

QUARTERLY PERFORMANCE REPORT

SAN BERNARDINO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION



June 30, 2018

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BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

MARKET ENVIRONMENT UPDATE AND OUTLOOK

NEPC, LLC

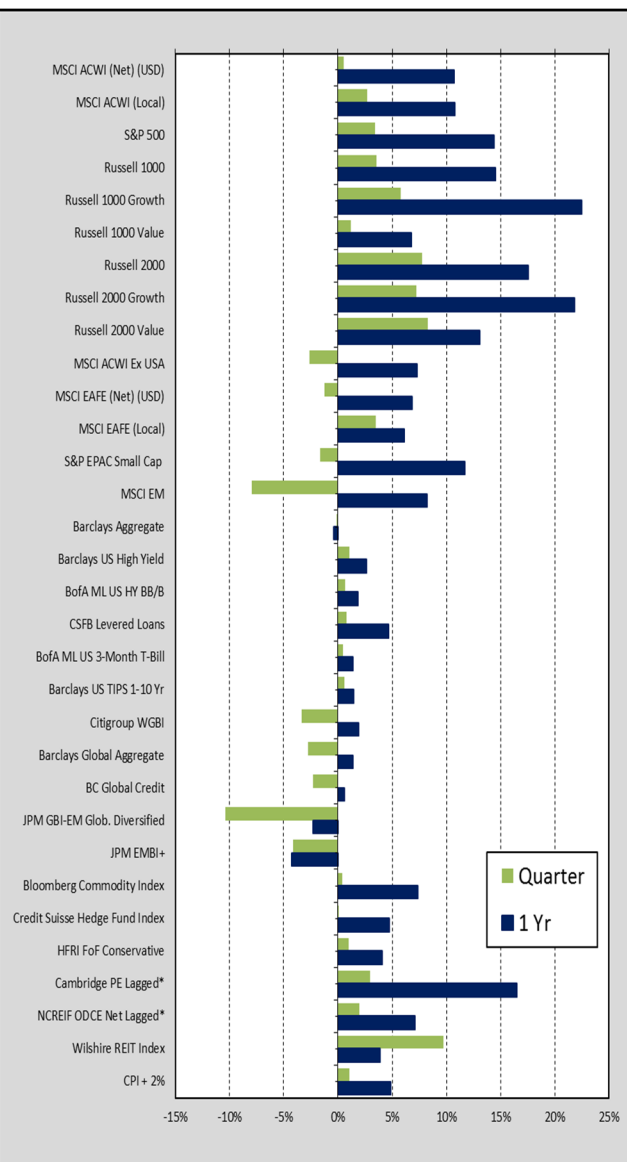
ECONOMIC ENVIRONMENT

- **First quarter GDP growth rate (third estimate) increased at a moderate 2.0%.**
 - Retail sales ended May at +6.0% on a YoY basis. In the same period last year the YoY growth rate was 3.1%.
 - Corporate profits (ended January) as a percent of GDP decreased to 9.3% from 8.5% (in October) and remain elevated relative to historical levels.
 - The inventory-to-sales ratio ended May down at 1.3 from 1.4 and has remained relatively flat since early 2010.
 - The U.S. trade deficit narrowed to the smallest deficit since October 2016.
- **The unemployment rate decreased to 4.0% ended Q2 from 4.1%; U-6, a broader measure of unemployment, decreased to 7.8% from 8.0% during the first quarter.**
- **The Case-Shiller Home Price Index (ended April) increased to 200.9 from 196.3 and remains at levels higher than that of pre-financial crisis levels of 150.9.**
- **Rolling 12-month seasonally-adjusted CPI saw an up-tick to 2.9% from 2.4% at the end of June; Capacity Utilization increased to 78.0% from 77.5% in Q2.**
- **Fed Funds rate was increased 0.25% to a targeted range of 1.75% - to – 2.00%. The 10-year Treasury Yield (constant maturity) finished Q2 at 2.9% up from 2.8% in June.**
- **The Fed balance sheet decreased slightly during Q2 2018, while the European Central Bank balance sheet continues to increase.**
 - ECB held its benchmark refinance rate at 0%, deposit rates -0.4% and signaled that asset purchases may end in December
- **S&P valuations increased slightly in Q2, remaining above the 10-year and long-term averages.**
 - Cyclically adjusted Shiller PE ratio (32.0x) is above the long-term average of 16.9x and above the 10-year average of 23.5x.



MARKET ENVIRONMENT – Q2 2018 OVERVIEW

		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Equity Benchmarks						
MSCI ACWI (Net) (USD)	World	0.5%	10.7%	8.2%	9.4%	5.8%
MSCI ACWI (Local)	World (Local Currency)	2.7%	10.8%	8.4%	10.8%	7.0%
Domestic Equity Benchmarks						
S&P 500	Large Core	3.4%	14.4%	11.9%	13.4%	10.2%
Russell 1000	Large Core	3.6%	14.5%	11.6%	13.4%	10.2%
Russell 1000 Growth	Large Growth	5.8%	22.5%	15.0%	16.4%	11.8%
Russell 1000 Value	Large Value	1.2%	6.8%	8.3%	10.3%	8.5%
Russell 2000	Small Core	7.8%	17.6%	11.0%	12.5%	10.6%
Russell 2000 Growth	Small Growth	7.2%	21.9%	10.6%	13.6%	11.2%
Russell 2000 Value	Small Value	8.3%	13.1%	11.2%	11.2%	9.9%
International Equity Benchmarks						
MSCI ACWI Ex USA	World ex-US	-2.6%	7.3%	5.1%	6.0%	2.5%
MSCI EAFE (Net) (USD)	Int'l Developed	-1.2%	6.8%	4.9%	6.4%	2.8%
MSCI EAFE (Local)	Int'l Developed (Local Currency)	3.5%	6.1%	5.2%	8.9%	5.0%
S&P EPAC Small Cap	Small Cap Int'l	-1.6%	11.7%	9.6%	11.5%	6.5%
MSCI EM	Emerging Equity	-8.0%	8.2%	5.6%	5.0%	2.3%
Domestic Fixed Income Benchmarks						
Barclays Aggregate	Core Bonds	-0.2%	-0.4%	1.7%	2.3%	3.7%
Barclays US High Yield	High Yield	1.0%	2.6%	5.5%	5.5%	8.2%
BofA ML US HY BB/B	High Yield	0.7%	1.8%	4.9%	5.3%	7.3%
CSFB Levered Loans	Bank Loans	0.8%	4.7%	4.3%	4.2%	5.0%
BofA ML US 3-Month T-Bill	Cash	0.5%	1.4%	0.7%	0.4%	0.4%
Barclays US TIPS 1-10 Yr	Inflation	0.6%	1.5%	1.5%	1.2%	2.3%
Global Fixed Income Benchmarks						
Citigroup WGBI	World Gov. Bonds	-3.4%	1.9%	2.8%	1.1%	2.1%
Barclays Global Aggregate	Global Core Bonds	-2.8%	1.4%	2.6%	1.5%	2.6%
BC Global Credit	Global Bonds	-2.3%	0.6%	2.8%	2.5%	3.6%
JPM GBI-EM Glob. Diversified	Em. Mkt. Bonds (Local Currency)	-10.4%	-2.3%	2.0%	-1.4%	2.6%
JPM EMBI+	Em. Mkt. Bonds	-4.1%	-4.3%	4.0%	4.0%	6.2%
Alternative Benchmarks						
Bloomberg Commodity Index	Commodities	0.4%	7.3%	-4.5%	-6.4%	-9.0%
Credit Suisse Hedge Fund Index	Hedge Fund	0.1%	4.8%	2.0%	3.6%	3.3%
HFRI FoF Conservative	Fund of Hedge Funds	1.0%	4.1%	1.9%	3.0%	1.2%
Cambridge PE Lagged*	Private Equity	3.0%	16.5%	12.1%	13.2%	10.4%
NCREIF ODCE Net Lagged*	Real Estate	2.0%	7.1%	9.0%	10.4%	4.2%
Wilshire REIT Index	REIT	9.7%	3.9%	7.8%	8.4%	7.8%
CPI + 2%	Inflation/Real Assets	1.1%	4.8%	3.9%	3.6%	3.5%















* As of 3/31/2018



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
											
5.0%	-3.9	12 bps	3.4%	-1.2%	-8.0%	-0.2%	1.0%	-3.5%	14.2%	-5.4%	8.3%

- **US stocks increased on the quarter, supported by strong earnings growth**
- **Emerging market equities and currencies weakened this quarter as trade concerns and Federal Reserve interest rate increases weighed on markets**
 - The US dollar reversed its first quarter decline and increased relative to a basket of major developed market currencies
- **The US yield curve continued to flatten as the second Fed rate hike of 2018 pushed short-term interest rates higher**

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 Emerging Market Bond Index), Crude Oil (WTI Crude Oil Spot), Gold (Gold Price Spot), and REITs (NAREIT Composite Index).



MACRO PERFORMANCE OVERVIEW

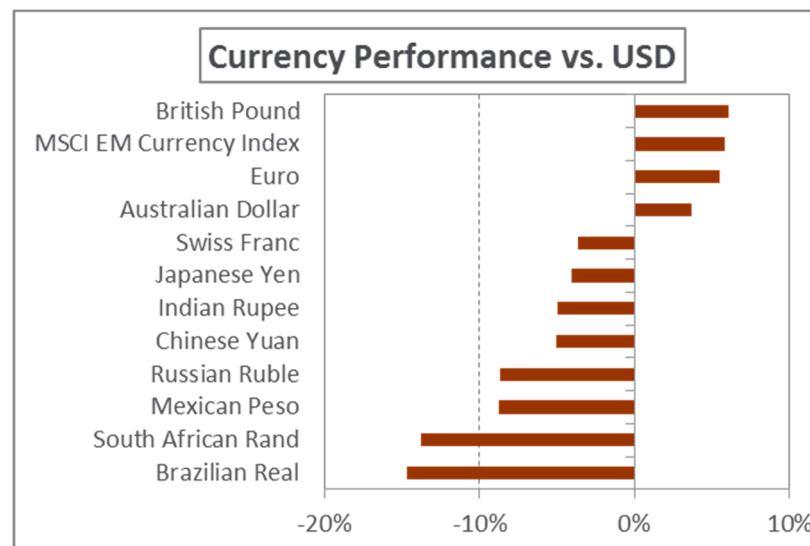
Q2 Macro Market Summary

- The global growth outlook remains strong, particularly in the US
- Global equity market volatility fell, despite escalating tensions related to the US-China trade dispute
- The US Treasury curve continued to flatten raising concerns of an inverted curve should the Fed hike rates beyond market expectations

	Yield 03/31/18	Yield 06/30/18	Δ
US 10-Yr	2.74%	2.86%	0.12%
US 30-Yr	2.97%	2.99%	0.02%
US Real 10-Yr	0.68%	0.74%	0.05%
German 10-Yr	0.50%	0.30%	-0.20%
Japan 10-Yr	0.05%	0.04%	-0.01%
China 10-Yr	3.75%	3.48%	-0.27%
EM Local Debt	6.00%	6.59%	0.59%

Source: Bloomberg

Central Banks	Current Rate	CPI YOY	Notes from the Quarter
Federal Reserve	1.75% - 2.00%	2.9%	The Fed increased its benchmark interest rate to 1.75% - 2.00% in June and is expected to hike rates two more times in 2018
European Central Bank	0.0%	1.7%	The ECB maintained its current benchmark interest rate, while indicating rates would remain steady at least through mid-2019.
Bank of Japan	-0.1%	1.3%	The BoJ will continue its ultra-easy QE program with inflation remaining well below target.



Source: Bloomberg



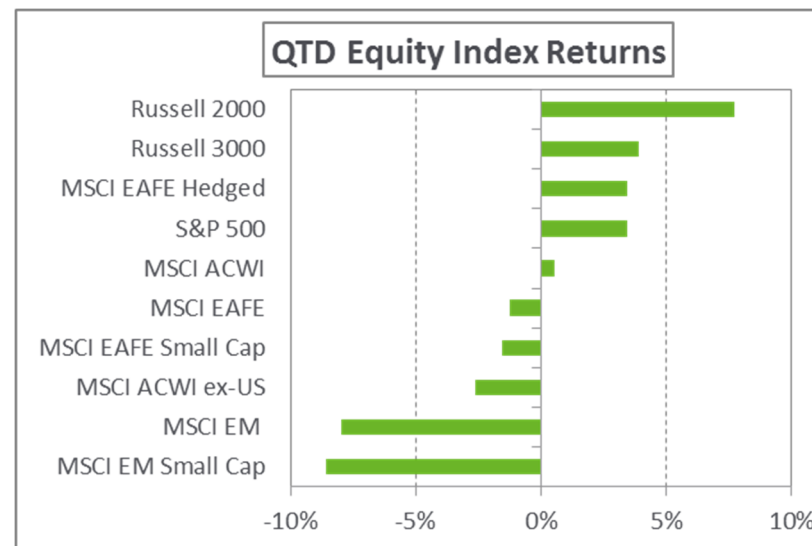
EQUITY PERFORMANCE OVERVIEW

Q2 Equity Market Summary

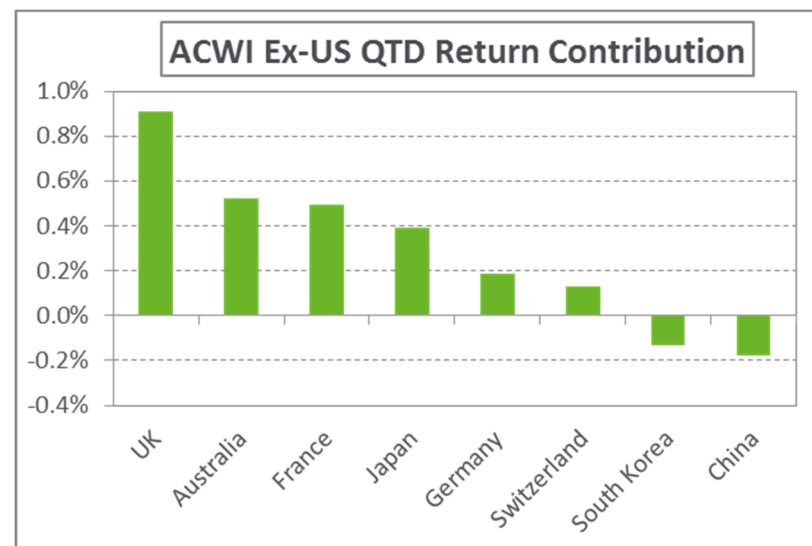
- **US small cap outperformed large cap as tax reform benefits helped boost earnings**
- **Trade concerns and yuan weakness weighed on Chinese returns as equity markets neared bear market territory**

Russell 3000 QTD Sector Return Contribution	
Information Technology	1.5%
Consumer Discretionary	0.0%
Financials	0.1%
Industrials	0.4%
Consumer Staples	0.9%
Energy	0.4%
Materials	0.1%
Health Care	0.2%
Real Estate	0.0%
Telecommunication	-0.0%
Utilities	-0.1%

Source: Russell, Bloomberg



Source: MSCI, Russell, S&P, Bloomberg



Source: MSCI, Bloomberg. QTD top country contributors to index return



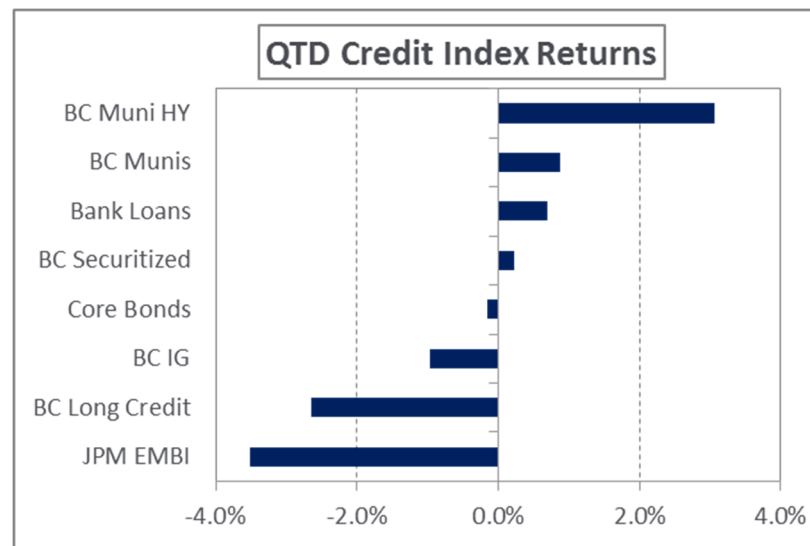
CREDIT PERFORMANCE OVERVIEW

Q2 Credit Market Summary

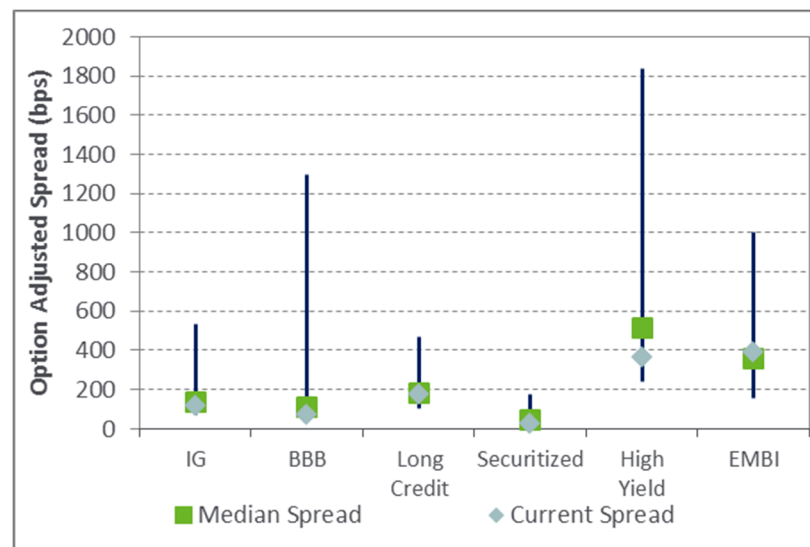
- **Credit spreads increased slightly, but remain below medians in most areas of the credit market**
- **Dollar-denominated EMD spreads increased 62 bps during the quarter, resulting in a decline of 3.5%**
- **Local currency EMD declined 10.4% as currency weakness weighed on returns**

Credit Spread (Basis Points)	03/31/18	06/30/18	\Delta
BC IG Credit	103	116	13
BC Long Credit	148	174	26
BC Securitized	29	28	-1
BC High Yield	354	363	9
Muni HY	253	198	-55
JPM EMBI	326	388	62
Bank Loans - Libor	257	303	46

Source: Barclays, Merrill Lynch, JPM, Bloomberg, NEPC



Source: Barclays, JPM, S&P, Bloomberg



Source: Barclays, JPM, S&P, Bloomberg. As of 01/31/2000



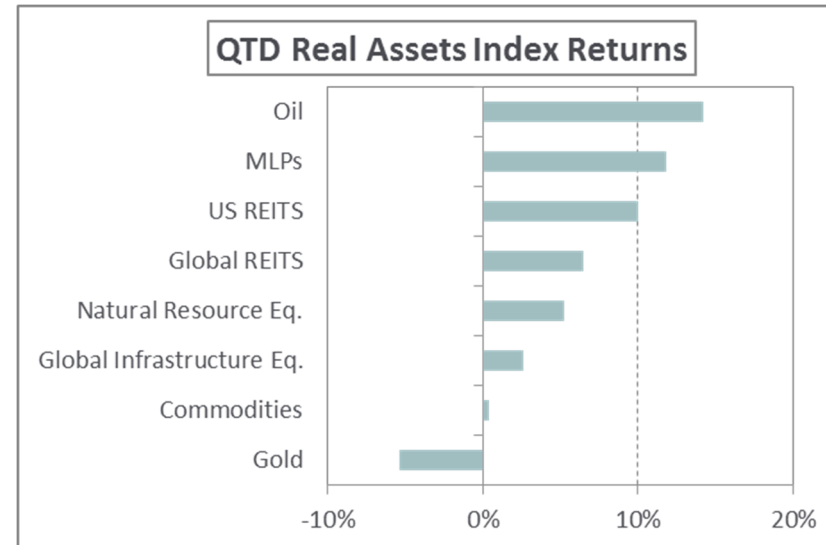
REAL ASSETS PERFORMANCE OVERVIEW

Q2 Real Assets Market Summary

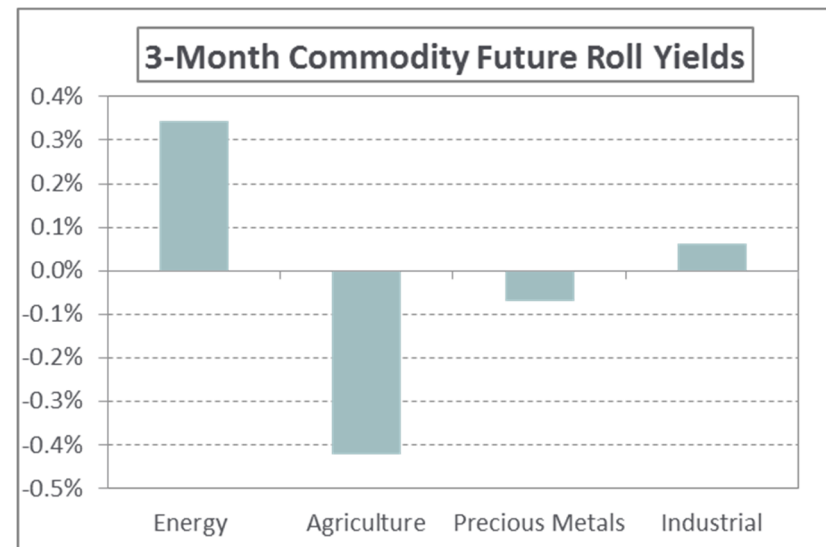
- **Crude oil increased 14.2% during the quarter as a result of tighter global supply and US-imposed sanctions on Iran**
- **Agricultural commodities broadly declined, as Chinese tariffs specifically targeted soybeans**
- **MLPs reversed steep losses from earlier in the year as industry consolidation and simplification continues**

Real Asset Yields	03/31/18	06/30/18
MLPs	8.9%	8.1%
Core Real Estate	4.5%	4.2%
US REITs	4.6%	4.4%
Global REITs	4.0%	3.7%
Global Infrastructure Equities	3.9%	4.4%
Natural Resource Equities	3.6%	3.5%
US 10-Yr Breakeven Inflation	2.1%	2.1%
Commodity Index Roll Yield	-1.6%	0.1%

Source: NCREIF, Alerian, NAREIT, S&P, Bloomberg



Source: S&P, NAREIT, Alerian, Bloomberg



Source: Bloomberg, NEPC Calculated as of 07/11/2018



KEY MARKET THEMES

Extended US Economic Cycle

Economic cycles do not die of old age

The US economy is in an extended expansionary cycle despite being nine years removed from the last recession

Fiscal stimulus, health of US consumers, and ongoing recovery of the housing market continue to drive economic growth

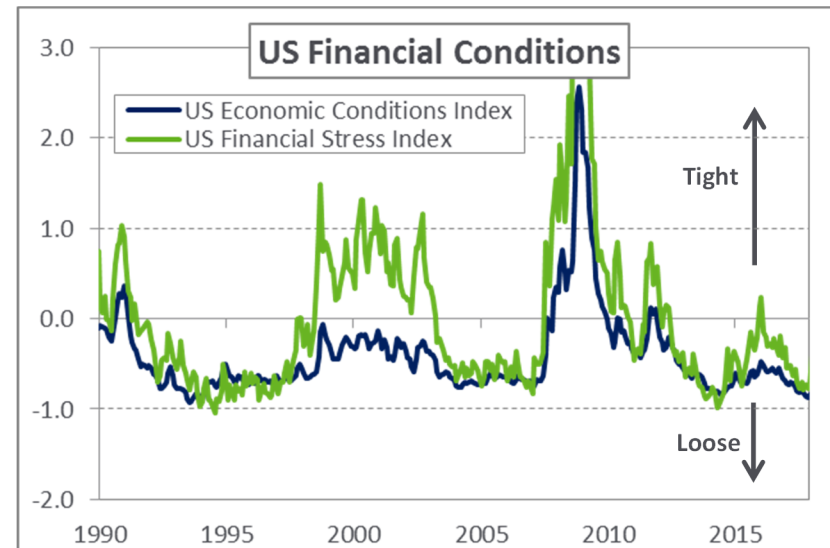
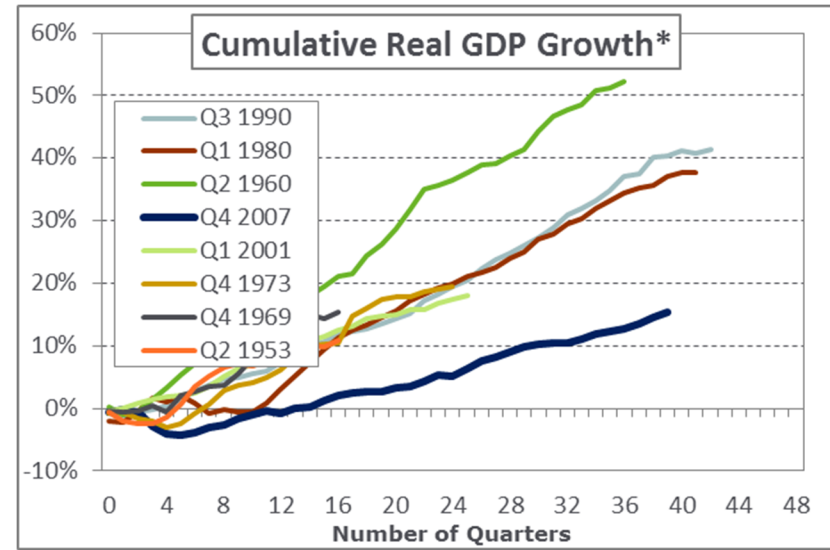
A prolonged US economic expansion can support a continued rally for US equities despite elevated valuation levels

US financial conditions remain loose and support steady economic gains

An acceleration in inflation leading to Fed tightening has historically been a catalyst to end economic expansions

US recession concerns are muted as strong global economic conditions and growth rates reinforce an expansion of the US economy

