

**QUARTER ENDING JUNE 30, 2019**  
**INVESTMENT PERFORMANCE ANALYSIS**  
**EASTERN MICHIGAN UNIVERSITY BOARD OF  
REGENTS**

**October 3, 2019**

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# NEPC UPDATE

NEPC, LLC

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# HIGHLIGHTS OF 2019 SECOND QUARTER HAPPENINGS AT NEPC

## NEPC INSIGHTS

- NEPC's Investor Governance Pulse: Data Show Investors Value Collaborative, Long-Term Consultant Relationship
- Direct Investing (Part II): What Do the Numbers Say?
- Taking Stock: An Overview of the 2019 Indian Election
- Taking Stock: A Sneak Preview of NEPC's 24<sup>th</sup> Annual Investment Conference
- NEPC's 2019 Q1 Endowments & Foundations Survey Results and Infographic
- Defined Contribution: My Guide to Retirement
- Direct Investing (Part III): Tips for Setting a Program up for Success
- 2019 First Quarter Market Thoughts
- Taking Stock: Updates to Corporate Pension Plan Rules and Q1 Liability Performance
- NEPC's 24<sup>th</sup> Annual Investment Conference Recap: Infographics
- Taking Stock: One Corporate Plan's Journey of Terminating its Pension
- Taking Stock: A Recap of NEPC's 24<sup>th</sup> Annual Investment Conference
- The ABC of Family Partnerships
- Not So Taxing: Tax Reform and Giving

## WEBINAR REPLAYS

- NEPC's 2019 Q1 Quarterly Market Thoughts Call
- 9th Annual Investment Manager Webinar Replay
- Insurance Asset Management: Insurance Companies Transitioning Into Asset Management Webinar Replay

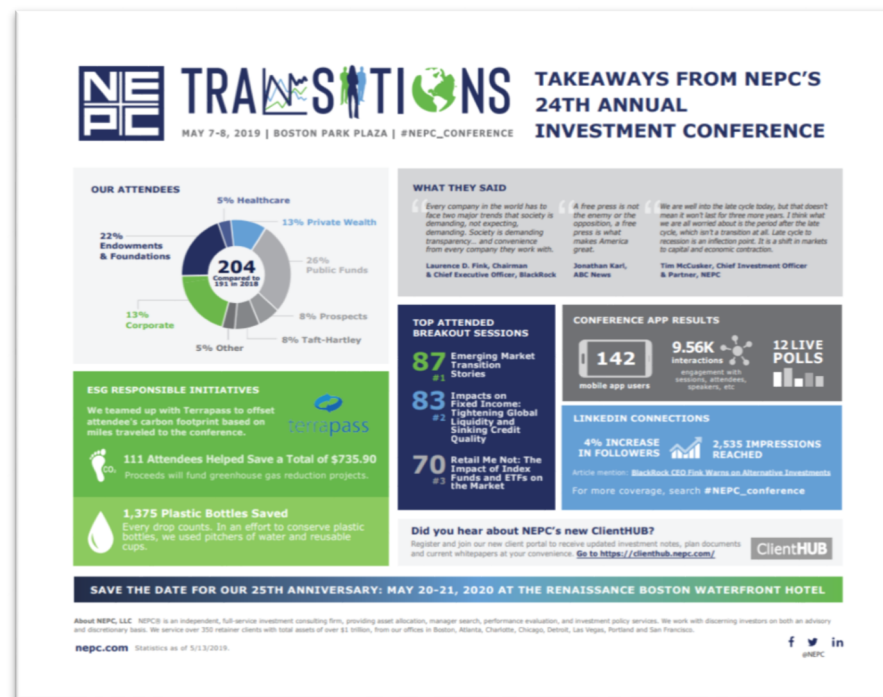
**To download NEPC's recent insights and webinar replays, visit: [www.NEPC.com/insights](http://www.NEPC.com/insights)**



# HIGHLIGHTS OF 2019 SECOND QUARTER HAPPENINGS AT NEPC

## RECENT UPDATES

- NEPC's 24th Annual Investment Conference in May 2019 at Boston's iconic Park Plaza Hotel — with a record turnout of over 200 attendees — saw some industry heavyweights come together. The event featured speakers such as Larry Fink, founder, chairman and CEO of BlackRock, the world's largest asset manager, Karen Karniol-Tambour, head of investment research at Bridgewater Associates, and Jonathan Karl, chief White House correspondent for ABC News.
- As we draw the curtain on yet another successful conference, we thank everyone who attended and look forward to seeing you next year! Be sure to mark your calendars for NEPC's 25th annual conference on May 20-21, 2020 at the Renaissance Boston Waterfront Hotel.



To view materials from NEPC's 24th Annual Investment Conference visit:  
<https://info.nepc.com/2019-client-conference-follow-up>














# QUARTERLY REVIEW

NEPC, LLC

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# PERFORMANCE OVERVIEW

## Q2 Market Summary

Macro			Equity			Credit			Real Assets		
US Dollar	VIX	US 10-Yr	S&P 500	MSCI EAFE	MSCI EM	US Agg.	High Yield	Dollar EMD	Oil	Gold	REITS
											
-1.2%	1.4	-42 bps	4.3%	3.7%	0.6%	3.1%	2.5%	4.1%	-3.3%	9.0%	1.7%

**Global equities broadly increased during the quarter as the market perceived a more dovish policy stance from the Fed**

**Market expectations for several rate cuts from the Fed reached a fever pitch as investors assessed low inflation data, a weaker global growth outlook, and uncertainties of US-China trade tensions**

**The spread between the 10-year Treasury Note and 3-month Treasury Bill remained negative through the end of the quarter as yields for longer duration bonds shifted materially lower**

Market segment (index representation) as follows: US Dollar (DXY Index), VIX (CBOE Volatility Index), US 10-Year (US 10-Year Treasury Yield), S&P 500 (US Equity), MSCI EAFE Index (International Developed Equity), MSCI Emerging Markets (Emerging Markets Equity), US Agg (Barclays US Aggregate Bond Index), High Yield (Barclays US High Yield Index), Dollar EMD (JPM EMBI Global Diversified Index), Crude Oil (WTI Crude Oil Spot), Gold (Gold Price Spot), and REITs (NAREIT Composite Index). Source: FactSet



# MACRO PERFORMANCE OVERVIEW

## Q2 Macro Market Summary

The global growth outlook was revised downward – reflecting slower growth in major developed economies

The Fed signaled possible monetary easing to support economic growth

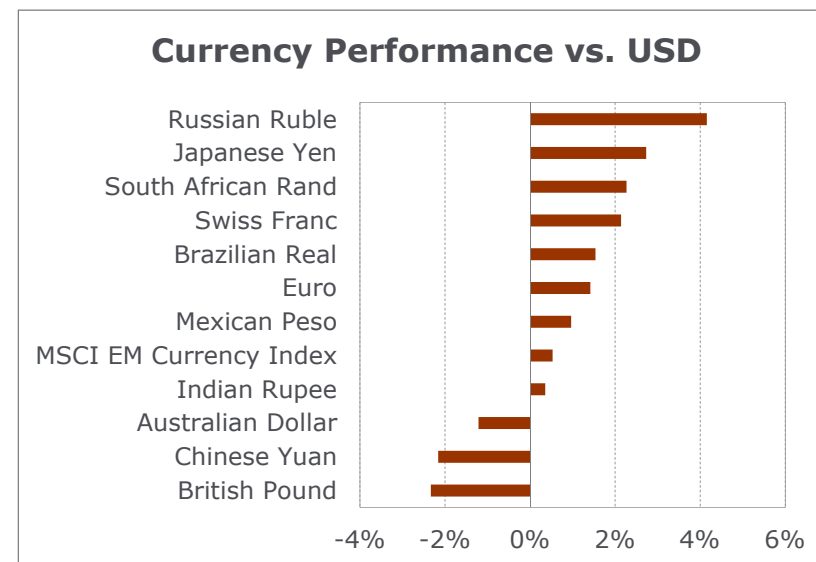
Global government bond yields continued to decline with the 10-year German yield declining 26 bps – reaching an all-time low

	Yield 3/31/19	Yield 6/30/19	\Delta
US 10-Yr	2.42%	2.00%	-0.42%
US 30-Yr	2.82%	2.53%	-0.30%
US Real 10-Yr	0.53%	0.31%	-0.22%
German 10-Yr	-0.07%	-0.33%	-0.26%
Japan 10-Yr	-0.09%	-0.16%	-0.06%
China 10-Yr	3.09%	3.30%	0.22%
EM Local Debt	6.16%	5.69%	-0.48%

Source: FactSet

Central Banks	Current Rate	CPI YOY	Notes from the Quarter
Federal Reserve	2.25% - 2.50%	1.8%	The Fed held its benchmark interest rate at 2.25% - 2.50% in June, but signaled possible cuts later this year
European Central Bank	0.00%	1.2%	The ECB maintained its current benchmark interest rate and continued with plans to boost commercial lending
Bank of Japan	-0.10%	0.7%	The BoJ will continue its ultra-easy QE program with inflation remaining well below target

Source: FactSet



Source: FactSet





# EQUITY PERFORMANCE OVERVIEW

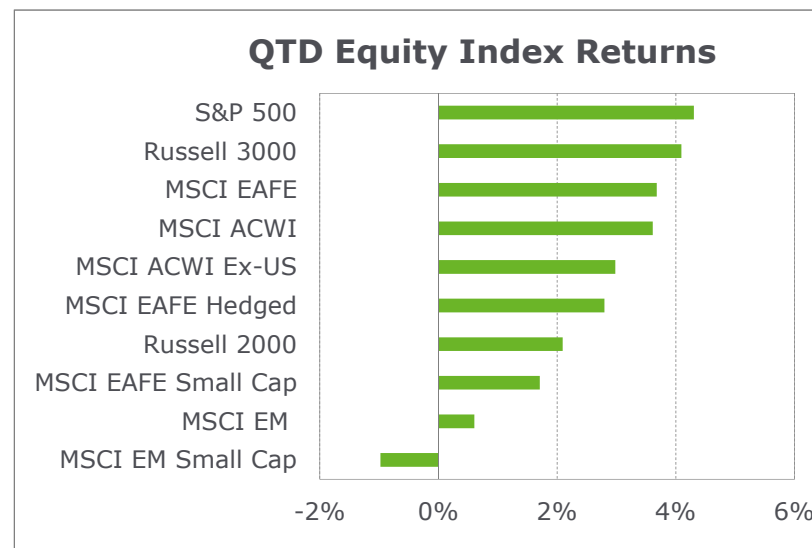
## Q2 Equity Market Summary

**Developed equities outperformed as hopes for easy monetary policy from the Fed and ECB provided a tailwind for local equity markets**

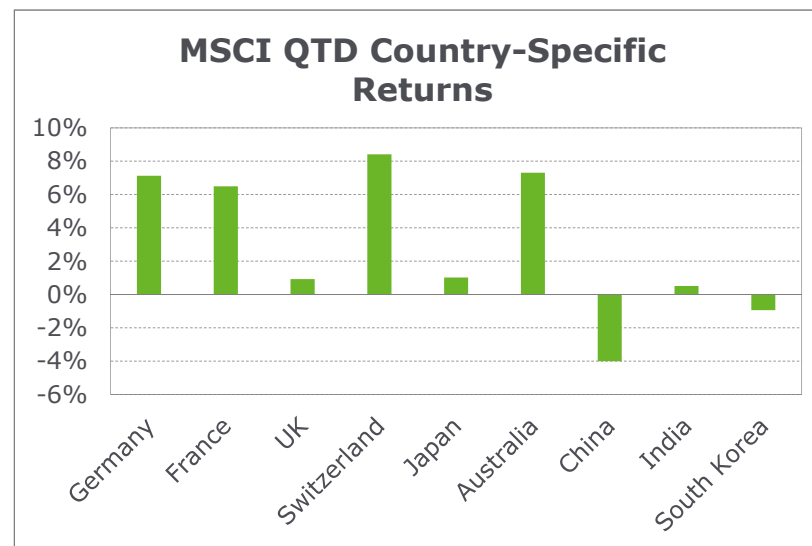
**US-China trade uncertainties and yuan weakness weighed on Chinese equity returns**

Russell 3000 QTD Sector Returns	
Technology	4.0%
Health Care	1.4%
Consumer Discretionary	6.2%
Consumer Staples	1.9%
Energy	-3.7%
Materials & Processing	5.7%
Producer Durables	4.0%
Financial Services	7.0%
Utilities	3.4%

Source: FactSet



Source: FactSet



Source: FactSet



# CREDIT PERFORMANCE OVERVIEW

## Q2 Credit Market Summary

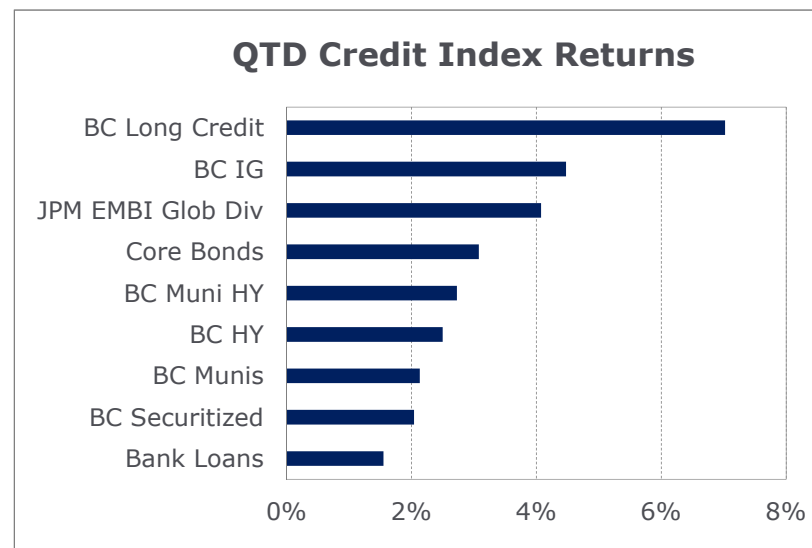
**Global yields continued to decline - reflecting concerns over the global growth outlook**

**Assets with longer duration benefited from the decline of interest rates**

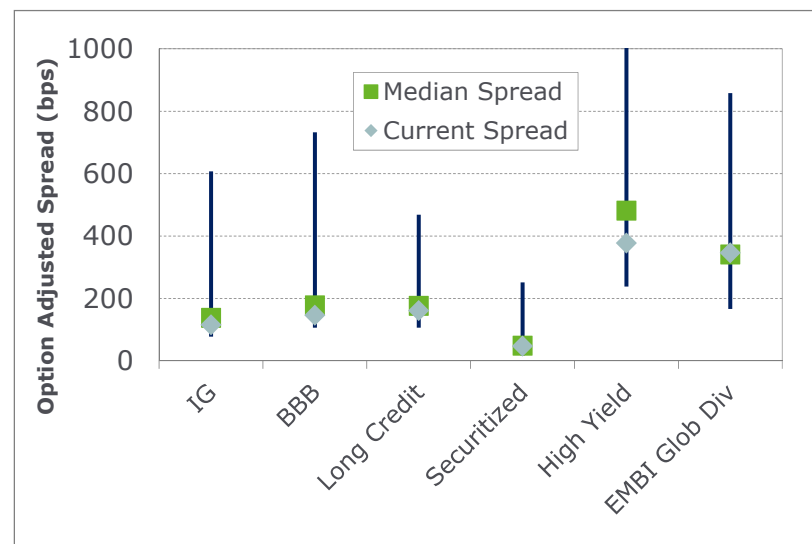
**Broad index credit spreads remain below medians in most areas of the credit market**

Credit Spread (Basis Points)	3/31/19	6/30/19	\Delta
BC IG Credit	119	115	-4
BC Long Credit	172	161	-11
BC Securitized	37	47	10
BC High Yield	391	377	-14
Muni HY	238	258	20
JPM EMBI	351	346	-5
Bank Loans - Libor	355	383	29

Source: FactSet



Source: FactSet



Source: FactSet; Ranges calculated since 11/30/2000



# REAL ASSETS PERFORMANCE OVERVIEW

## Q2 Real Assets Market Summary

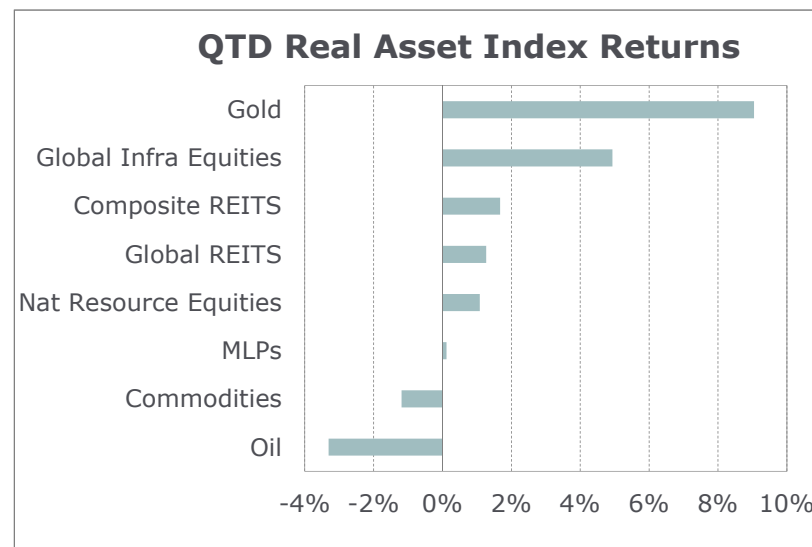
**Spot gold prices increased 9.0% during the quarter as a result of escalating trade tensions and a weaker global economic outlook**

**The US inflation outlook weakened to its lowest level since Q3 2016**

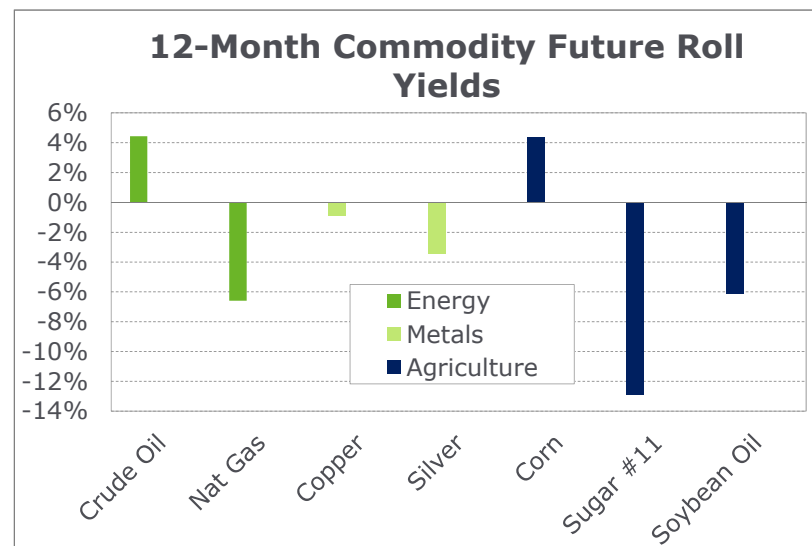
**Midstream equities continue to offer favorable yields with positive industry trends**

Real Asset Yields	3/31/19	6/30/19
MLPs	7.0%	7.7%
Core Real Estate	4.5%	4.4%
Composite REITs	4.1%	4.2%
Global REITs	4.2%	4.2%
Global Infrastructure Equities	4.4%	4.3%
Natural Resource Equities	4.2%	4.2%
US 10-Year Breakeven Inflation	1.97%	1.69%
Commodity Index Roll Yield	-2.7%	-2.0%
10-Year TIPS Real Yield	0.5%	0.3%

