QUARTER ENDING DECEMBER 31, 2019
INVESTMENT PERFORMANCE ANALYSIS
EASTERN MICHIGAN UNIVERSITY
BOARD OF REGENTS

February 14, 2020

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WEBINAR REPLAYS

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To download NEPC’s recent insights and webinar replays, visit: www.NEPC.com/insights

HIGHLIGHTS OF 2019 FOURTH QUARTER HAPPENINGS AT NEPC

FUTURE FUNDAMENTALS CAMPAIGN

In October, we introduced the *Future Fundamentals of Investing*. Future Fundamentals is a simple phrase that highlights what we do best: staying ahead of the curve with regards to industry trends and research. While there are many concepts and ideas floating through the investment world, we believe the following will be the largest drivers of success in the coming years:

1. Sustainability
2. Diversity and Inclusion
3. Innovation

While we expect these concepts to drive investment trends for some time, we also expect these fundamentals to evolve over time. You can rely on us to identify when these fundamentals evolve or change, and to be positioning your portfolio and our business for success.

In a Wealth Management Op-Ed, the Co-Head of NEPC's Impact Investing Committee, Krissy Pelletier, defines the three pillars that will be the largest drivers of investment success. Read more here: New Decade, New Fundamentals for Investing

To learn more about the Future Fundamentals of Investing, visit: https://futurefundamentals.nepc.com/

NEPC’s 25th Annual Investment Conference

- Please save the date for our 25th Annual Investment Conference on Wednesday, May 20 and Thursday, May 21 at the Renaissance Boston Waterfront Hotel.

- Our theme for the conference this year is the Future in Focus. Please join us as we and our distinguished lineup of industry experts explore the potential changes and challenges facing markets in the new decade. We look forward to discussing innovative investment ideas and concepts, and new key areas of focus such as sustainability and diversity.

- We are pleased to announce that Howard Marks, Co-Chairman of Oaktree Capital Management will be our keynote speaker.

- Please reach out to Sarah Winrow: swinrow@nepc.com if you have any questions.

QUARTERLY REVIEW

PERFORMANCE OVERVIEW

Q4 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
-3.0%	-2.5	24 bps	9.1%	8.2%	11.8%	0.2%	2.6%	1.8%	13.0%	3.1%	0.6%

Global risk assets rallied during the quarter as prospects of a trade deal increased and global central banks continued easing monetary policy to offset economic growth concerns

Dollar weakness provided a tailwind for international and emerging market asset returns

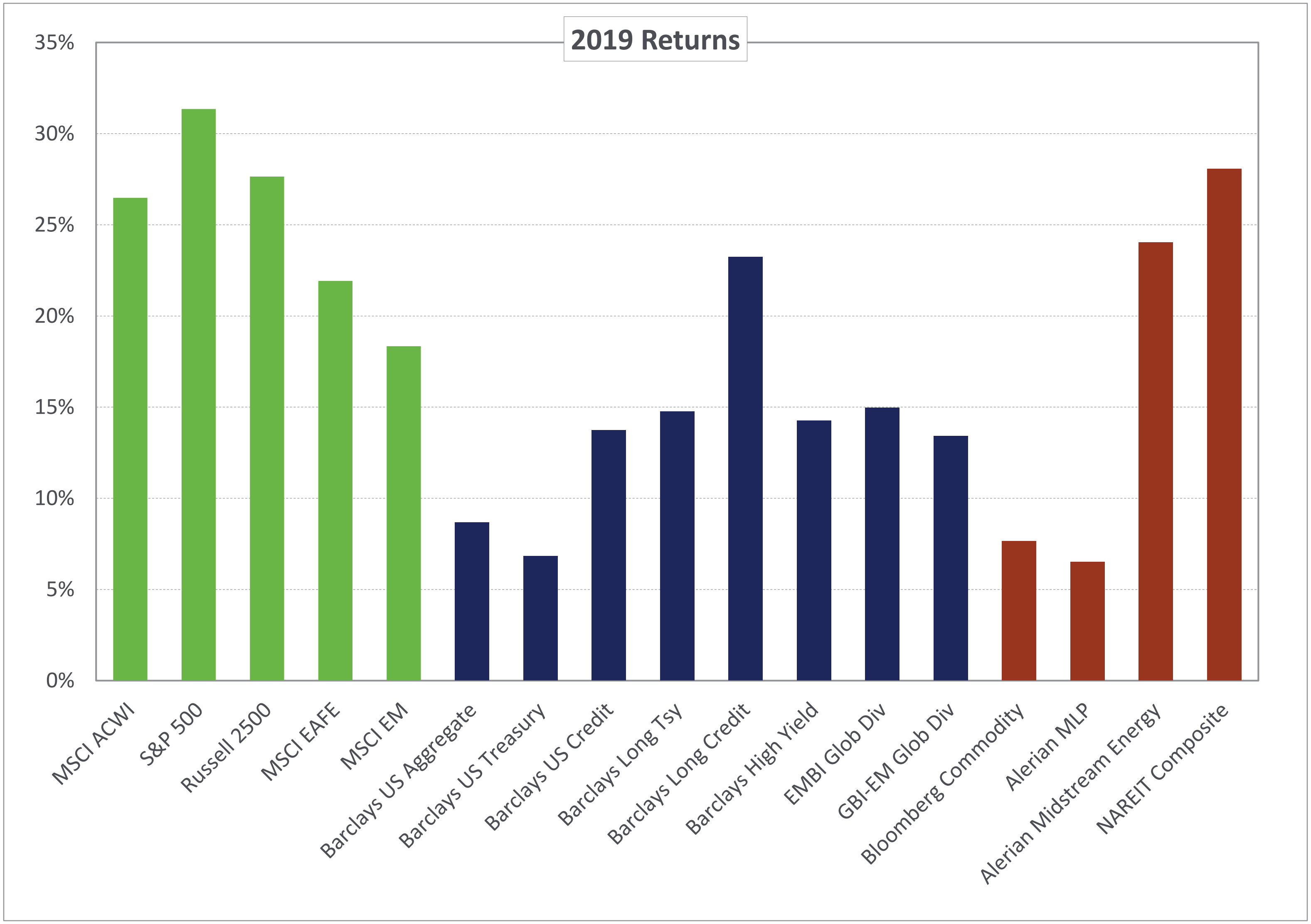
Increasing yields caused the spread between the 10-year and 3-month Treasuries to move into positive territory, widening to 37 basis points – marking the largest spread since January 2019

