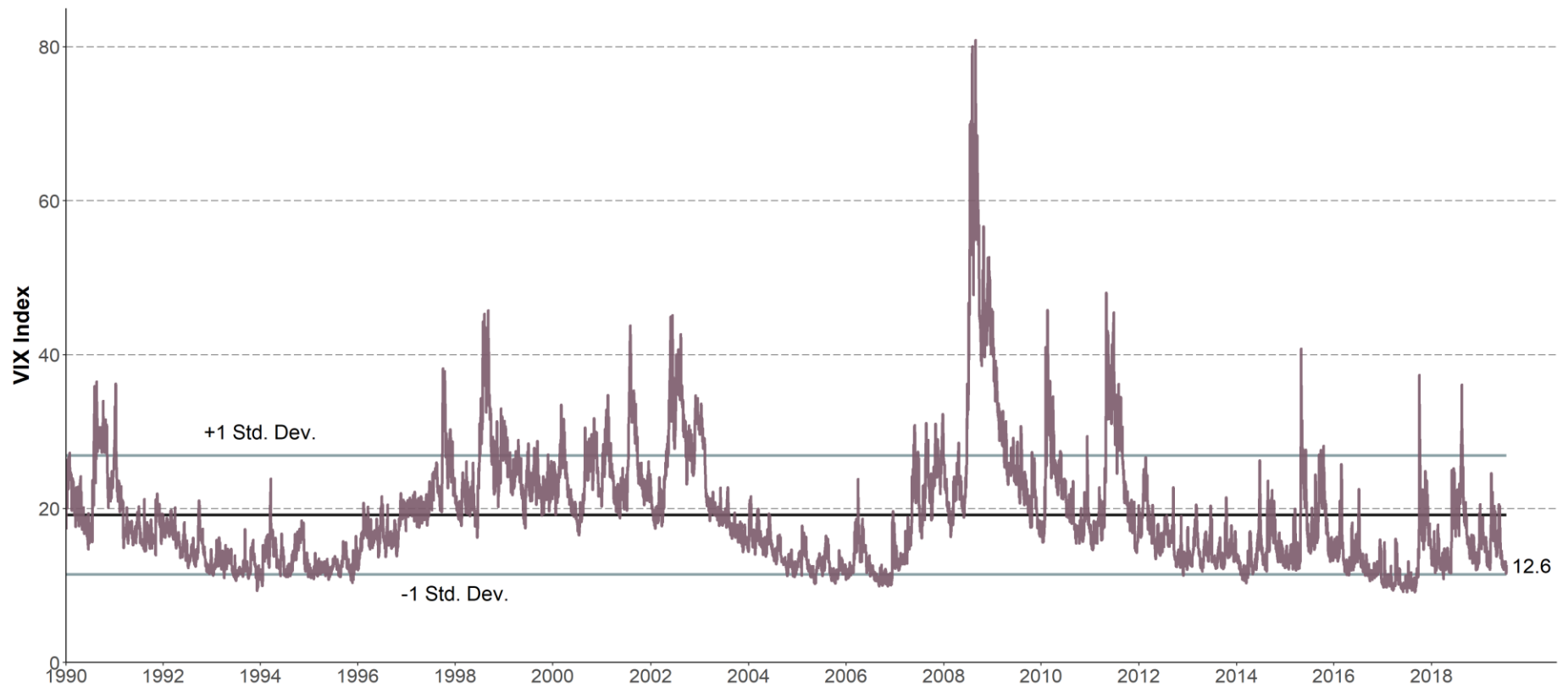
Emerging Market Debt Spreads¹ (As of November 30, 2019)



- This chart details one valuation metric for the EM debt markets. A higher (lower) figure indicates cheaper (more expensive) valuation relative to history.

¹ EM Spreads – Source: Bloomberg. Option Adjusted Spread (OAS) for the Bloomberg Barclays EM USD Aggregate Index.

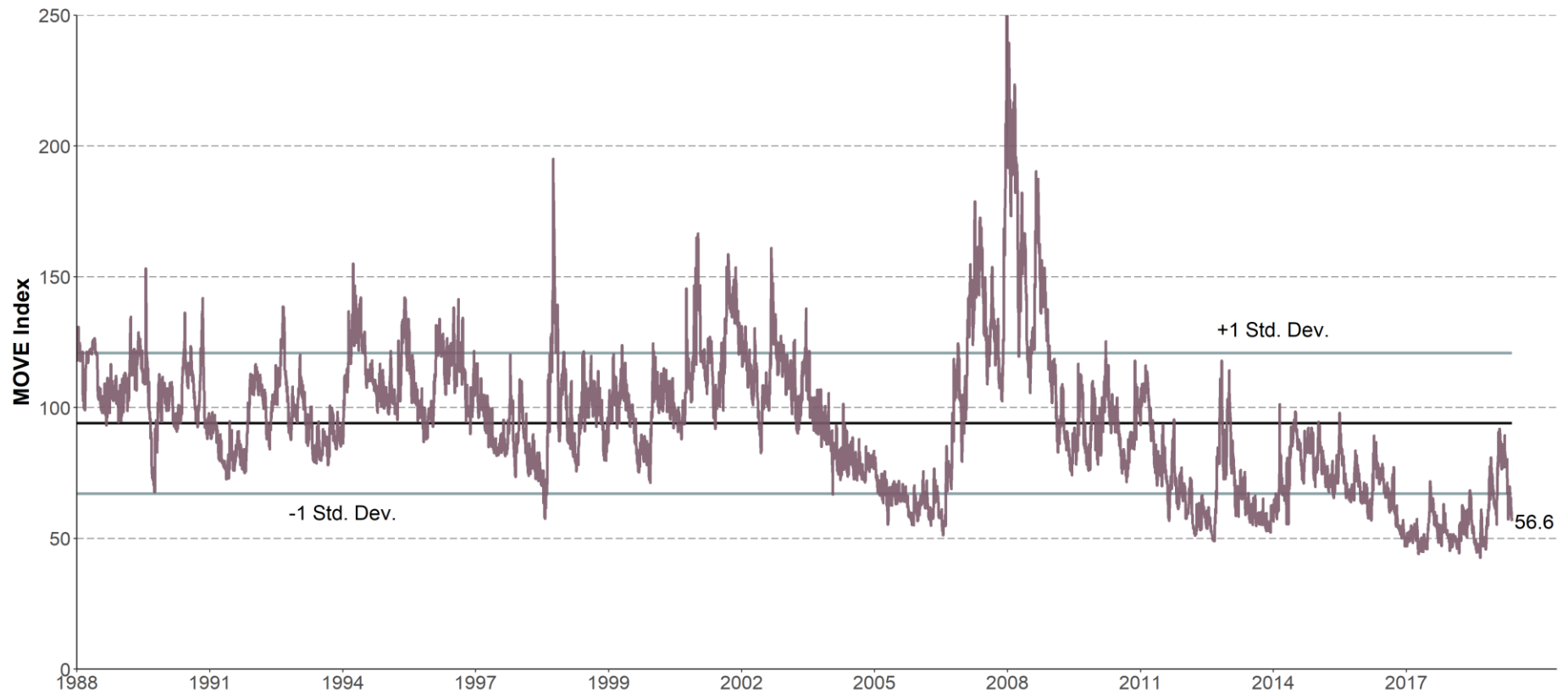
Equity Volatility ¹ (As of November 30, 2019)



- This chart details historical implied equity market volatility. This metric tends to increase during times of stress/fear and while declining during more benign periods.

¹ Equity Volatility – Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by VIX Index, a Measure of implied option volatility for US equity markets.

Fixed Income Volatility ¹ (As of November 30, 2019)

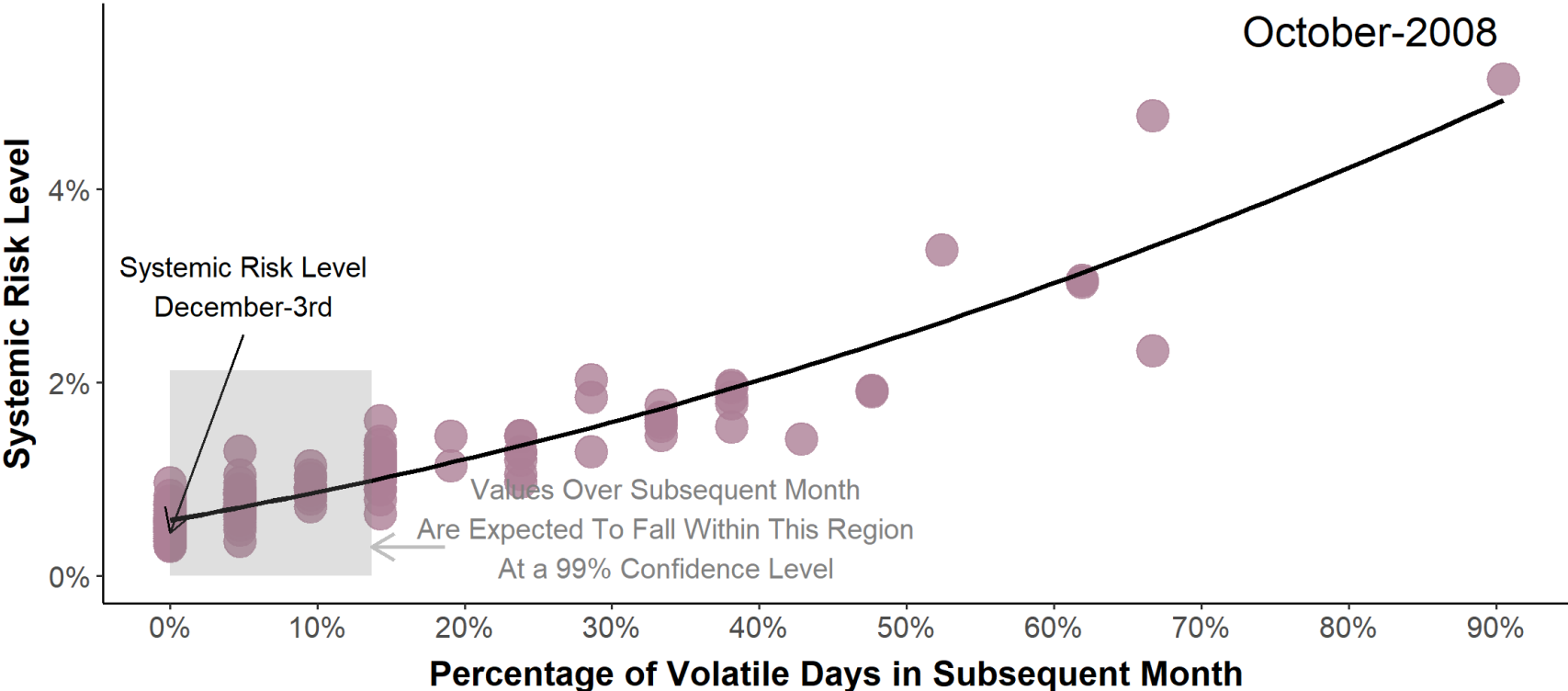


- This chart details historical implied fixed income market volatility. This metric tends to increase during times of stress/fear and while declining during more benign periods.

¹ Fixed Income Volatility – Source: Bloomberg, and Meketa Investment Group. Fixed Income Volatility proxied by MOVE Index, a Measure of implied option volatility for US Treasury markets.



Systemic Risk and Volatile Market Days¹ (As of December 3, 2019)

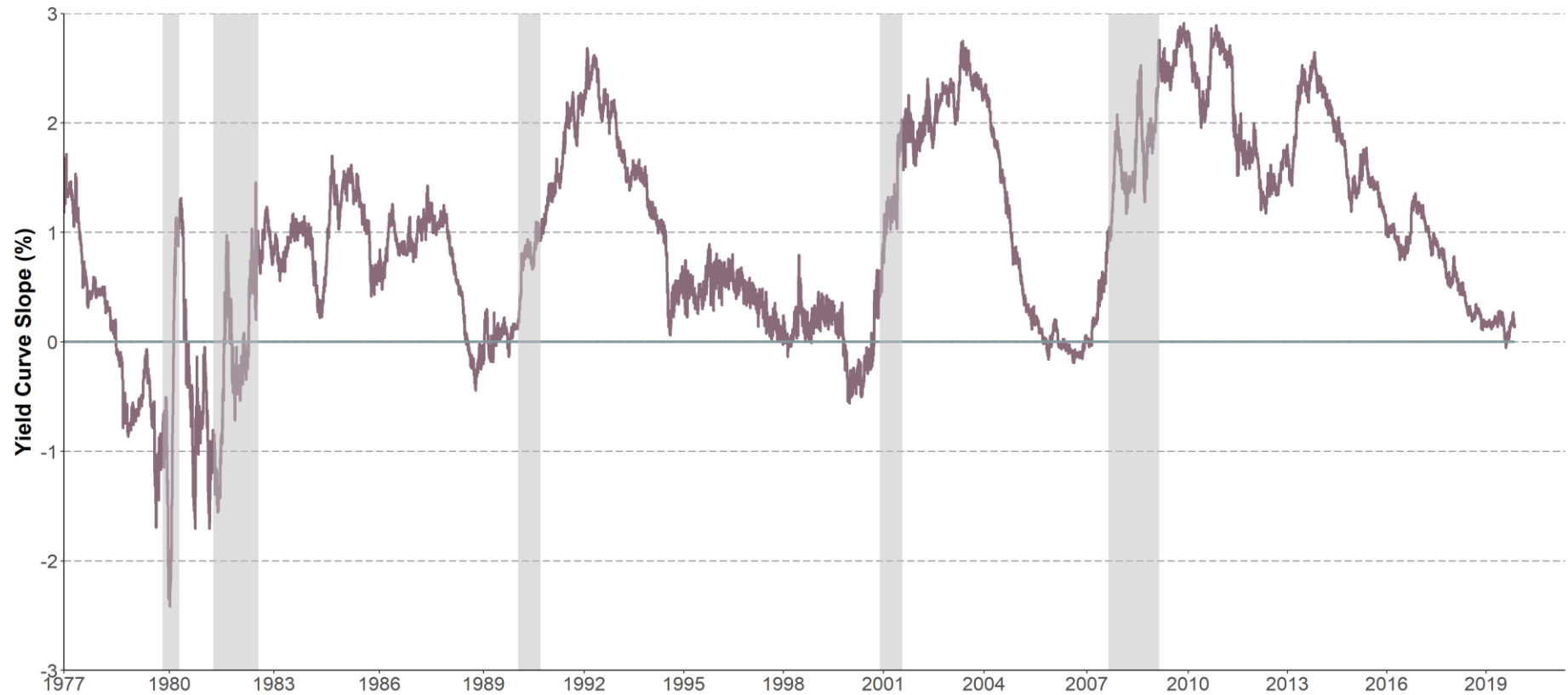


- Systemic Risk is a measure of ‘System-wide’ risk, which indicates herding type behavior. This measure declined materially during September.

¹ Source: Meketa Investment Group, as of December 3, 2019. Volatile days are defined as the top 10 percent of realized turbulence, which is a multivariate distance between asset returns.



Yield Curve Slope (Ten Minus Two)¹ (As of October 31, 2019)



- This chart details the historical difference in yields between ten-year and two-year US Treasury bonds/notes. A higher (lower) figure indicates a steeper (flatter) yield curve slope.

¹ Yield Curve Slope (Ten Minus Two) – Source: Bloomberg, and Meketa Investment Group. Yield curve slope is calculated as the difference between the 10-Year US Treasury Yield and 2-Year US Treasury Yield.

Ten-Year Breakeven Inflation¹ (As of November 30, 2019)

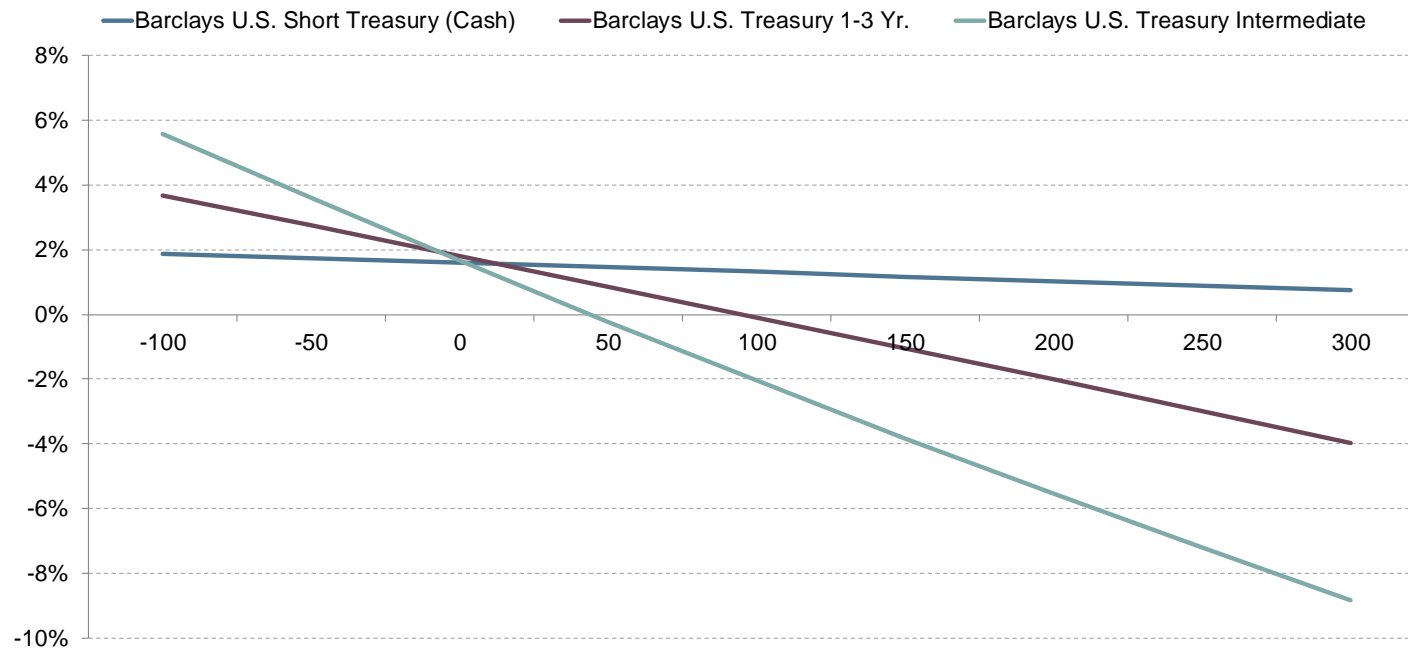


- This chart details the difference between nominal and inflation-adjusted US Treasury bonds. A higher (lower) figure indicates higher (lower) inflation expectations.

¹ Ten-Year Breakeven Inflation – Source: US Treasury and Federal Reserve. Data is as of November 30, 2019 for TIPS and Treasuries. Inflation is measured by the Consumer Price Index (CPI-U NSA).



Total Return Given Changes in Interest Rates (bps)¹ (As of November 30, 2019)

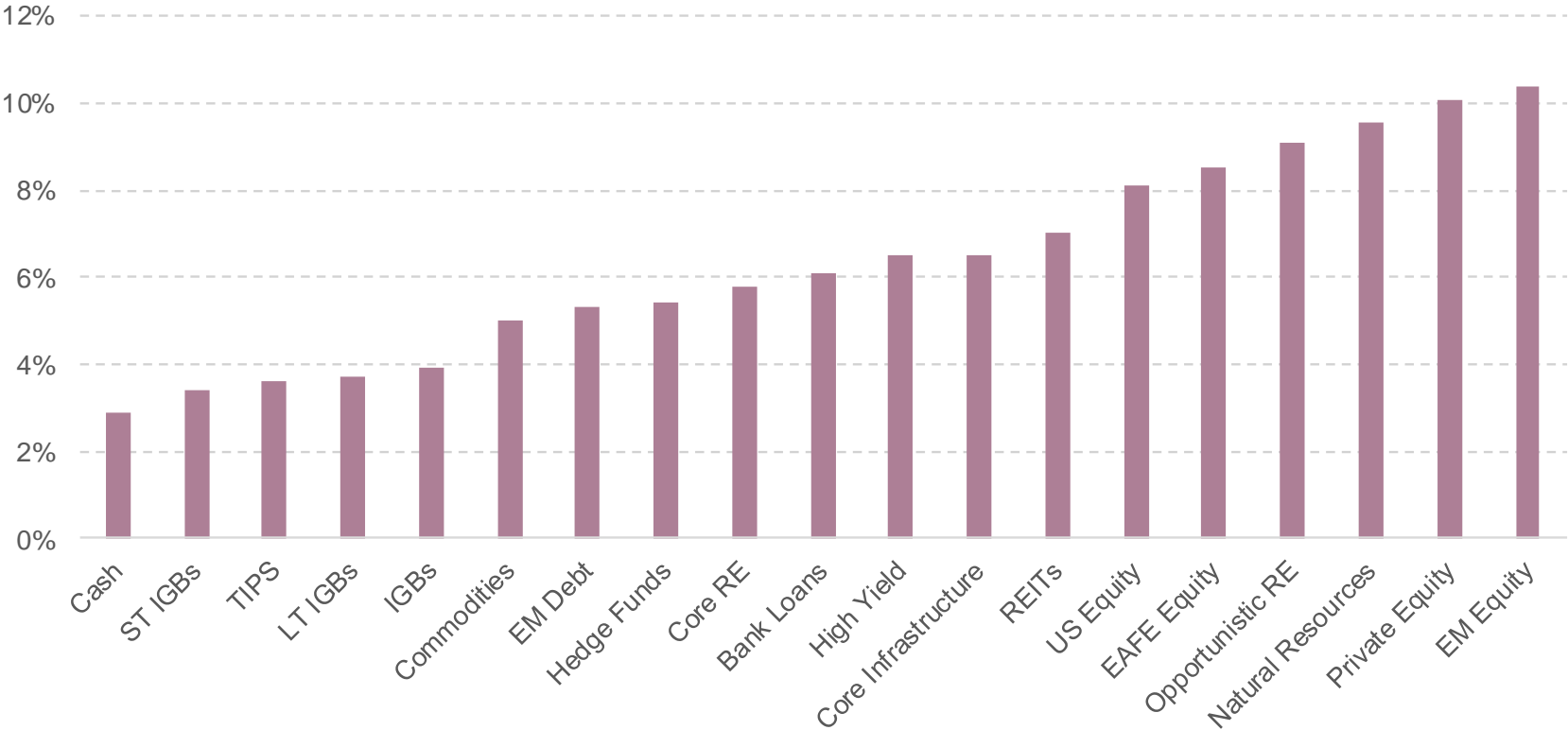


	Total Return for Given Changes in Interest Rates (bps)									Statistics	
	-100	-50	0	50	100	150	200	250	300	Duration	YTW
Barclays US Short Treasury (Cash)	1.9%	1.7%	1.6%	1.5%	1.3%	1.2%	1.0%	0.9%	0.8%	0.28	1.59%
Barclays US Treasury 1-3 Yr.	3.7%	2.7%	1.8%	0.9%	-0.1%	-1.0%	-2.0%	-3.0%	-4.0%	1.88	1.81%
Barclays US Treasury Intermediate	5.6%	3.6%	1.7%	-0.2%	-2.1%	-3.8%	-5.5%	-7.2%	-8.8%	3.82	1.66%
Barclays US Treasury Long	22.5%	11.8%	2.2%	-6.4%	-14.0%	-20.4%	-25.9%	-30.3%	-33.6%	18.22	2.17%

¹ Data represents the expected total return from a given change in interest rates (shown in basis points) over a 12-month period assuming a parallel shift in rates. Source: Bloomberg, and Meketa Investment Group.



Long-Term Outlook – 20-Year Annualized Expected Returns¹



- This chart details Meketa’s long-term forward-looking expectations for total returns across asset classes.

¹ Source: Meketa Investment Group’s 2019 Annual Asset Study.



Appendix

Data Sources and Explanations¹

- US Equity Cyclically Adjusted P/E on S&P 500 Index – Source: Robert Shiller and Yale University.
- Small Cap P/E (Russell 2000 Index) vs. Large Cap P/E (Russell 1000 Index) - Source: Russell Investments. Earnings figures represent 12-month “as reported” earnings.
- Growth P/E (Russell 3000 Growth Index) vs. Value (Russell 3000 Value Index) P/E - Source: Bloomberg, MSCI, and Meketa Investment Group. Earnings figures represent 12-month “as reported” earnings.
- Developed International Equity (MSCI EAFE ex Japan Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years.
- Emerging Market Equity (MSCI Emerging Markets Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years
- Private Equity Multiples – Source: S&P LCD Average EBITDA Multiples Paid in All LBOs
- Core Real Estate Spread vs. Ten-Year Treasury – Source: Real Capital Analytics, US Treasury, Bloomberg, and Meketa Investment Group. Core Real Estate is proxied by weighted sector transaction based indices from Real Capital Analytics and Meketa Investment Group.
- REITs Dividend Yield Spread vs. Ten-Year Treasury – Source: NAREIT, US Treasury. REITs are proxied by the yield for the NAREIT Equity index.
- Credit Spreads – Source: Barclays Capital. High Yield is proxied by the Barclays High Yield index and Investment Grade Corporates are proxied by the Barclays US Corporate Investment Grade index.

¹ All Data as of November 30, 2019 unless otherwise noted.



Appendix

Data Sources and Explanations¹

- EM Debt Spreads – Source: Bloomberg, and Meketa Investment Group. Option Adjusted Spread (OAS) for the Bloomberg Barclays EM USD Aggregate Index.
- Equity Volatility – Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by VIX Index, a Measure of implied option volatility for US equity markets.
- Fixed Income Volatility – Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by MOVE Index, a Measure of implied option volatility for US Treasury markets.
- Systemic Risk and Volatile Market Days – Source: Meketa Investment Group. Volatile days are defined as the top 10 percent of realized turbulence, which is a multivariate distance between asset returns.
 - Systemic Risk, which measures risk across markets, is important because the more contagion of risk that exists between assets, the more likely it is that markets will experience volatile periods.
- Yield Curve Slope (Ten Minus Two) – Source: Bloomberg, and Meketa Investment Group. Yield curve slope is calculated as the difference between the 10-Year US Treasury Yield and 2-Year US Treasury Yield.
- Ten-Year Breakeven Inflation – Source: US Treasury and Federal Reserve. Inflation is measured by the Consumer Price Index (CPI-U NSA).

¹ All Data as of November 30, 2019 unless otherwise noted.



Meketa Market Sentiment Indicator

Explanation, Construction and Q&A

Meketa has created the MIG Market Sentiment Indicator (MIG-MSI) to complement our valuation-focused Risk Metrics. This measure of sentiment is meant to capture significant and persistent shifts in long-lived market trends of economic growth risk, either towards a risk-seeking trend or a risk-aversion trend.

This appendix explores:

- What is the Meketa Market Sentiment Indicator?
- How do I read the indicator graph?
- How is the Meketa Market Sentiment Indicator constructed?
- What do changes in the indicator mean?

Meketa has created a market sentiment indicator for monthly publication (the MIG-MSI – see below) to complement Meketa’s Risk Metrics.

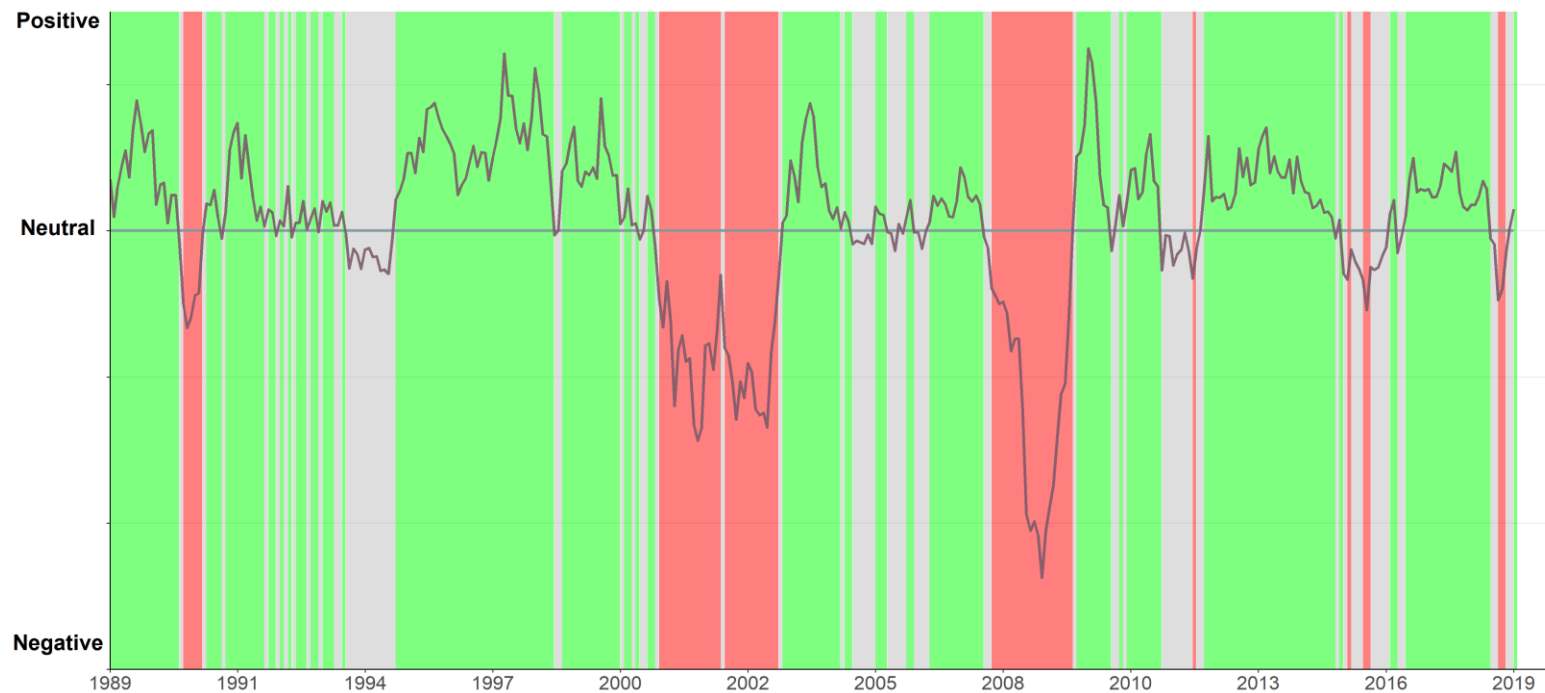
- Meketa’s Risk Metrics, which rely significantly on standard market measures of relative valuation, often provide valid early signals of increasing long-term risk levels in the global investment markets. However, as is the case with numerous valuation measures, the Risk Metrics may convey such risk concerns long before a market corrections take place. The MIG-MSI helps to address this early-warning bias by measuring whether the markets are beginning to acknowledge key Risk Metrics trends, and / or indicating non-valuation based concerns. Once the MIG-MSI indicates that the market sentiment has shifted, it is our belief that investors should consider significant action, particularly if confirmed by the Risk Metrics. Importantly, Meketa believes the Risk Metrics and MIG-MSI should always be used in conjunction with one another and never in isolation. The questions and answers below highlight and discuss the basic underpinnings of the Meketa MIG-MSI:

What is the Meketa Market Sentiment Indicator (MIG-MSI)?

- The MIG-MSI is a measure meant to gauge the market’s sentiment regarding economic growth risk. Growth risk cuts across most financial assets, and is the largest risk exposure that most portfolios bear. The MIG-MSI takes into account the momentum (trend over time, positive or negative) of the economic growth risk exposure of publicly traded stocks and bonds, as a signal of the future direction of growth risk returns; either positive (risk seeking market sentiment), or negative (risk averse market sentiment).

How do I read the Meketa Market Sentiment Indicator graph?