Source: FactSet



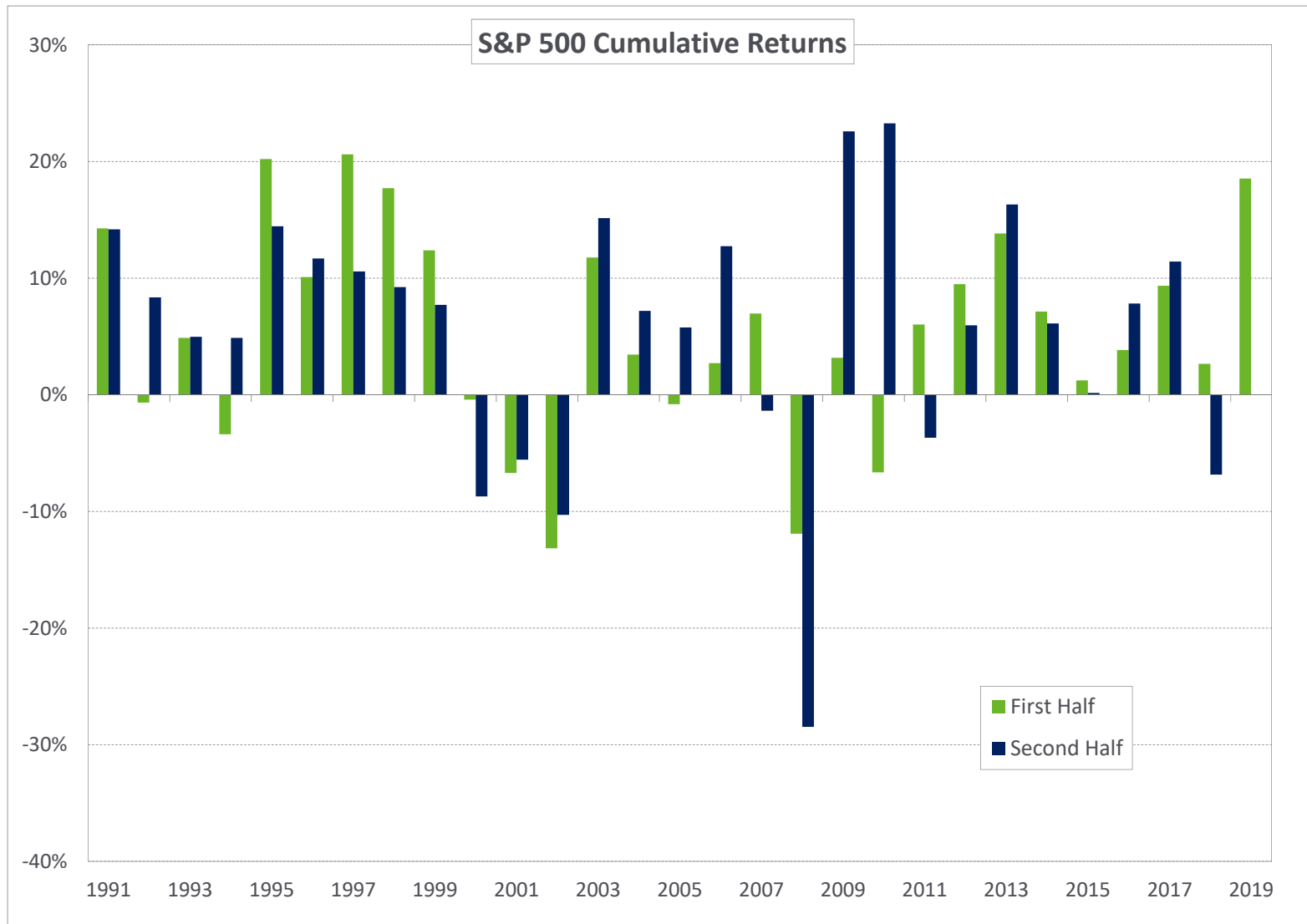
Source: FactSet



Source: FactSet



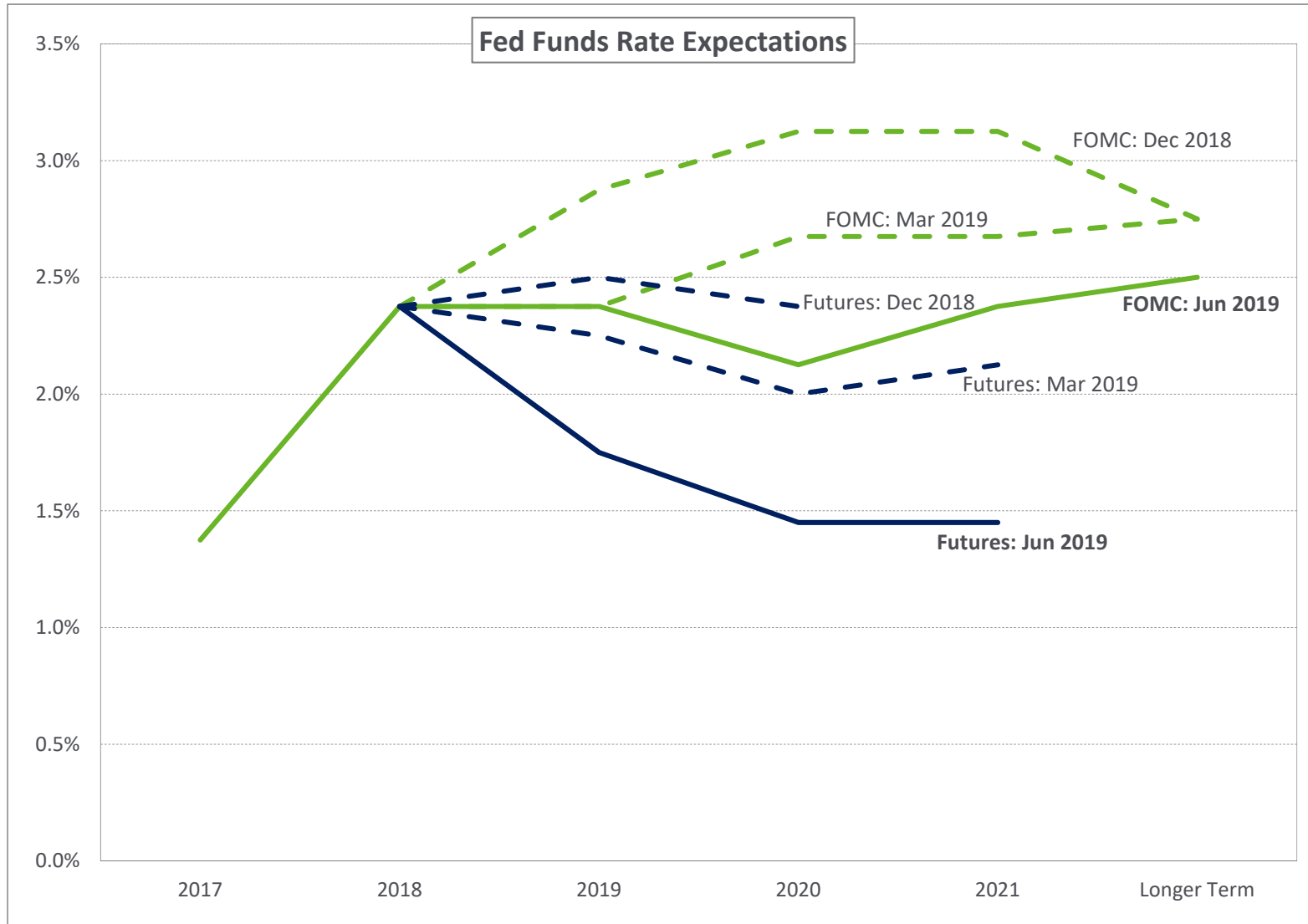
# BEST FIRST HALF SINCE 1997 FOR US STOCKS



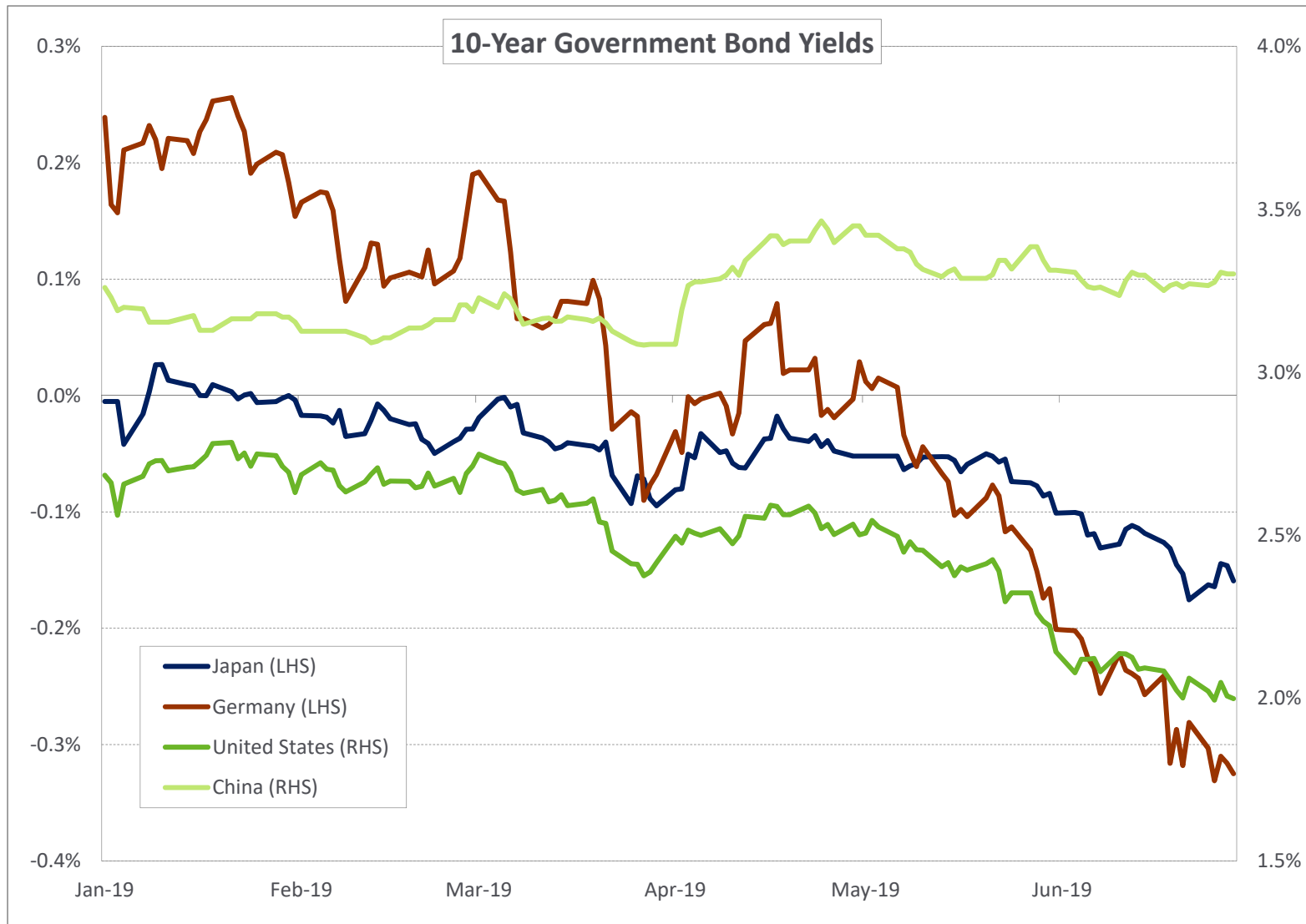
Source: FactSet



# THE RATE OUTLOOK HAS SHIFTED GLOBALLY



# GLOBAL BOND YIELDS ARE FALLING



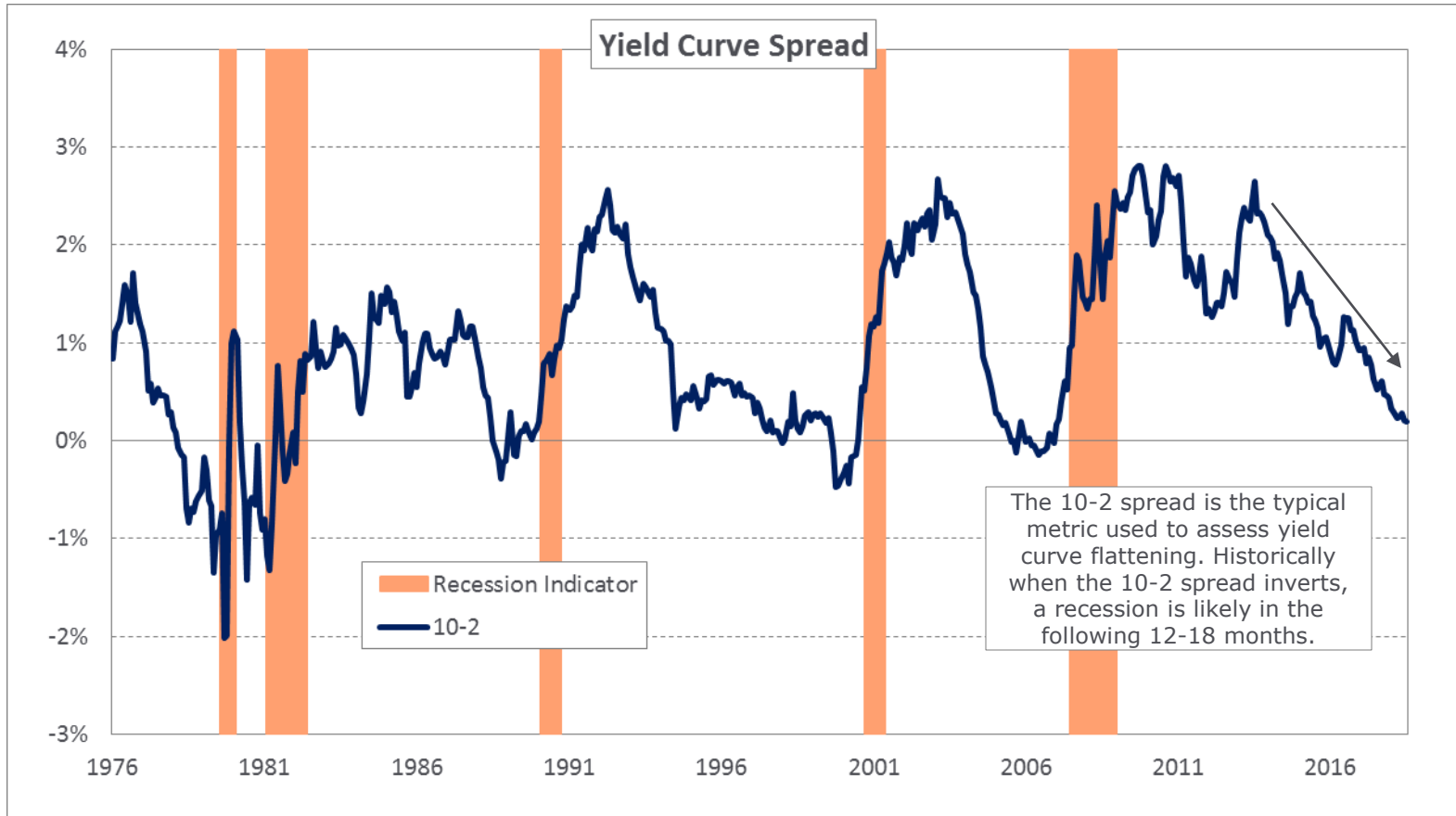
Source: FactSet



# THE YIELD CURVE

## Expected Late-Cycle Behavior: Flattening

**Rationale:** Monetary policy impacts the short-end of the yield curve, but as the economic cycle begins to slow, longer rates remain lower due to sustained demand at the long-end of the curve - causing the curve to invert



# NEGATIVE RATES ARE INFECTING MARKETS

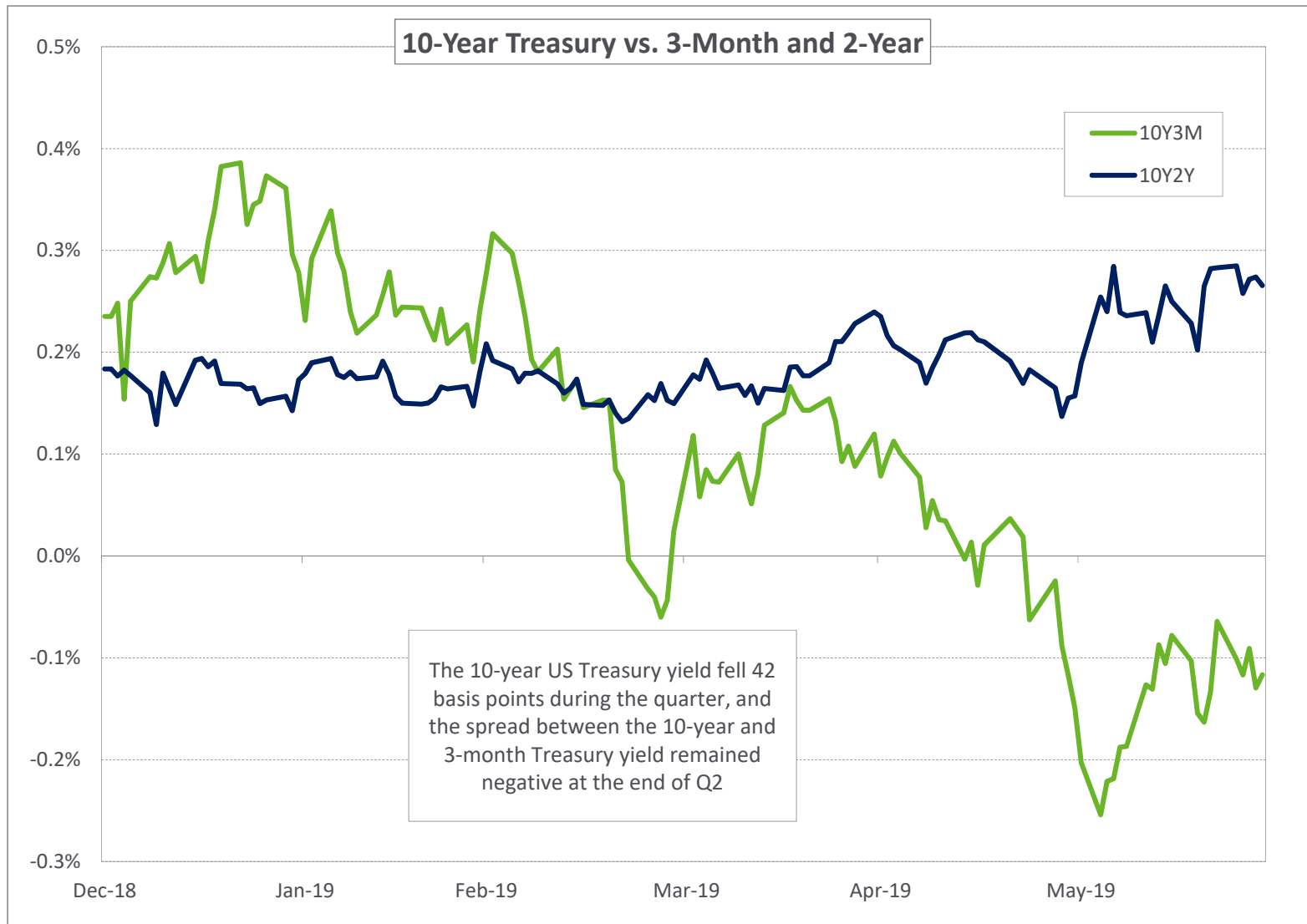
Developed Market Govt. Bond Yields	6-Month	1-Year	2-Year	3-Year	5-Year	7-Year	10-Year	15-Year	30-Year
Germany	-0.58%	-0.69%	-0.76%	-0.76%	-0.66%	-0.57%	-0.33%	-0.12%	0.27%
Austria	-0.76%	-0.73%	-0.68%	-0.63%	-0.48%	-0.25%	-0.05%	-	0.67%
Finland	-0.62%	-0.64%	-0.66%	-0.66%	-0.53%	-0.39%	-0.03%	-	0.54%
France	-0.54%	-0.62%	-0.69%	-0.68%	-0.51%	-0.31%	-0.01%	0.36%	0.94%
Japan	-0.18%	-0.21%	-0.22%	-0.23%	-0.25%	-0.25%	-0.16%	0.05%	0.37%
Netherlands	-	-0.67%	-0.67%	-0.72%	-0.65%	-0.42%	-0.16%	-0.01%	0.29%
Switzerland	-	-0.85%	-0.88%	-0.89%	-0.86%	-0.72%	-0.54%	-	0.00%
Belgium	-	-0.58%	-0.68%	-0.64%	-0.40%	-0.24%	0.07%	0.41%	1.03%
Portugal	-0.54%	-0.50%	-0.43%	-0.31%	-0.17%	0.22%	0.47%	-	1.36%
Denmark	-	-	-0.75%	-0.68%	-0.64%	-	-0.26%	-	-
Sweden	-0.40%	-	-0.63%	-	-0.53%	-0.39%	0.02%	-	-
Spain	-	-	-0.43%	-0.40%	-0.16%	0.07%	0.39%	-	1.38%
Italy	-0.08%	-0.06%	0.21%	0.80%	1.34%	1.54%	2.08%	2.53%	3.07%
Australia	-	1.04%	0.97%	0.95%	1.00%	1.15%	1.32%	1.44%	1.92%
Canada	1.69%	1.70%	1.47%	-	1.39%	1.41%	1.46%	-	1.68%
Hong Kong	1.81%	1.63%	1.57%	1.48%	1.39%	1.40%	1.43%	-	-
New Zealand	1.63%	-	1.18%	-	1.26%	1.25%	1.57%	-	-
Norway	1.26%	-	1.23%	-	1.24%	1.31%	1.43%	-	-
Singapore	1.66%	1.64%	1.61%	1.67%	1.76%	1.89%	2.00%	-	2.58%
United Kingdom	0.75%	0.70%	0.67%	0.60%	0.62%	0.68%	0.83%	1.18%	1.46%
United States	2.10%	1.94%	1.73%	1.69%	1.75%	1.87%	2.00%	-	2.53%