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

YEAR-IN-REVIEW

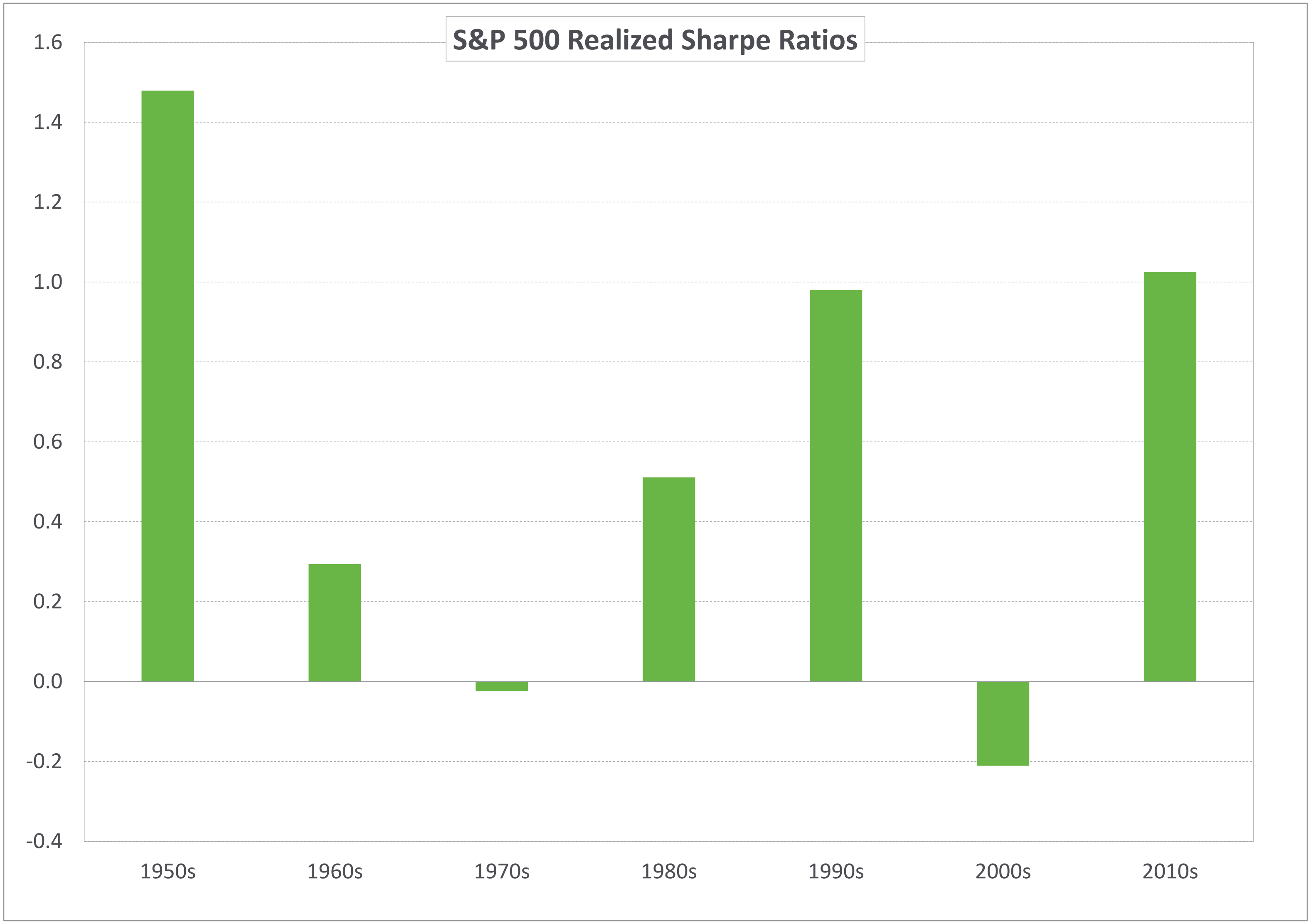
NEPC, LLC

STRONG, POSITIVE RETURNS FOR MOST ASSETS



Source: S&P, Alerian, Russell, MSCI, JPM, Bloomberg, FactSet

BEST RISK-ADJUSTED DECADE SINCE THE 1950S

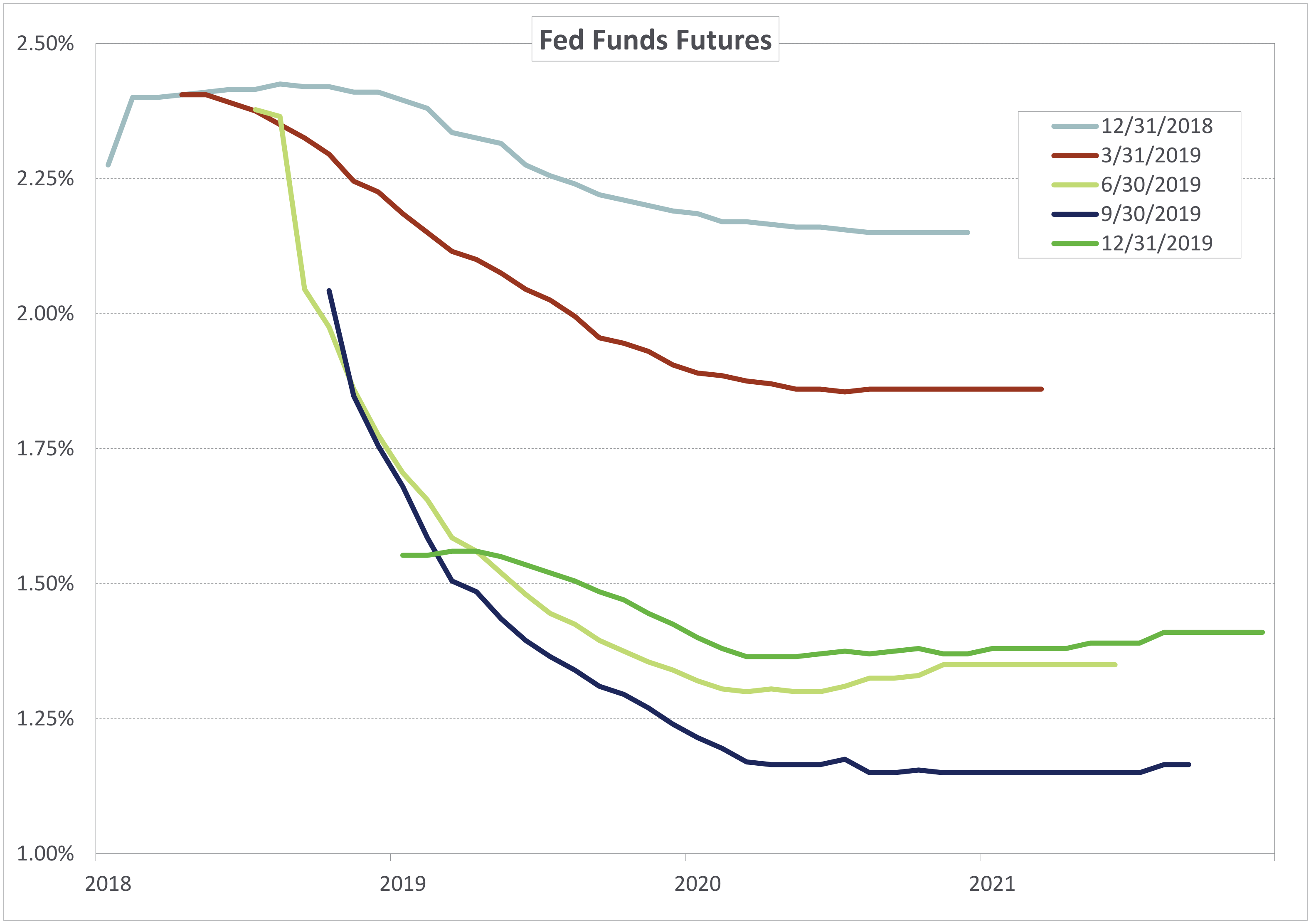


Source: S&P, FactSet

GROWTH OUTPERFORMED VALUE

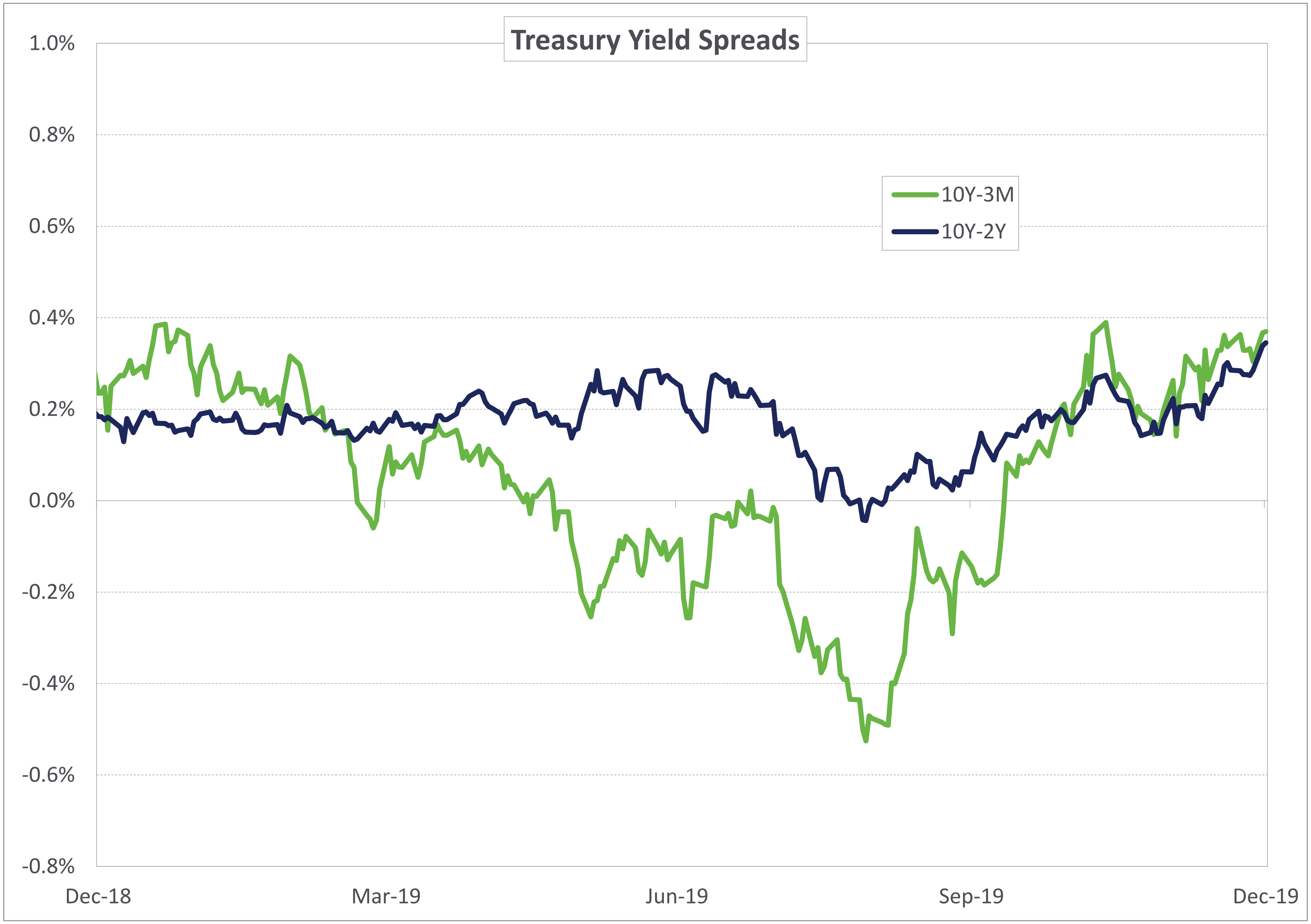
Source: Russell, FactSet

RATE EXPECTATIONS HAVE SHARPLY DECLINED



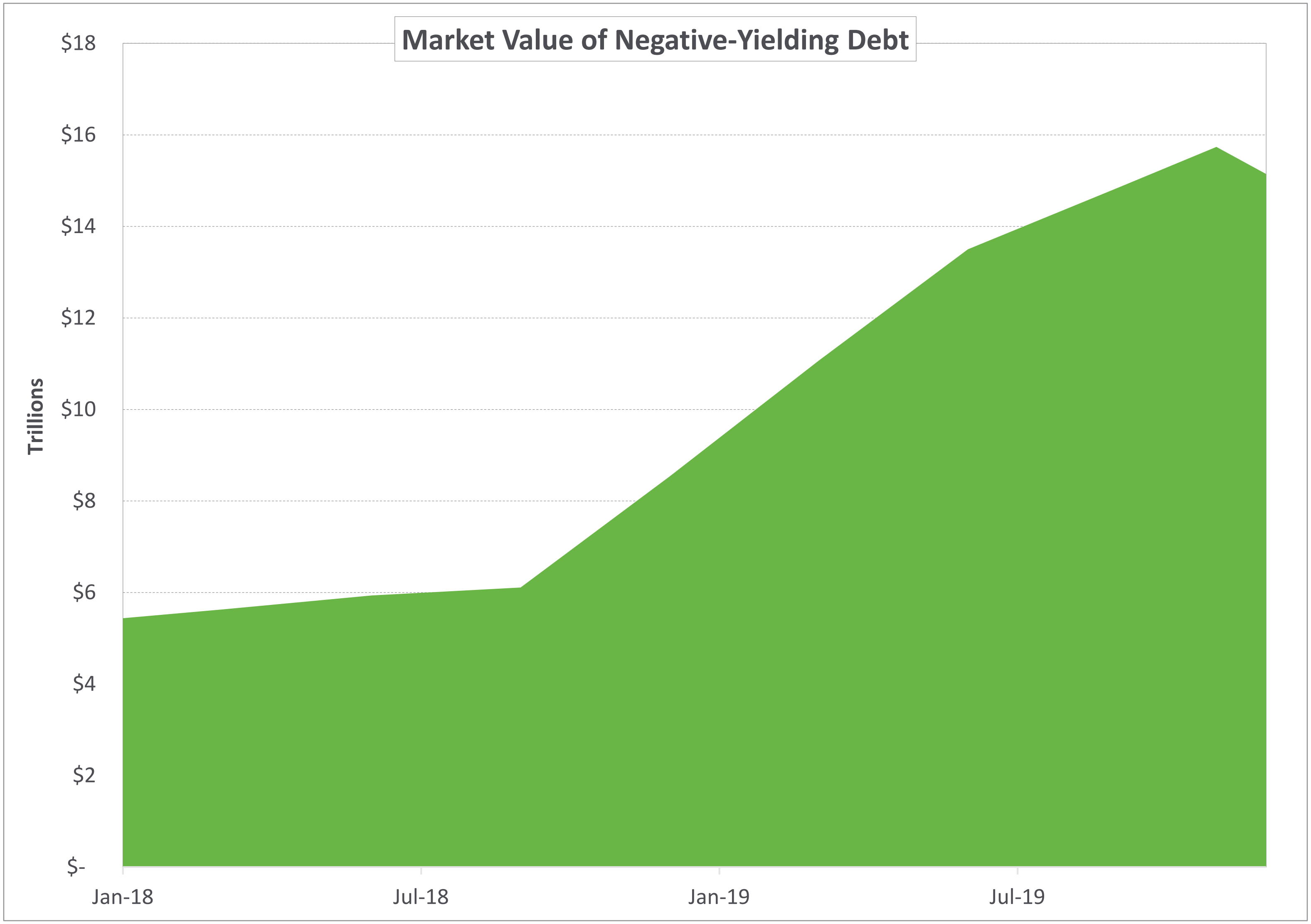
Source: FactSet

THE YIELD CURVE STEEPENED DURING Q4



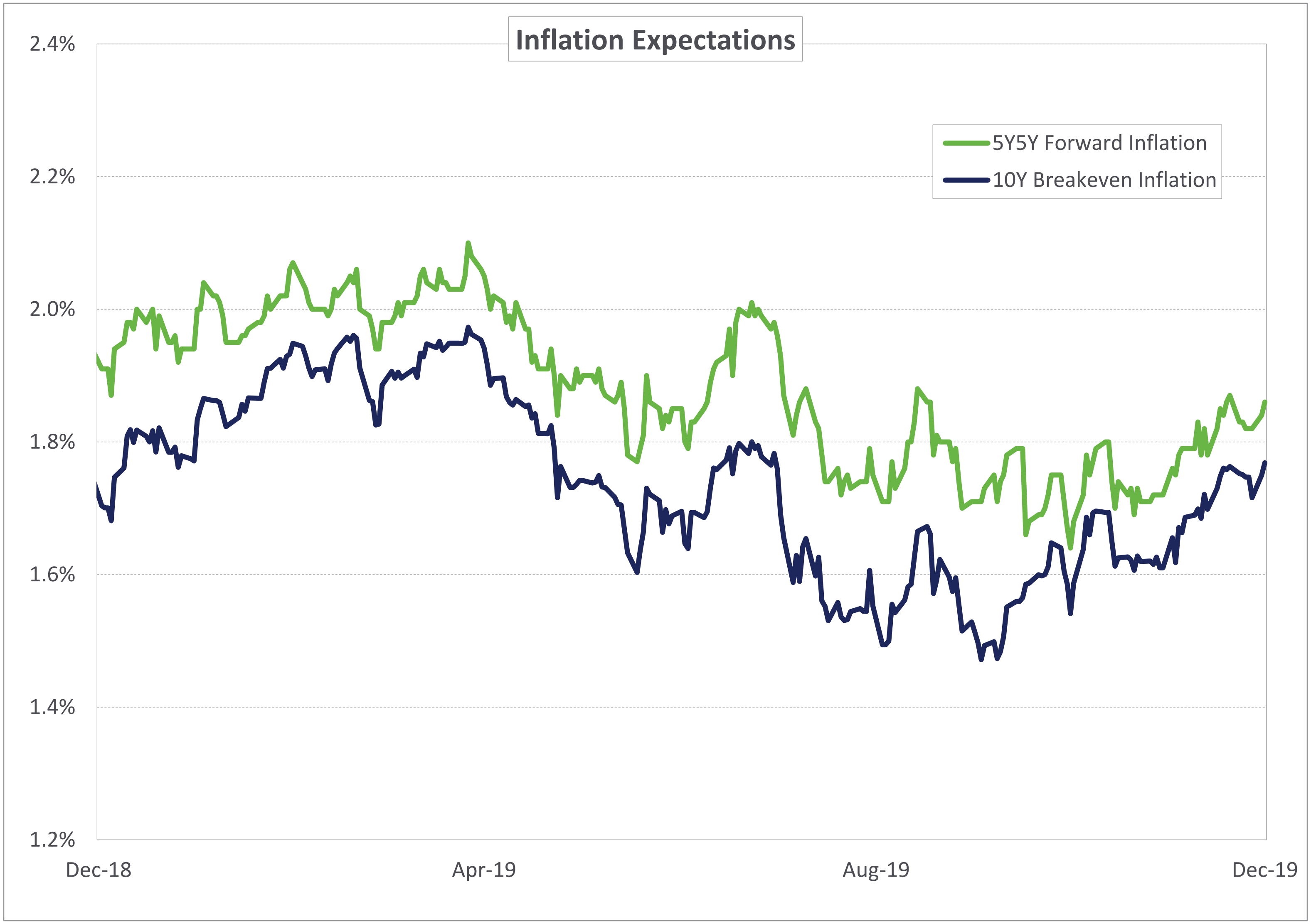
Source: FactSet

NEGATIVE RATES PERMEATED BOND MARKETS



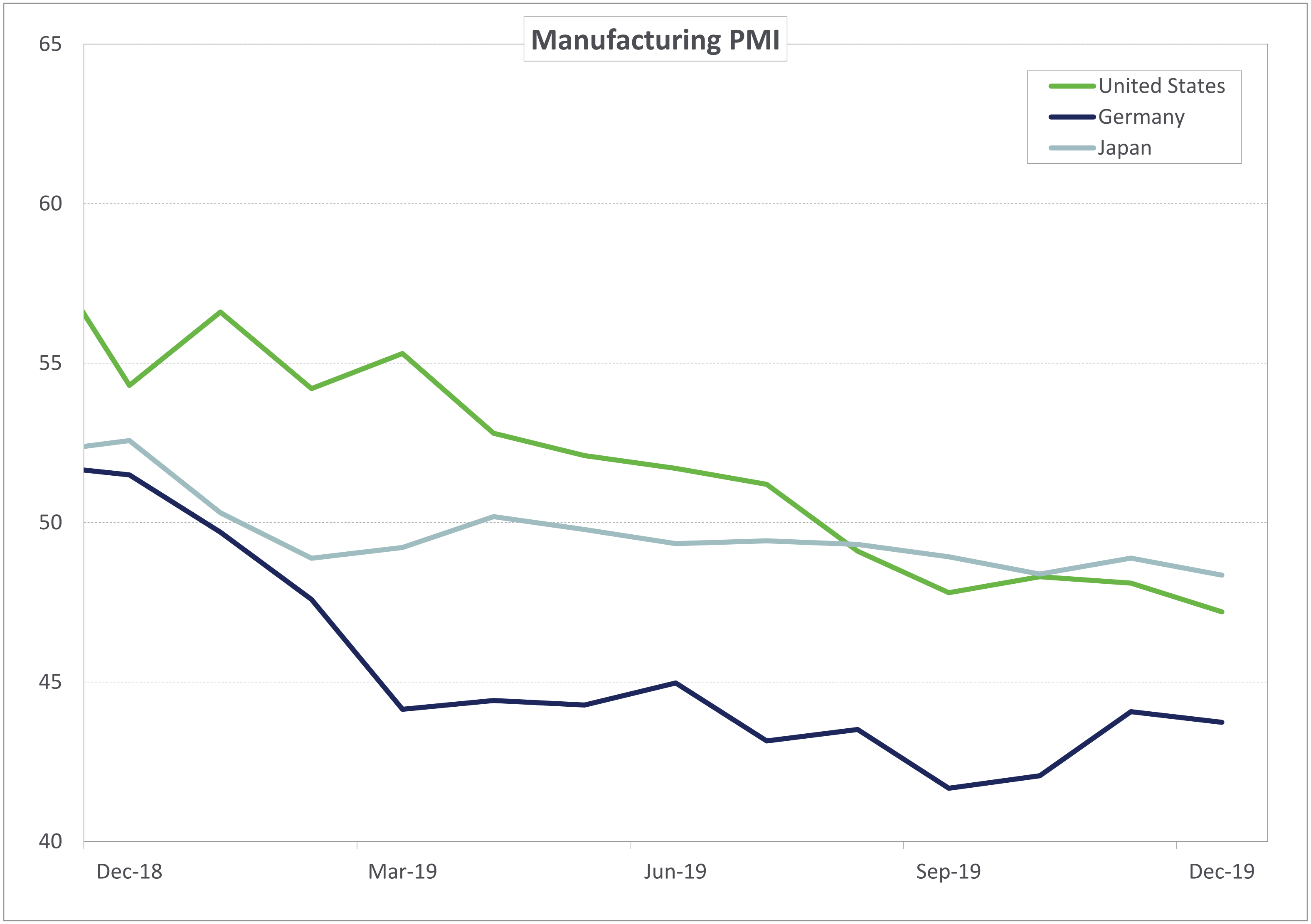
Source: FactSet

INFLATION EXPECTATIONS REMAIN LOW



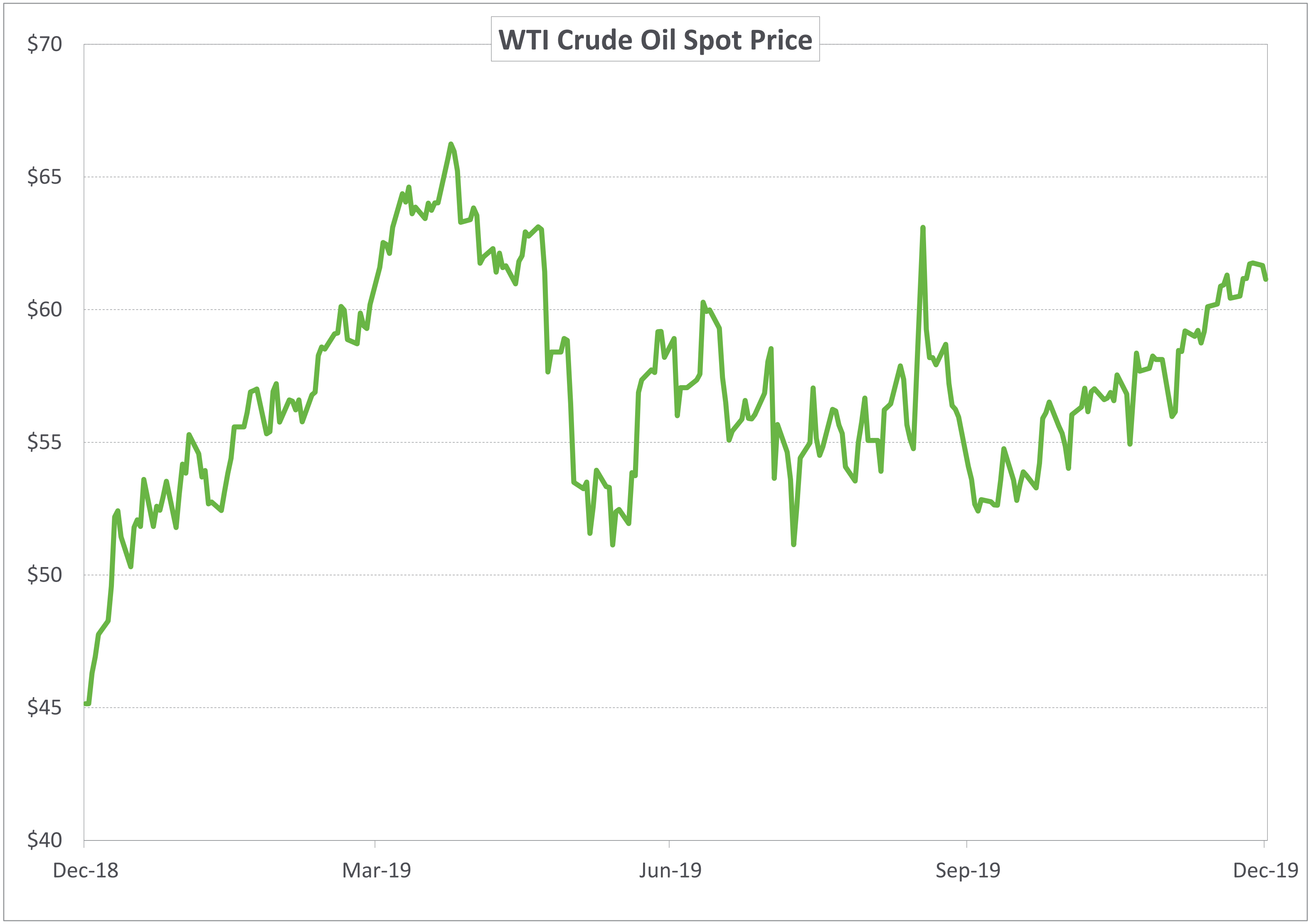
Source: FactSet

GLOBAL MANUFACTURING ACTIVITY SLOWED



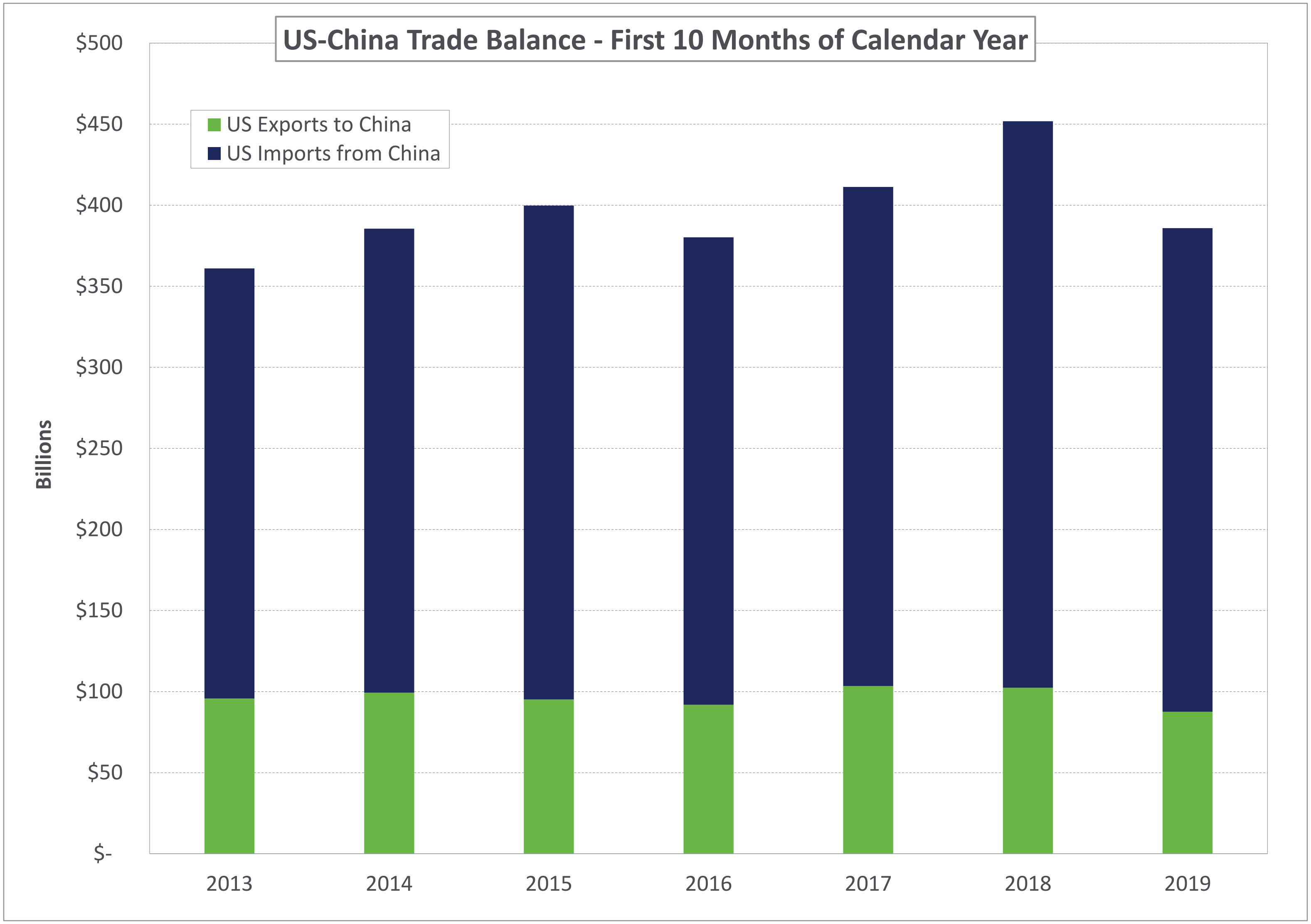
Source: ISM, Markit, FactSet

CRUDE OIL EXPERIENCED A VOLATILE YEAR



Source: FactSet

TOTAL TRADE BETWEEN THE US AND CHINA FELL



Source: FactSet

KEY MARKET THEMES

KEY MARKET THEMES OVERVIEW

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.

NEPC currently has four Key Market Themes:

Late Cycle Dynamics	Permanent Interventions	China Transitions	Globalization Backlash

LATE CYCLE DYNAMICS

NEPC, LLC

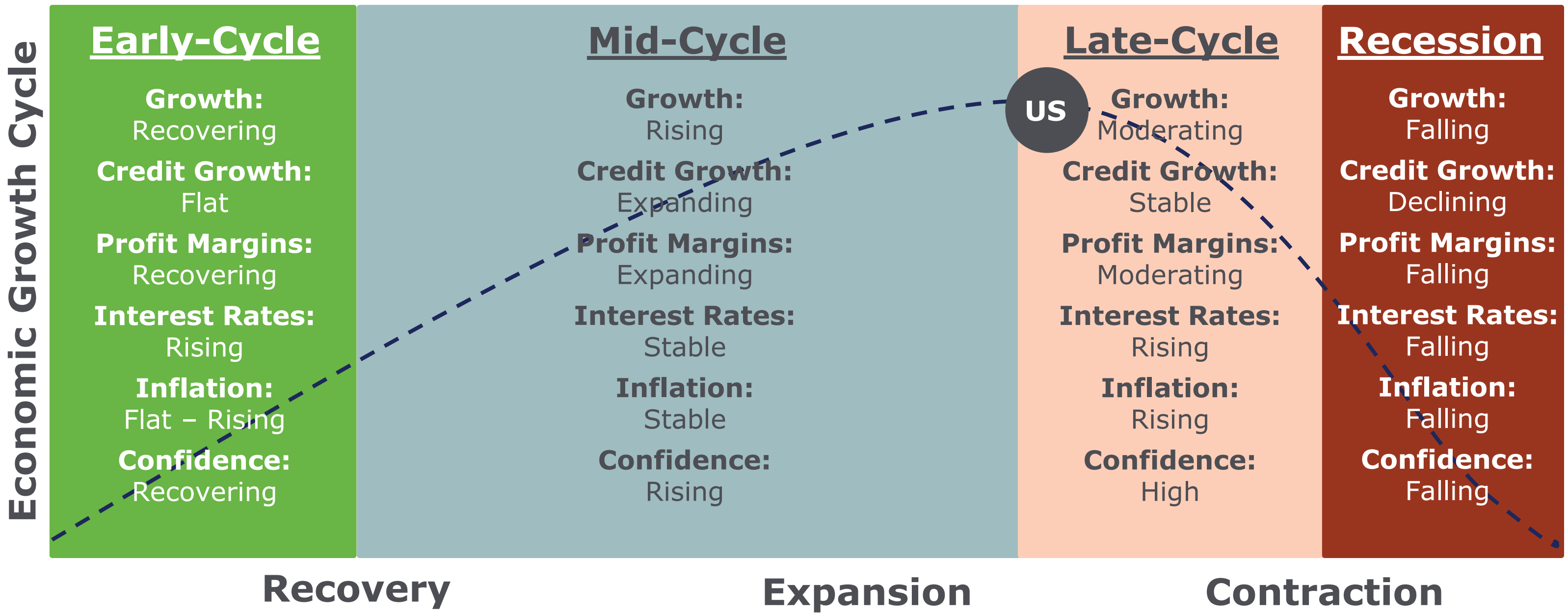
DEFINING THE THEME

The US economy is in the late stage of the economic cycle as evidenced by classic late-cycle indicators including a tight labor market, a flat yield curve, and strong investment returns

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

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

Given typically heightened volatility, rebalancing plays an important role during the late cycle – affording investors the opportunity to maintain risk, liquidity, and diversification targets, while also capturing improved pricing opportunities



EXPECTED EVOLUTION

As the theme evolves, we anticipate:

An extended late-cycle relative to history given the unique aspects of the current economic cycle

- The length of the current cycle can be extended with continued central bank support and fiscal accommodation, as described in our Permanent Interventions theme
- Despite historically low unemployment, the implementation of tariffs, and a large fiscal stimulus package, inflationary pressures have been slow to materialize in the US
- The current expansion has been tepid, with cumulative GDP growth well short of prior expansions – suggesting low, but steady growth may continue
- The pronounced bifurcation in economic activity between the consumer and businesses will likely continue. Relatively strong consumer sentiment and spending can support economic growth and help offset weakness in manufacturing and business activity, which have been more acutely impacted by trade uncertainties

A relatively supportive market environment for risk assets and equities

- Accommodative monetary policy aimed at prolonging the current expansion and offsetting weak data will likely continue to provide a tailwind for growth-sensitive assets
- Historically high corporate profit margins are likely to remain elevated along with steady revenues and continued share buybacks
- Dividend yields appear relatively attractive with low yields across the US Treasury curve

EXPECTED EVOLUTION CONTINUED

Volatility metrics are likely to remain suppressed from supportive policy, but there is a higher "gap risk" across capital markets

- Volatility shocks, such as that seen in December 2018, will occur as markets digest the cyclicality of central bank liquidity
- An exogenous shock (trade war, etc.) or a minor economic disappointment can have an outsized impact and surprise investor sentiment as recent economic stability is assumed to continue into the future and fully baked into market expectations
- A wider range of potential outcomes suggests an emphasis on portfolio balance, but we caution against getting too defensive
- With a generally supportive equity risk environment, we encourage investors to remain at strategic target equity weights, but brace for potential volatility

An extended late-cycle may continue for years to come

- Excesses unlikely to build across the economy with growth and inflation relatively muted
- Monetary and potential fiscal stimulus can help to sustain the expansion and mute the regime shifts of a normal economic cycle
- This outcome mirrors the "super cycles" seen in Australia and the Netherlands, where these countries avoided extended drawdowns for decades

The extended expansion could potentially be disrupted by:

- A Fed pivot to less stimulative monetary policy, which would likely result in a recession, though this appears unlikely given the Fed's commitment to support market sentiment
- Exogenous factors, such as a trade war, can cause significant disruption to the economy and impede economic growth

UNIQUENESS IN THE CURRENT CYCLE

The profile of the current cycle fits with classic late-cycle indicators

Solid economic environment with low, but stable GDP growth and a tight labor market

Robust capital market returns throughout the business cycle have created above average equity valuations and a tight credit spread environment

Typically the late stage of the cycle is accompanied by rising interest rates, higher inflation, and an inversion of the yield curve

While these characteristics gained momentum in 2018 and early 2019, these trends have reversed in a powerful way

The current market environment exhibits low rates, subdued inflation, and a flat, though positively sloping yield curve

The reversal of these economic trends do not imply the end of the Late Cycle Dynamics theme, but reflect the influence of our new Permanent Interventions theme on the long-term path of rates and inflation

Accommodative policy consistent with Permanent Interventions is a direct result of late-cycle pressures and this level of central bank influence likely mutes the normal fluctuation of the market cycle

The lack of inflation pressure offers policy flexibility to stimulate and extend the cycle over facing the challenge of the conclusion of the late cycle, i.e. recession

The current level of interest rates outside the US suggest there is limited traditional firepower for developed market central banks to navigate an economic downturn and reinforces the need for extraordinary support from central banks

INVESTMENT CONSIDERATIONS AND RISKS

The current market environment is characterized by a unique set of risks and a more nuanced investment outlook

Above average equity valuations and low yields temper forward-looking returns

Resilient investor sentiment, accommodative policy, and favorable economic trends can further support equity markets and provide substantive investment returns

Subdued growth expectations highlight the fragility of the economy, which suggests an underweight to credit risk relative to safe-haven fixed income exposure is appropriate

Investors must be cautious in such an environment given the uncertainty around time horizon and potential wide range of economic outcomes

There is a greater need for portfolio discipline due to spikes in volatility and the positive returns offered by the late cycle before the expansion ends and asset repricing occurs

While recession concerns remain low, our outlook can quickly change should a material slowdown in economic indicators occur or a dramatic shift in central bank policy

Average Cumulative Return	Early-Cycle	Mid-Cycle	Late-Cycle	Recession
S&P 500 Index	20.1%	46.6%	24.3%	-9.7%
Russell 2000 Index	33.7%	61.3%	15.8%	-7.7%
Barclays US Treasury Index	6.3%	25.0%	12.8%	13.0%
Barclays US Aggregate Index	7.2%	27.3%	13.2%	13.6%
Barclays US High Yield Index	29.5%	50.4%	18.0%	-4.0%
Bloomberg Commodity Index	12.1%	28.7%	30.5%	4.2%

Source: S&P, Russell, Barclays, FactSet, NEPC
Figures represent average cumulative return during each stage of the economic cycle

POTENTIAL OUTCOMES

	Description	Market Implications
Stagnation	Low, but positive growth combined with muted, but slightly higher inflation to create a persistent stagflation-like scenario	Capital market returns are muted. In this scenario, there are no significant drawdowns, but long periods of very low real returns
Recession	Sustained deterioration in economic metrics leading to a cyclical earnings or economic recession. A short-term negative but also is a normal component of the business cycle	Negative asset sentiment leads to significant volatility across markets. This outcome resets expectations and risk premiums in capital markets – resulting in a restart of the business cycle
Extended Late-Cycle *Base Case*	The slow, but steady expansion continues with accommodative fiscal and monetary policy aimed at preventing the derailment of the current economic cycle	Interest rates remain compressed from the impact of accommodative monetary policy. Preferred bias toward equity over credit given yields, spreads, and the risks associated with the late-cycle
The Cycle Restarts	A sustained increase in economic productivity resets the business cycle, pushing the US economy into an early-cycle profile	This is the most appealing outcome for global risk assets, but there is potential for volatility during the transition as central banks adjust. There is no historical analogue in US economic history

PERMANENT INTERVENTIONS

NEPC, LLC

DEFINING THE THEME

The developed world is undergoing a regime shift defined by central bank market interventions and permanent fiscal support from governments

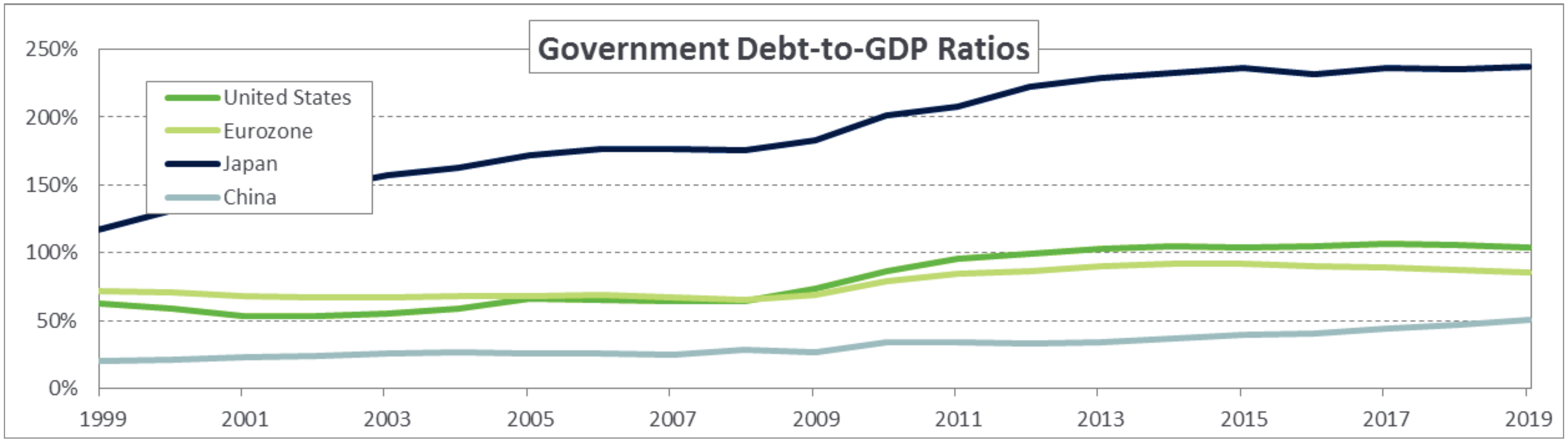
The dynamics of muted inflation pressures and below-average trend growth rates motivate a combined monetary and political response to address deflationary pressures and society's desire for higher economic growth rates

We believe central banks across the globe will continue to expand balance sheet assets to sustain an environment of excess liquidity

Low to negative interest rates and a fragile economic environment force central banks to continue to grow balance sheets and liquify the global financial system

Weak economic growth trends in the developed world underpin political tensions, which we believe will motivate significant fiscal debt expansion

Japan was at the forefront of this theme, raising debt-to-GDP levels to nearly 250% to confront a demographically-driven growth and inflation crisis and highlights a path for the US and Europe to address their unique long-term growth and inflation concerns



Source: FactSet, IMF

DEFINING THE THEME CONTINUED

The absence of central bank intervention and fiscal stimulus would highlight the extraordinary economic weakness of the developed world

The intensity of negative factors vary across regions but can be traced to the influence of past stimulus, demographics, productivity, and structural economic and labor policies

The permanent intervention of fiscal stimulus is likely to continue as populist tensions and political dynamics in the developed world push the self-interest of the political class to significantly expand fiscal policy

As debt-to-GDP levels rise, the necessity of central bank intervention is reinforced as government bonds yields must remain below nominal economic growth rates to forestall a sovereign debt crisis – a profile investors witnessed in the Eurozone in 2010

Controlling market sentiment is of equal importance to the central bank inflation and employment mandates and is now a key policy pillar

In such an environment, the path of monetary policy does not normalize and central banks only adjust interest rates higher if meaningful inflationary pressures force them to act. The proactive tightening of monetary policy damages market sentiment and exposes the fragile nature of economies, as evidenced by the 2018 Federal Reserve tightening policy

We believe the Permanent Interventions theme could mute the normal fluctuations of a business cycle, but leaves no safety net in a downturn as central bank and fiscal interventions will be exhausted

A "new normal" has coalesced around a permanent regime of easy monetary policy, surplus market liquidity, and fiscal debt growth. Investors have yet to fully discount the favorable equity market conditions paired with significantly heightened macro tail-risks

INVESTMENT CONSIDERATIONS

The long-term investment outlook for the Permanent Interventions theme is dependent on an investor's objectives and asset allocation bias

For those with large fixed income holdings, the theme can be viewed as a "war on savers" and for equity investors one could ask "do valuations matter?"