- Simply put, the MIG-MSI is a color-coded indicator that signals the market's sentiment regarding economic growth risk. It is read left to right chronologically. A green indicator on the MIG-MSI indicates that the market's sentiment towards growth risk is positive. A gray indicator indicates that the market's sentiment towards growth risk is neutral or inconclusive. A red indicator indicates that the market's sentiment towards growth risk is negative. The black line on the graph is the level of the MIG-MSI. The degree of the signal above or below the neutral reading is an indication the signal's current strength.
- Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.



How is the Meketa Market Sentiment Indicator (MIG-MSI) Constructed?

- The MIG-MSI is constructed from two sub-elements representing investor sentiment in stocks and bonds:
 - Stock return momentum: Return momentum for the S&P 500 Equity Index (trailing 12-months)
 - Bond yield spread momentum: Momentum of bond yield spreads (excess of the measured bond yield over the identical duration US Treasury bond yield) for corporate bonds (trailing 12-months) for both investment grade bonds (75% weight) and high yield bonds (25% weight).
 - Both measures are converted to Z-scores and then combined to get an “apples to apples” comparison without the need of re-scaling.
- The black line reading on the graph is calculated as the average of the stock return momentum measure and the bonds spread momentum measure.¹ The color reading on the graph is determined as follows:
 - If both stock return momentum and bond spread momentum are positive = GREEN (positive)
 - If one of the momentum indicators is positive, and the other negative = GRAY (inconclusive)
 - If both stock return momentum and bond spread momentum are negative = RED (negative)

¹ Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.

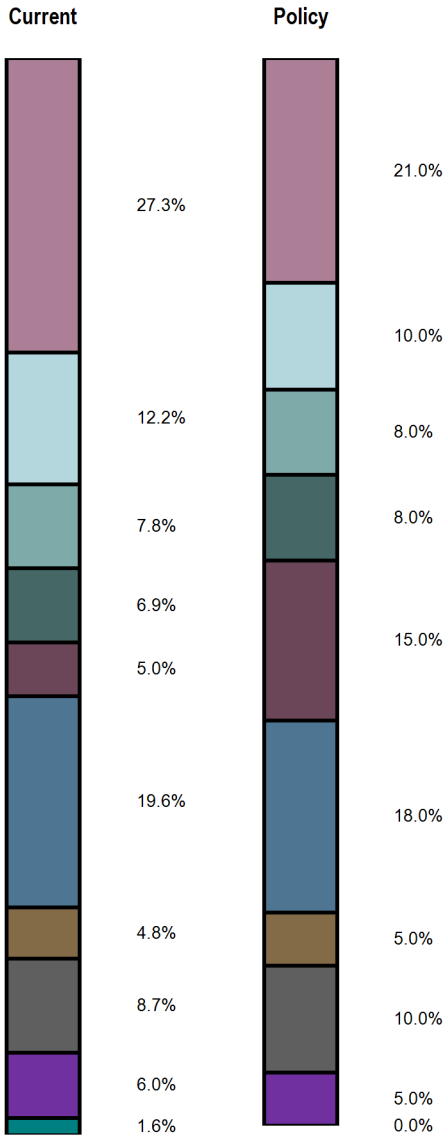
“Time Series Momentum” Moskowitz, Ooi, Pedersen, August 2010. <http://pages.stern.nyu.edu/~lpederse/papers/TimeSeriesMomentum.pdf>

What does the Meketa Market Sentiment Indicator (MIG-MSI) mean? Why might it be useful?

- There is strong evidence that time series momentum is significant and persistent. In particular, across an extensive array of asset classes, the sign of the trailing 12-month return (positive or negative) is indicative of future returns (positive or negative) over the next 12-month period. The MIG-MSI is constructed to measure this momentum in stocks and corporate bond spreads. A reading of green or red is agreement of both the equity and bond measures, indicating that it is likely that this trend (positive or negative) will continue over the next 12 months. When the measures disagree, the indicator turns gray. A gray reading does not necessarily mean a new trend is occurring, as the indicator may move back to green, or into the red from there. The level of the reading (black line) and the number of months at the red or green reading, gives the user additional information on which to form an opinion, and potentially take action.

Quarterly Review As of September 30, 2019

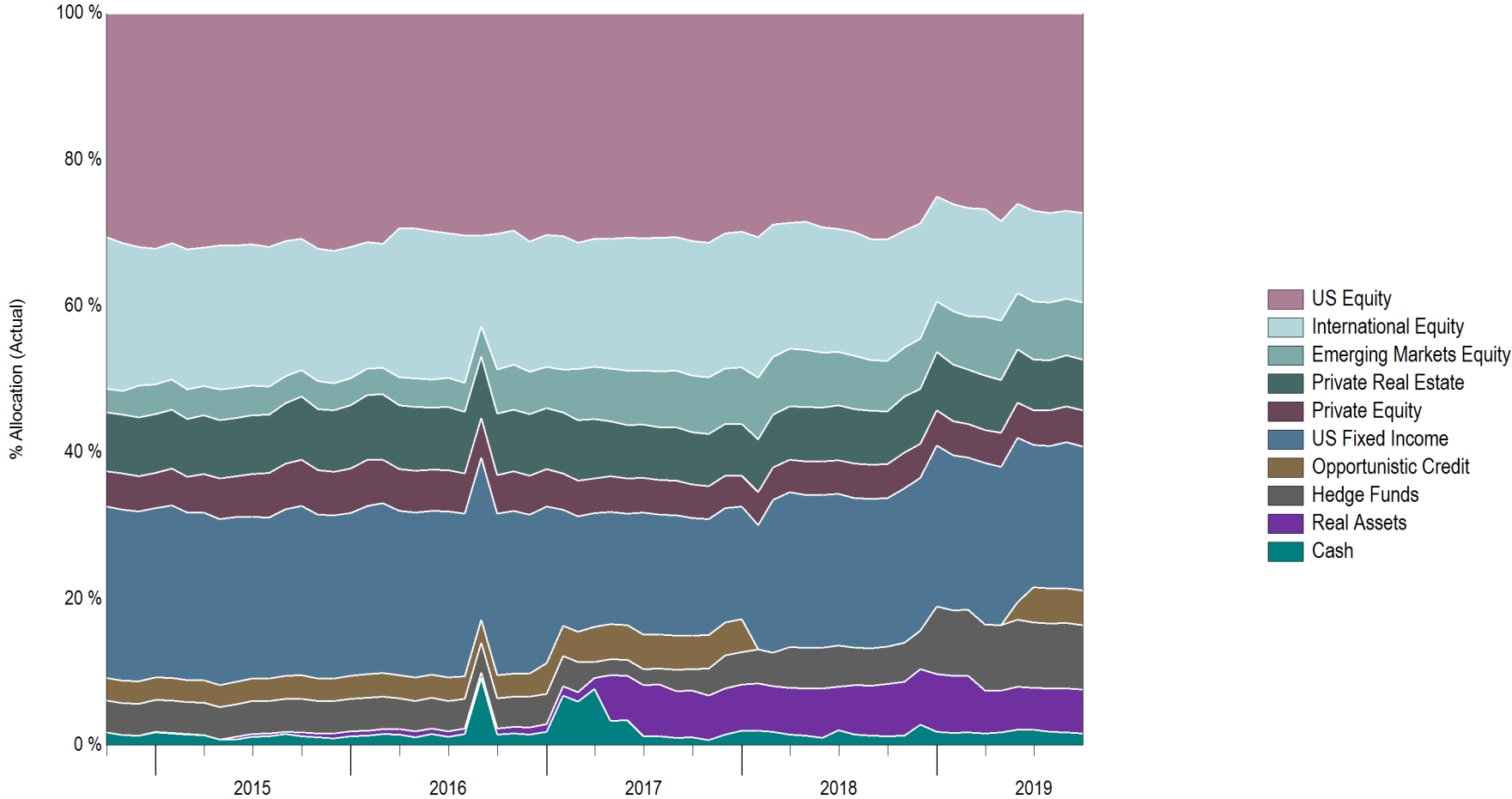
As of September 30, 2019



Allocation vs. Targets and Policy							
		Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
21.0%	US Equity	\$236,326,502	27.3%	21.0%	6.3%	15.0% - 26.0%	No
	International Equity	\$105,927,768	12.2%	10.0%	2.2%	5.0% - 15.0%	Yes
	Emerging Markets Equity	\$67,877,673	7.8%	8.0%	-0.2%	4.0% - 12.0%	Yes
	Private Real Estate	\$59,673,599	6.9%	8.0%	-1.1%	6.0% - 10.0%	Yes
10.0%	Private Equity	\$43,142,905	5.0%	15.0%	-10.0%	5.0% - 20.0%	No
	US Fixed Income	\$170,143,788	19.6%	18.0%	1.6%	13.0% - 23.0%	Yes
	Opportunistic Credit	\$41,229,459	4.8%	5.0%	-0.2%	3.0% - 7.0%	Yes
	Hedge Funds	\$75,795,104	8.7%	10.0%	-1.3%	5.0% - 15.0%	Yes
	Real Assets	\$52,368,824	6.0%	5.0%	1.0%	3.0% - 7.0%	Yes
	Cash	\$13,816,860	1.6%	0.0%	1.6%	0.0% - 5.0%	Yes
	Total	\$866,302,483	100.0%	100.0%			



Asset Allocation History
5 Years Ending September 30, 2019



As of September 30, 2019

Asset Class Performance Summary

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund (Net)*	866,302,483	100.0	0.6	11.6	3.4	7.7	6.3	8.0	7.9	Dec-94
Total Fund (Gross)*			0.7	11.8	3.6	8.0	6.6	8.4	8.0	
<i>Policy Index</i>			<i>0.0</i>	<i>10.7</i>	<i>2.8</i>	<i>7.9</i>	<i>6.6</i>	<i>8.5</i>	<i>5.9</i>	<i>Dec-94</i>
Total Fund w/o Alternatives (Net)	621,505,190	71.7	0.8	14.5	3.5	8.2	6.4	--	--	Dec-94
Total Fund w/o Alternatives (Gross)			0.9	14.7	3.7	8.5	6.7	--	--	
<i>Policy Index w/o AI</i>			<i>0.1</i>	<i>12.9</i>	<i>3.1</i>	<i>7.9</i>	<i>6.2</i>	--	--	<i>Dec-94</i>
US Equity (Net)	236,326,502	27.3	1.5	21.7	2.7	13.3	11.4	13.3	10.0	Dec-94
US Equity (Gross)			1.6	21.9	2.9	13.6	11.7	13.4	10.1	
<i>80% R1000 / 20% R2000</i>			<i>0.7</i>	<i>19.3</i>	<i>1.2</i>	<i>12.2</i>	<i>10.2</i>	<i>12.8</i>	<i>9.8</i>	<i>Dec-94</i>
International Equity (Net)	173,805,441	20.1	-1.0	13.4	0.0	6.3	2.9	5.3	5.1	Dec-98
International Equity (Gross)			-0.9	13.7	0.4	6.7	3.4	5.8	5.3	
<i>International Equity Custom</i>			<i>-2.4</i>	<i>10.2</i>	<i>-1.9</i>	<i>6.7</i>	<i>3.3</i>	<i>4.8</i>	<i>4.2</i>	<i>Dec-98</i>
Developed International Equity (Net)	105,927,768	12.2	-1.1	13.1	-2.1	6.1	2.8	5.6	3.1	Jan-08
Developed International Equity (Gross)			-1.1	13.2	-2.0	6.2	3.2	6.1	3.5	
<i>MSCI EAFE</i>			<i>-1.1</i>	<i>12.8</i>	<i>-1.3</i>	<i>6.5</i>	<i>3.3</i>	<i>4.9</i>	<i>2.3</i>	<i>Jan-08</i>
Emerging Markets Equity (Net)	67,877,673	7.8	-0.9	14.3	5.5	7.0	4.1	--	3.2	Apr-12
Emerging Markets Equity (Gross)			-0.7	15.1	6.4	8.0	5.1	--	4.2	
<i>MSCI Emerging Markets</i>			<i>-4.2</i>	<i>5.9</i>	<i>-2.0</i>	<i>6.0</i>	<i>2.3</i>	<i>3.4</i>	<i>2.2</i>	<i>Apr-12</i>
US Fixed Income (Net)	170,143,788	19.6	1.9	7.2	8.7	3.3	3.5	4.3	5.4	Dec-94
US Fixed Income (Gross)			1.9	7.3	8.9	3.5	3.7	4.7	5.5	
<i>US Fixed Custom</i>			<i>1.9</i>	<i>7.5</i>	<i>9.2</i>	<i>3.4</i>	<i>3.7</i>	<i>3.9</i>	<i>5.7</i>	<i>Dec-94</i>
Opportunistic Credit (Net)	41,229,459	4.8	0.1	--	--	--	--	--	1.8	May-19
Opportunistic Credit (Gross)			0.1	--	--	--	--	--	1.8	
<i>50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans</i>			<i>1.7</i>	--	--	--	--	--	<i>3.5</i>	<i>May-19</i>

Data prior to March 2018 provided by prior consultant.



As of September 30, 2019

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Real Estate (Net)	59,673,599	6.9	-0.8	1.6	2.9	5.8	7.1	--	--	Mar-99
Private Real Estate (Gross)			-0.8	1.6	2.9	5.9	7.8	9.2	8.4	
<i>NCREIF ODCE (net)</i>			<i>1.1</i>	<i>3.1</i>	<i>4.6</i>	<i>6.3</i>	<i>8.4</i>	<i>9.8</i>	<i>7.4</i>	<i>Mar-99</i>
Private Equity (Net)	43,142,905	5.0	2.5	6.4	8.3	12.6	9.5	10.7	8.1	Jun-05
Private Equity (Gross)			2.5	6.4	8.3	12.6	9.5	10.9	8.3	
<i>Thomson Reuters Cambridge Private Equity Index</i>			<i>0.0</i>	<i>10.2</i>	<i>9.9</i>	<i>16.9</i>	<i>13.1</i>	<i>--</i>	<i>--</i>	<i>Jun-05</i>
Hedge Fund (Net)	75,795,104	8.7	-1.2	4.9	-0.1	5.9	3.7	--	3.6	Jun-14
Hedge Fund (Gross)			-1.2	5.1	0.1	6.1	3.8	--	3.7	
<i>Hedge Fund Custom</i>			<i>-0.9</i>	<i>5.2</i>	<i>0.0</i>	<i>3.3</i>	<i>2.6</i>	<i>--</i>	<i>2.5</i>	<i>Jun-14</i>
Real Assets (Net)	52,368,824	6.0	1.4	10.3	9.5	7.3	8.0	--	--	Mar-99
Real Assets (Gross)			1.4	10.4	9.6	7.5	8.6	--	--	
<i>Real Asset Custom</i>			<i>-2.7</i>	<i>13.9</i>	<i>9.3</i>	<i>9.1</i>	<i>7.7</i>	<i>--</i>	<i>--</i>	<i>Mar-99</i>
Private Infrastructure (Net)	22,243,376	2.6	2.8	9.1	12.7	12.0	--	--	7.7	Dec-14
Private Infrastructure (Gross)			2.8	9.1	12.7	12.0	--	--	7.7	
<i>S&P Global Infrastructure Net TR USD</i>			<i>0.4</i>	<i>19.9</i>	<i>13.5</i>	<i>7.0</i>	<i>4.8</i>	<i>6.9</i>	<i>4.8</i>	<i>Dec-14</i>
Private Natural Resources (Net)	13,462,988	1.6	2.0	8.1	9.3	12.5	--	--	16.9	Sep-15
Private Natural Resources (Gross)			2.0	8.1	9.3	12.5	--	--	16.9	
<i>S&P Global Natural Resources Index TR USD</i>			<i>-6.0</i>	<i>7.0</i>	<i>-11.0</i>	<i>7.0</i>	<i>1.1</i>	<i>1.7</i>	<i>11.2</i>	<i>Sep-15</i>
Cash (Net)	13,816,860	1.6	0.4	1.0	1.5	--	--	--	--	
Cash (Gross)			0.4	1.0	1.5	--	--	--	--	

*One or more accounts have been excluded from the composite for the purposes of performance calculations and market value.

Real Assets includes State Street Real Asset NL Fund



As of September 30, 2019

Trailing Net Performance

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund*	866,302,483	100.0	--	0.6	11.6	3.4	7.7	6.3	8.0	7.9	Dec-94
Policy Index				0.0	10.7	2.8	7.9	6.6	8.5	5.9	Dec-94
InvMetrics Public DB \$250mm-\$1B Net Median				0.5	12.5	3.4	7.8	6.1	8.0	7.5	Dec-94
InvMetrics Public DB \$250mm-\$1B Net Rank				40	70	53	52	38	46	39	Dec-94
Total Fund w/o Alternatives	621,505,190	71.7	71.7	0.8	14.5	3.5	8.2	6.4	--	--	Dec-94
Policy Index w/o AI				0.1	12.9	3.1	7.9	6.2	--	--	Dec-94
InvMetrics Public DB \$250mm-\$1B Net Median				0.5	12.5	3.4	7.8	6.1	8.0	7.5	Dec-94
InvMetrics Public DB \$250mm-\$1B Net Rank				28	6	49	25	34	--	--	Dec-94
US Equity	236,326,502	27.3	38.0	1.5	21.7	2.7	13.3	11.4	13.3	10.0	Dec-94
80% R1000 / 20% R2000				0.7	19.3	1.2	12.2	10.2	12.8	9.8	Dec-94
InvMetrics All DB US Eq Net Median				0.9	19.8	2.0	12.2	9.9	12.4	9.6	Dec-94
InvMetrics All DB US Eq Net Rank				15	9	40	13	4	8	26	Dec-94
Mellon Dynamic US Equity	94,239,708	10.9	39.9	2.9	26.1	6.5	15.8	13.5	--	17.1	Dec-12
S&P 500				1.7	20.6	4.3	13.4	10.8	13.2	13.8	Dec-12
eV US Large Cap Core Equity Net Median				1.7	19.6	3.3	12.1	9.7	12.5	12.9	Dec-12
eV US Large Cap Core Equity Net Rank				22	4	29	6	3	--	1	Dec-12
Mellon Large Cap	106,567,610	12.3	45.1	1.4	20.5	3.9	13.2	--	--	13.3	Mar-16
Russell 1000				1.4	20.5	3.9	13.2	10.6	13.2	13.3	Mar-16
eV US Large Cap Core Equity Net Median				1.7	19.6	3.3	12.1	9.7	12.5	12.1	Mar-16
eV US Large Cap Core Equity Net Rank				59	39	45	29	--	--	24	Mar-16
DFA Small Cap	17,640,282	2.0	7.5	-1.5	12.6	-9.3	7.5	8.0	--	6.2	Jun-14
Russell 2000				-2.4	14.2	-8.9	8.2	8.2	11.2	6.2	Jun-14
eV US Small Cap Core Equity Net Median				-1.4	15.0	-8.0	8.1	8.3	11.6	6.5	Jun-14
eV US Small Cap Core Equity Net Rank				53	63	61	62	60	--	59	Jun-14

Historical returns for the US Equity Composite prior to January 2012 and for the International Equity Composite prior to December 2010 are gross only.



As of September 30, 2019

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
PanAgora	17,878,903	2.1	7.6	-1.5	15.3	-10.3	8.1	8.4	--	8.2	Sep-13
<i>Russell 2000</i>				-2.4	14.2	-8.9	8.2	8.2	11.2	7.5	Sep-13
<i>eV US Small Cap Core Equity Net Median</i>				-1.4	15.0	-8.0	8.1	8.3	11.6	7.9	Sep-13
<i>eV US Small Cap Core Equity Net Rank</i>				52	48	70	53	48	--	41	Sep-13
International Equity	173,805,441	20.1	28.0	-1.0	13.4	0.0	6.3	2.9	5.3	5.1	Dec-98
<i>International Equity Custom</i>				-2.4	10.2	-1.9	6.7	3.3	4.8	4.2	Dec-98
<i>InvMetrics All DB ex-US Eq Net Median</i>				-1.8	11.8	-1.7	6.0	3.1	4.9	4.9	Dec-98
<i>InvMetrics All DB ex-US Eq Net Rank</i>				15	24	20	35	56	32	43	Dec-98
Developed International Equity	105,927,768	12.2	60.9	-1.1	13.1	-2.1	6.1	2.8	5.6	3.1	Jan-08
<i>MSCI EAFE</i>				-1.1	12.8	-1.3	6.5	3.3	4.9	2.3	Jan-08
Mellon International	85,667,396	9.9	80.9	-1.1	13.2	-1.0	6.9	--	--	7.4	Mar-16
<i>MSCI EAFE</i>				-1.1	12.8	-1.3	6.5	3.3	4.9	7.0	Mar-16
<i>eV All EAFE Equity Net Median</i>				-1.4	12.1	-4.1	5.8	3.9	6.3	6.3	Mar-16
<i>eV All EAFE Equity Net Rank</i>				41	40	24	30	--	--	30	Mar-16
Acadian ACWI ex U.S. Small Cap Equity	9,839,767	1.1	9.3	-3.1	--	--	--	--	--	-3.2	May-19
<i>MSCI ACWI ex US Small Cap</i>				-1.2	10.3	-5.6	4.6	4.0	6.1	-2.2	May-19
<i>eV ACWI ex-US Small Cap Equity Net Median</i>				-2.5	12.4	-6.1	6.2	5.6	8.2	-2.4	May-19
<i>eV ACWI ex-US Small Cap Equity Net Rank</i>				65	--	--	--	--	--	68	May-19
Driehaus International Small Cap Growth	10,420,605	1.2	9.8	0.3	--	--	--	--	--	2.7	May-19
<i>MSCI ACWI ex US Small Cap Growth NR USD</i>				-1.3	12.1	-5.6	4.8	4.6	6.7	-2.2	May-19
<i>eV ACWI ex-US Small Cap Equity Net Median</i>				-2.5	12.4	-6.1	6.2	5.6	8.2	-2.4	May-19
<i>eV ACWI ex-US Small Cap Equity Net Rank</i>				2	--	--	--	--	--	2	May-19

Developed International Equity and Emerging Markets Equity composites were only reported as one composite prior to March 2018.



As of September 30, 2019

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Emerging Markets Equity	67,877,673	7.8	39.1	-0.9	14.3	5.5	7.0	4.1	--	3.2	Apr-12
<i>MSCI Emerging Markets</i>				-4.2	5.9	-2.0	6.0	2.3	3.4	2.2	Apr-12
Wells Capital	67,877,673	7.8	100.0	-0.9	14.3	5.5	7.0	4.1	--	3.0	Mar-12
<i>MSCI Emerging Markets</i>				-4.2	5.9	-2.0	6.0	2.3	3.4	2.0	Mar-12
<i>eV Emg Mkts Equity Net Median</i>				-3.8	7.7	-0.6	5.7	2.5	4.0	2.8	Mar-12
<i>eV Emg Mkts Equity Net Rank</i>				5	11	11	30	20	--	44	Mar-12
US Fixed Income	170,143,788	19.6	27.4	1.9	7.2	8.7	3.3	3.5	4.3	5.4	Dec-94
<i>US Fixed Custom</i>				1.9	7.5	9.2	3.4	3.7	3.9	5.7	Dec-94
<i>InvMetrics All DB US Fix Inc Net Median</i>				1.8	8.0	8.5	3.4	3.5	4.5	5.8	Dec-94
<i>InvMetrics All DB US Fix Inc Net Rank</i>				48	64	49	56	50	59	79	Dec-94
Barrow Hanley	61,124,016	7.1	35.9	2.4	8.7	10.3	2.9	3.4	--	3.7	Mar-10
<i>BBgBarc US Aggregate TR</i>				2.3	8.5	10.3	2.9	3.4	3.7	3.7	Mar-10
<i>eV US Core Fixed Inc Net Median</i>				2.3	8.9	10.3	3.1	3.5	4.0	3.9	Mar-10
<i>eV US Core Fixed Inc Net Rank</i>				34	62	46	68	57	--	70	Mar-10
Vanguard Short-Term Treasury Index Fund	48,554,400	5.6	28.5	0.6	3.0	4.4	--	--	--	3.1	Feb-18
<i>BBgBarc US Govt 1-3 Yr TR</i>				0.6	3.1	4.4	1.5	1.3	1.2	3.2	Feb-18
<i>BBgBarc US Govt 1-5 Yr TR</i>				0.8	3.9	5.7	1.6	1.7	1.7	3.9	Feb-18
<i>eV US Short Duration Fixed Inc Net Median</i>				0.8	3.8	4.6	2.0	1.8	2.0	3.5	Feb-18
<i>eV US Short Duration Fixed Inc Net Rank</i>				92	89	71	--	--	--	83	Feb-18
Vanguard Total Bond Market Index Fund	60,465,372	7.0	35.5	2.4	--	--	--	--	--	5.5	May-19
<i>BBgBarc US Aggregate TR</i>				2.3	8.5	10.3	2.9	3.4	3.7	5.4	May-19
<i>eV US Core Fixed Inc Net Median</i>				2.3	8.9	10.3	3.1	3.5	4.0	5.4	May-19
<i>eV US Core Fixed Inc Net Rank</i>				20	--	--	--	--	--	35	May-19

Historical returns for the US Fixed Income Composite prior to December 2010 and for Barrow Hanley prior to June 2010 are gross only.



As of September 30, 2019

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Opportunistic Credit	41,229,459	4.8	6.6	0.1	--	--	--	--	--	1.8	May-19
50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans				1.7	--	--	--	--	--	3.5	May-19
PIMCO Income Fund	20,424,232	2.4	49.5	-0.1	--	--	--	--	--	1.4	Apr-19
BBgBarc US Aggregate TR				2.3	8.5	10.3	2.9	3.4	3.7	5.4	Apr-19
Multisector Bond MStar MF Median				1.3	9.1	6.8	4.3	4.0	5.9	3.5	Apr-19
Multisector Bond MStar MF Rank				95	--	--	--	--	--	93	Apr-19
GoldenTree Multi-Sector Credit	20,805,227	2.4	50.5	0.3	--	--	--	--	--	1.7	Jun-19
50% BBgBarc US High Yield TR/50% Credit Suisse Leveraged Loans				1.1	8.9	4.7	5.4	4.8	6.7	2.4	Jun-19
Private Real Estate	59,673,599	6.9	6.9	-0.8	1.6	2.9	5.8	7.1	--	--	Mar-99
NCREIF ODCE (net)				1.1	3.1	4.6	6.3	8.4	9.8	7.4	Mar-99
InvMetrics All DB Real Estate Pub+Priv Net Median				1.3	4.2	5.7	6.8	8.6	9.9	7.7	Mar-99
InvMetrics All DB Real Estate Pub+Priv Net Rank				98	85	87	68	88	--	--	Mar-99
Greenfield Gap VII	8,839,742	1.0	14.8	9.7	14.4	14.9	14.2	--	--	14.0	Dec-14
Patron Capital V	7,258,825	0.8	12.2	5.6	7.8	12.2	21.1	--	--	14.5	Jan-16
UBS Trumbull Property	40,756,248	4.7	68.3	-3.9	-1.8	-0.4	2.9	5.6	7.7	6.9	Mar-99
Carlyle Realty VIII	660,213	0.1	1.1	2.8	-5.1	-27.8	--	--	--	-30.7	Dec-17
Taconic CRE Dislocation Fund II	1,757,721	0.2	2.9	3.3	3.2	--	--	--	--	3.2	Nov-18
Carmel Partners Investment Fund VII	89,058	0.0	0.1	-19.5	--	--	--	--	--	-35.9	Apr-19

Private Real Estate results prior to 1/1/2019 were included in the Real Assets composite. All results for the Private Real Estate composite that include the period prior to 1/1/2019 will reflect only the latest lineup of managers that Meketa received information for, therefore it may not reflect the entire Private Real Estate composite at that given time.

All private markets performance and market values reflect a 6/30/2019 capital account balance unless otherwise noted.
Historical returns for Invesco IV prior to April 2012 are gross only.



As of September 30, 2019

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
AG Realty Value Fund X, L.P.	311,793	0.0	0.5	-16.9	--	--	--	--	--	-16.9	Jun-19
Private Equity	43,142,905	5.0	5.0	2.5	6.4	8.3	12.6	9.5	10.7	8.1	Jun-05
<i>Thomson Reuters Cambridge Private Equity Index</i>				0.0	10.2	9.9	16.9	13.1	--	--	Jun-05
<i>InvMetrics All DB Private Eq Net Median</i>				1.7	6.1	8.3	12.2	10.2	10.9	10.3	Jun-05
<i>InvMetrics All DB Private Eq Net Rank</i>				40	46	50	43	59	55	80	Jun-05
Adams Street	7,570,058	0.9	17.5	-0.1	4.5	8.9	13.0	11.5	13.0	7.1	Sep-05
Invesco IV	218,400	0.0	0.5	0.0	0.0	-18.6	5.8	6.4	9.8	7.9	Jun-05
Invesco VI	6,331,897	0.7	14.7	0.0	2.7	4.3	12.7	13.5	--	11.3	Jun-13
Ocean Avenue II	9,986,598	1.2	23.1	5.4	16.5	21.1	24.3	14.8	--	12.9	Jun-14
Pantheon I	870,662	0.1	2.0	-0.9	-2.0	-0.9	6.4	3.8	7.7	3.5	Dec-05
Pantheon II	4,092,220	0.5	9.5	4.7	10.3	13.0	16.0	12.4	--	12.3	Dec-11
Pantheon Secondary	961,201	0.1	2.2	-1.9	-0.9	3.5	7.2	2.7	4.1	3.9	Jun-07
Raven Asset Fund II	3,452,122	0.4	8.0	1.6	5.8	8.0	0.8	-0.6	--	-0.6	Aug-14
Davidson Kempner Long-Term Distressed Opportunities Fund IV	3,633,980	0.4	8.4	0.3	4.1	7.7	--	--	--	11.3	Apr-18
GTCR Fund XII	1,006,503	0.1	2.3	9.0	-21.4	-21.4	--	--	--	-16.5	Jun-18
Carrick Capital Partners III	1,304,132	0.2	3.0	20.1	8.1	2.9	--	--	--	2.5	Aug-18
Cressey & Company Fund VI	1,050,879	0.1	2.4	2.8	-13.2	--	--	--	--	-13.2	Jan-19

Adams Street includes Adams Street 2005, Adams Street 2007, and Adams Street 2011.

Pantheon I includes Pantheon US Fund VI and Pantheon Europe Fund IV.

Pantheon II Includes Pantheon US Fund IX, Pantheon Asia Fund VI, and Pantheon Europe Fund VII.

Pantheon Secondary includes Pantheon GLO SEC III B.