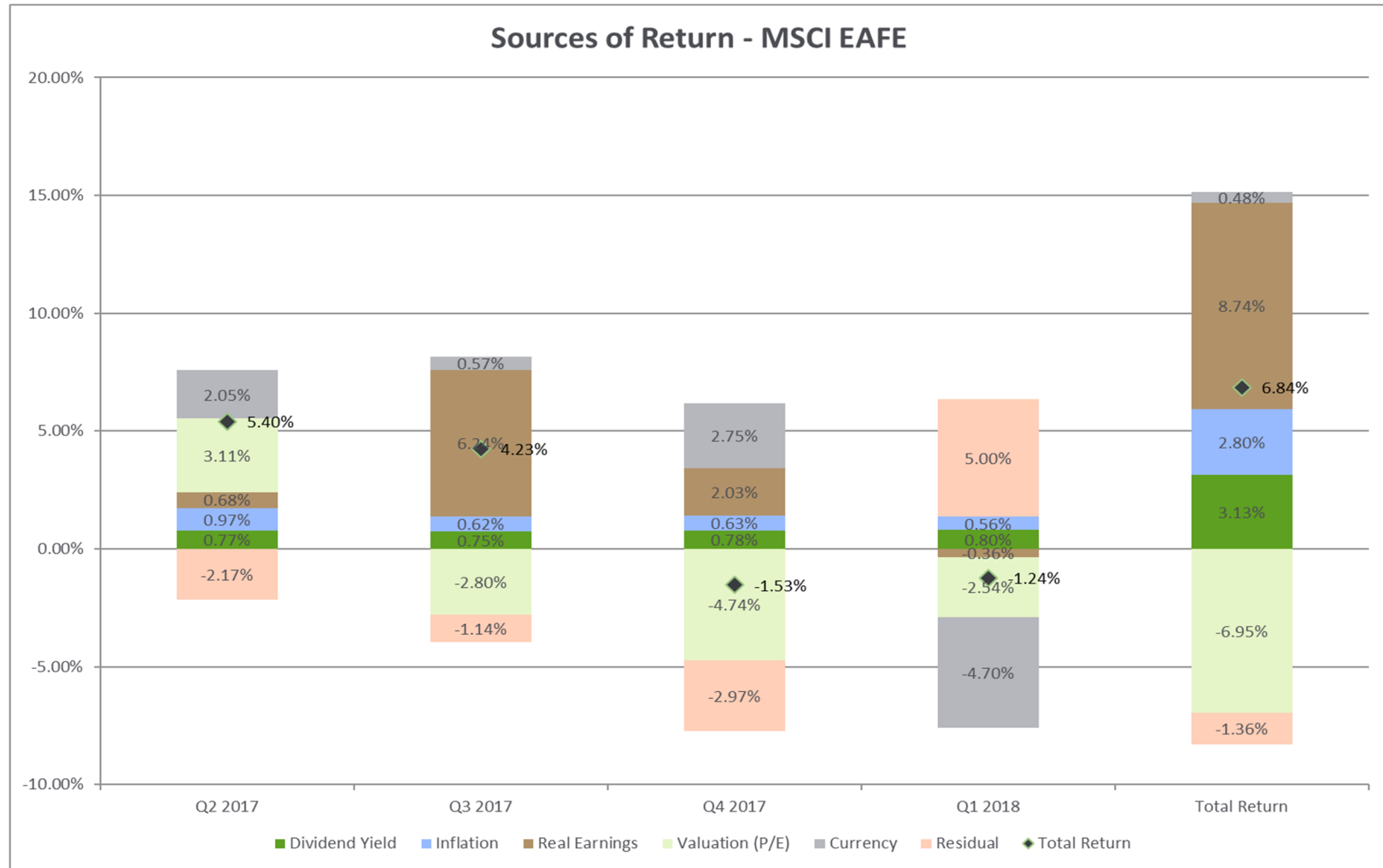
Reversal in these easy conditions may be fueled from a misstep by the Fed, strong dollar, and/or increased volatility in the Chinese yuan



Source: (Top) Bloomberg, *Cumulative GDP growth from prior cycle peak

Source: (Bottom) Federal Reserve Bank of Chicago and Kansas City

1 YEAR ATTRIBUTION OF MSCI EAFE RETURNS



Spot Rates

1 USD = 0.846 Euro

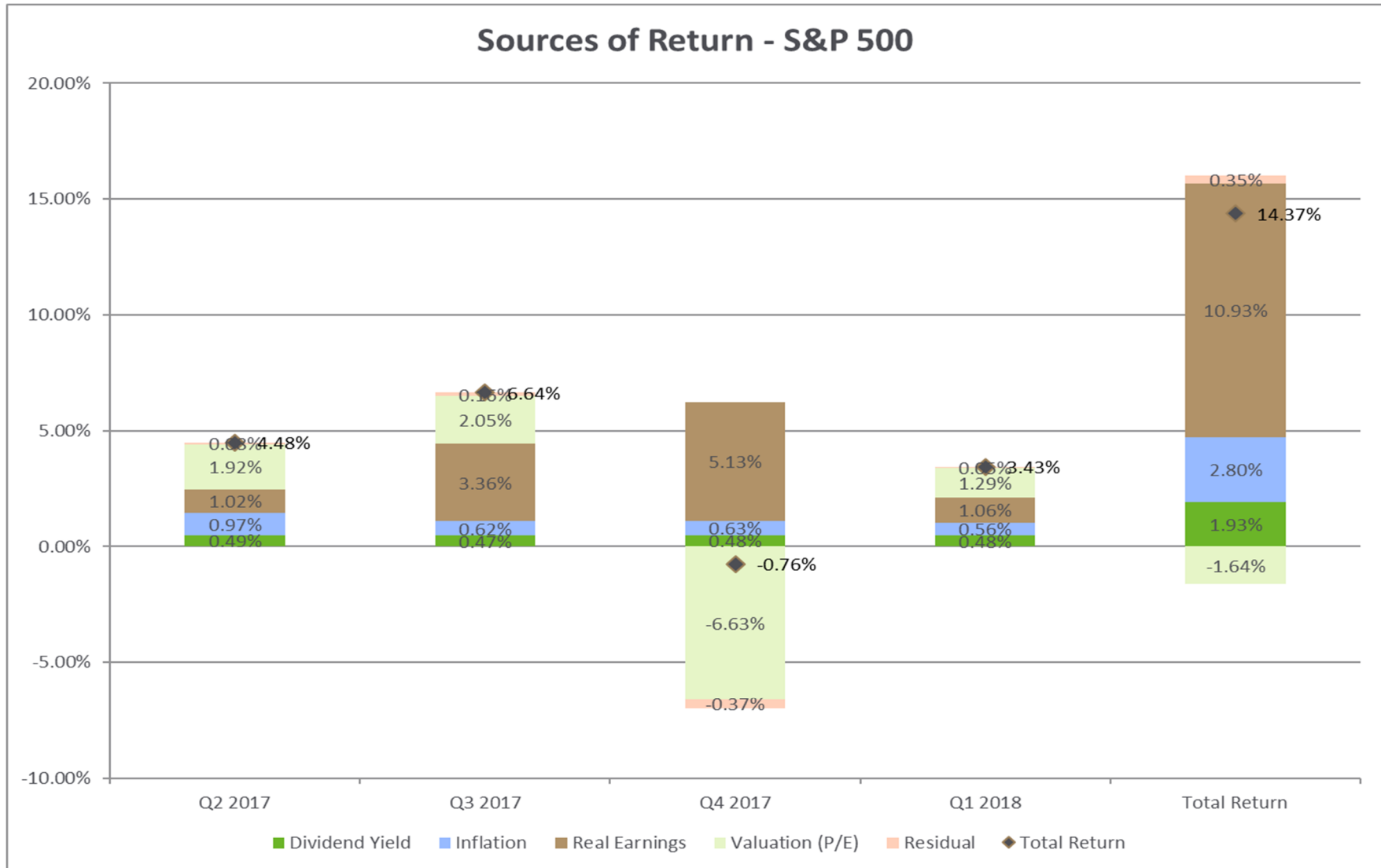
1 USD = 0.833 Euro

1 USD = 0.811 Euro

1 USD = 0.858 Euro



1 YEAR ATTRIBUTION OF S&P 500 RETURNS



US-CHINA TRADE ESCALATION



<p>The US proposes 25% tariffs on \$50B of Chinese goods totaling 1300 products (Implemented in July)</p>	<p>April</p>	<p>Retaliatory tariffs of ~\$3B worth of US exports. In response to implementation of US tariffs in Q1 on solar panels, washing machines, steel, and aluminum</p>
<p>US appears to reach broad agreement with China and holds off on additional tariffs. Agreement is never finalized.</p>	<p>May</p>	<p>China offers to cut import duties on cars and remove tariffs on US farm products</p>
<p>US restricts Chinese acquisition of US firms with sensitive technology</p> <p>US threatens tariffs on another \$200 billion worth of Chinese goods</p>	<p>June</p>	<p>China details tariff on \$50 billion worth of exports on 659 US goods in response to the US April announcement (Implemented in July)</p>
<p>25% tariff levied on \$34 billion of imports from China with tariffs expected on another \$16 billion in two weeks.</p> <p>Potential tariffs on \$200B worth of imports from China is announced with possible implementation in late Q3</p>	<p>July</p>	<p>China responds with tariffs of 25% on \$34 billion worth of US exports with soybeans being a sizable target. Tariffs on \$16 billion worth of goods dependent on US response.</p> <p>Micro Technology ordered to temporarily halt sales in China due to a patent dispute</p>

US-CHINA TRADE: POTENTIAL OUTCOMES

Outcome	Description	Implications
<p><u>Base Case:</u> Elevated Tariffs and/or Trade Limitations</p>	<p>A “cold war” in the ongoing “trade battle” between the US and China</p>	<ul style="list-style-type: none"> - Tariffs and restrictions on trade are implemented – leading to marginally higher inflation and marginally lower growth rates - Equity and currency volatility is elevated, but valuations may provide attractive investment opportunities
<p><u>Favorable Case:</u> Negotiated Settlement</p>	<p>The US and China agree to a mutually beneficial pact</p>	<ul style="list-style-type: none"> - Some tariffs or trade limitations may be implemented, but the pact allows for broader access to local China and US markets for each nation - Volatility may persist throughout negotiations, though this is the most appealing outcome for global equities
<p><u>Tail Risks:</u> US – China Trade War</p>	<p>The countries escalate to implementing more severe protectionist policies</p>	<ul style="list-style-type: none"> - Results in destabilization of global equity markets and the global economy - It would likely result in a global recession as economic growth rates are hampered with the potential for stagflation - Investors are encouraged to rebalance to “safe haven” fixed-income exposure, such as TIPS and government debt
<p>Full-Blown Trade War</p>	<p>Other countries become involved levying additional tariffs and materially reducing global trade flows (e.g. 1930s style global trade restrictions)</p>	

BEYOND US-CHINA TRADE

- **Should dynamics shift toward the tail-risk outcomes, there are other important aspects of the United States' role in the global economy that should be considered:**

Chinese Ownership of US Treasuries

Measured about \$1.2T at the end of 2017

Provides some leverage if China threatened to sell

However, materially reducing Treasuries could negatively impact the Yuan

Degree of Political Control

Known political stability affords China the opportunity to take a harsher negotiation posture

China can effectively control local sentiment if needed – for example, to implement boycotts on American goods

Yuan Devaluation

Competitiveness of goods and exports would increase

However, could trigger large capital outflows from China. Likely requires capital controls, which runs counter to goal of opening local financial markets

Currency Reserves

The USD status as a reserve currency allows it to benefit from safe-haven flows that could result from a reduction in trade

This status could be jeopardized if other key countries shift reserves elsewhere

US Companies Operating Internationally

Companies such as Apple, Disney, or Nike could face additional hurdles from the Chinese government to operate locally

China's manufacturing base could allow them to cut off key parts of the global supply chain

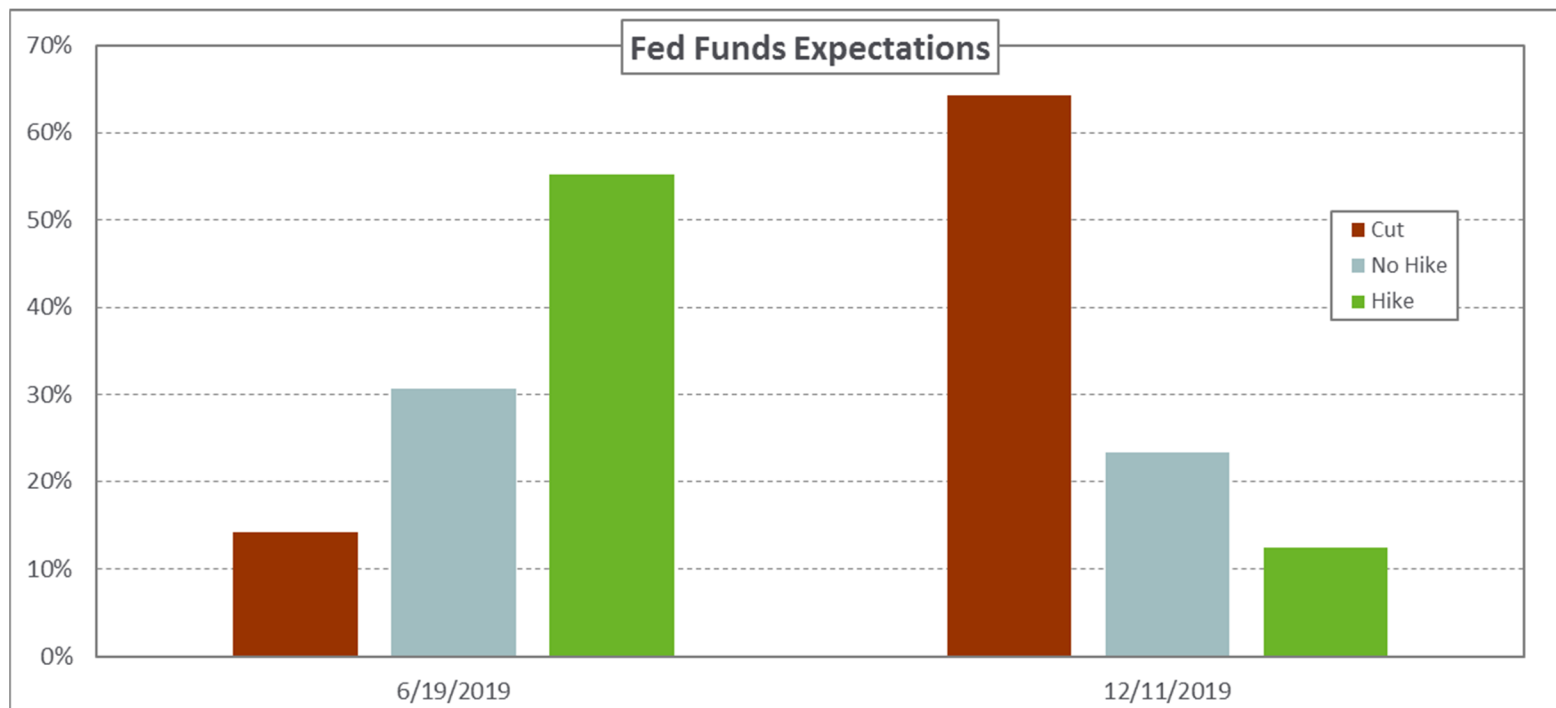
Europe

The US and the EU have a trade partnership worth over \$1.1T annually

Tensions have escalated – leading the EU to respond with retaliatory measures on American products such as motorcycles and denim

THE PATH OF FEDERAL RESERVE HIKES

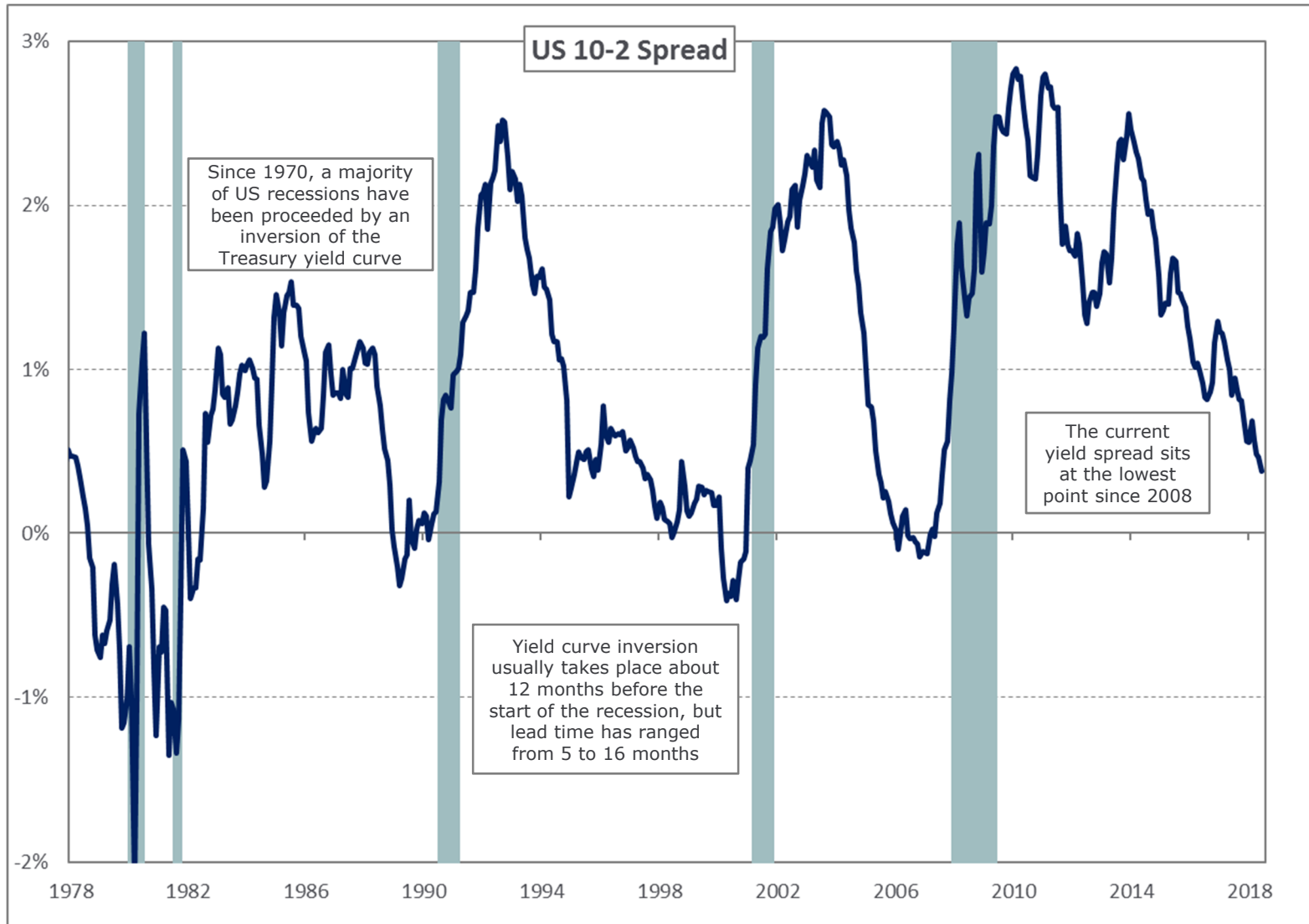
- **The current target federal funds level is 1.75%-2.00%, following two rate increases in March and June of 2018**
 - Fed funds expectations imply a minimum of one additional hike and potentially a second in 2018 based on both market expectations and Fed policy makers estimates
- **New Fed Chair Jerome Powell has promised greater transparency but market expectations highlight a large disconnect in the back half of 2019 for the Fed Funds target level**



Data as of 7/13/2018; Data assumes Fed Funds rate at 6/19/2019 is 2.25-2.50 and Fed Funds rate at 12/11/2019 is 2.75-3.00
Source: Fed, Bloomberg, NEPC



THE YIELD CURVE IS A STRONG SIGNAL

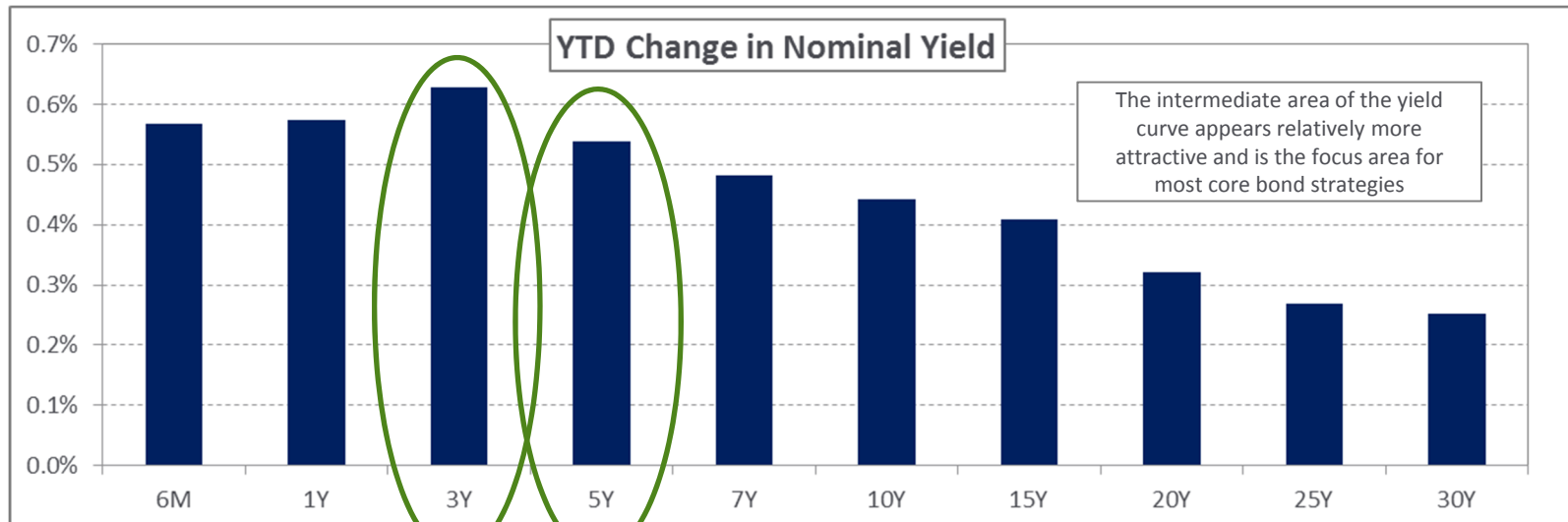


Source: FRED

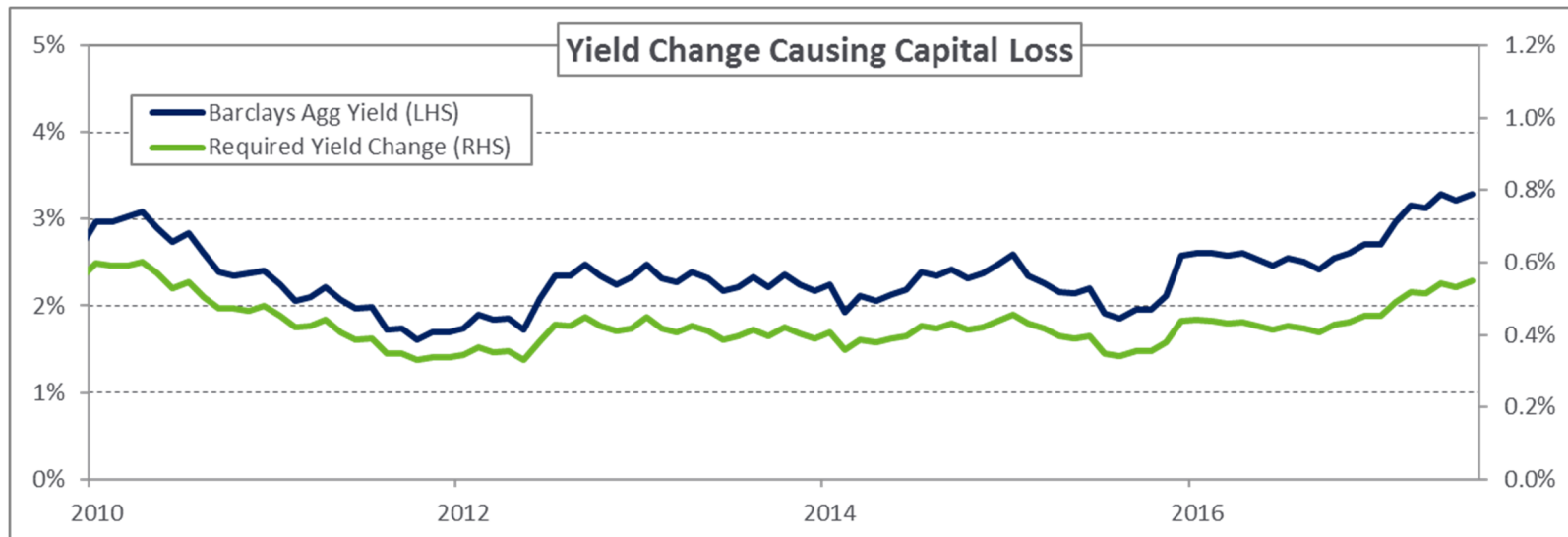
Light blue shading indicates recession; 10-2 spread is calculated as 10-year minus 2-year Treasury