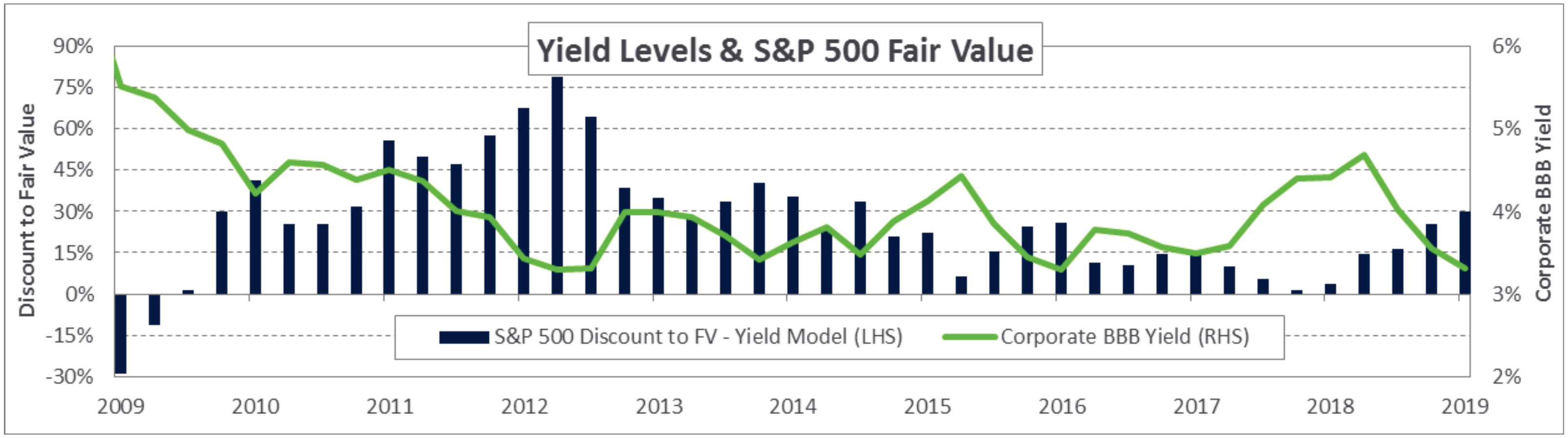
Permanent Interventions suggest low yields and higher P/E multiples

Low interest rates lead to higher values when discounting future cash flows and increase valuations for all equity and lower quality credit asset classes

Investors enjoy high profit margins relative to history as the surplus of central bank liquidity disproportionality benefits holders of capital relative to labor

Supportive policy environment would appear favorable to equities

But historical results (Japan's Lost Decade(s), Eurozone, etc.) show economic weakness can overwhelm the system in the absence of extraordinary policy measures. In such cases, government bonds, despite low yields, can offer the most attractive risk-adjusted returns



Source: FactSet, S&P, Bloomberg

THEMATIC MACROECONOMIC RISKS

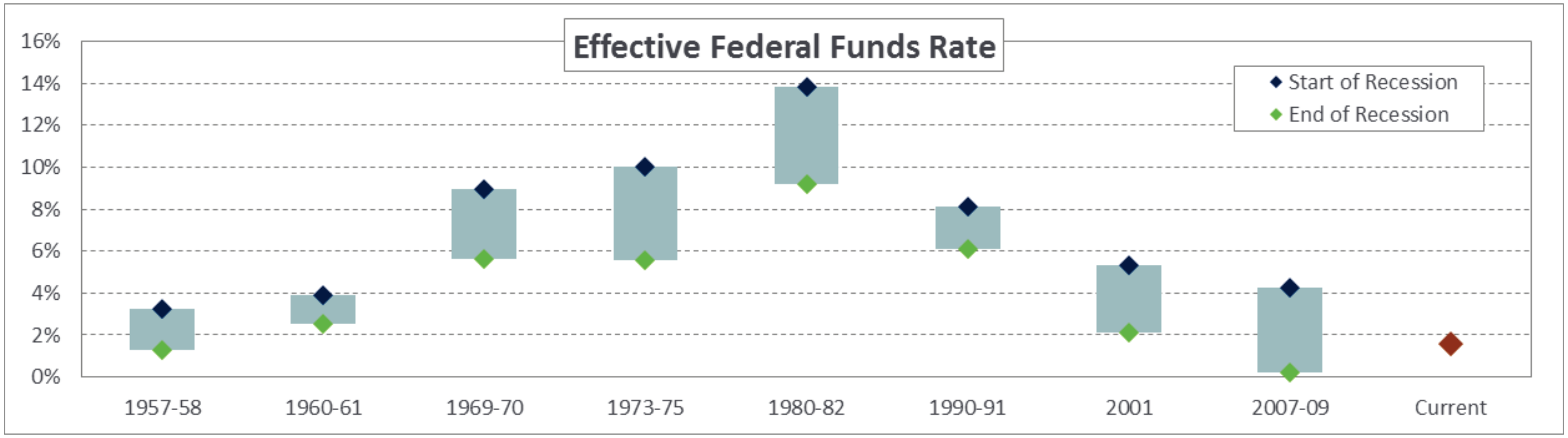
Historically, the conclusion of a market cycle was the result of tighter monetary policy to slow economic activity, but permanent intervention from central banks mutes the normal fluctuation of this market cycle

Macro tail-risks grow as moral hazard is continually absorbed into the financial system and economies nationalize losses that would have occurred in a normal economic cycle

However, there is a low margin of error if an economic downturn is on the horizon as current low interest rates can be reduced only so far

The current level of rates suggests the Fed has limited ability to use Fed Funds as a policy tool to reduce interest rates on par with past market cycles and the Fed is likely to rely heavily upon market interventions to manage sentiment and forestall economic slowdowns

Central bank intervention likely displaces traditional macroeconomic risks as a sovereign debt or bank liquidity crisis appears to be an outlier tail-risk relative to their past impact on developed market economies



Source: FactSet, Federal Reserve

POTENTIAL OUTCOMES

	Description	Long-Term Market Implications
The New Normal	NEPC base case expectation of a permanent regime of easy monetary policy, surplus market liquidity, and fiscal debt growth paired with muted inflation levels	Favorable to equities relative to safe-haven fixed income, with risk assets benefiting from above average corporate profit margins and low interest rates. The normal fluctuations of a business cycle are subdued but continues to build macro tail-risks
Political Dysfunction	Interconnected with NEPC's Globalization Backlash theme, political conflict disrupts the full intervention of fiscal stimulus	Economic growth rates are lower as fiscal stimulus lacks permanence. Developed economies are at a greater risk of a downturn and central bank intervention has limits to improve economic growth. Favorable to long duration fixed income and tactically favorable to risks assets following frequent bouts of market volatility
Back to Normal	Economic trend growth rates and inflation levels normalize along with market and business cycles	Expected period of low investment returns for all assets classes as real interest rates normalize. Requires a repricing of risk premia to incorporate a neutral fiscal policy and the withdrawal of central bank intervention
Inflation	A material increase in inflation would be the most severe tail-risk outcome for investors as the market discounts almost no probability of above average inflation levels.	Significant repricing of market expectations and risk premia likely to generate permanent losses of capital among some segments of equity and fixed income markets. Potential cause and/or effect is a devaluation of developed market currencies and a breakdown of the US dollar's reserve currency status
Japanification	This outcome is largely driven by a demographic crisis, with Europe being the most severely exposed. China is at risk, but racing to increase per-capita GDP levels before the population ages. The US demographic profile is relatively positive compared to major global economies	Favorable to long duration fixed income with severe deflationary pressures and low growth rates. Fiscal and monetary intervention is not a cure, but mitigates the full economic damage. Central banks control bond prices across the yield curve, severely distorting the cost of capital and corporate capital structures with the impacted regions likely experiencing a "lost decade" of investment returns

CHINA TRANSITIONS

NEPC, LLC

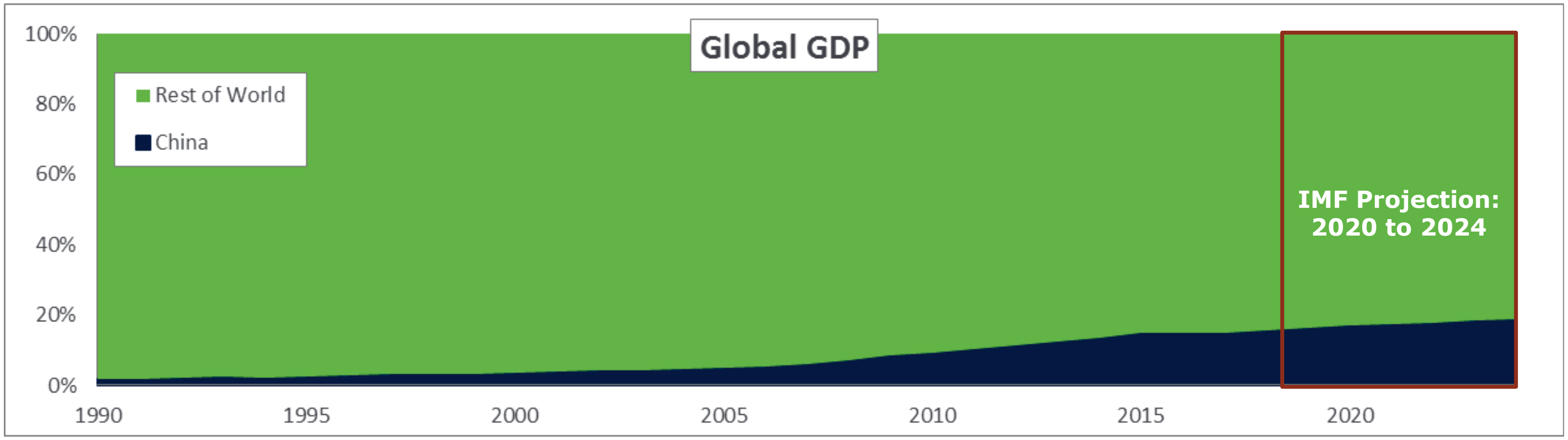
DEFINING THE THEME

China is undergoing a multi-faceted evolution as the economy transitions to a services and consumption-based model, while China's role on the global stage shifts to reflect its ascending geopolitical power

Domestically, China's socioeconomic profile is changing with rising income levels, increasing urbanization, but also challenging demographics. The country is leveraging this transition to continue its economic liberalization, but fixed investment and credit growth are required to support the "old" economy and maintain employment levels

In addition to economic liberalization, barriers to enter China's capital markets are being relaxed and the ability of foreign investors to access local markets has broadly expanded. Index providers are likely to continue to increase China's weight in global equity and fixed income indices, which is a better reflection of China's position in the world economy

China is the global growth engine and any disruption to these significant transitions will be transmitted globally due to the country's expanding role in the world economy



Source: IMF

EXPECTED EVOLUTION

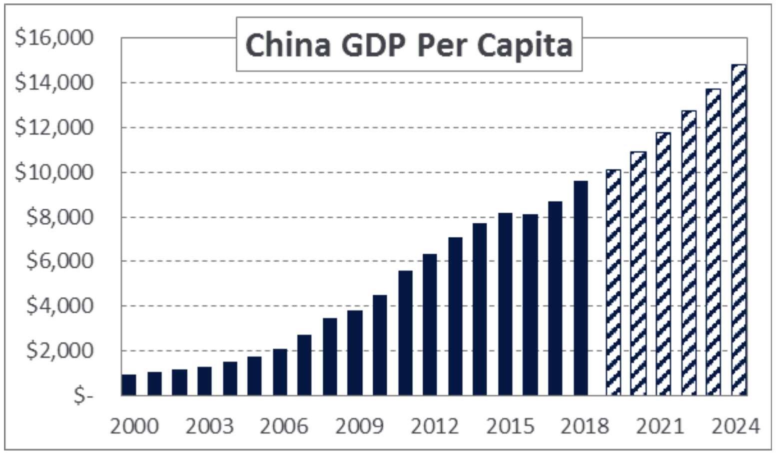
China continues to experience slowing economic growth, but remains on a growth path to equal the size of the US economy over the next 25 years

Policymakers must continue to balance the goals of sustaining healthy economic growth rates and moderating the growth of credit in the financial system

Recent data points highlight China's discipline and commitment to manage credit growth levels despite the harmful economic effects of the US-China trade dispute. However, an uncontrolled acceleration of credit growth and real estate development is a systemic risk to the local economy

Rising income levels and the ongoing rural to urban transition expand the need for a broad range of consumer-oriented services

With the broad improvement in quality of life, consumer demand for healthcare services and education is rapidly growing, but straining existing systems. Despite a rapid increase in GDP per capita, innovation and advances in economic productivity are needed for China to escape a middle income trap and an aging populace



Source: IMF

Source: IMF

EXPECTED EVOLUTION CONTINUED

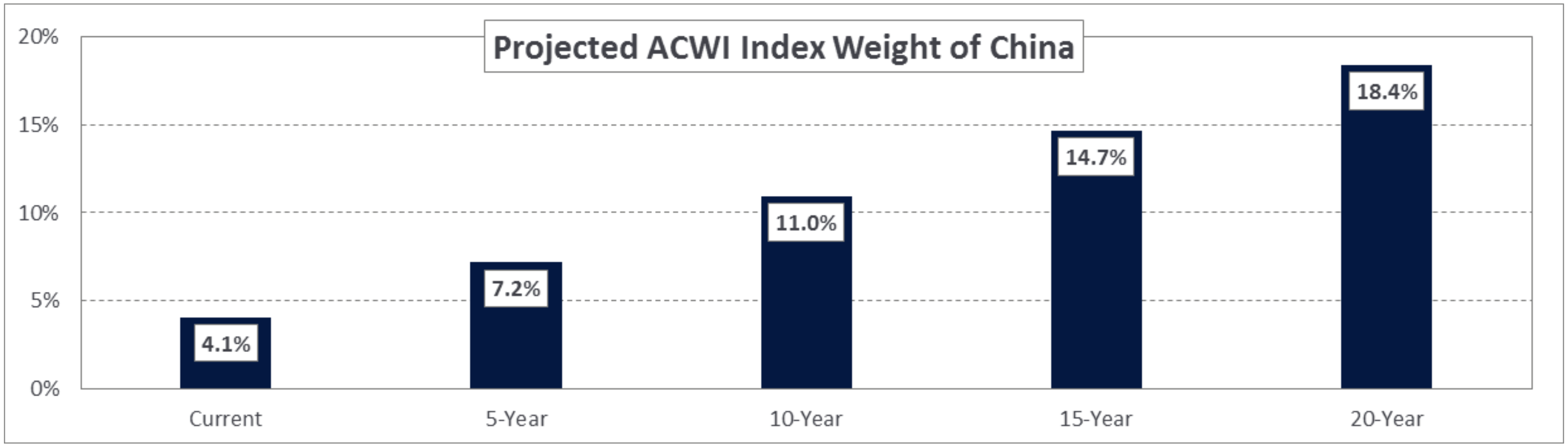
China's ascendancy as a strategic competitor to the US across innovative fields, such as artificial intelligence and 5G technologies, has provoked social and political angst regarding China's transition to a global power

China's growing economic and geopolitical prominence relative to the established global role of the US can be viewed as a "Thucydides Trap", where a rising power causes fear in the established power

The US-China trade conflict is an expression of this dynamic as tariffs have been used as a deterrent to confront China's rising economic status and risks a zero-sum dynamic of economic competition between the US and China across a wide range of sectors

While we anticipate access to local markets will continue to expand, the ability to attract foreign capital can be hindered by policymakers in the developed world limiting the free movement of capital to China

As China's transition continues, tensions with the US are likely to remain heightened and at times may incite volatility in global markets



Source: MSCI, IMF, FactSet, NEPC

INVESTMENT CONSIDERATIONS AND RISKS

China’s fundamental transitions will likely continue for the next decade

Successful management of these transitions could accrue beneficially to global investors, especially those with relative overweights to Chinese assets

Access to local financial markets will continue to expand with ongoing inclusion efforts by global index providers in both equity and fixed income

As income levels rise and capital markets liberalize, China is on a long path to developed market status and we anticipate large strategic asset allocation targets to China will be required to maintain a neutral market beta exposure to the country

We believe the market implied base case is for China to continue on its current development path, but numerous disruptions could occur

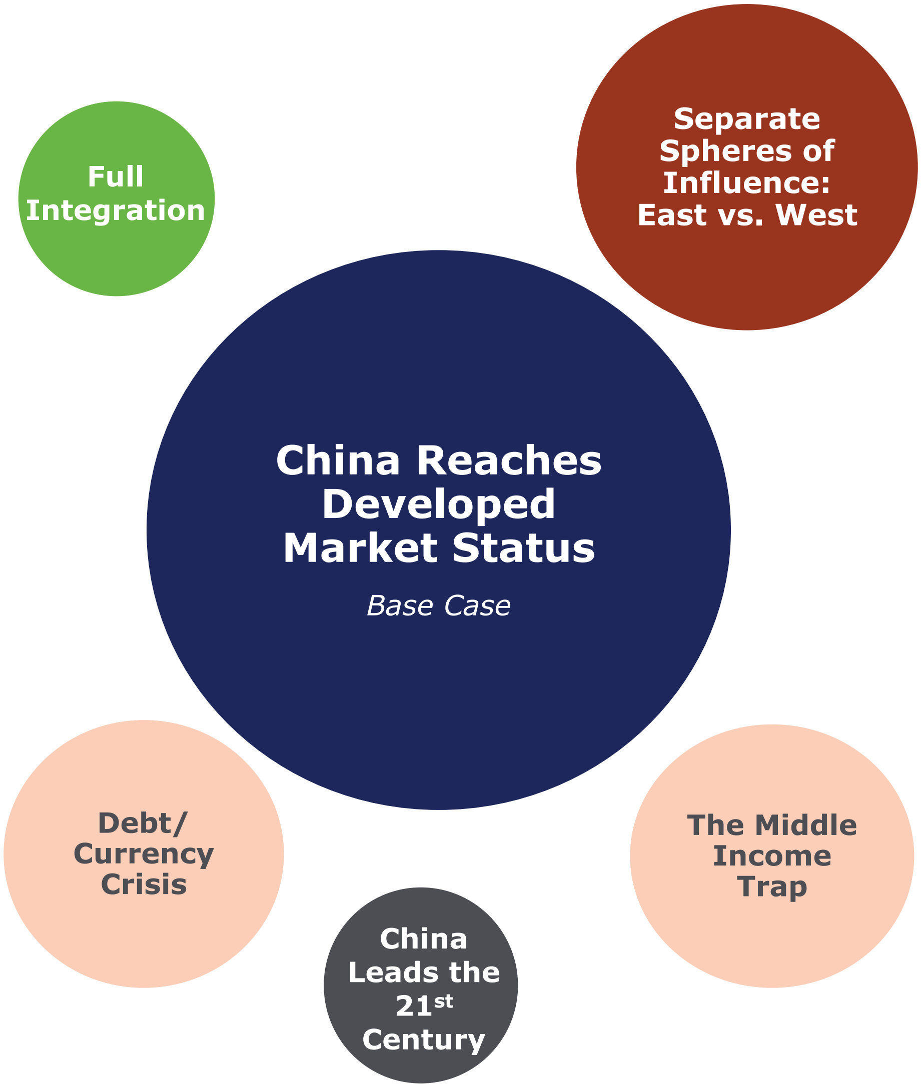
Any disruption to this transition will have an outsized impact for the global economy and generate significant levels of currency and equity volatility across global markets

The risk of a US versus China economic conflict has notably increased

As experienced over the past few years, US foreign and economic policy has pivoted to view China as a threat and global competitor. China’s growth transition can be severely impeded if the US-China relationship descends into the “Thucydides Trap” with economic links being resisted and additional economic costs imposed on both nations

At its extreme, this dynamic creates the potential for separate spheres of US and China influence with disconnected financial systems and distinct USD and yuan currency blocs. Such a long-term scenario is broadly negative – impacting access for both nations to the others capital markets and limiting economic growth opportunities

POTENTIAL OUTCOMES



Size of bubble denotes expected likelihood of outcome

China Reaches Developed Market Status: Successful transition to a consumer-oriented economy with per-capita GDP in line with the developed world and continued liberalization of capital markets

US-China and Separate Spheres of Influence: Two separate economic, geopolitical, and financial systems exist with an ongoing confrontational relationship. This dynamic may impact foreign access to Chinese capital markets, with the potential to directly impact regional blocs aligned with China

The Middle Income Trap: Per-capita income growth stalls as innovation and productivity levels do not improve from current levels. China fails to achieve developed market status, implying an internal shift away from market-friendly reforms or an external force such as US policy pressure curtailing China's growth

Debt and Currency Crisis: Uncontrolled expansion of credit growth to drive short-term economic gain fuels capital misallocation and represents a systematic risk to the financial system and China's currency controls

The 21st Century is Dominated by China: China becomes the dominant global power for this century. China assumes economic leadership and the yuan ascends to become a global reserve currency