As of September 30, 2019

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
TCV X	1,597,666	0.2	3.7	-6.6	--	--	--	--	--	-6.6	Apr-19
Accel-KKR Growth Capital Partners III	301,989	0.0	0.7	0.0	--	--	--	--	--	0.0	Jul-19
Genstar Capital Partners IX	764,598	0.1	1.8	--	--	--	--	--	--	0.0	Jul-19
Hedge Fund	75,795,104	8.7	8.7	-1.2	4.9	-0.1	5.9	3.7	--	3.6	Jun-14
<i>Hedge Fund Custom</i>				-0.9	5.2	0.0	3.3	2.6	--	2.5	Jun-14
<i>InvMetrics All DB Hedge Funds Net Median</i>				0.0	5.4	0.3	4.0	2.4	4.2	2.2	Jun-14
<i>InvMetrics All DB Hedge Funds Net Rank</i>				82	55	55	16	27	--	25	Jun-14
Sculptor (OZ) Domestic II	10,251,161	1.2	13.5	-2.8	10.4	4.5	7.9	5.6	--	5.5	Jun-14
Graham Absolute Return	7,429,313	0.9	9.8	-1.6	6.1	3.0	--	--	--	2.8	Aug-17
Wellington-Archipelago	11,781,876	1.4	15.5	-1.4	9.0	0.1	--	--	--	3.7	Aug-17
KLS Diversified	9,124,169	1.1	12.0	-1.1	0.5	-4.7	--	--	--	1.2	Oct-17
Winton	6,265,143	0.7	8.3	3.1	3.1	0.4	--	--	--	2.6	Oct-17
Marshall Wace Eureka	3,255,221	0.4	4.3	0.6	6.6	0.3	--	--	--	3.6	Nov-17
Silver Point Capital	12,031,278	1.4	15.9	-2.9	1.2	-4.9	--	--	--	0.4	Nov-17
Laurion Capital	5,309,732	0.6	7.0	-1.9	3.9	5.3	--	--	--	6.1	Aug-18
Taconic Opportunity Fund	10,347,212	1.2	13.7	0.1	3.9	--	--	--	--	3.9	Dec-18
Real Assets	52,368,824	6.0	6.0	1.4	10.3	9.5	7.3	8.0	--	--	Mar-99
<i>Real Asset Custom</i>				-2.7	13.9	9.3	9.1	7.7	--	--	Mar-99
<i>InvMetrics All DB Real Assets/Commodities Net Median</i>				0.1	5.5	5.1	5.0	3.7	7.6	--	Mar-99
<i>InvMetrics All DB Real Assets/Commodities Net Rank</i>				26	14	14	30	23	--	--	Mar-99

As of September 30, 2019

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
SSgA	16,662,460	1.9	31.8	-0.8	9.5	1.6	--	--	--	3.6	Apr-17
<i>Real Asset NL Custom Blended Index</i>				-0.7	9.9	2.0	--	--	--	3.9	Apr-17
Private Infrastructure	22,243,376	2.6	42.5	2.8	9.1	12.7	12.0	--	--	7.7	Dec-14
<i>S&P Global Infrastructure Net TR USD</i>				0.4	19.9	13.5	7.0	4.8	6.9	4.8	Dec-14
KKR Global II	11,120,059	1.3	50.0	2.7	7.9	13.0	12.1	--	--	10.6	Dec-14
North Haven Infrastructure II	8,409,094	1.0	37.8	3.3	11.4	13.3	13.2	--	--	8.0	May-15
ISQ Global Infrastructure Fund II	1,777,697	0.2	8.0	1.9	12.9	16.0	--	--	--	-18.9	Jul-18
KKR Global Infrastructure Investors III	936,526	0.1	4.2	-2.9	-17.8	--	--	--	--	-17.8	Jan-19
Private Natural Resources	13,462,988	1.6	25.7	2.0	8.1	9.3	12.5	--	--	16.9	Sep-15
<i>S&P Global Natural Resources Index TR USD</i>				-6.0	7.0	-11.0	7.0	1.1	1.7	11.2	Sep-15
EnCap XI	869,898	0.1	6.5	-2.8	-7.9	-12.3	--	--	--	-29.3	Jul-17
EnCap IV	908,460	0.1	6.7	0.1	15.2	13.8	--	--	--	-2.8	Feb-18
GSO Energy Opportunities	4,376,635	0.5	32.5	1.0	3.5	5.1	12.0	--	--	16.0	Nov-15
Taurus Mining	3,643,454	0.4	27.1	2.9	12.3	14.4	12.2	--	--	17.7	Sep-15
Taurus Mining Annex	3,184,505	0.4	23.7	4.7	16.7	19.2	--	--	--	28.8	Jan-17
BlackRock Global Energy and Power Infrastructure Fund III LP	480,036	0.1	3.6	--	--	--	--	--	--	--	Jul-19
Cash	13,816,860	1.6	1.6	0.4	1.0	1.5	--	--	--	--	
Cash	10,921,399	1.3	79.0	0.6	1.5	2.2	1.4	1.0	--	--	Sep-03
Treasury Cash	2,895,460	0.3	21.0								

*One or more accounts have been excluded from the composite for the purposes of performance calculations and market value.

As of September 30, 2019

Benchmark History

As of September 30, 2019

Total Fund		
7/1/2019	Present	21% US Equity Custom / 18% International Equity Custom / 18% US Fixed Custom / 10% Hedge Fund Custom / 15% Thomson Reuters Cambridge Private Equity Index / 5% Real Asset Custom / 8% NCREIF ODCE (net) / 5% 50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans
1/1/2019	6/30/2019	21% US Equity Custom / 18% International Equity Custom / 23% US Fixed Custom / 10% Hedge Fund Custom / 15% Thomson Reuters Cambridge Private Equity Index / 5% Real Asset Custom / 8% NCREIF ODCE (net)
1/1/2017	12/31/2018	27% US Equity Custom / 23% International Equity Custom / 22% US Fixed Custom / 5% Hedge Fund Custom / 9% Thomson Reuters Cambridge Private Equity Index / 14% Real Asset Custom
US Equity		
12/31/1994	Present	80% Russell 1000 / 20% Russell 2000
International Equity		
1/1/2019	Present	56% MSCI EAFE Gross / 44% MSCI Emerging Markets Gross
1/1/2017	12/31/2018	69.56% MSCI EAFE Gross / 30.44% MSCI Emerging Markets Gross
7/1/2013	12/31/2016	MSCI ACWI ex USA Gross
US Fixed Income		
3/1/2018	Present	77.27% BBgBarc US Aggregate TR / 22.73% BBgBarc US Govt 1-5 Yr TR
1/1/2017	2/28/2018	77.27% BBgBarc US Aggregate TR / 22.73% Credit Suisse Leveraged Loans
8/1/2014	12/31/2016	71.93% BBgBarc US Aggregate TR / 17.54% ICE BofAML US High Yield TR / 10.53% Credit Suisse Leveraged Loans
Hedge Fund		
7/1/2017	Present	100% HFRI Fund of Funds Composite Index
1/1/2015	6/30/2017	50% HFRI Fund of Funds Composite Index / 50% HFRI RV: Multi-Strategy Index
Real Assets		
1/1/2019	Present	50% S&P Global Natural Resources Index TR USD / 50% S&P Global Infrastructure TR USD
6/1/2013	12/31/2018	57.14% NCREIF ODCE (net) / 21.43% S&P Global Natural Resources Index TR USD / 21.43% S&P Global Infrastructure TR USD

Benchmark History
As of September 30, 2019

SSgA		
4/30/2017	Present	25% Bloomberg Roll Select Commodities Index TR USD / 25% S&P Global LargeMidCap Commodity and Resources NR USD / 10% S&P Global Infrastructure TR USD / 15% DJ US Select REIT TR USD / 25% BBgBarc US TIPS TR

Statistics Summary

5 Years Ending September 30, 2019

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Total Fund	6.32%	6.66%	-0.22	1.03	0.80	1.17%
Policy Index	6.58%	6.36%	--	1.00	0.88	0.00%
InvMetrics Public DB \$250mm-\$1B Net Median	6.10%	6.94%	-0.13	0.99	0.72	1.09%



As of September 30, 2019

Annual Investment Expense Analysis

As Of September 30, 2019

Name	Fee Schedule	Market Value	Estimated Fee	Estimated Fee Value
Total Fund w/o Alternatives		\$621,505,190		
US Equity		\$236,326,502		
Mellon Dynamic US Equity	0.30% of Assets	\$94,239,708	0.30%	\$282,719
Mellon Large Cap	0.04% of First 100.0 Mil, 0.02% Thereafter	\$106,567,610	0.04%	\$41,314
DFA Small Cap	0.35% of Assets	\$17,640,282	0.35%	\$61,741
PanAgora	0.80% of Assets	\$17,878,903	0.80%	\$143,031
International Equity		\$173,805,441		
Developed International Equity		\$105,927,768		
Mellon International	0.04% of Assets	\$85,667,396	0.04%	\$34,267
Acadian ACWI ex U.S. Small Cap Equity	0.99% of Assets	\$9,839,767	0.99%	\$97,414
Driehaus International Small Cap Growth	0.90% of Assets	\$10,420,605	0.90%	\$93,785
Emerging Markets Equity		\$67,877,673		
Wells Capital	0.90% of First 100.0 Mil, 0.85% Thereafter	\$67,877,673	0.90%	\$610,899
US Fixed Income		\$170,143,788		
Barrow Hanley	0.30% of First 50.0 Mil, 0.20% of Next 100.0 Mil, 0.15% Thereafter	\$61,124,016	0.28%	\$172,248
Vanguard Short-Term Treasury Index Fund	0.05% of Assets	\$48,554,400	0.05%	\$24,277
Vanguard Total Bond Market Index Fund	0.04% of Assets	\$60,465,372	0.04%	\$21,163
Opportunistic Credit		\$41,229,459		
PIMCO Income Fund	0.50% of Assets	\$20,424,232	0.50%	\$102,121
GoldenTree Multi-Sector Credit	0.75% of Assets	\$20,805,227	0.75%	\$156,039
Private Real Estate		\$59,673,599		
Greenfield Gap VII		\$8,839,742		
Patron Capital V		\$7,258,825		
UBS Trumbull Property		\$40,756,248		
Carlyle Realty VIII		\$660,213		

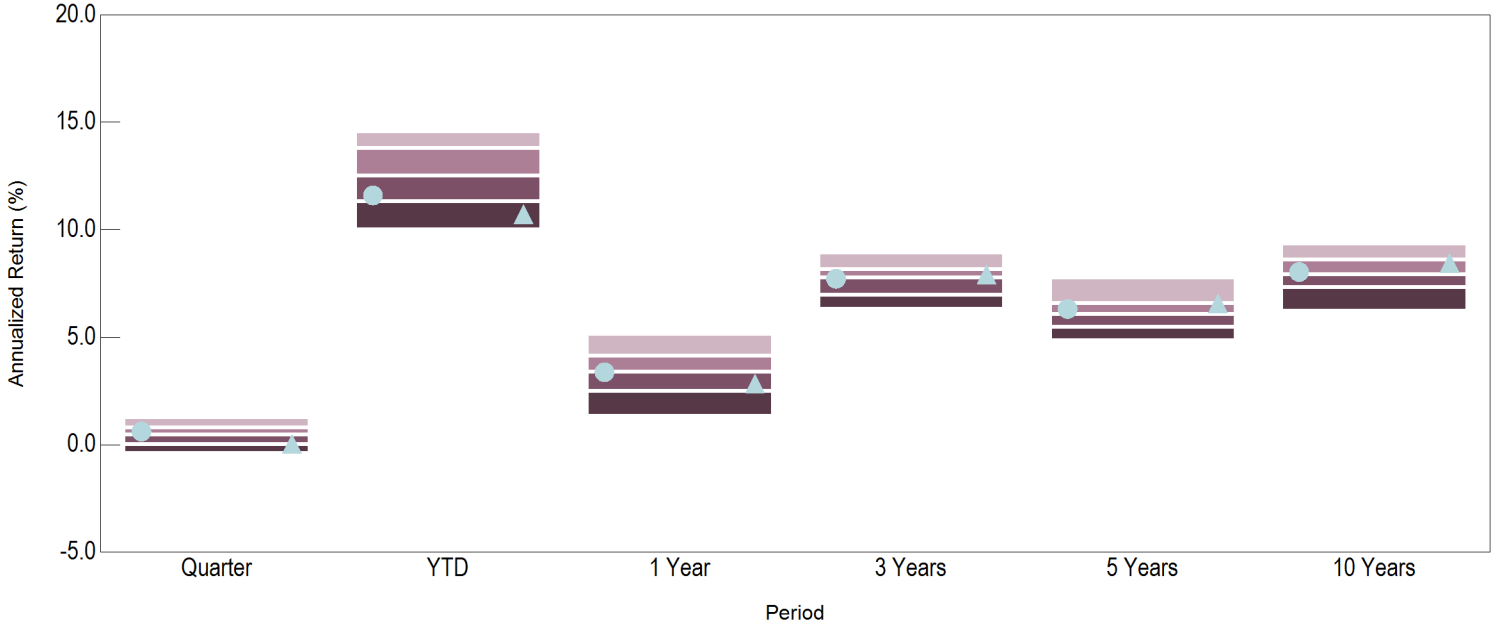
As of September 30, 2019

Name	Fee Schedule	Market Value	Estimated Fee	Estimated Fee Value
Taconic CRE Dislocation Fund II		\$1,757,721		
Carmel Partners Investment Fund VII		\$89,058		
AG Realty Value Fund X, L.P.		\$311,793		
Invesco IV		\$218,400		
Invesco VI		\$6,331,897		
Ocean Avenue II		\$9,986,598		
Pantheon I		\$870,662		
Pantheon II		\$4,092,220		
Pantheon Secondary		\$961,201		
Raven Asset Fund II		\$3,452,122		
Davidson Kempner Long-Term Distressed Opportunities Fund IV		\$3,633,980		
GTCR Fund XII		\$1,006,503		
Carrick Capital Partners III		\$1,304,132		
Cressey & Company Fund VI		\$1,050,879		
TCV X		\$1,597,666		
Accel-KKR Growth Capital Partners III		\$301,989		
Genstar Capital Partners IX		\$764,598		
Hedge Fund		\$75,795,104		
Sculptor (OZ) Domestic II	Performance-based 1.50 and 20.00	\$10,251,161	1.50%	\$153,767
Graham Absolute Return	Performance-based 1.75 and 20.00	\$7,429,313	1.75%	\$130,013
Wellington-Archipelago	Performance-based 1.00 and 20.00	\$11,781,876	1.00%	\$117,819
KLS Diversified	Performance-based 2.00 and 20.00	\$9,124,169	2.00%	\$182,483
Winton	Performance-based 0.90 and 20.00	\$6,265,143	0.90%	\$56,386
Marshall Wace Eureka	Performance-based 2.00 and 20.00	\$3,255,221	2.00%	\$65,104
Silver Point Capital	Performance-based 2.00 and 20.00	\$12,031,278	2.06%	\$248,235
Laurion Capital		\$5,309,732		
Taconic Opportunity Fund		\$10,347,212		

As of September 30, 2019

Name	Fee Schedule	Market Value	Estimated Fee	Estimated Fee Value
Real Assets		\$52,368,824		
SSgA	0.30% of First 50.0 Mil, 0.27% of Next 50.0 Mil, 0.25% Thereafter	\$16,662,460	0.30%	\$49,987
Private Infrastructure		\$22,243,376		
KKR Global II		\$11,120,059		
North Haven Infrastructure II		\$8,409,094		
ISQ Global Infrastructure Fund II		\$1,777,697		
KKR Global Infrastructure Investors III		\$936,526		
Private Natural Resources		\$13,462,988		
EnCap XI		\$869,898		
EnCap IV		\$908,460		
GSO Energy Opportunities		\$4,376,635		
Taurus Mining		\$3,643,454		
Taurus Mining Annex		\$3,184,505		
BlackRock Global Energy and Power Infrastructure Fund III LP		\$480,036		
Cash		\$13,816,860		
Cash		\$10,921,399		
Treasury Cash		\$2,895,460		

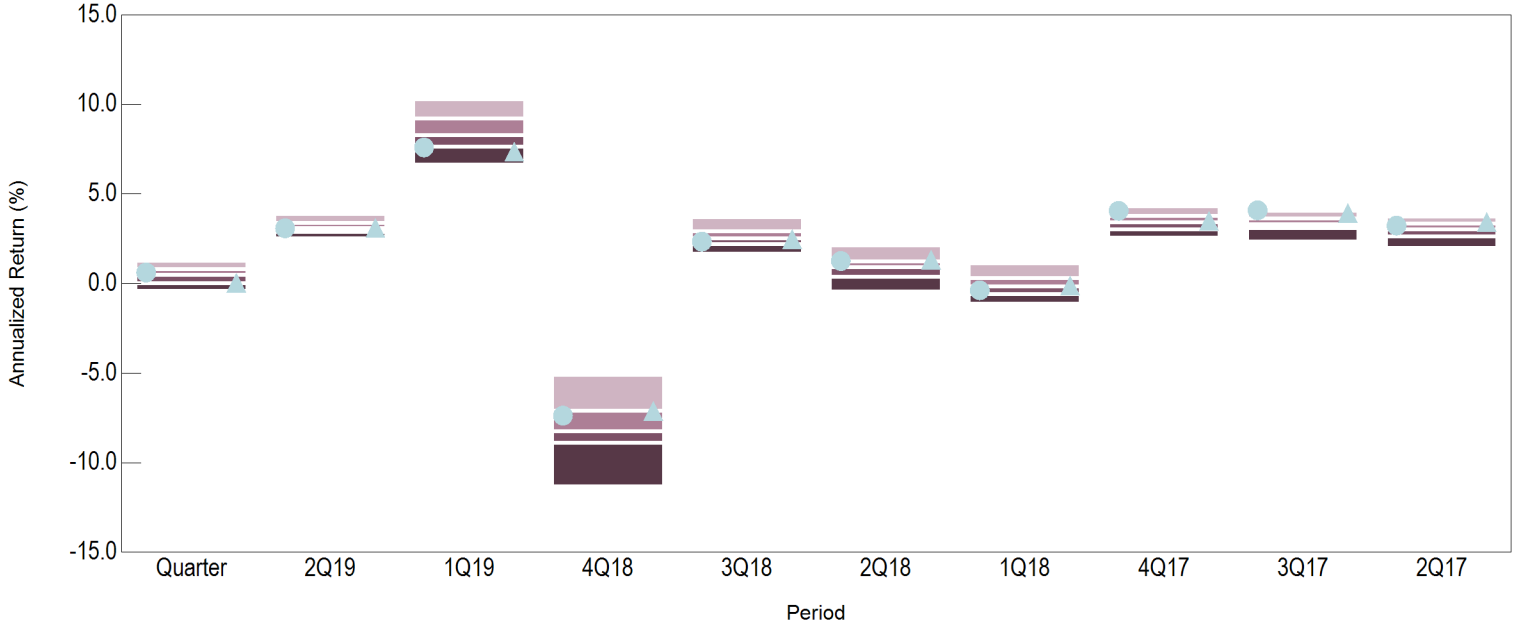
**InvMetrics Public DB \$250mm-\$1B Net Return Comparison
Ending September 30, 2019**



	Return (Rank)											
	Quarter		YTD		1 Year		3 Years		5 Years		10 Years	
5th Percentile	1.3	(40)	14.6	(70)	5.1	(53)	8.9	(52)	7.8	(38)	9.3	(46)
25th Percentile	0.8	(76)	13.8	(89)	4.2	(70)	8.2	(40)	6.6	(27)	8.6	(33)
Median	0.5		12.5		3.4		7.8		6.1		8.0	
75th Percentile	0.0		11.3		2.5		7.0		5.5		7.4	
95th Percentile	-0.4		10.0		1.4		6.3		4.9		6.3	
# of Portfolios	69		68		68		67		61		48	
● Total Fund	0.6	(40)	11.6	(70)	3.4	(53)	7.7	(52)	6.3	(38)	8.0	(46)
▲ Policy Index	0.0	(76)	10.7	(89)	2.8	(70)	7.9	(40)	6.6	(27)	8.5	(33)



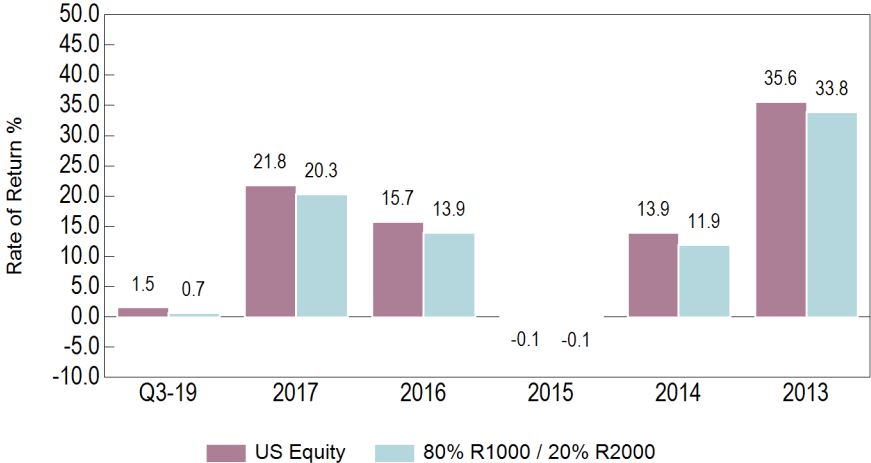
InvMetrics Public DB \$250mm-\$1B Net Return Comparison
Ending September 30, 2019



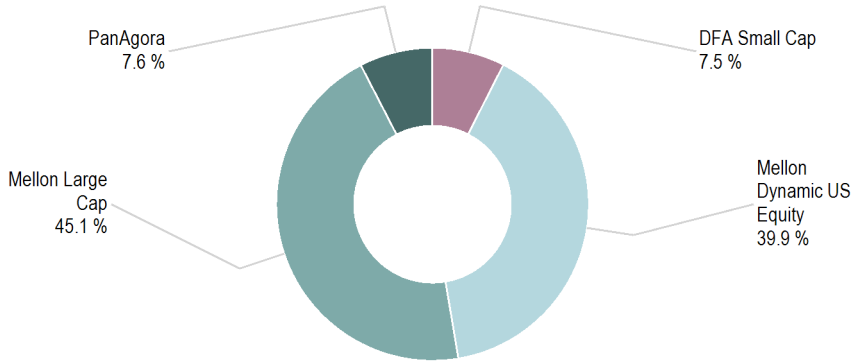
	Quarter	2Q19	1Q19	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17
5th Percentile	1.3	3.9	10.3	-5.1	3.7	2.1	1.1	4.3	4.1	3.7
25th Percentile	0.8	3.4	9.2	-7.1	2.9	1.3	0.3	3.8	3.6	3.4
Median	0.5	3.1	8.3	-8.2	2.5	0.9	-0.1	3.4	3.3	3.0
75th Percentile	0.0	2.9	7.6	-8.9	2.2	0.4	-0.6	3.1	3.1	2.7
95th Percentile	-0.4	2.5	6.7	-11.3	1.7	-0.4	-1.1	2.6	2.4	2.0
# of Portfolios	69	74	77	73	57	61	56	59	61	61
● Total Fund	0.6 (40)	3.1 (56)	7.6 (77)	-7.4 (33)	2.3 (68)	1.3 (25)	-0.4 (66)	4.1 (16)	4.1 (4)	3.2 (29)
▲ Policy Index	0.0 (76)	3.1 (53)	7.4 (84)	-7.1 (29)	2.5 (56)	1.3 (23)	-0.1 (50)	3.5 (43)	3.9 (10)	3.4 (23)



Return Summary

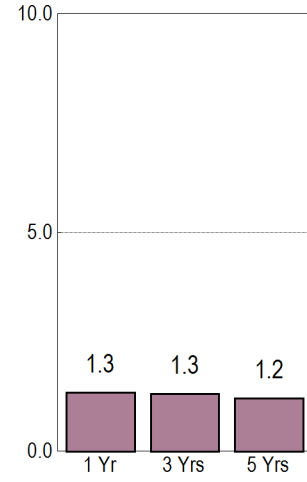
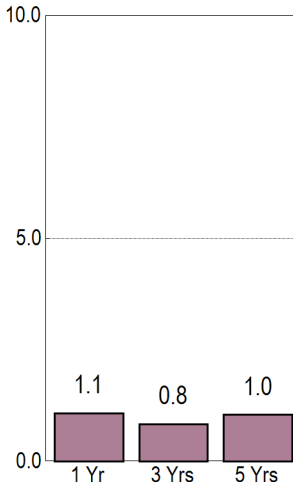
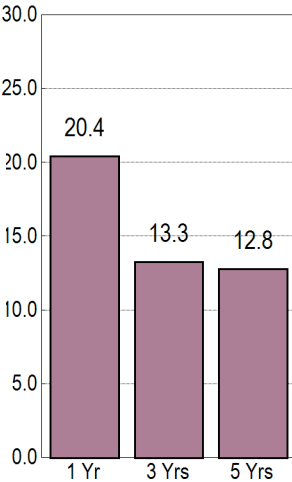
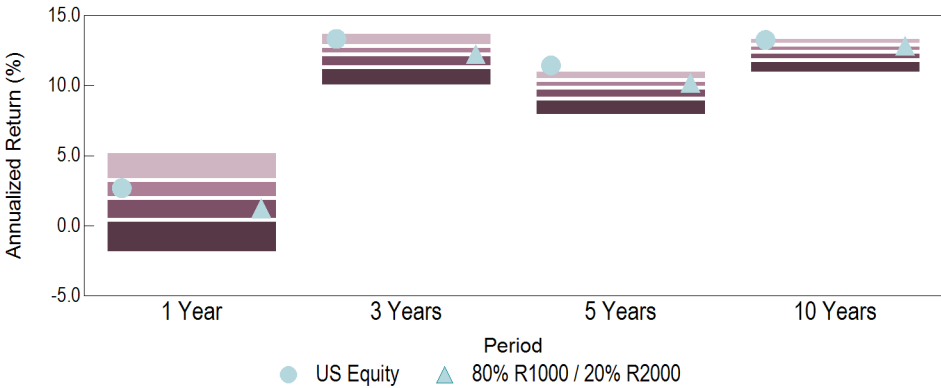


Current Allocation



	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
US Equity	2.7	13.3	11.4	13.3
80% R1000 / 20% R2000	1.2	12.2	10.2	12.8
InvMetrics All DB US Eq Net Median	2.0	12.2	9.9	12.4
InvMetrics All DB US Eq Net Rank	40	13	4	8

Anzld. Std. Deviation	Tracking Error	Information Ratio
US Equity	US Equity	US Equity



As of September 30, 2019

US Equity Characteristics
vs Russell 3000

	Portfolio Q3-19	Index Q3-19
Characteristics		
Weighted Avg. Market Cap. (\$B)	182.2	195.3
Median Market Cap (\$B)	4.2	1.6
P/E Ratio	19.6	20.5
Yield	1.9	1.9
EPS Growth - 5 Yrs.	12.8	13.5
Price to Book	3.1	3.5
Beta (holdings; domestic)	1.0	1.0

US Equity Sector Distribution
vs Russell 3000

	Portfolio Q3-19	Index Q3-19
Sector Distribution		
Energy	4.2	4.3
Materials	2.8	2.9
Industrials	10.0	10.2
Consumer Discretionary	9.8	10.4
Consumer Staples	6.2	6.6
Health Care	11.7	13.5
Financials	13.7	13.6
Information Technology	18.5	21.5
Communication Services	8.1	9.5
Utilities	3.0	3.4
Real Estate	3.4	4.2

Top Holdings

UST Bill 12/19/19	6.3%
MICROSOFT	3.1%
APPLE	2.9%
CASH - USD	2.2%
AMAZON.COM	2.1%
FACEBOOK CLASS A	1.2%
BERKSHIRE HATHAWAY 'B'	1.2%
JP MORGAN CHASE & CO.	1.1%
ALPHABET 'C'	1.1%
ALPHABET A	1.1%

Best Performers

	Return %
DURECT	182.2%
CIM COMMERCIAL TRUST	177.1%
IMPAC MORTGAGE HDG.	153.9%
STAGE STORES	144.2%
DIXIE GP.'A'	137.9%
FRANCESCA'S HOLDINGS	135.7%
ATLANTICUS HOLDINGS	106.2%
SEACHANGE INTL.	101.4%
WW INTERNATIONAL	98.0%
R R DONNELLEY & SONS	94.7%

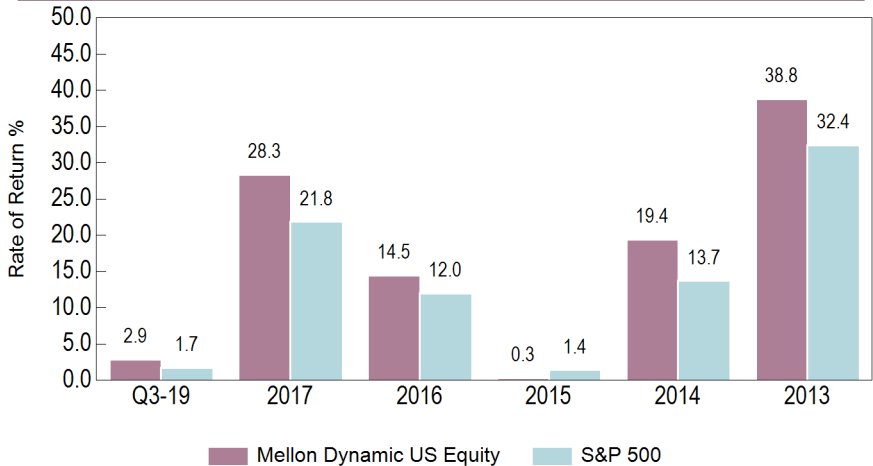
Worst Performers

	Return %
TOCAGEN	-90.1%
SUPERIOR ENERGY SERVICES	-90.0%
NEUROTROPE	-89.9%
MCDERMOTT INTL.	-79.1%
PIONEER ENERGY SERVICES	-78.3%
SIENNA BIOPH.	-77.0%
SYNOLOGIC	-74.8%
MALLINCKRODT	-73.7%
CLOVIS ONCOLOGY	-73.6%
SANCHEZ ENERGY (XSC)	-70.0%

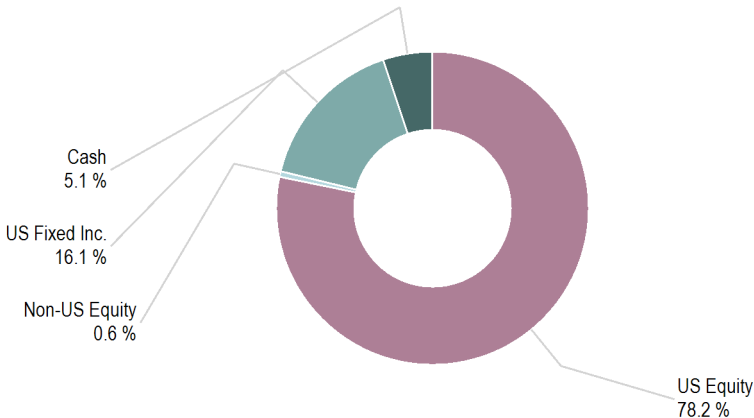
Mellon Dynamic US Equity

As of September 30, 2019

Return Summary

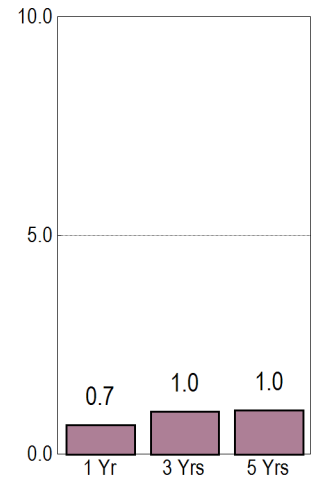
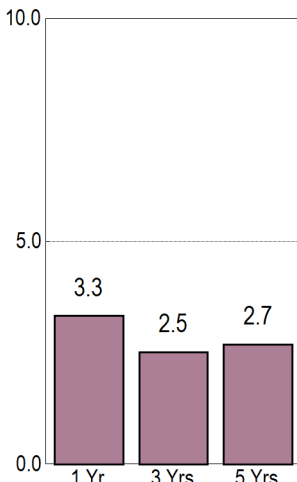
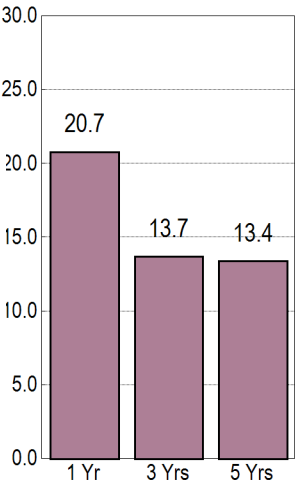
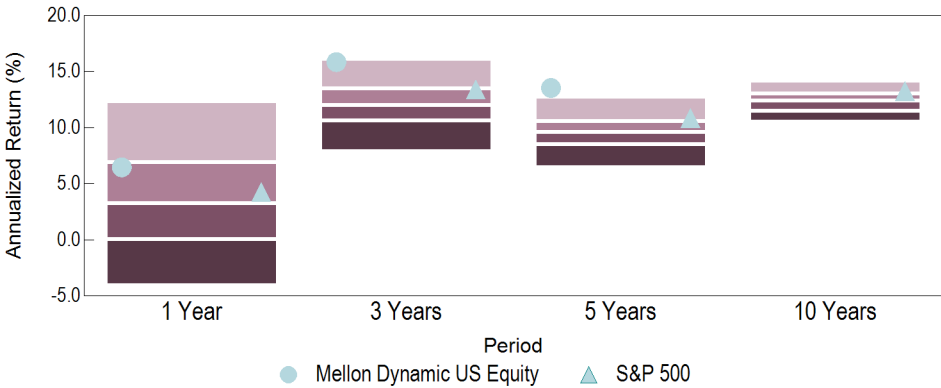