Source: FactSet





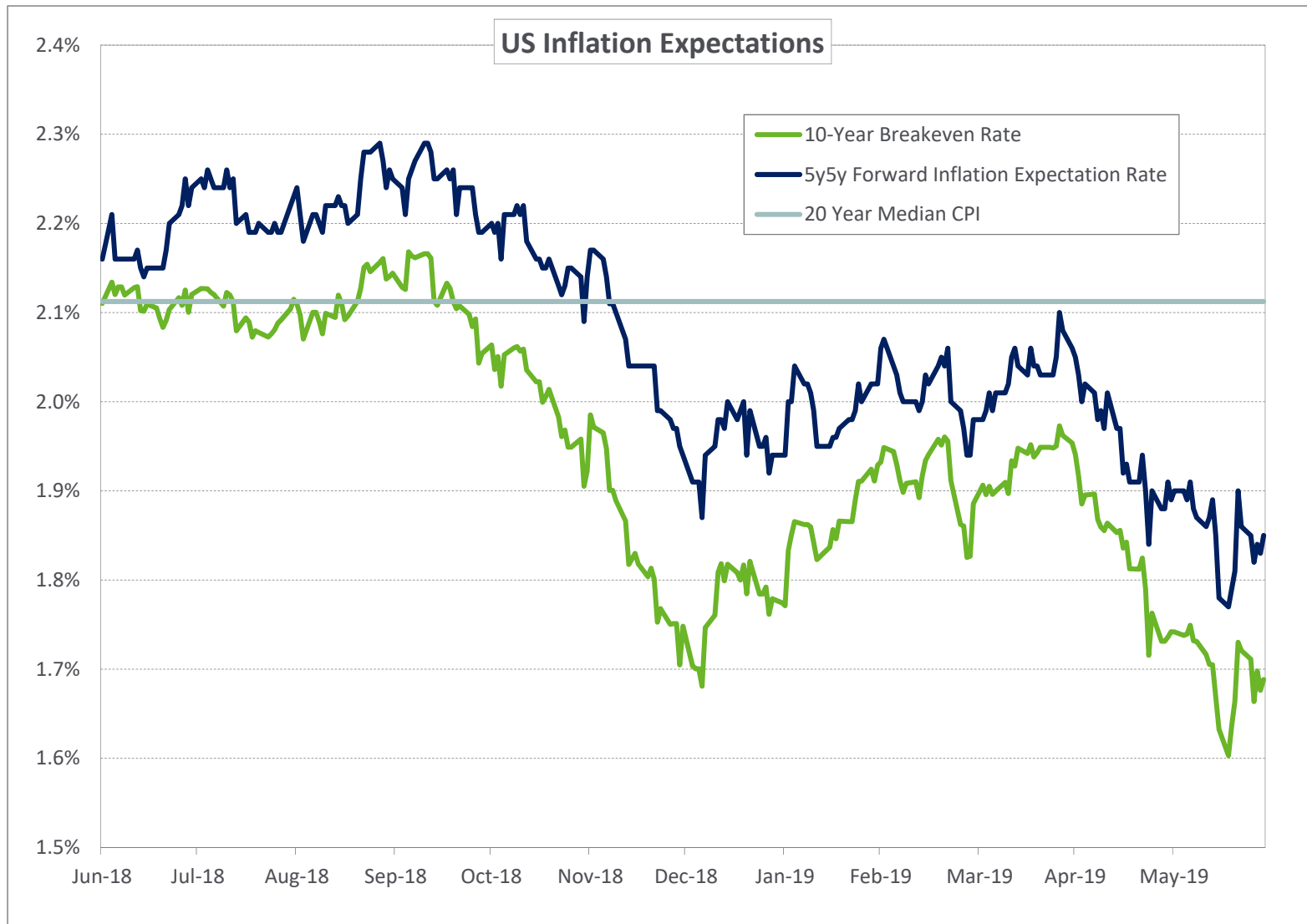
# PORTIONS OF THE US CURVE ARE INVERTED



Source: FactSet



# INFLATION EXPECTATIONS CONTINUE TO FALL



Source: FactSet



# CURRENT INDICATORS SUMMARY

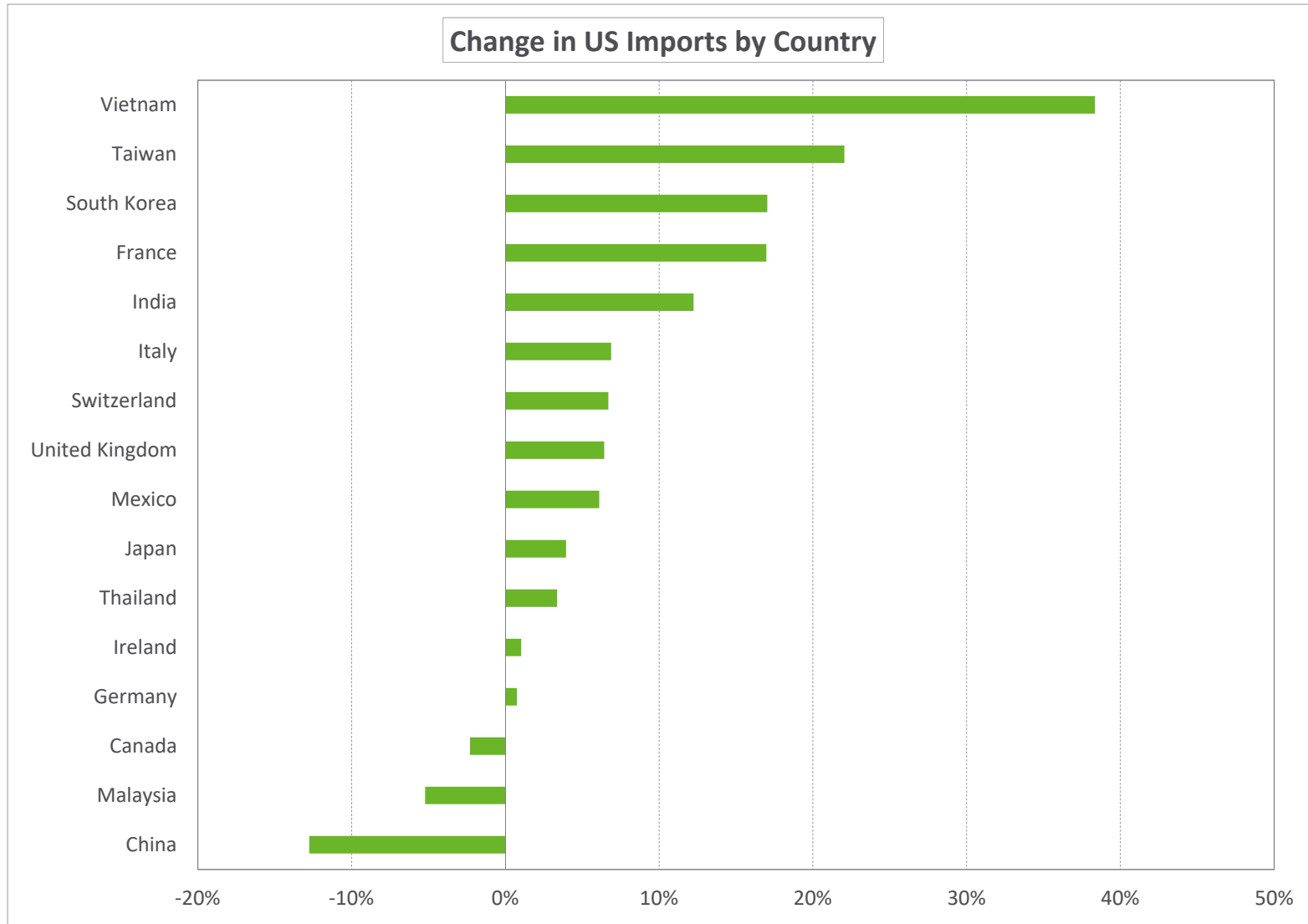
Key Indicator	Expected Late Cycle Behavior	Current Trend*
Fed Funds Rates	Rising	Stable
Yield Curve	Flattening	Flattening
Economic Growth	Moderating	Moderating
Output Gap	Near/Above Potential	Rising
Inflation	Rising	Falling
Unemployment	Falling/Bottoming	Falling
Equities	Peaking	Rising
Credit Spreads	Stable/Rising	Falling

Source: NEPC; \*Trend represents changes over the previous two quarters

# 2019 US-CHINA TRADE RELATIONS



# TARIFFS SHIFT US IMPORTS AWAY FROM CHINA

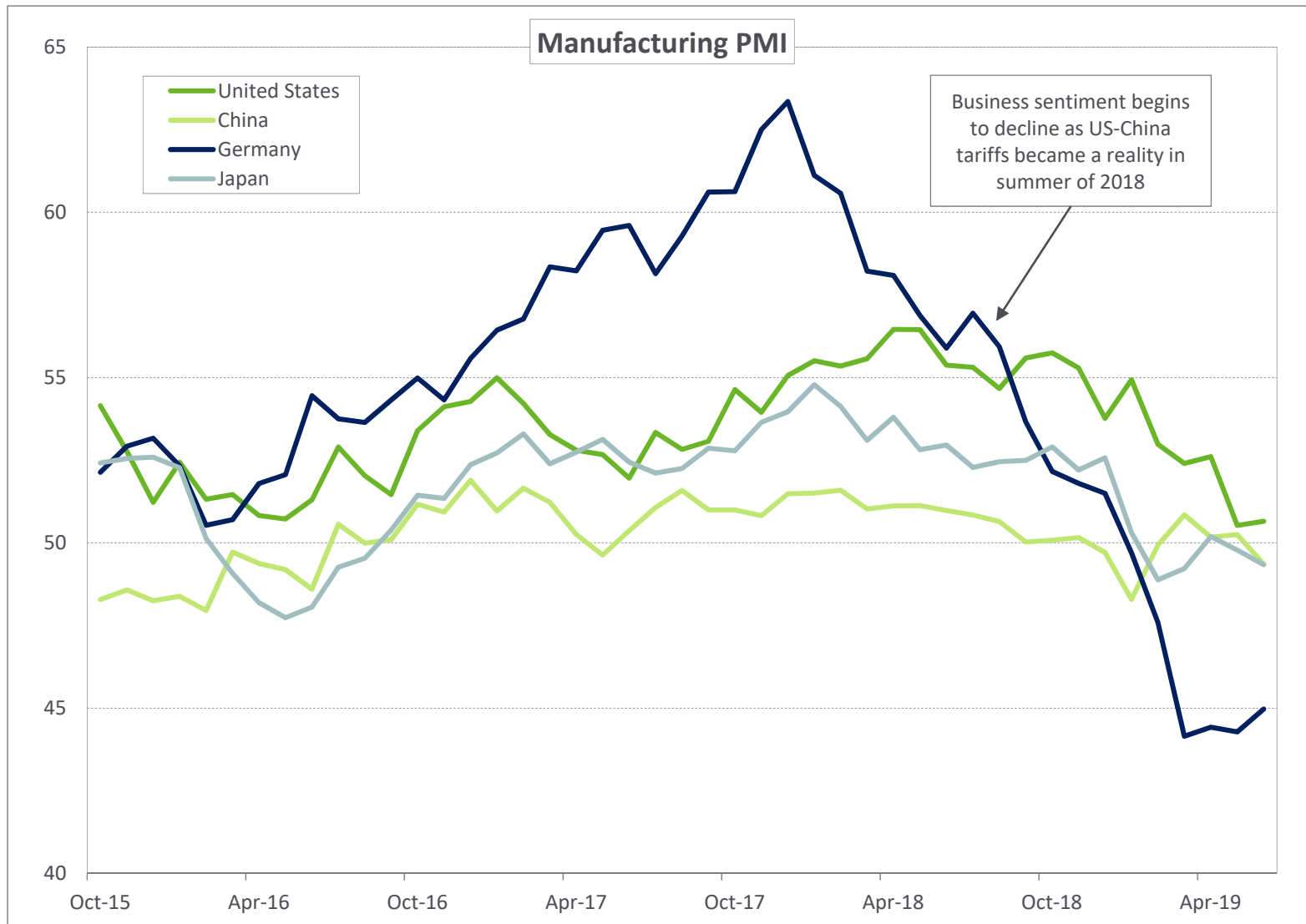


Source: United States International Trade Commission

Change calculated by comparing aggregate imports from Jan-Apr 2018 to Jan-Apr 2019 of countries with imports greater than \$5 Billion



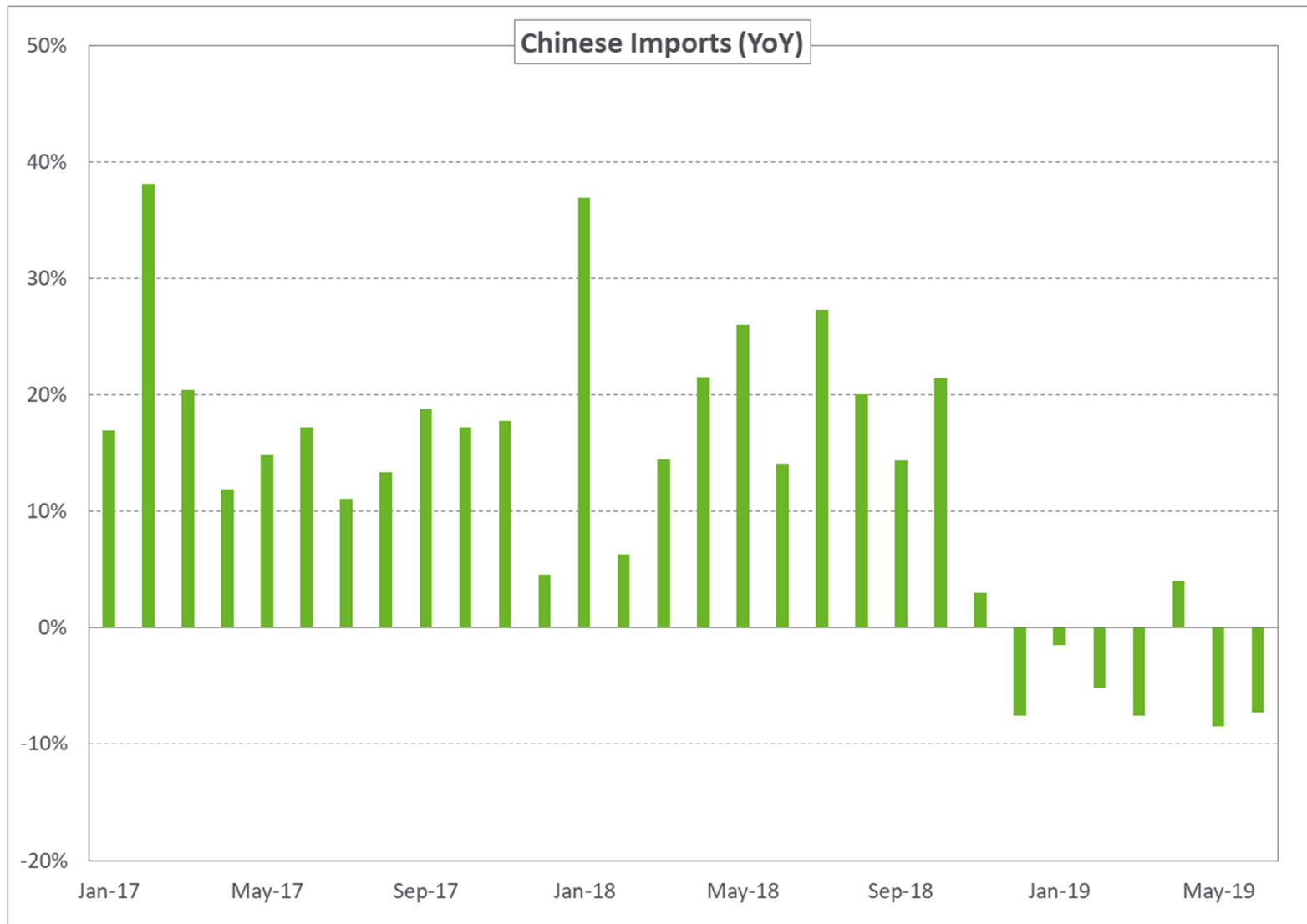
# TARIFFS WEIGH ON GLOBAL SENTIMENT



Source: FactSet



# TARIFFS/SENTIMENT IS WEIGHING ON CHINA



Source: China Customs, FactSet



# KEY THEMES & OPPORTUNITIES

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# THEMES AND OPPORTUNITIES

## Key Market Themes

Key Market Themes are factors that define global markets and can be expected to both evolve and remain relevant without a clear timeline of conclusion. At times, themes may be challenged or disrupted and generate market volatility. The conclusion of a theme likely alters both market dynamics and our market outlook. Our intent is for clients to be aware of these themes and understand their implications for asset allocation and portfolio implementation.

## Current Opportunities

Current Opportunities are investment ideas that represent an action with the goal of improving investment outcomes relative to an investor's strategic asset allocation. It is not our intent that the full list of opportunities be implemented. Rather, we encourage a focus on the actions that offer a material benefit to each client's strategic allocation relative to their unique objectives and constraints. These investment ideas are likely to change more frequently as market dynamics and valuations shift over time.



# KEY MARKET THEMES

NEPC, LLC

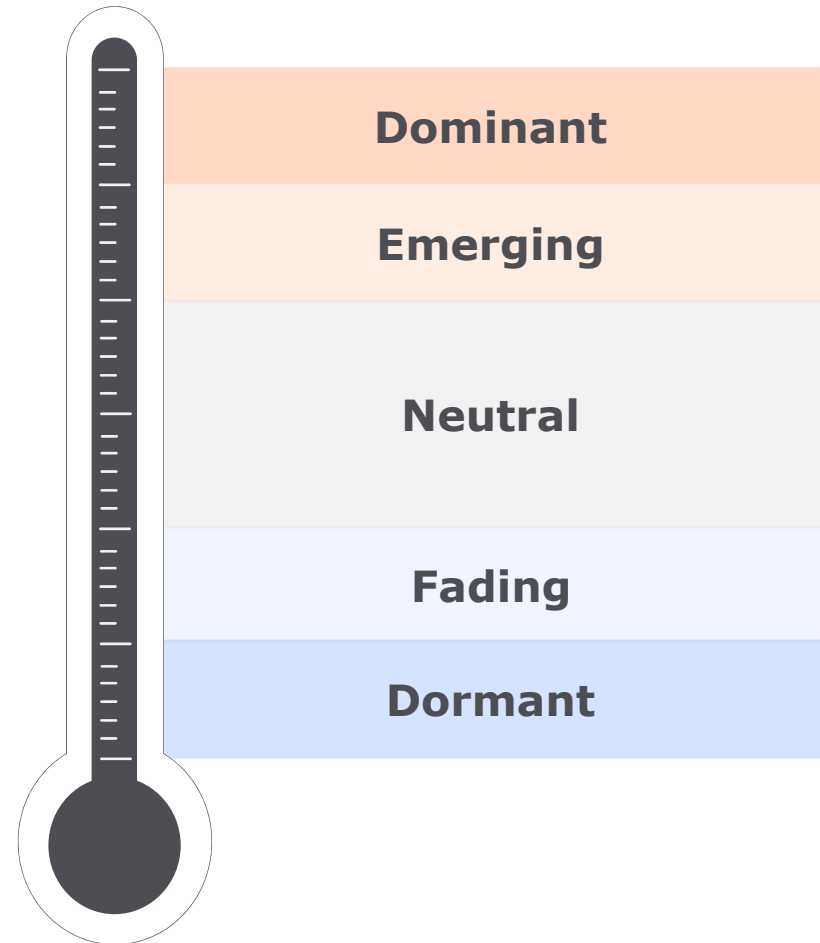
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# KEY MARKET THEMES OVERVIEW

## Thermometer

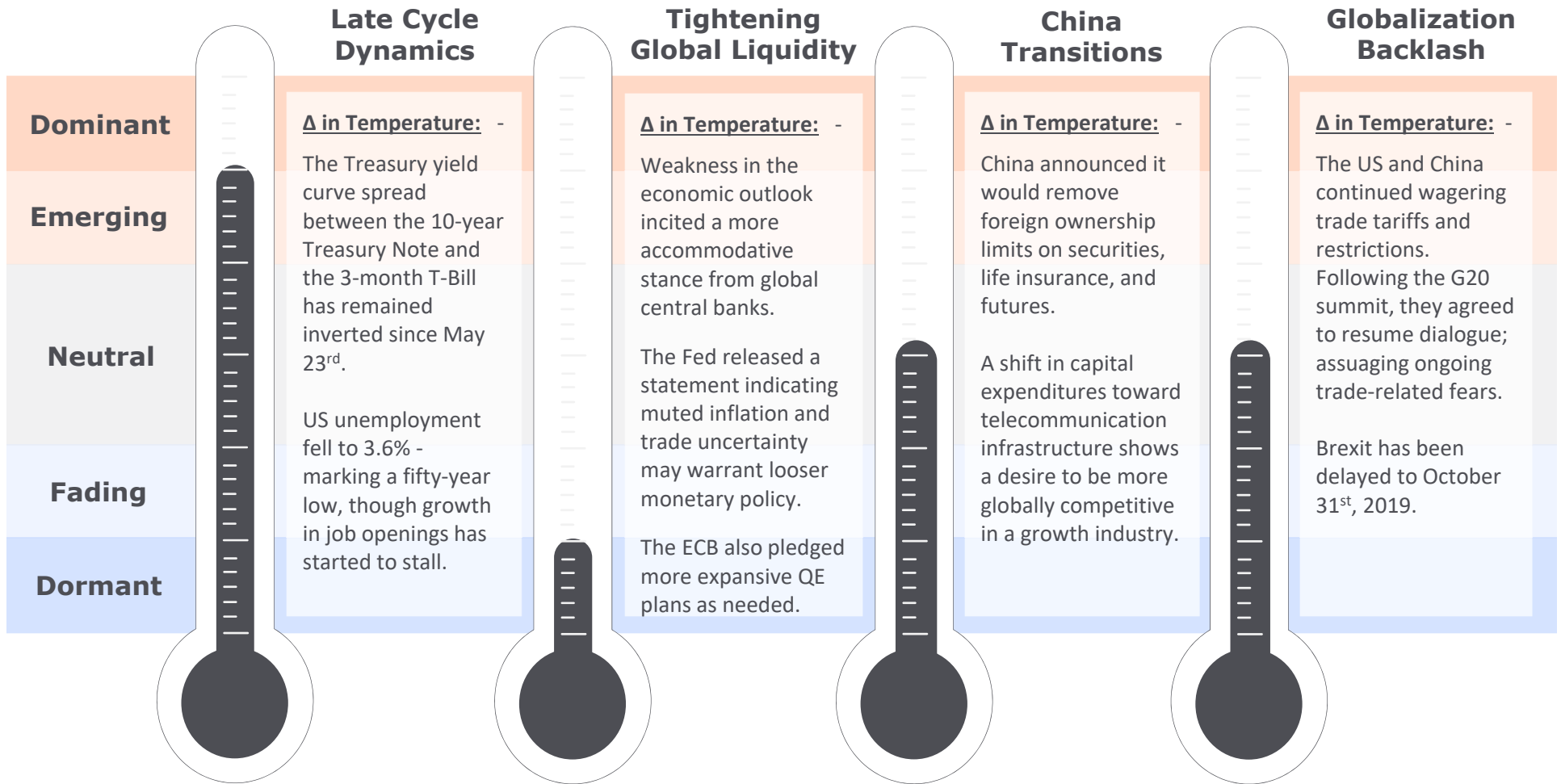
Each Key Market Theme is represented by a thermometer used to assess the current “temperature” of a theme. Themes may trend hotter or colder as market dynamics and underlying conditions change.

We expect temperatures to fluctuate as the theme’s activity level and influence on the market environment and asset pricing varies throughout its lifespan. Our intent is to use this as a communication tool, providing greater clarity on ongoing changes to the themes.