Full Integration: Political and economic liberalization within China and complete integration in the established world order and the current geopolitical hierarchy

GLOBALIZATION BACKLASH

DEFINING THE THEME

Stagnant wage growth and growing wealth inequality are fueling political discontent across the developed and emerging world

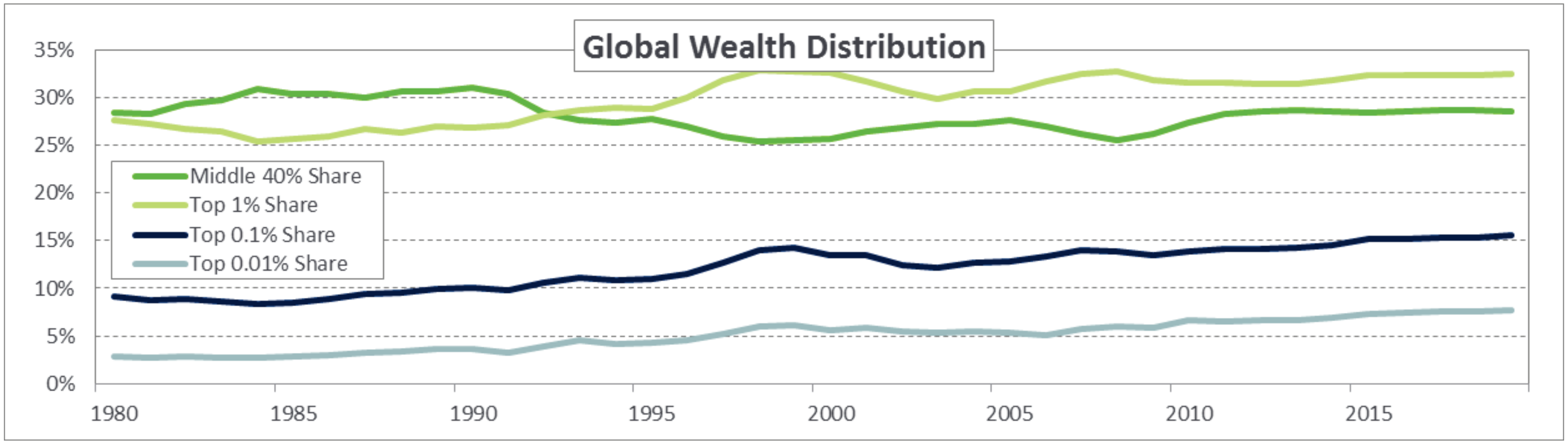
Populist movements across the world are shifting away from the political and economic orthodoxy of the last 50 years

Globalization is viewed with suspicion by a growing percentage of voters, shifting multiple countries to more nationalist policies

Fatigue over globalization is changing political platforms and increasing trade tensions. A reevaluation of established multilateral relationships likely increases geopolitical risks

The growth of populist movements, on the "left" and "right", destabilizes the political order and materializes as Globalization Backlash

An anti-establishment political bias and a drift from political orthodoxy heighten tail-risks in global markets, specifically currency markets, as voting patterns become more volatile with a wider range of outcomes associated with foreign policy, trade policy, and tax rates



Source: World Inequality Lab

EXPECTED EVOLUTION

As Globalization Backlash evolves, we do not see wealth inequality gaps shrinking – highlighting the long-term nature of theme

The origin of voters' economic unease remains and the popularity of anti-establishment political parties poses a risk to the global economic order. This trend suggests populism will continue to be used as a political tool to exploit the anxiety and fears of voters – shifting economic and political policy away from orthodoxy

The success of unconventional candidates and the greater frequency of contested elections is likely to incite volatility across markets

The bias to shift away from traditional political norms leaves currency markets prone to bouts of volatility. Europe is one example of a potential globalization backlash flashpoint

The extremes of the political spectrum across the developed world are likely to have a greater role in government as moderation is stretched

In many cases the role of government may be muted as parliamentary coalitions have narrow paths of consensus, heightening tail-risks and political instability as reforms are unable to be enacted

The battering of the established world order brings investment risks and opportunities for investors in global equity and currency markets

While market sentiment is sensitive to disruptions due to Globalization Backlash, a lack of political consensus limits regulatory action and can be a positive for equity markets

We do not envision Globalization Backlash providing a dedicated investment opportunity, but the rise of populist movements heightens market volatility and likely provides more frequent dislocations in equity, credit, and currency markets

EXPECTED EVOLUTION CONTINUED

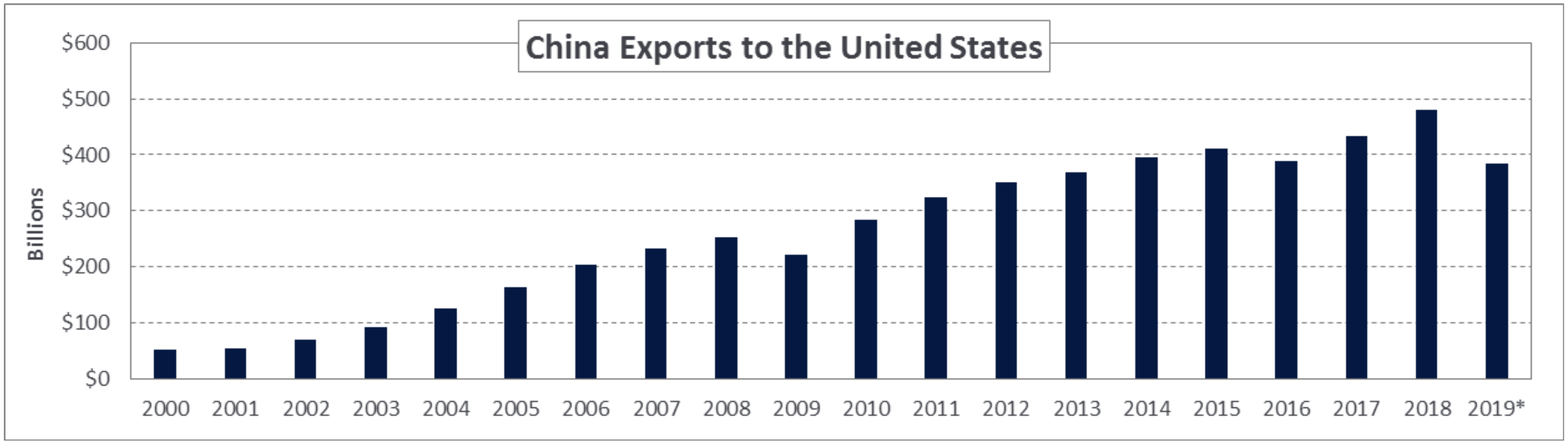
US-China trade tensions are a full expression of our backlash theme

Levying tariffs is a dangerous game as both the US and China look to negotiate but must demonstrate strength for their domestic audience. US-China tariffs are the “new normal” and this dynamic can continue for the foreseeable future. We do not anticipate the trade dispute to escalate beyond tariff levies and prohibit the flow of goods and services

Markets have skeptically digested the US administration's rhetoric and expect a limited trade deal in the near-term, but a tighter US trade policy is a material risk for the global economy and investor sentiment

We continue to monitor the situation in the UK as Brexit represents a live case study for the effects of globalization backlash

Economic metrics across the country have turned lower in the time since the UK voted to leave the European Union. The deterioration in business and consumer confidence along with potential disruptions to the financial sector offer a cautionary tale. Yet the significant Tory victory in December signals the electorate’s fatigue and wanting to “get Brexit done”



Source: China Customs, FactSet; *2019 represents total through 11/30/2019

POTENTIAL OUTCOMES AND IMPLICATIONS

	Description	Long-Term Market Implications
Pushback on Established World Order	NEPC base case expectation of continued tariffs, rising nationalism, and growing populist trends, which reflect globalization fatigue	Does not favor a specific investment action or asset class but includes more volatility for governments as coalitions shift with narrow paths of consensus. Likely leads to greater volatility for capital markets, particularly in currencies across the developed world
A More Balanced Global Wealth Distribution	Economic adjustments lead to long-term improvements in real income for lower income workers in the developed world and emerging market economies	Positive for equities and credit with some aspect of normalization in inflation and real interest rates. With economic productivity gains, monetary policy could decrease in importance
Expanding Protectionism	A severe reversal in globalization with a regression in trade and global economic integration	Greater protectionism negatively harms investor sentiment, business investment, geopolitical relations, and global supply chains. Developed nations, such as the US, with domestically available resources and consumers may have a relative structural advantage. This scenario generates lower global growth and higher volatility
Democracy Crumbles	Breakdowns in the social fabric of society and government. Populist movements become the "revolution" as economic structures and policies are refashioned	Holders of capital suffer under this path as investment markets across equity and fixed income experience severe negative outcomes

Q4 EXECUTIVE SUMMARY

NEPC, LLC

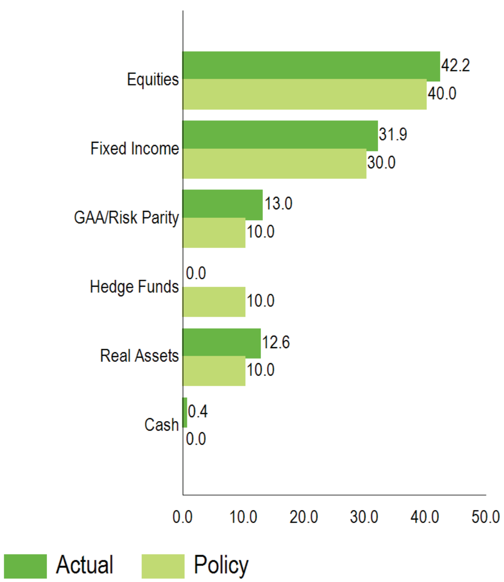
Eastern Michigan University - Board of Regents

TOTAL FUND PERFORMANCE SUMMARY

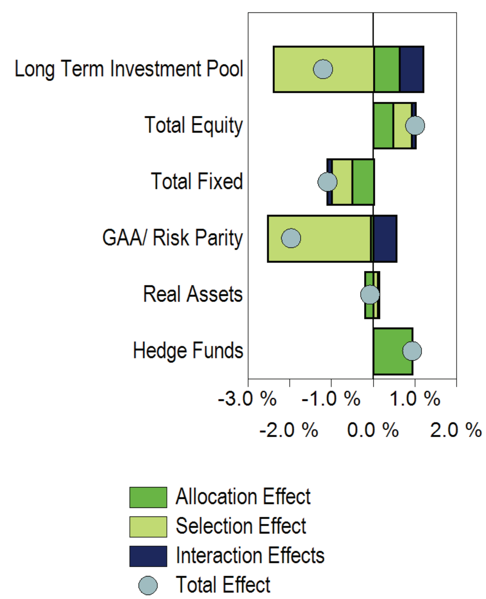
	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank
Board of Regents Total Composite	**$23,752,274**	**4.4%**	**1**	**4.6%**	**18**	**14.5%**	**17**	**6.5%**	**25**	**4.5%**	**37**
Allocation Index		*4.9%*	*1*	*5.6%*	*7*	*15.7%*	*14*	*7.8%*	*14*	*5.0%*	*25*

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank
Long Term Investment Pool	**$23,251,978**	**4.5%**	**77**	**4.7%**	**80**	**16.0%**	**76**	**7.7%**	**77**	**5.4%**	**76**
Long Term Allocation Index		*5.0%*	*68*	*5.7%*	*66*	*17.4%*	*69*	*8.7%*	*54*	*6.0%*	*60*
Long Term Balanced Index		*5.1%*	*66*	*5.5%*	*68*	*17.2%*	*70*	*8.4%*	*61*	*5.9%*	*60*

Long Term Investment Pool Actual vs. Target Allocation



Long Term Investment Pool Attribution Effects
3 Years Ending December 31, 2019



	Year to Date					
	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank
Board of Regents Total Composite	14.53%	17	6.18%	94	2.02	91
Allocation Index	15.75%	14	5.98%	93	2.29	84

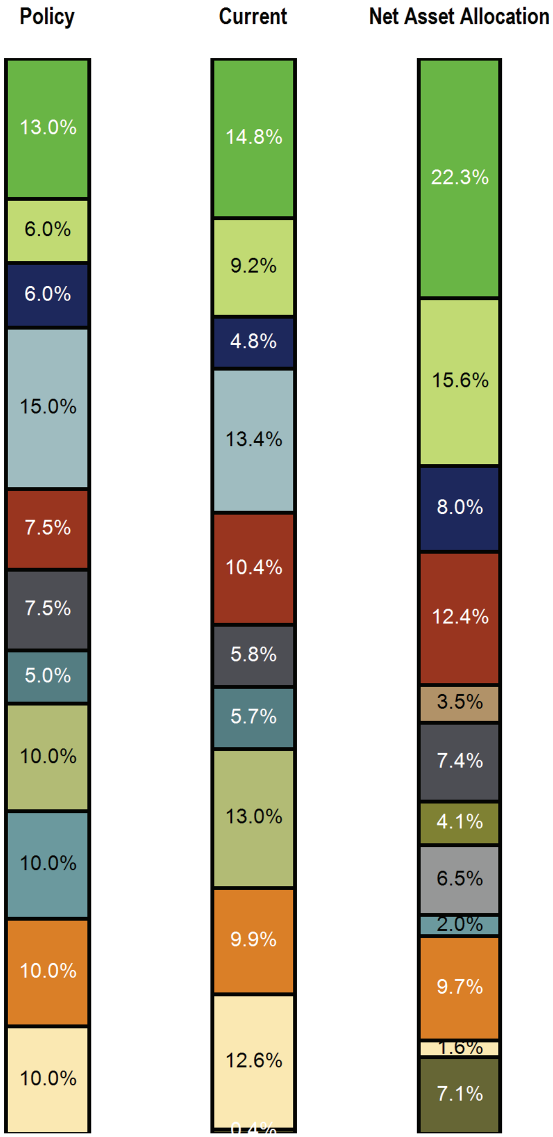
Composite Performance
The Total Composite returned +4.4% for the quarter, bringing the year to date return to 14.5%; The Long Term Investment Pool was behind the Allocation Index for the quarter and on par with expectations for the year

Allocation Index
Equities continue to ride the global bull markets, while Fixed Income has detracted due to compressed yields worldwide

Active Management
Artisan Global Opportunities outperformed for the quarter, primarily due to their positions in Industrials and Financials - this strategy also finished ahead of global equity markets by almost 10%

Eastern Michigan University - Board of Regents

ASSET ALLOCATION VS. POLICY TARGETS



Asset Allocation vs. Target	Current	Policy	Current	Net Asset Allocation
Domestic Equity	$3,444,365	13.0%	14.8%	22.3%
International Equity	$2,137,496	6.0%	9.2%	15.6%
Emerging Markets Equity	$1,116,081	6.0%	4.8%	8.0%
Global Equity	$3,116,965	15.0%	13.4%	--
Core Fixed Income	$2,429,243	7.5%	10.4%	12.4%
High Yield	--	--	--	3.5%
TIPS	$1,344,048	7.5%	5.8%	7.4%
Multi-Sector Fixed Income	$1,334,031	5.0%	5.7%	--
Non-US Developed Bonds	--	--	--	4.1%
Emerging Market Debt	--	--	--	6.5%
GAA/Risk Parity	$3,011,474	10.0%	13.0%	--
Hedge Funds	--	10.0%	--	2.0%
Absolute Return	$2,304,441	10.0%	9.9%	9.7%
Real Assets	$2,918,795	10.0%	12.6%	1.6%
Cash	$95,040	--	0.4%	7.1%
Total	**$23,251,978**	**100.0%**	**100.0%**	**100.0%**

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

INVESTMENT MANAGER - DUE DILIGENCE STATUS

Investment Options	Manager Changes/ Announcements (Recent Quarter)	NEPC Due Diligence Committee Recommendations
PIMCO All Asset Strategy	Litigation: PIMCO Discrimination Lawsuit October 2019	1. No Action
BlackRock Strategic Income Opportunities	Loss of Personnel: Mark Wiseman Departure from BlackRock December 2019	1. No Action

INVESTMENT MANAGER DUE DILIGENCE

Investment Options	Commentary	NEPC Rating
PIMCO All Asset Strategy	The Unfavorable News Committee met to discuss PIMCO’s recent headline event. Andrea Martin Inokon, senior counsel at PIMCO, is suing for sex-, race-, and disability status-based discrimination. She named PIMCO, the firm’s deputy counsel Rick LeBrun, and global general counsel David Flattum. PIMCO denies the allegations. Ms. Inokon is still employed at PIMCO. NEPC has spoken with PIMCO, and while they are limited in what they can say we have requested further information: 1) We would like to hear the results of internal investigations around the specific “fraternity culture” allegations in this complaint 2) We would like to hear more specific information about PIMCO’s roadmap toward diverse representation at the firm’s most senior management levels PIMCO has an executive level office dedicated to diversity and inclusion, which we have covered in prior due diligence events. At this time we believe this filing is a specific employment dispute and are recommending NO ACTION. We will continue speaking with PIMCO and update information and/or due diligence status accordingly.	1
BlackRock Strategic Income Opportunities	Mark Wiseman the Head of Blackrock’s Active Equity business was terminated from the Firm for failing to disclose a relationship. The Active Equity business (Scientific Active Equity and Fundamental Active Equity) will report to Rob Kapito, a founding member of BlackRock, for the foreseeable future. Mr. Wiseman also served as Chairman of the Firm’s Alternatives Business.	1

INVESTMENT MANAGER DUE DILIGENCE

NEPC Due Diligence Committee Recommendation Key	
No Action	Informational items have surfaced; no action is recommended.
Watch	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.
Hold	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.
Client Review	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.
Terminate	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

TOTAL FUND PERFORMANCE SUMMARY

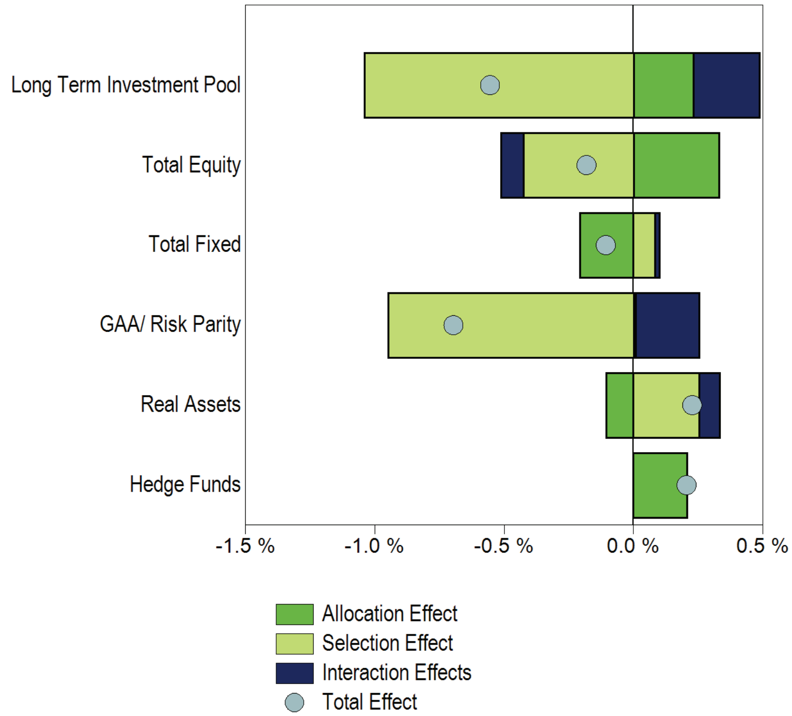
	Market Value ($)	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank
Board of Regents Total Composite	**23,752,274**	**4.4**	**1**	**4.6**	**18**	**14.5**	**17**	**6.5**	**25**	**4.5**	**37**
Allocation Index		*4.9*	*1*	*5.6*	*7*	*15.7*	*14*	*7.8*	*14*	*5.0*	*25*
InvMetrics Trust Funds >60% Fixed Income Net Median		*1.4*		*3.1*		*9.8*		*5.2*		*4.1*	
Short Term Investment Pool	**500,295**	**0.4**		**0.7**		**1.8**		**0.9**		**0.6**	
91 Day T-Bills		*0.4*	--	*0.9*	--	*2.1*	--	*1.6*	--	*1.1*	--
Long Term Investment Pool	**23,251,978**	**4.5**	**77**	**4.7**	**80**	**16.0**	**76**	**7.7**	**77**	**5.4**	**76**
Long Term Allocation Index		*5.0*	*68*	*5.7*	*66*	*17.4*	*69*	*8.7*	*54*	*6.0*	*60*
Long Term Balanced Index		*5.1*	*66*	*5.5*	*68*	*17.2*	*70*	*8.4*	*61*	*5.9*	*60*
Total Equity	**9,814,906**	**8.5**	**51**	**8.4**	**44**	**27.9**	**39**	**13.2**	**35**	**9.2**	**33**
MSCI ACWI		*9.0*	*42*	*8.9*	*35*	*26.6*	*47*	*12.4*	*43*	*8.4*	*45*
eV All Global Equity Net Median		*8.6*		*8.1*		*26.1*		*11.7*		*8.0*	
Total Fixed	**7,506,804**	**1.2**	**58**	**1.9**	**69**	**7.3**	**80**	**4.2**	**74**	**3.5**	**51**
BBgBarc US Aggregate TR		*0.2*	*86*	*2.5*	*55*	*8.7*	*60*	*4.0*	*80*	*3.0*	*63*
eV All Global Fixed Inc Net Median		*1.8*		*2.7*		*9.6*		*4.9*		*3.5*	
GAA/ Risk Parity	**3,011,474**	**0.3**	**97**	**0.8**	**90**	**7.1**	**82**	**2.6**	**88**	**1.6**	**81**
60% MSCI World (Net) / 40% FTSE WGBI		*4.9*	*38*	*5.7*	*31*	*18.8*	*32*	*9.3*	*25*	*6.2*	*27*
eV Global TAA Net Median		*4.1*		*5.1*		*15.8*		*6.6*		*4.8*	
Real Assets	**2,918,795**	**4.3**	**36**	**3.7**	**30**	**12.2**	**53**	**6.7**	**15**	**4.7**	**20**
PIMCO All Asset Index		*1.9*	*60*	*3.1*	*37*	*11.3*	*62*	*5.1*	*29*	*4.3*	*23*
Bloomberg Commodity Index		*4.4*	*36*	*2.5*	*51*	*7.7*	*70*	*-0.9*	*74*	*-3.9*	*78*
InvMetrics All E&F Real Assets/Commodities Net Median		*3.0*		*2.5*		*12.3*		*2.5*		*-0.1*	

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 mulitiplied by the specified market index.