US YIELDS ARE MORE ATTRACTIVE



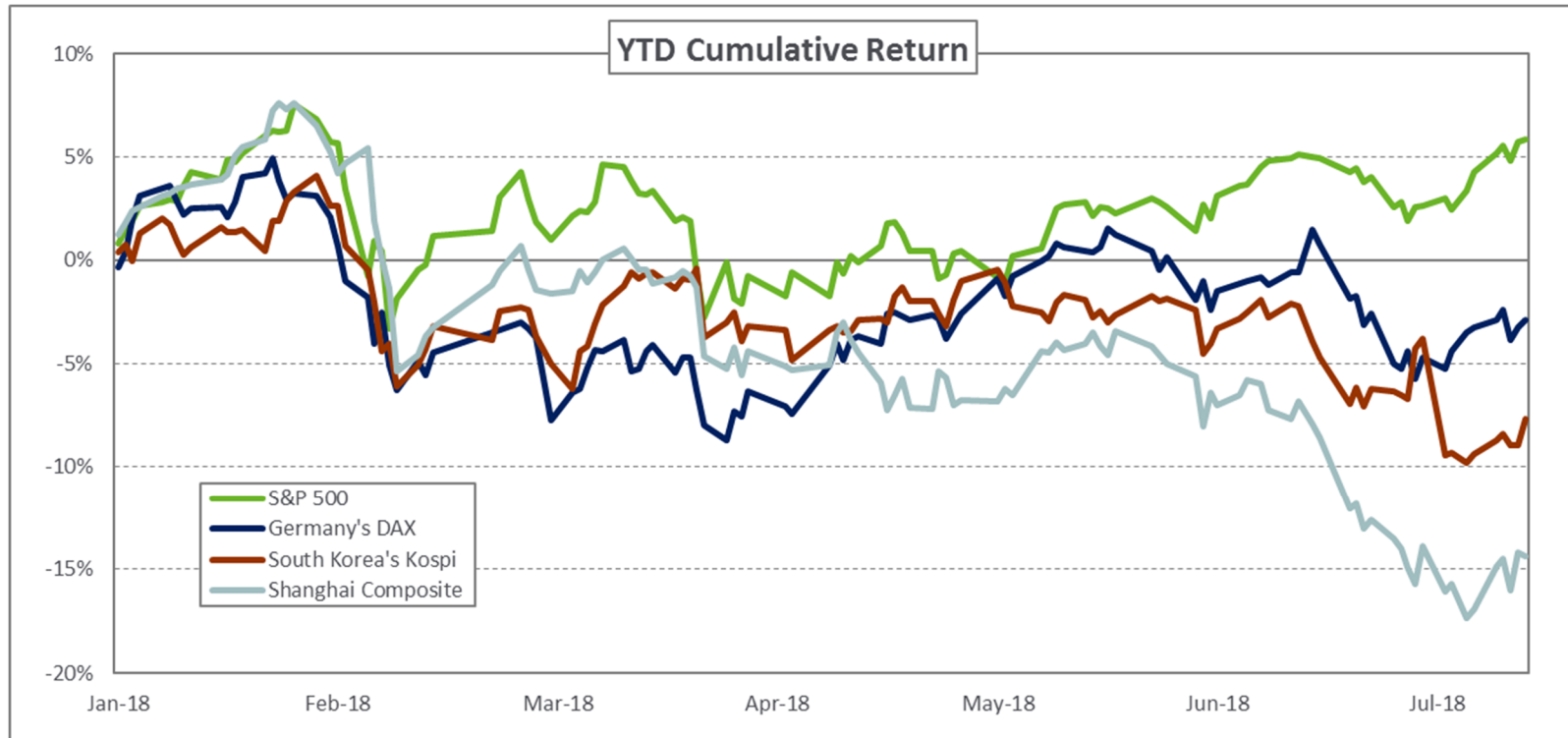
Source: Bloomberg, NEPC; Change calculated using 06/29/18 and 12/29/17 values



Source: Barclays, Bloomberg, NEPC



GLOBAL EQUITIES IN 2018

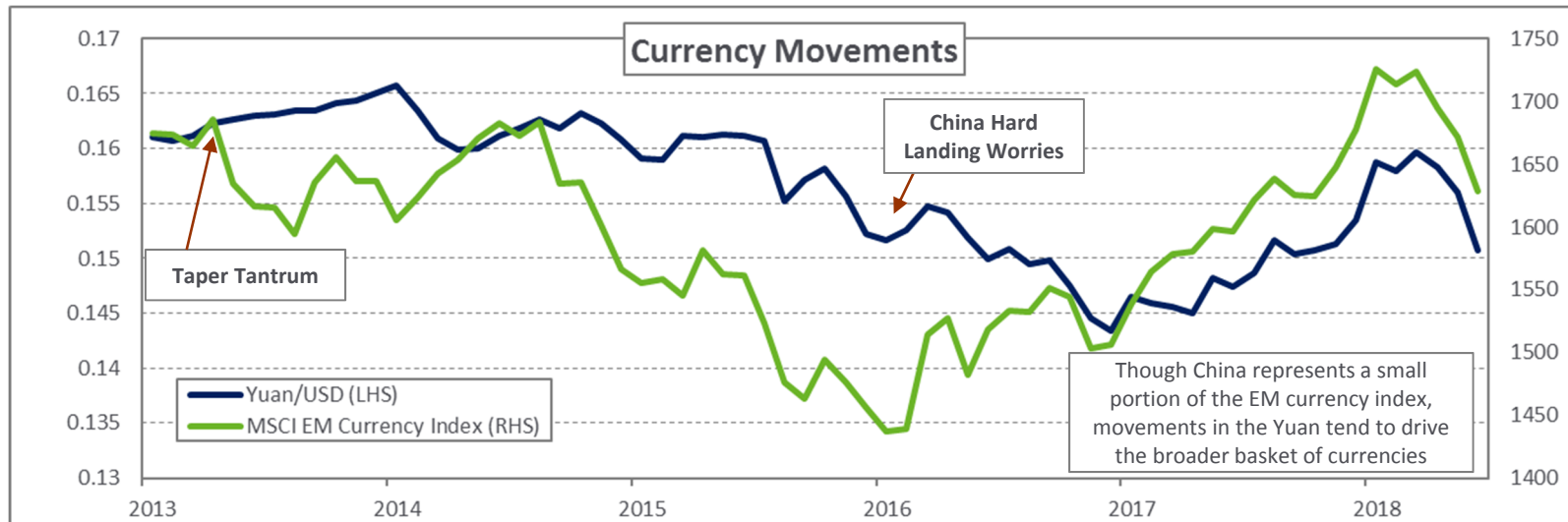


Source: S&P, Russell, Bloomberg, NEPC; Cumulative return calculated through 07/16/2018

- **With the US economy performing well, 2018 was set to be a strong year for earnings even before the tax reform was enacted**
 - First quarter US corporate earnings reached near historic levels and earnings for 2018 are expected to increase 20% relative to the year prior as tax cuts offer a tailwind
- **International and emerging markets are also experiencing strong earnings growth, but have suffered from the negative sentiment associated with US-China trade tensions**



CHINA DRIVES EMERGING MARKET SENTIMENT



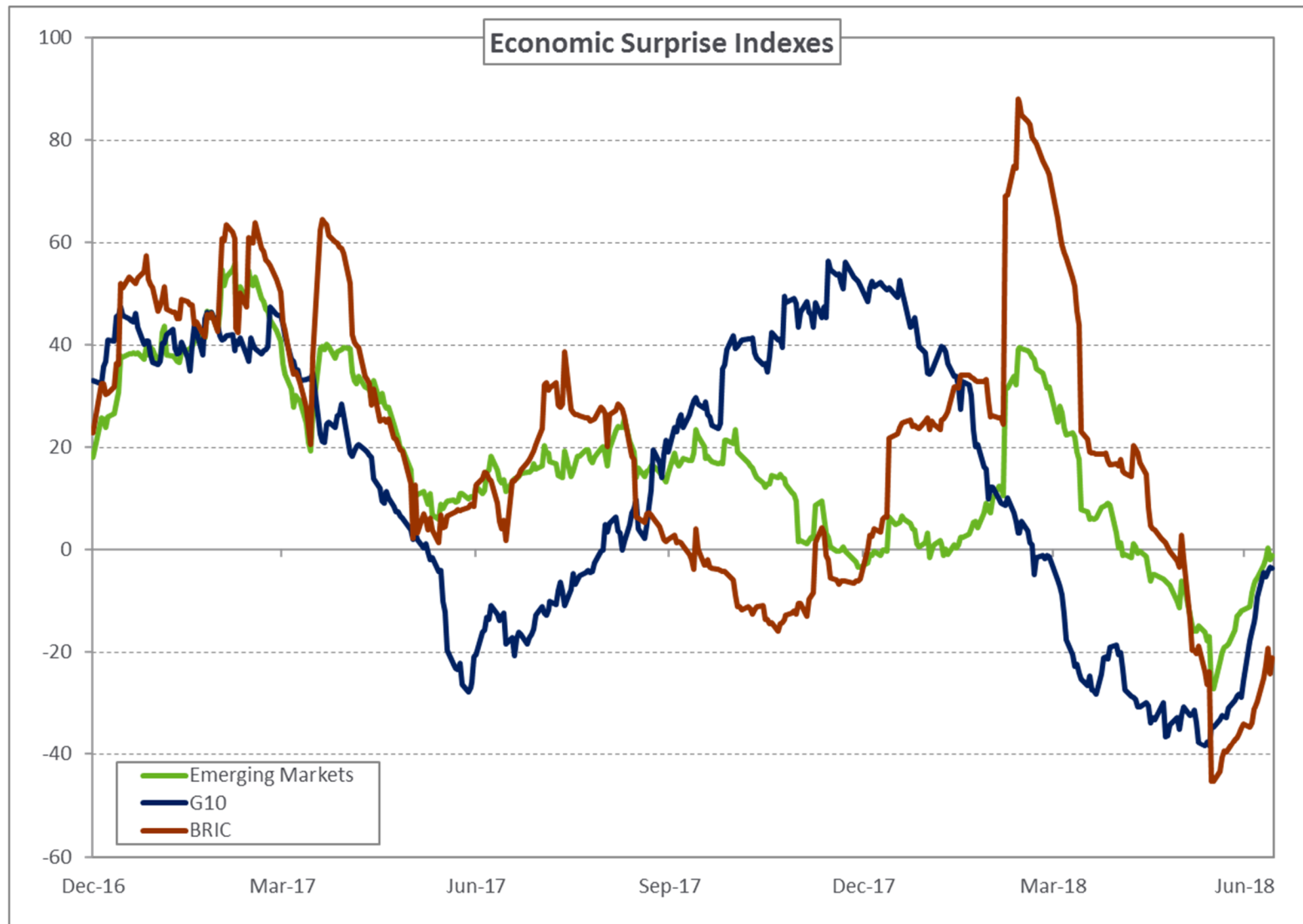
Source: MSCI, Bloomberg, NEPC



Source: MSCI, Bloomberg, NEPC



EMERGING ECONOMIES SHOW RESILIENCY



Source: Citi, Bloomberg



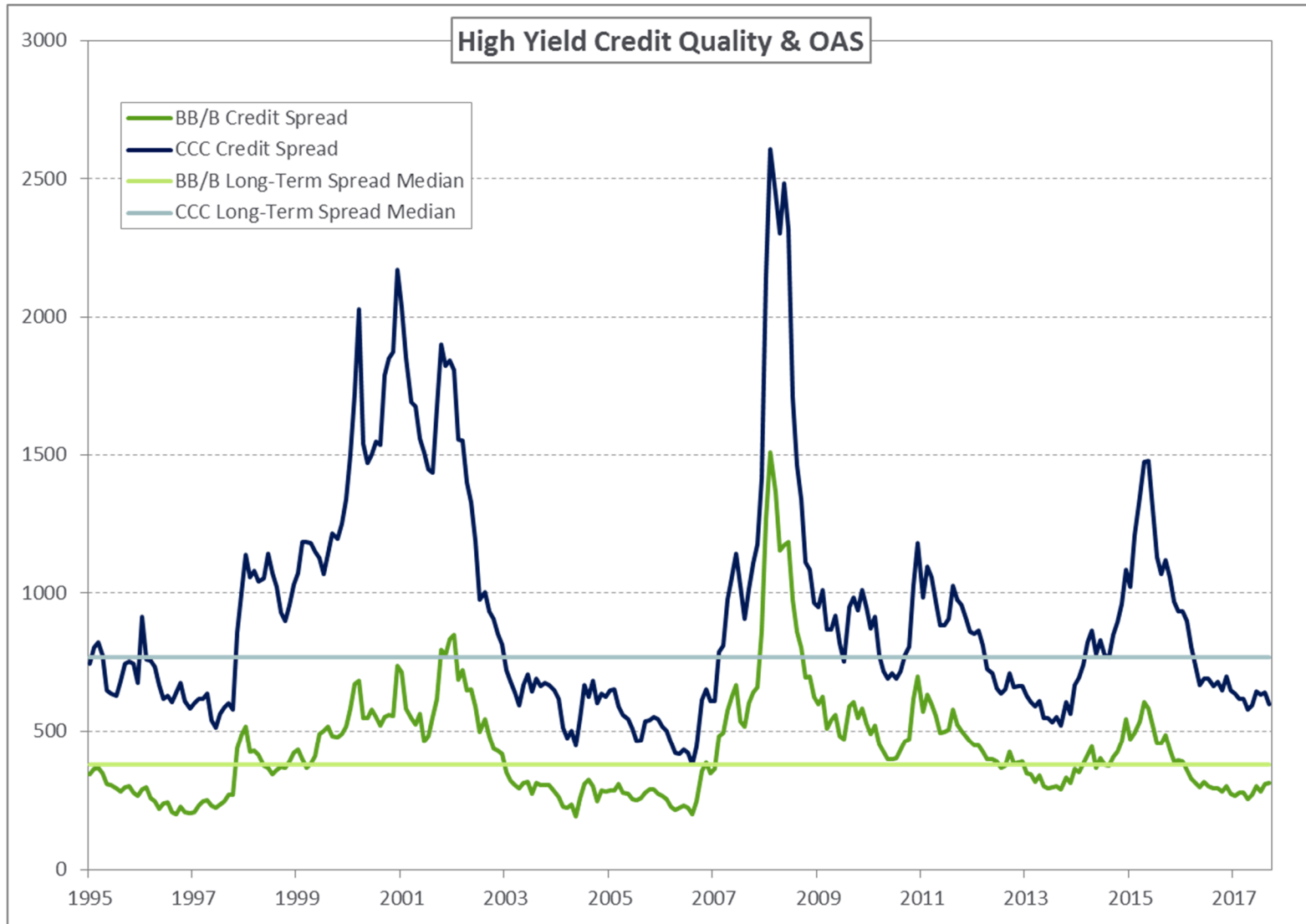
GLOBAL TRADE IS STILL EXPANDING



Source: OECD



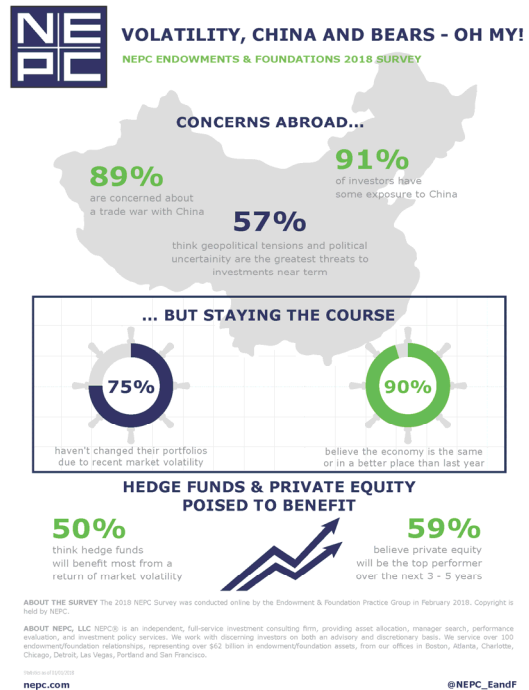
CREDIT SPREADS APPEAR UNATTRACTIVE



Source: Barclays, Bloomberg, NEPC



HIGHLIGHTS OF SECOND QUARTER HAPPENINGS AT NEPC



NEPC INSIGHTS

- Taking Stock: Globalization Backlash: Tariffs are a Dangerous Game
- Taking Stock: A Millennial's Take on ESG and Defined Contribution Plans
- The Need for Investment Discipline: Review, Revise and Repeat
- 2018 First Quarter Market Thoughts
- The State of Strategic Investing in Healthcare
- Taking Stock: Corporate Pension Plans: A Changing Yield Curve and Q1 Liability Performance
- Nothing Ventured, Nothing Gained: The European VC Opportunity
- Taking Stock: Megatrends – The Forces Driving Our Future
- May 2018 – Endowment & Foundation Survey Results & Infographic
- Taking Stock: A Roundup of NEPC's 2018 Investment Conference
- Taking Stock: Holding the Investment Industry to a Higher Standard
- Taking Stock: China's Demographic Solution: Too Little Too Late?
- Putting the Pieces Together: Equity Portfolio Construction for Private Wealth Clients
- Taking Stock: Is This the Ghost of Taper Tantrums Past?
- Taking Stock: What's 'Appening with Financial Wellness?

WEBINAR REPLAYS

- 8th Annual Investment Manager Webinar Replay
- NEPC Q1 2018 Quarterly Markets Call

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



TOTAL FUND PERFORMANCE

NEPC, LLC

TOTAL FUND PERFORMANCE SUMMARY (GROSS)

	Market Value	3 Mo	Rank	YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank
Total Fund	\$9,972,950,140	1.8%	6	2.8%	2	9.0%	31	7.2%	49	7.6%	82	5.4%	96
<i>Policy Index</i>		0.1%	76	0.3%	56	6.9%	96	6.1%	96	6.4%	98	5.5%	91
<i>S&P 500</i>		3.4%	1	2.6%	2	14.4%	1	11.9%	1	13.4%	1	10.2%	1
<i>BBgBarc US Aggregate TR</i>		-0.2%	83	-1.6%	99	-0.4%	99	1.7%	99	2.3%	99	3.7%	99
<i>60% MSCI ACWI (Net) / 40% CITI WGBI</i>		-1.0%	99	-0.6%	92	7.2%	93	6.2%	90	6.2%	99	4.6%	99
<i>InvestorForce Public DB > \$1B Gross Median</i>		0.6%		0.7%		8.3%		7.1%		8.3%		6.7%	

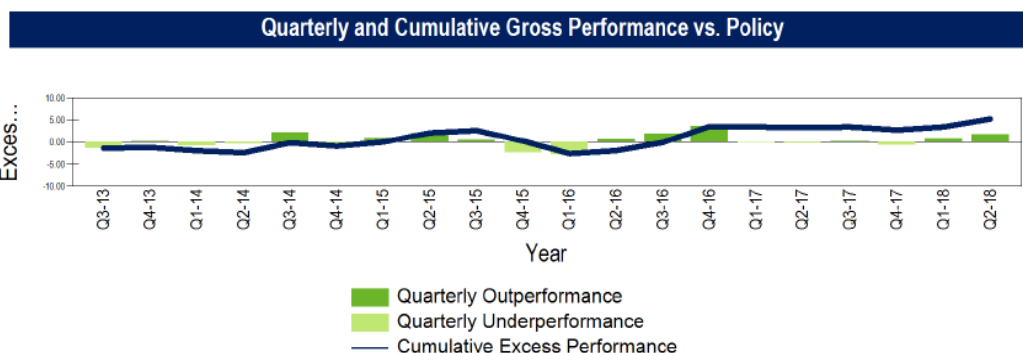
In the year ended June 30, 2018 the Fund returned 9.0% ranking in the 31st percentile of Public Funds > \$1 Billion and significantly outperformed the actuarial assumed rate of 7.25%. The Fund's assets totaled \$9.97 billion, an increase of \$775.9 million from a year ago.

The Fund experienced a net investment gain of \$835.6 million during the year including a net investment gain of \$180.9 million in the second calendar quarter.

In the three-year period ended June 30, 2018 the Fund returned 7.2% and ranked in the 49th percentile among its peers. The Sharpe Ratio over this period of 1.8 ranks in the 1st percentile, indicating that the Fund earned a higher rate of return for each incremental unit of risk taken during the period versus its peers.

In the five-year period ended June 30, 2018 the Fund returned 7.6% per annum and ranked in the 82nd percentile among its peers. On a risk adjusted basis the Fund's Sharpe and Sortino Ratios rank in the 1st percentile indicating both strong returns per unit of risk taken and strong returns per unit of downside risk experienced when compared to a universe of public fund peers >\$1B.

Note: InvestorForce Public Funds >\$1B Gross of Fee prelim universe contains 24 portfolios with \$198 billion in assets.



Statistics Summary

3 Years Ending June 30, 2018

	Sharpe Ratio	Sharpe Ratio Rank	Sortino Ratio	Sortino Ratio Rank
Total Fund	1.8	1	3.2	1
InvestorForce Public DB > \$1B Gross Median	1.0	--	1.5	--

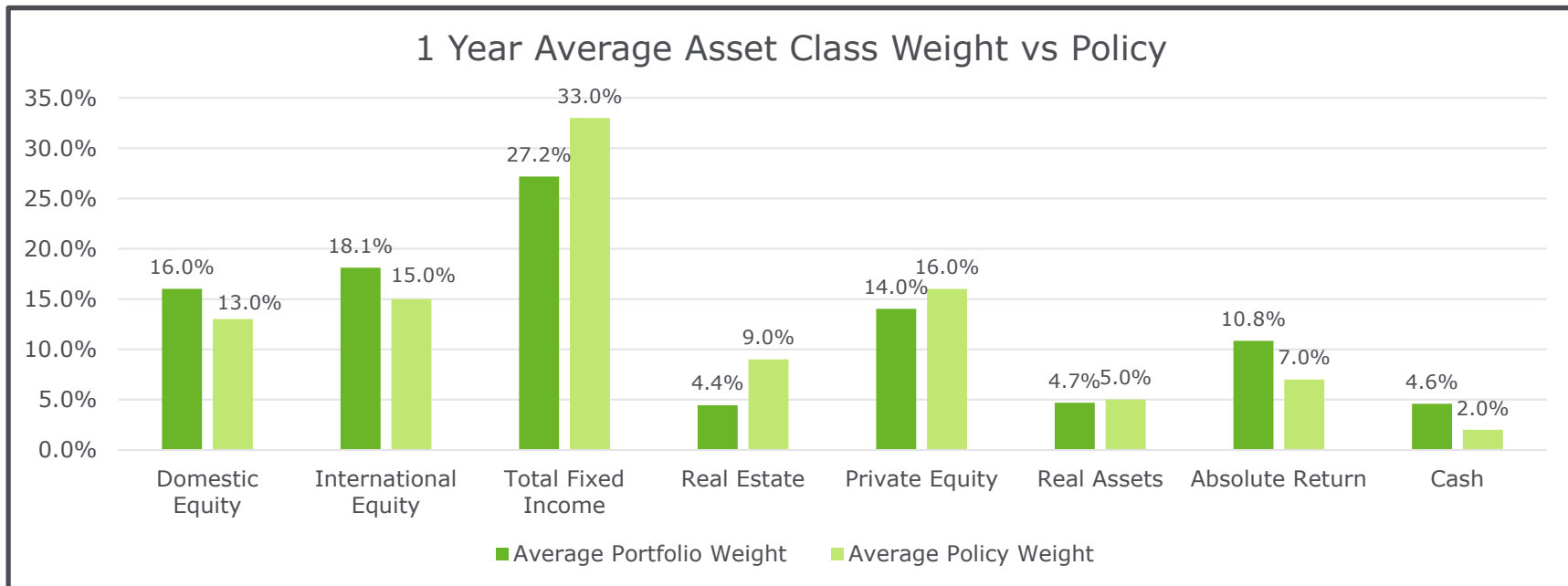
5 Years Ending June 30, 2018

	Sharpe Ratio	Sharpe Ratio Rank	Sortino Ratio	Sortino Ratio Rank
Total Fund	2.2	1	3.8	1
InvestorForce Public DB > \$1B Gross Median	1.3	--	2.1	--



BETA OVERLAY CONTRIBUTION TO RETURN

COMPOSITE	3 Months	1 Year	3 Years	5 Years
Total Plan <i>With</i> Beta Overlay	1.72	8.72	6.89	7.24
Total Plan <i>Without</i> Beta Overlay	1.69	7.93	6.59	6.90
<i>Over/Under</i>	0.03	0.79	0.30	0.34



San Bernardino County Employees' Retirement Association

TOTAL FUND PERFORMANCE SUMMARY

Statistics Summary								
1 Year Ending June 30, 2018								
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Sortino Ratio	Sortino Ratio Rank
Total Fund	9.0%	31	2.7%	1	2.8	1	7.3	1
InvestorForce Public DB > \$1B Gross Median	8.3%	--	4.8%	--	1.5	--	1.8	--

Statistics Summary								
3 Years Ending June 30, 2018								
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Sortino Ratio	Sortino Ratio Rank
Total Fund	7.2%	49	3.7%	1	1.8	1	3.2	1
InvestorForce Public DB > \$1B Gross Median	7.1%	--	6.3%	--	1.0	--	1.5	--

Statistics Summary								
5 Years Ending June 30, 2018								
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Sortino Ratio	Sortino Ratio Rank
Total Fund	7.6%	82	3.3%	1	2.2	1	3.8	1
InvestorForce Public DB > \$1B Gross Median	8.3%	--	6.1%	--	1.3	--	2.1	--

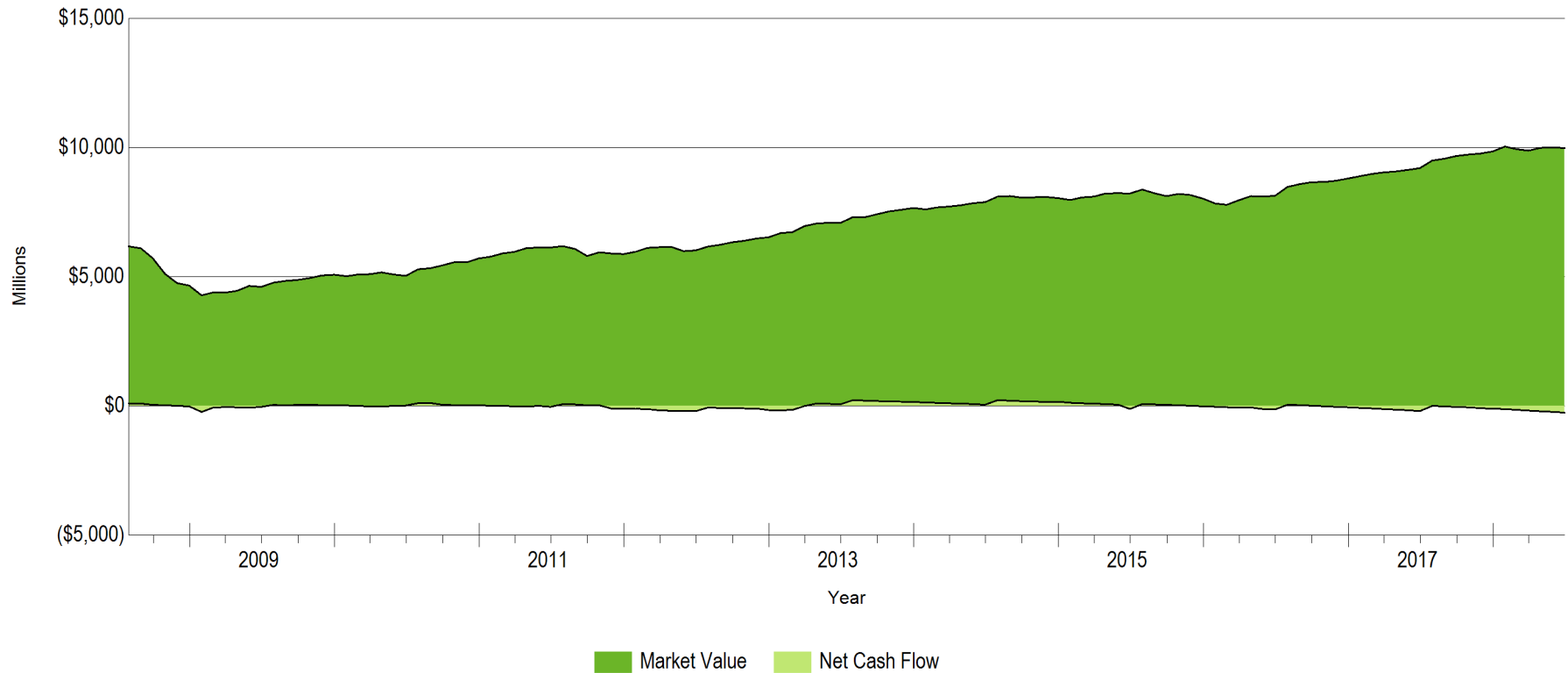
Sortino Ratio requires at least two negative points during the time period in order to calculate