# ASSESSING THE KEY MARKET THEMES

## Current Temperature



# KEY MARKET THEMES

**Late Cycle Dynamics**

**Tightening Global Liquidity**

**China Transitions**

**Globalization Backlash**



# KEY MARKET THEMES

## Late Cycle Dynamics

### The US economy has transitioned from a mid- to late-cycle environment

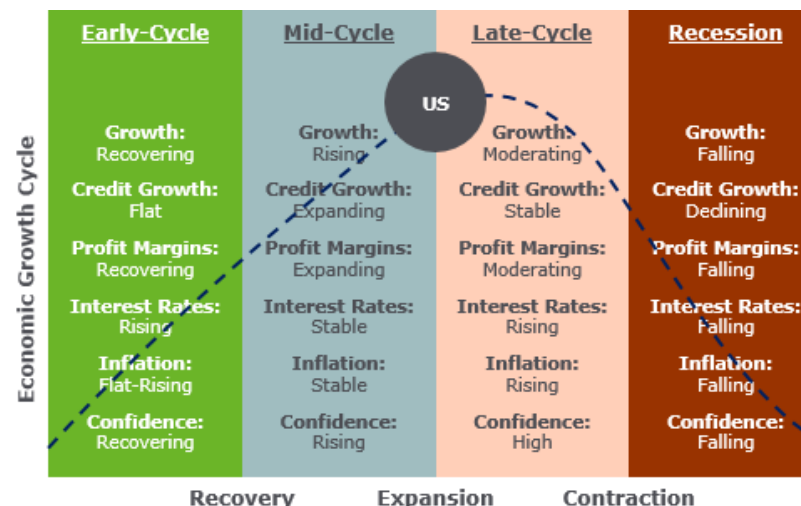
Late-cycle does not mean end of cycle; equity markets can offer strong returns and abandoning risk assets early may detract from long-term results

Despite the recent trend, there is minimal evidence in economic/financial indicators to suggest that a US recession is imminent

However, moving into a late cycle negatively skews the range of outcomes and our investment outlook reflects a more risk-averse posture with a bias toward selling low-quality credit and increasing safe-haven fixed income exposure

### We are evaluating market indicators, such as the yield curve, that would lead us to adopt a defensive outlook

A prolonged inversion of the yield curve or weakness in other economic metrics, would lead us to recommend a material increase in safe-haven fixed income and reduction to equity exposure



US Indicators	Late-Cycle Trend	Current Trend*
Fed Funds Rates	Rising	Stable
Yield Curve	Flattening	Flattening
Economic Growth	Moderating	Moderating
Output Gap	Near/Above Potential	Rising
Inflation	Rising	Falling
Unemployment	Falling/Bottoming	Falling
Equities	Peaking	Rising
Credit Spreads	Stable/Rising	Falling

Source: (Top) NEPC

Source: (Bottom) NEPC; \*Trend represents changes over the previous two quarters



# A CHALLENGED KEY MARKET THEME

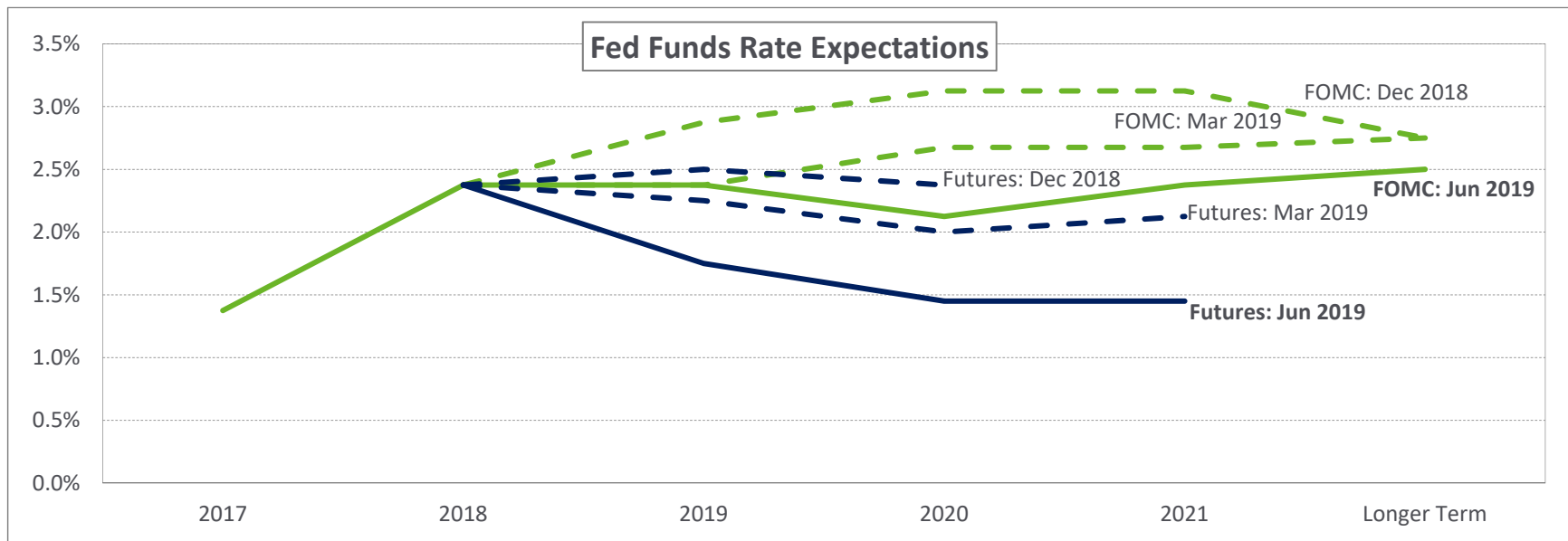
## Tightening Global Liquidity

### The thesis for our Tightening Global Liquidity theme has been challenged by recent Federal Reserve statements and actions reversing their tightening bias

The Fed had been communicating a tightening path with their forecast for rate hikes moving above the long-term neutral rate. This is no longer the case when referencing both market expectations and the median projections released by the FOMC.

### The Fed announced it will end the reduction of its balance sheet in September 2019, with assets totaling more than \$3.5 trillion

The timing to end the balance sheet reduction was a surprise and reverses a significant monetary policy tightening tool that was methodically draining liquidity from the system



Source: FactSet



# CURRENT OPPORTUNITIES

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# CURRENT OPPORTUNITIES

## **Reduce Lower Quality Credit Exposure**

**Funding Destination:** “Dry powder”, safe-haven, and short-term debt

## **Rebalance Developed Market Equities**

**Funding Sources:** EAFE equity, US equity, and global equity strategies

## **Overweight Emerging Market Equities**

**Funding Sources:** US equity and EAFE equity

## **Add Long Volatility Exposure**

**Funding Sources:** Multi-asset strategies

## **Fund Public Midstream Energy Exposure**

**Funding Sources:** Commodities, high yield, equity

## **Fund Emerging Local Debt**

**Funding Sources:** High yield and equity



# CURRENT OPPORTUNITIES

## Reduce Lower Quality Credit Exposure

### Lower-rated credit exposure does not adequately compensate investors for the risk relative to safer alternatives

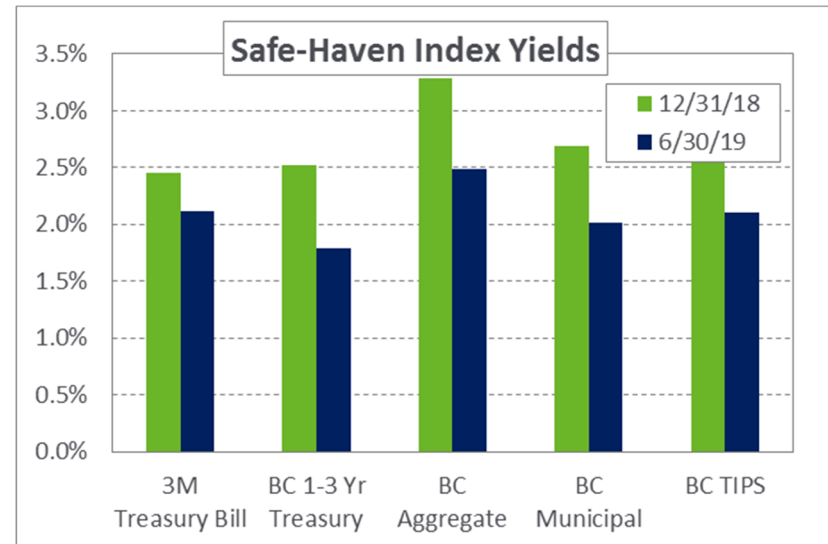
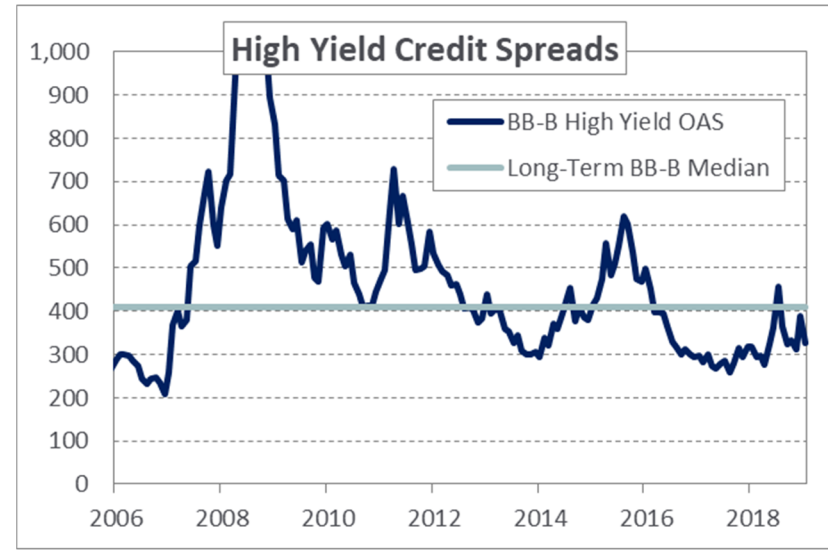
Late-cycle markets generally exhibit higher than average credit default rates, acutely impacting debt rated BBB and below

Despite index credit spreads trading slightly below median levels, we encourage moving away from lower quality credit and look to alternatives such as safe-haven fixed income, IG CLO's, and short-term debt

### Look to build "dry powder" with short-term safe-haven fixed income

Short-term Treasuries and cash equivalents offer better value due to the level of rates across the yield curve and uncertainty around the path of Fed policy

We encourage tapping lower quality credit segments as a funding source to raise "dry powder". In addition, equity rebalancing is a potential source of funds for "dry powder" and short-term fixed income



Source: (Top) BofA Merrill Lynch, FactSet  
Source: (Bottom) Barclays, FactSet



# CURRENT OPPORTUNITIES

## Rebalance Developed Market Equities

### Rebalance developed market equities following stellar gains in 2019

We encourage a global equity target weight of 52% to the US, 30% EAFE, and 18% to the EM. A larger overweight to EM can be funded pro rata from developed equity

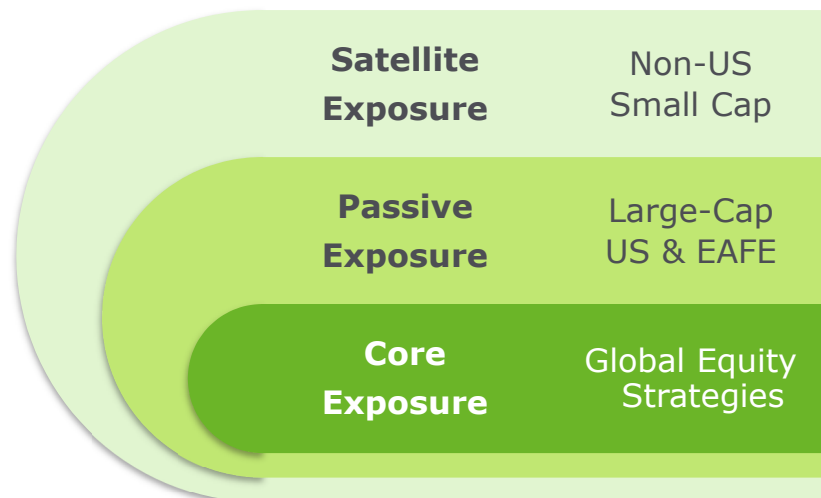
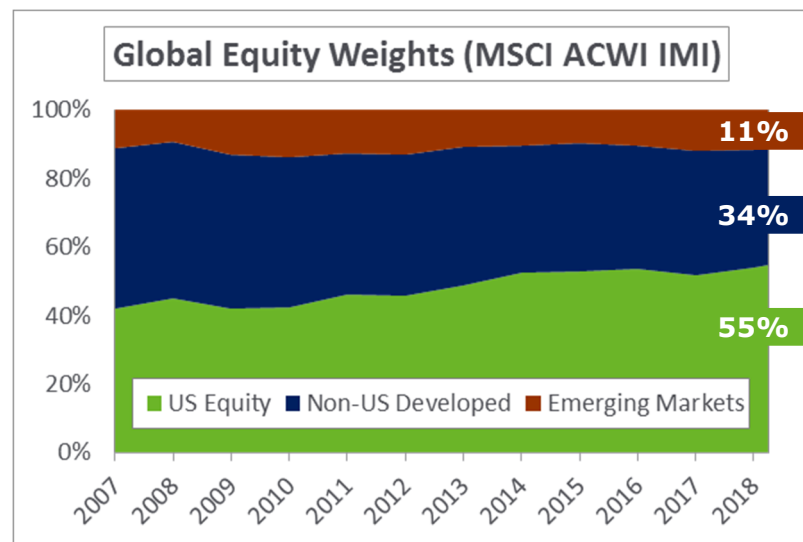
A late-cycle market environment will likely require more frequent rebalancing shifts, specifically among developed equities

A reduction to total equity exposure may be warranted should markets continue their run and look to build dry powder with short-term safe-haven fixed income

### Global equity strategies can serve as the core implementation approach for developed market equity exposure

We remain supportive of pairing active global equity strategies with passive large-cap US and EAFE equity exposure. Within non-US developed markets, we have a strong bias to active small-cap equities

EAFE and US small-cap are a viable funding source for private market commitments



Source: (Top) MSCI, Bloomberg, NEPC; represents free float market cap weights as of 12/31 each year  
 Source: (Bottom) NEPC



# CURRENT OPPORTUNITIES

## Overweight Emerging Market Equities

### Emerging equities offer the highest total return potential for investors

Valuation levels and fundamentals suggest an overweight relative to global equity market cap weights (e.g. 15% to 20%)

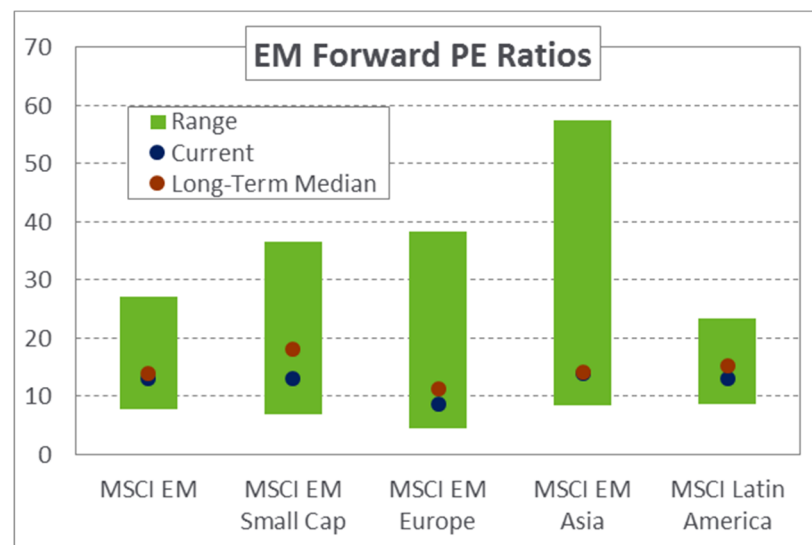
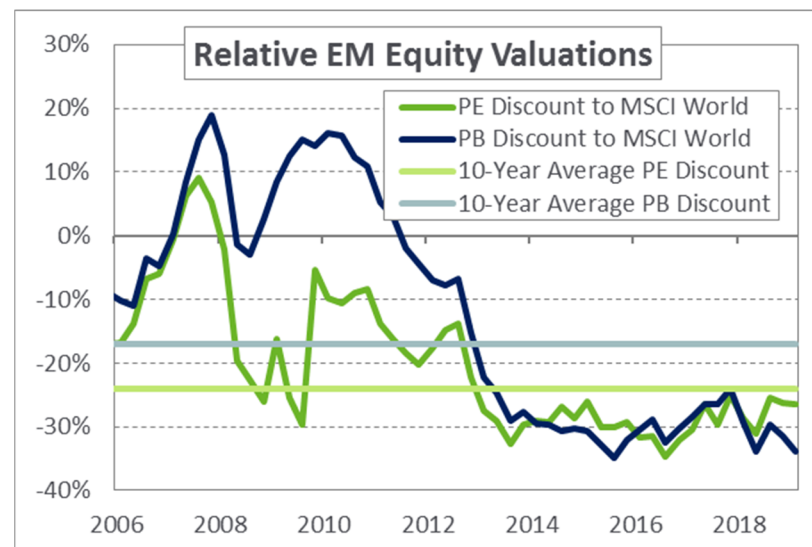
Growth premium relative to the developed world persists as economic conditions in EM remain supportive despite the negative sentiment associated with US trade policies

### High tracking error strategies offer greater flexibility to invest across emerging countries and are preferred to benchmark focused mandates

Opportunity set for active management and excess returns appear more abundant in EM versus developed markets

Strategies that invest down the market cap spectrum offer investors more focused exposure to local country growth rates

We encourage the use of multiple emerging market strategies to mitigate the risk of an unintended value-growth style or size bias



Source: (Top) MSCI, FactSet  
Source: (Bottom) MSCI, FactSet



# **AUGUST 2019 FLASH REPORT**

NEPC, LLC

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# TOTAL FUND PERFORMANCE DETAIL

	Market Value	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
<b>Board of Regents Total Composite</b>	<b>22,573,644</b>	<b>-0.9</b>	<b>8.8</b>	<b>-0.6</b>	<b>4.9</b>	<b>4.9</b>	<b>3.3</b>	<b>5.1</b>	<b>Apr-09</b>
<i>Allocation Index</i>		-0.2	9.6	0.0	5.4	5.4	3.7	--	Apr-09
<b>Short Term Investment Pool</b>	<b>464,086</b>	<b>0.0</b>	<b>0.8</b>	<b>0.0</b>	<b>1.0</b>	<b>0.4</b>	<b>0.2</b>	<b>0.2</b>	<b>Apr-09</b>
<i>91 Day T-Bills</i>		0.2	1.5	0.3	2.3	1.5	0.9	0.5	Apr-09
Bank of Ann Arbor Trust Cash	464,086	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Nov-09
<i>91 Day T-Bills</i>		0.2	1.5	0.3	2.3	1.5	0.9	0.5	Nov-09

\*Allocation Index: Used to measure the value add from active management. Calculated as the asset weight from the prior month end multiplied by the specified market index.

Returns are net of fees.



# TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
<b>Long Term Investment Pool</b>	<b>22,109,559</b>	<b>100.0</b>		<b>-1.0</b>	<b>10.1</b>	<b>-0.6</b>	<b>4.3</b>	<b>5.9</b>	<b>4.0</b>	<b>5.5</b>	<b>Apr-09</b>
<i>Long Term Allocation Index</i>				-0.3	11.0	-0.1	3.8	6.3	4.9	--	Apr-09
<i>Long Term Balanced Index</i>				-0.5	10.8	-0.2	3.6	6.2	4.8	5.5	Apr-09
<b>Total Equity</b>	<b>9,177,060</b>	<b>41.5</b>	<b>35.0</b>	<b>-2.0</b>	<b>16.1</b>	<b>-1.6</b>	<b>2.0</b>	<b>9.2</b>	<b>6.9</b>	<b>7.5</b>	<b>Jan-14</b>
<i>MSCI ACWI</i>				-2.4	13.8	-2.1	-0.3	9.2	5.5	6.1	Jan-14
SEG Baxter	1,995,577	9.0		-1.2	20.5	-2.0	8.0	--	--	8.3	Jul-17
<i>MSCI ACWI ex USA</i>				-3.1	8.8	-4.3	-3.3	5.9	1.4	1.8	Jul-17
Acadian Emerging Markets Equity	968,646	4.4	5.0	-5.5	2.0	-7.1	-7.1	4.3	--	1.0	Oct-14
<i>MSCI Emerging Markets</i>				-4.9	3.9	-6.0	-4.4	5.8	0.4	2.0	Oct-14
Artisan Global Opportunities	1,430,523	6.5	7.5	-1.5	24.2	0.5	4.5	12.7	--	11.2	Dec-14
<i>MSCI ACWI</i>				-2.4	13.8	-2.1	-0.3	9.2	5.5	6.0	Dec-14
Hexavest GE	1,278,235	5.8	7.5	-0.8	9.5	-1.2	0.5	5.3	--	5.1	Dec-14
<i>MSCI ACWI</i>				-2.4	13.8	-2.1	-0.3	9.2	5.5	6.0	Dec-14
Vanguard Total Stock Market VIPERs	3,504,079	15.8		-2.1	17.8	-0.7	1.3	--	--	12.4	Nov-16
<i>Russell 3000</i>				-2.0	18.0	-0.6	1.3	12.2	9.6	12.5	Nov-16
<b>Total Fixed</b>	<b>6,593,472</b>	<b>29.8</b>	<b>25.0</b>	<b>0.4</b>	<b>6.3</b>	<b>0.9</b>	<b>6.6</b>	<b>4.3</b>	<b>2.9</b>	<b>3.4</b>	<b>Jan-14</b>
<i>BBgBarc US Aggregate TR</i>				2.6	9.1	2.8	10.2	3.1	3.3	3.8	Jan-14
Franklin Templeton- Global Multi-Sector Plus	1,004,348	4.5	5.0	-5.0	-0.5	-3.8	3.4	3.8	--	1.3	Oct-14
<i>BBgBarc Multiverse</i>				1.8	7.5	1.6	7.8	2.3	1.7	2.4	Oct-14
BlackRock- SIO	2,612,466	11.8	10.0	0.4	5.9	0.8	5.4	3.9	--	2.8	Oct-14
<i>BBgBarc US Aggregate TR</i>				2.6	9.1	2.8	10.2	3.1	3.3	3.5	Oct-14
Baird - Core Bond	1,529,968	6.9	5.0	2.6	9.7	2.9	10.4	3.4	--	3.7	Dec-14
<i>BBgBarc US Aggregate TR</i>				2.6	9.1	2.8	10.2	3.1	3.3	3.3	Dec-14
Vanguard Inflation Protected Fund	1,351,618	6.1		2.3	8.8	2.6	7.2	--	--	7.2	Sep-18
<i>BBgBarc US TIPS TR</i>				2.4	9.1	2.7	7.5	2.9	2.2	7.5	Sep-18
US Treasury	95,072	0.4									



# TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
<b>GAA/ Risk Parity</b>	<b>3,378,811</b>	<b>15.3</b>	<b>20.0</b>	<b>-0.8</b>	<b>6.1</b>	<b>-0.2</b>	<b>5.4</b>	<b>2.3</b>	<b>--</b>	<b>1.2</b>	<b>Dec-14</b>
60% MSCI World (Net) / 40% FTSE WGBI				-0.2	12.3	-0.1	3.9	6.6	4.4	5.0	Dec-14
William Blair Macro Allocation	1,873,162	8.5		-2.0	1.2	-1.4	6.1	--	--	1.2	Aug-17
60% MSCI World (Net) / 40% FTSE WGBI				-0.2	12.3	-0.1	3.9	6.6	4.4	5.5	Aug-17
AQR Global Market and Alternative Premia Offshore Fund	1,505,650	6.8		0.7	12.8	1.4	5.1	--	--	0.3	Mar-18
60% MSCI World (Net) / 40% FTSE WGBI				-0.2	12.3	-0.1	3.9	6.6	4.4	4.2	Mar-18
<b>Real Assets</b>	<b>2,960,215</b>	<b>13.4</b>	<b>10.0</b>	<b>-1.2</b>	<b>6.4</b>	<b>-1.6</b>	<b>3.6</b>	<b>5.1</b>	<b>--</b>	<b>3.1</b>	<b>Dec-14</b>
PIMCO All Asset Index				1.0	9.5	1.5	8.0	4.1	3.8	4.0	Dec-14
Bloomberg Commodity Index				-2.3	1.9	-3.0	-5.9	-0.9	-8.6	-6.8	Dec-14
PIMCO All Asset	2,960,215	13.4	10.0	-1.2	6.4	-1.6	3.6	5.1	--	3.1	Dec-14
PIMCO All Asset Index				1.0	9.5	1.5	8.0	4.1	3.8	4.0	Dec-14
Bloomberg Commodity Index				-2.3	1.9	-3.0	-5.9	-0.9	-8.6	-6.8	Dec-14

AQR GMAPOff and SEG Baxter are preliminary for August 2019.