Eastern Michigan University - Board of Regents

LONG TERM INVESTMENT POOL

Attribution Effects
3 Months Ending December 31, 2019

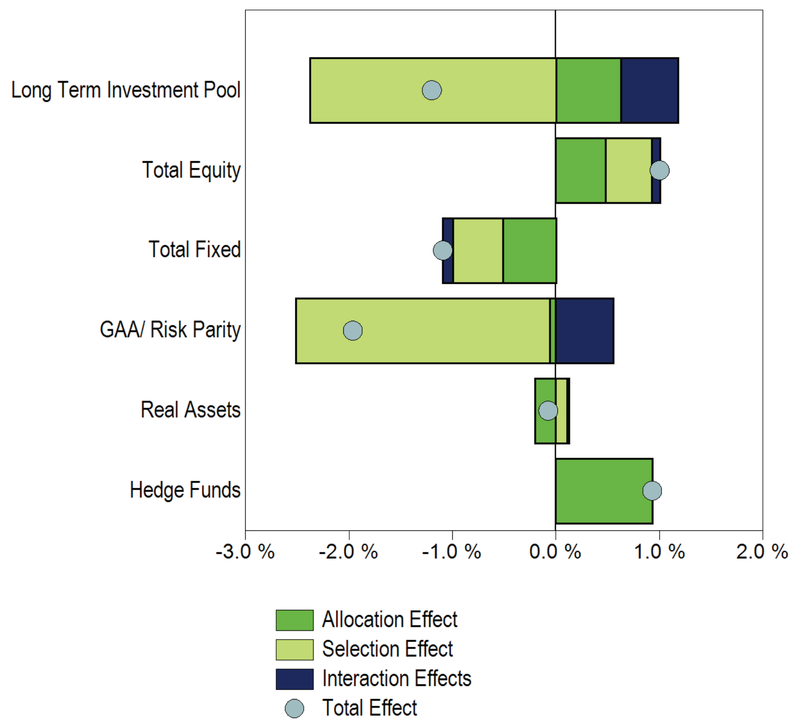


Attribution Summary
3 Months Ending December 31, 2019

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total Equity	8.5%	9.8%	-1.3%	-0.4%	0.3%	-0.1%	-0.2%
Total Fixed	1.2%	0.9%	0.3%	0.1%	-0.2%	0.0%	-0.1%
GAA/ Risk Parity	0.3%	4.9%	-4.7%	-0.9%	0.0%	0.2%	-0.7%
Real Assets	4.3%	1.9%	2.5%	0.3%	-0.1%	0.1%	0.2%
Hedge Funds	--	--	--	--	0.2%	--	--
Total	**4.5%**	**5.1%**	**-0.6%**	**-1.0%**	**0.2%**	**0.3%**	**-0.6%**

LONG TERM INVESTMENT POOL

Attribution Effects
1 Year Ending December 31, 2019



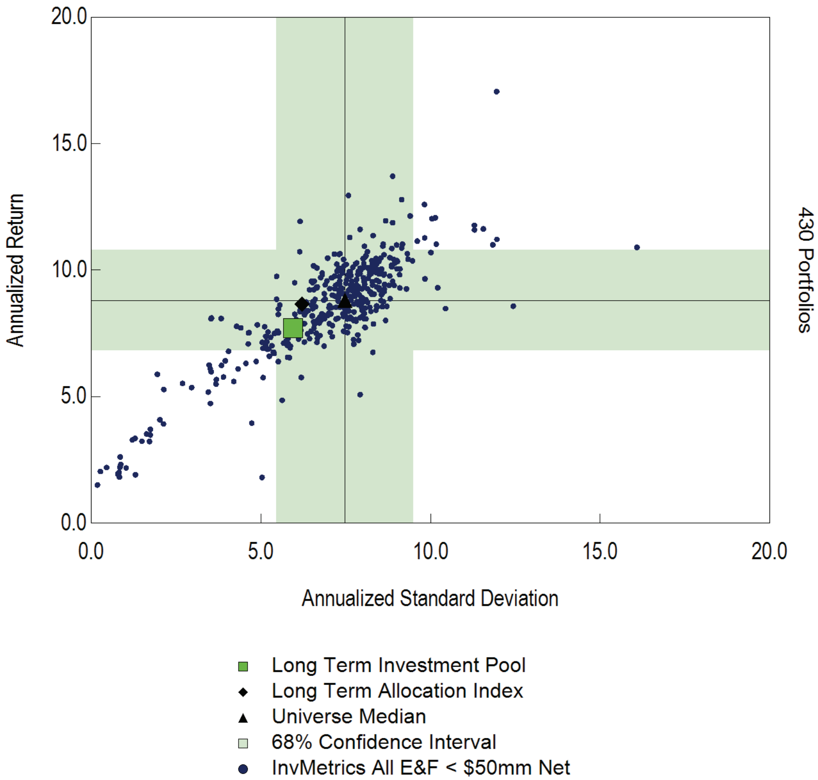
Attribution Summary
1 Year Ending December 31, 2019

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total Equity	27.9%	26.5%	1.5%	0.4%	0.5%	0.1%	1.0%
Total Fixed	7.3%	9.1%	-1.8%	-0.5%	-0.5%	-0.1%	-1.1%
GAA/ Risk Parity	7.1%	18.8%	-11.7%	-2.4%	-0.1%	0.5%	-2.0%
Real Assets	12.2%	11.3%	0.9%	0.1%	-0.2%	0.0%	-0.1%
Hedge Funds	--	--	--	--	0.9%	--	--
Total	**16.0%**	**17.2%**	**-1.2%**	**-2.4%**	**0.6%**	**0.5%**	**-1.2%**

Eastern Michigan University - Board of Regents

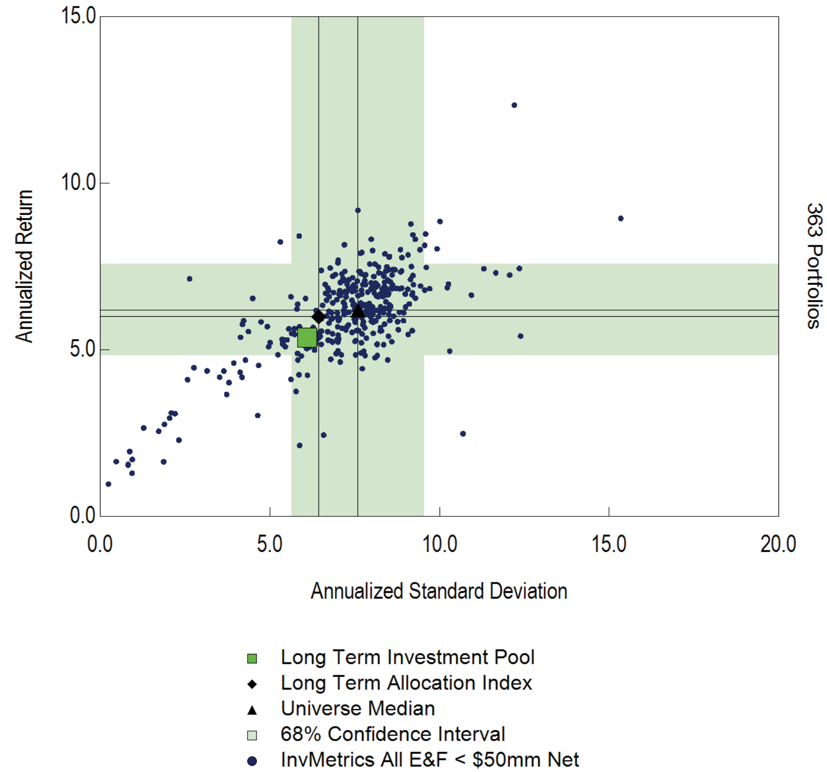
LONG TERM INVESTMENT POOL RISK VS. RETURN

3 Years Ending December 31, 2019



3 Years Ending December 31, 2019	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank
Long Term Investment Pool	7.70%	77	5.94%	21	1.02	43
Long Term Allocation Index	8.66%	54	6.21%	25	1.13	18
Long Term Balanced Index	8.44%	61	6.19%	24	1.10	22

5 Years Ending December 31, 2019

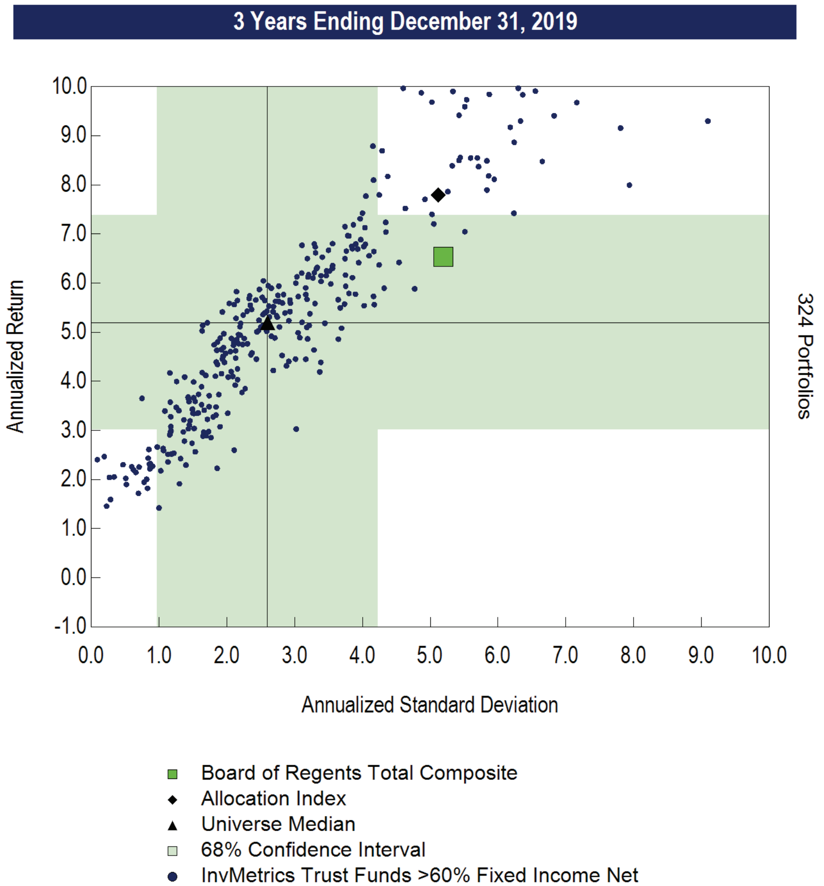


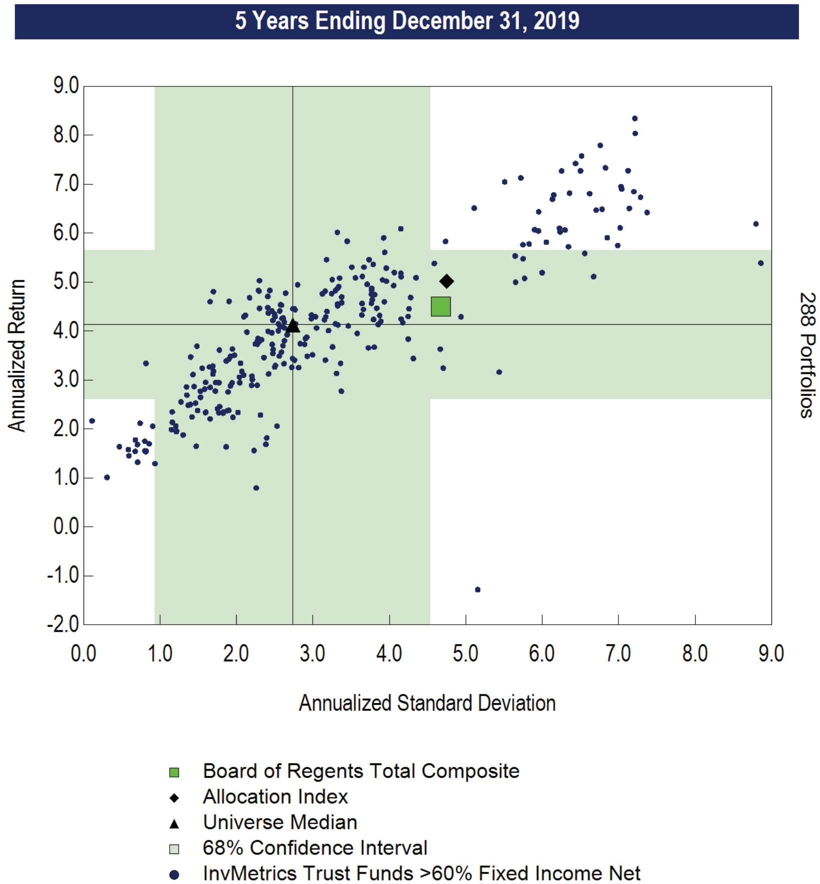
5 Years Ending December 31, 2019	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank
Long Term Investment Pool	5.37%	76	6.10%	19	0.71	46
Long Term Allocation Index	5.99%	60	6.43%	22	0.77	30
Long Term Balanced Index	5.95%	60	6.42%	22	0.76	31

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

Eastern Michigan University - Board of Regents

TOTAL FUND RISK VS. RETURN



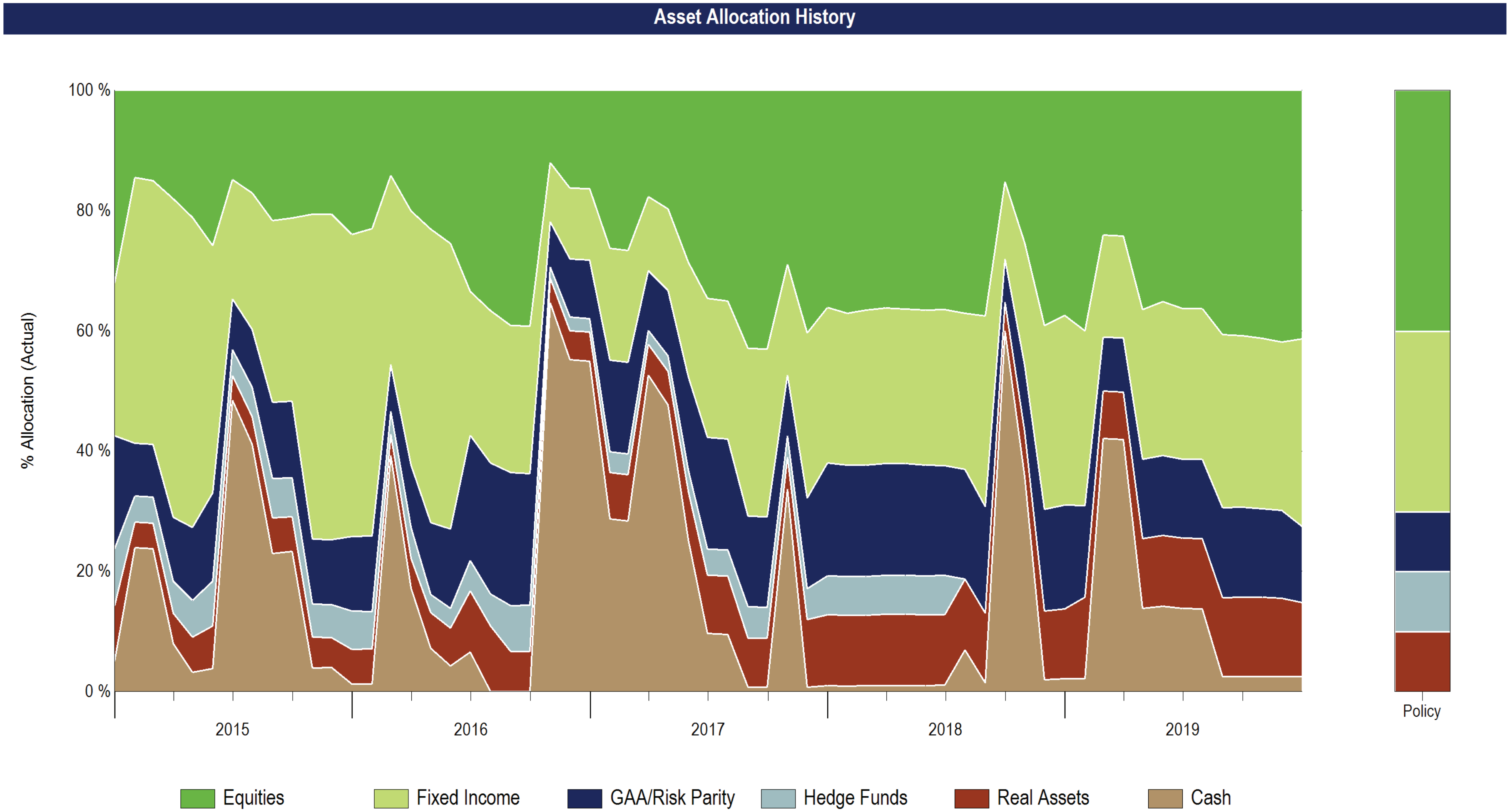


3 Years Ending December 31, 2019	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank
Board of Regents Total Composite	6.53%	25	5.19%	25	0.94	83
Allocation Index	7.80%	14	5.12%	14	1.20	61

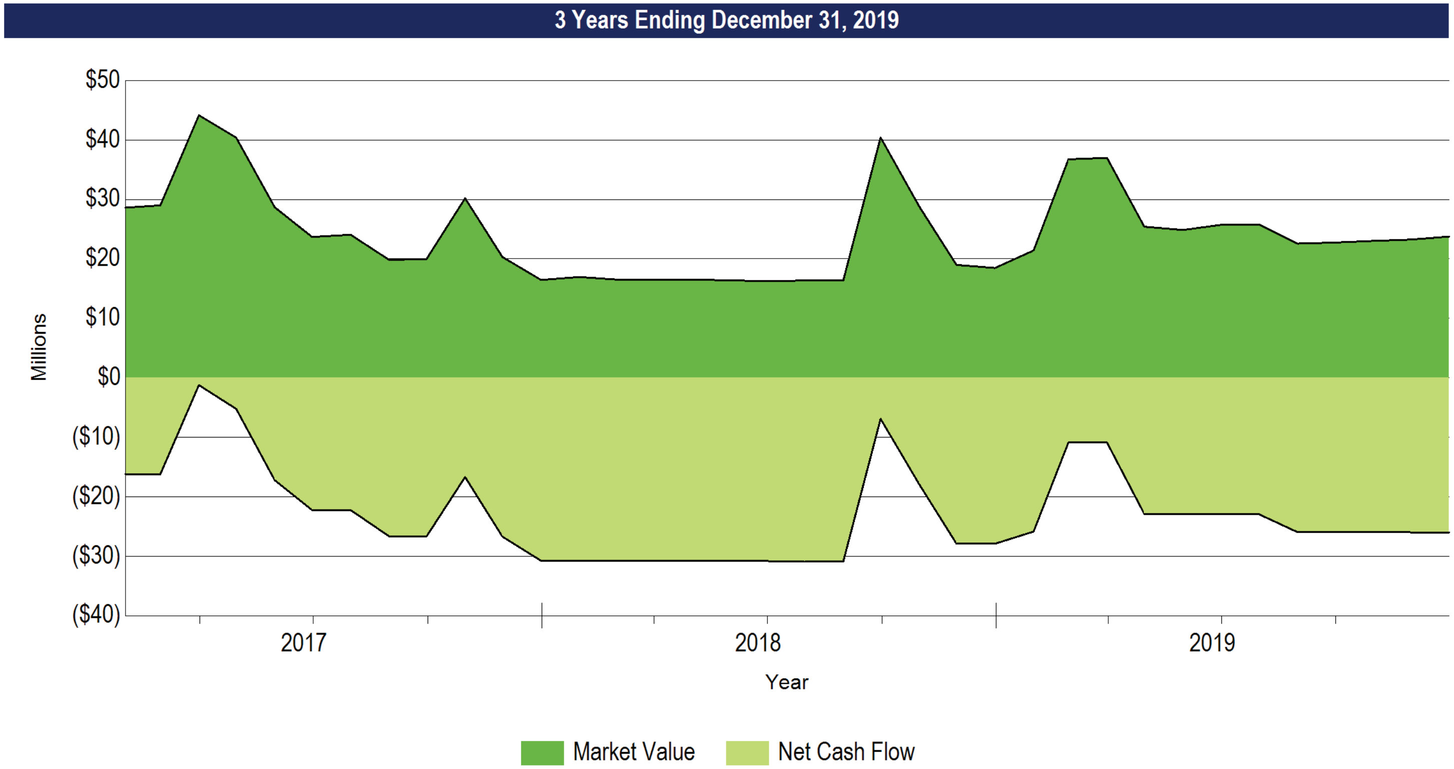
5 Years Ending December 31, 2019	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank
Board of Regents Total Composite	4.50%	37	4.67%	37	0.74	83
Allocation Index	5.02%	25	4.75%	25	0.84	70

Eastern Michigan University - Board of Regents

TOTAL FUND ASSET ALLOCATION HISTORY



TOTAL FUND ASSET GROWTH SUMMARY



	Last Three Months	Fiscal Year-To-Date	One Year	Three Years
Beginning Market Value	$22,750,224	$25,713,932	$18,472,863	$44,441,487
Contributions	$1,368,480	$1,478,313	$20,752,784	$86,806,999
Withdrawals	-$1,409,416	-$4,553,081	-$18,848,427	-$112,809,267
Net Cash Flow	-$40,936	-$3,074,768	$1,904,356	-$26,002,269
Net Investment Change	$1,042,986	$1,113,110	$3,375,054	$5,313,055
Ending Market Value	$23,752,274	$23,752,274	$23,752,274	$23,752,274

TOTAL FUND ASSET GROWTH SUMMARY

	Quarter Ending December 31, 2019					
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Acadian Emerging Markets Equity	$998,161	$0	-$1,873	-$1,873	$119,793	$1,116,081
AQR Global Market and Alternative Premia Offshore Fund	$1,509,207	$0	$0	$0	-$23,992	$1,485,215
Artisan Global Opportunities	$1,430,523	$0	$0	$0	$134,864	$1,565,387
Baird - Core Bond	$1,522,740	$900,000	$0	$900,000	$6,503	$2,429,243
Bank of Ann Arbor Trust Cash	$481,836	$18,480	-$1,734	$16,746	$1,713	$500,295
BlackRock- SIO	$2,614,674	$0	-$350,000	-$350,000	$39,767	$2,304,441
Franklin Templeton- Global Multi-Sector Plus	$1,011,203	$300,000	$0	$300,000	$22,828	$1,334,031
Hexavest GE	$1,300,774	$150,000	$0	$150,000	$100,804	$1,551,578
Northern Inst Govt Select MMKT	$0	$0	$0	$0	$0	$0
PIMCO All Asset	$2,991,020	$0	-$200,000	-$200,000	$127,775	$2,918,795
SEG Baxter	$2,015,921	$0	$0	$0	$121,575	$2,137,496
US Treasury	$94,712	$0	$0	$0	$329	$95,040
Vanguard Inflation Protected Fund	$1,336,620	$0	$0	$0	$7,428	$1,344,048
Vanguard Total Stock Market VIPERs	$3,550,161	$0	-$418,571	-$418,571	$312,775	$3,444,365
William Blair Macro Allocation	$1,892,674	$0	-$400,000	-$400,000	$33,585	$1,526,259
Total	**$22,750,224**	**$1,368,480**	**-$1,372,178**	**-$3,698**	**$1,005,748**	**$23,752,274**

Eastern Michigan University - Board of Regents

TOTAL FUND PERFORMANCE DETAIL

	Market Value ($)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Board of Regents Total Composite	**23,752,274**	**100.0**	**4.4**	**1**	**4.6**	**18**	**14.5**	**17**	**6.5**	**25**	**4.5**	**37**	**4.9**	**45**	**5.4**	**Apr-09**
Allocation Index			*4.9*	*1*	*5.6*	*7*	*15.7*	*14*	*7.8*	*14*	*5.0*	*25*	*--*	*--*	*--*	*Apr-09*
InvMetrics Trust Funds >60% Fixed Income Net Median			*1.4*		*3.1*		*9.8*		*5.2*		*4.1*		*4.6*		*5.4*	*Apr-09*
Short Term Investment Pool	**500,295**	**2.1**	**0.4**		**0.7**		**1.8**		**0.9**		**0.6**		**0.3**		**0.3**	**Apr-09**
91 Day T-Bills			*0.4*	*--*	*0.9*	*--*	*2.1*	*--*	*1.6*	*--*	*1.1*	*--*	*0.6*	*--*	*0.5*	*Apr-09*
Bank of Ann Arbor Trust Cash	500,295	2.1	0.4	98	0.9	91	1.9	92	1.0	99	0.6	99	0.3	99	0.3	Nov-09
91 Day T-Bills			*0.4*	*95*	*0.9*	*91*	*2.1*	*90*	*1.6*	*74*	*1.1*	*75*	*0.6*	*75*	*0.5*	*Nov-09*
eV US Cash Management Net Median			*0.5*		*1.0*		*2.4*		*1.8*		*1.2*		*0.7*		*0.7*	*Nov-09*
Long Term Investment Pool	**23,251,978**	**97.9**	**4.5**	**77**	**4.7**	**80**	**16.0**	**76**	**7.7**	**77**	**5.4**	**76**	**6.5**	**82**	**5.8**	**Apr-09**
Long Term Allocation Index			*5.0*	*68*	*5.7*	*66*	*17.4*	*69*	*8.7*	*54*	*6.0*	*60*	*--*	*--*	*--*	*Apr-09*
Long Term Balanced Index			*5.1*	*66*	*5.5*	*68*	*17.2*	*70*	*8.4*	*61*	*5.9*	*60*	*6.6*	*81*	*5.9*	*Apr-09*
Total Equity	**9,814,906**	**41.3**	**8.5**	**51**	**8.4**	**44**	**27.9**	**39**	**13.2**	**35**	**9.2**	**33**	**--**	**--**	**8.8**	**Jan-14**
MSCI ACWI			*9.0*	*42*	*8.9*	*35*	*26.6*	*47*	*12.4*	*43*	*8.4*	*45*	*8.8*	*60*	*7.7*	*Jan-14*
eV All Global Equity Net Median			*8.6*		*8.1*		*26.1*		*11.7*		*8.0*		*9.3*		*7.7*	*Jan-14*
SEG Baxter	2,137,496	9.0	6.0	99	5.0	95	29.0	29	--	--	--	--	--	--	10.2	Jul-17
MSCI ACWI ex USA			*8.9*	*72*	*7.0*	*71*	*21.5*	*70*	*9.9*	*64*	*5.5*	*69*	*5.0*	*85*	*6.2*	*Jul-17*
eV All ACWI ex-US Equity Net Median			*10.1*		*8.1*		*24.9*		*11.2*		*6.5*		*6.8*		*7.0*	*Jul-17*
Acadian Emerging Markets Equity	1,116,081	4.7	12.0	32	7.2	47	17.8	64	9.7	66	4.6	70	--	--	3.7	Oct-14
MSCI Emerging Markets			*11.8*	*36*	*7.1*	*49*	*18.4*	*57*	*11.6*	*43*	*5.6*	*46*	*3.7*	*72*	*4.4*	*Oct-14*
eV Emg Mkts Equity Net Median			*11.4*		*7.0*		*19.3*		*10.7*		*5.5*		*4.4*		*4.3*	*Oct-14*
Artisan Global Opportunities	1,565,387	6.6	9.4	34	9.9	20	36.0	7	17.7	13	13.0	6	--	--	12.4	Dec-14
MSCI ACWI			*9.0*	*42*	*8.9*	*35*	*26.6*	*47*	*12.4*	*43*	*8.4*	*45*	*8.8*	*60*	*7.8*	*Dec-14*
eV All Global Equity Net Median			*8.6*		*8.1*		*26.1*		*11.7*		*8.0*		*9.3*		*7.6*	*Dec-14*
Hexavest GE	1,551,578	6.5	7.6	66	8.1	50	19.9	83	8.2	82	7.1	63	--	--	6.6	Dec-14
MSCI ACWI			*9.0*	*42*	*8.9*	*35*	*26.6*	*47*	*12.4*	*43*	*8.4*	*45*	*8.8*	*60*	*7.8*	*Dec-14*
eV All Global Equity Net Median			*8.6*		*8.1*		*26.1*		*11.7*		*8.0*		*9.3*		*7.6*	*Dec-14*
Vanguard Total Stock Market VIPERs	3,444,365	14.5	8.9	36	10.1	25	30.7	33	14.5	32	--	--	--	--	14.8	Nov-16
Russell 3000			*9.1*	*33*	*10.4*	*21*	*31.0*	*32*	*14.6*	*32*	*11.2*	*26*	*13.4*	*28*	*14.9*	*Nov-16*
eV All US Equity Net Median			*8.1*		*8.3*		*28.0*		*11.6*		*9.3*		*12.3*		*12.0*	*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 mulitiplied 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).