Current Allocation



	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Mellon Dynamic US Equity	6.5	15.8	13.5	--
S&P 500	4.3	13.4	10.8	13.2
eV US Large Cap Core Equity Net Median	3.3	12.1	9.7	12.5
eV US Large Cap Core Equity Net Rank	29	6	3	--

Anzld. Std. Deviation	Tracking Error	Information Ratio
Mellon Dynamic US Equity	Mellon Dynamic US Equity	Mellon Dynamic US Equity



Mellon Dynamic US Equity

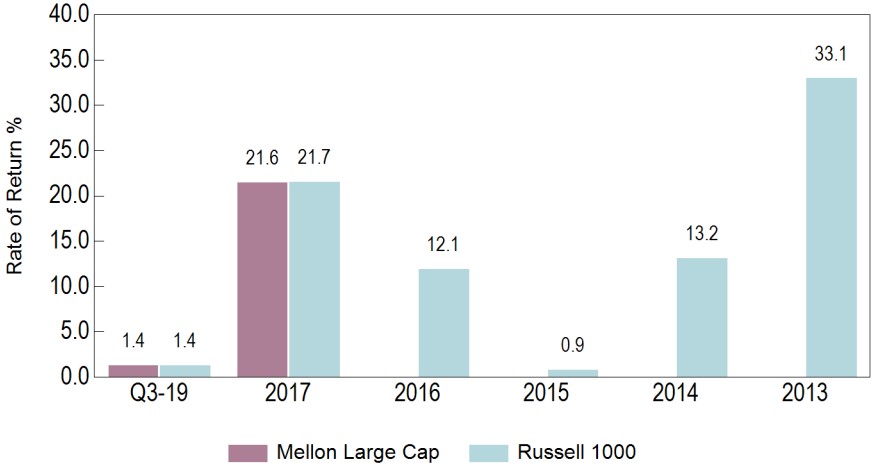
As of September 30, 2019

Account Information		Account Characteristics			Sector Distribution		
Account Name	Mellon Dynamic US Equity		Portfolio	Index		Portfolio	Index
Account Structure	Commingled Fund		Q3-19	Q3-19		Q3-19	Q3-19
Investment Style	Active	Characteristics			Sector Distribution		
Inception Date	12/31/12	Weighted Avg.	230.0	230.5	Energy	3.6	4.6
Account Type	US Equity	Market Cap. (\$B)			Materials	2.2	2.7
Benchmark	S&P 500	Median Market Cap (\$B)	22.4	22.5	Industrials	7.4	9.4
Universe	eV US Large Cap Core Equity Net	P/E Ratio	20.6	20.5	Consumer	8.0	10.1
		Yield	2.0	2.0	Discretionary	6.0	7.4
		EPS Growth - 5 Yrs.	13.4	13.5	Consumer Staples	10.8	13.6
		Price to Book	3.7	3.6	Health Care	10.2	13.1
		Beta (holdings; domestic)	1.0	1.0	Financials	17.3	21.9
					Information Technology	8.2	10.5
					Communication Services	2.8	3.4
					Utilities	2.5	3.2
					Real Estate		
Top Holdings		Best Performers			Worst Performers		
UST Bill 12/19/19	15.8%			Return %			Return %
CASH - USD	5.1%	KLA		35.7%	NEKTAR THERAPEUTICS		-48.8%
MICROSOFT	3.4%	WESTERN DIGITAL		25.4%	DXC TECHNOLOGY		-46.2%
APPLE	3.0%	TARGET		24.4%	CONCHO RESOURCES		-34.1%
AMAZON.COM	2.3%	LAM RESEARCH		23.6%	ALIGN TECHNOLOGY		-33.9%
FACEBOOK CLASS A	1.4%	NEWELL BRANDS (XSC)		23.1%	ABIOMED		-31.7%
BERKSHIRE HATHAWAY 'B'	1.3%	D R HORTON		22.6%	ULTA BEAUTY		-27.7%
JP MORGAN CHASE & CO.	1.2%	HUNT JB TRANSPORT SVS.		21.4%	NETFLIX		-27.1%
ALPHABET 'C'	1.2%	KELLOGG		21.2%	MACY'S		-26.0%
ALPHABET A	1.2%	SHERWIN-WILLIAMS		20.2%	ALEXION PHARMS.		-25.2%
		KROGER		19.6%	L BRANDS		-23.8%

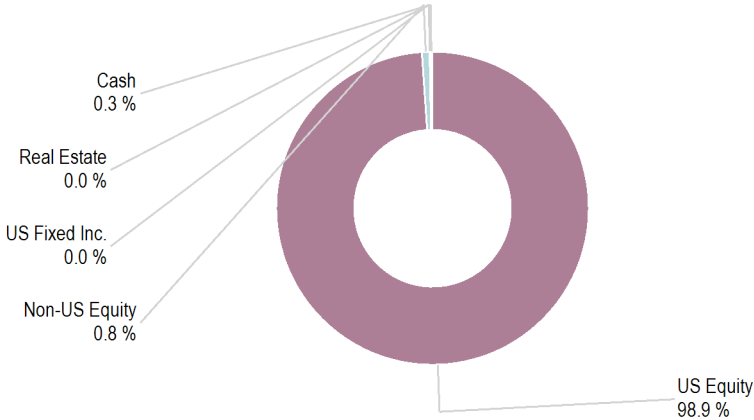
Current Allocations do not depict asset class weights based on long/short positions.



Return Summary

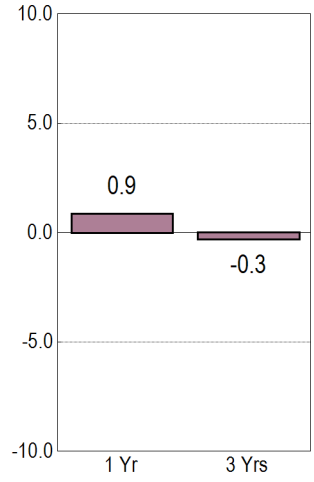
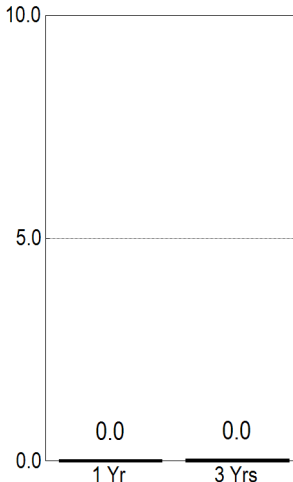
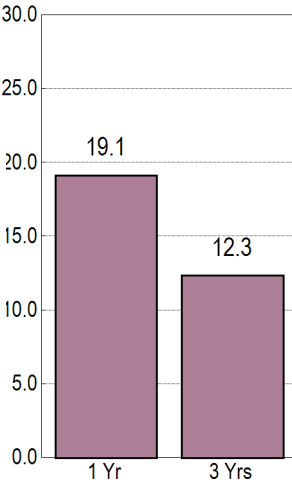
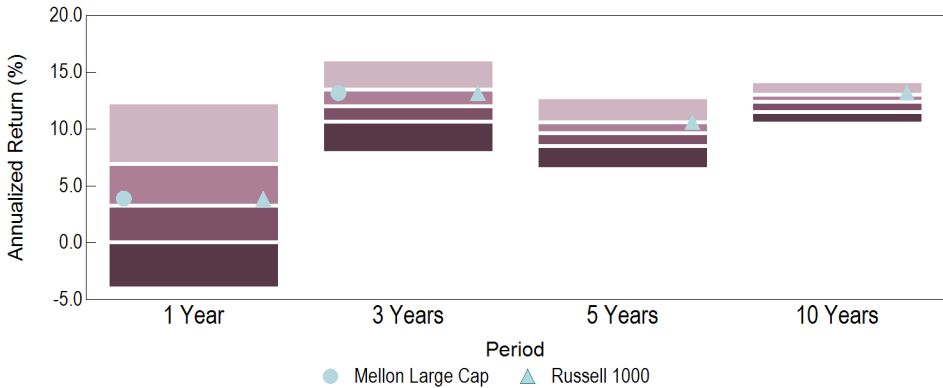


Current Allocation



	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Mellon Large Cap	3.9	13.2	--	--
Russell 1000	3.9	13.2	10.6	13.2
eV US Large Cap Core Equity Net Median	3.3	12.1	9.7	12.5
eV US Large Cap Core Equity Net Rank	45	29	--	--

Anzld. Std. Deviation	Tracking Error	Information Ratio
Mellon Large Cap	Mellon Large Cap	Mellon Large Cap



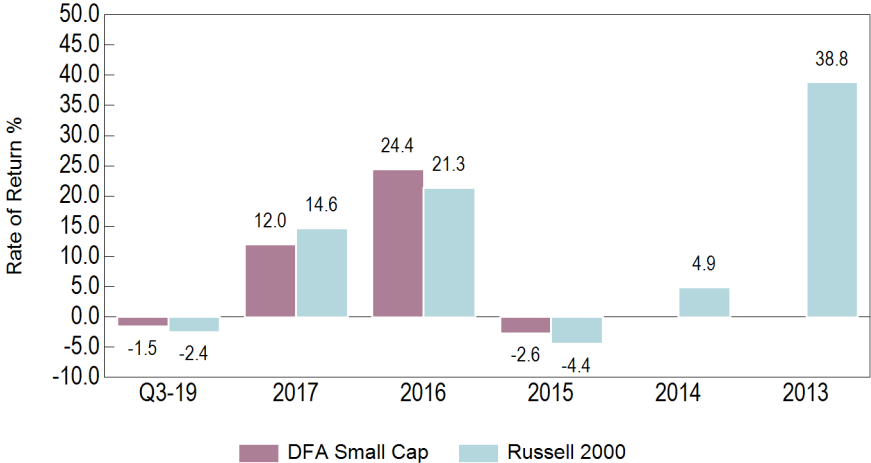
Mellon Large Cap

As of September 30, 2019

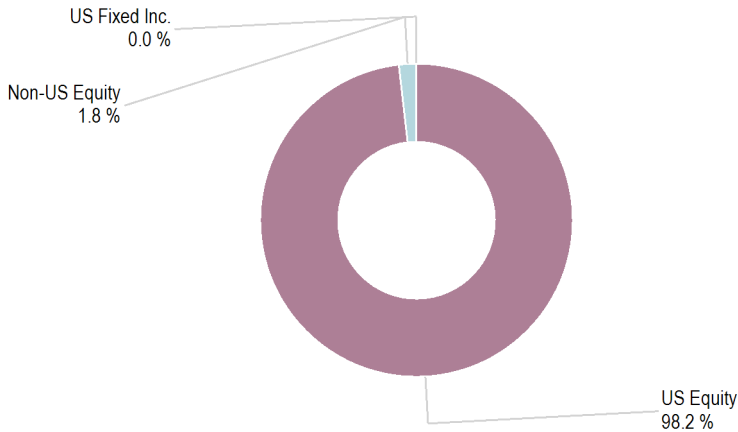
Account Information		Account Characteristics			Sector Distribution		
Account Name	Mellon Large Cap		Portfolio	Index		Portfolio	Index
Account Structure	Commingled Fund		Q3-19	Q3-19		Q3-19	Q3-19
Investment Style	Passive	Characteristics			Sector Distribution		
Inception Date	3/31/16	Weighted Avg.	209.2	208.9	Energy	4.2	4.4
Account Type	US Stock Large	Market Cap. (\$B)			Materials	2.8	2.8
Benchmark	Russell 1000	Median Market Cap (\$B)	9.7	9.8	Industrials	9.7	9.7
Universe	eV US Large Cap Core Equity Net	P/E Ratio	20.8	20.7	Consumer	10.3	10.4
		Yield	1.9	1.9	Discretionary		
		EPS Growth - 5 Yrs.	13.6	13.7	Consumer Staples	7.0	6.8
		Price to Book	3.6	3.6	Health Care	13.3	13.3
		Beta (holdings; domestic)	1.0	1.0	Financials	13.2	13.3
					Information Technology	22.0	22.0
					Communication Services	9.8	10.0
					Utilities	3.4	3.3
					Real Estate	4.0	3.9

Top Holdings		Best Performers		Worst Performers	
MICROSOFT	3.8%		Return %		Return %
APPLE	3.7%	INSULET	38.2%	2U	-56.7%
AMAZON.COM	2.6%	CYRUSONE	37.9%	PG&E	-56.4%
FACEBOOK CLASS A	1.5%	KLA	35.7%	COVETRUS	-51.4%
BERKSHIRE HATHAWAY 'B'	1.5%	NEW YORK COMMUNITY BANCORP	27.6%	SAREPTA THERAPEUTICS	-50.4%
JP MORGAN CHASE & CO.	1.4%	ENTEGRIS	26.3%	NEKTAR THERAPEUTICS	-48.8%
ALPHABET 'C'	1.3%	PILGRIMS PRIDE	26.2%	DXC TECHNOLOGY	-46.2%
ALPHABET A	1.3%	WESTERN DIGITAL	25.4%	ANTERO RESOURCES	-45.4%
JOHNSON & JOHNSON	1.2%	DOCUSIGN	24.6%	RANGE RES.	-45.0%
PROCTER & GAMBLE	1.1%	TARGET	24.4%	PLURALSIGHT A	-44.6%
		XPO LOGISTICS	23.8%	FLUOR	-42.5%

Return Summary

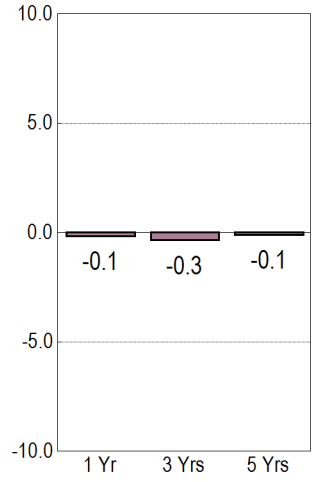
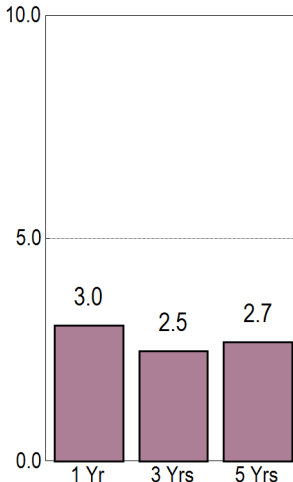
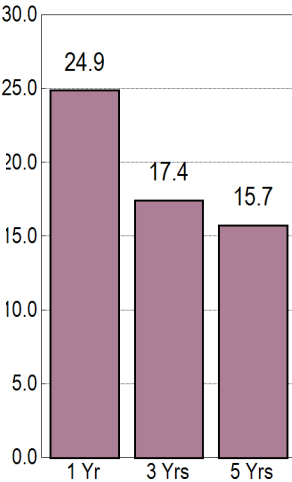
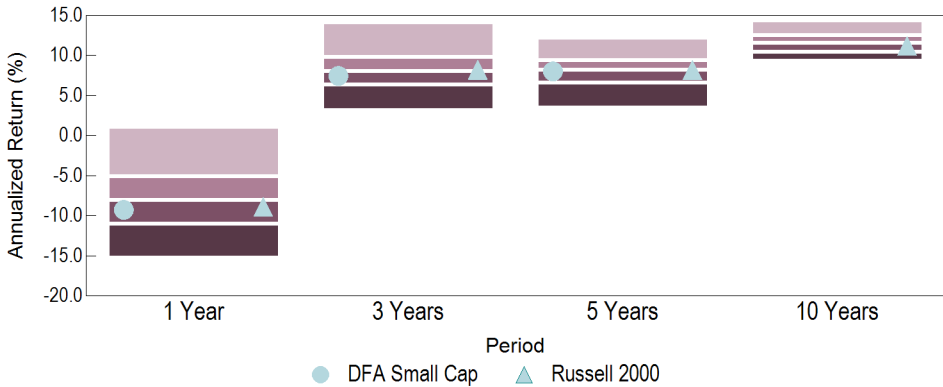


Current Allocation



	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
DFA Small Cap	-9.3	7.5	8.0	--
Russell 2000	-8.9	8.2	8.2	11.2
eV US Small Cap Core Equity Net Median	-8.0	8.1	8.3	11.6
eV US Small Cap Core Equity Net Rank	61	62	60	--

Anzld. Std. Deviation	Tracking Error	Information Ratio
DFA Small Cap	DFA Small Cap	DFA Small Cap

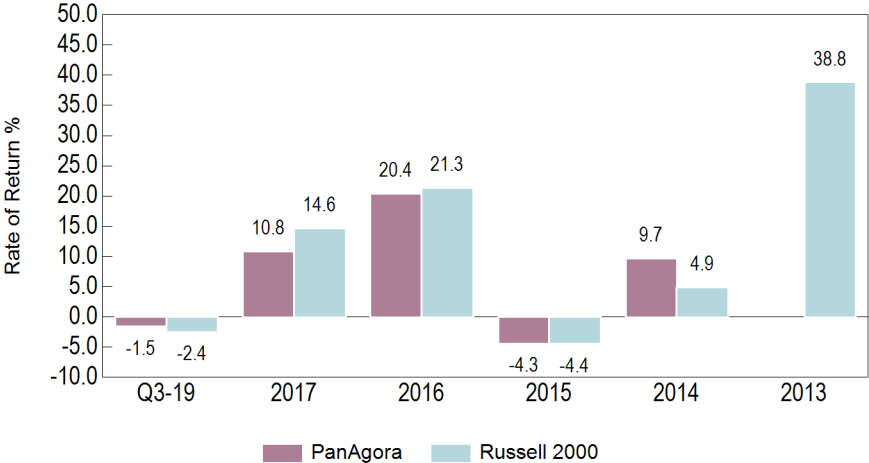


As of September 30, 2019

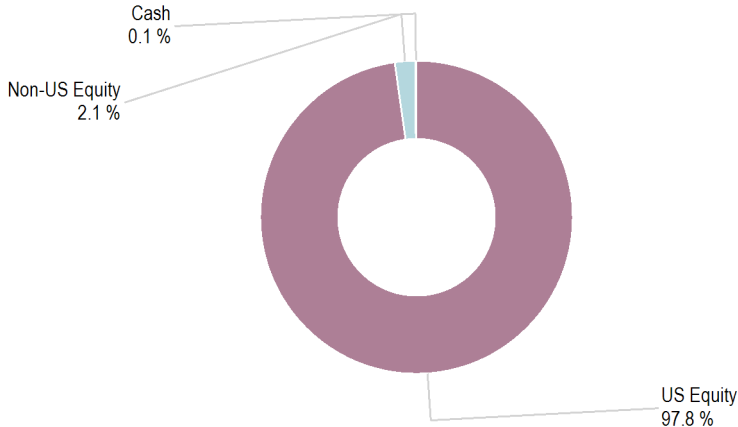
Account Information		Account Characteristics		Sector Distribution			
Account Name	DFA Small Cap	Portfolio	Index	Portfolio	Index		
Account Structure	Commingled Fund	Q3-19	Q3-19	Q3-19	Q3-19		
Investment Style	Active	Characteristics		Sector Distribution			
Inception Date	6/30/14	Weighted Avg.	2.1	2.2	Energy	8.7	3.5
Account Type	US Stock Small	Market Cap. (\$B)			Materials	6.6	3.9
Benchmark	Russell 2000	Median Market Cap (\$B)	0.6	0.7	Industrials	18.9	16.0
Universe	eV US Small Cap Core Equity Net	P/E Ratio	13.4	18.5	Consumer	14.1	11.1
		Yield	1.8	1.5	Discretionary		
		EPS Growth - 5 Yrs.	7.4	9.6	Consumer Staples	4.1	2.9
		Price to Book	1.4	2.4	Health Care	3.1	16.5
		Beta (holdings; domestic)	1.3	1.2	Financials	29.5	18.0
					Information Technology	10.7	13.6
					Communication Services	3.8	2.5
					Utilities	0.2	3.9
					Real Estate	0.3	8.0

Top Holdings		Best Performers		Worst Performers	
MERITAGE HOMES	0.9%		Return %		Return %
TECH DATA	0.8%	IMPAC MORTGAGE HDG.	153.9%	TOCAGEN	-90.1%
CACI INTERNATIONAL 'A'	0.7%	STAGE STORES	144.2%	SUPERIOR ENERGY SERVICES	-90.0%
DARLING INGREDIENTS	0.7%	DIXIE GP.'A'	137.9%	NEUROTROPE	-89.9%
FTI CONSULTING	0.7%	FRANCESCA'S HOLDINGS	135.7%	MCDERMOTT INTL.	-79.1%
WASHINGTON FEDERAL	0.7%	ATLANTICUS HOLDINGS	106.2%	PIONEER ENERGY SERVICES	-78.3%
CNO FINANCIAL GROUP	0.7%	SEACHANGE INTL.	101.4%	SIENNA BIOPH.	-77.0%
GATX	0.7%	WW INTERNATIONAL	98.0%	SYNOLOGIC	-74.8%
SKYWEST	0.7%	R R DONNELLEY & SONS	94.7%	MALLINCKRODT	-73.7%
AARON'S	0.7%	PC-TEL	91.9%	SANCHEZ ENERGY (XSC)	-70.0%
		INFINERA	87.3%	DESTINATION MATERNITY	-68.6%

Return Summary

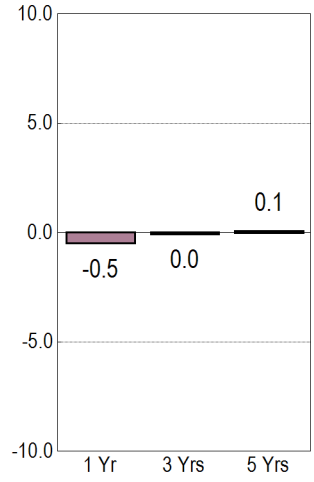
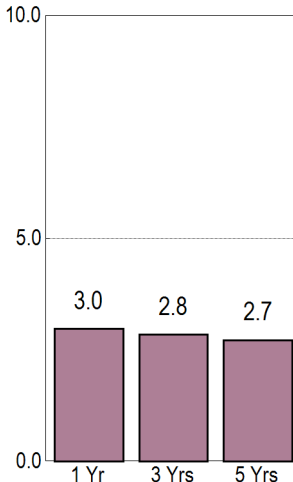
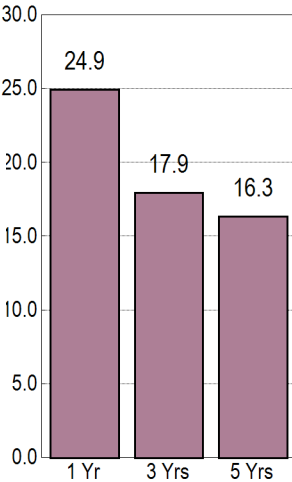


Current Allocation



	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
PanAgora	-10.3	8.1	8.4	--
Russell 2000	-8.9	8.2	8.2	11.2
eV US Small Cap Core Equity Net Median	-8.0	8.1	8.3	11.6
eV US Small Cap Core Equity Net Rank	70	53	48	--

Anzld. Std. Deviation	Tracking Error	Information Ratio
PanAgora	PanAgora	PanAgora

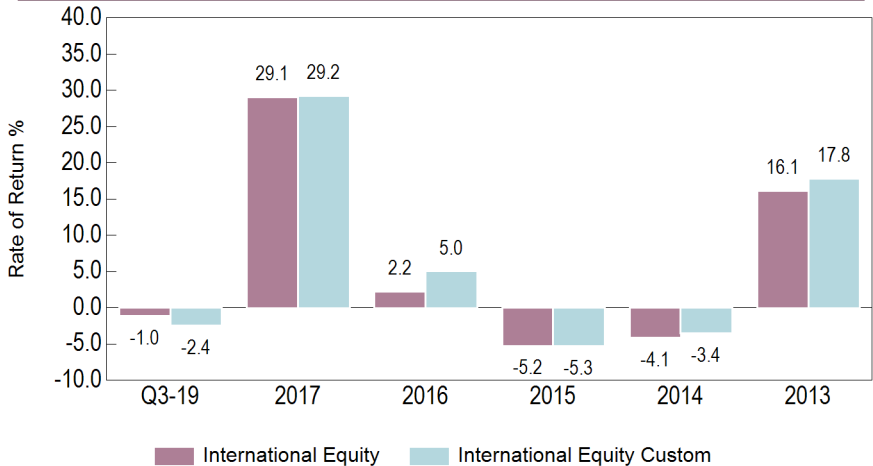


As of September 30, 2019

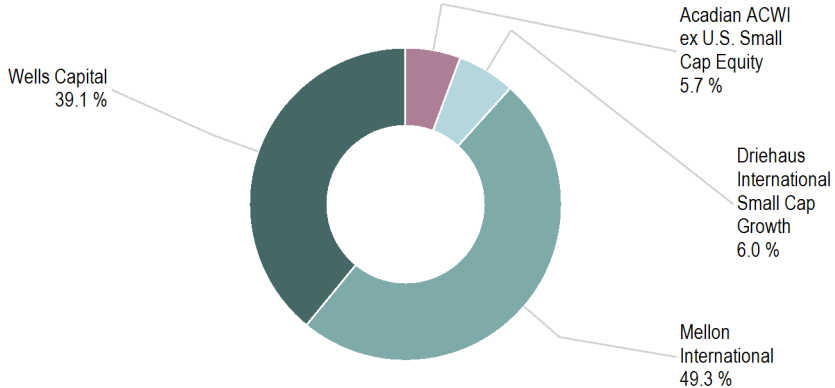
Account Information		Account Characteristics		Sector Distribution			
Account Name	PanAgora	Portfolio	Index	Portfolio	Index		
Account Structure	Commingled Fund	Q3-19	Q3-19	Q3-19	Q3-19		
Investment Style	Active	Characteristics		Sector Distribution			
Inception Date	9/30/13	Weighted Avg.	2.2	2.2	Energy	3.4	3.5
Account Type	US Stock Small Cap Core	Market Cap. (\$B)			Materials	2.6	3.9
Benchmark	Russell 2000	Median Market Cap (\$B)	0.7	0.7	Industrials	17.2	16.0
Universe	eV US Small Cap Core Equity Net	P/E Ratio	17.1	18.5	Consumer	11.7	11.1
		Yield	1.4	1.5	Discretionary		
		EPS Growth - 5 Yrs.	10.0	9.6	Consumer Staples	4.7	2.9
		Price to Book	2.3	2.4	Health Care	16.1	16.5
		Beta (holdings; domestic)	1.2	1.2	Financials	19.4	18.0
					Information Technology	12.1	13.6
					Communication Services	2.5	2.5
					Utilities	3.3	3.9
					Real Estate	6.8	8.0

Top Holdings		Best Performers		Worst Performers	
PORTLAND GEN.ELEC.	1.5%		Return %		Return %
PNM RESOURCES	1.5%	DURECT	182.2%	PIONEER ENERGY SERVICES	-78.3%
FIVE9	1.3%	CIM COMMERICAL TRUST	177.1%	MALLINCKRODT	-73.7%
INSPERITY	1.2%	WW INTERNATIONAL	98.0%	CLOVIS ONCOLOGY	-73.6%
HMS HOLDINGS	1.2%	R R DONNELLEY & SONS	94.7%	FLUIDIGM	-62.4%
DECKERS OUTDOOR	1.1%	OWENS & MINOR	81.6%	LSC COMMUNICATIONS	-62.4%
UNITED COMMUNITY BANKS	1.0%	STAMPS.COM	64.5%	UNIT	-62.0%
INTERNATIONAL BCSH.	1.0%	PALOMAR HOLDINGS	64.0%	MERSANA THERAPEUTICS	-61.0%
MEDICINES COMPANY	1.0%	OMNOVA SOLUTIONS	61.6%	KLX ENERGY SERVICES HOLDINGS	-57.7%
PERFORMANCE FOOD GROUP	1.0%	NEOPHOTONICS	45.7%	FORUM ENERGY TECHS.	-54.7%
		CATO 'A'	45.7%	CONCERT PHARMACEUTICALS	-51.0%

Return Summary

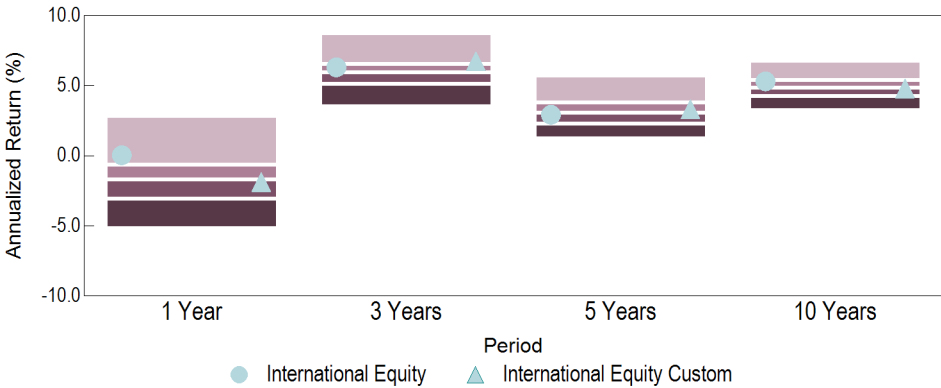
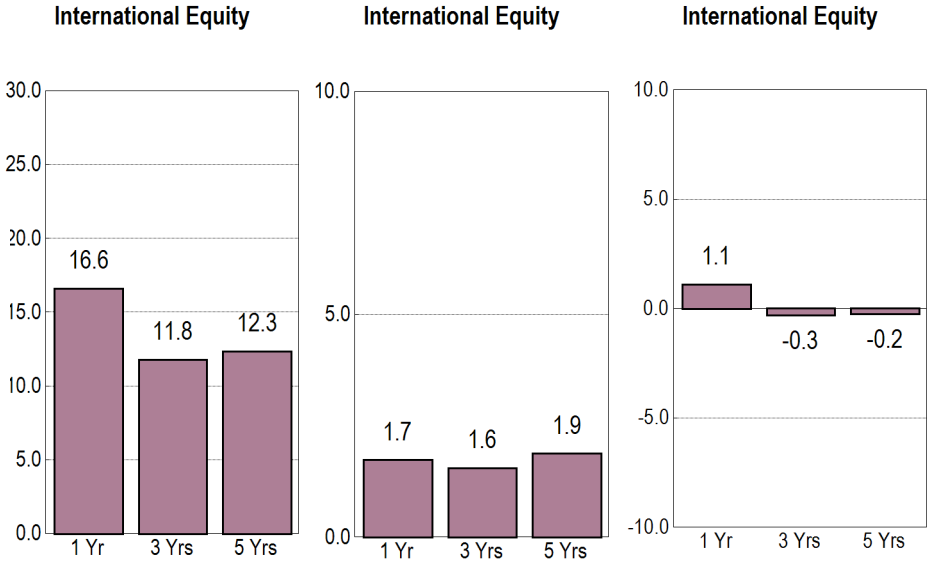


Current Allocation



	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
International Equity	0.0	6.3	2.9	5.3
<i>International Equity Custom</i>	-1.9	6.7	3.3	4.8
<i>InvMetrics All DB ex-US Eq Net Median</i>	-1.7	6.0	3.1	4.9
<i>InvMetrics All DB ex-US Eq Net Rank</i>	20	35	56	32