San Bernardino County Employees' Retirement Association

TOTAL FUND ASSET GROWTH SUMMARY

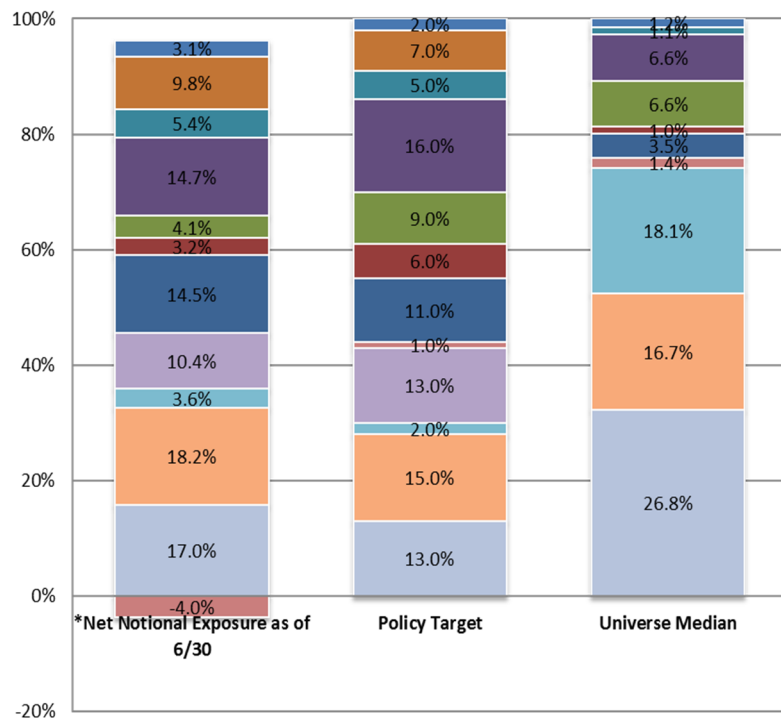
10 Years Ending June 30, 2018



	Last Three Months	Year-To-Date	One Year	Five Years	Ten Years
Beginning Market Value	\$9,872,639,719	\$9,844,615,850	\$9,197,095,393	\$7,074,927,018	\$6,117,712,862
Net Cash Flow	-\$80,559,546	-\$152,573,790	-\$59,758,407	-\$325,223,773	-\$257,751,847
Net Investment Change	\$180,869,967	\$280,908,080	\$835,613,154	\$3,223,246,896	\$4,112,989,125
Ending Market Value	\$9,972,950,140	\$9,972,950,140	\$9,972,950,140	\$9,972,950,140	\$9,972,950,140



TOTAL FUND ASSET ALLOCATION SUMMARY



- US Equities
- U.S. Core
- Non-US Core Fixed Income
- Emerging Market Debt
- Private Equity
- Absolute Return
- Int'l Equities
- US Credit
- Non-US Credit
- Real Estate
- Real Assets
- Cash

	*Net Notional Exposure	*Net Notional Exposure as of 6/30	Policy Target	*Difference	Policy Ranges	Within Range
US Equities	1,699,177	17.0%	13.0%	4.0%	8%-18%	Yes
Int'l Equities	1,818,376	18.2%	15.0%	3.2%	10%-20%	Yes
U.S. Core	355,700	3.6%	2.0%	1.6%	-3%-7%	Yes
US Credit	1,037,024	10.4%	13.0%	-2.6%	8%-18%	Yes
Non-US Core Fixed Income	(398,918)	-4.0%	1.0%	-5.0%	-4%-6%	Yes
Non-US Credit	1,448,681	14.5%	11.0%	3.5%	6%-16%	Yes
Emerging Market Debt	323,032	3.2%	6.0%	-2.8%	1%-11%	Yes
Real Estate	408,985	4.1%	9.0%	-4.9%	0%-14%	Yes
Private Equity	1,462,768	14.7%	16.0%	-1.3%	6%-21%	Yes
Real Assets	536,013	5.4%	5.0%	0.4%	0%-10%	Yes
Absolute Return	975,895	9.8%	7.0%	2.8%	0%-12%	Yes
Cash	306,216	3.1%	2.0%	1.1%	0%-10%	Yes
	9,972,950	100.0%	100.0%			



San Bernardino County Employees' Retirement Association

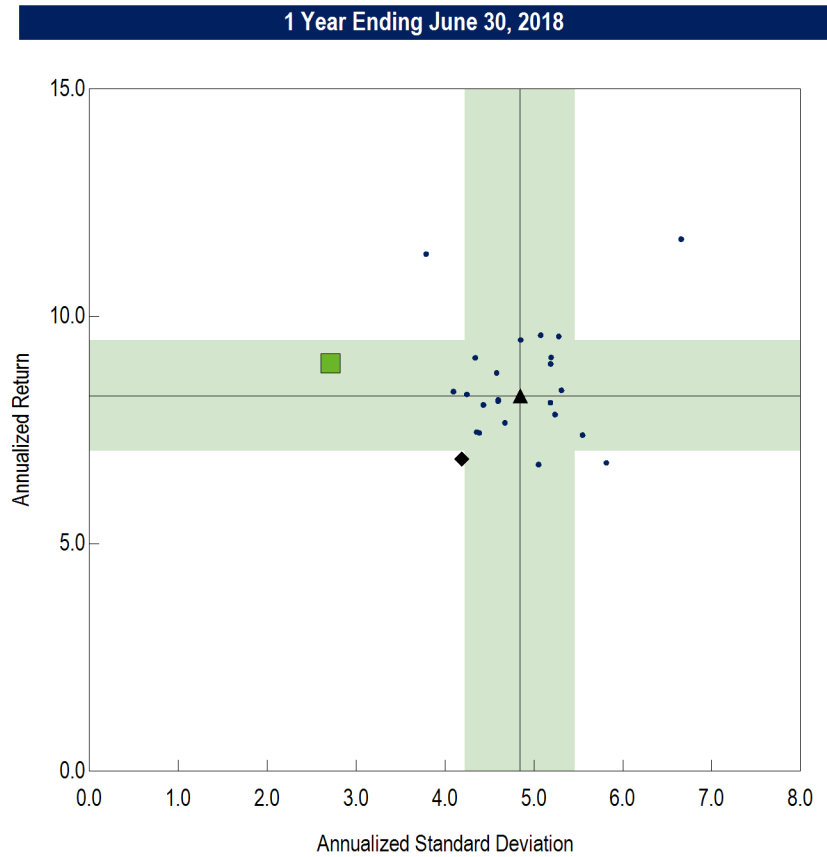
TOTAL FUND PERFORMANCE SUMMARY

<u>Asset Class</u>	<u>Physical Exposure</u>		<u>Delta Adjusted</u>		<u>Net Position</u>		<u>Overlay Target</u>		<u>Policy Target</u>	
			<u>Synthetic Exposure</u>							
Total Market Value	9,703.5	100.0%	-0.0	0.0%	9,703.5	100.0%	9,703.5	100.0%	9,703.5	100.00%
Cash	1,344.6	13.86%	-1,292.0	-13.31%	52.6	0.54%	0.0	0.0%	0.0	0.00%
Cash	1,344.6	13.86%	-1,292.0	-13.31%	52.6	0.54%	0.0	0.0%	0.0	0.00%
Equity	1,678.7	17.3%	1,840.5	18.97%	3,519.2	36.27%	3,587.9	36.97%	3,590.3	37.00%
Emerging Markets	476.3	4.91%	290.4	2.99%	766.7	7.9%	775.8	7.99%	776.3	8.00%
Equity Delta Hedge	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.00%
International Developed	124.9	1.29%	958.7	9.88%	1,083.6	11.17%	1,066.7	10.99%	1,067.4	11.00%
US Large Cap	1,077.5	11.1%	329.9	3.4%	1,407.3	14.5%	1,406.1	14.49%	1,407.0	14.50%
US Small Cap	0.1	0.0%	261.5	2.7%	261.6	2.7%	339.4	3.5%	339.6	3.50%
Fixed	3,255.4	33.55%	-548.5	-5.65%	2,706.9	27.9%	2,690.9	27.73%	2,692.7	27.75%
EM High Yield CDX	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.00%
Global ex US Fixed Income	2,187.5	22.54%	-904.2	-9.32%	1,283.3	13.23%	1,260.6	12.99%	1,261.5	13.00%
High Yield **	1,067.9	11.01%	0.0	0.0%	1,067.9	11.01%	921.2	9.49%	921.8	9.50%
US Fixed Income	0.0	0.0%	355.7	3.67%	355.7	3.67%	509.1	5.25%	509.4	5.25%
Other	3,424.8	35.29%	0.0	0.0%	3,424.8	35.29%	3,424.8	35.29%	3,420.5	35.25%
Alternatives	132.1	1.36%	0.0	0.0%	132.1	1.36%	132.1	1.36%	135.8	1.40%
Commodities	182.0	1.88%	0.0	0.0%	182.0	1.88%	182.0	1.88%	194.1	2.00%
Infrastructure	196.1	2.02%	0.0	0.0%	196.1	2.02%	196.1	2.02%	194.1	2.00%
Private Equity	1,203.8	12.41%	0.0	0.0%	1,203.8	12.41%	1,203.8	12.41%	1,310.0	13.50%
Real Estate	483.2	4.98%	0.0	0.0%	483.2	4.98%	483.2	4.98%	359.0	3.70%
Tactical Cash	1,227.5	12.65%	0.0	0.0%	1,227.5	12.65%	1,227.5	12.65%	1,227.5	12.65%

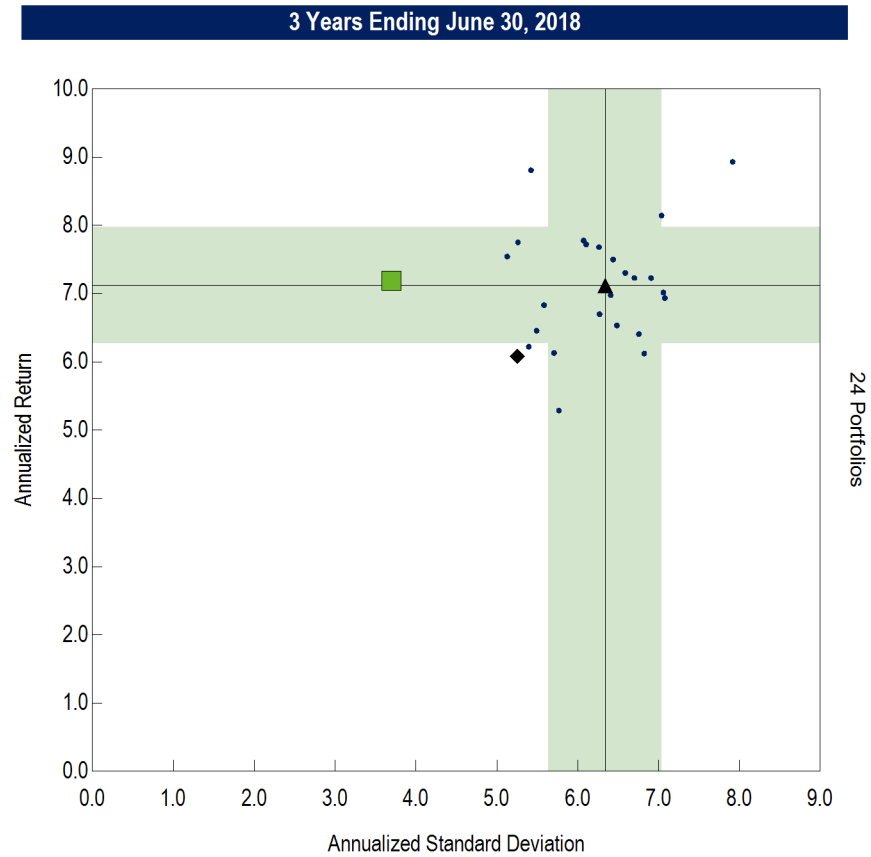


San Bernardino County Employees' Retirement Association

TOTAL FUND RISK/RETURN



- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB > \$1B Gross



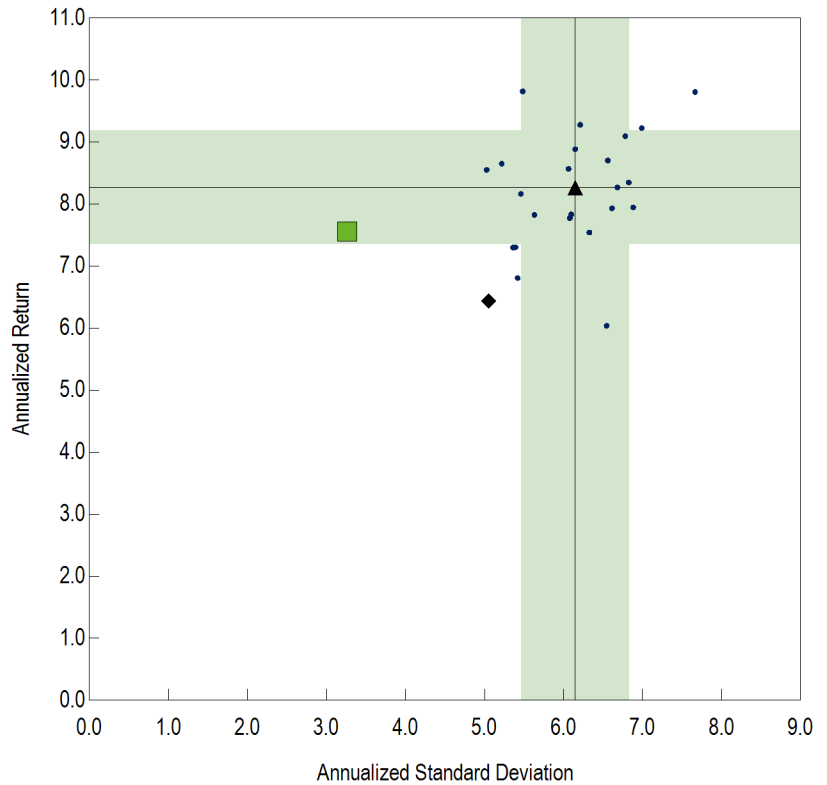
- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB > \$1B Gross



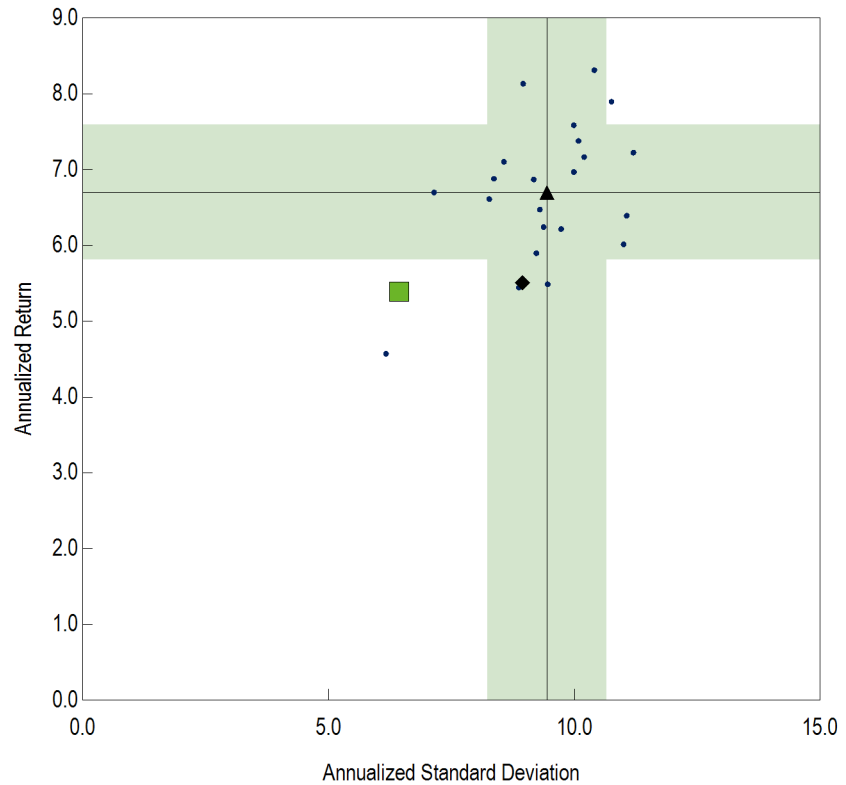
San Bernardino County Employees' Retirement Association

TOTAL FUND RISK/RETURN

5 Years Ending June 30, 2018



10 Years Ending June 30, 2018



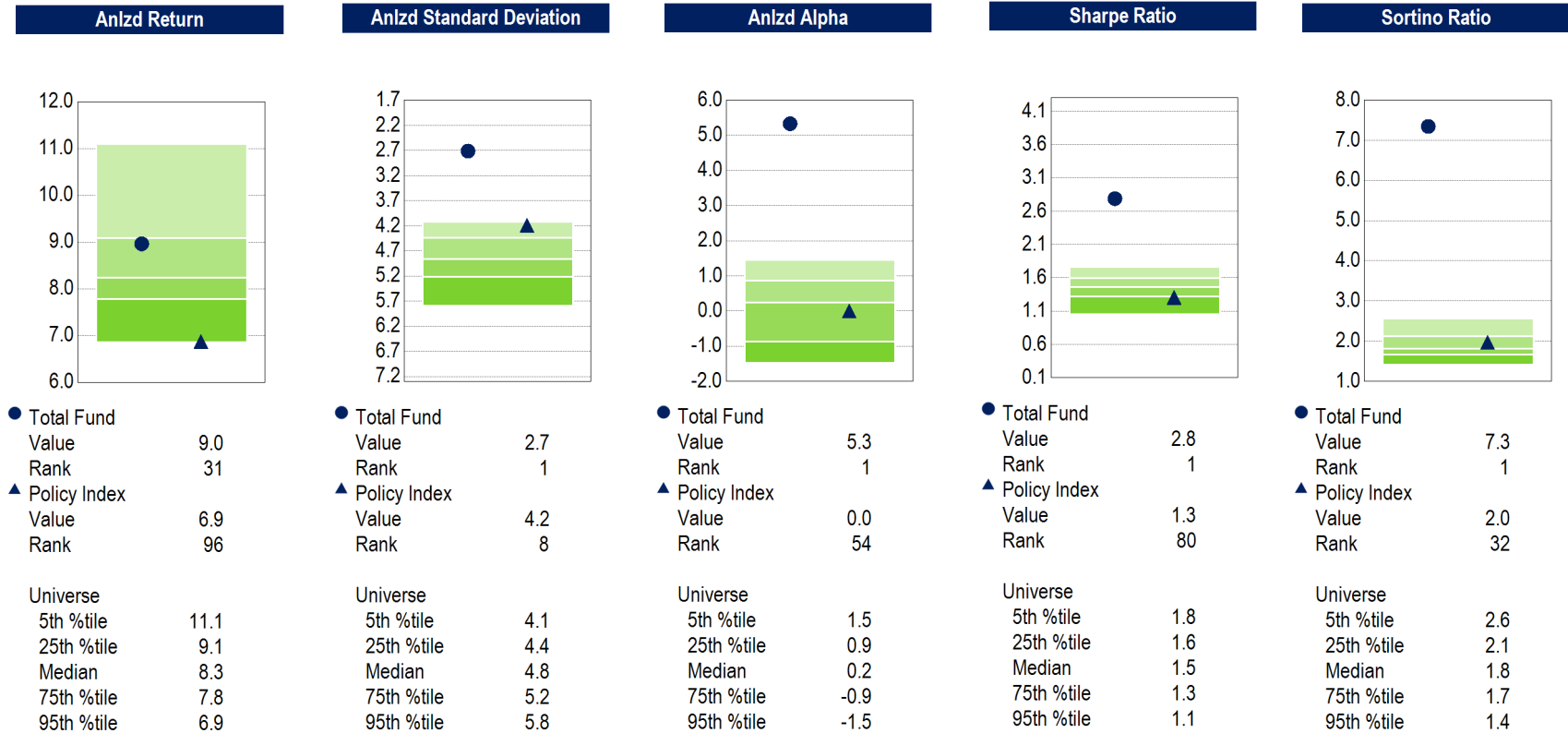
- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB > \$1B Gross

- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB > \$1B Gross



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

Total Fund vs. InvestorForce Public DB > \$1B Gross (USD) 1 Year



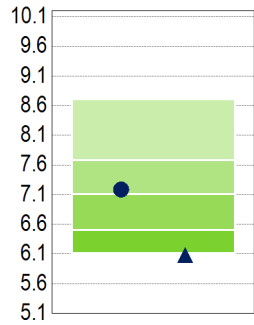
Sortino Ratio requires at least two negative points during the time period in order to calculate.
Sample size is 24 Portfolios



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

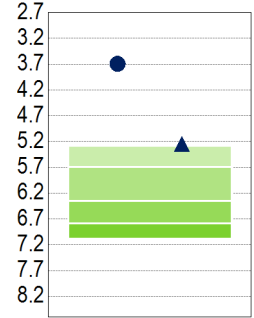
Total Fund vs. InvestorForce Public DB > \$1B Gross (USD) 3 Years

Anlzd Return



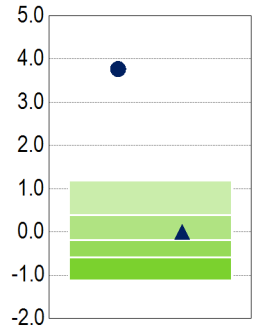
● Total Fund	
Value	7.2
Rank	49
▲ Policy Index	
Value	6.1
Rank	96
Universe	
5th %tile	8.7
25th %tile	7.7
Median	7.1
75th %tile	6.5
95th %tile	6.1

Anlzd Standard Deviation



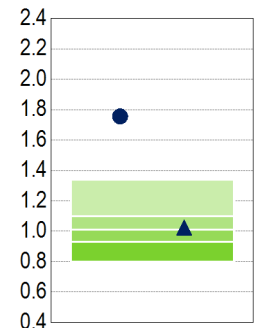
● Total Fund	
Value	3.7
Rank	1
▲ Policy Index	
Value	5.3
Rank	5
Universe	
5th %tile	5.3
25th %tile	5.7
Median	6.3
75th %tile	6.8
95th %tile	7.1

Anlzd Alpha



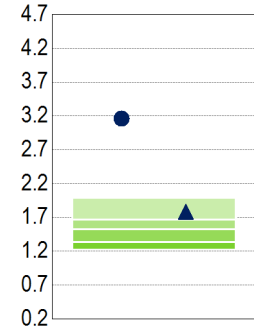
● Total Fund	
Value	3.8
Rank	1
▲ Policy Index	
Value	0.0
Rank	35
Universe	
5th %tile	1.2
25th %tile	0.4
Median	-0.2
75th %tile	-0.6
95th %tile	-1.1

Sharpe Ratio



● Total Fund	
Value	1.8
Rank	1
▲ Policy Index	
Value	1.0
Rank	48
Universe	
5th %tile	1.3
25th %tile	1.1
Median	1.0
75th %tile	0.9
95th %tile	0.8

Sortino Ratio



● Total Fund	
Value	3.2
Rank	1
▲ Policy Index	
Value	1.8
Rank	16
Universe	
5th %tile	2.0
25th %tile	1.7
Median	1.5
75th %tile	1.3
95th %tile	1.2

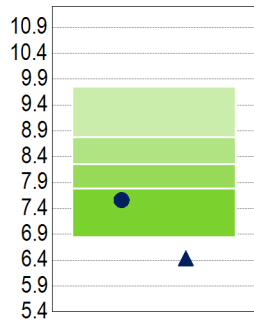
Sortino Ratio requires at least two negative points during the time period in order to calculate.
Sample size is 24 Portfolios



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

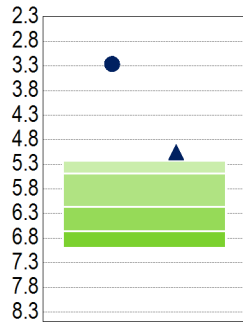
Total Fund vs. InvestorForce Public DB > \$1B Gross (USD) 5 Years

Anlzd Return



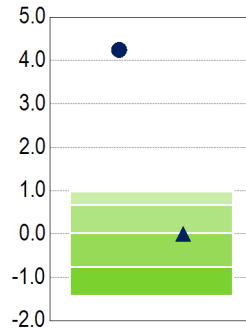
● Total Fund	
Value	7.6
Rank	82
▲ Policy Index	
Value	6.4
Rank	98
Universe	
5th %tile	9.8
25th %tile	8.8
Median	8.3
75th %tile	7.8
95th %tile	6.9

Anlzd Standard Deviation



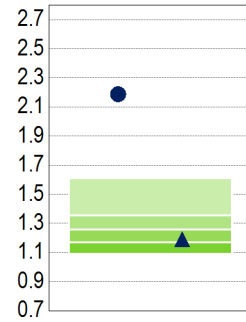
● Total Fund	
Value	3.3
Rank	1
▲ Policy Index	
Value	5.1
Rank	1
Universe	
5th %tile	5.2
25th %tile	5.5
Median	6.1
75th %tile	6.6
95th %tile	7.0

Anlzd Alpha



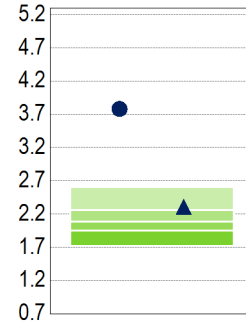
● Total Fund	
Value	4.2
Rank	1
▲ Policy Index	
Value	0.0
Rank	55
Universe	
5th %tile	1.0
25th %tile	0.7
Median	0.0
75th %tile	-0.8
95th %tile	-1.4

Sharpe Ratio



● Total Fund	
Value	2.2
Rank	1
▲ Policy Index	
Value	1.2
Rank	71
Universe	
5th %tile	1.6
25th %tile	1.4
Median	1.3
75th %tile	1.2
95th %tile	1.1