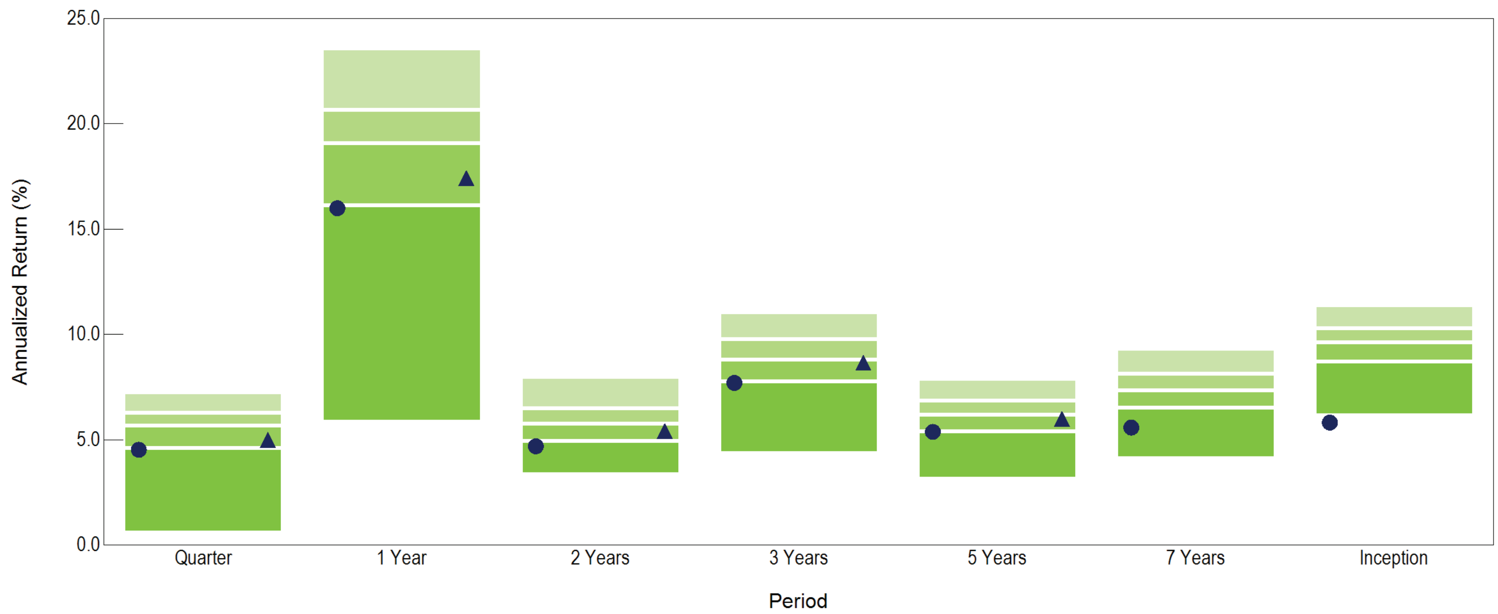
TOTAL FUND PERFORMANCE DETAIL

	Market Value ($)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Fixed	**7,506,804**	**31.6**	**1.2**	**58**	**1.9**	**69**	**7.3**	**80**	**4.2**	**74**	**3.5**	**51**	**--**	**--**	**3.4**	**Jan-14**
BBgBarc US Aggregate TR			*0.2*	*86*	*2.5*	*55*	*8.7*	*60*	*4.0*	*80*	*3.0*	*63*	*3.7*	*58*	*3.5*	*Jan-14*
eV All Global Fixed Inc Net Median			*1.8*		*2.7*		*9.6*		*4.9*		*3.5*		*4.1*		*3.5*	*Jan-14*
Franklin Templeton- Global Multi-Sector Plus	1,334,031	5.6	1.9	3	-1.3	99	2.0	99	2.4	99	2.1	63	--	--	1.7	Oct-14
BBgBarc Multiverse			*0.6*	*34*	*1.3*	*58*	*7.1*	*81*	*4.4*	*60*	*2.5*	*46*	*2.7*	*72*	*2.2*	*Oct-14*
eV Global Agg Fixed Inc Net Median			*0.3*		*1.5*		*7.9*		*4.5*		*2.4*		*2.8*		*2.0*	*Oct-14*
BlackRock- SIO	2,304,441	9.7	1.9	1	2.8	35	7.9	93	4.1	83	3.1	87	--	--	3.0	Oct-14
BBgBarc US Aggregate TR			*0.2*	*77*	*2.5*	*70*	*8.7*	*85*	*4.0*	*84*	*3.0*	*88*	*3.7*	*98*	*3.2*	*Oct-14*
eV US Core Plus Fixed Inc Net Median			*0.4*		*2.6*		*9.7*		*4.5*		*3.6*		*4.7*		*3.6*	*Oct-14*
Baird - Core Bond	2,429,243	10.2	0.3	18	2.7	12	9.5	24	4.4	25	3.4	23	--	--	3.4	Dec-14
BBgBarc US Aggregate TR			*0.2*	*43*	*2.5*	*53*	*8.7*	*69*	*4.0*	*57*	*3.0*	*66*	*3.7*	*72*	*3.0*	*Dec-14*
eV US Core Fixed Inc Net Median			*0.1*		*2.5*		*9.1*		*4.1*		*3.2*		*4.0*		*3.1*	*Dec-14*
Vanguard Inflation Protected Fund	1,344,048	5.7	0.6	84	2.0	63	8.2	64	--	--	--	--	--	--	4.9	Sep-18
BBgBarc US TIPS TR			*0.8*	*50*	*2.1*	*42*	*8.4*	*54*	*3.3*	*52*	*2.6*	*42*	*3.4*	*34*	*5.1*	*Sep-18*
eV US TIPS / Inflation Fixed Inc Net Median			*0.8*		*2.1*		*8.5*		*3.3*		*2.5*		*3.2*		*4.8*	*Sep-18*
US Treasury	95,040	0.4														
GAA/ Risk Parity	**3,011,474**	**12.7**	**0.3**	**97**	**0.8**	**90**	**7.1**	**82**	**2.6**	**88**	**1.6**	**81**	**--**	**--**	**1.3**	**Dec-14**
60% MSCI World (Net) / 40% FTSE WGBI			*4.9*	*38*	*5.7*	*31*	*18.8*	*32*	*9.3*	*25*	*6.2*	*27*	*6.6*	*44*	*5.9*	*Dec-14*
eV Global TAA Net Median			*4.1*		*5.1*		*15.8*		*6.6*		*4.8*		*6.0*		*4.4*	*Dec-14*
William Blair Macro Allocation	1,526,259	6.4	1.8	86	1.4	86	4.1	93	--	--	--	--	--	--	2.2	Aug-17
60% MSCI World (Net) / 40% FTSE WGBI			*4.9*	*38*	*5.7*	*31*	*18.8*	*32*	*9.3*	*25*	*6.2*	*27*	*6.6*	*44*	*7.2*	*Aug-17*
eV Global TAA Net Median			*4.1*		*5.1*		*15.8*		*6.6*		*4.8*		*6.0*		*5.4*	*Aug-17*
AQR Global Market and Alternative Premia Offshore Fund	1,485,215	6.3	-1.6	99	0.0	95	11.3	70	--	--	--	--	--	--	-0.6	Mar-18
60% MSCI World (Net) / 40% FTSE WGBI			*4.9*	*38*	*5.7*	*31*	*18.8*	*32*	*9.3*	*25*	*6.2*	*27*	*6.6*	*44*	*6.7*	*Mar-18*
Real Assets	**2,918,795**	**12.3**	**4.3**	**36**	**3.7**	**30**	**12.2**	**53**	**6.7**	**15**	**4.7**	**20**	**--**	**--**	**4.0**	**Dec-14**
PIMCO All Asset Index			*1.9*	*60*	*3.1*	*37*	*11.3*	*62*	*5.1*	*29*	*4.3*	*23*	*5.1*	*27*	*4.0*	*Dec-14*
Bloomberg Commodity Index			*4.4*	*36*	*2.5*	*51*	*7.7*	*70*	*-0.9*	*74*	*-3.9*	*78*	*-4.7*	*99*	*-5.4*	*Dec-14*
InvMetrics All E&F Real Assets/Commodities Net Median			*3.0*		*2.5*		*12.3*		*2.5*		*-0.1*		*2.3*		*-0.7*	*Dec-14*
PIMCO All Asset	2,918,795	12.3	4.3	48	3.7	65	12.2	63	6.7	49	4.7	51	--	--	4.0	Dec-14
PIMCO All Asset Index			*1.9*	*85*	*3.1*	*74*	*11.3*	*70*	*5.1*	*71*	*4.3*	*55*	*5.1*	*70*	*4.0*	*Dec-14*
Bloomberg Commodity Index			*4.4*	*47*	*2.5*	*79*	*7.7*	*78*	*-0.9*	*99*	*-3.9*	*99*	*-4.7*	*99*	*-5.4*	*Dec-14*
eV Global TAA Net Median			*4.1*		*5.1*		*15.8*		*6.6*		*4.8*		*6.0*		*4.4*	*Dec-14*

Eastern Michigan University - Board of Regents

RETURN SUMMARY VS. PEER UNIVERSE

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



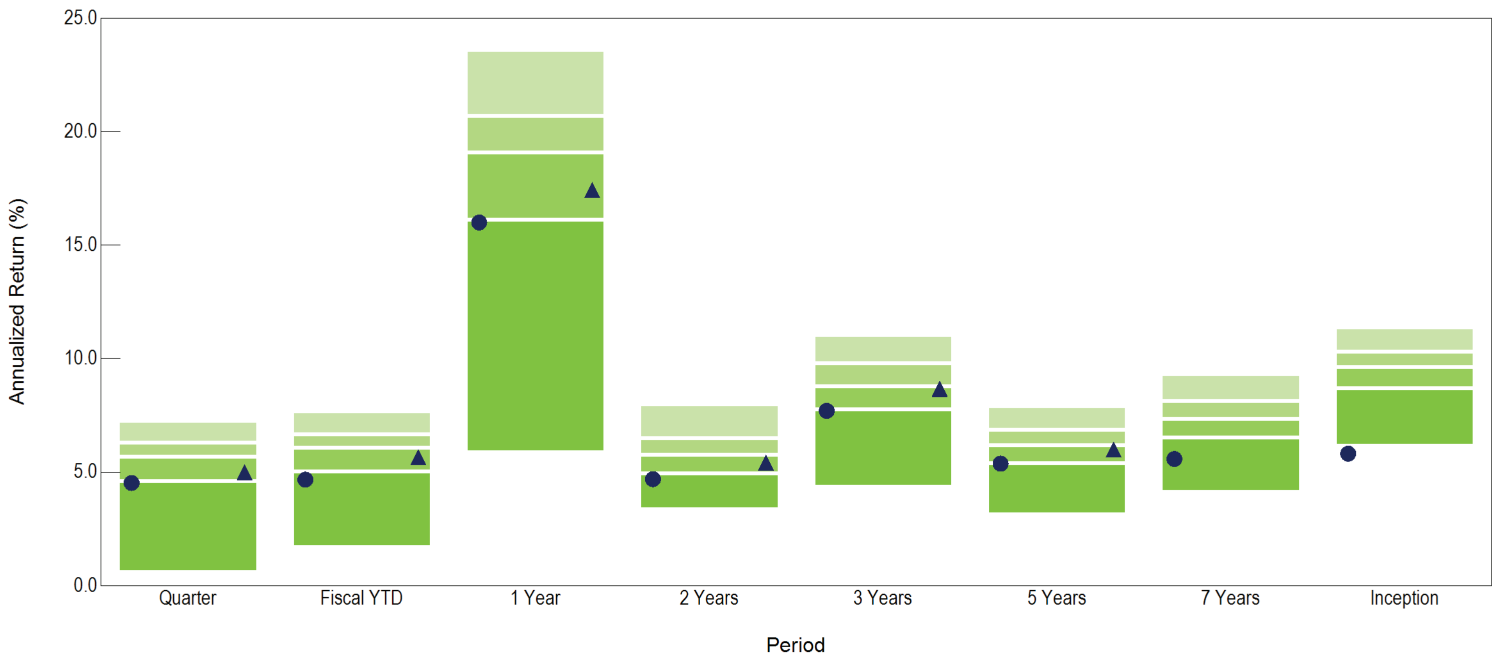
	Return (Rank)													
5th Percentile	7.2		23.6		8.0		11.0		7.9		9.3		11.4	
25th Percentile	6.3		20.7		6.5		9.8		6.9		8.1		10.3	
Median	5.7		19.1		5.8		8.8		6.2		7.4		9.7	
75th Percentile	4.6		16.1		5.0		7.8		5.4		6.5		8.7	
95th Percentile	0.6		5.9		3.4		4.4		3.2		4.1		6.2	
# of Portfolios	509		488		467		430		363		296		222	
● Long Term Investment Pool	4.5	(77)	16.0	(76)	4.7	(81)	7.7	(77)	5.4	(76)	5.6	(90)	5.8	(96)
▲ Long Term Allocation Index	5.0	(68)	17.4	(69)	5.4	(61)	8.7	(54)	6.0	(60)	--	(--)	--	(--)

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

Eastern Michigan University - Board of Regents

RETURN SUMMARY VS. PEER UNIVERSE

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

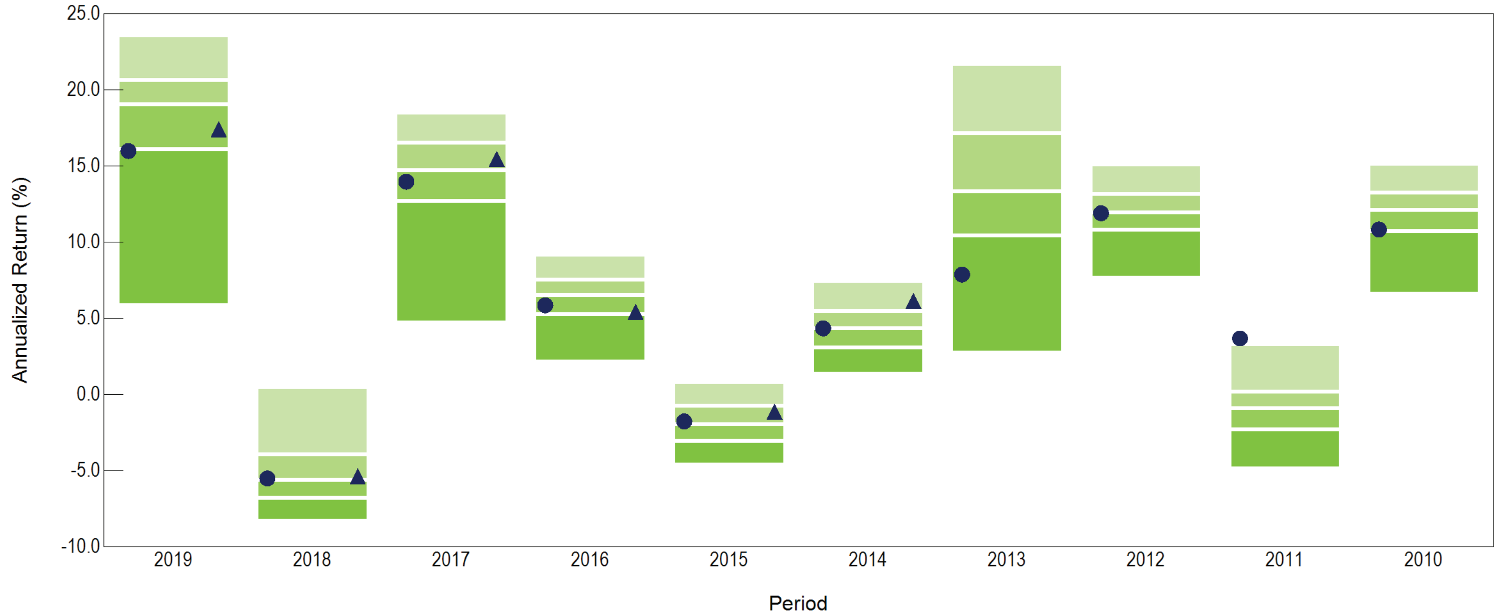


	Return (Rank)															
5th Percentile	7.2		7.7		23.6		8.0		11.0		7.9		9.3		11.4	
25th Percentile	6.3		6.7		20.7		6.5		9.8		6.9		8.1		10.3	
Median	5.7		6.1		19.1		5.8		8.8		6.2		7.4		9.7	
75th Percentile	4.6		5.0		16.1		5.0		7.8		5.4		6.5		8.7	
95th Percentile	0.6		1.7		5.9		3.4		4.4		3.2		4.1		6.2	
# of Portfolios	509		505		488		467		430		363		296		222	
● **Long Term Investment Pool**	4.5	(77)	4.7	(80)	16.0	(76)	4.7	(81)	7.7	(77)	5.4	(76)	5.6	(90)	5.8	(96)
▲ **Long Term Allocation Index**	5.0	(68)	5.7	(66)	17.4	(69)	5.4	(61)	8.7	(54)	6.0	(60)	--	(--)	--	(--)

Eastern Michigan University - Board of Regents

RETURN SUMMARY VS. PEER UNIVERSE

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



	Return (Rank)																			
5th Percentile	23.6		0.5		18.5		9.2		0.8		7.5		21.7		15.1		3.3		15.1	
25th Percentile	20.7		-3.9		16.6		7.6		-0.7		5.5		17.2		13.2		0.2		13.3	
Median	19.1		-5.6		14.8		6.6		-1.9		4.4		13.4		12.0		-0.9		12.1	
75th Percentile	16.1		-6.8		12.7		5.3		-3.0		3.1		10.5		10.9		-2.3		10.7	
95th Percentile	5.9		-8.3		4.8		2.2		-4.6		1.4		2.8		7.7		-4.8		6.7	
# of Portfolios	488		673		486		496		466		400		267		249		216		194	
● Long Term Investment Pool	16.0	(76)	-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	17.4	(69)	-5.4	(46)	15.5	(42)	5.4	(73)	-1.1	(35)	6.2	(14)	--	(--)	--	(--)	--	(--)	--	(--)

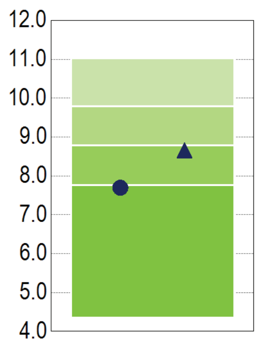
-The above Return Summary vs. Peer Universe analytic is based on the Long Term Investment Pool.