Anzld. Std. Deviation Tracking Error Information Ratio



As of September 30, 2019

International Equity Characteristics
vs MSCI ACWI ex USA

	Portfolio Q3-19	Index Q3-19
Characteristics		
Weighted Avg. Market Cap. (\$B)	60.3	64.0
Median Market Cap (\$B)	4.0	7.3
P/E Ratio	16.1	15.0
Yield	3.0	3.3
EPS Growth - 5 Yrs.	8.1	9.0
Price to Book	2.5	2.3
Beta (holdings; domestic)	1.0	1.0

International Equity Sector Distribution
vs MSCI ACWI ex USA

	Portfolio Q3-19	Index Q3-19
Sector Distribution		
Energy	5.0	6.8
Materials	5.0	7.5
Industrials	10.6	12.0
Consumer Discretionary	13.8	11.4
Consumer Staples	13.3	10.0
Health Care	7.2	8.4
Financials	17.6	21.8
Information Technology	11.0	8.8
Communication Services	10.3	6.9
Utilities	2.0	3.5
Real Estate	3.1	3.2

Top Holdings

SAMSUNG ELECTRONICS	1.9%
TENCENT HOLDINGS	1.4%
AIA GROUP	1.3%
TAIWAN SEMICON.SPN.ADR 1:5	1.3%
NESTLE 'R'	1.2%
HDFC BANK ADR 1:3	1.2%
CHINA MOBILE	1.1%
ALIBABA GROUP HOLDING ADR 1:8	1.0%
LI NING	0.9%
RELIANCE INDUSTRIES GDR	0.9%

Best Performers

	Return %
BEIJING CHUNLIZHENGDA MED.INSTS.'H'	148.2%
SUNREX TECHNOLOGY	90.5%
AVALUE TECHNOLOGY	77.1%
PERION NETWORK	68.0%
ADVANTEST	60.5%
REAL MATTERS	59.1%
NICKEL MINES	58.6%
LASERTEC	57.8%
MIGROS TICARET	57.2%
PINDUODUO ADR 1:4	56.2%

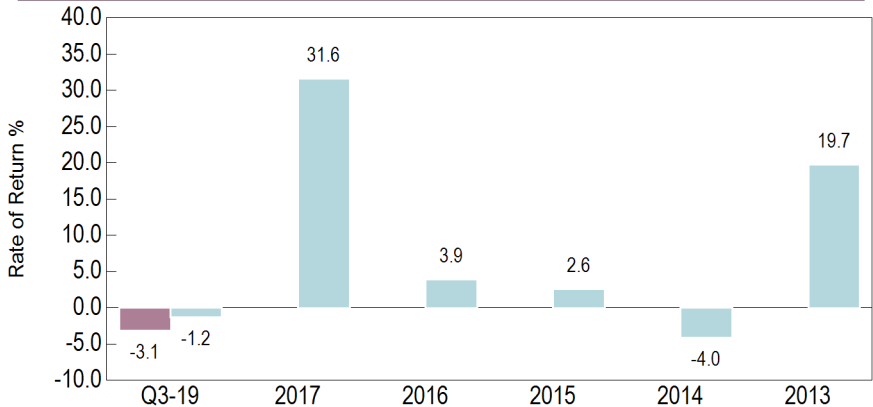
Worst Performers

	Return %
JUMIA TECHS.AMER. DEPY. SHS.1:2	-70.0%
PGG WRIGHTSON	-57.1%
HARBIN ELECTRIC 'H'	-48.2%
NORANDA INCOME FUND UNITS A	-46.7%
PENDRAGON	-45.6%
MICRO FOCUS INTL.	-44.4%
XIWANG SPECIAL STEEL CO.	-42.7%
FERREXPO	-42.3%
PRECISION DRILLING	-39.0%
YANGZIJIANG SHIPBUILDING (HOLDINGS)	-38.6%

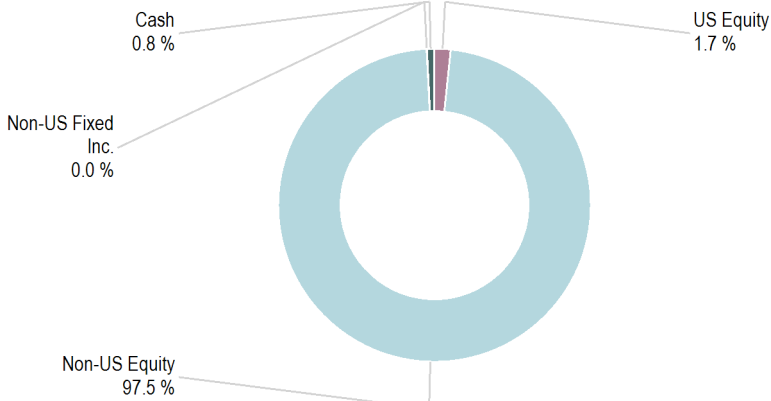
Acadian ACWI ex U.S. Small Cap Equity

As of September 30, 2019

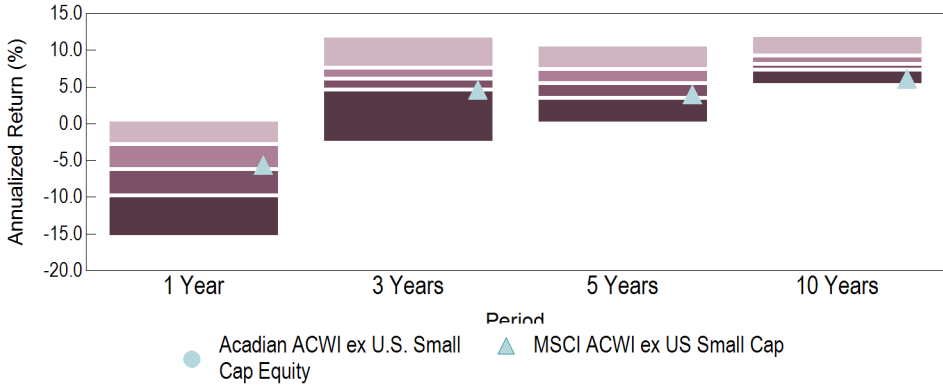
Return Summary



Current Allocation



	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Acadian ACWI ex U.S. Small Cap Equity	--	--	--	--
MSCI ACWI ex US Small Cap	-5.6	4.6	4.0	6.1
eV ACWI ex-US Small Cap Equity Net Median	-6.1	6.2	5.6	8.2
eV ACWI ex-US Small Cap Equity Net Rank	--	--	--	--



Acadian ACWI ex U.S. Small Cap Equity

As of September 30, 2019

Account Information		Account Characteristics		Sector Distribution			
Account Name	Acadian ACWI ex U.S. Small Cap Equity	Portfolio	Index	Portfolio	Index		
Account Structure	Commingled Fund	Q3-19	Q3-19	Q3-19	Q3-19		
Investment Style	Active	Characteristics		Sector Distribution			
Inception Date	5/01/19	Weighted Avg.	2.0	2.5	Energy	3.0	3.8
Account Type	International	Market Cap. (\$B)			Materials	11.3	9.6
Benchmark	MSCI ACWI ex US Small Cap	Median Market Cap (\$B)	0.3	1.0	Industrials	11.4	20.6
Universe	eV ACWI ex-US Small Cap Equity Net	P/E Ratio	10.4	15.6	Consumer	10.8	12.1
		Yield	3.2	2.8	Discretionary		
		EPS Growth - 5 Yrs.	15.0	11.0	Consumer Staples	2.1	6.2
		Price to Book	2.1	2.1	Health Care	9.0	6.9
		Beta (holdings; domestic)	0.9	0.9	Financials	17.3	10.3
					Information Technology	17.3	9.1
					Communication Services	5.5	4.9
					Utilities	1.4	3.0
					Real Estate	7.2	13.3

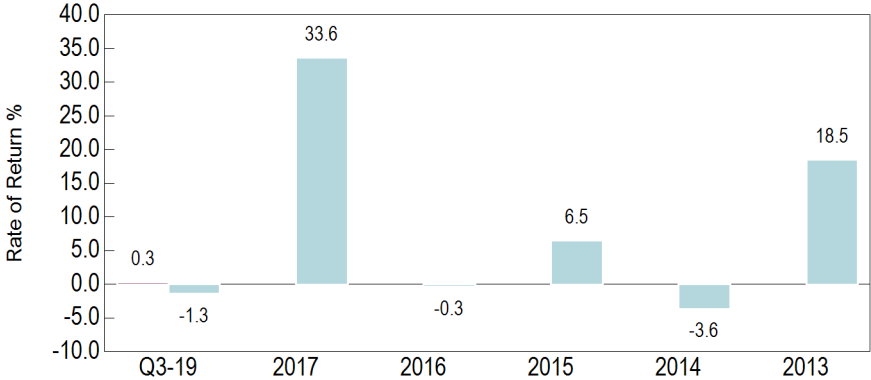
Top Holdings		Best Performers		Worst Performers	
IA FINANCIAL	1.8%		Return %		Return %
CANADIAN WESTERN BANK	1.8%	BEIJING CHUNLIZHENGDA MED.INSTS.'H'	148.2%	PGG WRIGHTSON	-57.1%
ASR NEDERLAND	1.7%	SUNREX TECHNOLOGY	90.5%	HARBIN ELECTRIC 'H'	-48.2%
QUEBECOR 'B'	1.6%	AVALUE TECHNOLOGY	77.1%	NORANDA INCOME FUND UNITS A	-46.7%
DISCOUNT	1.3%	PERION NETWORK	68.0%	PENDRAGON	-45.6%
EVOLUTION MINING	1.2%	REAL MATTERS	59.1%	XIWANG SPECIAL STEEL CO.	-42.7%
UNIPOL GRUPPO FINANZIARI	1.2%	NICKEL MINES	58.6%	FERREXPO	-42.3%
CYBER ARK SOFTWARE	1.1%	CODAN	56.0%	PRECISION DRILLING	-39.0%
EVRAZ	1.1%	TOYO SECURITIES	55.4%	PROACT IT GROUP	-38.5%
DAR ALARKAN RLST.DEV.	1.1%	BUSINESS ENGINEERING	50.1%	GROUPE OPEN	-36.8%
		ECKERT & ZIEGLER STRAHLEN & MEDZI.	48.1%	MCBRIDE	-35.4%



Driehaus International Small Cap Growth

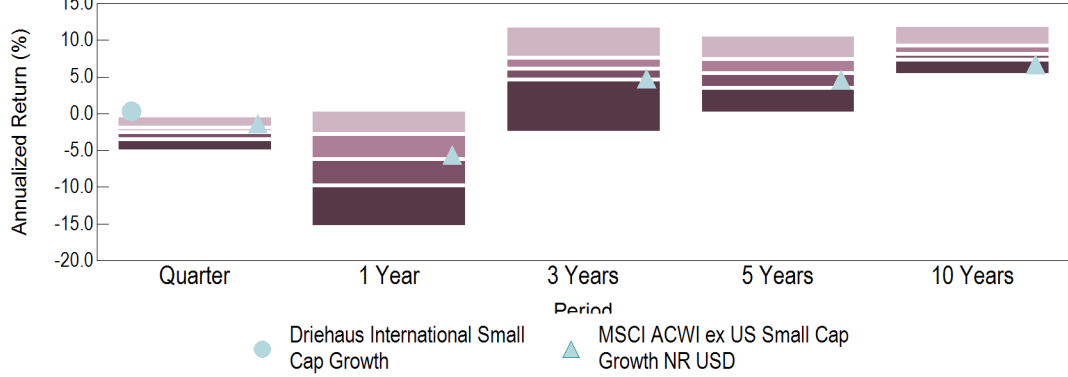
As of September 30, 2019

Return Summary

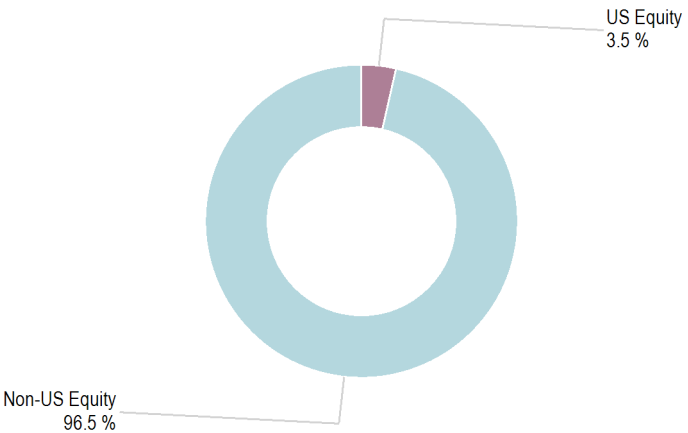


■ Driehaus International Small Cap Growth
 ■ MSCI ACWI ex US Small Cap Growth NR USD

	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Driehaus International Small Cap Growth	0.3	--	--	--	--
MSCI ACWI ex US Small Cap Growth NR USD	-1.3	-5.6	4.8	4.6	6.7
eV ACWI ex-US Small Cap Equity Net Median	-2.5	-6.1	6.2	5.6	8.2
eV ACWI ex-US Small Cap Equity Net Rank	2	--	--	--	--



Current Allocation



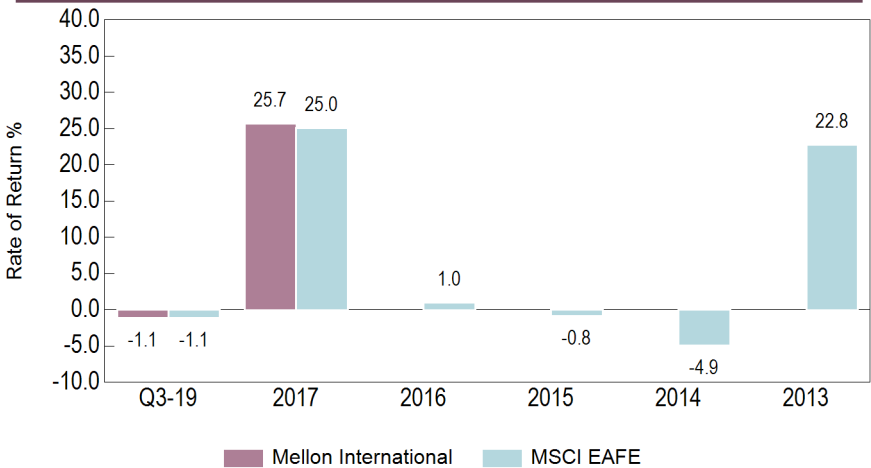
Driehaus International Small Cap Growth

As of September 30, 2019

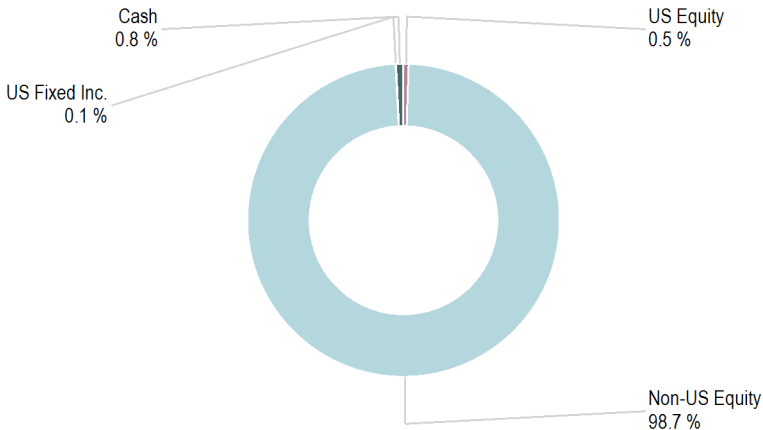
Account Information		Account Characteristics		Sector Distribution			
Account Name	Driehaus International Small Cap Growth	Portfolio	Index	Portfolio	Index		
Account Structure	Commingled Fund	Q3-19	Q3-19	Q3-19	Q3-19		
Investment Style	Active	Characteristics		Sector Distribution			
Inception Date	5/01/19	Weighted Avg.	4.6	2.5	Energy	2.7	3.8
Account Type	International	Market Cap. (\$B)			Materials	5.6	9.6
Benchmark	MSCI ACWI ex US Small Cap Growth NR USD	Median Market Cap (\$B)	3.5	1.0	Industrials	23.2	20.6
Universe	eV ACWI ex-US Small Cap Equity Net	P/E Ratio	23.2	15.6	Consumer	11.9	12.1
		Yield	1.5	2.8	Discretionary		
		EPS Growth - 5 Yrs.	13.6	11.0	Consumer Staples	8.1	6.2
		Price to Book	3.4	2.1	Health Care	10.1	6.9
		Beta (holdings; domestic)	0.9	0.9	Financials	4.1	10.3
					Information Technology	19.5	9.1
					Communication Services	10.1	4.9
					Utilities	0.0	3.0
					Real Estate	3.7	13.3

Top Holdings		Best Performers		Worst Performers	
CELLNEX TELECOM	2.3%		Return %		Return %
PARKLAND FUEL	2.0%	BEIJING CHUNLIZHENGDA MED.INSTS.'H'	148.2%	CIMC ENRIC HOLDINGS	-28.7%
LEONARDO	1.9%	LASERTEC	57.8%	OXFORD BIOMEDICA	-24.3%
SCOUT24 (XET)	1.9%	MIGROS TICARET	57.2%	CYBER ARK SOFTWARE	-21.9%
KINAXIS	1.7%	SQUARE ENIX HOLDINGS	52.0%	ZHUZHOU CRRC TIMES ELECTRIC 'H'	-21.4%
SQUARE ENIX HOLDINGS	1.6%	WIN SEMICONDUCTORS	43.4%	PICK N PAY STORES	-19.7%
CONSTELLIUM SE A	1.6%	ASM INTERNATIONAL	41.2%	QIAGEN (FRA)	-19.3%
TOKYO TATEMONO	1.6%	ENTERTAINMENT ONE (DI)	38.5%	ARGENX	-19.1%
NET ONE SYSTEMS	1.5%	PEGASUS HAVA TASIMACILIGI A LTD.	36.4%	VESUVIUS	-18.5%
LI NING	1.5%	MEGAPORT	33.8%	CCL INDS.'B'	-17.6%
		CONSTELLIUM SE A	26.6%	SPIRAX-SARCO ENGR.	-17.3%

Return Summary

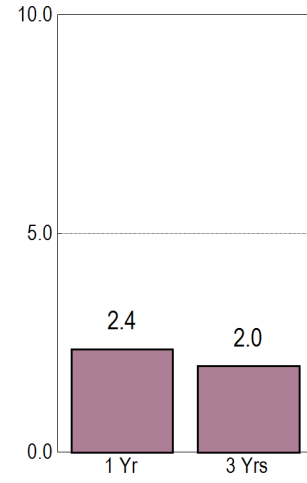
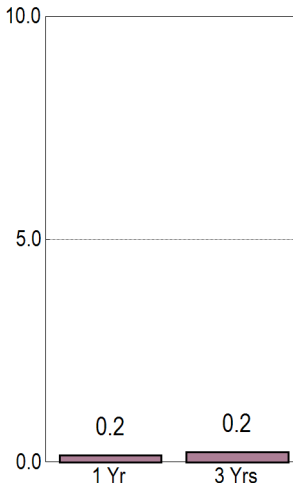
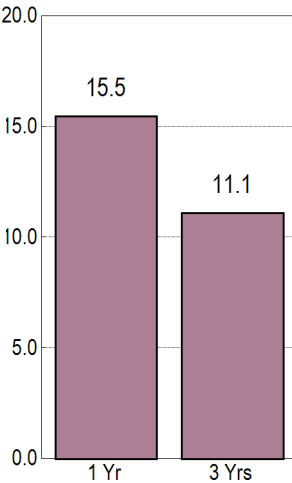
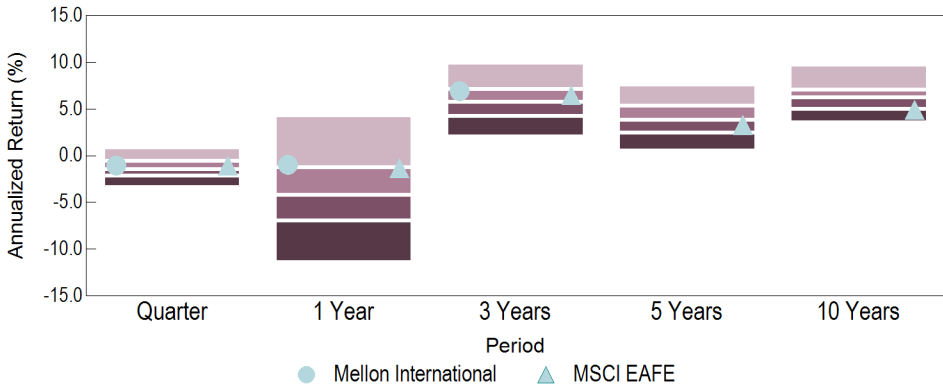


Current Allocation



	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Mellon International	-1.1	-1.0	6.9	--	--
MSCI EAFE	-1.1	-1.3	6.5	3.3	4.9
eV All EAFE Equity Net Median	-1.4	-4.1	5.8	3.9	6.3
eV All EAFE Equity Net Rank	41	24	30	--	--

Anzld. Std. Deviation	Tracking Error	Information Ratio
Mellon International	Mellon International	Mellon International

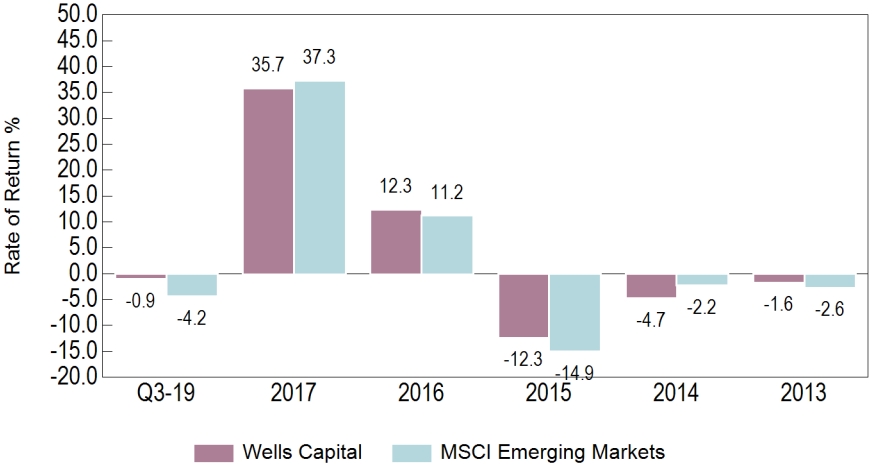


As of September 30, 2019

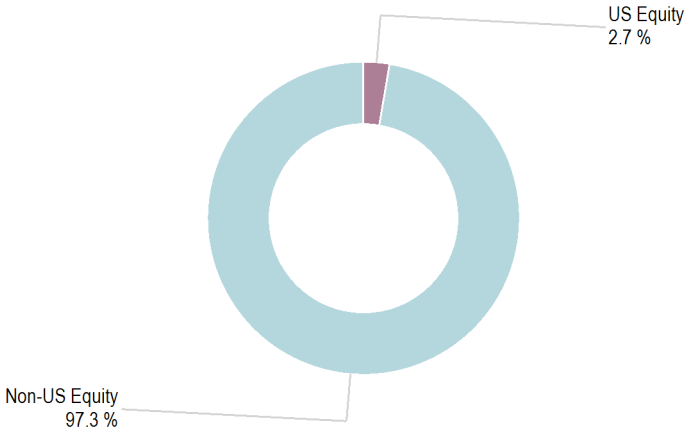
Account Information		Account Characteristics			Sector Distribution		
Account Name	Mellon International		Portfolio	Index		Portfolio	Index
Account Structure	Commingled Fund		Q3-19	Q3-19		Q3-19	Q3-19
Investment Style	Passive	Characteristics			Sector Distribution		
Inception Date	3/31/16	Weighted Avg.	60.3	59.7	Energy	5.1	5.1
Account Type	International	Market Cap. (\$B)			Materials	6.9	7.2
Benchmark	MSCI EAFE	Median Market Cap (\$B)	9.9	9.9	Industrials	14.6	14.8
Universe	eV All EAFE Equity Net	P/E Ratio	15.9	15.8	Consumer	11.2	11.4
		Yield	3.3	3.3	Discretionary	11.9	11.8
		EPS Growth - 5 Yrs.	7.0	7.0	Consumer Staples	11.5	11.3
		Price to Book	2.3	2.3	Health Care	18.4	18.8
		Beta (holdings; domestic)	1.0	1.0	Financials	6.7	6.8
					Information Technology	5.3	5.4
					Communication Services	3.8	3.7
					Utilities	3.5	3.5
					Real Estate		

Top Holdings		Best Performers		Worst Performers	
NESTLE 'R'	2.4%		Return %		Return %
ROCHE HOLDING	1.5%	ADVANTEST	60.5%	MICRO FOCUS INTL.	-44.4%
NOVARTIS 'R'	1.3%	CASINO GUICHARD-P	39.7%	YANGZIJIANG SHIPBUILDING (HOLDINGS)	-38.6%
HSBC HOLDINGS	1.1%	TOKYO ELECTRON	36.9%	CIMIC GROUP	-31.0%
TOYOTA MOTOR	1.1%	NIPPON PAINT HOLDINGS	33.8%	IPSEN	-30.5%
BP	0.9%	LENLEASE GROUP STAPLED UNITS	32.2%	EVRAZ	-28.0%
ROYAL DUTCH SHELL A(LON)	0.9%	M3	31.7%	AIB GROUP	-27.5%
TOTAL	0.9%	RENESAS ELECTRONICS	30.8%	KONICA MINOLTA	-27.1%
ASTRAZENECA	0.8%	LONDON STOCK EX.GROUP	29.4%	TEVA PHARM.INDS.ADR 1:1	-25.5%
SAP	0.8%	BANDAI NAMCO HDG.	28.7%	KERRY PROPERTIES	-25.5%
		KAKAKU.COM	28.4%	YAMATO HDG.	-25.4%

Return Summary

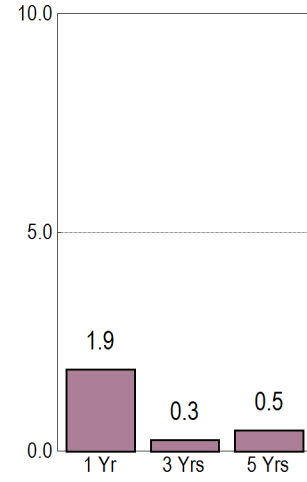
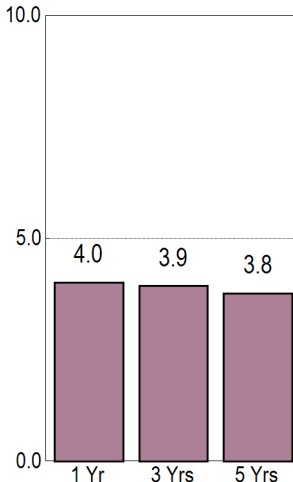
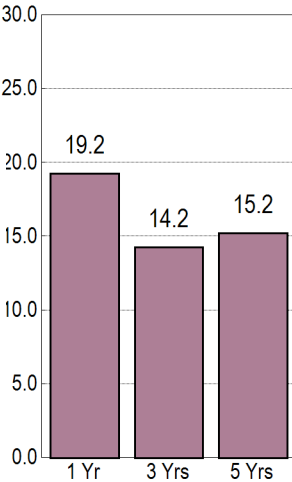
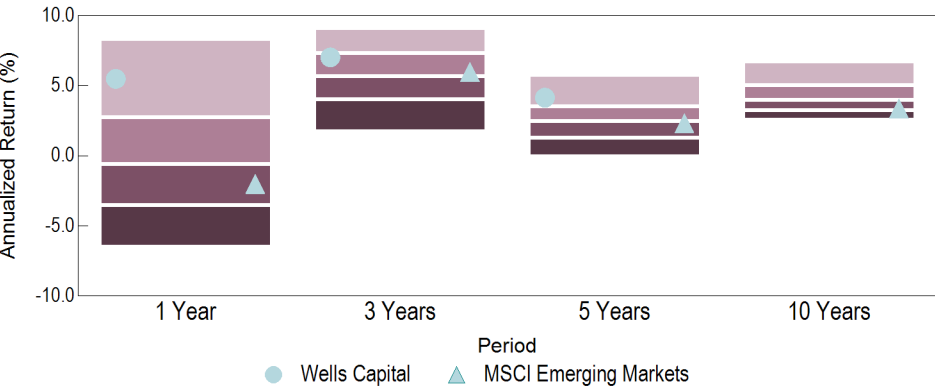


Current Allocation



	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Wells Capital	5.5	7.0	4.1	--
MSCI Emerging Markets	-2.0	6.0	2.3	3.4
eV Emg Mkts Equity Net Median	-0.6	5.7	2.5	4.0
eV Emg Mkts Equity Net Rank	11	30	20	--

Anzld. Std. Deviation	Tracking Error	Information Ratio
Wells Capital	Wells Capital	Wells Capital

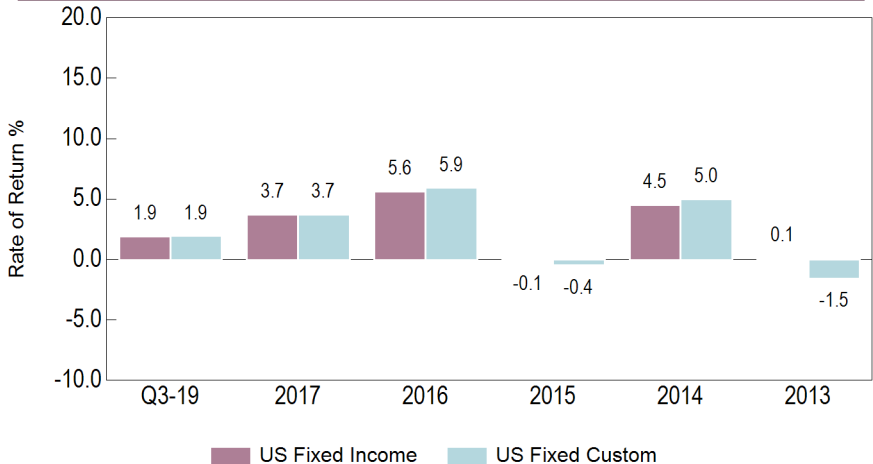


As of September 30, 2019

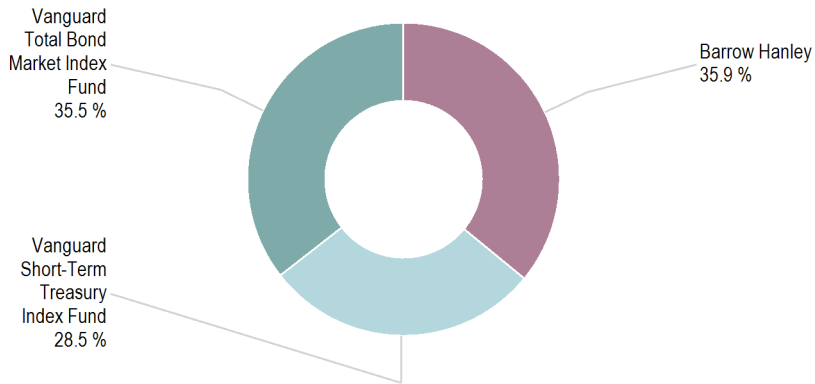
Account Information		Account Characteristics			Sector Distribution		
Account Name	Wells Capital		Portfolio	Index		Portfolio	Index
Account Structure	Commingled Fund		Q3-19	Q3-19		Q3-19	Q3-19
Investment Style	Active	Characteristics			Sector Distribution		
Inception Date	3/31/12	Weighted Avg.	77.8	80.2	Energy	5.6	7.7
Account Type	International Emerging Stocks	Market Cap. (\$B)			Materials	1.3	7.4
Benchmark	MSCI Emerging Markets	Median Market Cap (\$B)	9.9	5.3	Industrials	3.1	5.4
Universe	eV Emg Mkts Equity Net	P/E Ratio	17.6	13.6	Consumer	18.2	13.3
		Yield	2.6	3.1	Discretionary		
		EPS Growth - 5 Yrs.	7.9	12.9	Consumer Staples	17.7	6.6
		Price to Book	2.7	2.4	Health Care	0.7	2.7
		Beta (holdings; domestic)	1.0	1.1	Financials	18.6	24.9
					Information Technology	14.5	14.7
					Communication Services	17.8	11.6
					Utilities	0.0	2.8
					Real Estate	1.8	2.9