Sortino Ratio



● Total Fund	
Value	3.8
Rank	1
▲ Policy Index	
Value	2.3
Rank	23
Universe	
5th %tile	2.6
25th %tile	2.3
Median	2.1
75th %tile	2.0
95th %tile	1.7

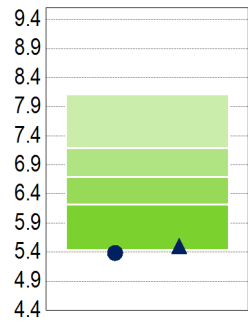
Sortino Ratio requires at least two negative points during the time period in order to calculate.
Sample size is 24 Portfolios



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

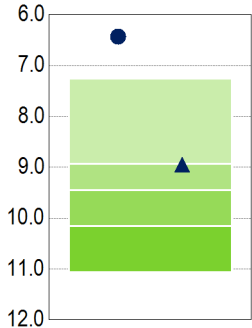
**Total Fund vs. InvestorForce Public DB > \$1B Gross (USD)
10 Years**

Anlzd Return



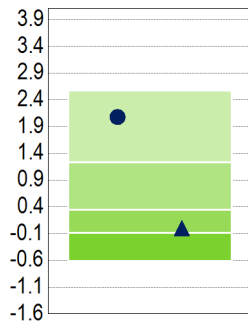
● Total Fund	
Value	5.4
Rank	96
▲ Policy Index	
Value	5.5
Rank	91
Universe	
5th %tile	8.1
25th %tile	7.2
Median	6.7
75th %tile	6.2
95th %tile	5.4

Anlzd Standard Deviation



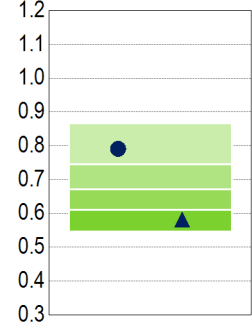
● Total Fund	
Value	6.4
Rank	2
▲ Policy Index	
Value	8.9
Rank	27
Universe	
5th %tile	7.3
25th %tile	8.9
Median	9.4
75th %tile	10.1
95th %tile	11.1

Anlzd Alpha



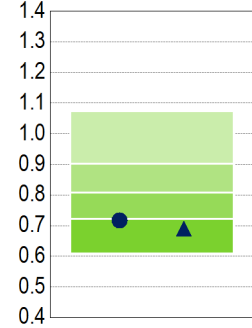
● Total Fund	
Value	2.1
Rank	13
▲ Policy Index	
Value	0.0
Rank	69
Universe	
5th %tile	2.6
25th %tile	1.2
Median	0.4
75th %tile	-0.1
95th %tile	-0.6

Sharpe Ratio



● Total Fund	
Value	0.8
Rank	11
▲ Policy Index	
Value	0.6
Rank	86
Universe	
5th %tile	0.9
25th %tile	0.7
Median	0.7
75th %tile	0.6
95th %tile	0.5

Sortino Ratio



● Total Fund	
Value	0.7
Rank	77
▲ Policy Index	
Value	0.7
Rank	83
Universe	
5th %tile	1.1
25th %tile	0.9
Median	0.8
75th %tile	0.7
95th %tile	0.6

Sortino Ratio requires at least two negative points during the time period in order to calculate.
Sample size is 24 Portfolios



San Bernardino County Employees' Retirement Association

TOTAL FUND RISK STATISTICS

1 Years Ending June 30, 2018								
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Tracking Error	Info Ratio	Rank
Domestic Equity	11.1%	6.0%	--	5.8%	--	4.3%	-2.1	--
Russell 3000	--	14.8%	--	8.2%	--	0.0%	--	--
International Developed	1.2%	0.4%	99	0.7%	1	9.0%	-0.7	--
MSCI EAFE	--	6.8%	45	9.2%	76	0.0%	--	--
International Emerging	4.5%	10.1%	--	11.7%	--	3.4%	0.6	--
MSCI Emerging Markets	--	8.2%	--	14.2%	--	0.0%	--	--
U.S. Credit Strategies	10.6%	9.1%	1	1.8%	14	1.6%	3.6	1
50% CS Leveraged Loan / 50% ICE BofA ML US HY BB-B Rated Constrained Index	--	3.3%	1	1.4%	5	0.0%	--	--
Non-U.S. Credit Composite	14.4%	10.0%	--	3.1%	--	10.1%	0.7	--
ICE BofAML Euro High Yield Constrained TR	--	3.2%	--	8.9%	--	0.0%	--	--
Emerging Markets Debt Composite	8.3%	0.2%	26	3.5%	29	4.5%	0.5	32
50% JPM EMBI Global Diversified/50% JPM GBI - EM Global Diversified	--	-1.9%	67	6.1%	64	0.0%	--	--
Alpha Pool Composite	19.0%	6.2%	17	1.5%	6	1.5%	1.2	1
91 Day T-Bill + 3%	--	4.4%	60	0.1%	1	0.0%	--	--

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Private Equity Composite	14.7%	14.8%	--	2.7%	--
Cambridge Associates Global All PE (Qtr Lag)	--	17.0%	--	7.1%	--
Real Estate Composite	4.1%	8.7%	9	2.4%	58
NCREIF Property Index 1 Qtr Lag	--	7.1%	74	3.0%	63
Real Assets Composite	5.4%	6.8%	51	5.6%	49
Real Assets Custom Blend	--	5.6%	55	3.1%	29

Percent of Total equals 93.3% because Beta Overlay is not included as these statistics are not relevant for alternative asset classes.



San Bernardino County Employees' Retirement Association

TOTAL FUND RISK STATISTICS

3 Years Ending June 30, 2018								
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Tracking Error	Info Ratio	Rank
Domestic Equity	11.1%	3.2%	--	4.4%	--	11.3%	-0.7	--
Russell 3000	--	11.6%	--	10.3%	--	0.0%	--	--
International Developed	1.2%	0.6%	99	22.6%	99	17.7%	-0.2	--
MSCI EAFE	--	4.9%	47	12.1%	70	0.0%	--	--
International Emerging	4.5%	3.9%	--	13.3%	--	4.1%	-0.4	--
MSCI Emerging Markets	--	5.6%	--	16.0%	--	0.0%	--	--
U.S. Credit Strategies	10.6%	6.5%	1	3.4%	32	3.8%	0.5	1
50% CS Leveraged Loan / 50% ICE BofA ML US HY BB-B Rated Constrained Index	--	4.7%	7	3.5%	38	0.0%	--	--
Non-U.S. Credit Composite	14.4%	9.6%	--	3.3%	--	10.4%	0.4	--
ICE BofAML Euro High Yield Constrained TR	--	5.9%	--	9.4%	--	0.0%	--	--
Emerging Markets Debt Composite	8.3%	6.2%	8	5.8%	38	5.7%	0.5	25
50% JPM EMBI Global Diversified/50% JPM GBI - EM Global Diversified	--	3.4%	62	8.1%	64	0.0%	--	--
Alpha Pool Composite	19.0%	4.8%	2	3.9%	43	3.9%	0.3	24
91 Day T-Bill + 3%	--	3.7%	8	0.2%	1	0.0%	--	--

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Private Equity Composite	14.7%	12.4%	--	3.6%	--
Cambridge Associates Global All PE (Qtr Lag)	--	11.8%	--	6.0%	--
Real Estate Composite	4.1%	8.9%	80	3.0%	49
NCREIF Property Index 1 Qtr Lag	--	8.7%	83	3.7%	53
Real Assets Composite	5.4%	1.0%	68	5.9%	35
Real Assets Custom Blend	--	-0.4%	72	6.0%	36

Percent of Total equals 93.3% because Beta Overlay is not included as these statistics are not relevant for alternative asset classes.



San Bernardino County Employees' Retirement Association

TOTAL FUND RISK STATISTICS

5 Years Ending June 30, 2018								
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Tracking Error	Info Ratio	Rank
Domestic Equity	11.1%	0.6%	--	4.7%	--	12.2%	-1.0	--
Russell 3000	--	13.3%	--	10.0%	--	0.0%	--	--
International Developed	1.2%	5.2%	81	18.6%	99	14.6%	-0.1	--
MSCI EAFE	--	6.4%	62	11.6%	68	0.0%	--	--
International Emerging	4.5%	2.9%	--	12.3%	--	4.5%	-0.5	--
MSCI Emerging Markets	--	5.0%	--	14.9%	--	0.0%	--	--
U.S. Credit Strategies	10.6%	6.9%	2	3.0%	4	3.6%	0.6	2
50% CS Leveraged Loan / 50% ICE BofA ML US HY BB-B Rated Constrained Index	--	4.8%	23	3.2%	27	0.0%	--	--
Non-U.S. Credit Composite	14.4%	7.9%	--	3.3%	--	9.8%	0.5	--
ICE BofAML Euro High Yield Constrained TR	--	3.3%	--	9.7%	--	0.0%	--	--
Emerging Markets Debt Composite	8.3%	4.5%	38	5.6%	28	5.1%	0.5	51
50% JPM EMBI Global Diversified/50% JPM GBI - EM Global Diversified	--	1.9%	66	7.9%	64	0.0%	--	--
Alpha Pool Composite	19.0%	5.1%	36	3.2%	11	3.2%	0.5	38
91 Day T-Bill + 3%	--	3.4%	65	0.2%	1	0.0%	--	--

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Private Equity Composite	14.7%	13.6%	--	3.8%	--
Cambridge Associates Global All PE (Qtr Lag)	--	12.8%	--	6.5%	--
Real Estate Composite	4.1%	9.8%	84	3.5%	50
NCREIF Property Index 1 Qtr Lag	--	10.0%	83	4.2%	58
Real Assets Composite	5.4%	2.1%	57	5.2%	9
Real Assets Custom Blend	--	-0.1%	69	6.0%	33

Percent of Total equals 93.3% because Beta Overlay is not included as these statistics are not relevant for alternative asset classes.



PUBLIC EQUITY PORTFOLIO

Public Equity Portfolio (28% Target)	US Equities (13% Target)	Large Cap (8%)	Russell Investments (Russell1000 Index) StateStreet Global Advisors S&P500 Buy/Write Call Option Strategy TOBAM Anti-Benchmark US Equity Fund
		Small Cap (2%)	Russell Investments (Russell2000 Index)
		Volatility (3%)	Russell Investments (Russell1000 Index)
	International Equities (15% Target)	Developed Markets (6%)	Russell Investments (MSCI EAFE Index) TOBAM Anti-Benchmark World ex-US Fund
		Emerging Markets (6%)	Gramercy EM Equity Separate Account Mondrian Emerging Markets Equity Fund LP Russell Investments (MSCI EM Index) TOBAM Anti-Benchmark EM Equity Fund
		Volatility (3%)	Russell Investments (MSCI EAFE Index)



San Bernardino County Employees' Retirement Association

GLOBAL EQUITY STRATEGIES - GROSS

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Total Equity	1,674,681,497	16.8	0.7	67	-0.3	83	8.1	99	4.5	99	2.8	99	2.6	99
MSCI ACWI			0.5	71	-0.4	86	10.7	89	8.2	89	9.4	90	5.8	99
Excess Return			0.2		0.1		-2.6		-3.7		-6.6		-3.2	
InvestorForce Public DB Total Eq Gross Median			1.2		0.8		11.7		9.6		10.4		7.1	
Domestic Equity	1,105,929,373	11.1	4.0	--	0.8	--	6.0	--	3.2	--	0.6	--	0.8	--
Russell 3000			3.9	--	3.2	--	14.8	--	11.6	--	13.3	--	10.2	--
Excess Return			0.1		-2.4		-8.8		-8.4		-12.7		-9.4	
Tobam AB US Equity	304,995,600	3.1	4.4	44	--	--	--	--	--	--	--	--	--	--
Russell 3000			3.9	51	3.2	51	14.8	47	11.6	39	13.3	43	10.2	63
Excess Return			0.5											
eV All US Equity Gross Median			3.9		3.2		14.4		10.8		12.8		10.7	
Large Cap Equity	800,837,487	8.0	3.9	52	1.0	74	6.3	95	4.8	97	1.6	99	1.5	99
S&P 500			3.4	58	2.6	56	14.4	51	11.9	33	13.4	40	10.2	65
Excess Return			0.5		-1.6		-8.1		-7.1		-11.8		-8.7	
eV All US Equity Gross Median			3.9		3.2		14.4		10.8		12.8		10.7	
SsgA S&P500	797,804,025	8.0	4.0	49	1.2	73	7.8	90	6.7	93	7.4	98	4.5	99
S&P 500			3.4	58	2.6	56	14.4	51	11.9	33	13.4	40	10.2	65
Excess Return			0.6		-1.4		-6.6		-5.2		-6.0		-5.7	
eV All US Equity Gross Median			3.9		3.2		14.4		10.8		12.8		10.7	
Russell US Large Cap Volatility	3,033,462	0.0												
Small Cap Equity	96,286	0.0												
Russell US Small Cap Volatility	96,286	0.0												

Performance report is preliminary as of Q2 2018.



San Bernardino County Employees' Retirement Association

GLOBAL EQUITY STRATEGIES - GROSS

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
International Equity	568,752,124	5.7	-5.1	--	-3.6	--	8.3	--	3.8	--	4.7	--	3.7	--
MSCI ACWI			<u>0.5</u>	--	<u>-0.4</u>	--	<u>10.7</u>	--	<u>8.2</u>	--	<u>9.4</u>	--	<u>5.8</u>	--
Excess Return			-5.6		-3.2		-2.4		-4.4		-4.7		-2.1	
International Developed	122,795,284	1.2	-0.5	27	-0.2	4	0.4	99	0.6	99	5.2	81	6.1	1
MSCI EAFE			<u>-1.2</u>	30	<u>-2.7</u>	48	<u>6.8</u>	45	<u>4.9</u>	47	<u>6.4</u>	62	<u>2.8</u>	99
Excess Return			0.7		2.5		-6.4		-4.3		-1.2		3.3	
InvestorForce Public DB Dev Mkt ex-US Eq Gross Median			-1.9		-3.0		6.6		4.7		7.3		4.5	
Russell International Volatility	73,931,984	0.7												
Tobam AB World Ex-US Equity	48,863,300	0.5												
International Emerging	445,956,840	4.5	-6.3	--	-4.5	--	10.1	--	3.9	--	2.9	--	1.5	--
MSCI Emerging Markets			<u>-8.0</u>	--	<u>-6.7</u>	--	<u>8.2</u>	--	<u>5.6</u>	--	<u>5.0</u>	--	<u>2.3</u>	--
Excess Return			1.7		2.2		1.9		-1.7		-2.1		-0.8	
Mondrian	136,564,129	1.4	-9.4	77	-9.1	87	0.2	94	2.0	98	1.4	98	2.5	83
MSCI Emerging Markets			<u>-8.0</u>	45	<u>-6.7</u>	50	<u>8.2</u>	48	<u>5.6</u>	68	<u>5.0</u>	72	<u>2.3</u>	86
Excess Return			-1.4		-2.4		-8.0		-3.6		-3.6		0.2	
eV Emg Mkts Equity Gross Median			-8.3		-6.7		8.0		6.7		6.2		3.7	
Gramercy Emerging Market Equity	439,170	0.0	-1.9	1	2.9	1	13.4	12	9.3	19	--	--	--	--
MSCI Emerging Markets			<u>-8.0</u>	45	<u>-6.7</u>	50	<u>8.2</u>	48	<u>5.6</u>	68	<u>5.0</u>	72	<u>2.3</u>	86
Excess Return			6.1		9.6		5.2		3.7					
eV Emg Mkts Equity Gross Median			-8.3		-6.7		8.0		6.7		6.2		3.7	
Tobam	308,854,373	3.1	-4.9	7	-3.1	7	15.6	4	--	--	--	--	--	--
MSCI Emerging Markets			<u>-8.0</u>	45	<u>-6.7</u>	50	<u>8.2</u>	48	<u>5.6</u>	68	<u>5.0</u>	72	<u>2.3</u>	86
Excess Return			3.1		3.6		7.4							
eV Emg Mkts Equity Gross Median			-8.3		-6.7		8.0		6.7		6.2		3.7	

Performance report is preliminary as of Q2 2018.



GLOBAL DEBT STRATEGIES

Global Debt Strategies (33% Target)	US Fixed Income (15% Target)	Core Fixed Income (2%)	Russell Investments (Bloomberg Barclays US Agg. Bond TR Index)
		Credit Strategies/ High Yield Strategies (13%)	Apollo Credit Strategies Fund LP (MCA) Beach Point Select Fund LP GoldenTree Credit Opportunities - Gold Coast X GoldenTree Distressed Debt Fund 2010 GoldenTree Asset Management SMA - Gold Coast X Halcyon Direct Portfolio (MCA) Halcyon Solutions Fund LP (MCA) MacKay Shields High Yield Bond Strategy - Gold Coast III Manulife Asset Management - Gold Coast IV Tricadia Credit Strategies LTD Waterfall - Sutherland REIT Holdings LP (MCA) Waterfall Asset Management SMA (MCA) Waterfall Victoria Fund LP (MCA)
	Global Fixed Income (18% Target)	International Core (1%)	Russell Investments (Barclays Global Aggregate ex US Unhedged)
		International Credit (11%)	Alcentra Clareant European Direct Lending Fund - Kneiff Tower Alcentra Clareant Strategic Credit Fund - Kneiff Tower Alcentra Limited SMA - Kneiff Tower Alcentra Mezzanine III/Alcentra Capital Corp. - Kneiff Tower Alcentra Structured Credit Opportunity Fund III - Kneiff Tower Cairn Capital Limited SMA - Kneiff Tower Cairn European CLO Strategy - Kneiff Tower Cairn Loan Investments - Kneiff Tower Cairn Special Opportunities Credit Fund - Kneiff Tower Cairn Strata Credit Fund - Kneiff Tower Cairn Subordinated Financials Fund II - Kneiff Tower Halcyon European Credit Opportunities Fund Ltd. (MCA) Marathon Asset Management SMA - Gold Coast I Marathon CLO Equity Fund - Gold Coast I Marathon Distressed Debt Fund - Gold Coast I Marathon European Credit Opportunity Fund II - Gold Coast I Marathon European Credit Opportunity Fund III - Gold Coast I Marathon Structured Product Strategies Fund - Gold Coast I York Global Credit Income Fund
		Emerging Market Debt (6%)	Ashmore Emerging Markets MCA Gramercy Distressed Argentina Fund III Private (MCA) Gramercy Distressed Opportunity Fund II (MCA) Gramercy Distressed Opportunity Fund III (MCA) Gramercy Emerging Markets Debt Allocation Fund (MCA) Gramercy Separate Account (MCA) Gramercy Venezuela Opportunity Fund (MCA) Marathon Global Emerging Markets Fund - Gold Coast I PGIM Emerging Market Debt Opportunities Fund



San Bernardino County Employees' Retirement Association

GLOBAL DEBT STRATEGIES - GROSS

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Total Fixed	3,325,823,145	33.3	0.7	1	3.2	1	7.3	1	7.6	1	6.8	1	8.0	1
<i>InvestorForce Public DB Total Fix Inc Gross Median</i>			0.0		-0.8		0.5		2.3		2.4		4.3	
U.S. Credit Strategies	1,060,529,989	10.6	2.1	1	5.1	1	9.1	1	6.5	1	6.9	2	9.8	1
<i>50% CS Leveraged Loan / 50% ICE BofA ML US HY BB-B Rated Constrained Index</i>			0.7	1	1.0	1	3.3	1	4.7	7	4.8	23	6.2	21
<i>Excess Return</i>			1.4		4.1		5.8		1.8		2.1		3.6	
<i>ICE BofAML US High Yield TR</i>			1.0	1	0.1	3	2.5	2	5.5	2	5.5	6	8.0	1
<i>eV Global Credit Fixed Income Gross Median</i>			-1.0		-2.5		0.8		3.6		3.3		5.4	
AG Capital	76,467	0.0	-9.7	99	-9.7	99	-16.5	99	-6.7	99	-1.8	99	2.5	86
Golden Tree Asset Management	389,961,630	3.9	2.5	1	7.5	1	13.0	1	9.1	1	11.4	1	--	--
Beach Point Capital (Formerly Post)	153,815,664	1.5	1.1	1	3.6	1	7.3	1	7.7	1	8.2	1	--	--
Golden Tree Distressed Debt	24,008,017	0.2	0.9	1	0.8	1	11.1	1	4.6	7	13.3	1	--	--
Mackay / Gold Coast	105,025,295	1.1	-0.8	47	-1.6	16	1.0	34	3.6	53	4.2	40	8.1	1
Mariner Tricadia	36,025,229	0.4	0.0	4	0.7	1	5.2	1	1.8	94	3.0	74	--	--
MD SASS Waterfall Victoria	28,488,658	0.3	3.4	--	5.8	--	10.7	--	--	--	--	--	--	--
Russell Interest Rate Hedging	23,505,961	0.2	5.4	1	32.7	1	-8.2	99	-18.3	99	-21.3	99	--	--
Stone Tower Credit (Apollo)	88,106,458	0.9	2.0	1	3.0	2	8.9	1	7.0	3	5.8	10	--	--
Gold Coast Capital IV	98,813,006	1.0	1.0	--	2.0	--	4.8	--	4.8	--	--	--	--	--
Waterfall Asset Management	64,814,573	0.6	9.1	--	10.6	--	19.5	--	20.8	--	--	--	--	--
Waterfall Victoria	47,700,313	0.5	4.0	--	7.7	--	12.0	--	10.2	--	--	--	--	--

Performance report is preliminary as of Q2 2018.



San Bernardino County Employees' Retirement Association

GLOBAL DEBT STRATEGIES - GROSS

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Non-U.S. Fixed Income Composite	2,265,293,156	22.7	0.1	40	2.3	1	6.4	1	8.4	1	6.8	1	5.3	21
<i>BBgBarc Global Aggregate TR</i>			<u>-2.8</u>	99	<u>-1.5</u>	84	<u>1.4</u>	19	<u>2.6</u>	40	<u>1.5</u>	99	<u>2.6</u>	99
Excess Return			2.9		3.8		5.0		5.8		5.3		2.7	
<i>InvestorForce Public DB Total Fix Inc Gross Median</i>			0.0		-0.8		0.5		2.3		2.4		4.3	
Non-U.S. Credit Composite	1,436,979,347	14.4	1.5	--	4.5	--	10.0	--	9.6	--	7.9	--	--	--
<i>ICE BofAML Euro High Yield Constrained TR</i>			<u>-6.2</u>	--	<u>-4.4</u>	--	<u>3.2</u>	--	<u>5.9</u>	--	<u>3.3</u>	--	<u>5.7</u>	--
Excess Return			7.7		8.9		6.8		3.7		4.6			
Marathon/Gold Coast	223,673,357	2.2	2.6	1	6.2	1	13.9	1	8.1	1	8.7	1	--	--
Alcentra Core European Credit	456,687,126	4.6	3.6	1	6.2	1	14.4	1	13.6	1	12.8	1	--	--
Halcyon Asset Management	181,347,432	1.8	8.6	1	10.0	1	6.7	1	--	--	--	--	--	--
<i>ICE BofAML Euro High Yield Constrained TR</i>			<u>-6.2</u>	92	<u>-4.4</u>	86	<u>3.2</u>	1	<u>5.9</u>	1	<u>3.3</u>	54	<u>5.7</u>	37
Excess Return			14.8		14.4		3.5							
<i>eV Global Credit Fixed Income Gross Median</i>			-1.0		-2.5		0.8		3.6		3.3		5.4	
York Global Credit	157,369,030	1.6	-0.3	13	2.4	1	6.1	1	7.0	1	7.5	1	--	--
<i>ICE BofAML Euro High Yield Constrained TR</i>			<u>-6.2</u>	92	<u>-4.4</u>	86	<u>3.2</u>	1	<u>5.9</u>	1	<u>3.3</u>	54	<u>5.7</u>	37
Excess Return			5.9		6.8		2.9		1.1		4.2			
<i>eV Global Credit Fixed Income Gross Median</i>			-1.0		-2.5		0.8		3.6		3.3		5.4	
Cairn Composite	417,902,402	4.2	-3.3	81	0.5	1	6.0	1	9.2	1	5.5	6	--	--
<i>ICE BofAML Euro High Yield Constrained TR</i>			<u>-6.2</u>	92	<u>-4.4</u>	86	<u>3.2</u>	1	<u>5.9</u>	1	<u>3.3</u>	54	<u>5.7</u>	37
Excess Return			2.9		4.9		2.8		3.3		2.2			
<i>eV Global Credit Fixed Income Gross Median</i>			-1.0		-2.5		0.8		3.6		3.3		5.4	

Performance report is preliminary as of Q2 2018.



San Bernardino County Employees' Retirement Association

GLOBAL DEBT STRATEGIES - GROSS

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Emerging Markets Debt Composite	828,313,810	8.3	-2.4	15	-1.5	3	0.2	26	6.2	8	4.5	38	3.4	71
50% JPM EMBI Global Diversified/50% JPM GBI - EM Global Diversified			<u>-7.0</u>	65	<u>-5.8</u>	58	<u>-1.9</u>	67	<u>3.4</u>	62	<u>1.9</u>	66	<u>4.7</u>	67
Excess Return			4.6		4.3		2.1		2.8		2.6		-1.3	
eV All Emg Mkts Fixed Inc Gross Median			-5.1		-5.5		-1.0		4.2		3.8		6.4	
Ashmore Emerging Markets Liquid Investments	173,422,467	1.7	-7.0	65	-5.8	58	-1.9	67	3.4	62	1.9	66	4.7	67
JP Morgan GBI - EM Global Diversified Index			<u>-10.4</u>	83	<u>-6.4</u>	73	<u>-2.3</u>	76	<u>2.0</u>	87	<u>-1.4</u>	92	<u>2.6</u>	83
Excess Return			3.4		0.6		0.4		1.4		3.3		2.1	
eV All Emg Mkts Fixed Inc Gross Median			-5.1		-5.5		-1.0		4.2		3.8		6.4	
Ashmore Local Currency	77,821,289	0.8	-10.1	99	-6.1	99	-0.7	90	3.1	57	-1.3	99	--	--
JPM ELMi+ TR USD			<u>-5.8</u>	94	<u>-3.4</u>	87	<u>0.5</u>	78	<u>1.4</u>	90	<u>-0.8</u>	99	<u>0.0</u>	99
Excess Return			-4.3		-2.7		-1.2		1.7		-0.5			
JP Morgan EMBI Global Index			-3.5	78	-5.2	97	-2.4	98	4.3	26	4.4	29	6.5	19
eV All Global Fixed Inc Gross Median			-1.5		-1.4		1.5		3.3		3.0		4.1	
Gramercy Funds Management LLC	481,059,734	4.8	1.6	1	0.5	1	-0.8	46	8.0	2	8.9	1	--	--
JPM ELMi+ TR USD			<u>-5.8</u>	54	<u>-3.4</u>	18	<u>0.5</u>	19	<u>1.4</u>	94	<u>-0.8</u>	85	<u>0.0</u>	99
Excess Return			7.4		3.9		-1.3		6.6		9.7			
JP Morgan EMBI Global Index			-3.5	32	-5.2	46	-2.4	78	4.3	47	4.4	42	6.5	47
eV All Emg Mkts Fixed Inc Gross Median			-5.1		-5.5		-1.0		4.2		3.8		6.4	
PGIM Fixed Income	96,010,320	1.0	-6.1	58	-3.3	17	0.1	28	6.3	7	--	--	--	--
JPM ELMi+ TR USD			<u>-5.8</u>	54	<u>-3.4</u>	18	<u>0.5</u>	19	<u>1.4</u>	94	<u>-0.8</u>	85	<u>0.0</u>	99
Excess Return			-0.3		0.1		-0.4		4.9					
JP Morgan EMBI Global Index			-3.5	32	-5.2	46	-2.4	78	4.3	47	4.4	42	6.5	47
eV All Emg Mkts Fixed Inc Gross Median			-5.1		-5.5		-1.0		4.2		3.8		6.4	

Performance report is preliminary as of Q2 2018.