\*PIMCO All Asset Index: 40% BC Aggregate, 30% Tips, 10% High Yield, 10% JPM EMBI+, 10% S&P 500.

\*Long-Term Balanced Index: (10% - Russell 3000)(5% - MSCI EAFE Small Cap)(5% - MSCI Emerging Markets)(15% - MSCI ACWI)(15% - Barclays Aggregate)(5% - 50% JPM EMBI GD/ 25% JPM ELMI+/ 25% JPM GBI EM GD)(5% - Barclays Multi-verse)(20% - 60% MSCI World (Net)/ 40% CITI WGBI)(10% - HFRI Fund of Funds Composite)(10% - PIMCO All Asset Index).





# ASSET GROWTH SUMMARY

	Month Ending August 31, 2019							Ending Market Value
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Fees	Net Investment Change		
Acadian Emerging Markets Equity	\$1,024,697	\$0	\$0	\$0	-\$605	-\$56,051	\$968,646	
AQR Global Market and Alternative Premia Offshore Fund	\$1,494,738	\$0	\$0	\$0	\$0	\$10,912	\$1,505,650	
Artisan Global Opportunities	\$1,452,915	\$0	\$0	\$0	-\$1,168	-\$22,393	\$1,430,523	
Baird - Core Bond	\$1,491,630	\$0	\$0	\$0	-\$382	\$38,339	\$1,529,968	
Bank of Ann Arbor Trust Cash	\$458,265	\$5,821	\$0	\$5,821	\$0	\$0	\$464,086	
BlackRock- SIO	\$2,602,373	\$0	\$0	\$0	-\$1,415	\$10,093	\$2,612,466	
Franklin Templeton- Global Multi-Sector Plus	\$1,057,384	\$0	\$0	\$0	-\$636	-\$53,037	\$1,004,348	
Hexavest GE	\$1,287,895	\$0	\$0	\$0	-\$1,246	-\$9,659	\$1,278,235	
Northern Inst Govt Select MMKT	\$3,005,693	\$0	-\$3,006,011	-\$3,006,011	\$0	\$318	\$0	
PIMCO All Asset	\$2,996,159	\$0	\$0	\$0	-\$2,492	-\$35,944	\$2,960,215	
SEG Baxter	\$2,019,814	\$0	\$0	\$0	-\$2,494	-\$24,238	\$1,995,577	
US Treasury	\$93,546	\$0	\$0	\$0	\$0	\$1,526	\$95,072	
Vanguard Inflation Protected Fund	\$1,321,537	\$0	\$0	\$0	\$0	\$30,081	\$1,351,618	
Vanguard Total Stock Market VIPERs	\$3,578,609	\$0	\$0	\$0	-\$146	-\$74,530	\$3,504,079	
William Blair Macro Allocation	\$1,910,560	\$0	\$0	\$0	-\$1,389	-\$37,398	\$1,873,162	
<b>Total</b>	<b>\$25,795,814</b>	<b>\$5,821</b>	<b>-\$3,006,011</b>	<b>-\$3,000,190</b>	<b>-\$11,975</b>	<b>-\$221,980</b>	<b>\$22,573,644</b>	



# Q2 EXECUTIVE SUMMARY

NEPC, LLC

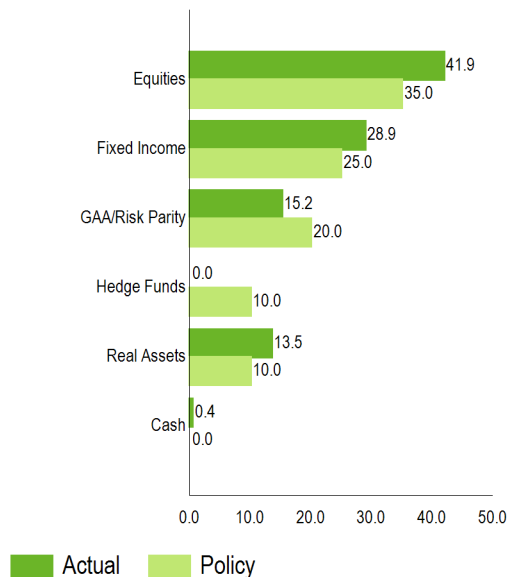
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# Total Fund Performance Summary

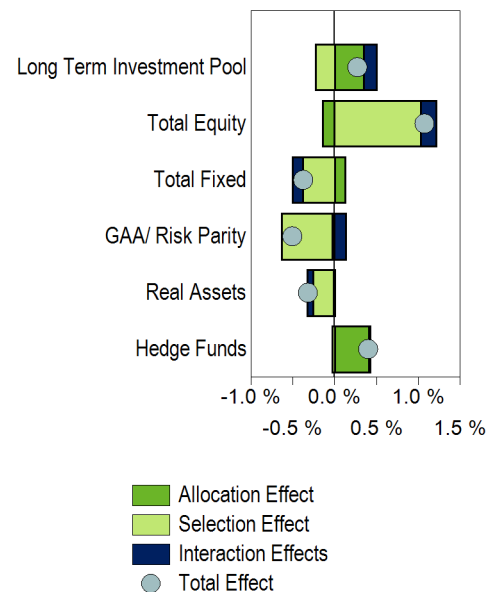
	Market Value	3 Mo	Rank	Fiscal YTD	Rank	3 Yrs	Rank	5 Yrs	Rank
<b>Board of Regents Total Composite</b>	<b>\$25,713,932</b>	<b>2.4%</b>	<b>55</b>	<b>6.7%</b>	<b>37</b>	<b>6.0%</b>	<b>16</b>	<b>3.6%</b>	<b>49</b>
<i>Allocation Index</i>		2.5%	49	7.5%	24	6.3%	13	3.9%	39

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	3 Yrs	Rank	5 Yrs	Rank
<b>Long Term Investment Pool</b>	<b>\$22,255,740</b>	<b>3.2%</b>	<b>43</b>	<b>6.1%</b>	<b>30</b>	<b>7.0%</b>	<b>78</b>	<b>4.3%</b>	<b>71</b>
<i>Long Term Allocation Index</i>		3.3%	30	6.0%	33	7.3%	73	5.1%	43
<i>Long Term Balanced Index</i>		3.2%	37	5.8%	37	7.2%	75	5.0%	46

**Long Term Investment Pool Actual vs. Target Allocation**



**Long Term Investment Pool Attribution Effects  
2 Years 6 Months Ending June 30, 2019**



**Year to Date**

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank
Board of Regents Total Composite	9.50%	18	8.15%	99	1.02	98
<i>Allocation Index</i>	9.60%	17	8.18%	99	1.03	98

**Composite Performance**

The Total Composite returned +2.4% for the quarter, bringing the fiscal year return to 6.7%. Portfolio performance was flat relative to the Allocation Index for the quarter and a bit behind for the fiscal year.

**Allocation Index**

Equities continue to perform well for the portfolio, while some of the defensive mandates have been a little behind

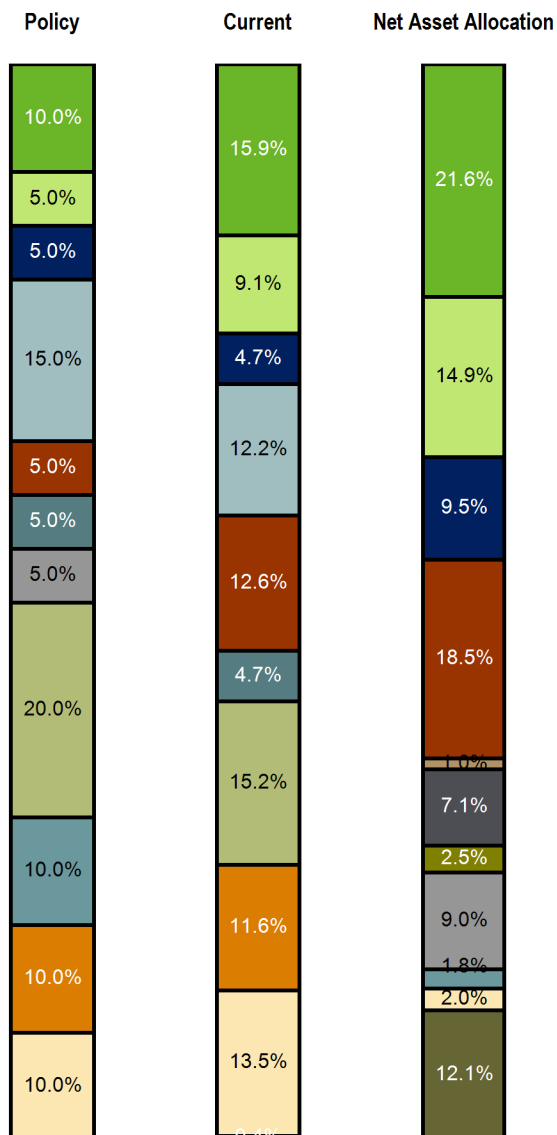
**Active Management**

Artisan continues to perform well for the portfolio - Q2's success was attributed to positions in information technology and industrial holdings

Hexavest, another high conviction Global Equity manager, lagged the index due to their bets in energy and financial companies



# Asset Allocation vs. Policy Targets



Asset Allocation vs. Target				
	Current	Policy	Current	Net Asset Allocation
Domestic Equity	\$3,528,766	10.0%	15.9%	21.6%
International Equity	\$2,036,370	5.0%	9.1%	14.9%
Emerging Markets Equity	\$1,044,871	5.0%	4.7%	9.5%
Global Equity	\$2,718,087	15.0%	12.2%	--
Core Fixed Income	\$2,804,855	5.0%	12.6%	18.5%
High Yield	--	--	--	1.0%
TIPS	--	--	--	7.1%
Multi-Sector Fixed Income	\$1,043,644	5.0%	4.7%	--
Non-US Developed Bonds	--	--	--	2.5%
Emerging Market Debt	--	5.0%	--	9.0%
GAA/Risk Parity	\$3,384,402	20.0%	15.2%	--
Hedge Funds	--	10.0%	--	1.8%
Absolute Return	\$2,591,951	10.0%	11.6%	--
Real Assets	\$3,008,996	10.0%	13.5%	2.0%
Cash	\$93,798	--	0.4%	12.1%
<b>Total</b>	<b>\$22,255,740</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Net Asset Allocation breaks multi-asset investments like GAA and Global Equity into their underlying asset classes providing a look through to your actual asset allocation**

-Asset Allocation vs. Policy Targets analytics are based on the Long Term Investment Pool.



# ASSET ALLOCATION DISCUSSION – REVISED STRATEGIC TARGETS

Asset Class	Proposed	IPS
<b>Short-Term Investment Pool</b>	<b>10</b>	<b>10</b>
Int'l Equities (Unhedged)	6	5
Emerging Int'l Equities	6	5
Global Equity	15	15
Large Cap Equities	13	10
<b>Equity</b>	<b>40</b>	<b>35</b>
Global Multi-Sector Fixed Income	5	5
Absolute Return Fixed Income	10	10
Core Bonds	7.5	5
TIPS/Treasurys	7.5	5
<b>Fixed Income</b>	<b>30</b>	<b>25</b>
<b>Real Assets</b>	<b>10</b>	<b>10</b>
<b>Global Asset Allocation</b>	<b>10</b>	<b>20</b>
Expected Return 5-7 Yr	5.60%	5.60%
Standard Deviation	9.80%	10.00%
Sharpe Ratio	0.32	0.31

- We propose reducing Global Asset Allocation
  - Asset class has been underperforming
  - Fees continue to be high
- Use the extra allocation to top up International Equities, US Equities, and Fixed Income
  - Equities shift positions the portfolio with a slight underweight to US and International Equities, with an overweight to EM Equities on a look-through basis relative to the MSCI ACWI
  - In line with NEPC Research's views
  - Added exposure to Fixed Income in line with our views on an increase to safe-haven assets



# ASSET ALLOCATION DISCUSSION – CURRENT IPS

<b><u>ASSET CLASS</u></b>	<b><u>PERMISSIBLE RANGE %</u></b>
<b>Equity</b>	<b>20%-60%</b>
<b>Domestic All Cap Equities</b>	<b>5% - 40%</b>
<b>International Equities</b>	<b>0% - 30%</b>
<b>Emerging International Equities</b>	<b>0% - 8%</b>
<b>Global Equity</b>	<b>10% - 30%</b>
<b>Fixed Income</b>	<b>20% - 60%</b>
<b>Core Fixed Income</b>	<b>0% - 60%</b>
<b>Absolute Return Fixed Income</b>	<b>0% - 15%</b>
<b>Emerging Market Debt</b>	<b>0% - 8%</b>
<b>Global Multi-Sector Fixed Income</b>	<b>0% - 10%</b>
<b>Treasury Inflation Protected Securities (TIPS)</b>	<b>0-15%</b>
<b>Global Asset Allocation / Risk Parity</b>	<b>0% - 30%</b>
<b>Alternatives</b>	<b>0% - 25%</b>
<b>Hedge Funds</b>	<b>0% - 20%</b>
<b>Real Assets</b>	<b>0% - 15%</b>



# INVESTMENT MANAGER - DUE DILIGENCE STATUS

Investment Options	Manager Changes/ Announcements (Recent Quarter)	NEPC Due Diligence Committee Recommendations
<b>BlackRock Investments, LLC</b> <i>BlackRock Strategic Income Opportunities</i>	Loss of Personnel: Blackrock Leadership Changes 4/2019	Watch



# INVESTMENT MANAGER DUE DILIGENCE

Investment Option	Commentary	NEPC Rating
<b>BlackRock Investments, LLC</b> <i>BlackRock Strategic Income Opportunities</i>	<p>NEPC Research was recently informed that Blackrock Strategic Income Opportunities (SIO) lead portfolio manager, Rick Rieder, will be joining the Blackrock Global Allocation strategy as one of four portfolio managers. Mr. Rieder also serves as CIO of Global Fixed Income at Blackrock. Blackrock is expanding the leadership team and increasing responsibilities and accountability of key investors, including Bob Miller and Ron Sion, both associated with the SIO strategy. Mr. Miller is co-portfolio manager on SIO, and will become Head of Americas Fundamental Fixed Income (FFI) alongside Michael Krautzberger. Mr. Sion will take additional responsibility as Mr. Miller's deputy in Americas FFI.</p> <p>NEPC Research recommends a WATCH for Blackrock SIO given the added responsibilities for both Mr. Rieder and Mr. Miller away from SIO. NEPC Research will continue to monitor how responsibilities are adopted and ensure that Mr. Rieder and Mr. Miller are still able to make the proper time commitment to the SIO strategy.</p>	<b>1</b>

NEPC Due Diligence Committee Recommendation Key	
<b>No Action</b>	Informational items have surfaced; no action is recommended.
<b>Watch</b>	Issues have surfaced to be concerned over; manager can participate in future searches, but current and prospective clients must be made aware of the issues.
<b>Hold</b>	Serious issues have surfaced to be concerned over; manager cannot be in future searches unless a client specifically requests, but current and prospective clients must be made aware of the issues.
<b>Client Review</b>	Very serious issues have surfaced with a manager; manager cannot be in future searches unless a client specifically requests. Current clients must be advised to review the manager.
<b>Terminate</b>	We have lost all confidence in the product; manager would not be recommended for searches and clients would be discouraged from using. The manager cannot be in future searches unless a client specifically requests. Current clients must be advised to replace the manager.





# TOTAL FUND SUMMARY

NEPC, LLC

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## Eastern Michigan University - Board of Regents

# Total Fund Performance Summary

	Market Value (\$)	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank
<b>Board of Regents Total Composite</b>	<b>25,713,932</b>	<b>2.4</b>	<b>55</b>	<b>6.7</b>	<b>37</b>	<b>6.0</b>	<b>16</b>	<b>3.6</b>	<b>49</b>
<i>Allocation Index</i>		2.5	49	7.5	24	6.3	13	3.9	39
<i>InvMetrics Trust Funds &gt;60% Fixed Income Net Median</i>		2.5		6.2		4.4		3.5	
<b>Short Term Investment Pool</b>	<b>3,458,192</b>	<b>0.5</b>		<b>1.0</b>		<b>0.4</b>		<b>0.2</b>	
<i>91 Day T-Bills</i>		0.6	--	2.3	--	1.4	--	0.9	--
<b>Long Term Investment Pool</b>	<b>22,255,740</b>	<b>3.2</b>	<b>43</b>	<b>6.1</b>	<b>30</b>	<b>7.0</b>	<b>78</b>	<b>4.3</b>	<b>71</b>
<i>Long Term Allocation Index</i>		3.3	30	6.0	33	7.3	73	5.1	43
<i>Long Term Balanced Index</i>		3.2	37	5.8	37	7.2	75	5.0	46
<b>Total Equity</b>	<b>9,328,094</b>	<b>4.2</b>	<b>37</b>	<b>7.3</b>	<b>37</b>	<b>11.5</b>	<b>39</b>	<b>7.5</b>	<b>29</b>
<i>MSCI ACWI</i>		3.6	48	5.7	47	11.6	38	6.2	50
<i>eV All Global Equity Net Median</i>		3.4		5.2		10.4		6.1	
<b>Total Fixed</b>	<b>6,534,249</b>	<b>2.6</b>	<b>68</b>	<b>6.3</b>	<b>44</b>	<b>4.5</b>	<b>40</b>	<b>2.8</b>	<b>32</b>
<i>BBgBarc US Aggregate TR</i>		3.1	52	7.9	17	2.3	72	2.9	30
<i>eV Global Fixed Inc Unhedged Net Median</i>		3.1		6.0		3.7		1.9	
<b>GAA/ Risk Parity</b>	<b>3,384,402</b>	<b>2.0</b>	<b>65</b>	<b>3.6</b>	<b>46</b>	<b>2.5</b>	<b>87</b>	<b>--</b>	<b>--</b>
<i>60% MSCI World (Net) / 40% FTSE WGBI</i>		3.9	15	6.4	19	7.5	31	4.5	28
<i>eV Global TAA Net Median</i>		2.4		3.3		5.8		3.3	
<b>Real Assets</b>	<b>3,008,996</b>	<b>2.7</b>	<b>6</b>	<b>5.0</b>	<b>16</b>	<b>6.6</b>	<b>22</b>	<b>--</b>	<b>--</b>
<i>PIMCO All Asset Index</i>		3.2	4	7.7	7	4.1	33	3.6	16
<i>Bloomberg Commodity Index</i>		-1.2	95	-6.8	79	-2.2	95	-9.1	73
<i>InvMetrics All E&amp;F Real Assets/Commodities Net Median</i>		1.1		-1.0		2.3		-3.9	

*Intermediate Term Balanced Index comprised of 50.0% Barclays Intermediate U.S. GV/CR Index and 50.0% BofA ML 1-3 Year Treasury Index.*

*Allocation Index: Used to measure the value add from active management. Calculated as the asset weight from the prior month end multiplied by the specified market index.*



## Eastern Michigan University - Board of Regents

# Total Fund Performance Detail

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Board of Regents Total Composite</b>	<b>25,713,932</b>	<b>100.0</b>	<b>2.4</b>	<b>55</b>	<b>6.7</b>	<b>37</b>	<b>6.0</b>	<b>16</b>	<b>3.6</b>	<b>49</b>	<b>5.0</b>	<b>48</b>	<b>5.3</b>	<b>Apr-09</b>
Allocation Index			2.5	49	7.5	24	6.3	13	3.9	39	--	--	--	Apr-09
InvMetrics Trust Funds >60% Fixed Income Net Median			2.5		6.2		4.4		3.5		4.9		5.1	Apr-09
<b>Short Term Investment Pool</b>	<b>3,458,192</b>	<b>13.4</b>	<b>0.5</b>		<b>1.0</b>		<b>0.4</b>		<b>0.2</b>		<b>0.2</b>		<b>0.2</b>	<b>Apr-09</b>
91 Day T-Bills			0.6	--	2.3	--	1.4	--	0.9	--	0.5	--	0.5	Apr-09
Northern Inst Govt Select MMKT	3,005,521	11.7	0.6		1.1		0.4		0.3		--		0.1	Nov-09
91 Day T-Bills			0.6	95	2.3	69	1.4	79	0.9	78	0.5	74	0.5	Nov-09
Bank of Ann Arbor Trust Cash	452,671	1.8	0.0	99	0.0	99	0.0	99	0.0	99	--	--	0.0	Nov-09
91 Day T-Bills			0.6	95	2.3	69	1.4	79	0.9	78	0.5	74	0.5	Nov-09
eV US Cash Management Net Median			0.6		2.4		1.5		1.0		0.6		0.6	Nov-09
<b>Long Term Investment Pool</b>	<b>22,255,740</b>	<b>86.6</b>	<b>3.2</b>	<b>43</b>	<b>6.1</b>	<b>30</b>	<b>7.0</b>	<b>78</b>	<b>4.3</b>	<b>71</b>	<b>6.8</b>	<b>89</b>	<b>5.6</b>	<b>Apr-09</b>
Long Term Allocation Index			3.3	30	6.0	33	7.3	73	5.1	43	--	--	--	Apr-09
Long Term Balanced Index			3.2	37	5.8	37	7.2	75	5.0	46	6.5	91	5.6	Apr-09
<b>Total Equity</b>	<b>9,328,094</b>	<b>36.3</b>	<b>4.2</b>	<b>37</b>	<b>7.3</b>	<b>37</b>	<b>11.5</b>	<b>39</b>	<b>7.5</b>	<b>29</b>	<b>--</b>	<b>--</b>	<b>8.1</b>	<b>Jan-14</b>
MSCI ACWI			3.6	48	5.7	47	11.6	38	6.2	50	10.1	59	6.7	Jan-14
eV All Global Equity Net Median			3.4		5.2		10.4		6.1		10.7		6.8	Jan-14
SEG Baxter	2,036,370	7.9	6.1	--	12.1	--	--	--	--	--	--	--	10.2	Jul-17
MSCI ACWI ex USA			3.0	--	1.3	--	9.4	--	2.2	--	6.5	--	4.2	Jul-17
Acadian Emerging Markets Equity	1,044,871	4.1	0.6	71	-1.7	74	9.9	49	--	--	--	--	2.6	Oct-14
MSCI Emerging Markets			0.6	72	1.2	47	10.7	38	2.5	52	5.8	74	3.4	Oct-14
eV Emg Mkts Equity Net Median			1.4		0.9		9.9		2.5		6.7		3.4	Oct-14
Artisan Global Opportunities	1,423,753	5.5	6.1	13	8.3	28	15.5	14	--	--	--	--	11.5	Dec-14
MSCI ACWI			3.6	48	5.7	47	11.6	38	6.2	50	10.1	59	6.7	Dec-14
eV All Global Equity Net Median			3.4		5.2		10.4		6.1		10.7		6.7	Dec-14
Hexavest GE	1,294,334	5.0	2.3	66	4.9	52	6.5	85	--	--	--	--	5.6	Dec-14
MSCI ACWI			3.6	48	5.7	47	11.6	38	6.2	50	10.1	59	6.7	Dec-14
eV All Global Equity Net Median			3.4		5.2		10.4		6.1		10.7		6.7	Dec-14
Vanguard Total Stock Market VIPERs	3,528,766	13.7	4.1	45	9.0	34	--	--	--	--	--	--	13.6	Nov-16
Russell 3000			4.1	45	9.0	34	14.0	35	10.2	28	14.7	34	13.6	Nov-16
eV All US Equity Net Median			3.8		5.8		12.2		8.3		13.9		11.0	Nov-16

-Intermediate Term Balanced Index: 50.0% Barclays Intermediate U.S. GV/CR Index and 50.0% BofA ML 1-3 Year Treasury Index.