Top Holdings		Best Performers		Worst Performers	
SAMSUNG ELECTRONICS	5.0%		Return %		Return %
TENCENT HOLDINGS	3.7%	PINDUODUO ADR 1:4	56.2%	JUMIA TECHS.AMER. DEPY. SHS.1:2	-70.0%
TAIWAN SEMICON.SPN.ADR 1:5	3.4%	B2W COMPANHIA DIGITAL ON	37.6%	FINVOLUTION GROUP ADR 1:5	-33.3%
HDFC BANK ADR 1:3	3.2%	NAVER	32.9%	JIANPU TECHNOLOGY ADR 2:5	-33.2%
CHINA MOBILE	3.0%	CHINA MEIDONG AUTO HDG.	28.2%	CHINA LITERATURE	-27.8%
ALIBABA GROUP HOLDING ADR 1:8	2.6%	HAPVIDA PARTP.E INVMS.ON	26.2%	SHOPRITE	-26.6%
RELIANCE INDUSTRIES GDR	2.4%	LI NING	21.7%	GREENTREE HOSPLTY. GP. ADR 1:1	-23.1%
AIA GROUP	2.3%	MEDIATEK	21.0%	IQIYI ADS.1:7 ADR	-21.9%
LI NING	2.3%	BRF SPONSORED ADR 1:1	20.5%	TRIP COM GROUP ADR 8:1	-20.6%
UNI-PRESIDENT ENTS.	2.1%	TAIWAN SEMICON.SPN.ADR 1:5	19.5%	SAMSUNG LIFE INSURANCE	-17.9%
		HEADHUNTER GROUP ADR 1:1	18.7%	BNC.STDR.M XICO INSTITUCI N DBA.M LTIPL	-17.6%

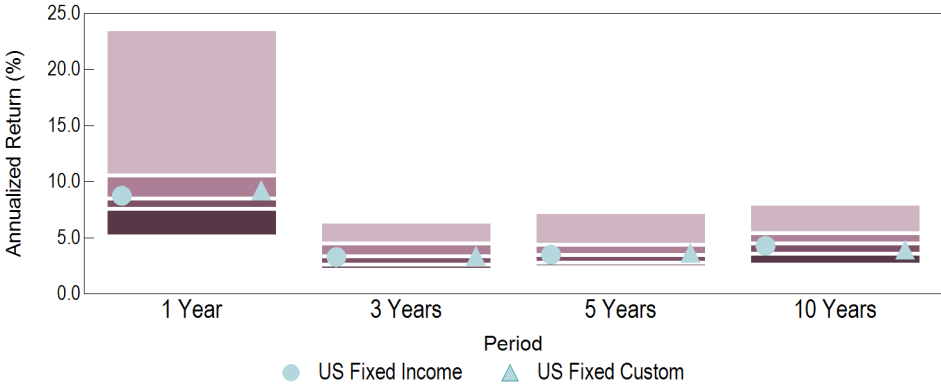
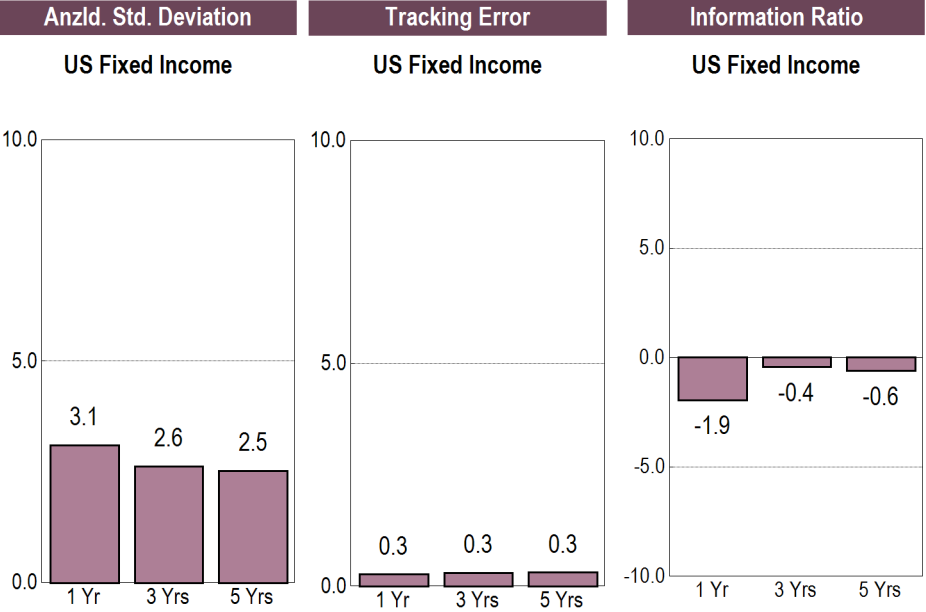
Return Summary



Current Allocation



	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
US Fixed Income	8.7	3.3	3.5	4.3
<i>US Fixed Custom</i>	9.2	3.4	3.7	3.9
<i>InvMetrics All DB US Fix Inc Net Median</i>	8.5	3.4	3.5	4.5
<i>InvMetrics All DB US Fix Inc Net Rank</i>	49	56	50	59



US Fixed Income

As of September 30, 2019

US Fixed Income Fixed Income Characteristics
 vs. BBgBarc US Aggregate TR

	Portfolio	Index	Portfolio	Index
	Q3-19	Q3-19	Q2-19	Q2-19
Fixed Income Characteristics				
Yield to Maturity	2.13	2.27	2.33	2.42
Average Duration	4.81	6.32	4.74	6.14
Average Quality	AA	AA	AA	AA
Weighted Average Maturity	8.14	13.11	8.13	13.01

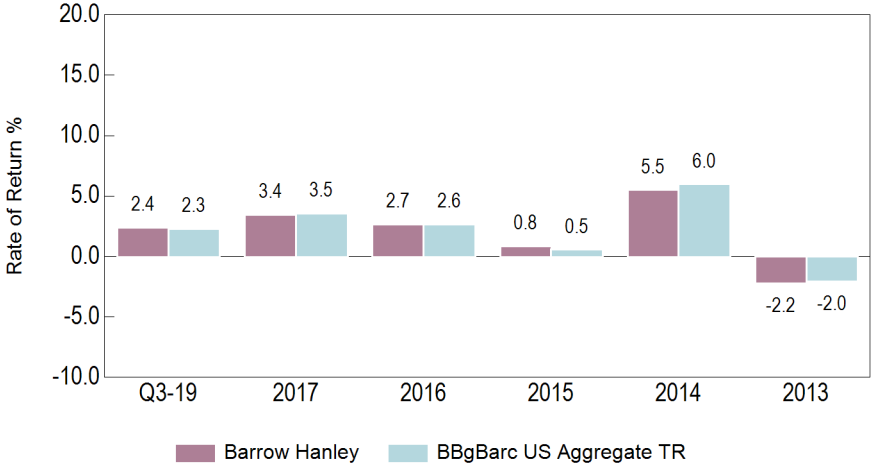
US Fixed Income Fixed Income Duration
 vs. BBgBarc US Aggregate TR

	Portfolio	Index	Portfolio	Index
	Q3-19	Q3-19	Q2-19	Q2-19
Credit Quality Allocation				
AAA	74.51	71.98	75.27	72.16
AA	2.52	3.46	2.42	3.44
A	10.27	10.68	10.01	10.68
BBB	12.71	13.86	12.30	13.72

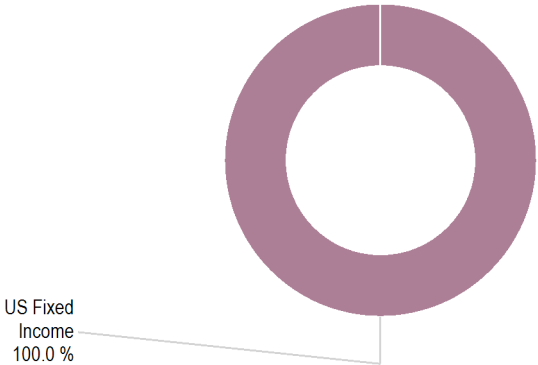
US Fixed Income Fixed Income Sector Allocation
 vs. BBgBarc US Aggregate TR

	Portfolio	Index	Portfolio	Index
	Q3-19	Q3-19	Q2-19	Q2-19
US Sector Allocation				
UST/Agency	52.10	42.29	51.59	42.04
Corporate	23.06	25.15	22.49	25.00
MBS	19.50	28.87	20.27	29.22
ABS	2.41	0.45	2.54	0.46
Foreign	2.36	2.31	1.93	2.35
Muni	--	0.93	0.65	0.92
Other	0.02	--	0.02	--
Cash	0.54	--	0.52	--

Return Summary

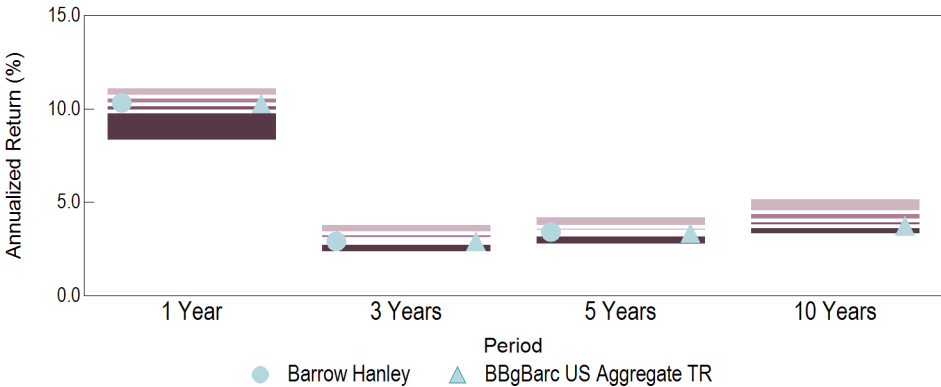
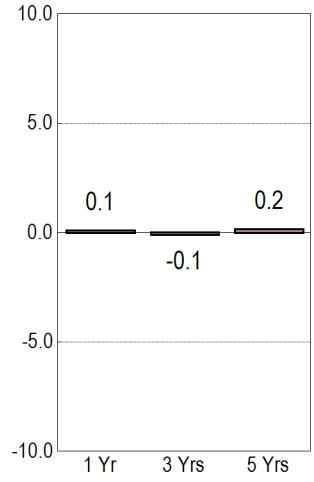
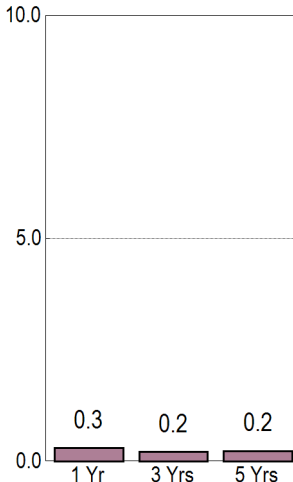
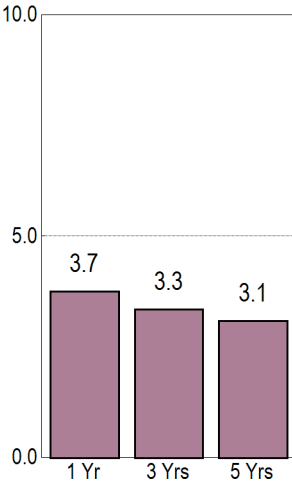


Current Allocation



	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Barrow Hanley	10.3	2.9	3.4	--
BBgBarc US Aggregate TR	10.3	2.9	3.4	3.7
eV US Core Fixed Inc Net Median	10.3	3.1	3.5	4.0
eV US Core Fixed Inc Net Rank	46	68	57	--

Anzld. Std. Deviation	Tracking Error	Information Ratio
Barrow Hanley	Barrow Hanley	Barrow Hanley



Account Information		Fixed Income Characteristics			Fixed Income Characteristics		
Account Name	Barrow Hanley		Portfolio	Index		Portfolio	Index
Account Structure	Separate Account		Q3-19	Q3-19		Q3-19	Q3-19
Investment Style	Active	Fixed Income Characteristics			Credit Quality Allocation		
Inception Date	3/31/10	Yield to Maturity	2.35	2.27	AAA	61.61	71.98
Account Type	US Fixed Income Core	Average Duration	5.75	6.32	AA	3.53	3.46
Benchmark	BBgBarc US Aggregate TR	Average Quality	AA	AA	A	17.53	10.68
Universe	eV US Core Fixed Inc Net	Weighted Average Maturity	7.99	13.11	BBB	17.34	13.86



Vanguard Short-Term Treasury Index Fund

As of September 30, 2019

Description:

The investment seeks to track the performance of a market-weighted government bond index with a short-term dollar-weighted average maturity.

The fund employs an indexing investment approach designed to track the performance of the Bloomberg Barclays US Treasury 1-3 Year Bond Index. This index includes fixed income securities issued by the U.S. Treasury (not including inflation-protected securities), all with maturities between 1 and 3 years. At least 80% of the fund's assets will be invested in bonds included in the index.

Portfolio Fund Information as of September 30, 2019		Top Holdings as of September 30, 2019		Fund Characteristics as of September 30, 2019	
Ticker	VSBIX	UNITED STATES TREASURY NOTES 1.25%	2.46%	Sharpe Ratio (3 Year)	
Morningstar Category	Short Government	UNITED STATES TREASURY NOTES 2.25%	2.28%	Average Duration	1.91
Average Market Cap (\$mm)		UNITED STATES TREASURY NOTES 2.62%	2.24%	Effective Duration	1.91
Net Assets (\$mm)	981.91	UNITED STATES TREASURY NOTES 1.38%	2.13%	Modified Duration	
% Assets in Top 10 Holdings	21.07	UNITED STATES TREASURY NOTES 1.75%	2.12%	Average Coupon	2.01%
Total Number of Holdings	94	UNITED STATES TREASURY NOTES 1.75%	2.10%	Average Effective Maturity	2.00
Manager Name	Joshua C. Barrickman	UNITED STATES TREASURY NOTES 1.88%	1.99%	R-Squared (3 Year)	
Manager Tenure	7	UNITED STATES TREASURY NOTES 2.12%	1.97%	Alpha (3 Year)	
Expense Ratio	0.05%	UNITED STATES TREASURY NOTES 1.75%	1.91%	Beta (3 Year)	
Closed to New Investors	No	UNITED STATES TREASURY NOTES 1.25%	1.87%		

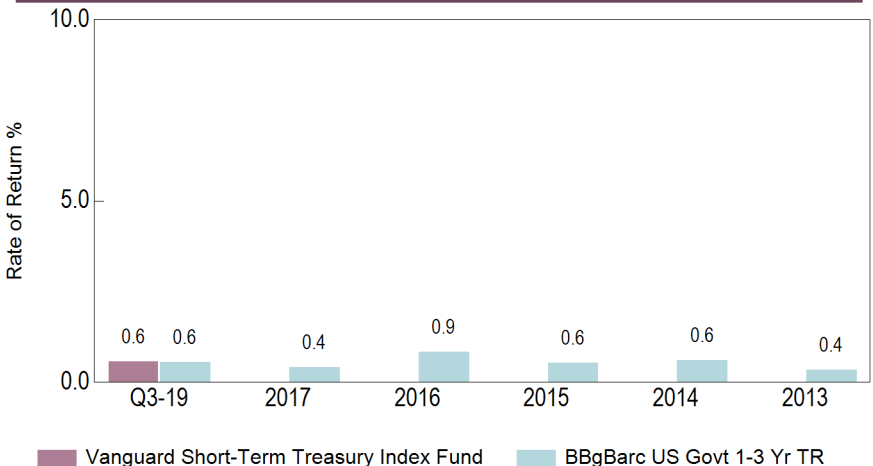
Maturities as of September 30, 2019		Fixed Income Sectors as of September 30, 2019		Credit Quality as of September 30, 2019	
1 to 3 Years	99.02%	GOVERNMENT	99.66%	AAA	99.66%
3 to 5 Years	0.98%	MUNICIPAL	0.00%	AA	0.00%
5 to 7 Years	0.00%	CORPORATE	0.00%	A	0.00%
7 to 10 Years	0.00%	SECURITIZED	0.00%	BBB	0.34%
10 to 15 Years	0.00%	CASH & EQUIVALENTS	0.34%	BB	0.00%
15 to 20 Years	0.00%	DERIVATIVE	0.00%	B	0.00%
20 to 30 Years	0.00%			Below B	0.00%
Greater than 30 Years	0.00%			Not Rated	0.00%



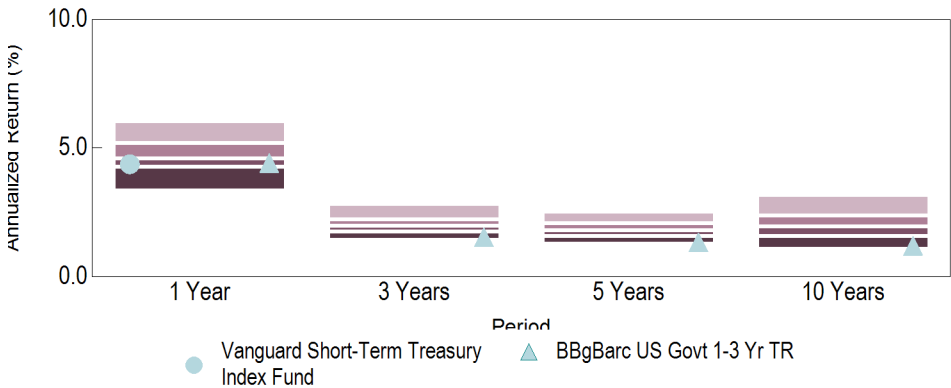
Vanguard Short-Term Treasury Index Fund

As of September 30, 2019

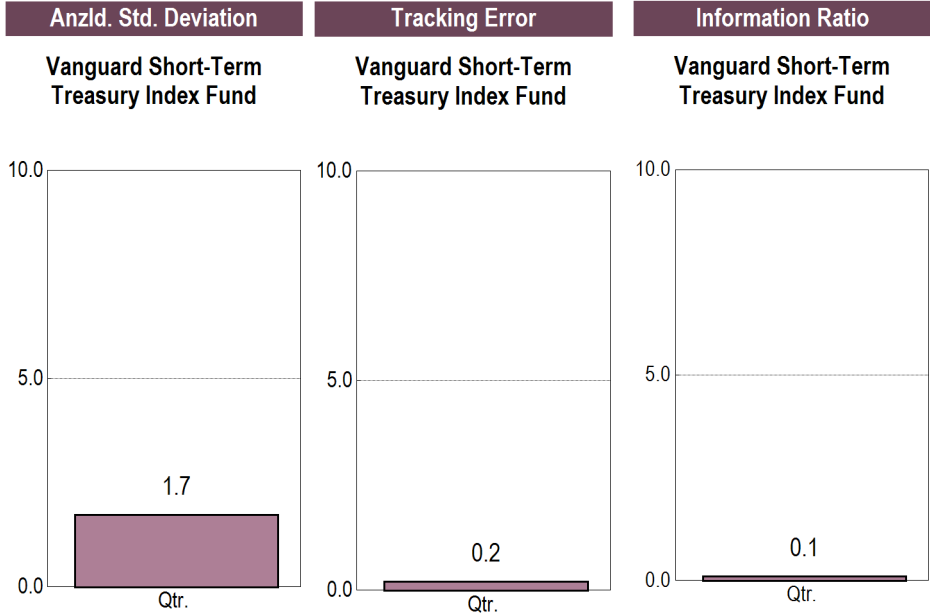
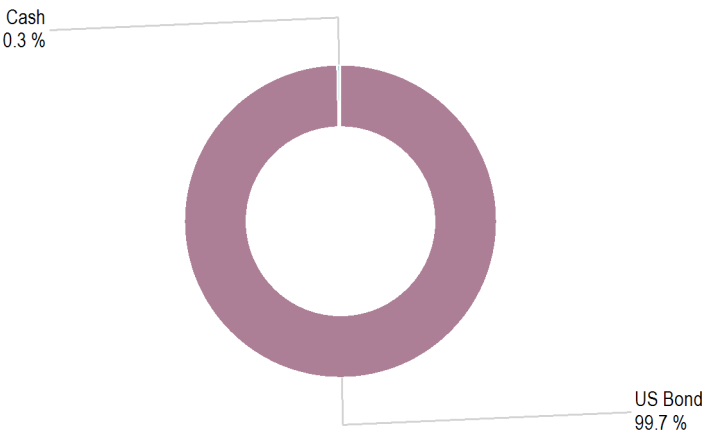
Return Summary



	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Vanguard Short-Term Treasury Index Fund	4.4	--	--	--
BBgBarc US Govt 1-3 Yr TR	4.4	1.5	1.3	1.2
eV US Short Duration Fixed Inc Net Median	4.6	2.0	1.8	2.0
eV US Short Duration Fixed Inc Net Rank	71	--	--	--



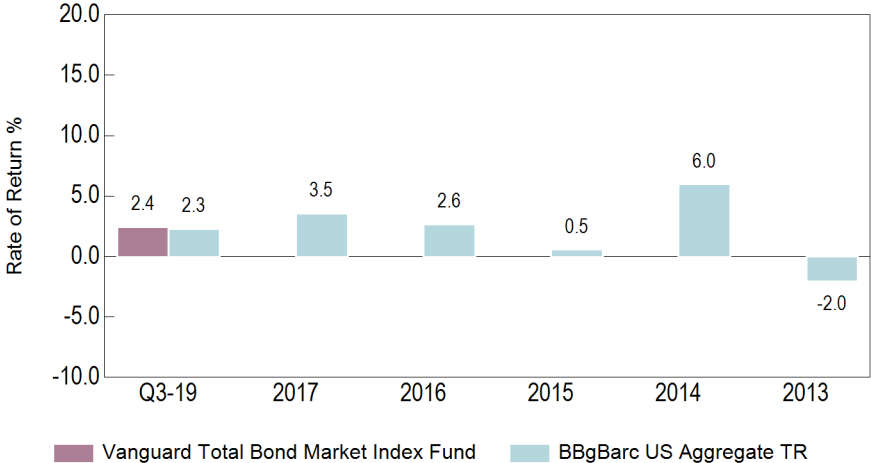
Mutual Fund Allocation as of September 30, 2019



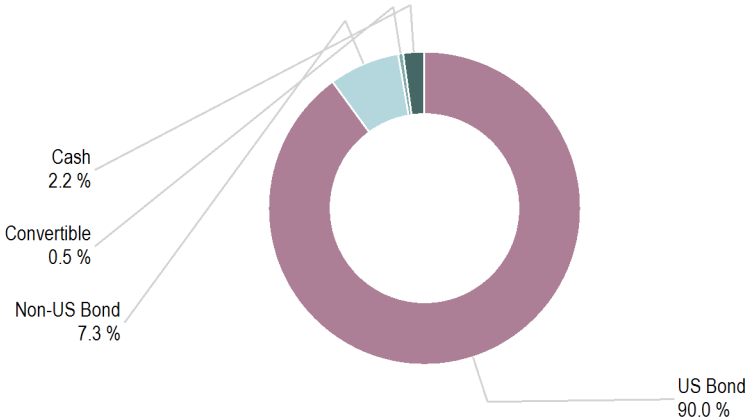
Vanguard Total Bond Market Index Fund

As of September 30, 2019

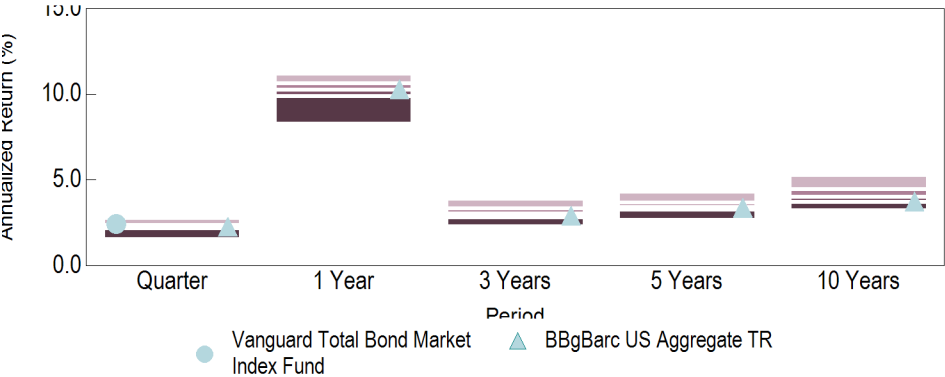
Return Summary



Mutual Fund Allocation as of September 30, 2019



	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Vanguard Total Bond Market Index Fund	2.4	--	--	--	--
BBgBarc US Aggregate TR	2.3	10.3	2.9	3.4	3.7
eV US Core Fixed Inc Net Median	2.3	10.3	3.1	3.5	4.0
eV US Core Fixed Inc Net Rank	20	--	--	--	--



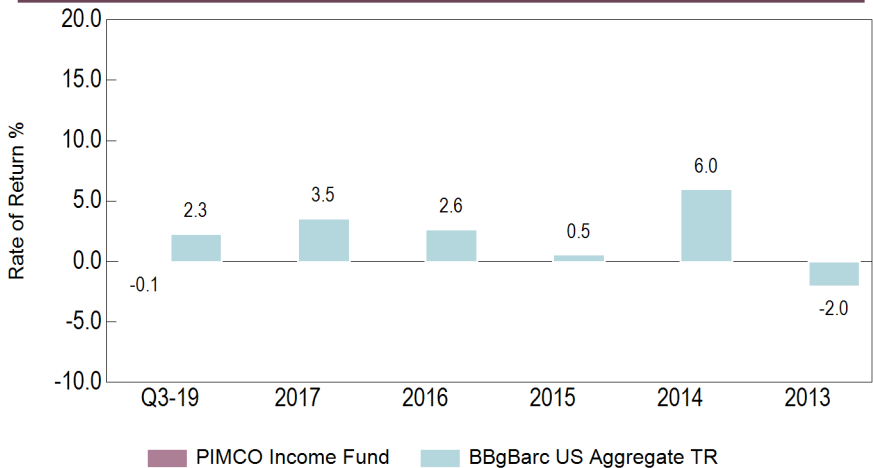
Vanguard Total Bond Market Index Fund

As of September 30, 2019

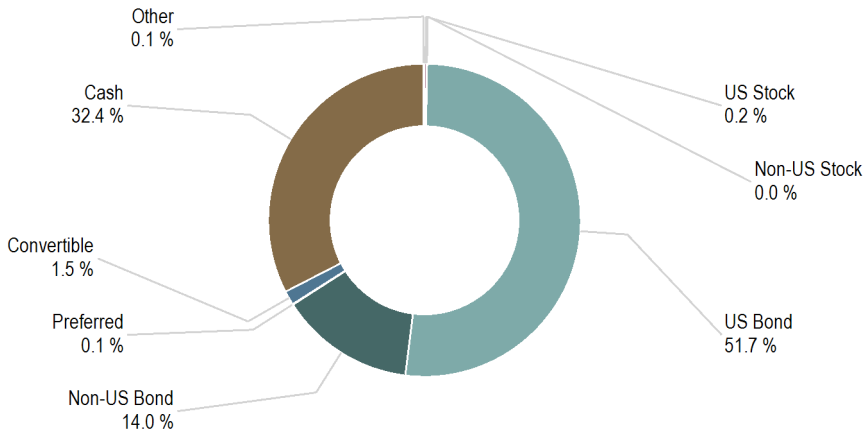
Account Information		Fixed Income Characteristics			Fixed Income Characteristics		
		Portfolio	Index		Portfolio	Index	
		Q3-19	Q3-19		Q3-19	Q3-19	
Account Name	Vanguard Total Bond Market Index Fund						
Account Structure	Mutual Fund						
Investment Style	Passive						
Inception Date	5/01/19						
Account Type	US Fixed Income						
Benchmark	BBgBarc US Aggregate TR						
Universe	eV US Core Fixed Inc Net						
		Fixed Income Characteristics		Credit Quality Allocation			
		Yield to Maturity	2.27	2.27	AAA	67.35	71.98
		Average Duration	6.20	6.32	AA	3.51	3.46
		Average Quality	AA	AA	A	11.17	10.68
		Weighted Average Maturity	8.30	13.11	BBB	17.97	13.86



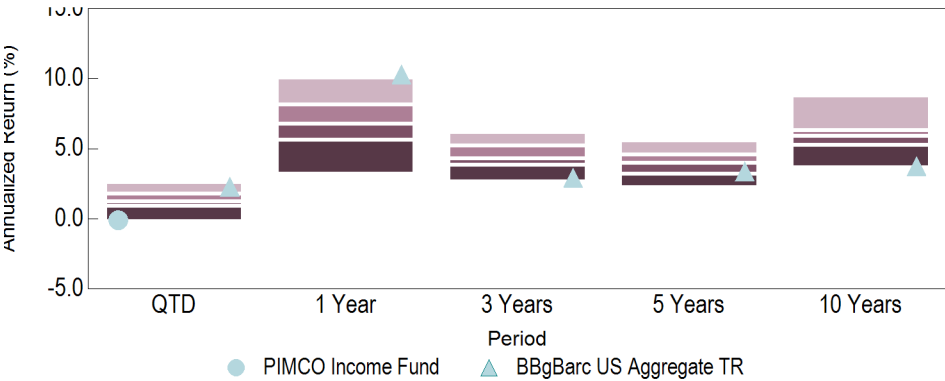
Return Summary



Mutual Fund Allocation as of June 30, 2019



	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
PIMCO Income Fund	-0.1	--	--	--	--
BBgBarc US Aggregate TR	2.3	10.3	2.9	3.4	3.7
Multisector Bond MStar MF Median	1.3	6.8	4.3	4.0	5.9
Multisector Bond MStar MF Rank	95	--	--	--	--



PIMCO Income Fund

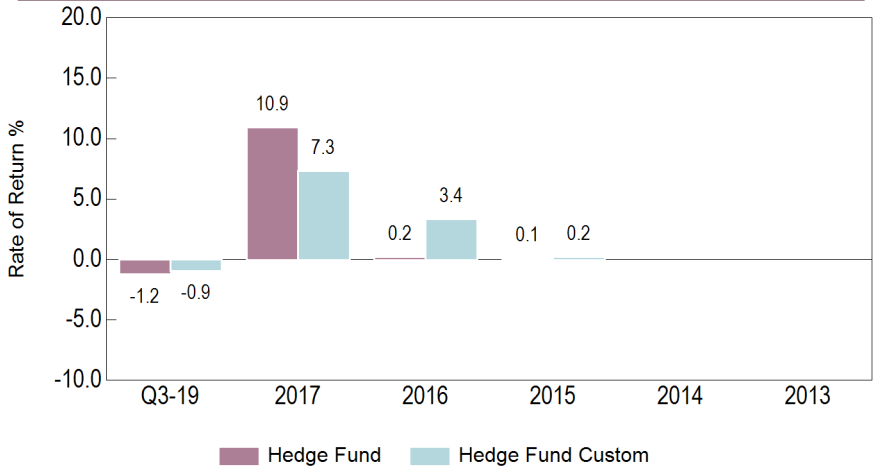
As of September 30, 2019

Account Information		Fixed Income Characteristics			Fixed Income Characteristics		
		Portfolio	Index		Portfolio	Index	
		Q3-19	Q3-19		Q3-19	Q3-19	
Account Name	PIMCO Income Fund						
Account Structure	Mutual Fund						
Investment Style	Active						
Inception Date	4/30/19						
Account Type	Client Directed Opportunistic						
Benchmark	BBgBarc US Aggregate TR						
Universe	Multisector Bond MStar MF						
		Fixed Income Characteristics			Credit Quality Allocation		
		Yield to Maturity	--	2.27	AAA	36.90	71.98
		Average Duration	0.41	6.32	AA	4.20	3.46
		Average Quality	BBB	AA	A	8.80	10.68
		Weighted Average Maturity	--	13.11	BBB	9.50	13.86
					BB	12.80	--
					B	14.30	--
					CCC	13.50	--