ABSOLUTE RETURN (ALPHA POOL)

<p>Absolute Return (Alpha Pool) (7% Target)</p>	<p>Core & Credit Strategies (7%)</p> <ul style="list-style-type: none">Apollo Accord Fund (MCA)Apollo Global SMA (MCA)Apollo MicCap Financial Holdings Trust (MCA)Apollo Offshore Credit Fund LTD (MCA)Apollo Structured Credit Recovery Fund III (MCA)Ares Enhanced Credit Opportunites Master Fund II, LTD (MCA)Birch Grove Credit Strategies FundCorrum Capital Global Credit Opportunities FundCorrum Capital GCO Co-Invest FundStateStreet Global Advisors Short Term Treasury Strategy SMAZais Group SMAZais Opportunity Fund, LTDZais Zephyr A-6, LP
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San Bernardino County Employees' Retirement Association

ALPHA POOL STRATEGIES - GROSS

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Alpha Pool Composite	1,891,548,745	19.0	1.8	17	3.2	1	6.2	17	4.8	2	5.1	36	5.1	1
<i>91 Day T-Bill + 3%</i>			<u>1.2</u>	42	<u>2.3</u>	15	<u>4.4</u>	60	<u>3.7</u>	8	<u>3.4</u>	65	<u>3.3</u>	1
Excess Return			0.6		0.9		1.8		1.1		1.7		1.8	
Alpha Liquidity (Ssga)	158,799,686	1.6	0.5	14	0.9	12	1.5	51	0.9	93	0.6	93	--	--
Apollo Global Management	45,595,223	0.5	10.3	1	8.9	1	15.5	1	18.8	1	--	--	--	--
Ares Eco Master Fund II	442,086,570	4.4	0.5	12	1.8	5	4.6	7	--	--	--	--	--	--
Birch Grove Credit Strategies	126,247,793	1.3	2.0	1	3.9	1	8.5	1	4.5	23	--	--	--	--
Sterling Stamos	235,889,297	2.4	6.3	1	6.3	1	8.7	1	7.1	2	6.4	5	2.9	77
Stone Tower Off (Apollo)	370,367,586	3.7	0.6	12	1.8	5	4.2	9	5.0	15	5.8	11	--	--
Zais	134,384,734	1.3	0.2	20	2.3	3	3.9	11	3.8	35	6.2	7	11.8	1
Zais Group Invest Advisors	260,673,882	2.6	1.5	2	4.4	1	9.4	1	9.5	1	9.6	1	--	--
Zais Zephyr A 6 LP	87,875,281	0.9	2.9	--	5.8	--	13.0	--	--	--	--	--	--	--
Apollo Accord	4,255,008	0.0	1.9	1	4.7	1	8.8	1	--	--	--	--	--	--

Performance report is preliminary as of Q2 2018.



PRIVATE ASSETS

Private Assets (1.6% Target)	Private Equity	Diversified	Partners Group SMA (MCA) Pathway Capital SMA (MCA) Pathway PE Fund VII LLC SL Capital European Strategic Partners 2004 SL Capital European Strategic Partners 2008
		Buyout Funds	Aurora Equity Partners IV Kayne Partners Fund IV LP (MCA) Partners Group Direct Equity 2016 (MCA) Partners Group Direct Investments 2012 LP (MCA) Partners Group European Buyout 2005 (A) LP (MCA)
		Venture Funds	Industry Ventures Direct LP (MCA) Industry Ventures Fund V LP (MCA) Industry Ventures Fund VI LP (MCA) Industry Ventures Partnership Holdings II LP (MCA) Industry Ventures Partnership Holdings III LP (MCA) Industry Ventures Partnership Holdings III-A LP (MCA) Industry Ventures Partnership Holdings IV LP (MCA) Industry Ventures Special Opportunities Fund II-A LP (MCA)
		Secondary Funds	Industry Ventures Secondary VII LP (MCA) Industry Ventures Secondary VIII LP (MCA) Lexington Capital Partners VI Lexington Capital Partners VII Lexington Middle Market Investors I Lexington Middle Market Investors II Newberger Berman Secondary Opportunities Fund II Partners Group Secondary 2004 LP (MCA) Partners Group Secondary 2006 LP (MCA) Partners Group Secondary 2008 LP (MCA) SL Capital Secondary Opportunities Fund I SL Capital Secondary Opportunities Fund II SL Capital Secondary Opportunities Fund III
		Sector Specific Funds	Kayne Anderson Energy Fund VII LP (MCA) Tennenbaum Energy Opportunities Fund LP (MCA)
	Private Debt	Direct Lending	Ares Private Credit Solutions Fund (MCA) Tennenbaum Lending Fund VIII LLC (MCA) Tennenbaum Waterman Fund LP (MCA)
		Mezzanine Funds	Crescent Mezzanine Partners V Partners Group European Mezzanine 2005 (MCA)
		Credit/Distressed/ Opportunistic/ Special Situations	Apollo Private Equity Fund VII Ares European Loan Funding LP (MCA) Ares ICOF II (MCA) Ares ICOF III (MCA) Ares SMA (MCA) Ares Special Situations Fund IV (MCA) Catalyst Fund LP II Crestline Portfolio Financing Fund Sigular Guff Distressed Opportunity Fund III LP Tennenbaum Opportunities Fund V LLC (MCA) Tennenbaum Opportunities Fund VI LLC (MCA) Tennenbaum Special Situations Fund IX LLC (MCA)



REAL ESTATE

Real Estate Portfolio (9% Target)	Core Real Estate (6%)	Core Real Estate	PRISA II 348 West Hospitality Invesco Real Estate Asia Fund
	Non-Core Real Estate (3%)	Enhanced Real Estate/ High Return	Apollo Real Estate Fund II LP (MCA) Bryanston Retail Opportunity Fortress Japan Opportunity Fund II Kayne Anderson Real Estate Partners V LP (MCA) Morgan Stanley RE Fund V International Oaktree RE Opportunities Fund V Starwood Global Opportunity Fund VII-A Starwood Opportunity Fund VII Walton Street Real Estate Fund V
		Real Estate Secondaries	Partners Group Real Estate Secondary 2013 A LP (MCA) Partners Group Real Estate Secondary 2017 A LP (MCA)
		Real Estate Debt	Kayne Anderson Real Estate Debt III (MCA) Marathon Real Estate Debt Fund Pramerica Real Estate Capital VI LP Square Mile Partners III Tri Continental Capital VII



REAL ASSETS

Real Asset Portfolio (5% Target)	Commodities (2% Target)	Energy Spectrum Partners VI LP
		Pinnacle Natural Resources LP
		Pinnacle Physicals & Financing LTD
		Starwood Energy Infrastructure Fund
	Infrastructure (1% Target)	Fortress Worldwide Transportation & Infrastructure LP
		Highstar Capital III
		Kayne Anderson MLP Strategy (MCA)
	Timber (2% Target)	Hancock Timberland VII & VIII LP
		Timbervest Crossover Partners II LP
Timbervest Partners II LP		



San Bernardino County Employees' Retirement Association

ALTERNATIVES - GROSS

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Private Equity Composite	1,462,768,039	14.7	3.3	--	6.0	--	14.8	--	12.4	--	13.6	--	8.4	--
Cambridge Associates Global All PE (Qtr Lag)			2.7	--	7.7	--	17.0	--	11.8	--	12.8	--	9.1	--
Excess Return			0.6		-1.7		-2.2		0.6		0.8		-0.7	
Russell 3000			3.9	--	3.2	--	14.8	--	11.6	--	13.3	--	10.2	--
Cambridge Associates US All PE (1 Qtr Lag)			3.0	--	8.2	--	16.5	--	12.1	--	13.2	--	10.4	--
Real Estate Composite	408,985,263	4.1	1.5	79	5.1	6	8.7	9	8.9	80	9.8	84	1.6	99
NCREIF Property Index 1 Qtr Lag			1.7	77	3.5	48	7.1	74	8.7	83	10.0	83	6.1	40
Excess Return			-0.2		1.6		1.6		0.2		-0.2		-4.5	
InvestorForce Public DB Real Estate Pub+Priv Gross Median			2.2		3.5		8.0		9.3		10.6		6.0	
Real Assets Composite	536,013,149	5.4	7.3	7	2.7	30	6.8	51	1.0	68	2.1	57	1.3	--
Real Assets Custom Blend			0.7	55	1.3	40	5.6	55	-0.4	72	-0.1	69	-2.3	--
Excess Return			6.6		1.4		1.2		1.4		2.2		3.6	
NCREIF Timberland 1 Qtr Lag			0.9	53	2.5	31	3.8	68	3.5	47	6.1	15	4.1	--
Timber	127,351,432	1.3	2.8	--	2.8	--	1.5	--	0.0	--	2.6	--	1.0	--
NCREIF Timberland 1 Qtr Lag			0.9	--	2.5	--	3.8	--	3.5	--	6.1	--	4.1	--
Excess Return			1.9		0.3		-2.3		-3.5		-3.5		-3.1	
Infrastructure	199,929,156	2.0	10.3	--	-5.8	--	10.5	--	3.7	--	1.7	--	5.2	--
Russell 3000			3.9	--	3.2	--	14.8	--	11.6	--	13.3	--	10.2	--
Excess Return			6.4		-9.0		-4.3		-7.9		-11.6		-5.0	
Commodities	208,732,561	2.1	7.6	--	8.8	--	12.7	--	2.8	--	2.0	--	1.0	--
Bloomberg Commodity Index			0.4	--	0.0	--	7.3	--	-4.5	--	-6.4	--	-9.0	--
Excess Return			7.2		8.8		5.4		7.3		8.4		10.0	

Performance report is preliminary as of Q2 2018.



APPENDIX: PRIVATE EQUITY, REAL ESTATE AND REAL ASSETS PERFORMANCE

NEPC, LLC

REAL ESTATE PERFORMANCE ENDED MARCH 31, 2018

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Cumulative Distributions	Valuation	TVPI Ratio	IRR
American Realty Advisors	1996	\$ 128,009,773	\$ 128,009,773	\$ 276,698,126	\$ 2,883,644	2.18	6.92%
American Realty Value Add	2006	\$ 13,125,215	\$ 13,125,215	\$ 32,065,484	\$ 14,471	2.44	10.92%
Apollo US Real Estate Fund II	2015	\$ 20,000,000	\$ 9,248,612	\$ 2,629,532	\$ 10,657,878	1.43	20.20%
Beacon Capital Strategic Partners IV, L.P.	2006	\$ 39,000,000	\$ 38,000,000	\$ 31,290,518	\$ 130,252	0.83	-3.26%
Beacon Capital Strategic Partners V, L.P.	2007	\$ 20,000,000	\$ 18,000,000	\$ 11,030,231	\$ 154,009	0.62	-7.85%
BlackRock Diamond Property Fund	2005	\$ 25,000,000	\$ 25,000,000	\$ 15,216,267	\$ 20,132	0.61	-9.31%
Bryanston Real Estate Opportunity Fund II, L.P.	2009	\$ 20,000,000	\$ 8,589,256	\$ 11,842,516	\$ -	1.38	10.18%
Bryanston Retail Opportunity Fund, L.P.	2004	\$ 20,000,000	\$ 8,228,165	\$ 18,828,095	\$ 6,790,820	3.11	70.83%
CBRE Strategic Partners III	2003	\$ 10,000,000	\$ 10,000,000	\$ 12,698,783	\$ -	1.27	8.02%
CBRE Strategic Partners IV	2005	\$ 40,000,000	\$ 40,000,000	\$ 2,609,685	\$ -	0.07	-27.76%
Fillmore East Fund	2006	\$ 25,000,000	\$ 31,403,818	\$ 20,777,177	\$ -	0.66	-9.78%
Fillmore West Fund	2008	\$ 20,000,000	\$ 19,561,557	\$ 21,175,799	\$ -	1.08	1.14%
Fortress Japan Opportunity Fund II	2012	\$ 21,739,130	\$ 3,173,695	\$ 14,911,325	\$ 8,993,853	7.38	25.68%
Invesco Asian Real Estate Partners II (USD), LP	2007	\$ 20,000,000	\$ 8,412,833	\$ 11,324,754	\$ 149,655	1.37	7.57%
Invesco High Yield Debt Fund I	2007	\$ 20,000,000	\$ 20,000,000	\$ 8,567,605	\$ -	0.43	-35.57%
Invesco Real Estate Asia Fund	2014	\$ 51,732,500	\$ 51,732,500	\$ 6,890,597	\$ 64,595,494	1.35	8.94%
INVESCO Real Estate Fund I	2005	\$ 10,000,000	\$ 9,248,390	\$ 10,015,656	\$ -	1.08	1.54%
Kayne Anderson Real Estate Partners V	2017	\$ 10,000,000	\$ 3,867,904	\$ -	\$ 3,541,473	0.92	-16.60%
LaSalle Income & Growth Fund IV	2005	\$ 20,000,000	\$ 19,469,417	\$ 13,482,024	\$ -	0.69	-5.51%
North Haven Real Estate Fund V International	2005	\$ 27,500,000	\$ 27,377,414	\$ 31,921,668	\$ 1,666,291	1.22	7.23%
Oaktree Real Estate Opportunities V	2012	\$ 25,000,000	\$ 25,000,000	\$ 36,241,185	\$ 3,989,922	1.58	13.57%
Partners Group Project Camino	2016	\$ 8,415,776	\$ 5,555,862	\$ -	\$ 6,430,359	1.16	8.99%
Partners Group RE Secondary 2013 (USD) A	2014	\$ 65,000,000	\$ 49,541,590	\$ 14,625,710	\$ 53,728,640	1.39	20.75%
Partners Group RE Secondary 2017 (USD) A	2017	\$ 75,000,000	\$ 7,961,408	\$ 1,144	\$ 7,871,278	0.98	-6.53%
Pramerica Real Estate Capital VI	2016	\$ 27,178,596	\$ 10,064,128	\$ 3,806,663	\$ 7,575,077	1.12	14.37%
Prologis Japan Fund	2005	\$ 25,290,819	\$ 25,290,819	\$ 33,126,118	\$ -	1.31	4.81%
Prudential PRISA II	2004	\$ 140,000,000	\$ 140,000,000	\$ 39,067,628	\$ 162,907,346	1.38	8.39%
Prudential PRISA III	2003	\$ 50,000,000	\$ 47,755,490	\$ 41,986,002	\$ 44,349,148	1.68	18.93%
RREEF America REIT III	2004	\$ 20,000,000	\$ 20,539,309	\$ 23,658,675	\$ -	1.15	3.00%
Square Mile Partners II	2007	\$ 20,000,000	\$ 19,831,232	\$ 5,311,330	\$ 47,587	0.27	-18.85%
Square Mile Partners III LP	2008	\$ 20,000,000	\$ 19,730,190	\$ 27,123,820	\$ 1,859,354	1.47	11.67%
Starwood Capital Hospitality Fund I-2	2006	\$ 30,000,000	\$ 30,000,000	\$ 24,678,932	\$ 5,113,830	0.99	-0.10%
Starwood Debt Fund II, LP	2008	\$ 20,000,000	\$ 17,599,882	\$ 21,858,788	\$ 56,937	1.25	6.45%
Starwood Opportunity Fund VII - A	2006	\$ 25,000,000	\$ 25,000,000	\$ 17,833,996	\$ 2,157,535	0.80	-2.48%
Structured Real Estate III, LP (Guggenheim)	2008	\$ 20,000,000	\$ 20,000,000	\$ 16,320,664	\$ -	0.82	-4.99%
Tri Continental Capital VII	2005	\$ 23,000,000	\$ 22,277,928	\$ 1,930,623	\$ 1,521,871	0.15	-17.00%
Tuckerman Multi-Family Development Fund III	2002	\$ 10,000,000	\$ 10,219,311	\$ 16,939,699	\$ -	1.66	26.67%
Walton Street Real Estate Fund IV, LP	2003	\$ 10,000,000	\$ 9,770,890	\$ 15,885,696	\$ 177,815	1.64	10.78%
Walton Street Real Estate Fund V, LP	2006	\$ 40,000,000	\$ 40,000,000	\$ 22,023,424	\$ 10,118,698	0.80	-2.47%

Note: All metrics are calculated since inception

* Denotes cash adjusted



REAL ASSETS PERFORMANCE ENDED MARCH 31, 2018

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Cumulative Distributions	Valuation	TVPI Ratio	IRR
Fortress Transportation Infrastructure LLC	2015	\$ 45,403,354	\$ 45,403,354	\$ 8,813,594	\$ 42,599,037	1.13	5.88%
Hancock Timberland VII	2005	\$ 90,000,000	\$ 90,000,000	\$ 58,548,600	\$ 49,076,894	1.20	1.63%
Hancock Timberland VIII	2006	\$ 40,000,000	\$ 40,000,000	\$ 4,777,950	\$ 34,518,962	0.98	-0.19%
Highstar Capital III, L.P.	2007	\$ 60,000,000	\$ 59,119,119	\$ 37,729,377	\$ 29,260,003	1.13	1.69%
Timbervest Crossover Partners II, L.P.	2008	\$ 30,000,000	\$ 30,000,000	\$ 13,215,000	\$ 14,421,674	0.92	-1.40%
Timbervest Partners II, L.P.	2007	\$ 50,000,000	\$ 50,000,000	\$ 15,775,000	\$ 39,403,912	1.10	1.11%

Note: All metrics are calculated since inception

** Denotes cash adjusted*



PRIVATE EQUITY PERFORMANCE ENDED MARCH 31, 2018

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Cumulative Distributions	Valuation	TVPI Ratio	IRR
Advent International GPE VIII, LP	2016	\$ 10,000,000	\$ 4,915,000	\$ -	\$ 5,118,519	1.04	5.42%
Apollo Accord Fund, LP	2017	\$ 30,000,000	\$ 7,500,000	\$ -	\$ 8,059,390	1.08	9.48%
Apollo European Principal Finance Fund (Feeder), LP	2009	\$ 54,530,960	\$ 46,373,293	\$ 68,835,428	\$ 568,886	1.50	11.84%
Apollo Investment Fund VII, L.P.	2008	\$ 10,000,000	\$ 8,564,325	\$ 15,157,686	\$ 2,406,992	2.05	23.65%
Apollo PCPL Webb V	2010	\$ 4,844,398	\$ 4,844,398	\$ 5,196,757	\$ 37,657	1.08	6.46%
Apollo PCPL Webb VIII	2010	\$ 4,734,303	\$ 4,734,303	\$ 12,146,258	\$ 2,589	2.57	46.47%
Ares European Loan Funding, S.L.P.	2016	\$ 18,481,050	\$ -	\$ -	\$ -	0.00	N/A
ARES European Loan Opp Fund	2015	\$ 15,000,000	\$ 8,413,136	\$ 7,613,498	\$ -	0.90	-6.02%
Ares Special Situations Fund IV, LP	2015	\$ 50,000,000	\$ 29,518,152	\$ 81,088	\$ 23,767,097	0.81	-11.98%
Aurora Equity Partners III, L.P.	2005	\$ 25,000,000	\$ 23,544,536	\$ 41,738,196	\$ 855,907	1.69	13.84%
Aurora Equity Partners IV, L.P.	2012	\$ 20,000,000	\$ 15,995,098	\$ 25,307,396	\$ 10,572,001	1.94	18.83%
Aurora Resurgence Fund, L.P.	2008	\$ 15,000,000	\$ 5,653,009	\$ 10,350,965	\$ -	1.82	17.60%
Baring Asia Private Equity Fund IV, L.P.	2015	\$ 2,931,918	\$ 2,584,265	\$ 3,168,279	\$ 250,372	1.32	11.46%
BNY Mellon - Alcentra Mezzanine III	2012	\$ 25,000,000	\$ 23,254,658	\$ 26,736,979	\$ -	1.15	12.73%
Catalyst Fund II, L.P.	2007	\$ 10,000,000	\$ 9,427,306	\$ 4,259,103	\$ 17,529,828	2.30	11.30%
Catalyst Fund LP IV, L.P.	2015	\$ 8,000,000	\$ 5,340,893	\$ -	\$ 6,419,389	1.20	11.86%
Charlesbank Equity Fund VIII	2015	\$ 7,500,000	\$ 6,304,631	\$ 951,845	\$ 6,815,247	1.23	12.83%
DRI II, L.P.	2009	\$ 20,000,000	\$ 19,917,669	\$ 26,302,807	\$ -	1.33	19.64%
European Strategic Partners 2004	2004	\$ 242,690,459	\$ 220,597,962	\$ 257,110,320	\$ 21,980,670	1.26	3.99%
European Strategic Partners 2008	2010	\$ 31,692,418	\$ 28,545,575	\$ 20,761,932	\$ 19,847,429	1.41	9.50%
Industry Ventures Direct, LP	2016	\$ 25,000,000	\$ 8,847,186	\$ 1,732,925	\$ 7,581,373	1.05	6.00%
Industry Ventures Fund V	2008	\$ 10,000,000	\$ 9,500,000	\$ 21,393,457	\$ 7,534,506	3.05	31.10%
Industry Ventures Fund VI	2011	\$ 20,000,000	\$ 18,400,000	\$ 13,836,249	\$ 9,763,129	1.28	7.98%
Industry Ventures Partnership Holdings Fund II, L.P.	2012	\$ 25,000,000	\$ 23,500,000	\$ 7,131,936	\$ 46,346,242	2.28	23.40%
Industry Ventures Partnership Holdings Fund III, L.P.	2013	\$ 25,000,000	\$ 21,506,661	\$ 3,732,983	\$ 25,039,363	1.34	12.96%
Industry Ventures Partnership Holdings Fund III-A, L.P.	2014	\$ 12,500,000	\$ 10,437,500	\$ 3,466,172	\$ 6,881,791	0.99	-0.38%
Industry Ventures Partnership Holdings IV, LP	2016	\$ 25,000,000	\$ 8,625,000	\$ 102,308	\$ 9,956,329	1.17	17.56%
Industry Ventures Secondary VII, L.P.	2013	\$ 25,000,000	\$ 21,500,000	\$ 3,712,789	\$ 24,011,061	1.29	10.98%
Industry Ventures Secondary VIII	2017	\$ 25,000,000	\$ 2,500,000	\$ 54,785	\$ 2,972,319	1.21	39.74%
Industry Ventures Special Opportunities II-A	2016	\$ 12,500,000	\$ 706,250	\$ -	\$ 1,004,721	1.42	97.45%
Insight Venture Partners III Co-Invest	2014	\$ 4,000,000	\$ 4,000,000	\$ 134,902	\$ 6,608,467	1.69	17.59%
Kayne Anderson Energy Fund VII, L.P.	2017	\$ 10,000,000	\$ 9,104,473	\$ 2,138,412	\$ 8,683,927	1.19	22.44%
Kayne Partners Fund IV (QP), LP	2017	\$ 20,000,000	\$ 4,945,436	\$ -	\$ 4,727,156	0.93	-9.60%
Lexington Capital Partners VI-B	2006	\$ 25,000,000	\$ 24,591,319	\$ 31,336,585	\$ 3,454,468	1.41	6.94%
Lexington Capital Partners VII (Offshore)	2011	\$ 25,000,000	\$ 20,202,136	\$ 23,011,175	\$ 8,944,126	1.57	15.85%
Lexington Middle Market I	2005	\$ 25,000,000	\$ 24,771,942	\$ 34,942,745	\$ 5,327,634	1.63	11.66%
Lexington Middle Market II - Offshore	2008	\$ 10,000,000	\$ 9,773,736	\$ 11,194,302	\$ 4,591,504	1.61	14.41%
Madison Dearborn VII	2016	\$ 10,000,000	\$ 3,188,255	\$ -	\$ 3,486,709	1.09	7.69%
NB Secondary Opportunities I, LP	2005	\$ 20,000,000	\$ 18,500,843	\$ 24,183,590	\$ 164,109	1.32	6.51%
NB Secondary Opportunities II, LP	2008	\$ 20,000,000	\$ 17,080,642	\$ 23,169,055	\$ 3,626,967	1.54	14.66%