-Allocation Index: Used to measure the value add from active management. Calculated as the asset weight from the prior month end multiplied by the specified market index.

-Long-Term Balanced Index: (10% - Russell 3000)(5% - MSCI EAFE Small Cap)(5% - MSCI Emerging Markets)(15% - MSCI ACWI)(15% - Barclays Aggregate)(5% - 50%JPM EMBI GD/ 25% JPM ELMI+/- 25% JPM GBI EM GD)(5% - Barclays Multi-verse)(20% - 60% MSCI World (Net)/ 40% CITI WGBI)(10% - HFRI Fund of Funds Composite)(10% - PIMCO All Asset Index).



# Total Fund Performance Detail

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Total Fixed</b>	<b>6,534,249</b>	<b>25.4</b>	<b>2.6</b>	<b>68</b>	<b>6.3</b>	<b>44</b>	<b>4.5</b>	<b>40</b>	<b>2.8</b>	<b>32</b>	<b>--</b>	<b>--</b>	<b>3.4</b>	<b>Jan-14</b>
BBgBarc US Aggregate TR			3.1	52	7.9	17	2.3	72	2.9	30	3.9	54	3.4	Jan-14
eV Global Fixed Inc Unhedged Net Median			3.1		6.0		3.7		1.9		4.2		2.5	Jan-14
Franklin Templeton- Global Multi-Sector Plus	1,043,644	4.1	1.4	99	7.1	36	5.4	1	--	--	--	--	2.2	Oct-14
BBgBarc Multiverse			3.3	63	6.0	67	1.9	61	1.3	48	3.1	82	2.1	Oct-14
eV Global Agg Fixed Inc Net Median			3.5		6.7		2.4		1.3		3.6		2.0	Oct-14
BlackRock- SIO	2,591,951	10.1	2.6	91	4.9	99	4.0	12	--	--	--	--	2.8	Oct-14
BBgBarc US Aggregate TR			3.1	60	7.9	62	2.3	96	2.9	79	3.9	99	3.1	Oct-14
eV US Core Plus Fixed Inc Net Median			3.2		8.0		3.3		3.2		5.4		3.4	Oct-14
Baird - Core Bond	1,486,887	5.8	3.2	41	8.2	30	2.8	30	--	--	--	--	3.2	Dec-14
BBgBarc US Aggregate TR			3.1	56	7.9	49	2.3	64	2.9	57	3.9	73	2.8	Dec-14
eV US Core Fixed Inc Net Median			3.1		7.9		2.5		3.0		4.3		2.9	Dec-14
Vanguard Inflation Protected Fund	1,317,968	5.1	2.8		--		--		--		--		4.5	Sep-18
BBgBarc US TIPS TR			2.9	--	4.8	--	2.1	--	1.8	--	3.6	--	4.6	Sep-18
US Treasury	93,798	0.4												
<b>GAA/ Risk Parity</b>	<b>3,384,402</b>	<b>13.2</b>	<b>2.0</b>	<b>65</b>	<b>3.6</b>	<b>46</b>	<b>2.5</b>	<b>87</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>1.3</b>	<b>Dec-14</b>
60% MSCI World (Net) / 40% FTSE WGBI			3.9	15	6.4	19	7.5	31	4.5	28	7.5	37	5.2	Dec-14
eV Global TAA Net Median			2.4		3.3		5.8		3.3		6.7		3.6	Dec-14
William Blair Macro Allocation	1,899,178	7.4	1.7	75	3.2	55	--	--	--	--	--	--	2.0	Aug-17
60% MSCI World (Net) / 40% FTSE WGBI			3.9	15	6.4	19	7.5	31	4.5	28	7.5	37	6.0	Aug-17
eV Global TAA Net Median			2.4		3.3		5.8		3.3		6.7		3.5	Aug-17
AQR Global Market and Alternative Premia Offshore Fund	1,485,224	5.8	2.4	53	4.2	42	--	--	--	--	--	--	-0.8	Mar-18
60% MSCI World (Net) / 40% FTSE WGBI			3.9	15	6.4	19	7.5	31	4.5	28	7.5	37	4.8	Mar-18
<b>Real Assets</b>	<b>3,008,996</b>	<b>11.7</b>	<b>2.7</b>	<b>6</b>	<b>5.0</b>	<b>16</b>	<b>6.6</b>	<b>22</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>3.6</b>	<b>Dec-14</b>
PIMCO All Asset Index			3.2	4	7.7	7	4.1	33	3.6	16	5.6	24	3.8	Dec-14
Bloomberg Commodity Index			-1.2	95	-6.8	79	-2.2	95	-9.1	73	-3.7	99	-6.4	Dec-14
InvMetrics All E&F Real Assets/Commodities Net Median			1.1		-1.0		2.3		-3.9		2.5		-1.8	Dec-14
PIMCO All Asset	3,008,996	11.7	2.7	41	5.0	32	6.6	41	--	--	--	--	3.6	Dec-14
PIMCO All Asset Index			3.2	25	7.7	12	4.1	71	3.6	42	5.6	72	3.8	Dec-14
Bloomberg Commodity Index			-1.2	99	-6.8	99	-2.2	99	-9.1	99	-3.7	99	-6.4	Dec-14
eV Global TAA Net Median			2.4		3.3		5.8		3.3		6.7		3.6	Dec-14



# Total Fund Asset Growth Summary

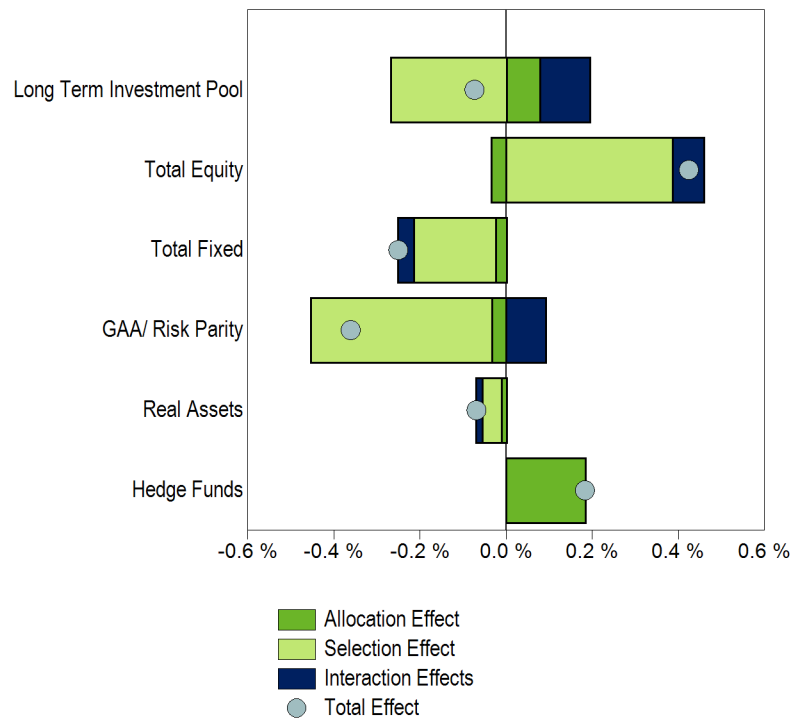
	Quarter Ending June 30, 2019					
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Acadian Emerging Markets Equity	\$1,038,542	\$0	\$0	\$0	\$6,329	\$1,044,871
AQR Global Market and Alternative Premia Offshore Fund	\$1,450,718	\$0	\$0	\$0	\$34,506	\$1,485,224
Artisan Global Opportunities	\$1,341,994	\$0	\$0	\$0	\$81,759	\$1,423,753
Baird - Core Bond	\$1,441,315	\$0	\$0	\$0	\$45,572	\$1,486,887
Bank of Ann Arbor Trust Cash	\$383,280	\$69,391	\$0	\$69,391	\$0	\$452,671
BlackRock- SIO	\$2,526,486	\$0	\$0	\$0	\$65,466	\$2,591,951
Franklin Templeton- Global Multi-Sector Plus	\$1,028,941	\$0	\$0	\$0	\$14,703	\$1,043,644
Hexavest GE	\$1,265,356	\$0	\$0	\$0	\$28,978	\$1,294,334
Northern Inst Govt Select MMKT	\$15,028,851	\$0	-\$12,056,731	-\$12,056,731	\$33,401	\$3,005,521
PIMCO All Asset	\$2,930,458	\$0	\$0	\$0	\$78,538	\$3,008,996
SEG Baxter	\$1,920,061	\$0	\$0	\$0	\$116,309	\$2,036,370
US Treasury	\$91,504	\$0	\$0	\$0	\$2,294	\$93,798
Vanguard Inflation Protected Fund	\$1,282,220	\$0	\$0	\$0	\$35,748	\$1,317,968
Vanguard Total Stock Market VIPERs	\$3,402,277	\$0	-\$12,865	-\$12,865	\$139,354	\$3,528,766
William Blair Macro Allocation	\$1,868,284	\$0	\$0	\$0	\$30,894	\$1,899,178
<b>Total</b>	<b>\$37,000,286</b>	<b>\$69,391</b>	<b>-\$12,069,596</b>	<b>-\$12,000,205</b>	<b>\$713,851</b>	<b>\$25,713,932</b>



# Eastern Michigan University - Board of Regents

## Long Term Investment Pool

**Attribution Effects**  
3 Months Ending June 30, 2019



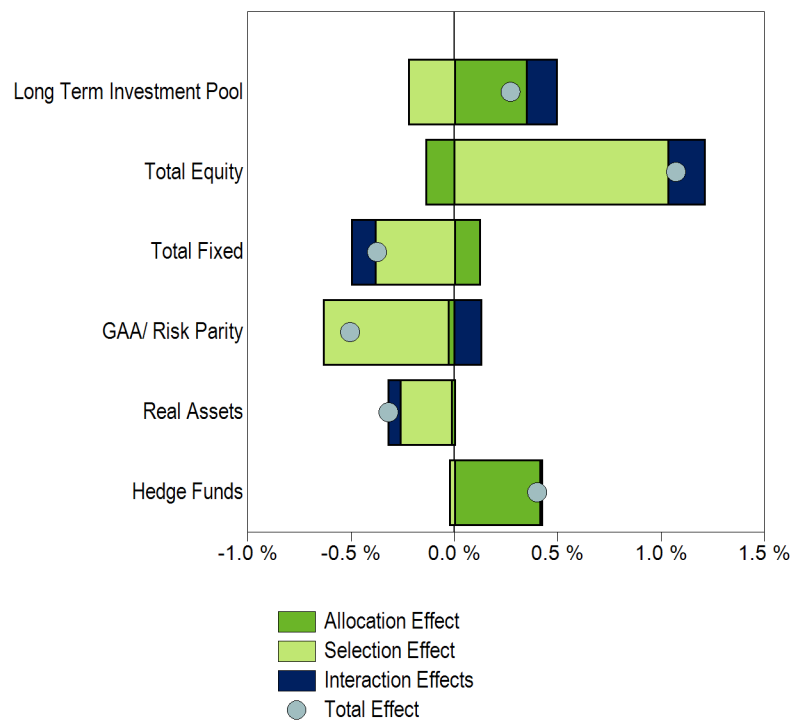
Attribution Summary							
3 Months Ending June 30, 2019							
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total Equity	4.2%	3.0%	1.1%	0.4%	0.0%	0.1%	0.4%
Total Fixed	2.6%	3.3%	-0.7%	-0.2%	0.0%	0.0%	-0.3%
GAA/ Risk Parity	2.0%	3.9%	-2.0%	-0.4%	0.0%	0.1%	-0.4%
Real Assets	2.7%	3.2%	-0.5%	0.0%	0.0%	0.0%	-0.1%
Hedge Funds	--	--	--	--	0.2%	--	--
<b>Total</b>	<b>3.2%</b>	<b>3.2%</b>	<b>-0.1%</b>	<b>-0.3%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>-0.1%</b>



# Eastern Michigan University - Board of Regents

## Long Term Investment Pool

### Attribution Effects 1 Year Ending June 30, 2019

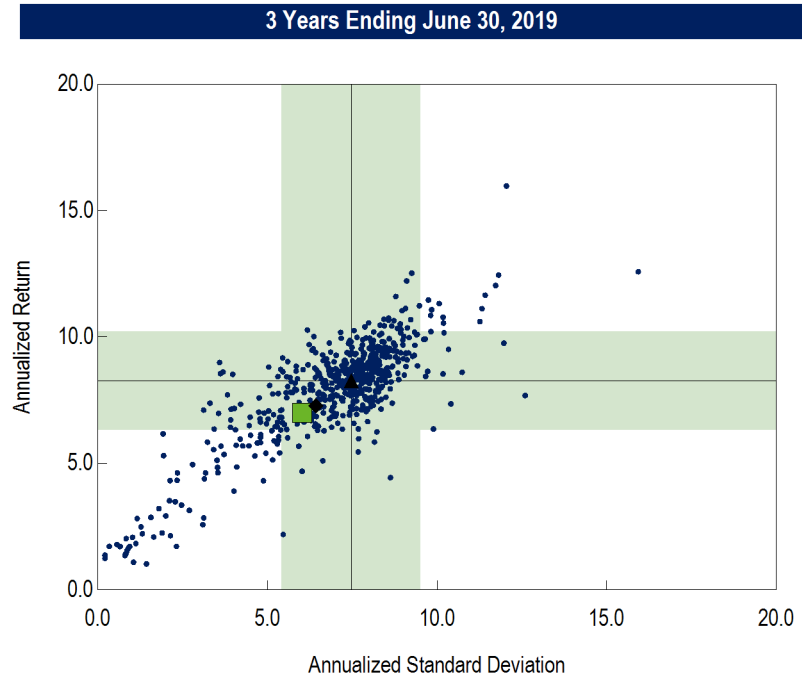


Attribution Summary 1 Year Ending June 30, 2019							
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total Equity	7.3%	4.2%	3.0%	1.0%	-0.1%	0.2%	1.1%
Total Fixed	6.3%	7.8%	-1.6%	-0.4%	0.1%	-0.1%	-0.4%
GAA/ Risk Parity	3.6%	6.4%	-2.8%	-0.6%	0.0%	0.1%	-0.5%
Real Assets	5.0%	7.7%	-2.6%	-0.2%	0.0%	-0.1%	-0.3%
Hedge Funds	--	0.2%	--	0.0%	0.4%	0.0%	0.4%
<b>Total</b>	<b>6.1%</b>	<b>5.8%</b>	<b>0.3%</b>	<b>-0.2%</b>	<b>0.4%</b>	<b>0.1%</b>	<b>0.3%</b>

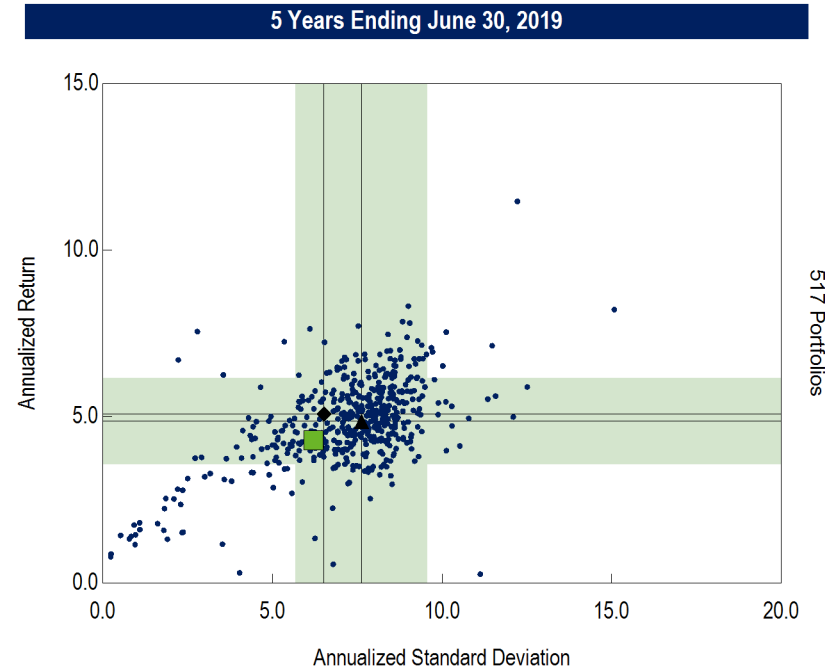


# Eastern Michigan University - Board of Regents

## Risk vs. Return



- Long Term Investment Pool
- ◆ Long Term Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics All E&F < \$50mm Net



- Long Term Investment Pool
- ◆ Long Term Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics All E&F < \$50mm Net

3 Years Ending June 30, 2019						
	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank
Long Term Investment Pool	7.00%	78	6.02%	23	0.93	54
Long Term Allocation Index	7.28%	73	6.43%	29	0.91	58
Long Term Balanced Index	7.23%	75	6.36%	28	0.92	58

5 Years Ending June 30, 2019						
	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank
Long Term Investment Pool	4.28%	71	6.20%	21	0.55	51
Long Term Allocation Index	5.08%	43	6.52%	25	0.64	26
Long Term Balanced Index	5.01%	46	6.48%	24	0.64	27

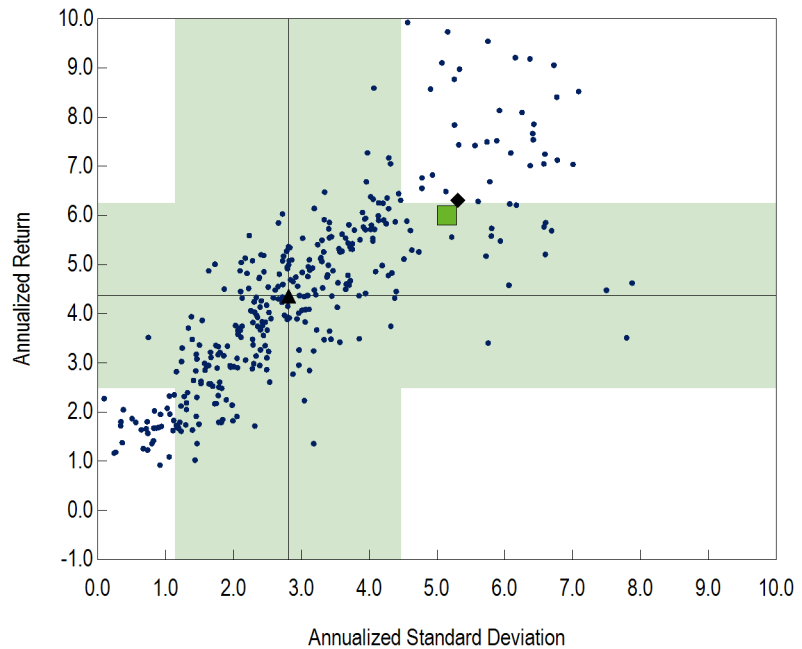
- Above Risk vs. Return analytics are based on the Long Term Investment Pool.