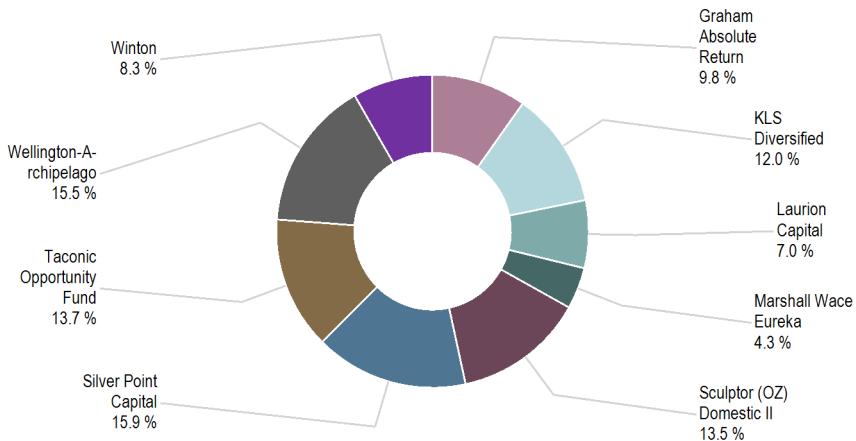


As of September 30, 2019

Return Summary

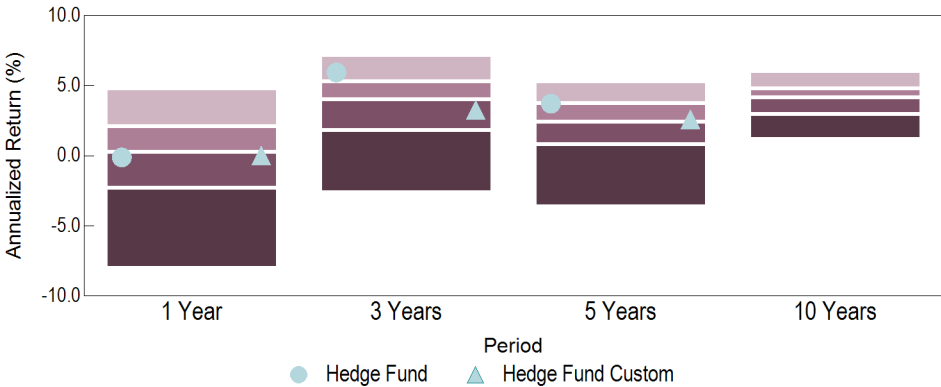
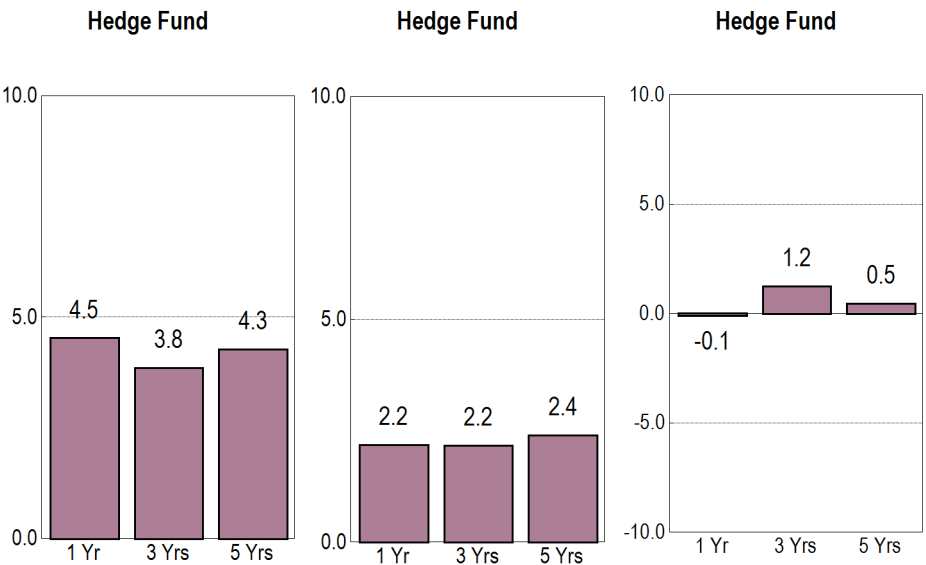


Current Allocation

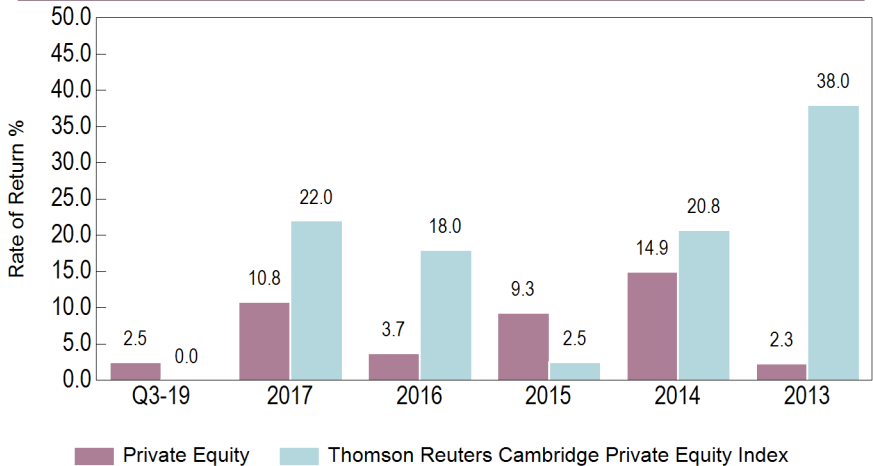


	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Hedge Fund	-0.1	5.9	3.7	--
<i>Hedge Fund Custom</i>	0.0	3.3	2.6	--
<i>InvMetrics All DB Hedge Funds Net Median</i>	0.3	4.0	2.4	4.2
<i>InvMetrics All DB Hedge Funds Net Rank</i>	55	16	27	--

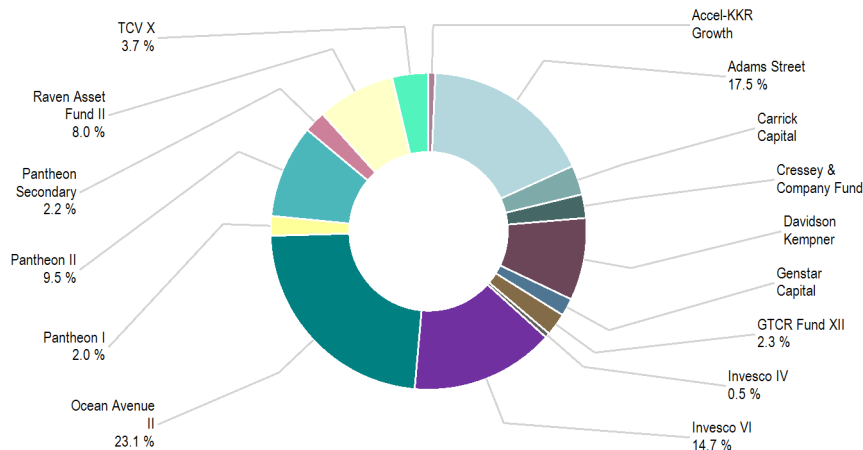
Anzld. Std. Deviation Tracking Error Information Ratio



Return Summary



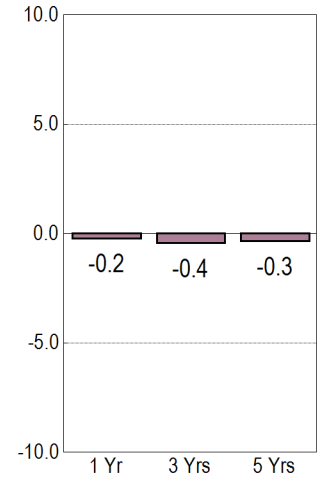
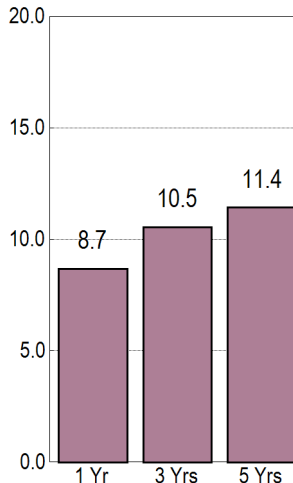
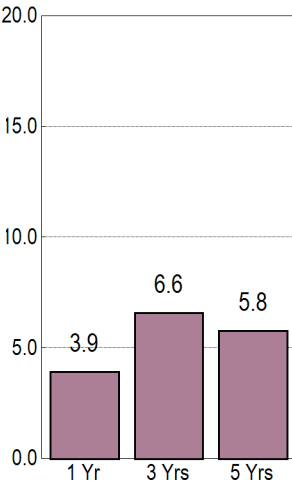
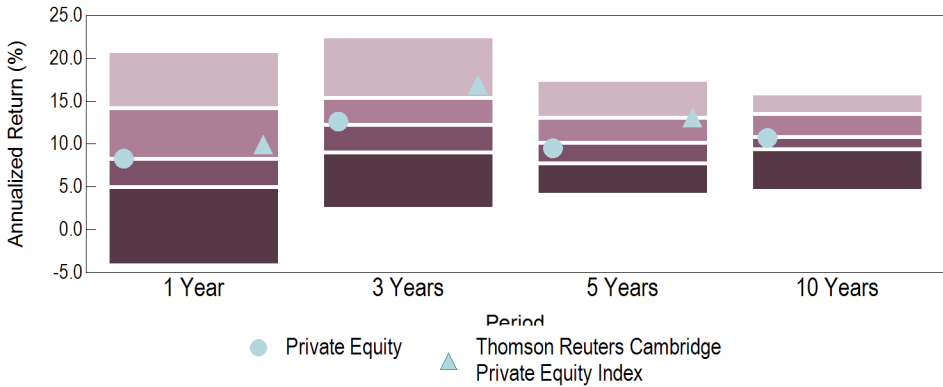
Current Allocation



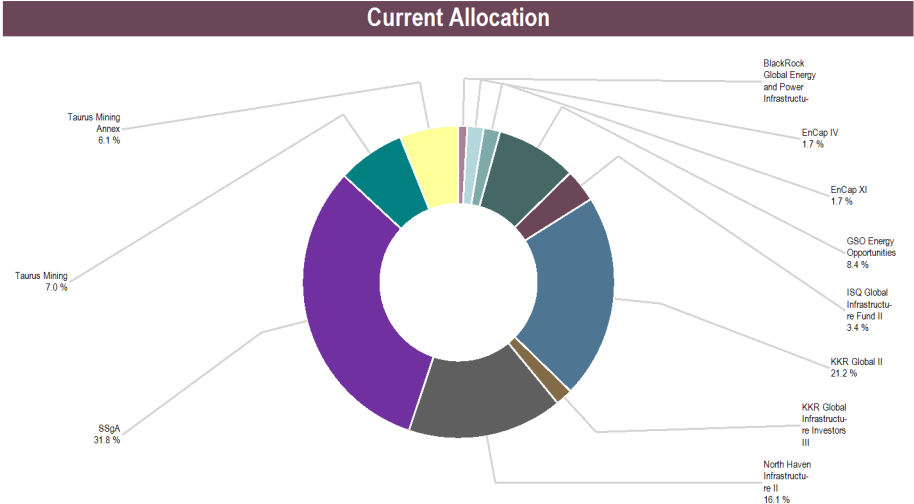
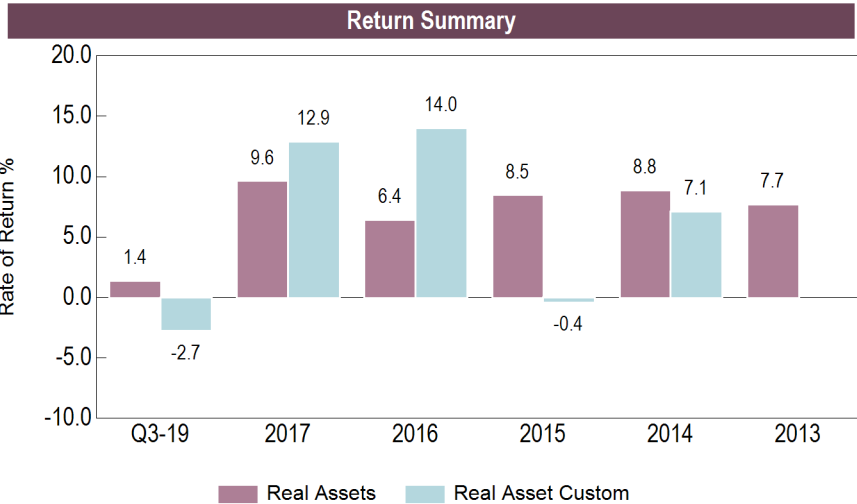
	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Private Equity	8.3	12.6	9.5	10.7
Thomson Reuters Cambridge Private Equity Index	9.9	16.9	13.1	--
InvMetrics All DB Private Eq Net Median	8.3	12.2	10.2	10.9
InvMetrics All DB Private Eq Net Rank	50	43	59	55

Anzld. Std. Deviation Tracking Error Information Ratio

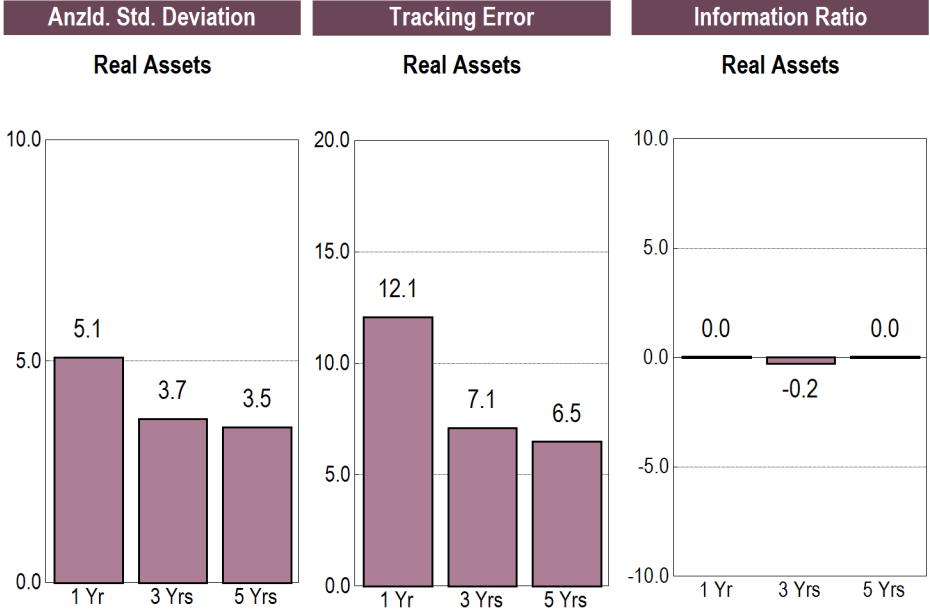
Private Equity Private Equity Private Equity



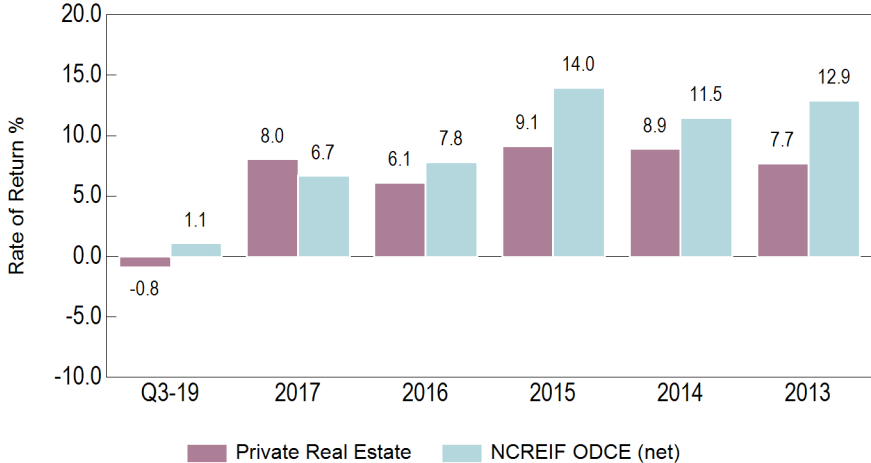
As of September 30, 2019



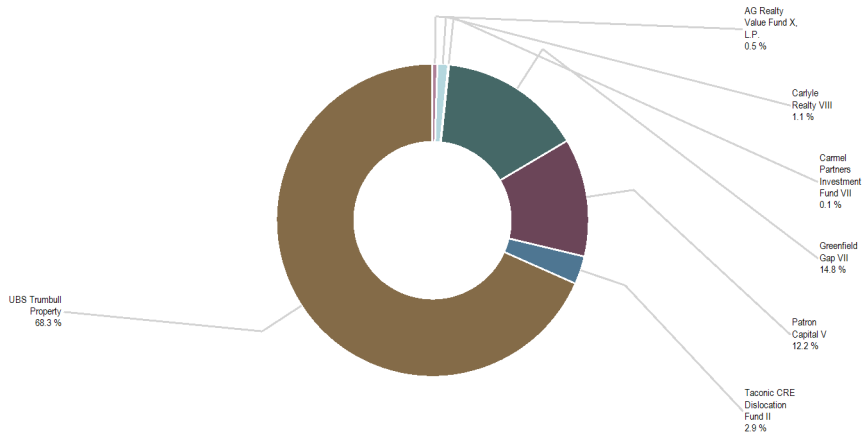
	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Real Assets	9.5	7.3	8.0	--
Real Asset Custom	9.3	9.1	7.7	--
InvMetrics All DB Real Assets/Commodities Net Median	5.1	5.0	3.7	7.6
InvMetrics All DB Real Assets/Commodities Net Rank	14	30	23	--



Return Summary

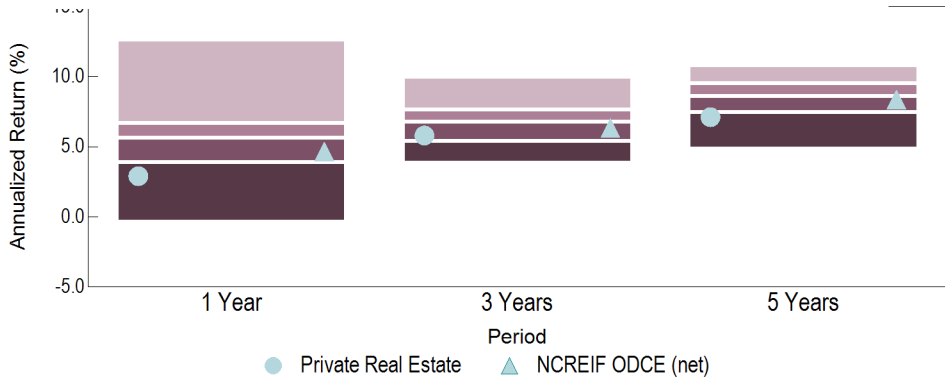
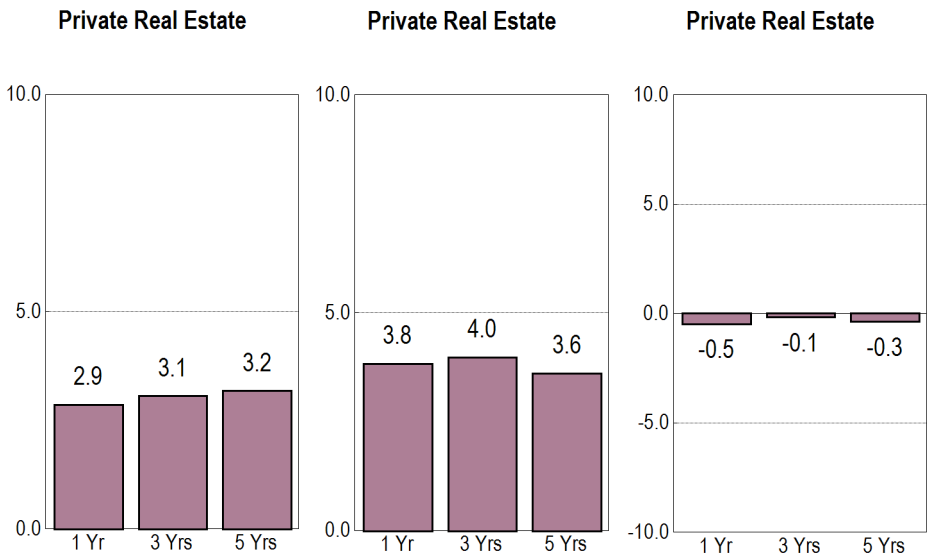


Current Allocation

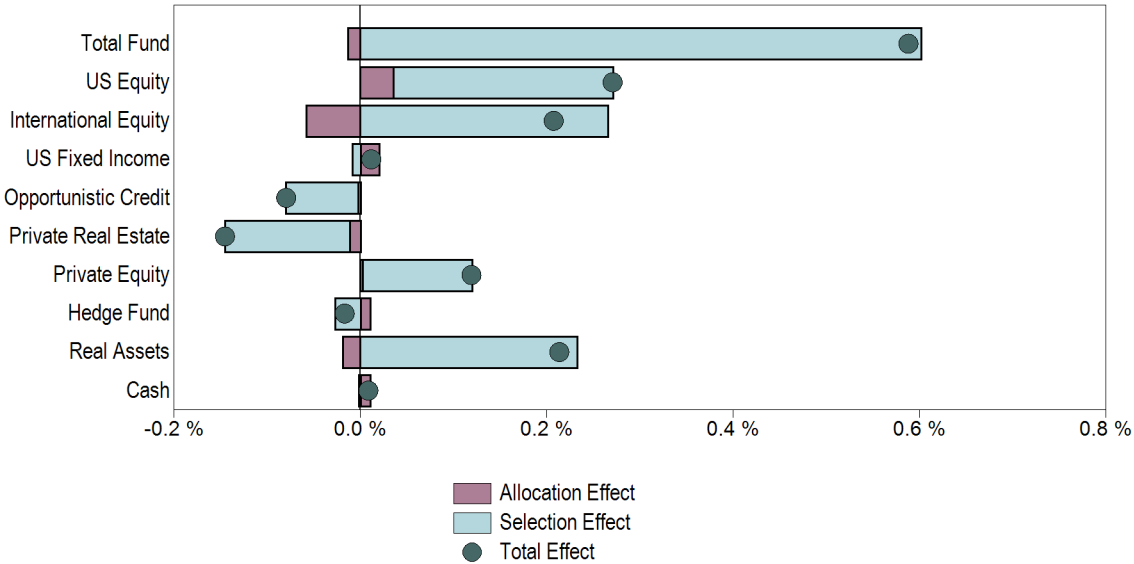


	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Private Real Estate	2.9	5.8	7.1	--
NCREIF ODCE (net)	4.6	6.3	8.4	9.8
InvMetrics All DB Real Estate Pub+Priv Net Rank	87	68	88	--
InvMetrics All DB Real Estate Pub+Priv Net Median	5.7	6.8	8.6	9.9

Anzld. Std. Deviation Tracking Error Information Ratio



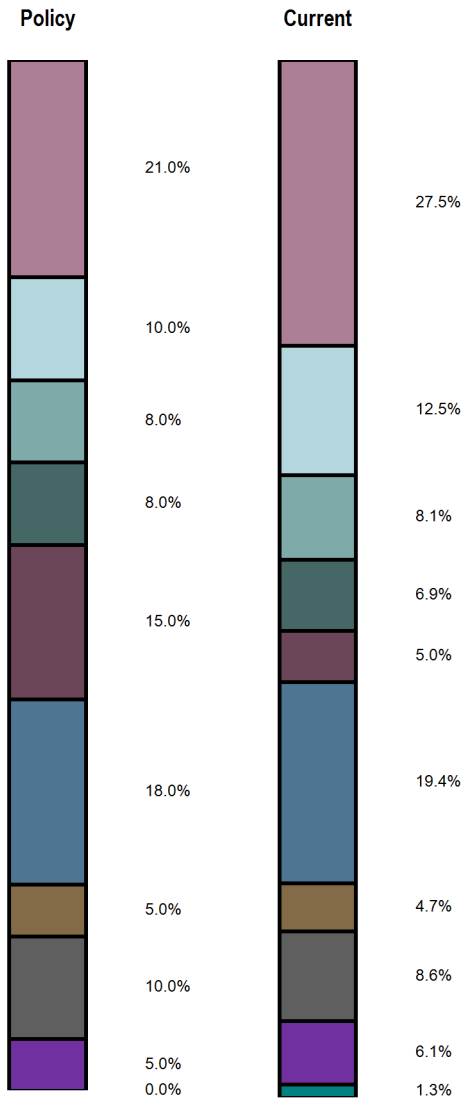
Attribution Effects
3 Months Ending September 30, 2019



3 Months Ending September 30, 2019							
	Policy Wtd. Weight	Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
US Equity	21.0%	1.5%	0.7%	0.9%	0.2%	0.0%	0.3%
International Equity	18.0%	-1.0%	-2.4%	1.3%	0.3%	-0.1%	0.2%
US Fixed Income	18.0%	1.9%	1.9%	0.0%	0.0%	0.0%	0.0%
Opportunistic Credit	5.0%	0.1%	1.7%	-1.6%	-0.1%	0.0%	-0.1%
Private Real Estate	8.0%	-0.8%	1.1%	-1.9%	-0.1%	0.0%	-0.1%
Private Equity	15.0%	2.5%	0.0%	2.5%	0.1%	0.0%	0.1%
Hedge Fund	10.0%	-1.2%	-0.9%	-0.3%	0.0%	0.0%	0.0%
Real Assets	5.0%	1.4%	-2.7%	4.1%	0.2%	0.0%	0.2%
Cash	0.0%	0.4%	0.5%	-0.1%	0.0%	0.0%	0.0%
Total	100.0%	0.6%	0.0%	0.6%	0.6%	0.0%	0.6%



Performance Update As of October 31, 2019

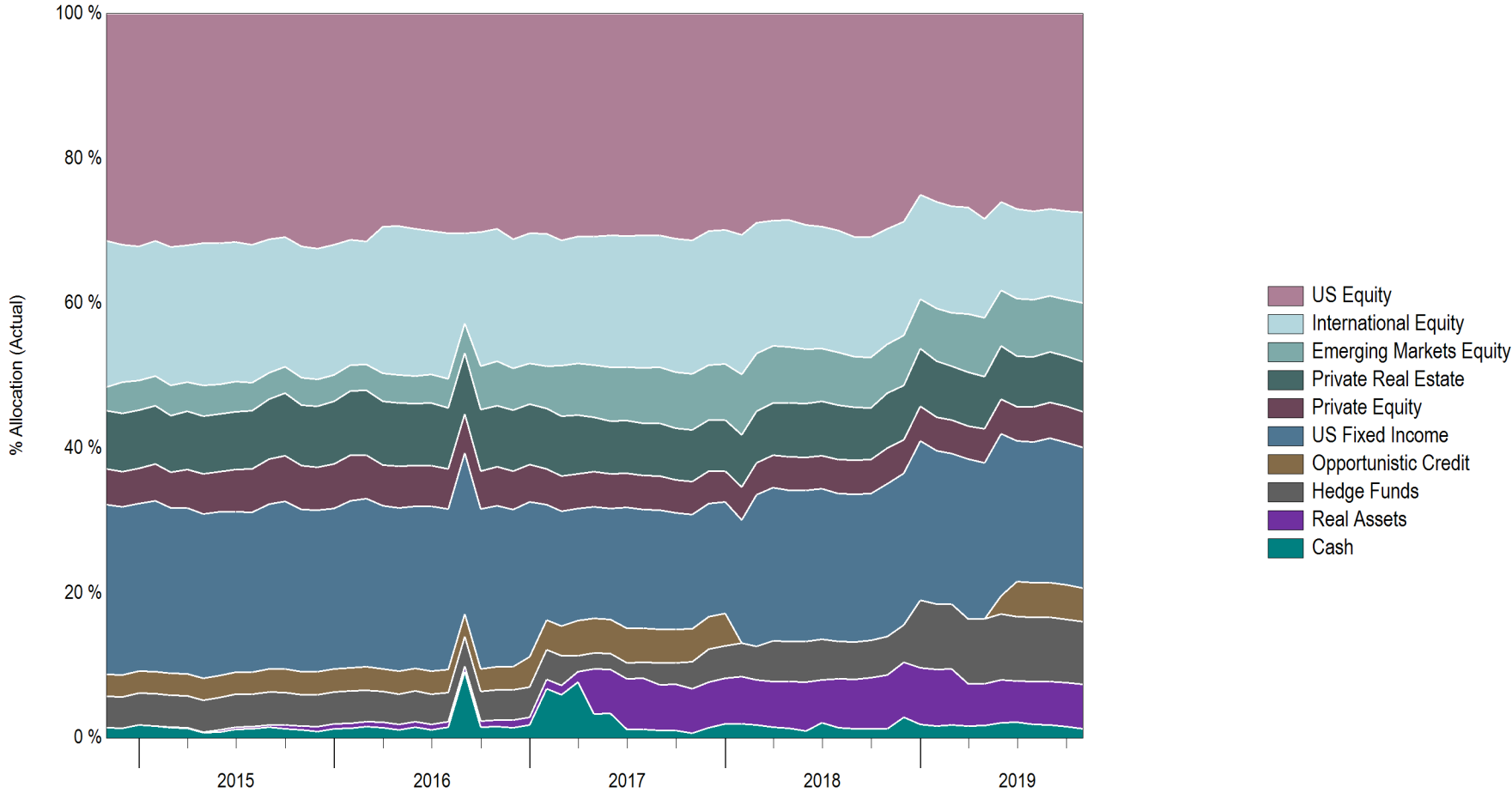


Allocation vs. Targets and Policy							
	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?	
US Equity	\$241,560,374	27.5%	21.0%	6.5%	15.0% - 26.0%	No	
International Equity	\$109,818,401	12.5%	10.0%	2.5%	5.0% - 15.0%	Yes	
Emerging Markets Equity	\$71,566,148	8.1%	8.0%	0.1%	4.0% - 12.0%	Yes	
Private Real Estate	\$60,598,787	6.9%	8.0%	-1.1%	6.0% - 10.0%	Yes	
Private Equity	\$43,552,022	5.0%	15.0%	-10.0%	5.0% - 20.0%	No	
US Fixed Income	\$170,361,190	19.4%	18.0%	1.4%	13.0% - 23.0%	Yes	
Opportunistic Credit	\$41,269,725	4.7%	5.0%	-0.3%	3.0% - 7.0%	Yes	
Hedge Funds	\$75,962,795	8.6%	10.0%	-1.4%	5.0% - 15.0%	Yes	
Real Assets	\$53,719,160	6.1%	5.0%	1.1%	3.0% - 7.0%	Yes	
Cash	\$11,311,990	1.3%	0.0%	1.3%	0.0% - 5.0%	Yes	
Total	\$879,720,591	100.0%	100.0%				

Cash range displayed for illustrative purposes only.