Note: All metrics are calculated since inception

* Denotes Cash adjusted value



PRIVATE EQUITY PERFORMANCE ENDED MARCH 31, 2018

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Cumulative Distributions	Valuation	TVPI Ratio	IRR
Partners Group Access 216 LP	2017	\$ 7,174,081	\$ 7,174,081	\$ -	\$ 8,367,839	1.17	17.21%
Partners Group Access 384, L.P.	2017	\$ 8,360,000	\$ 8,360,000	\$ -	\$ 8,592,387	1.03	2.30%
Partners Group Access 632, L.P.	2014	\$ 2,782,028	\$ 2,782,028	\$ 4,627,741	\$ 1	1.65	16.01%
Partners Group Access 648, L.P.	2014	\$ 4,313,459	\$ 4,843,537	\$ 19,449	\$ 3,881,397	0.81	-6.81%
Partners Group Access 680 L.P.	2015	\$ 7,283,063	\$ 7,202,719	\$ -	\$ 11,860,490	1.65	24.06%
Partners Group Access 906, L.P.	2017	\$ 15,000,000	\$ 15,000,000	\$ -	\$ 15,000,749	1.00	0.00%
Partners Group CA Infrastructure, LP Inc*	2016	\$ 6,246,500	\$ 1,874,351	\$ -	\$ 2,024,656	1.08	7.94%
Partners Group Client Access 8 LP	2014	\$ 5,531,585	\$ 5,531,585	\$ 30,646,223	\$ 55,187	5.55	69.67%
Partners Group Direct Equity 2016 USD A	2016	\$ 20,000,000	\$ 9,102,120	\$ 3,277	\$ 9,271,505	1.04	2.88%
Partners Group Direct Investment 2012, L.P.	2013	\$ 18,328,976	\$ 16,509,621	\$ 13,238,963	\$ 16,002,611	1.77	21.16%
Partners Group European Mandate, L.P.	2004	\$ 241,836,685	\$ 196,136,552	\$ 243,431,972	\$ 23,969,164	1.36	5.79%
Partners Group European Mezzanine 2005	2005	\$ 101,076,654	\$ 101,076,654	\$ 119,472,418	\$ 2,890,935	1.21	3.11%
Partners Group Global Opp Limited	2017	\$ 4,001,119	\$ 4,001,119	\$ 888,306	\$ 4,067,088	1.24	27.49%
Partners Group Princess Learning IC LTD	2014	\$ 9,312,592	\$ 4,492,827	\$ -	\$ 8,125,737	1.81	23.59%
Partners Group Seabras Holdings, LLC	2015	\$ 4,800,000	\$ 4,023,199	\$ -	\$ 3,424,803	0.85	-8.67%
Partners Group Secondary 2006 LP	2006	\$ 54,767,554	\$ 51,077,528	\$ 54,150,417	\$ 7,005,094	1.20	3.69%
Partners Group Secondary 2008, L.P.	2009	\$ 26,909,948	\$ 23,690,725	\$ 30,833,582	\$ 4,700,030	1.49	9.27%
Partners Group Starfrost Limited	2014	\$ 6,504,036	\$ 3,736,806	\$ 1,880,411	\$ 3,679,226	1.49	10.81%
Pathway Private Equity Fund VII, L.P. *	2004	\$ 904,500,000	\$ 807,157,487	\$ 920,708,552	\$ 424,882,706	1.63	10.08%
Quad-C Partners IX, LP	2017	\$ 8,000,000	\$ 1,437,051	\$ -	\$ 1,494,102	1.04	7.81%
Quantum Energy Partners VII, LP	2017	\$ 6,700,000	\$ 1,466,637	\$ 73,494	\$ 1,431,880	1.03	4.97%
Siguler Guff DOF II	2006	\$ 30,000,000	\$ 30,000,000	\$ 42,130,353	\$ 463,172	1.42	8.72%
Siguler Guff DOF III	2008	\$ 10,000,000	\$ 9,700,000	\$ 13,508,622	\$ 1,893,700	1.59	10.68%
SL Capital SOF I LP	2014	\$ 25,000,000	\$ 20,096,179	\$ 10,389,423	\$ 16,373,104	1.33	13.59%
SL Capital SOF III LP	2017	\$ 25,000,000	\$ 5,716,499	\$ -	\$ 7,225,598	1.26	81.46%
TCP Direct Lending Fund VIII-L, LLC	2016	\$ 40,000,000	\$ 4,810,998	\$ -	\$ 5,560,743	1.14	4.80%
TCV IX, L.P.	2016	\$ 10,000,000	\$ 2,155,000	\$ -	\$ 2,275,285	1.06	7.46%
TCW/Crescent Mezzanine IV, L.P.	2006	\$ 40,000,000	\$ 39,590,976	\$ 44,305,055	\$ 683,496	1.14	3.00%
TCW/Crescent Mezzanine V, L.P.	2008	\$ 20,000,000	\$ 19,949,723	\$ 24,314,934	\$ 2,380,312	1.34	9.58%
Tennenbaum Energy Opportunities Fund, LP	2016	\$ 20,000,000	\$ 12,985,747	\$ 1,565,407	\$ 13,957,348	1.20	18.12%
Tennenbaum Opportunities Fund V, L.P.	2007	\$ 10,000,000	\$ 10,000,000	\$ 10,902,988	\$ 4,117,123	1.50	6.18%
Tennenbaum Opportunities Fund VI, L.P.	2011	\$ 20,000,000	\$ 12,369,811	\$ 9,474,974	\$ 10,967,542	1.65	9.31%
Tennenbaum Special Situations Fund IX	2015	\$ 50,000,000	\$ 21,837,087	\$ 5,131,237	\$ 22,938,927	1.28	13.01%
Tennenbaum Waterman Fund, LP	2012	\$ 70,000,000	\$ 70,000,000	\$ 29,787,234	\$ 76,357,521	1.52	11.73%
The Huron Fund V	2017	\$ 10,000,000	\$ -	\$ -	\$ -	0.00	N/A
The Resolute Fund II - Secondary	2016	\$ 1,720,184	\$ 1,488,793	\$ 618,518	\$ 1,159,016	1.19	10.96%
The Resolute Fund III	2014	\$ 8,000,000	\$ 6,817,250	\$ 2,011,573	\$ 7,058,194	1.33	20.45%
Thoma Bravo Discover Fund I	2015	\$ 3,000,000	\$ 2,348,411	\$ -	\$ 3,270,960	1.39	30.22%
Thoma Bravo XI	2014	\$ 8,000,000	\$ 7,086,492	\$ 522,565	\$ 11,860,695	1.75	20.82%
Thoma Bravo XII	2016	\$ 10,000,000	\$ 6,305,511	\$ -	\$ 6,703,757	1.06	6.20%
Towerbrook III 2ndry	2017	\$ 1,520,778	\$ 383,292	\$ 248,474	\$ 262,400	1.32	39.43%
Towerbrook IV (OS) 2ndry	2017	\$ 760,389	\$ 335,885	\$ 19,863	\$ 389,154	1.22	29.52%
Vista Foundation Fund III	2016	\$ 10,000,000	\$ 3,098,051	\$ -	\$ 2,932,687	0.94	-6.06%

Note: All metrics are calculated since inception. * Denotes Cash adjusted value

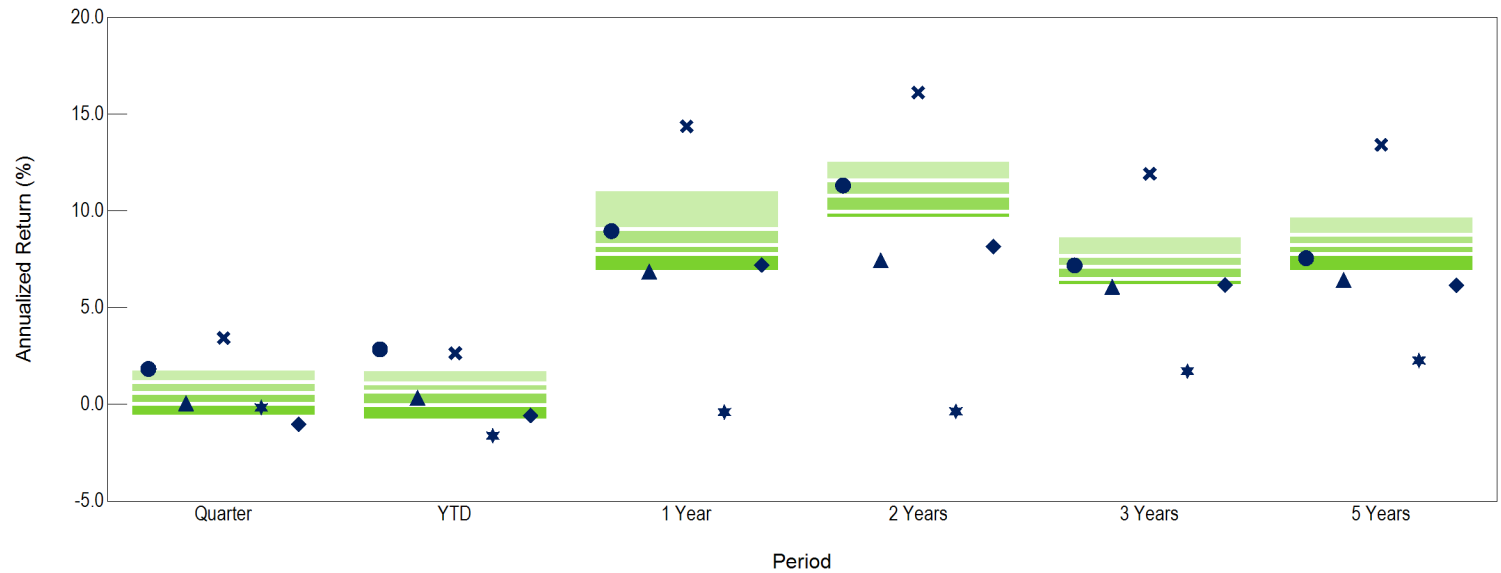


APPENDIX: MARKET ENVIRONMENT

NEPC, LLC

TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

Total Fund vs. InvestorForce Public DB > \$1B Gross



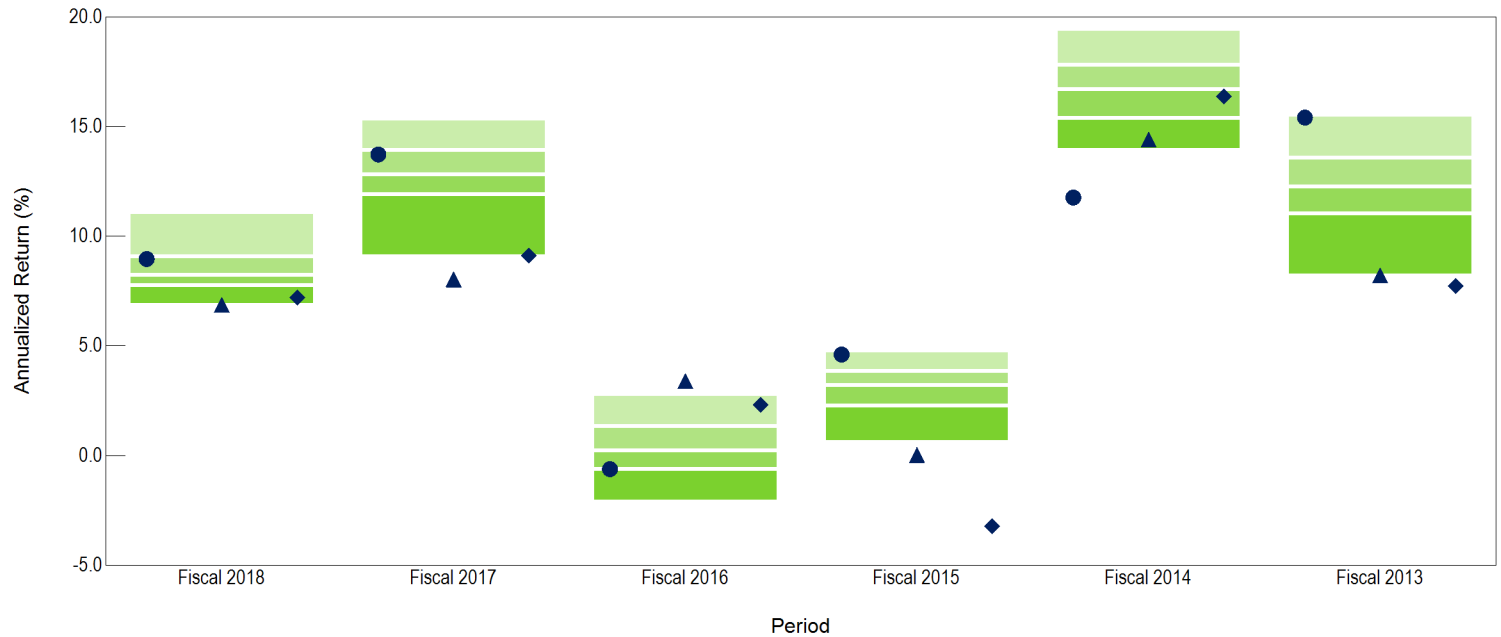
	Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)	
5th Percentile	1.8	(6)	1.8	(2)	11.1	(31)	12.6	(30)	8.7	(49)
25th Percentile	1.2	(76)	1.1	(56)	9.1	(96)	11.6	(99)	7.7	(96)
Median	0.6		0.7		8.3		10.8		7.1	
75th Percentile	0.1		0.0		7.8		10.0		6.5	
95th Percentile	-0.6		-0.8		6.9		9.6		6.1	
# of Portfolios	24		24		24		24		24	
● Total Fund	1.8	(6)	2.8	(2)	9.0	(31)	11.3	(30)	7.2	(49)
▲ Policy Index	0.1	(76)	0.3	(56)	6.9	(96)	7.5	(99)	6.1	(96)
× S&P 500	3.4	(1)	2.6	(2)	14.4	(1)	16.1	(1)	11.9	(1)
* BBGBarc US Aggregate TR	-0.2	(83)	-1.6	(99)	-0.4	(99)	-0.4	(99)	1.7	(99)
◆ 60% MSCI ACWI (Net) / 40% CITI WGBI	-1.0	(99)	-0.6	(92)	7.2	(93)	8.2	(99)	6.2	(90)



San Bernardino County Employees' Retirement Association

TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

Total Fund vs. InvestorForce Public DB > \$1B Gross



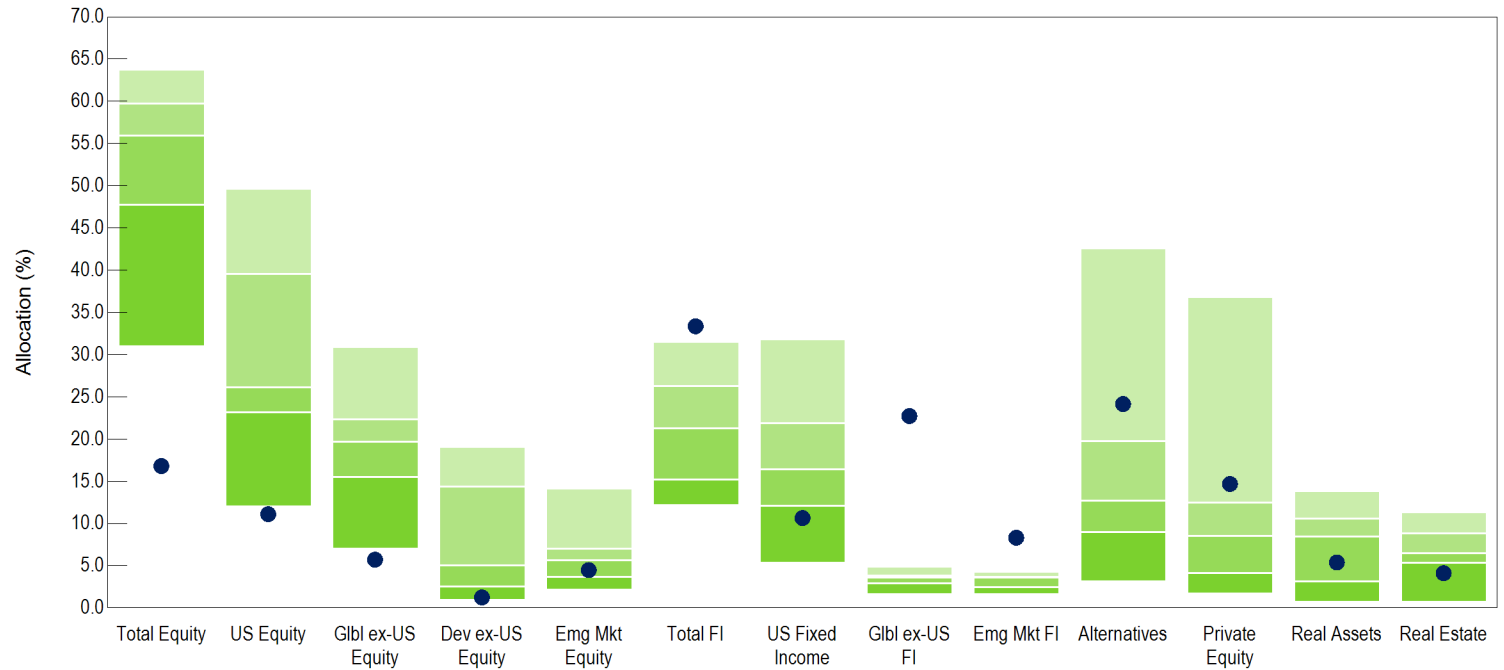
	Fiscal 2018		Fiscal 2017		Fiscal 2016		Fiscal 2015		Fiscal 2014		Fiscal 2013	
	Return	(Rank)	Return	(Rank)	Return	(Rank)	Return	(Rank)	Return	(Rank)	Return	(Rank)
5th Percentile	11.1		15.3		2.8		4.8		19.4		15.5	
25th Percentile	9.1		14.0		1.4		3.9		17.8		13.6	
Median	8.3		12.9		0.3		3.2		16.7		12.3	
75th Percentile	7.8		11.9		-0.6		2.3		15.4		11.0	
95th Percentile	6.9		9.1		-2.1		0.6		13.9		8.2	
# of Portfolios	24		108		91		92		65		78	
● Total Fund	9.0	(31)	13.7	(29)	-0.6	(77)	4.6	(7)	11.8	(99)	15.4	(7)
▲ Policy Index	6.9	(96)	8.0	(97)	3.4	(3)	0.0	(97)	14.4	(87)	8.2	(96)
◆ 60% MSCI ACWI (Net) / 40% CITI WGBI	7.2	(93)	9.1	(95)	2.3	(11)	-3.2	(99)	16.4	(58)	7.7	(97)



San Bernardino County Employees' Retirement Association

TOTAL FUND ALLOCATIONS VS. PEER UNIVERSE

Total Plan Allocation vs. InvestorForce Public DB > \$1B Gross



	Allocation (Rank)													
5th Percentile	63.8	49.6	30.9	19.1	14.1	31.5	31.8	4.9	4.3	42.6	36.8	13.8	11.4	--
25th Percentile	59.8	39.6	22.4	14.4	7.1	26.4	22.0	3.9	3.7	19.8	12.5	10.7	8.9	--
Median	56.0	26.2	19.7	5.1	5.7	21.3	16.5	3.7	3.7	12.7	8.6	8.5	6.5	--
75th Percentile	47.8	23.3	15.6	2.6	3.7	15.3	12.2	3.0	2.6	9.0	4.2	3.2	5.4	--
95th Percentile	31.1	12.1	7.1	1.0	2.2	12.2	5.4	1.7	1.7	3.2	1.7	0.8	0.8	--
# of Portfolios	20	18	19	9	15	21	19	8	7	17	16	6	15	--
● Total Fund	16.8 (99)	11.1 (97)	5.7 (97)	1.2 (91)	4.5 (68)	33.3 (3)	10.6 (80)	22.7 (1)	8.3 (1)	24.1 (21)	14.7 (19)	5.4 (68)	4.1 (84)	--



LONG-TERM PERFORMANCE SUMMARY



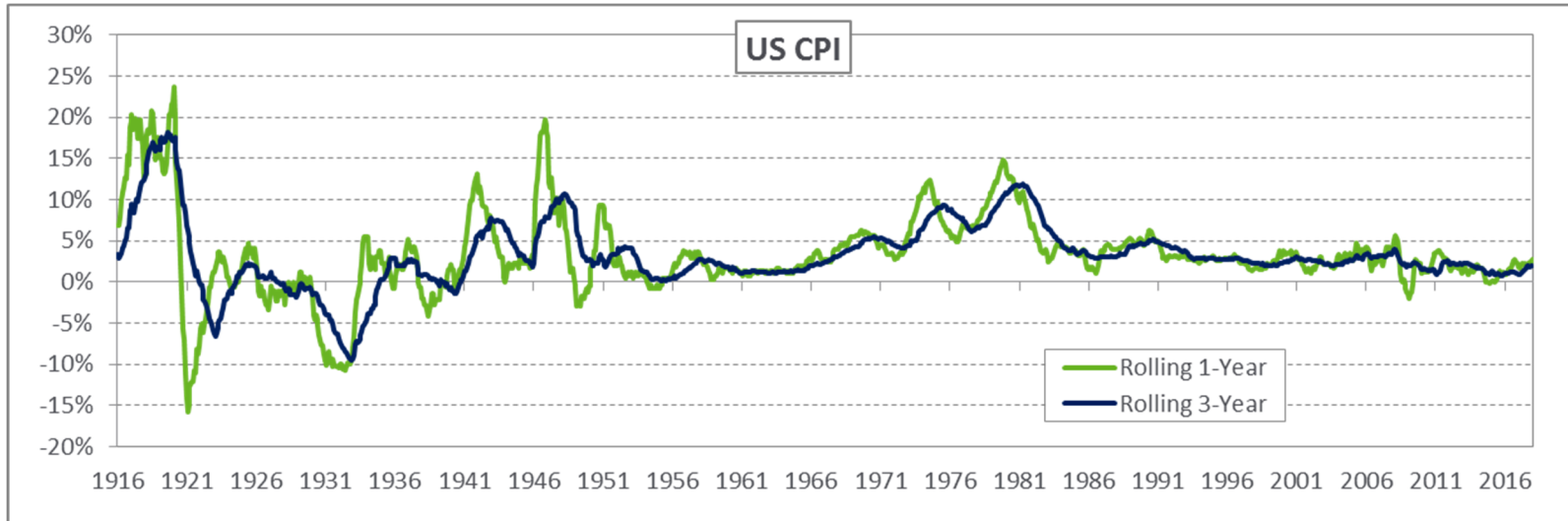
Source: Bloomberg, Standard and Poor's, Russell, MSCI, Barclays, JP Morgan



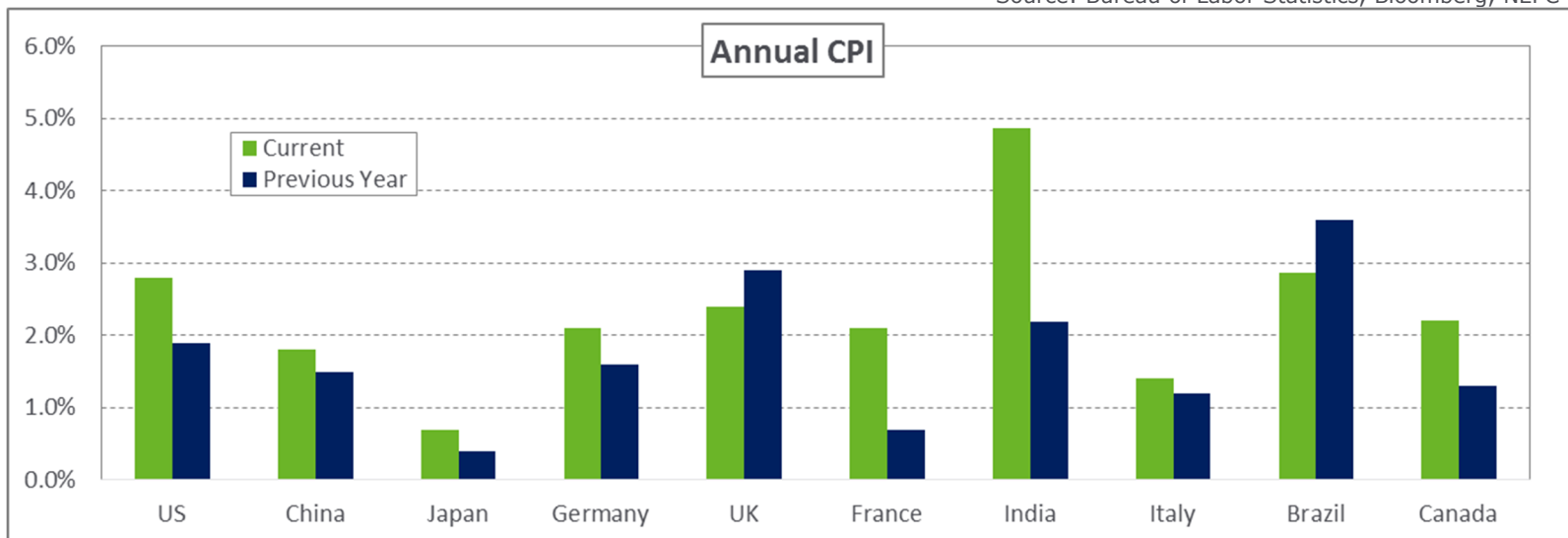
MACRO

NEPC, LLC

INFLATION



Source: Bureau of Labor Statistics, Bloomberg, NEPC



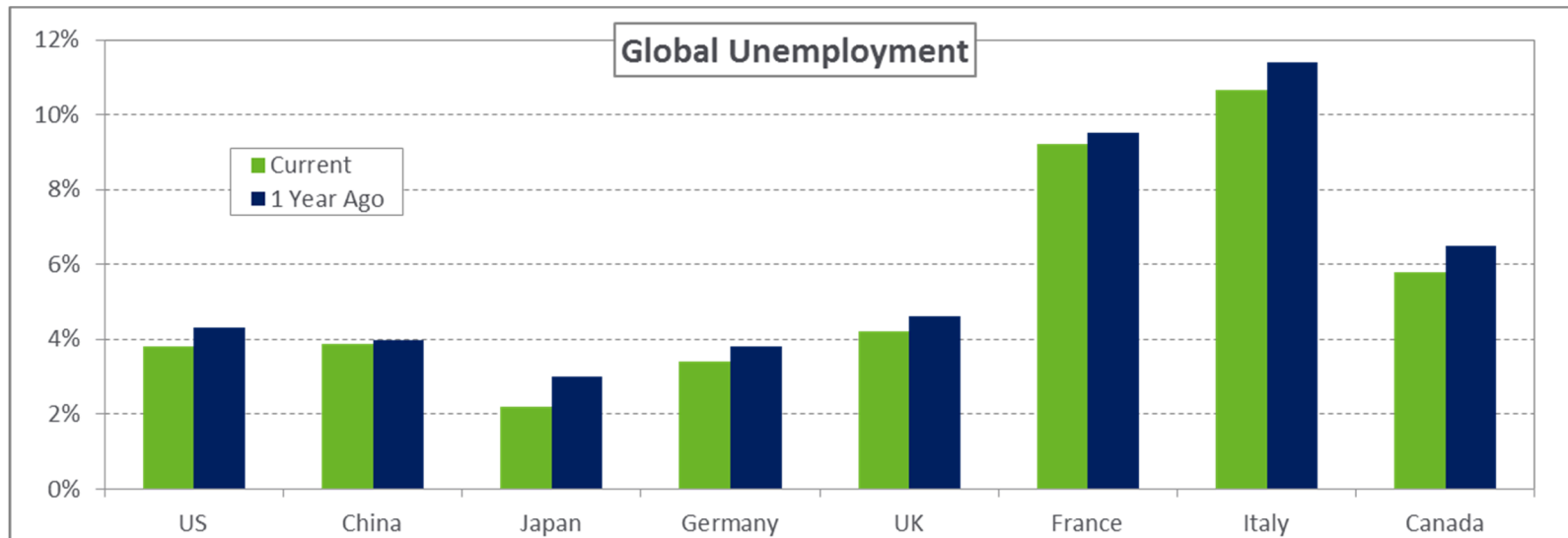
Source: Bureau of Labor Statistics, National Bureau of Statistics of China, Ministry of Internal Affairs and Communications (Japan), German Federal Statistics Office, UK Office for National Statistics, National Statistics Office of France, India Central Statistical Organization, ISTAT, IBGE, STCA, Bloomberg