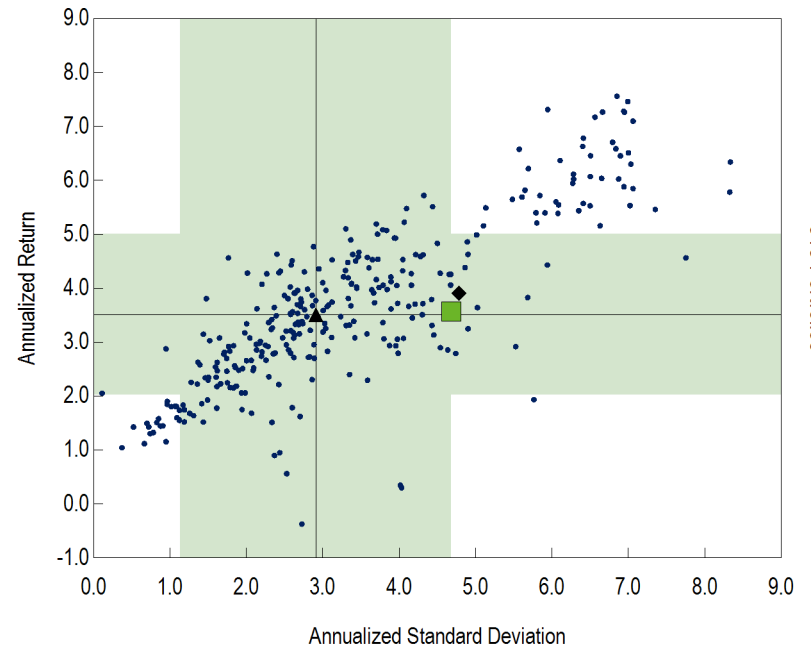
# Total Fund Risk vs. Return

3 Years Ending June 30, 2019



- Board of Regents Total Composite
- ◆ Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Trust Funds >60% Fixed Income Net

5 Years Ending June 30, 2019



- Board of Regents Total Composite
- ◆ Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Trust Funds >60% Fixed Income Net

3 Years Ending June 30, 2019

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank
Board of Regents Total Composite	6.00%	16	5.15%	16	0.89	60
Allocation Index	6.31%	13	5.30%	13	0.93	58

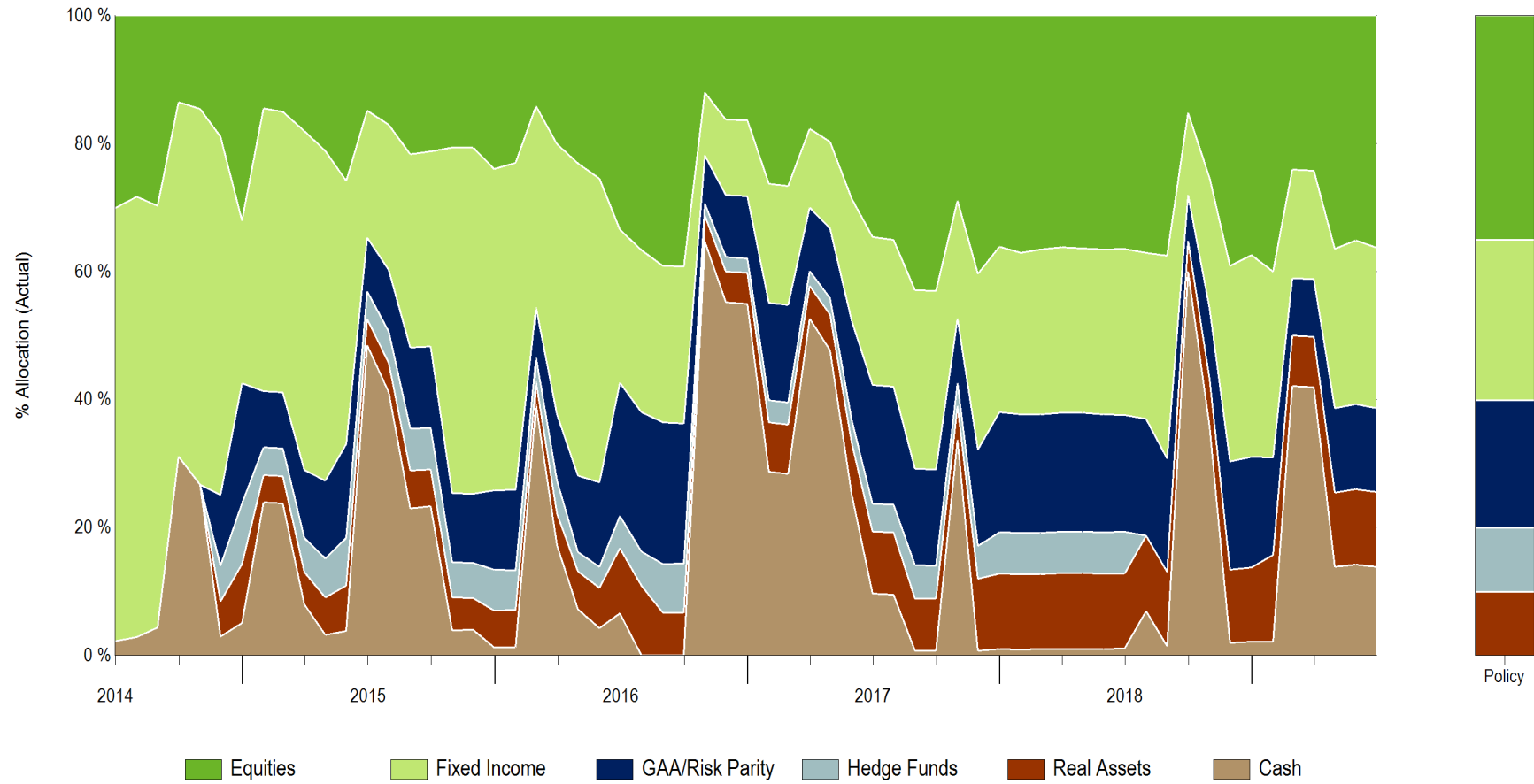
5 Years Ending June 30, 2019

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank
Board of Regents Total Composite	3.56%	49	4.68%	49	0.58	88
Allocation Index	3.91%	39	4.78%	39	0.64	83

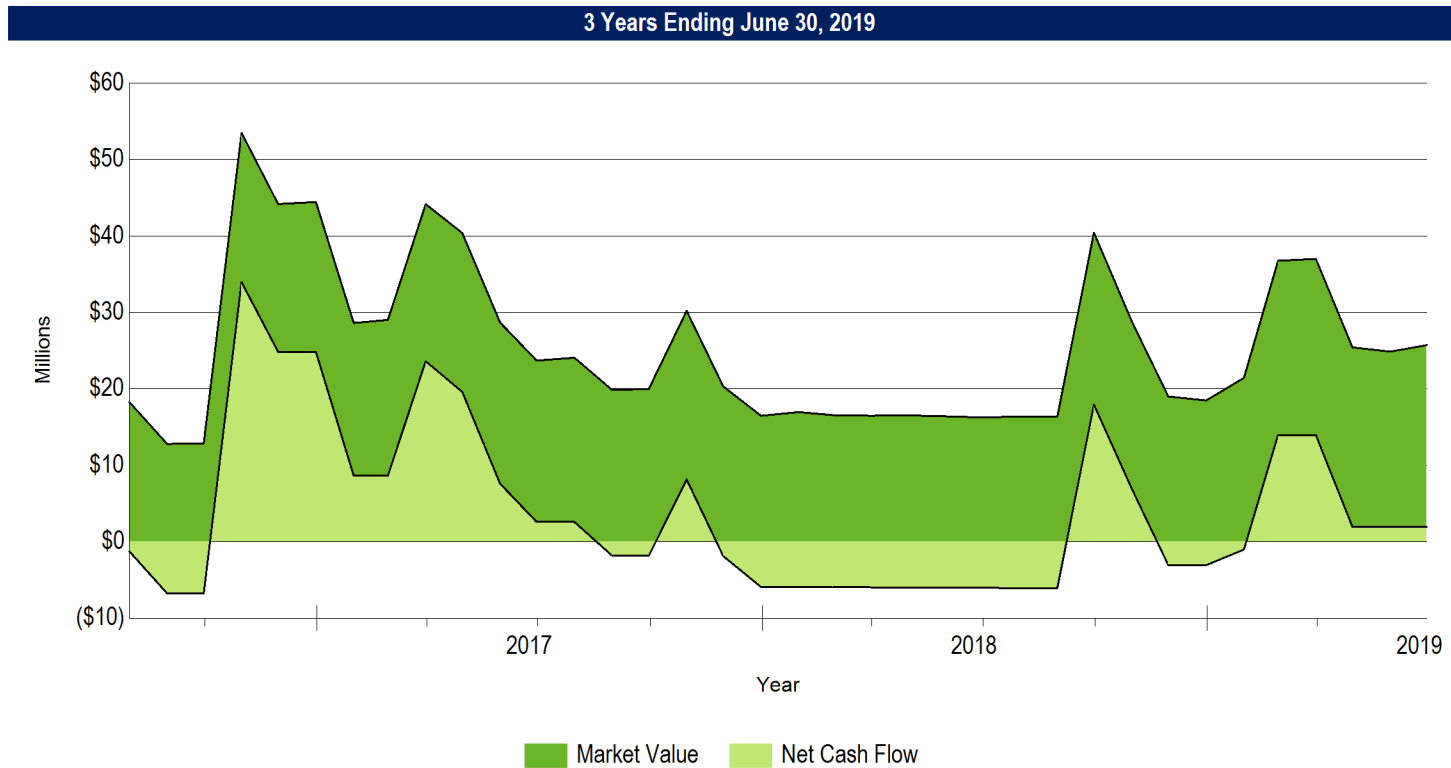


# Total Fund Asset Allocation History

Asset Allocation History



# Total Fund Asset Growth Summary

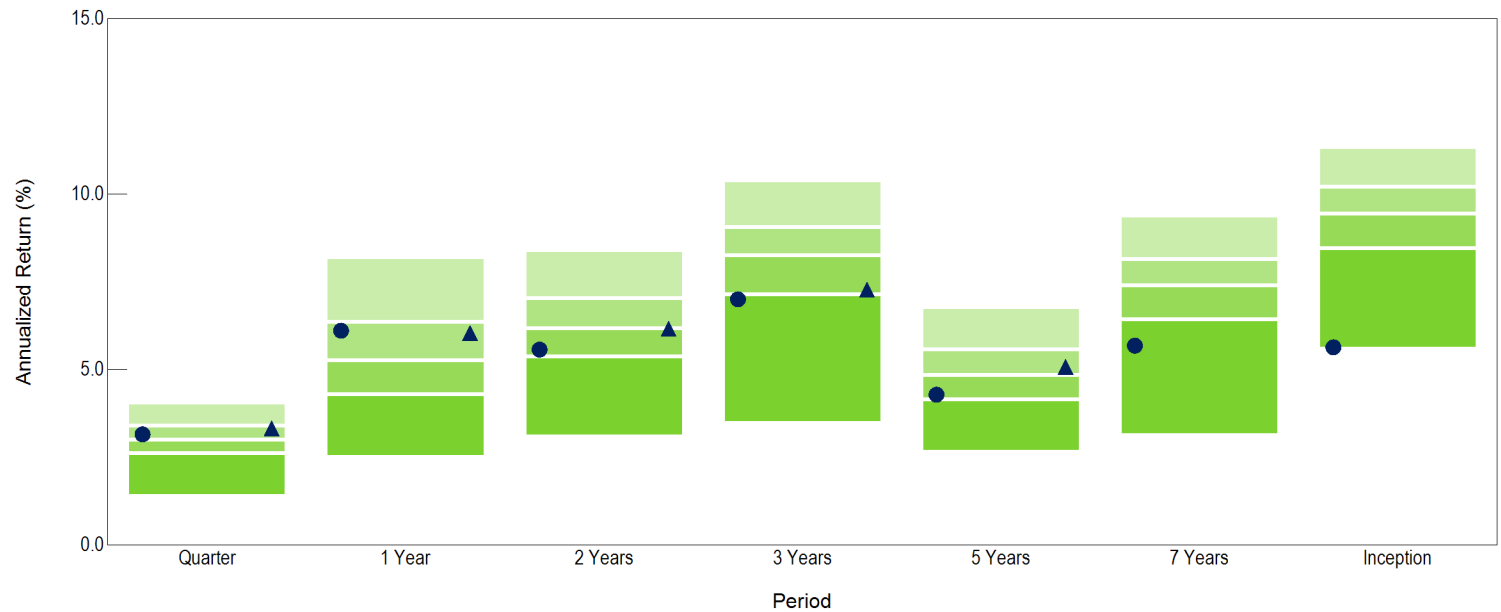


	Last Three Months	Fiscal Year-To-Date	One Year	Three Years
Beginning Market Value	\$37,000,286	\$16,253,086	\$16,253,086	\$19,097,941
Contributions	\$69,391	\$46,211,847	\$46,211,847	\$144,537,805
Withdrawals	-\$12,105,408	-\$38,304,741	-\$38,304,741	-\$142,632,460
Net Cash Flow	-\$12,036,017	\$7,907,106	\$7,907,106	\$1,905,345
Net Investment Change	\$749,662	\$1,553,740	\$1,553,740	\$4,710,646
Ending Market Value	\$25,713,932	\$25,713,932	\$25,713,932	\$25,713,932



# Return Summary vs. Peer Universe

Long Term Investment Pool vs. InvMetrics All E&F < \$50mm Net



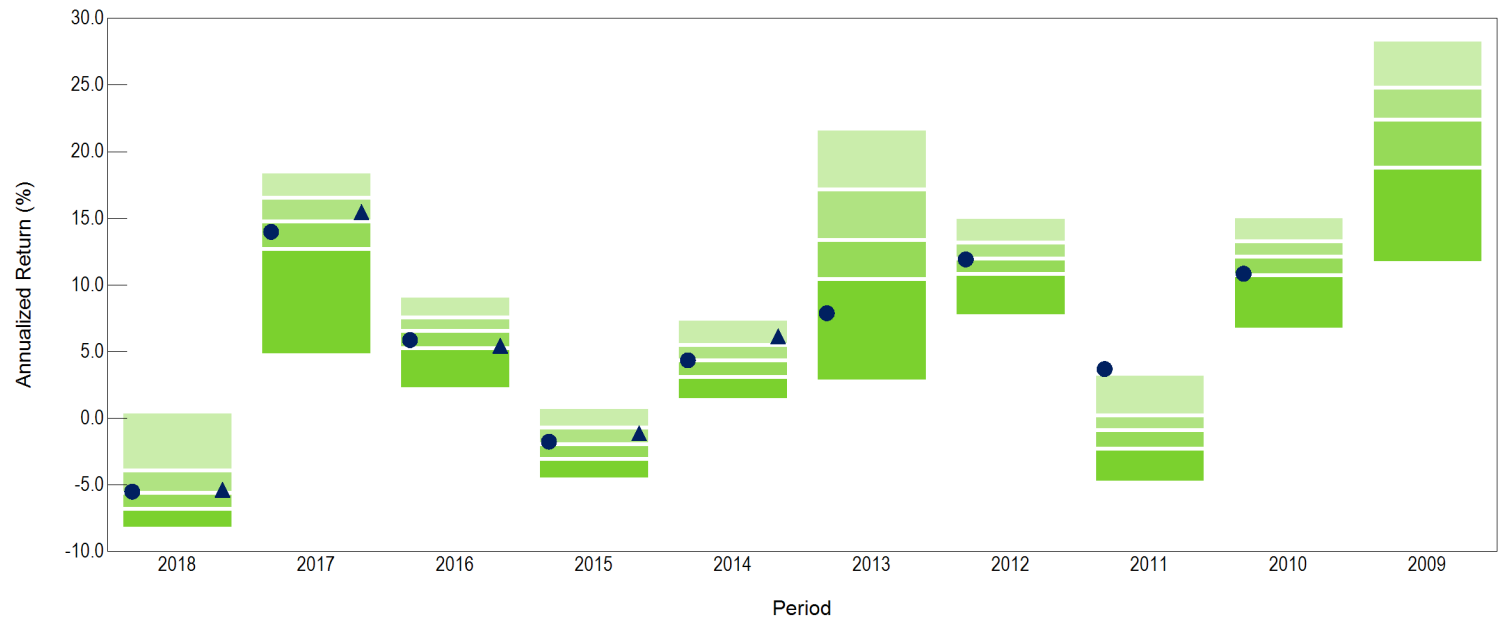
	Return (Rank)													
5th Percentile	4.1	8.2	8.4	10.4	6.8	9.4	11.3							
25th Percentile	3.4	6.4	7.0	9.1	5.6	8.2	10.2							
Median	3.0	5.3	6.2	8.3	4.9	7.4	9.4							
75th Percentile	2.6	4.3	5.4	7.2	4.2	6.4	8.5							
95th Percentile	1.4	2.5	3.1	3.5	2.7	3.1	5.6							
# of Portfolios	720	691	639	606	517	420	317							
● Long Term Investment Pool	3.2	(43)	6.1	(30)	5.6	(71)	7.0	(78)	4.3	(71)	5.7	(89)	5.6	(95)
▲ Long Term Allocation Index	3.3	(30)	6.0	(33)	6.2	(52)	7.3	(73)	5.1	(43)	--	(--)	--	(--)

-The above Return Summary vs. Peer Universe analytic is based on the Long Term Investment Pool.



# Return Summary vs. Peer Universe

Long Term Investment Pool vs. InvMetrics All E&F < \$50mm Net



	Return (Rank)															
5th Percentile	0.5	18.5	9.2	0.8	7.5	21.7	15.1	3.3	15.1	28.4						
25th Percentile	-3.9	16.6	7.6	-0.7	5.5	17.2	13.2	0.2	13.3	24.8						
Median	-5.6	14.8	6.6	-1.9	4.4	13.4	12.0	-0.9	12.1	22.4						
75th Percentile	-6.8	12.7	5.3	-3.0	3.1	10.5	10.9	-2.3	10.7	18.8						
95th Percentile	-8.3	4.8	2.2	-4.6	1.4	2.8	7.7	-4.8	6.7	11.7						
# of Portfolios	673	486	496	466	400	267	249	216	194	181						
● Long Term Investment Pool	-5.5 (49)	14.0 (62)	5.9 (68)	-1.8 (46)	4.3 (51)	7.9 (84)	11.9 (53)	3.7 (4)	10.8 (74)	-- (--)						
▲ Long Term Allocation Index	-5.4 (46)	15.5 (42)	5.4 (73)	-1.1 (35)	6.2 (14)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)						

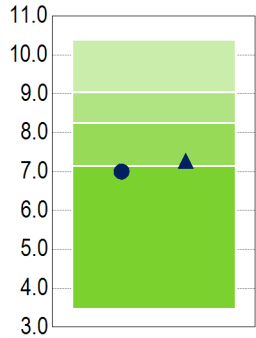
-The above Return Summary vs. Peer Universe analytic is based on the Long Term Investment Pool.



# Risk Statistics vs. Peer Universe

## Long Term Investment Pool vs. InvMetrics All E&F < \$50mm Net 3 Years

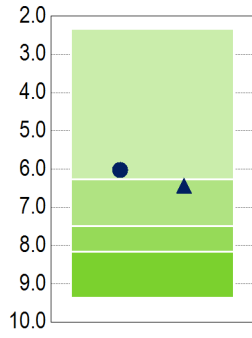
**Anlzd Return**



● Long Term Investment Pool  
Value 7.00  
Rank 78  
▲ Long Term Allocation Index  
Value 7.28  
Rank 73

Universe  
5th %tile 10.39  
25th %tile 9.06  
Median 8.27  
75th %tile 7.15  
95th %tile 3.49

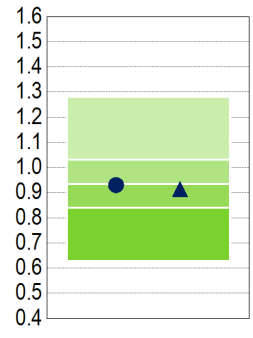
**Anlzd Standard Deviation**



● Long Term Investment Pool  
Value 6.02  
Rank 23  
▲ Long Term Allocation Index  
Value 6.43  
Rank 29

Universe  
5th %tile 2.34  
25th %tile 6.26  
Median 7.47  
75th %tile 8.15  
95th %tile 9.34

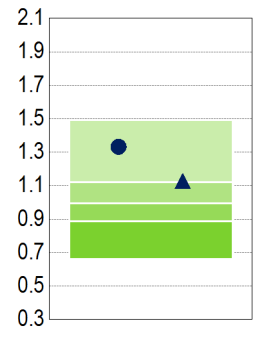
**Sharpe Ratio**



● Long Term Investment Pool  
Value 0.93  
Rank 54  
▲ Long Term Allocation Index  
Value 0.91  
Rank 58

Universe  
5th %tile 1.28  
25th %tile 1.03  
Median 0.94  
75th %tile 0.84  
95th %tile 0.63

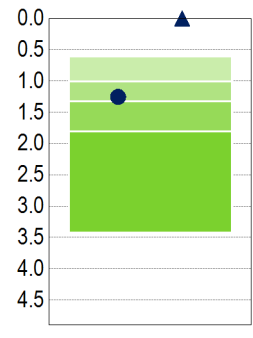
**Sortino Ratio RF**



● Long Term Investment Pool  
Value 1.33  
Rank 8  
▲ Long Term Allocation Index  
Value 1.13  
Rank 25

Universe  
5th %tile 1.49  
25th %tile 1.13  
Median 1.00  
75th %tile 0.89  
95th %tile 0.66

**Tracking Error**



● Long Term Investment Pool  
Value 1.25  
Rank 47  
▲ Long Term Allocation Index  
Value 0.00  
Rank 1

Universe  
5th %tile 0.61  
25th %tile 1.00  
Median 1.31  
75th %tile 1.80  
95th %tile 3.42

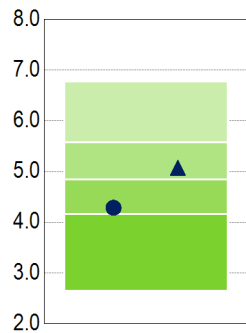
-The above Risk Statistics vs. Peer Universe analytics are based on the Long Term Investment Pool.