Asset Allocation History
5 Years Ending October 31, 2019



As of October 31, 2019

Asset Class Performance Summary

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund (Net)*	879,720,591	100.0	1.6	1.6	2.2	13.4	10.1	8.8	6.4	8.4	8.0	Dec-94
Total Fund (Gross)*			1.6	1.6	2.3	13.6	10.3	9.0	6.7	8.7	8.1	
<i>Policy Index</i>			1.4	1.4	1.4	12.2	9.3	8.7	6.7	8.6	6.0	Dec-94
Total Fund w/o Alternatives (Net)	634,575,838	72.1	2.1	2.1	3.0	17.0	12.7	9.6	6.6	--	--	Dec-94
Total Fund w/o Alternatives (Gross)			2.2	2.2	3.0	17.2	12.9	9.9	6.9	--	--	
<i>Policy Index w/o AI</i>			2.2	2.2	2.3	15.4	11.7	9.2	6.4	--	--	Dec-94
US Equity (Net)	241,560,374	27.5	2.2	2.2	3.8	24.3	14.4	15.3	11.1	13.8	10.1	Dec-94
US Equity (Gross)			2.2	2.2	3.8	24.6	14.7	15.5	11.3	14.0	10.1	
<i>80% R1000 / 20% R2000</i>			2.2	2.2	2.9	21.9	12.3	14.0	10.0	13.4	9.9	Dec-94
International Equity (Net)	181,384,549	20.6	4.3	4.3	3.2	18.3	13.7	8.5	4.1	5.9	5.2	Dec-98
International Equity (Gross)			4.4	4.4	3.4	18.7	14.2	8.9	4.6	6.4	5.5	
<i>International Equity Custom</i>			3.9	3.9	1.4	14.5	11.0	8.6	4.3	5.3	4.3	Dec-98
Developed International Equity (Net)	109,818,401	12.5	3.7	3.7	2.5	17.2	10.7	8.3	4.0	6.1	3.4	Jan-08
Developed International Equity (Gross)			3.7	3.7	2.6	17.4	10.8	8.4	4.3	6.6	3.8	
<i>MSCI EAFE</i>			3.6	3.6	2.5	16.9	11.0	8.5	4.3	5.4	2.6	Jan-08
Emerging Markets Equity (Net)	71,566,148	8.1	5.4	5.4	4.4	20.4	20.7	8.9	4.9	--	3.9	Apr-12
Emerging Markets Equity (Gross)			5.4	5.4	4.7	21.4	21.8	9.9	5.9	--	4.9	
<i>MSCI Emerging Markets</i>			4.2	4.2	-0.2	10.4	11.9	7.4	2.9	3.8	2.7	Apr-12
US Fixed Income (Net)	170,361,190	19.4	0.3	0.3	2.2	7.5	9.7	3.5	3.4	4.2	5.4	Dec-94
US Fixed Income (Gross)			0.3	0.3	2.2	7.6	9.9	3.7	3.6	4.5	5.5	
<i>US Fixed Custom</i>			0.3	0.3	2.2	7.8	10.2	3.6	3.5	3.9	5.7	Dec-94
Opportunistic Credit (Net)	41,269,725	4.7	0.3	0.3	0.4	--	--	--	--	--	2.1	May-19
Opportunistic Credit (Gross)			0.3	0.3	0.4	--	--	--	--	--	2.1	
<i>50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans</i>			0.1	0.1	1.8	--	--	--	--	--	3.6	May-19

Data prior to March 2018 provided by prior consultant



As of October 31, 2019

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Real Estate (Net)	60,598,787	6.9	0.0	0.0	-0.8	1.6	1.6	6.0	6.9	--	--	Mar-99
Private Real Estate (Gross)			0.0	0.0	-0.8	1.6	1.6	6.0	7.5	9.1	8.4	
<i>NCREIF ODCE (net)</i>			<i>0.0</i>	<i>0.0</i>	<i>1.1</i>	<i>3.1</i>	<i>4.6</i>	<i>6.3</i>	<i>8.4</i>	<i>9.8</i>	<i>7.3</i>	<i>Mar-99</i>
Private Equity (Net)	43,552,022	5.0	0.0	0.0	2.5	6.4	6.4	11.8	9.6	10.7	8.1	Jun-05
Private Equity (Gross)			0.0	0.0	2.5	6.4	6.4	11.8	9.6	10.9	8.2	
<i>Thomson Reuters Cambridge Private Equity Index</i>			<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>10.2</i>	<i>9.9</i>	<i>15.3</i>	<i>13.5</i>	<i>--</i>	<i>--</i>	<i>Jun-05</i>
Hedge Fund (Net)	75,962,795	8.6	0.2	0.2	-1.0	5.0	2.0	6.0	3.8	--	3.6	Jun-14
Hedge Fund (Gross)			0.2	0.2	-0.9	5.3	2.4	6.2	3.9	--	3.7	
<i>Hedge Fund Custom</i>			<i>0.4</i>	<i>0.4</i>	<i>-0.5</i>	<i>5.6</i>	<i>3.4</i>	<i>3.4</i>	<i>2.8</i>	<i>--</i>	<i>2.6</i>	<i>Jun-14</i>
Real Assets (Net)	53,719,160	6.1	0.3	0.3	1.7	10.6	9.6	7.6	7.8	--	--	Mar-99
Real Assets (Gross)			0.3	0.3	1.7	10.7	9.7	7.7	8.4	--	--	
<i>Real Asset Custom</i>			<i>1.7</i>	<i>1.7</i>	<i>-1.1</i>	<i>15.7</i>	<i>14.3</i>	<i>9.9</i>	<i>8.2</i>	<i>--</i>	<i>--</i>	<i>Mar-99</i>
Private Infrastructure (Net)	22,243,376	2.5	0.0	0.0	2.8	9.1	9.1	12.1	--	--	7.5	Dec-14
Private Infrastructure (Gross)			0.0	0.0	2.8	9.1	9.1	12.1	--	--	7.5	
<i>S&P Global Infrastructure Net TR USD</i>			<i>1.5</i>	<i>1.5</i>	<i>1.9</i>	<i>21.7</i>	<i>19.9</i>	<i>8.6</i>	<i>4.8</i>	<i>7.3</i>	<i>5.1</i>	<i>Dec-14</i>
Private Natural Resources (Net)	14,656,887	1.7	0.0	0.0	2.0	8.1	8.1	11.4	--	--	16.6	Sep-15
Private Natural Resources (Gross)			0.0	0.0	2.0	8.1	8.1	11.4	--	--	16.6	
<i>S&P Global Natural Resources Index TR USD</i>			<i>1.8</i>	<i>1.8</i>	<i>-4.4</i>	<i>8.9</i>	<i>-0.3</i>	<i>7.6</i>	<i>2.1</i>	<i>1.6</i>	<i>11.4</i>	<i>Sep-15</i>
Cash (Net)	11,311,990	1.3	0.1	0.1	0.6	1.2	1.5	--	--	--	--	
Cash (Gross)			0.1	0.1	0.6	1.2	1.5	--	--	--	--	

*One or more accounts have been excluded from the composite for the purposes of performance calculations and market value.

Real Assets includes State Street Real Asset NL Fund



As of October 31, 2019

Trailing Net Performance

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund(Net)*	879,720,591	100.0	--	1.6	2.2	13.4	10.1	8.8	6.4	8.4	8.0	Dec-94
<i>Policy Index</i>				1.4	1.4	12.2	9.3	8.7	6.7	8.6	6.0	Dec-94
Total Fund w/o Alternatives(Net)	634,575,838	72.1	72.1	2.1	3.0	17.0	12.7	9.6	6.6	--	--	Dec-94
<i>Policy Index w/o AI</i>				2.2	2.3	15.4	11.7	9.2	6.4	--	--	Dec-94
US Equity(Net)	241,560,374	27.5	38.1	2.2	3.8	24.3	14.4	15.3	11.1	13.8	10.1	Dec-94
<i>80% R1000 / 20% R2000</i>				2.2	2.9	21.9	12.3	14.0	10.0	13.4	9.9	Dec-94
Mellon Dynamic US Equity(Net)	96,357,968	11.0	39.9	2.2	5.2	28.9	19.5	18.0	13.2	--	17.3	Dec-12
<i>S&P 500</i>				2.2	3.9	23.2	14.3	14.9	10.8	13.7	14.0	Dec-12
Mellon Large Cap(Net)	108,830,293	12.4	45.1	2.1	3.6	23.1	14.2	14.7	--	--	13.6	Mar-16
<i>Russell 1000</i>				2.1	3.6	23.1	14.2	14.7	10.5	13.7	13.6	Mar-16
DFA Small Cap(Net)	17,984,194	2.0	7.4	1.9	0.3	14.8	2.4	9.4	7.1	--	6.5	Jun-14
<i>Russell 2000</i>				2.6	0.2	17.2	4.9	11.0	7.4	12.3	6.6	Jun-14
PanAgora(Net)	18,387,918	2.1	7.6	2.8	1.2	18.5	4.1	11.1	7.5	--	8.6	Sep-13
<i>Russell 2000</i>				2.6	0.2	17.2	4.9	11.0	7.4	12.3	7.8	Sep-13
International Equity(Net)	181,384,549	20.6	28.6	4.3	3.2	18.3	13.7	8.5	4.1	5.9	5.2	Dec-98
<i>International Equity Custom</i>				3.9	1.4	14.5	11.0	8.6	4.3	5.3	4.3	Dec-98
Developed International Equity(Net)	109,818,401	12.5	60.5	3.7	2.5	17.2	10.7	8.3	4.0	6.1	3.4	Jan-08
<i>MSCI EAFE</i>				3.6	2.5	16.9	11.0	8.5	4.3	5.4	2.6	Jan-08
Mellon International(Net)	88,745,754	10.1	80.8	3.6	2.5	17.2	11.4	8.9	--	--	8.3	Mar-16
<i>MSCI EAFE</i>				3.6	2.5	16.9	11.0	8.5	4.3	5.4	7.9	Mar-16
Acadian ACWI ex U.S. Small Cap Equity(Net)	10,210,023	1.2	9.3	3.9	0.7	--	--	--	--	--	0.5	May-19
<i>MSCI ACWI ex US Small Cap</i>				4.1	2.8	14.7	8.8	7.0	5.3	6.7	1.8	May-19

Developed International Equity and Emerging Markets Equity composites were only reported as one composite prior to March 2018.
Historical returns for the US Equity Composite prior to January 2012 and for the International Equity Composite prior to December 2010 are gross only.



As of October 31, 2019

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Driehaus International Small Cap Growth(Net)	10,862,624	1.2	9.9	4.2	4.6	--	--	--	--	--	7.0	May-19
<i>MSCI ACWI ex US Small Cap Growth NR USD</i>				4.0	2.6	16.6	10.4	7.5	5.9	7.2	1.7	May-19
Emerging Markets Equity(Net)	71,566,148	8.1	39.5	5.4	4.4	20.4	20.7	8.9	4.9	--	3.9	Apr-12
<i>MSCI Emerging Markets</i>				4.2	-0.2	10.4	11.9	7.4	2.9	3.8	2.7	Apr-12
Wells Capital(Net)	71,566,148	8.1	100.0	5.4	4.4	20.4	20.7	8.9	4.9	--	3.7	Mar-12
<i>MSCI Emerging Markets</i>				4.2	-0.2	10.4	11.9	7.4	2.9	3.8	2.5	Mar-12
US Fixed Income(Net)	170,361,190	19.4	26.8	0.3	2.2	7.5	9.7	3.5	3.4	4.2	5.4	Dec-94
<i>US Fixed Custom</i>				0.3	2.2	7.8	10.2	3.6	3.5	3.9	5.7	Dec-94
Barrow Hanley(Net)	61,173,768	7.0	35.9	0.3	2.7	9.1	11.6	3.3	3.3	--	3.7	Mar-10
<i>BBgBarc US Aggregate TR</i>				0.3	2.6	8.8	11.5	3.3	3.2	3.7	3.7	Mar-10
Vanguard Short-Term Treasury Index Fund(Net)	48,719,169	5.5	28.6	0.3	0.9	3.4	4.6	--	--	--	3.2	Feb-18
<i>BBgBarc US Govt 1-3 Yr TR</i>				0.3	0.9	3.4	4.6	1.7	1.3	1.2	3.2	Feb-18
Vanguard Total Bond Market Index Fund(Net)	60,468,253	6.9	35.5	0.2	2.7	--	--	--	--	--	5.8	May-19
<i>BBgBarc US Aggregate TR</i>				0.3	2.6	8.8	11.5	3.3	3.2	3.7	5.7	May-19
Opportunistic Credit(Net)	41,269,725	4.7	6.5	0.3	0.4	--	--	--	--	--	2.1	May-19
<i>50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans</i>				0.1	1.8	--	--	--	--	--	3.6	May-19
PIMCO Income Fund(Net)	20,475,298	2.3	49.6	0.7	0.6	--	--	--	--	--	2.1	Apr-19
<i>BBgBarc US Aggregate TR</i>				0.3	2.6	8.8	11.5	3.3	3.2	3.7	5.7	Apr-19
GoldenTree Multi-Sector Credit(Net)	20,794,427	2.4	50.4	-0.1	0.3	--	--	--	--	--	1.6	Jun-19
<i>50% BBgBarc US High Yield TR/50% Credit Suisse Leveraged Loans</i>				-0.1	1.0	8.8	5.5	5.1	4.6	6.5	2.3	Jun-19

GoldenTree Multi-Sector Credit is based off manager estimate.

Historical returns for the US Fixed Income Composite prior to December 2010 and for Barrow Hanley prior to June 2010 are gross only.



As of October 31, 2019

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Real Estate(Net)	60,598,787	6.9	6.9	0.0	-0.8	1.6	1.6	6.0	6.9	--	--	Mar-99
<i>NCREIF ODCE (net)</i>				<i>0.0</i>	<i>1.1</i>	<i>3.1</i>	<i>4.6</i>	<i>6.3</i>	<i>8.4</i>	<i>9.8</i>	<i>7.3</i>	<i>Mar-99</i>
Greenfield Gap VII(Net)	8,839,742	1.0	14.6	0.0	9.7	14.4	14.4	14.0	--	--	13.7	Dec-14
Patron Capital V(Net)	7,258,825	0.8	12.0	0.0	5.6	7.8	7.8	21.1	--	--	14.1	Jan-16
UBS Trumbull Property(Net)	40,389,133	4.6	66.7	0.0	-3.9	-1.8	-1.8	3.0	5.6	7.7	6.9	Mar-99
Carlyle Realty VIII(Net)	846,639	0.1	1.4	0.0	2.8	-5.1	-5.1	--	--	--	-29.5	Dec-17
Taconic CRE Dislocation Fund II(Net)	2,473,122	0.3	4.1	0.0	3.3	3.2	3.2	--	--	--	3.2	Nov-18
Carmel Partners Investment Fund VII(Net)	142,341	0.0	0.2	0.0	-19.5	--	--	--	--	--	-35.9	Apr-19
AG Realty Value Fund X, L.P.(Net)	648,985	0.1	1.1	0.0	-16.9	--	--	--	--	--	-16.9	Jun-19
Private Equity(Net)	43,552,022	5.0	5.0	0.0	2.5	6.4	6.4	11.8	9.6	10.7	8.1	Jun-05
<i>Thomson Reuters Cambridge Private Equity Index</i>				<i>0.0</i>	<i>0.0</i>	<i>10.2</i>	<i>9.9</i>	<i>15.3</i>	<i>13.5</i>	<i>--</i>	<i>--</i>	<i>Jun-05</i>
Adams Street(Net)	7,404,729	0.8	17.0	0.0	-0.1	4.5	4.5	11.5	11.3	13.0	7.0	Sep-05
Invesco IV(Net)	218,400	0.0	0.5	0.0	0.0	0.0	0.0	3.9	5.9	9.8	7.9	Jun-05
Invesco VI(Net)	6,331,897	0.7	14.5	0.0	0.0	2.7	2.7	11.4	12.7	--	11.2	Jun-13
Ocean Avenue II(Net)	9,986,598	1.1	22.9	0.0	5.4	16.5	16.5	25.2	16.5	--	12.6	Jun-14

Invesco IV and Invesco VI market values reflect the cash adjusted 9/30 value. They do not reflect any cash flows through 10/31.

Private Real Estate results prior to 1/1/2019 were included in the Real Assets composite. All results for the Private Real Estate composite that include the period prior to 1/1/2019 will reflect only the latest lineup of managers that Meketa received information for, therefore it may not reflect the entire Private Real Estate composite at that given time.

All private markets performance and market values reflect a 6/30/2019 capital account balance unless otherwise noted.

Adams Street includes Adams Street 2005, Adams Street 2007, and Adams Street 2011.

Historical returns for Invesco IV prior to April 2012 are gross only.



As of October 31, 2019

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Pantheon I(Net)	870,662	0.1	2.0	0.0	-0.9	-2.0	-2.0	5.7	4.2	7.7	3.5	Dec-05
Pantheon II(Net)	3,986,220	0.5	9.2	0.0	4.7	10.3	10.3	15.3	12.6	--	12.1	Dec-11
Pantheon Secondary(Net)	861,201	0.1	2.0	0.0	-1.9	-0.9	-0.9	6.6	3.8	4.1	3.8	Jun-07
Raven Asset Fund II(Net)	3,392,863	0.4	7.8	0.0	1.6	5.8	5.8	0.3	-0.6	--	-0.6	Aug-14
Davidson Kempner Long-Term Distressed Opportunities Fund IV(Net)	3,633,980	0.4	8.3	0.0	0.3	4.1	4.1	--	--	--	10.7	Apr-18
GTCR Fund XII(Net)	1,269,003	0.1	2.9	0.0	9.0	-21.4	-21.4	--	--	--	-15.6	Jun-18
Carrick Capital Partners III(Net)	1,304,132	0.1	3.0	0.0	20.1	8.1	8.1	--	--	--	2.3	Aug-18
Cressey & Company Fund VI(Net)	1,050,879	0.1	2.4	0.0	2.8	-13.2	--	--	--	--	-13.2	Jan-19
TCV X(Net)	1,597,666	0.2	3.7	0.0	-6.6	--	--	--	--	--	-6.6	Apr-19
Accel-KKR Growth Capital Partners III(Net)	628,291	0.1	1.4	0.0	0.0	--	--	--	--	--	0.0	Jul-19
Genstar Capital Partners IX(Net)	1,015,501	0.1	2.3	0.0	--	--	--	--	--	--	0.0	Jul-19
Hedge Fund(Net)	75,962,795	8.6	8.6	0.2	-1.0	5.0	2.0	6.0	3.8	--	3.6	Jun-14
<i>Hedge Fund Custom</i>				<i>0.4</i>	<i>-0.5</i>	<i>5.6</i>	<i>3.4</i>	<i>3.4</i>	<i>2.8</i>	<i>--</i>	<i>2.6</i>	<i>Jun-14</i>
Sculptor (OZ) Domestic II(Net)	10,422,136	1.2	13.7	1.5	-1.3	12.0	8.9	8.2	6.0	--	5.7	Jun-14
Graham Absolute Return(Net)	7,528,866	0.9	9.9	1.2	-0.5	7.3	3.2	--	--	--	3.2	Aug-17
Wellington-Archipelago(Net)	11,857,205	1.3	15.6	0.5	-0.8	9.6	6.1	--	--	--	3.9	Aug-17
KLS Diversified(Net)	9,059,387	1.0	11.9	-0.7	-1.8	-0.2	-4.5	--	--	--	0.7	Oct-17

Pantheon I includes Pantheon US Fund VI and Pantheon Europe Fund IV.

Pantheon II includes Pantheon US Fund IX, Pantheon Asia Fund VI, and Pantheon Europe Fund VII.

Pantheon Secondary includes Pantheon GLO SEC III B.



As of October 31, 2019

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Winton(Net)	6,192,149	0.7	8.2	-1.2	1.8	1.8	1.8	--	--	--	1.9	Oct-17
Marshall Wace Eureka(Net)	3,275,728	0.4	4.3	0.5	1.1	7.1	4.8	--	--	--	3.7	Nov-17
Silver Point Capital(Net)	11,862,443	1.3	15.6	-1.4	-4.2	-0.2	-5.2	--	--	--	-0.4	Nov-17
Laurion Capital(Net)	5,386,468	0.6	7.1	1.4	-0.5	5.4	6.3	--	--	--	6.9	Aug-18
Taconic Opportunity Fund(Net)	10,378,412	1.2	13.7	0.3	0.4	4.2	--	--	--	--	4.2	Dec-18
Real Assets(Net)	53,719,160	6.1	6.1	0.3	1.7	10.6	9.6	7.6	7.8	--	--	Mar-99
<i>Real Asset Custom</i>				1.7	-1.1	15.7	14.3	9.9	8.2	--	--	Mar-99
SSgA(Net)	16,818,897	1.9	31.3	0.9	0.1	10.5	6.3	--	--	--	3.9	Apr-17
<i>Real Asset NL Custom Blended Index</i>				0.9	0.2	10.9	6.8	--	--	--	4.2	Apr-17
Private Infrastructure(Net)	22,243,376	2.5	41.4	0.0	2.8	9.1	9.1	12.1	--	--	7.5	Dec-14
<i>S&P Global Infrastructure Net TR USD</i>				1.5	1.9	21.7	19.9	8.6	4.8	7.3	5.1	Dec-14
KKR Global II(Net)	11,120,059	1.3	50.0	0.0	2.7	7.9	7.9	12.1	--	--	10.4	Dec-14
North Haven Infrastructure II(Net)	8,409,094	1.0	37.8	0.0	3.3	11.4	11.4	13.4	--	--	7.8	May-15
ISQ Global Infrastructure Fund II(Net)	1,777,697	0.2	8.0	0.0	1.9	12.9	12.9	--	--	--	-17.9	Jul-18
KKR Global Infrastructure Investors III(Net)	936,526	0.1	4.2	0.0	-2.9	-17.8	--	--	--	--	-17.8	Jan-19

As of October 31, 2019

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Natural Resources(Net)	14,656,887	1.7	27.3	0.0	2.0	8.1	8.1	11.4	--	--	16.6	Sep-15
<i>S&P Global Natural Resources Index TR USD</i>				1.8	-4.4	8.9	-0.3	7.6	2.1	1.6	11.4	Sep-15
EnCap XI(Net)	922,475	0.1	6.3	0.0	-2.8	-7.9	-7.9	--	--	--	-28.4	Jul-17
EnCap IV(Net)	925,647	0.1	6.3	0.0	0.1	15.2	15.2	--	--	--	-2.7	Feb-18
GSO Energy Opportunities(Net)	4,408,643	0.5	30.1	0.0	1.0	3.5	3.5	9.3	--	--	15.7	Nov-15
Taurus Mining(Net)	3,731,324	0.4	25.5	0.0	2.9	12.3	12.3	12.2	--	--	17.3	Sep-15
Taurus Mining Annex(Net)	3,342,148	0.4	22.8	0.0	4.7	16.7	16.7	--	--	--	27.8	Jan-17
BlackRock Global Energy and Power Infrastructure Fund III LP(Net)	480,036	0.1	3.3	0.0	--	--	--	--	--	--	--	Jul-19
Tailwater Energy Fund IV, LP(Net)	846,614	0.1	5.8	0.0	--	--	--	--	--	--	0.0	Oct-19
Cash(Net)	11,311,990	1.3	1.3	0.1	0.6	1.2	1.5	--	--	--	--	
Cash(Net)	8,416,529	1.0	74.4	0.2	0.8	1.7	2.2	1.4	1.1	--	--	Sep-03
Treasury Cash(Net)	2,895,460	0.3	25.6									

*One or more accounts have been excluded from the composite for the purposes of performance calculations and market value.

Treasury Cash value is lagged.



As of October 31, 2019

Benchmark History

As of October 31, 2019

Total Fund		
7/1/2019	Present	21% US Equity Custom / 18% International Equity Custom / 18% US Fixed Custom / 10% Hedge Fund Custom / 15% Thomson Reuters Cambridge Private Equity Index / 5% Real Asset Custom / 8% NCREIF ODCE (net) / 5% 50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans
1/1/2019	6/30/2019	21% US Equity Custom / 18% International Equity Custom / 23% US Fixed Custom / 10% Hedge Fund Custom / 15% Thomson Reuters Cambridge Private Equity Index / 5% Real Asset Custom / 8% NCREIF ODCE (net)
1/1/2017	12/31/2018	27% US Equity Custom / 23% International Equity Custom / 22% US Fixed Custom / 5% Hedge Fund Custom / 9% Thomson Reuters Cambridge Private Equity Index / 14% Real Asset Custom
7/1/2014	12/31/2016	22.7% Russell 1000 / 5.7% Russell 2000 / 23.6% International Equity Custom / 28.5% US Fixed Custom / 4.5% Hedge Fund Custom / 8% NCREIF ODCE (net) / 7% Cambridge Assoc. U.S. Private Equity Legacy Index
US Equity		
12/31/1994	Present	80% Russell 1000 / 20% Russell 2000
International Equity		
1/1/2019	Present	56% MSCI EAFE Gross / 44% MSCI Emerging Markets Gross
1/1/2017	12/31/2018	69.56% MSCI EAFE Gross / 30.44% MSCI Emerging Markets Gross
7/1/2013	12/31/2016	MSCI ACWI ex USA Gross
US Fixed Income		
3/1/2018	Present	77.27% BBgBarc US Aggregate TR / 22.73% BBgBarc US Govt 1-5 Yr TR
1/1/2017	2/28/2018	77.27% BBgBarc US Aggregate TR / 22.73% Credit Suisse Leveraged Loans
8/1/2014	12/31/2016	71.93% BBgBarc US Aggregate TR / 17.54% ICE BofAML US High Yield TR / 10.53% Credit Suisse Leveraged Loans
Hedge Fund		
7/1/2017	Present	100% HFRI Fund of Funds Composite Index
1/1/2015	6/30/2017	50% HFRI Fund of Funds Composite Index / 50% HFRI RV: Multi-Strategy Index
Real Assets		
1/1/2019	Present	50% S&P Global Natural Resources Index TR USD / 50% S&P Global Infrastructure TR USD
6/1/2013	12/31/2018	57.14% NCREIF ODCE (net) / 21.43% S&P Global Natural Resources Index TR USD / 21.43% S&P Global Infrastructure TR USD



Benchmark History
As of October 31, 2019

SSgA		
4/30/2017	Present	25% Bloomberg Roll Select Commodities Index TR USD / 25% S&P Global LargeMidCap Commodity and Resources NR USD / 10% S&P Global Infrastructure TR USD / 15% DJ US Select REIT TR USD / 25% BBgBarc US TIPS TR

As of October 31, 2019

Annual Investment Expense Analysis

As Of October 31, 2019

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Total Fund w/o Alternatives		\$634,575,838		
US Equity		\$241,560,374		
Mellon Dynamic US Equity	0.30% of Assets	\$96,357,968	\$289,074	0.30%
Mellon Large Cap	0.04% of First 100.0 Mil, 0.02% Thereafter	\$108,830,293	\$41,766	0.04%
DFA Small Cap	0.35% of Assets	\$17,984,194	\$62,945	0.35%
PanAgora	0.80% of Assets	\$18,387,918	\$147,103	0.80%
International Equity		\$181,384,549		
Developed International Equity		\$109,818,401		
Mellon International	0.04% of Assets	\$88,745,754	\$35,498	0.04%
Acadian ACWI ex U.S. Small Cap Equity	0.99% of Assets	\$10,210,023	\$101,079	0.99%
Driehaus International Small Cap Growth	0.90% of Assets	\$10,862,624	\$97,764	0.90%
Emerging Markets Equity		\$71,566,148		
Wells Capital	0.90% of First 100.0 Mil, 0.85% Thereafter	\$71,566,148	\$644,095	0.90%
US Fixed Income		\$170,361,190		
Barrow Hanley	0.30% of First 50.0 Mil, 0.20% of Next 100.0 Mil, 0.15% Thereafter	\$61,173,768	\$172,348	0.28%
Vanguard Short-Term Treasury Index Fund	0.05% of Assets	\$48,719,169	\$24,360	0.05%
Vanguard Total Bond Market Index Fund	0.04% of Assets	\$60,468,253	\$21,164	0.04%
Opportunistic Credit		\$41,269,725		
PIMCO Income Fund	0.50% of Assets	\$20,475,298	\$102,376	0.50%
GoldenTree Multi-Sector Credit	0.75% of Assets	\$20,794,427	\$155,958	0.75%
Private Real Estate		\$60,598,787		
Greenfield Gap VII		\$8,839,742		
Patron Capital V		\$7,258,825		

As of October 31, 2019

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
UBS Trumbull Property		\$40,389,133		
Carlyle Realty VIII		\$846,639		
Taconic CRE Dislocation Fund II		\$2,473,122		
Carmel Partners Investment Fund VII		\$142,341		
AG Realty Value Fund X, L.P.		\$648,985		
Invesco IV		\$218,400		
Invesco VI		\$6,331,897		
Ocean Avenue II		\$9,986,598		
Pantheon I		\$870,662		
Pantheon II		\$3,986,220		
Pantheon Secondary		\$861,201		
Raven Asset Fund II		\$3,392,863		
Davidson Kempner Long-Term Distressed Opportunities Fund IV		\$3,633,980		
GTCR Fund XII		\$1,269,003		
Carrick Capital Partners III		\$1,304,132		
Cressey & Company Fund VI		\$1,050,879		
TCV X		\$1,597,666		
Accel-KKR Growth Capital Partners III		\$628,291		
Genstar Capital Partners IX		\$1,015,501		
Hedge Fund		\$75,962,795		
Sculptor (OZ) Domestic II	Performance-based 1.50 and 20.00	\$10,422,136	\$188,264	1.81%
Graham Absolute Return	Performance-based 1.75 and 20.00	\$7,528,866	\$151,933	2.02%
Wellington-Archipelago	Performance-based 1.00 and 20.00	\$11,857,205	\$133,734	1.13%
KLS Diversified	Performance-based 2.00 and 20.00	\$9,059,387	\$181,188	2.00%
Winton	Performance-based 0.90 and 20.00	\$6,192,149	\$55,729	0.90%

As of October 31, 2019

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Marshall Wace Eureka	Performance-based 2.00 and 20.00	\$3,275,728	\$69,642	2.13%
Silver Point Capital	Performance-based 2.00 and 20.00	\$11,862,443	\$237,249	2.00%
Laurion Capital		\$5,386,468		
Taconic Opportunity Fund		\$10,378,412		
Real Assets		\$53,719,160		
SSgA	0.30% of First 50.0 Mil, 0.27% of Next 50.0 Mil, 0.25% Thereafter	\$16,818,897	\$50,457	0.30%
Private Infrastructure		\$22,243,376		
KKR Global II		\$11,120,059		
North Haven Infrastructure II		\$8,409,094		
ISQ Global Infrastructure Fund II		\$1,777,697		
KKR Global Infrastructure Investors III		\$936,526		
Ardian Infrastructure Fund V		\$0		
Private Natural Resources		\$14,656,887		
EnCap XI		\$922,475		
EnCap IV		\$925,647		
GSO Energy Opportunities		\$4,408,643		
Taurus Mining		\$3,731,324		
Taurus Mining Annex		\$3,342,148		
BlackRock Global Energy and Power Infrastructure Fund III LP		\$480,036		
Tailwater Energy Fund IV, LP		\$846,614		
Cash		\$11,311,990		
Cash		\$8,416,529		
Treasury Cash		\$2,895,460		

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INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

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Credit Risk: Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security.)

Duration: Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

Information Ratio: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. $\text{Portfolio Return} - [\text{Risk Free Rate} + \text{Beta} * (\text{market return} - \text{Risk Free Rate})]$.

Market Capitalization: For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

Market Weighted: Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

Maturity: The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

Prepayment Risk: The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

Price-Book Value (P/B) Ratio: The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

Price-Earnings (P/E) Ratio: A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about its future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

Quality Rating: The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

STIF Account: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

Style: The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Yield to Maturity: The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a "basis book." For example, a 5% bond pays \$5 a year interest on each \$100 par value. To figure its current yield, divide \$5 by \$95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay \$100 for the bond that can be bought now for \$95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

$$\frac{5\% \text{ (discount)}}{5 \text{ (yrs. to maturity)}} = 1\% \text{ pro rata, plus } 5.26\% \text{ (current yield)} = 6.26\% \text{ (yield to maturity)}$$

Sources: [Investment Terminology](#), International Foundation of Employee Benefit Plans, 1999.
[The Handbook of Fixed Income Securities](#), Fabozzi, Frank J., 1991.

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Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.