Eastern Michigan University - Board of Regents

RISK STATISTICS VS. PEER UNIVERSE

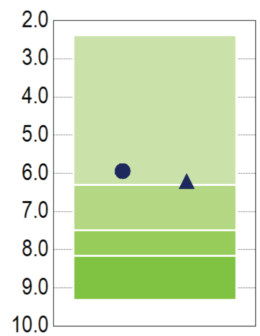
Long Term Investment Pool vs. InvMetrics All E&F < $50mm Net
3 Years

Anlzd Return



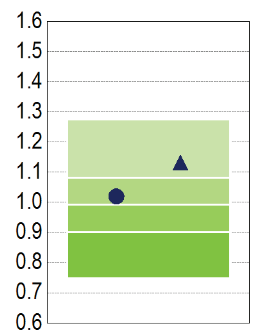
● Long Term Investment Pool		
	Value	7.70
	Rank	77
▲ Long Term Allocation Index		
	Value	8.66
	Rank	54
Universe		
	5th %tile	11.03
	25th %tile	9.81
	Median	8.81
	75th %tile	7.78
	95th %tile	4.38

Anlzd Standard Deviation



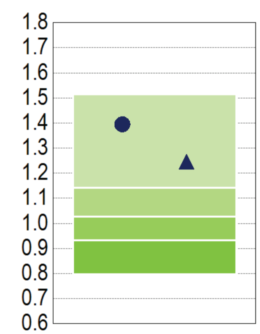
● Long Term Investment Pool		
	Value	5.94
	Rank	21
▲ Long Term Allocation Index		
	Value	6.21
	Rank	25
Universe		
	5th %tile	2.38
	25th %tile	6.28
	Median	7.48
	75th %tile	8.14
	95th %tile	9.30

Sharpe Ratio



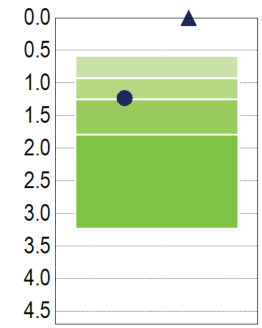
● Long Term Investment Pool		
	Value	1.02
	Rank	43
▲ Long Term Allocation Index		
	Value	1.13
	Rank	18
Universe		
	5th %tile	1.27
	25th %tile	1.08
	Median	0.99
	75th %tile	0.90
	95th %tile	0.75

Sortino Ratio RF



● Long Term Investment Pool		
	Value	1.40
	Rank	9
▲ Long Term Allocation Index		
	Value	1.25
	Rank	15
Universe		
	5th %tile	1.52
	25th %tile	1.14
	Median	1.03
	75th %tile	0.94
	95th %tile	0.80

Tracking Error



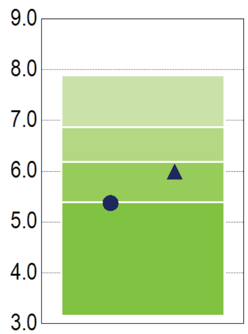
● Long Term Investment Pool		
	Value	1.23
	Rank	50
▲ Long Term Allocation Index		
	Value	0.00
	Rank	1
Universe		
	5th %tile	0.59
	25th %tile	0.92
	Median	1.24
	75th %tile	1.78
	95th %tile	3.22

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

RISK STATISTICS VS. PEER UNIVERSE

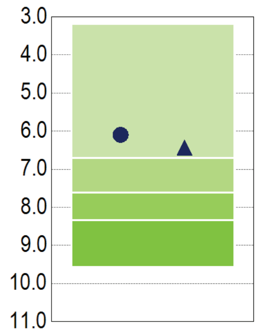
Long Term Investment Pool vs. InvMetrics All E&F < $50mm Net
5 Years

Anlzd Return



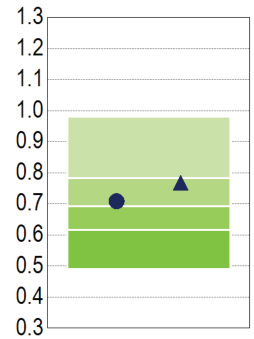
● Long Term Investment Pool		
	Value	5.37
	Rank	76
▲ Long Term Allocation Index		
	Value	5.99
	Rank	60
Universe		
	5th %tile	7.89
	25th %tile	6.87
	Median	6.20
	75th %tile	5.40
	95th %tile	3.16

Anlzd Standard Deviation



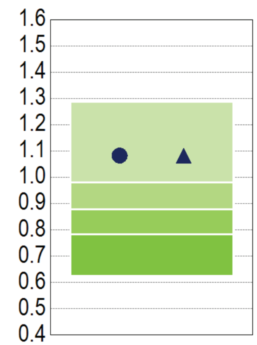
● Long Term Investment Pool		
	Value	6.10
	Rank	19
▲ Long Term Allocation Index		
	Value	6.43
	Rank	22
Universe		
	5th %tile	3.18
	25th %tile	6.69
	Median	7.59
	75th %tile	8.32
	95th %tile	9.55

Sharpe Ratio



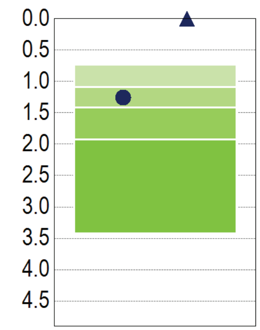
● Long Term Investment Pool		
	Value	0.71
	Rank	46
▲ Long Term Allocation Index		
	Value	0.77
	Rank	30
Universe		
	5th %tile	0.98
	25th %tile	0.78
	Median	0.69
	75th %tile	0.62
	95th %tile	0.49

Sortino Ratio RF



● Long Term Investment Pool		
	Value	1.08
	Rank	15
▲ Long Term Allocation Index		
	Value	1.08
	Rank	15
Universe		
	5th %tile	1.29
	25th %tile	0.98
	Median	0.88
	75th %tile	0.78
	95th %tile	0.63

Tracking Error



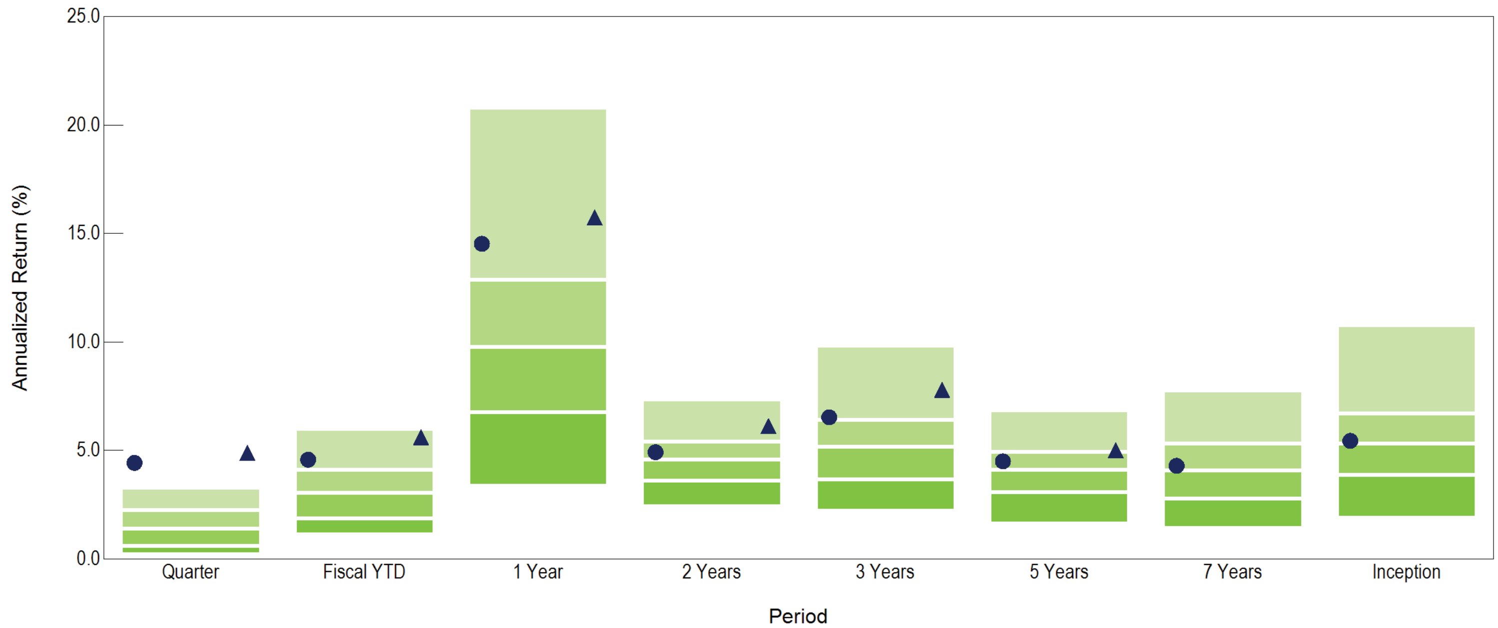
● Long Term Investment Pool		
	Value	1.26
	Rank	41
▲ Long Term Allocation Index		
	Value	0.00
	Rank	1
Universe		
	5th %tile	0.73
	25th %tile	1.08
	Median	1.41
	75th %tile	1.92
	95th %tile	3.41

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

Eastern Michigan University - Board of Regents

RETURN SUMMARY VS. PEER UNIVERSE

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

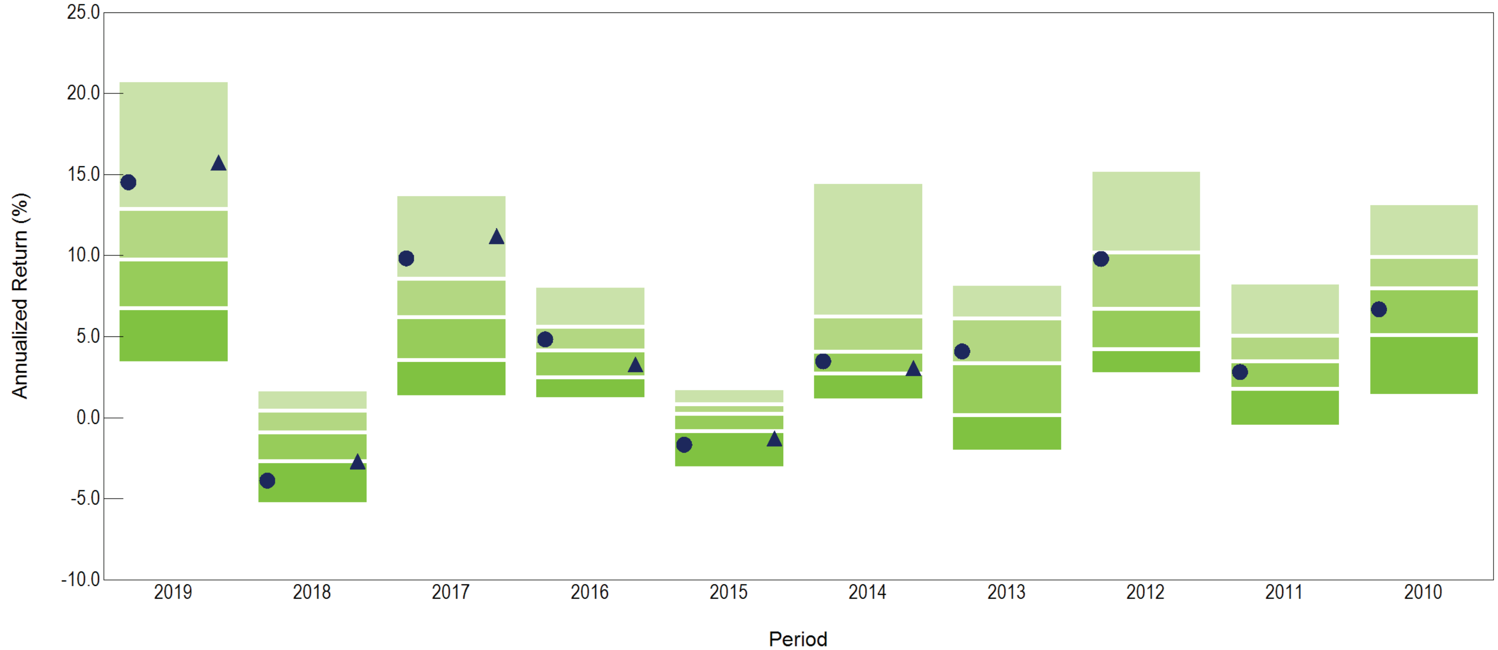


Return (Rank)	Quarter		Fiscal YTD		1 Year		2 Years		3 Years		5 Years		7 Years		Inception	
5th Percentile	3.3		6.0		20.8		7.3		9.8		6.8		7.8		10.8	
25th Percentile	2.3		4.1		12.9		5.4		6.4		4.9		5.3		6.7	
Median	1.4		3.1		9.8		4.6		5.2		4.1		4.1		5.4	
75th Percentile	0.6		1.9		6.8		3.6		3.7		3.1		2.8		3.9	
95th Percentile	0.2		1.1		3.4		2.5		2.2		1.7		1.4		1.9	
# of Portfolios	367		367		362		344		324		288		263		208	
● Board of Regents Total Composite	4.4	(1)	4.6	(18)	14.5	(17)	4.9	(39)	6.5	(25)	4.5	(37)	4.3	(45)	5.4	(49)
▲ Allocation Index	4.9	(1)	5.6	(7)	15.7	(14)	6.1	(14)	7.8	(14)	5.0	(25)	--	(--)	--	(--)

Eastern Michigan University - Board of Regents

RETURN SUMMARY VS. PEER UNIVERSE

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

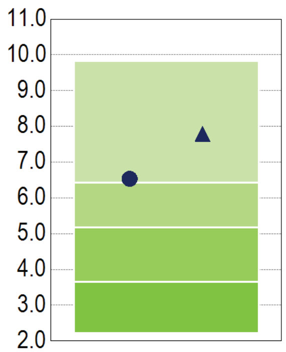


	Return (Rank)																			
5th Percentile	20.8		1.7		13.8		8.1		1.8		14.5		8.3		15.3		8.3		13.2	
25th Percentile	12.9		0.5		8.6		5.6		0.9		6.3		6.2		10.2		5.1		9.9	
Median	9.8		-0.9		6.2		4.2		0.3		4.1		3.4		6.7		3.5		8.0	
75th Percentile	6.8		-2.7		3.6		2.5		-0.8		2.7		0.2		4.3		1.8		5.1	
95th Percentile	3.4		-5.3		1.3		1.2		-3.1		1.1		-2.1		2.7		-0.5		1.4	
# of Portfolios	362		429		336		298		309		201		46		46		44		43	
● Board of Regents Total Composite	14.5	(17)	-3.9	(87)	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	15.7	(14)	-2.7	(76)	11.2	(11)	3.3	(64)	-1.3	(80)	3.1	(70)	--	(--)	--	(--)	--	(--)	--	(--)

RISK STATISTICS VS. PEER UNIVERSE

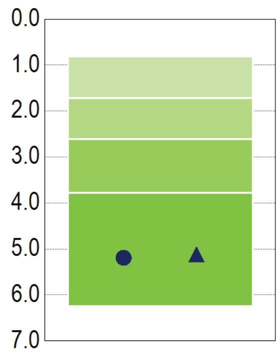
Total Composite vs. InvestorForce Trust Funds >60% Fixed Income Net
3 Years

Anlzd Return



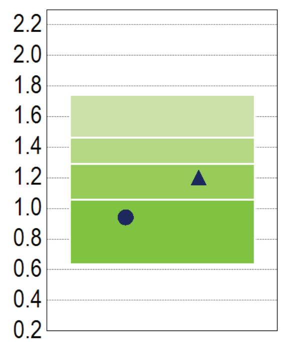
● Board of Regents Total Composite		
	Value	6.53
	Rank	25
▲ Allocation Index		
	Value	7.80
	Rank	14
Universe		
	5th %tile	9.82
	25th %tile	6.44
	Median	5.20
	75th %tile	3.67
	95th %tile	2.23

Anlzd Standard Deviation



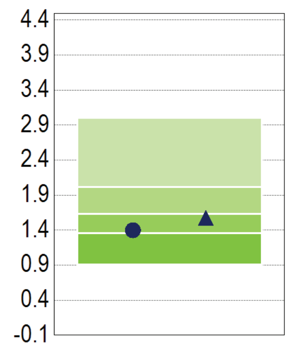
● Board of Regents Total Composite		
	Value	5.19
	Rank	88
▲ Allocation Index		
	Value	5.12
	Rank	88
Universe		
	5th %tile	0.82
	25th %tile	1.71
	Median	2.60
	75th %tile	3.77
	95th %tile	6.22

Sharpe Ratio



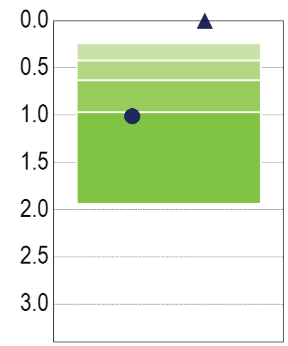
● Board of Regents Total Composite		
	Value	0.94
	Rank	83
▲ Allocation Index		
	Value	1.20
	Rank	61
Universe		
	5th %tile	1.74
	25th %tile	1.47
	Median	1.30
	75th %tile	1.06
	95th %tile	0.64

Sortino Ratio RF



● Board of Regents Total Composite		
	Value	1.40
	Rank	74
▲ Allocation Index		
	Value	1.57
	Rank	58
Universe		
	5th %tile	3.01
	25th %tile	2.02
	Median	1.64
	75th %tile	1.37
	95th %tile	0.92

Tracking Error



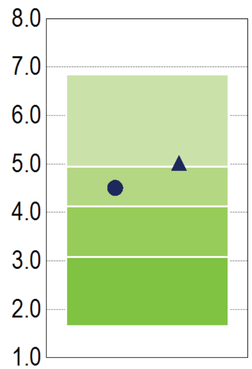
● Board of Regents Total Composite		
	Value	1.01
	Rank	79
▲ Allocation Index		
	Value	0.00
	Rank	1
Universe		
	5th %tile	0.24
	25th %tile	0.41
	Median	0.63
	75th %tile	0.96
	95th %tile	1.93

Eastern Michigan University - Board of Regents

RISK STATISTICS VS. PEER UNIVERSE

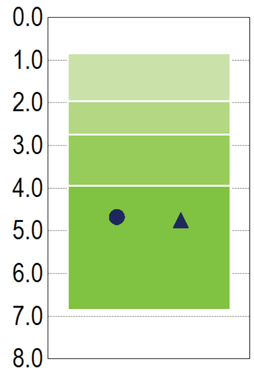
Total Composite vs. InvestorForce Trust Funds >60% Fixed Income Net
5 Years

Anlzd Return



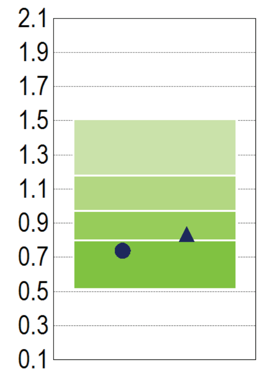
● Board of Regents Total Comp		
Value	4.50	
Rank	37	
▲ Allocation Index		
Value	5.02	
Rank	25	
Universe		
5th %tile	6.84	
25th %tile	4.95	
Median	4.13	
75th %tile	3.10	
95th %tile	1.66	

Anlzd Standard Deviation



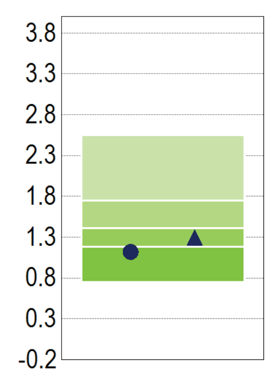
● Board of Regents Total Com|	
Value	4.67
Rank	82
▲ Allocation Index	
Value	4.75
Rank	83
Universe	
5th %tile	0.83
25th %tile	1.94
Median	2.74
75th %tile	3.93
95th %tile	6.84

Sharpe Ratio



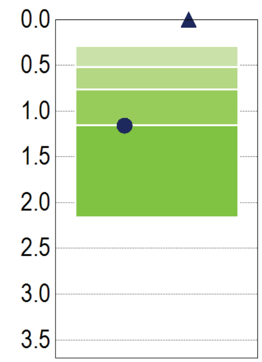
● Board of Regents Total Com|	
Value	0.74
Rank	83
▲ Allocation Index	
Value	0.84
Rank	70
Universe	
5th %tile	1.51
25th %tile	1.18
Median	0.97
75th %tile	0.80
95th %tile	0.52

Sortino Ratio RF



● Board of Regents Total Com|	
Value	1.12
Rank	82
▲ Allocation Index	
Value	1.30
Rank	63
Universe	
5th %tile	2.55
25th %tile	1.76
Median	1.42
75th %tile	1.19
95th %tile	0.76

Tracking Error



● Board of Regents Total Comp	
Value	1.16
Rank	76
▲ Allocation Index	
Value	0.00
Rank	1
Universe	
5th %tile	0.29
25th %tile	0.51
Median	0.76
75th %tile	1.15
95th %tile	2.15

APPENDIX

NEPC, LLC

MACRO PERFORMANCE OVERVIEW

Q4 Macro Market Summary

Global central banks continued easing with the Fed cutting rates and the ECB reigniting monthly bond purchases

Emerging market currencies appreciated relative to the dollar as trade concerns eased

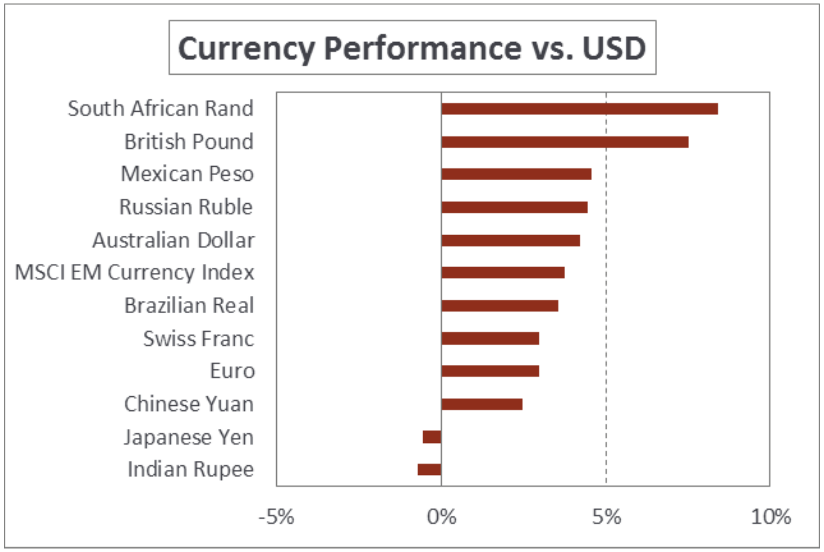
Global government bond yields increased reflecting optimism around trade and expected growth

	Yield 9/30/19	Yield 12/31/19	|Δ|
US 10-Year	1.68%	1.92%	+0.24%
US 30-Year	2.12%	2.39%	+0.27%
US Real 10-Year	0.15%	0.15%	-
German 10-Year	-0.58%	-0.19%	+0.40%
Japan 10-Year	-0.23%	-0.02%	+0.21%
China 10-Year	3.17%	3.20%	+0.03%
EM Local Debt	5.21%	5.22%	+0.01%

Source: FactSet

Central Banks	Current Rate	CPI YOY	Notes from the Quarter
Federal Reserve	1.50% - 1.75%	2.0%	The Fed cut interest rates by 25 basis points in October and signaled a pause from further rate cuts
European Central Bank	0.00%	1.0%	The ECB maintained its current benchmark interest rates and restarted monthly bond purchases of €20 billion in November
Bank of Japan	-0.10%	0.5%	The BoJ will continue its ultra-easy QE program with inflation remaining well below target

Source: FactSet



Source: FactSet

EQUITY PERFORMANCE OVERVIEW

Q4 Equity Market Summary

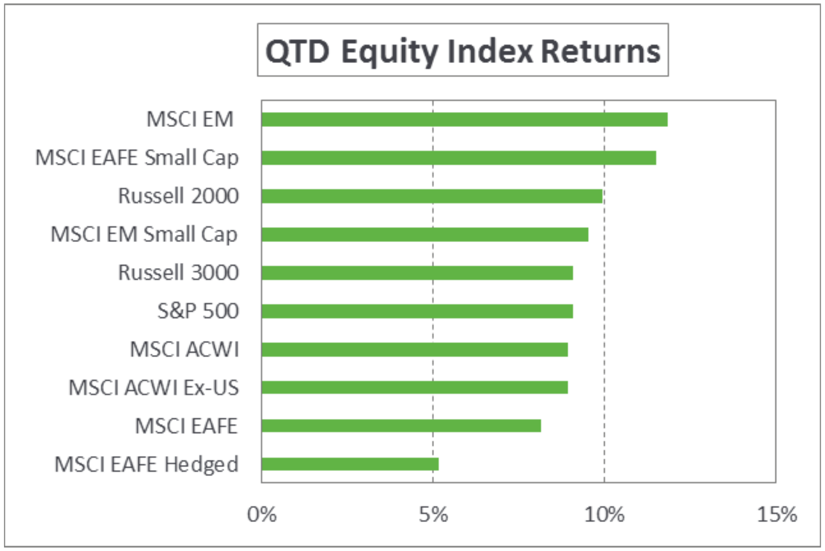
Global equities posted stellar returns in Q4, adding to already sizable year-to-date gains

Dollar weakness provided a boon to international and emerging market returns

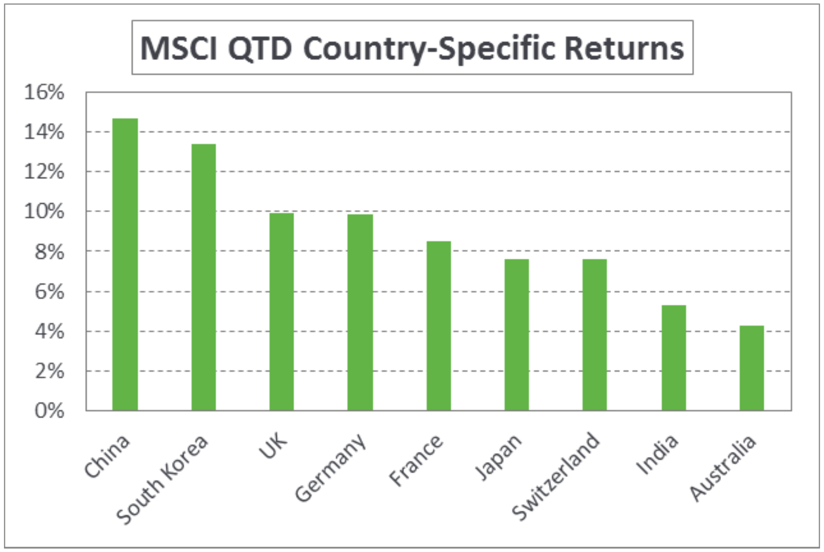
Chinese equities outperformed broad emerging market equities – following news of a potential trade deal between the US and China