# Risk Statistics vs. Peer Universe

## Long Term Investment Pool vs. InvMetrics All E&F < \$50mm Net 5 Years

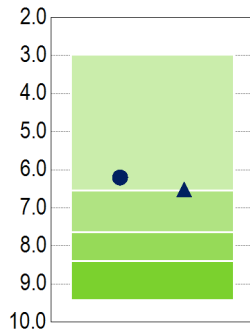
**Anlzd Return**



● Long Term Investment Pool  
Value 4.28  
Rank 71  
▲ Long Term Allocation Index  
Value 5.08  
Rank 43

Universe  
5th %tile 6.78  
25th %tile 5.59  
Median 4.86  
75th %tile 4.17  
95th %tile 2.66

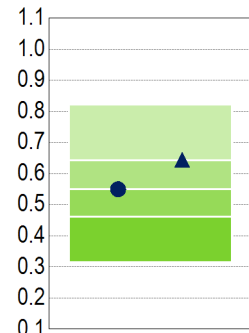
**Anlzd Standard Deviation**



● Long Term Investment Pool  
Value 6.20  
Rank 21  
▲ Long Term Allocation Index  
Value 6.52  
Rank 25

Universe  
5th %tile 2.98  
25th %tile 6.54  
Median 7.63  
75th %tile 8.39  
95th %tile 9.40

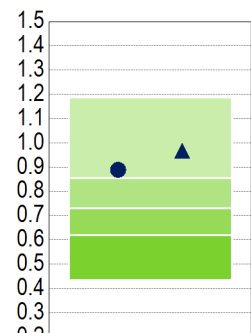
**Sharpe Ratio**



● Long Term Investment Pool  
Value 0.55  
Rank 51  
▲ Long Term Allocation Index  
Value 0.64  
Rank 26

Universe  
5th %tile 0.82  
25th %tile 0.64  
Median 0.55  
75th %tile 0.46  
95th %tile 0.32

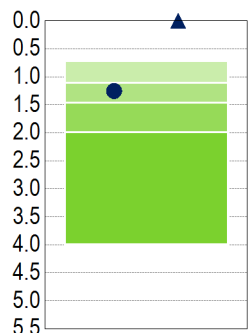
**Sortino Ratio RF**



● Long Term Investment Pool  
Value 0.89  
Rank 21  
▲ Long Term Allocation Index  
Value 0.97  
Rank 15

Universe  
5th %tile 1.19  
25th %tile 0.86  
Median 0.73  
75th %tile 0.62  
95th %tile 0.44

**Tracking Error**



● Long Term Investment Pool  
Value 1.25  
Rank 36  
▲ Long Term Allocation Index  
Value 0.00  
Rank 1

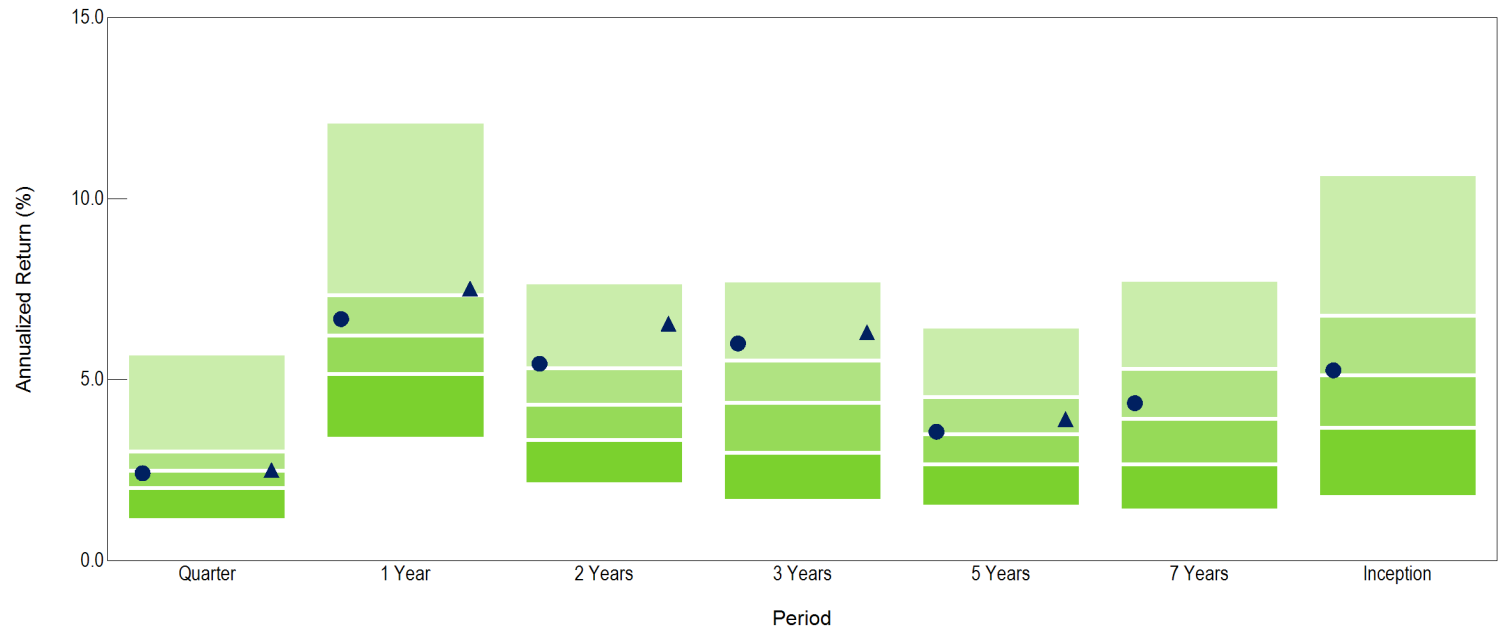
Universe  
5th %tile 0.72  
25th %tile 1.10  
Median 1.45  
75th %tile 1.97  
95th %tile 3.97

-The above Risk Statistics vs. Peer Universe analytics are based on the Long Term Investment Pool.



# Return Summary vs. Peer Universe

Board of Regents Total Composite vs. InvMetrics Trust Funds >60% Fixed Income Net



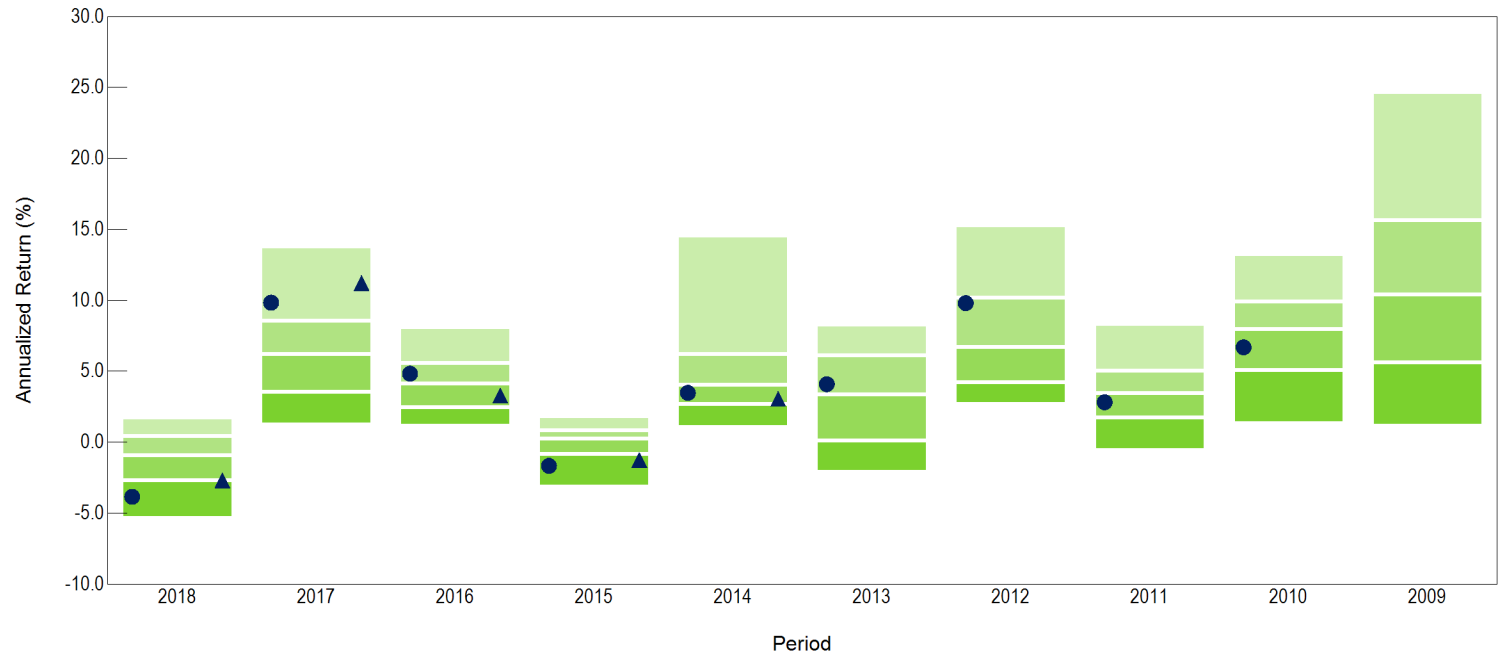
	Return (Rank)													
5th Percentile	5.7	12.1	7.7	7.7	6.5	7.8	10.7							
25th Percentile	3.0	7.4	5.3	5.5	4.5	5.3	6.8							
Median	2.5	6.2	4.3	4.4	3.5	3.9	5.1							
75th Percentile	2.0	5.2	3.3	3.0	2.7	2.7	3.7							
95th Percentile	1.1	3.4	2.1	1.7	1.5	1.4	1.8							
# of Portfolios	411	396	376	353	313	277	227							
● Board of Regents Total Composite	2.4	(55)	6.7	(37)	5.4	(24)	6.0	(16)	3.6	(49)	4.4	(45)	5.3	(48)
▲ Allocation Index	2.5	(49)	7.5	(24)	6.6	(13)	6.3	(13)	3.9	(39)	--	(--)	--	(--)





# Return Summary vs. Peer Universe

Board of Regents Total Composite vs. InvMetrics Trust Funds >60% Fixed Income Net



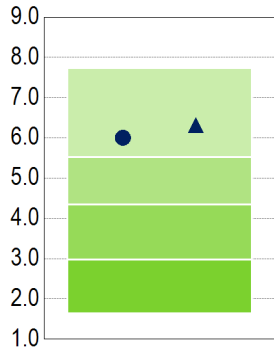
	Return (Rank)																			
5th Percentile	1.7	13.8	8.1	1.8	14.5	8.3	15.3	8.3	13.2	24.7										
25th Percentile	0.5	8.6	5.6	0.9	6.3	6.2	10.2	5.1	9.9	15.7										
Median	-0.9	6.2	4.2	0.3	4.1	3.4	6.7	3.5	8.0	10.4										
75th Percentile	-2.7	3.6	2.5	-0.8	2.7	0.2	4.3	1.8	5.1	5.7										
95th Percentile	-5.3	1.3	1.2	-3.1	1.1	-2.1	2.7	-0.5	1.4	1.2										
# of Portfolios	429	336	298	309	201	46	46	44	43	40										
● Board of Regents Total Composite	-3.8	(86)	9.8	(17)	4.8	(38)	-1.7	(84)	3.5	(63)	4.1	(44)	9.8	(29)	2.8	(55)	6.7	(59)	--	(--)
▲ Allocation Index	-2.7	(76)	11.2	(11)	3.3	(64)	-1.3	(80)	3.1	(70)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)



# Risk Statistics vs. Peer Universe

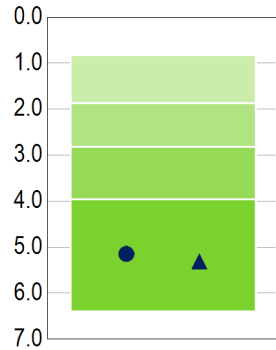
Total Composite vs. InvestorForce Trust Funds >60% Fixed Income Net  
3 Years

Anlzd Return



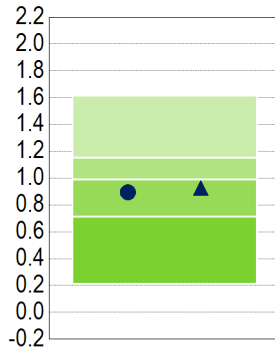
● Board of Regents Total Composite	
Value	6.00
Rank	16
▲ Allocation Index	
Value	6.31
Rank	13
Universe	
5th %tile	7.73
25th %tile	5.53
Median	4.37
75th %tile	2.99
95th %tile	1.66

Anlzd Standard Deviation



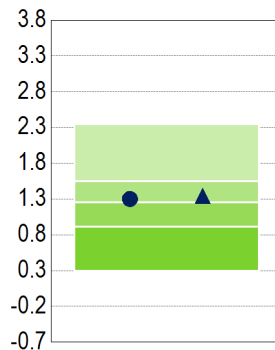
● Board of Regents Total Composite	
Value	5.15
Rank	88
▲ Allocation Index	
Value	5.30
Rank	89
Universe	
5th %tile	0.82
25th %tile	1.86
Median	2.81
75th %tile	3.94
95th %tile	6.39

Sharpe Ratio



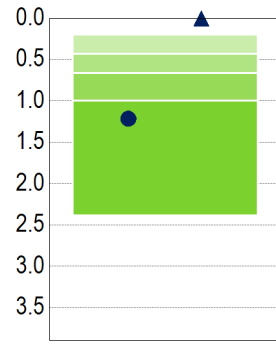
● Board of Regents Total Composite	
Value	0.89
Rank	60
▲ Allocation Index	
Value	0.93
Rank	58
Universe	
5th %tile	1.62
25th %tile	1.16
Median	1.00
75th %tile	0.72
95th %tile	0.22

Sortino Ratio RF



● Board of Regents Total Composite	
Value	1.30
Rank	46
▲ Allocation Index	
Value	1.35
Rank	44
Universe	
5th %tile	2.34
25th %tile	1.56
Median	1.26
75th %tile	0.92
95th %tile	0.30

Tracking Error



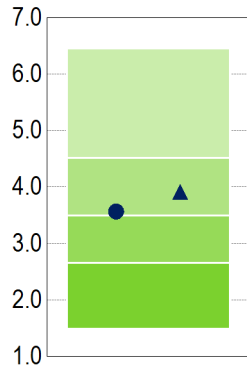
● Board of Regents Total Composite	
Value	1.22
Rank	85
▲ Allocation Index	
Value	0.00
Rank	1
Universe	
5th %tile	0.20
25th %tile	0.43
Median	0.65
75th %tile	0.99
95th %tile	2.37



# Risk Statistics vs. Peer Universe

Total Composite vs. InvestorForce Trust Funds >60% Fixed Income Net  
5 Years

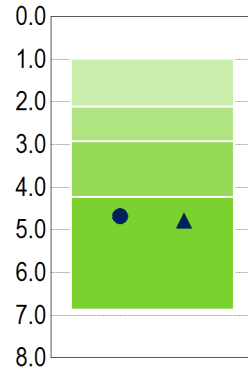
**Anlzd Return**



● Board of Regents Total Comp  
Value 3.56  
Rank 49  
▲ Allocation Index  
Value 3.91  
Rank 39

Universe  
5th %tile 6.45  
25th %tile 4.53  
Median 3.51  
75th %tile 2.67  
95th %tile 1.50

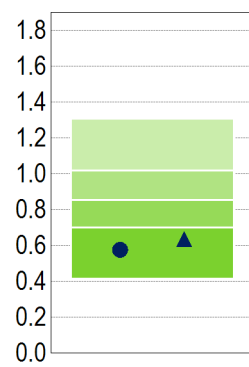
**Anlzd Standard Deviation**



● Board of Regents Total Comp  
Value 4.68  
Rank 81  
▲ Allocation Index  
Value 4.78  
Rank 82

Universe  
5th %tile 0.99  
25th %tile 2.09  
Median 2.91  
75th %tile 4.21  
95th %tile 6.86

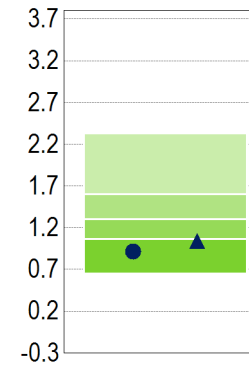
**Sharpe Ratio**



● Board of Regents Total Comp  
Value 0.58  
Rank 88  
▲ Allocation Index  
Value 0.64  
Rank 83

Universe  
5th %tile 1.31  
25th %tile 1.02  
Median 0.86  
75th %tile 0.70  
95th %tile 0.42

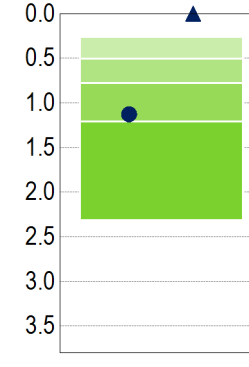
**Sortino Ratio RF**



● Board of Regents Total Comp  
Value 0.91  
Rank 86  
▲ Allocation Index  
Value 1.04  
Rank 78

Universe  
5th %tile 2.33  
25th %tile 1.61  
Median 1.31  
75th %tile 1.07  
95th %tile 0.66

**Tracking Error**



● Board of Regents Total Comp  
Value 1.13  
Rank 74  
▲ Allocation Index  
Value 0.00  
Rank 1

Universe  
5th %tile 0.26  
25th %tile 0.50  
Median 0.77  
75th %tile 1.20  
95th %tile 2.31



# APPENDIX

NEPC, LLC

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# MARKET OVERVIEW

NEPC, LLC

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# CALENDAR YEAR INDEX PERFORMANCE

	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD
<b>S&amp;P 500</b>	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	18.5%
<b>Russell 1000</b>	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	18.8%
<b>Russell 2000</b>	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-11.0%	17.0%
<b>Russell 2500</b>	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-10.0%	19.2%
<b>MSCI EAFE</b>	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-13.8%	14.0%
<b>MSCI EM</b>	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	10.6%
<b>MSCI ACWI</b>	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	16.2%
<b>Private Equity*</b>	19.8%	9.5%	12.6%	22.3%	14.6%	10.4%	10.3%	21.0%	13.1%	5.7%
<b>BC TIPS</b>	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-1.3%	6.2%
<b>BC Municipal</b>	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	1.3%	5.1%
<b>BC Muni High Yield</b>	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	4.8%	6.7%
<b>BC US Corporate HY</b>	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-2.1%	9.9%
<b>BC US Agg Bond</b>	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	6.1%
<b>BC Global Agg</b>	5.5%	5.6%	4.3%	-2.6%	0.6%	-3.2%	2.1%	7.4%	-1.2%	5.6%
<b>BC Long Treasuries</b>	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-1.8%	11.0%
<b>BC US Long Credit</b>	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-6.8%	15.4%
<b>BC US STRIPS 20+ Yr</b>	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	13.7%	-4.1%	14.7%
<b>JPM GBI-EM Global Div</b>	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	-6.2%	8.7%
<b>JPM EMBI Glob Div</b>	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	10.3%	-4.3%	11.3%
<b>CS Hedge Fund</b>	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	7.1%	-3.2%	4.3%
<b>BBG Commodity</b>	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-11.2%	5.1%
<b>Alerian MLP</b>	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	-6.5%	-12.4%	17.0%
<b>FTSE NAREIT Equity REITs</b>	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-4.6%	17.8%

Source: FactSet, Thomson One

\*Private Equity return represents calendar year pooled IRR and is subject to a one quarter lag



# DUE DILIGENCE MONITOR

## NEPC Due Diligence Status Key

<b>No Action</b>	Informational items have surfaced; no action is recommended.
<b>Watch</b>	Issues have surfaced to be concerned over; manager can participate in future searches, but current and prospective clients must be made aware of the issues.
<b>Hold</b>	Serious issues have surfaced to be concerned over; manager cannot be in future searches unless a client specifically requests, but current and prospective clients must be made aware of the issues.
<b>Client Review</b>	Very serious issues have surfaced with a manager; manager cannot be in future searches unless a client specifically requests. Current clients must be advised to review the manager.
<b>Terminate</b>	We have lost all confidence in the product; manager would not be recommended for searches and clients would be discouraged from using. The manager cannot be in future searches unless a client specifically requests. Current clients must be advised to replace the manager.

## NEPC Due Diligence Rating Key

1	A high conviction investment product. Product has a clear and economically-grounded investment thesis, and is managed by an investment team that is sufficiently resourced and incented to execute on the thesis.
2	NEPC has a positive view of the strategy. Strategy has a compelling and sound investment thesis. The manager is sufficiently resourced and incented to execute on the thesis. Strengths outweigh the weaknesses, but the strategy does not meet all requirements for a 1 rating.
3	A satisfactory investment product. The strategy lacks a compelling investment thesis, however there are no significant concerns around the manager's viability.
4	The strategy may have an unclear or ambiguous investment thesis or the manager may lack the ability to execute on the stated thesis. The strategy likely has strengths and weaknesses and the weaknesses may outweigh the strengths.
5	A strategy that lacks an investment thesis or NEPC has no confidence in the manager's ability to execute on the thesis, and/or the investment firm may not be viable. Serious issues have been identified with an investment manager or product. This rating aligns with a Terminate Due Diligence status for client-owned products.
NR	Due diligence has not been sufficiently completed on the product or manager.



# INFORMATION DISCLAIMER

- **Past performance is no guarantee of future results.**
- **The goal of this report is to provide a basis for substantiating asset allocation recommendations. The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.**
- **Information on market indices was provided by sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.**
- **All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.**
- **This report is provided as a management aid for the client's internal use only. This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.**





# ALTERNATIVE INVESTMENT DISCLOSURES

**It is important that investors understand the following characteristics of non-traditional investment strategies including hedge funds and private equity:**

- 1. Performance can be volatile and investors could lose all or a substantial portion of their investment**
- 2. Leverage and other speculative practices may increase the risk of loss**
- 3. Past performance may be revised due to the revaluation of investments**
- 4. These investments can be illiquid, and investors may be subject to lock-ups or lengthy redemption terms**
- 5. A secondary market may not be available for all funds, and any sales that occur may take place at a discount to value**
- 6. These funds are not subject to the same regulatory requirements as registered investment vehicles**
- 7. Managers may not be required to provide periodic pricing or valuation information to investors**
- 8. These funds may have complex tax structures and delays in distributing important tax information**
- 9. These funds often charge high fees**
- 10. Investment agreements often give the manager authority to trade in securities, markets or currencies that are not within the manager's realm of expertise or contemplated investment strategy**