Russell 3000 QTD Sector Returns	
Technology	+14.3%
Health Care	+14.9%
Consumer Discretionary	+6.3%
Consumer Staples	+4.7%
Energy	+5.7%
Materials & Processing	+7.0%
Producer Durables	+6.4%
Financial Services	+7.6%
Utilities	+1.5%

Source: FactSet



Source: FactSet



Source: FactSet

CREDIT PERFORMANCE OVERVIEW

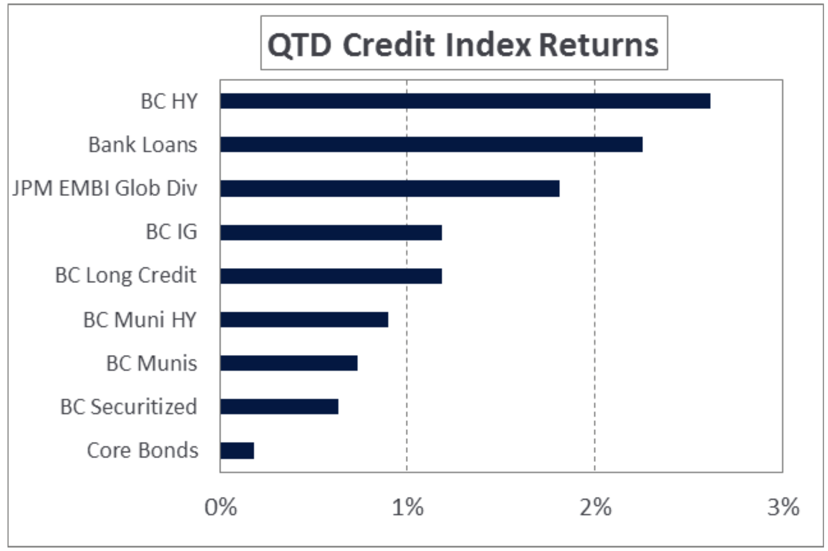
Q4 Credit Market Summary

Return-seeking credit broadly outperformed safe-haven assets with spread tightening reflecting risk on sentiment

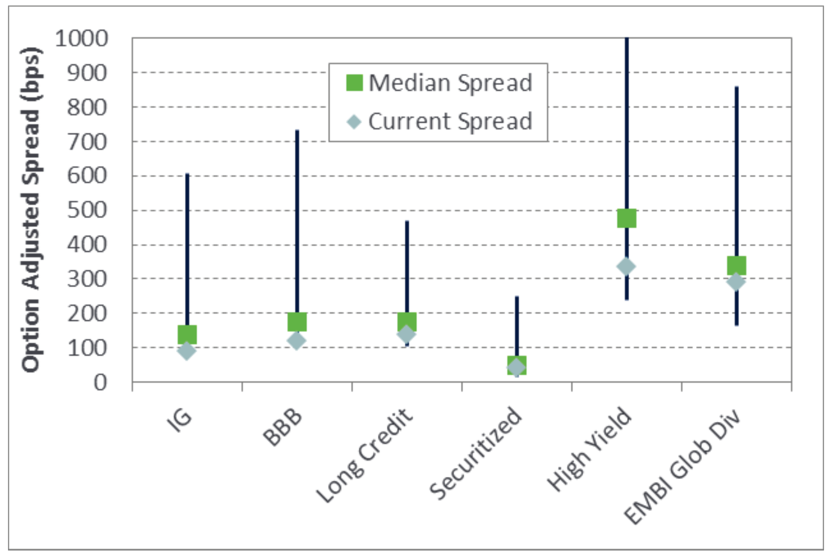
In most areas of credit, spreads moved lower and remain well below long-term median levels

Credit Spread (Basis Points)	9/30/2019	12/31/2019	|Δ|
BC IG Credit	115	93	-22
BC Long Credit	167	139	-28
BC Securitized	47	42	-5
BC High Yield	373	336	-37
Muni HY	250	226	-24
JPM EMBI	337	291	-46
Bank Loans - Libor	398	372	-25

Source: FactSet



Source: FactSet



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

REAL ASSETS PERFORMANCE OVERVIEW

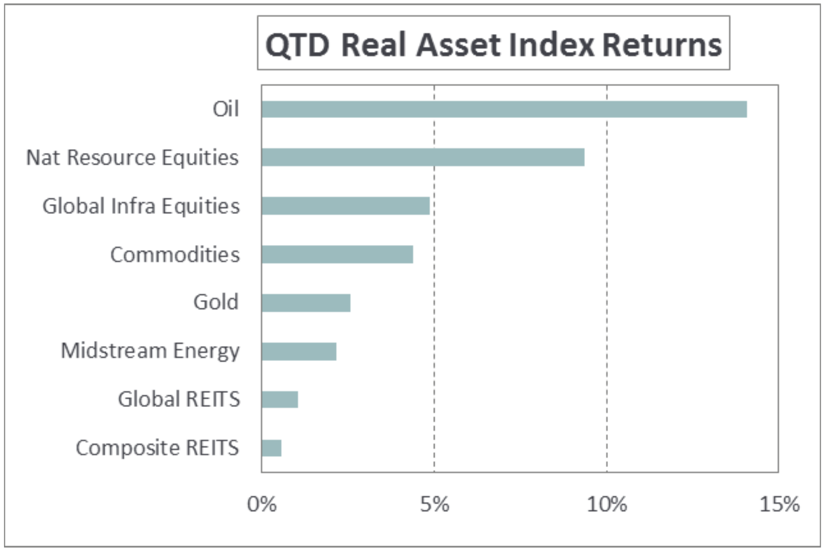
Q4 Real Assets Market Summary

Spot WTI crude oil increased 13.0% as a result of OPEC production cuts and easing US-China trade concerns

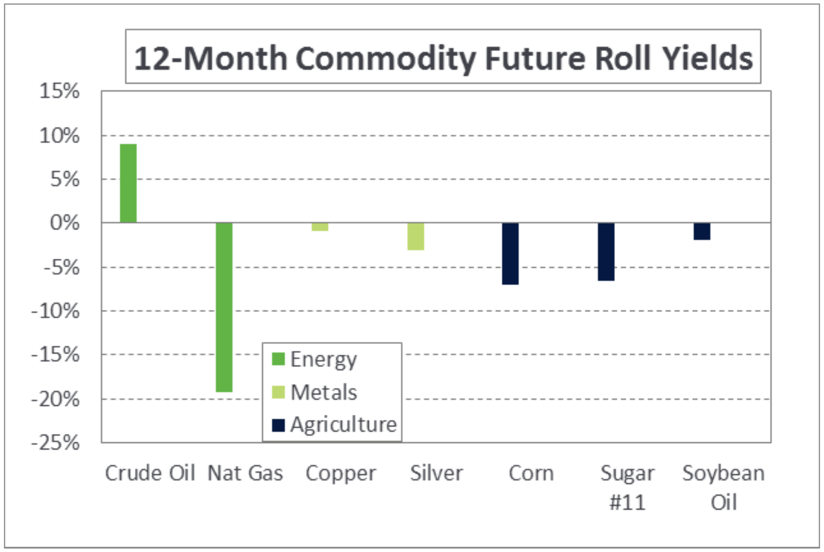
The expectation of modestly higher inflation caused gold and other inflation-sensitive assets to rally

Real Asset Yields	9/30/19	12/31/19
Midstream Energy	6.4%	6.4%
Core Real Estate	4.5%	4.4%
Composite REITs	4.0%	4.1%
Global REITs	4.1%	4.2%
Global Infrastructure Equities	4.2%	4.0%
Natural Resource Equities	4.3%	3.9%
US 10-Year Breakeven Inflation	1.49%	1.77%
Commodity Index Roll Yield	-3.0%	-1.7%
10-Year TIPS Real Yield	0.2%	0.2%

Source: FactSet



Source: FactSet



Source: FactSet

CURRENT OPPORTUNITIES

NEPC, LLC

CURRENT OPPORTUNITIES OVERVIEW

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.

NEPC currently has five Current Opportunities:

- Reduce Lower Quality Credit Exposure
- Overweight Emerging Market Equities
- Add Long Volatility Exposure
- Fund Public Midstream Energy Exposure
- Fund Emerging Local Debt

REDUCE LOWER QUALITY CREDIT EXPOSURE

Funding Destination: "Dry Powder", Safe-Haven, and Short-Term Debt

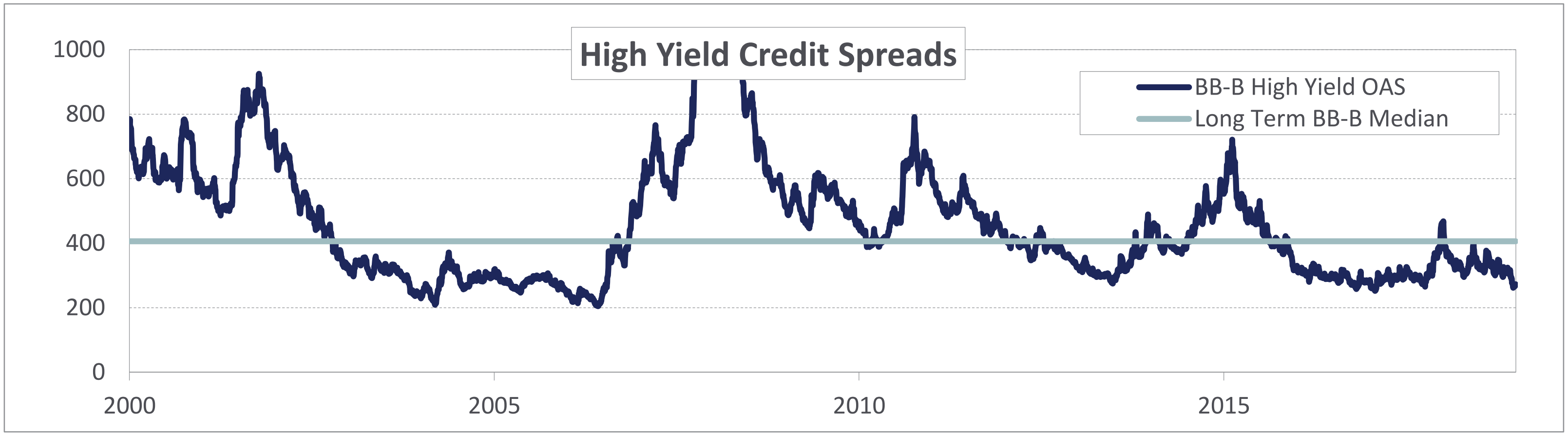
Lower-rated credit exposure does not provide adequate compensation to investors for the risk relative to safer alternatives

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

With index credit spreads trading 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. 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: BofA Merrill Lynch, FactSet

OVERWEIGHT TO EMERGING MARKET EQUITIES

Funding Sources: US Equity and EAFE Equity

Emerging equities offer the highest total return potential for investors

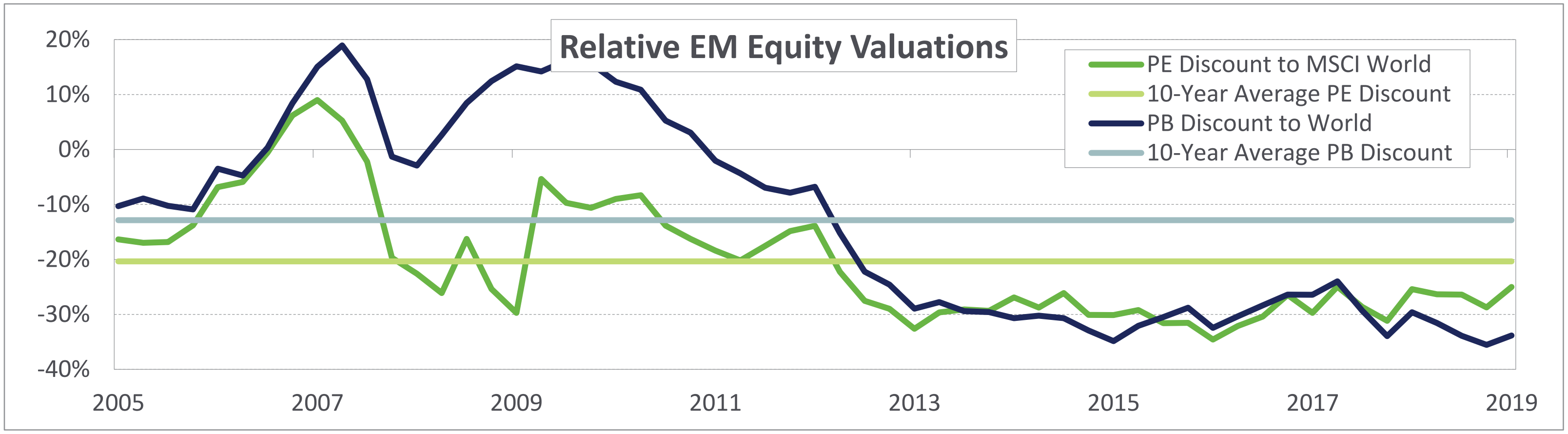
Valuation levels and fundamentals suggest an overweight relative to global equity market cap weights (e.g. 15% to 20%)

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 return appear more abundant in emerging versus developed markets

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



Source: MSCI, FactSet, NEPC

ADD LONG VOLATILITY EXPOSURE

Funding Sources: Multi-Asset Strategies

Volatility levels for markets outside equities remain near historic lows

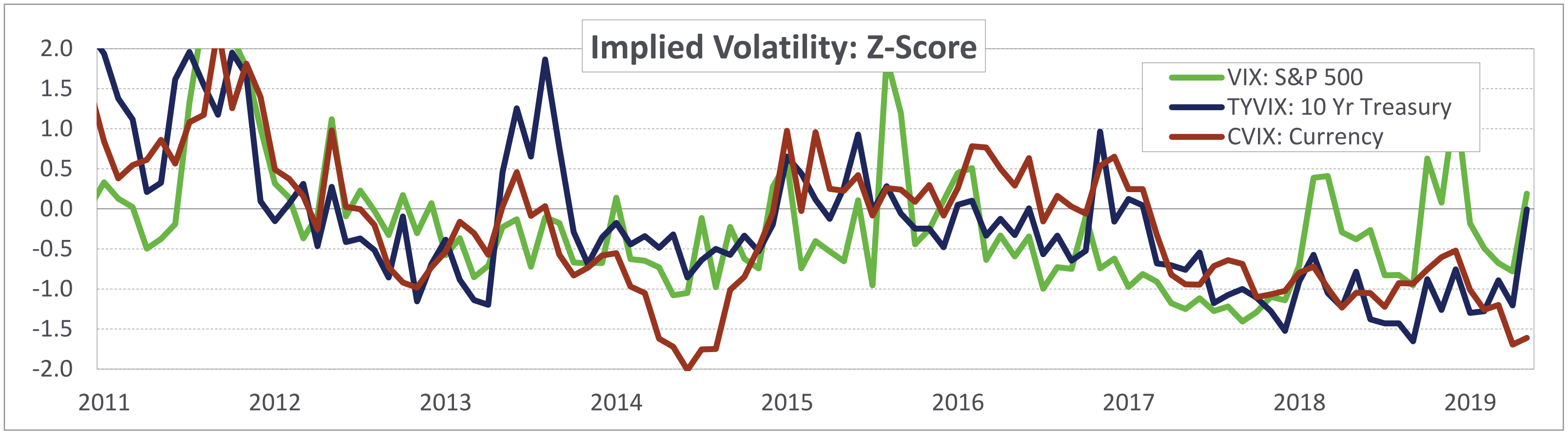
Long volatility exposure positively benefits from rising asset class volatility and an allocation of 1% to 2% can provide a significant return contribution should volatility normalize across global markets

Exposure is not without risk. Losses would be expected if market volatility declines. Discipline of a multi-year time horizon is required should volatility levels move slowly back to normal levels

Long volatility strategies with positive carry are the only recommended implementation option

Purchasing S&P VIX is a costly method to implement long volatility exposure due to the negative roll yield of the VIX curve

Exposure is more suited for opportunistic investors willing to fund from multi-asset or other unconstrained strategies



Source: Bloomberg

FUND PUBLIC MIDSTREAM ENERGY EXPOSURE

Funding Sources: Commodities, High Yield, Equity

Midstream energy offers an attractive long-term growth potential

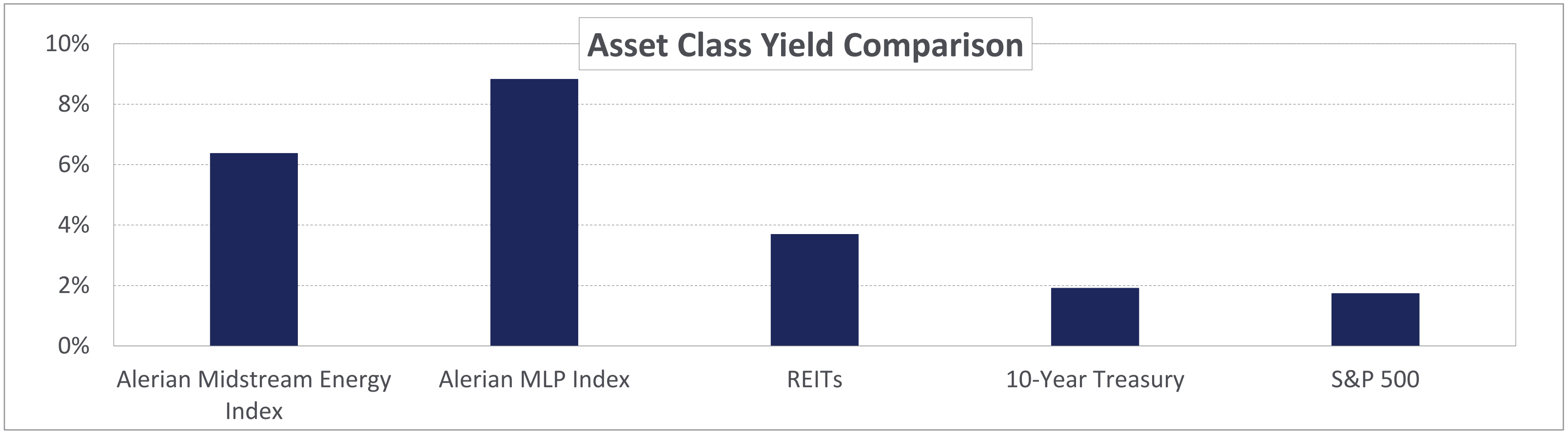
Balance sheet reforms and a sustainable financing profile has been underappreciated by the market. Reform of the MLP operating structure (IDR elimination) offers a more stable business model and improved corporate governance

Negative sentiment weighs on the energy infrastructure market as performance has been poor over the last five years

The public energy infrastructure sector offers a strong return opportunity

Risk assets, such as high yield bonds and equities, are an appropriate funding source for new midstream energy allocations

Less than half the midstream energy market is made up of MLPs. While down from recent years, careful thought must be given for tax-exempt investors as MLPs generate UBTI



Source: Alerian, FTSE, S&P, FactSet; As of 12/31/2019

FUND EMERGING LOCAL DEBT

Funding Sources: High Yield and Equity

Emerging local debt offers an attractive total return opportunity

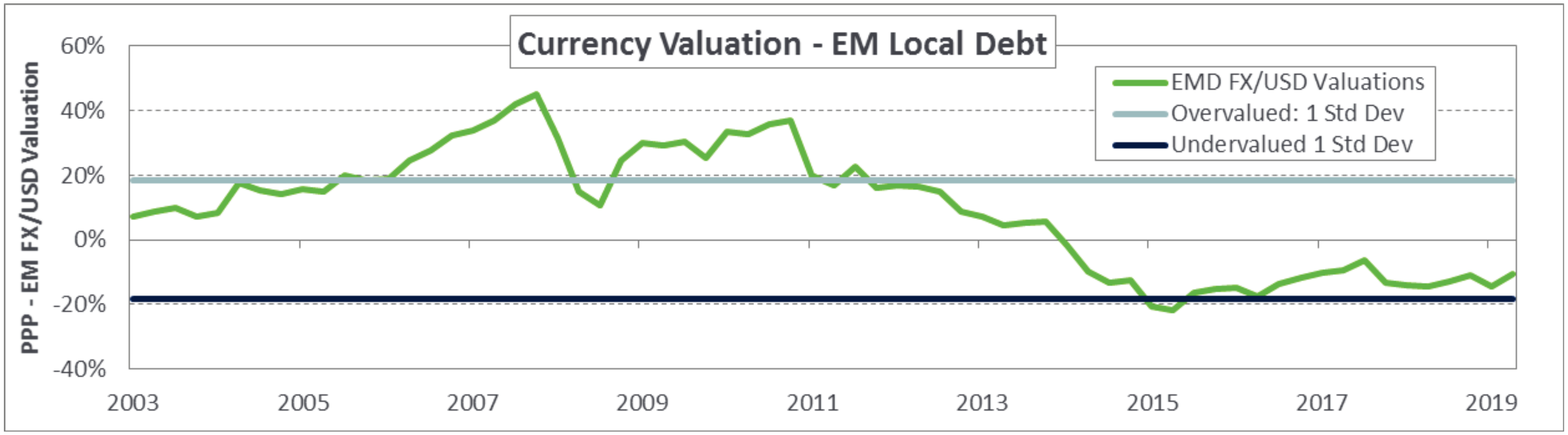
The combination of high real rates, lower inflation levels, and low currency valuations represents an attractive investment profile. Above-average index yields relative to the developed world provide a cushion to offset currency volatility and declines

Accommodative central bank policies may support the asset class as investors search for yield out the risk spectrum. A material change to global monetary policy is a potential tail risk that would likely incite negative sentiment and significant outflows

For tactical investors, fund emerging local debt from high yield and equity

A balanced approach of local currency and dollar denominated debt remains our long-term bias as a strategic allocation

Currently, our preferred implementation is with a stand alone local debt strategy, but unique macro or credit hedge funds may offer a distinctive return opportunity



Source: IMF, JPM, FactSet

MARKET OVERVIEW

NEPC, LLC

2019 CALENDAR YEAR INDEX PERFORMANCE

	2010	2011	2012	2013	2014	2015	2016	2017	2018	Dec	YTD
S&P 500	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	3.0%	31.5%
Russell 1000	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	2.9%	31.4%
Russell 2000	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-11.0%	2.9%	25.5%
Russell 2500	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-10.0%	2.1%	27.8%
MSCI EAFE	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-13.8%	3.2%	22.0%
MSCI EM	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	7.5%	18.4%
MSCI ACWI	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	3.5%	26.6%
Private Equity	19.8%	9.5%	12.6%	22.3%	14.6%	10.4%	10.3%	21.0%	13.1%	-	4.9%
BC TIPS	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-1.3%	0.4%	8.4%
BC Municipal	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	1.3%	0.3%	7.5%
BC Muni High Yield	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	4.8%	0.3%	10.7%
BC US Corporate HY	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-2.1%	2.0%	14.3%
BC US Agg Bond	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	-0.1%	8.7%
BC Global Agg	5.5%	5.6%	4.3%	-2.6%	0.6%	-3.2%	2.1%	7.4%	-1.2%	0.6%	6.8%
BC Long Treasuries	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-1.8%	-2.8%	14.8%
BC US Long Credit	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-6.8%	0.1%	23.4%
BC US STRIPS 20+ Yr	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	13.7%	-4.1%	-4.2%	20.9%
JPM GBI-EM Global Div	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	-6.2%	4.1%	13.5%
JPM EMBI Glob Div	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	10.3%	-4.3%	2.0%	15.0%
CS Hedge Fund	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	7.1%	-3.2%	1.6%	9.3%
BBG Commodity	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-11.2%	5.0%	7.7%
Alerian MLP	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	-6.5%	-12.4%	8.5%	6.6%
FTSE NAREIT Equity REITs	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-4.6%	-0.6%	26.0%

Source: FactSet, Barclays, 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	
No Action	Informational items have surfaced; no action is recommended.
Watch	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.
Hold	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.
Client Review	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.
Terminate	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.**
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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**