UNEMPLOYMENT



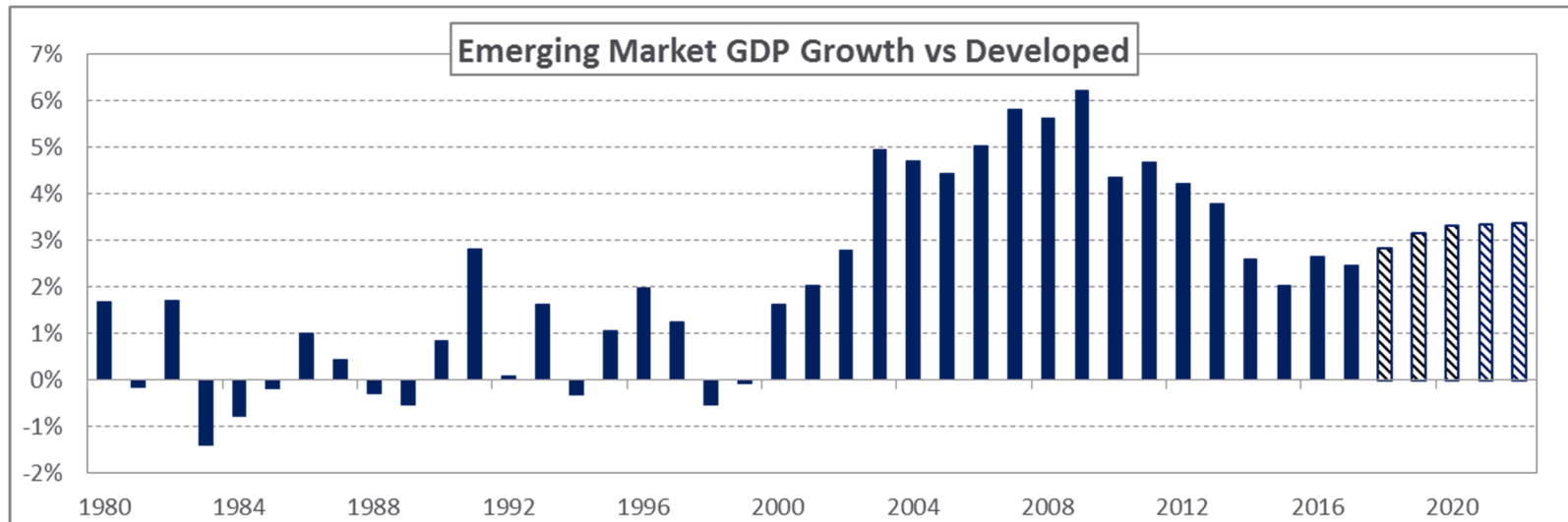
Source: Bureau of Labor Statistics, Bloomberg



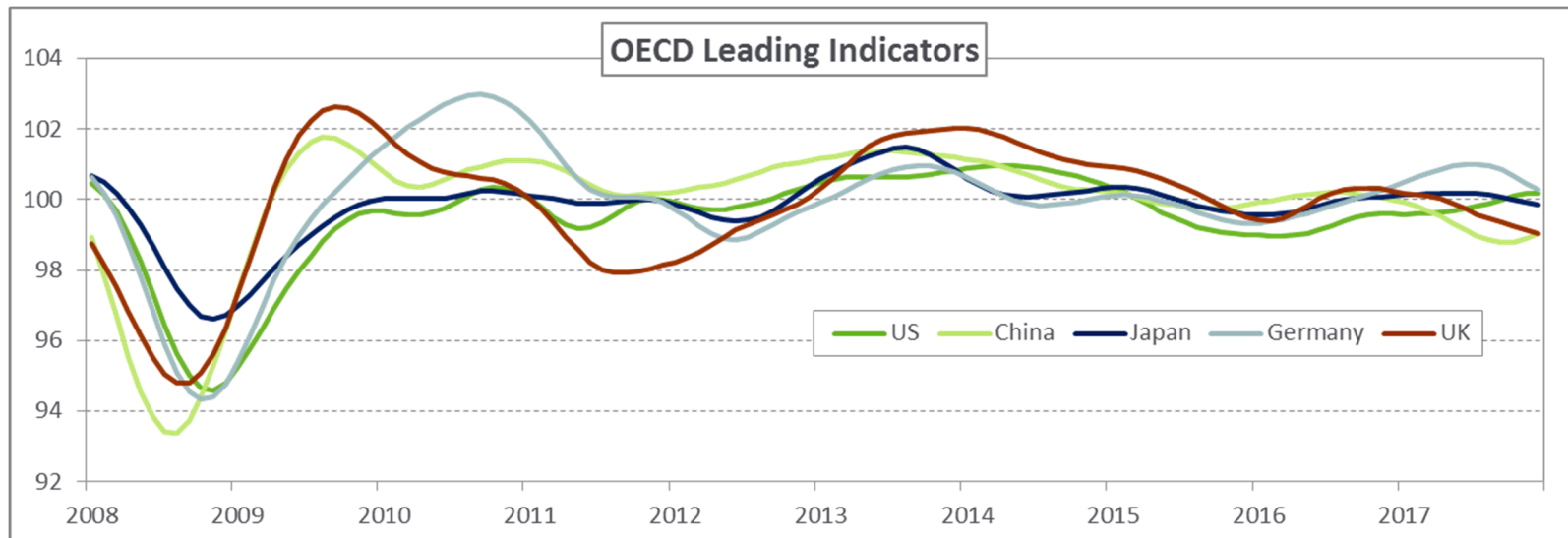
Source: Bureau of Labor Statistics, STA, National Bureau of Statistics of China, Ministry of Internal Affairs and Communications (Japan), German Federal Statistics Office, UK Office for National Statistics, National Statistics Office of France, ISTAT, IBGE, Bloomberg



ECONOMIC INDICATORS



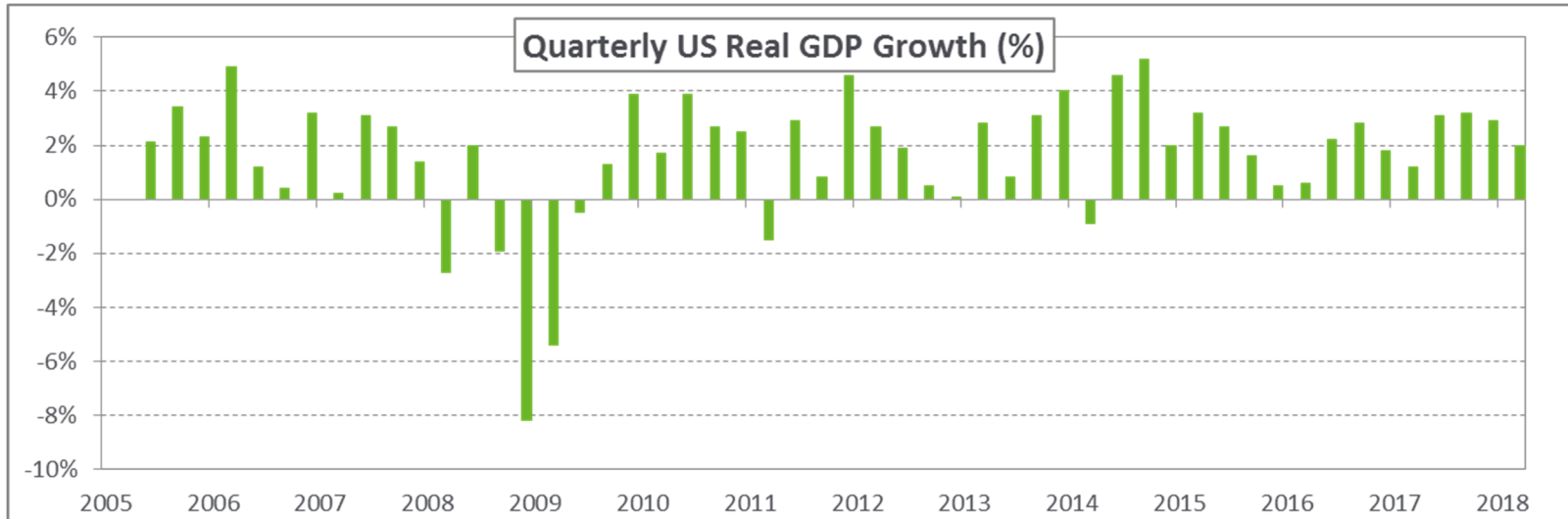
Source: IMF



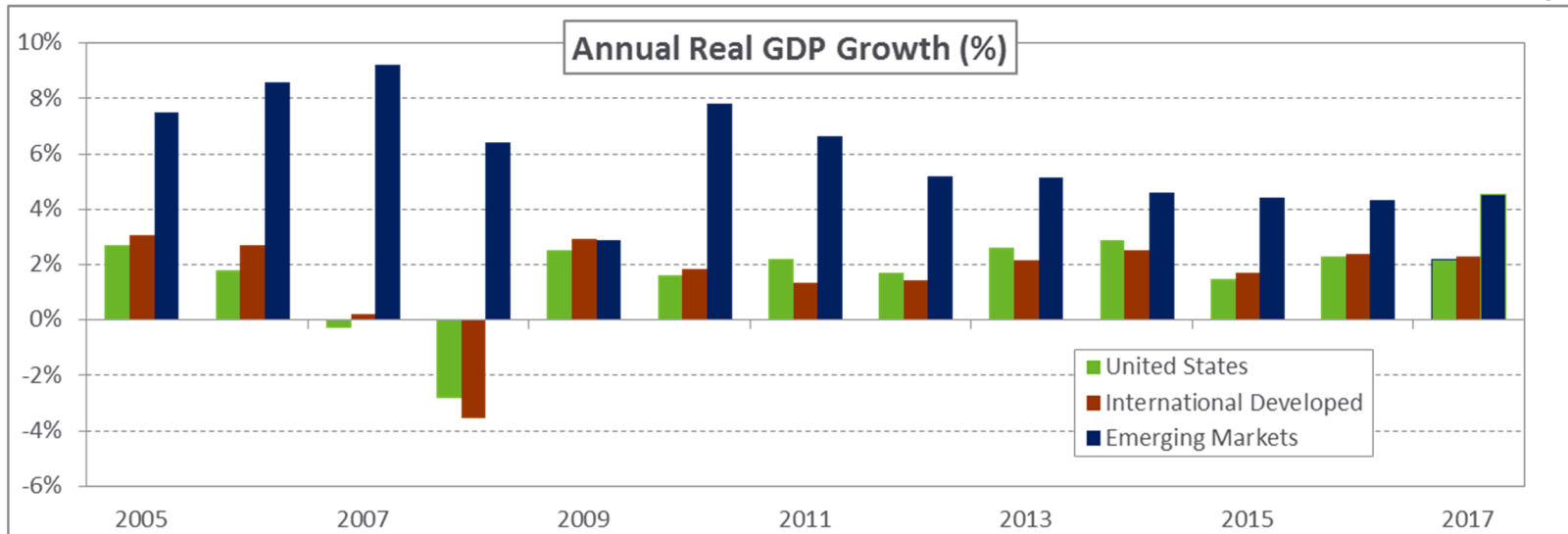
Source: OECD, Bloomberg



GROSS DOMESTIC PRODUCT



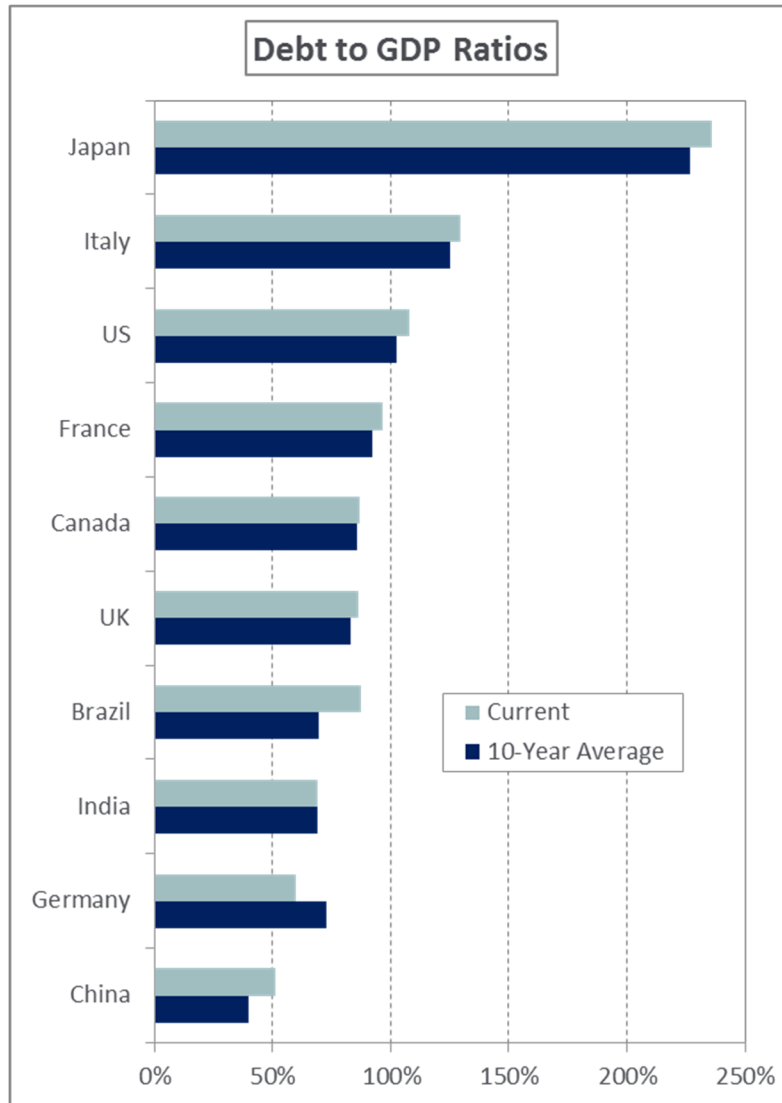
Source: Bloomberg



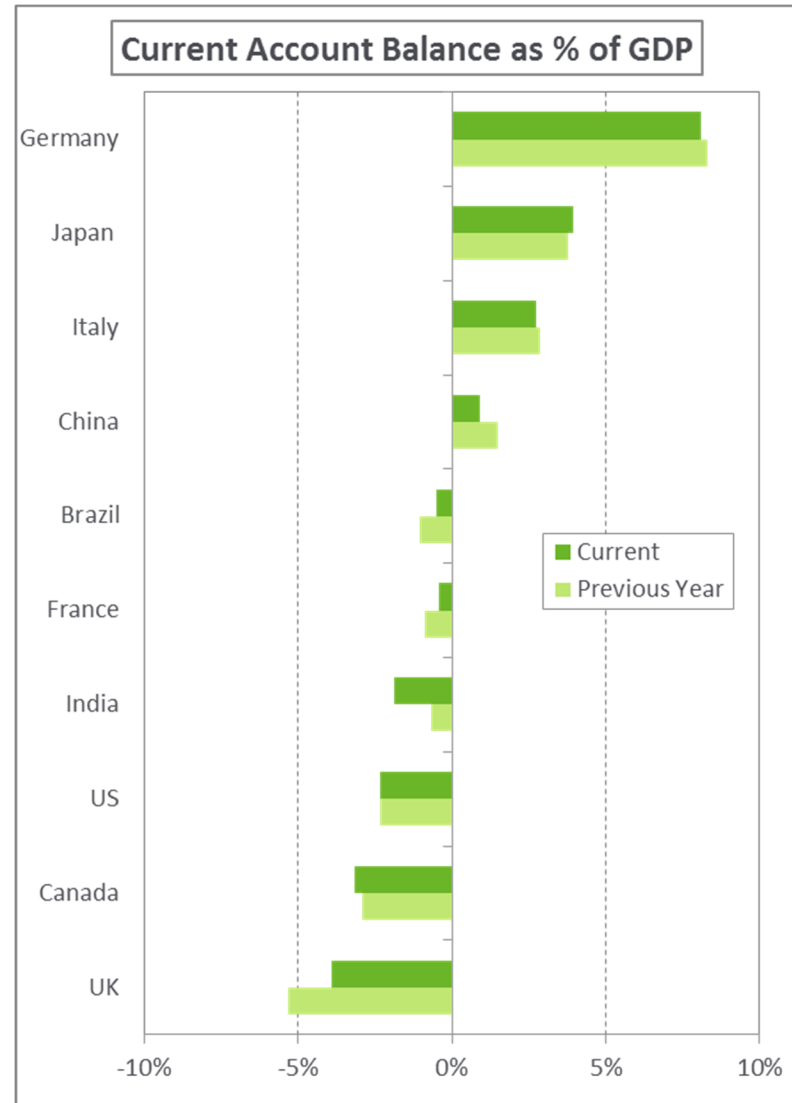
Source: Bloomberg



GROSS DOMESTIC PRODUCT METRICS



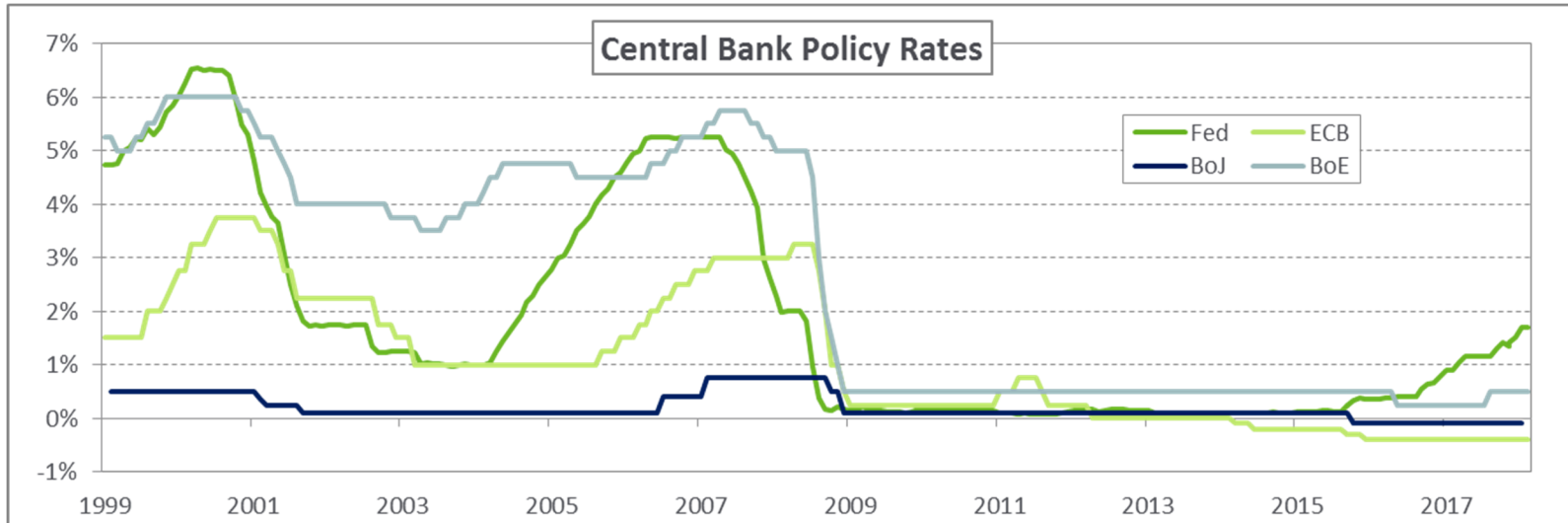
Source: IMF, Bloomberg



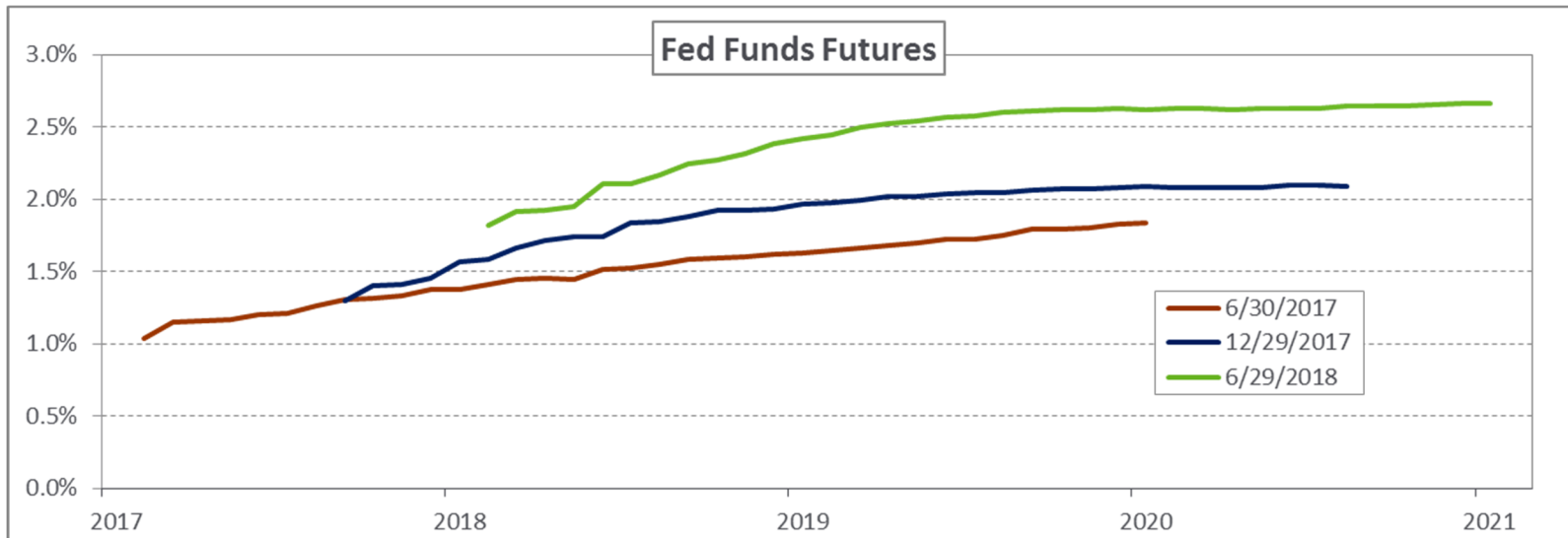
Source: Bloomberg



CENTRAL BANK RATES



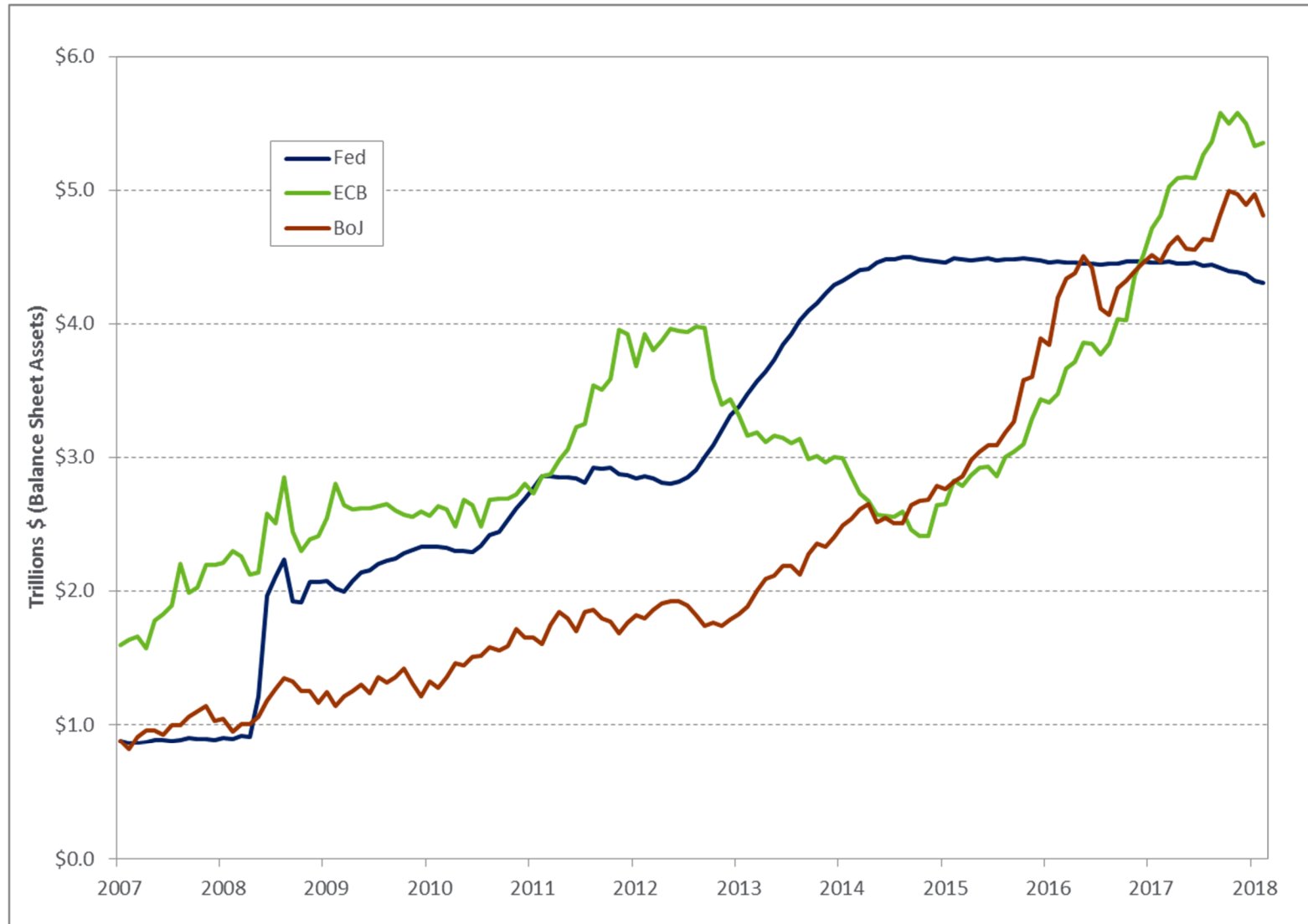
Source: Federal Reserve, ECB, Bank of Japan, Bank of England, Bloomberg



Source: Bloomberg



CENTRAL BANK BALANCE SHEETS



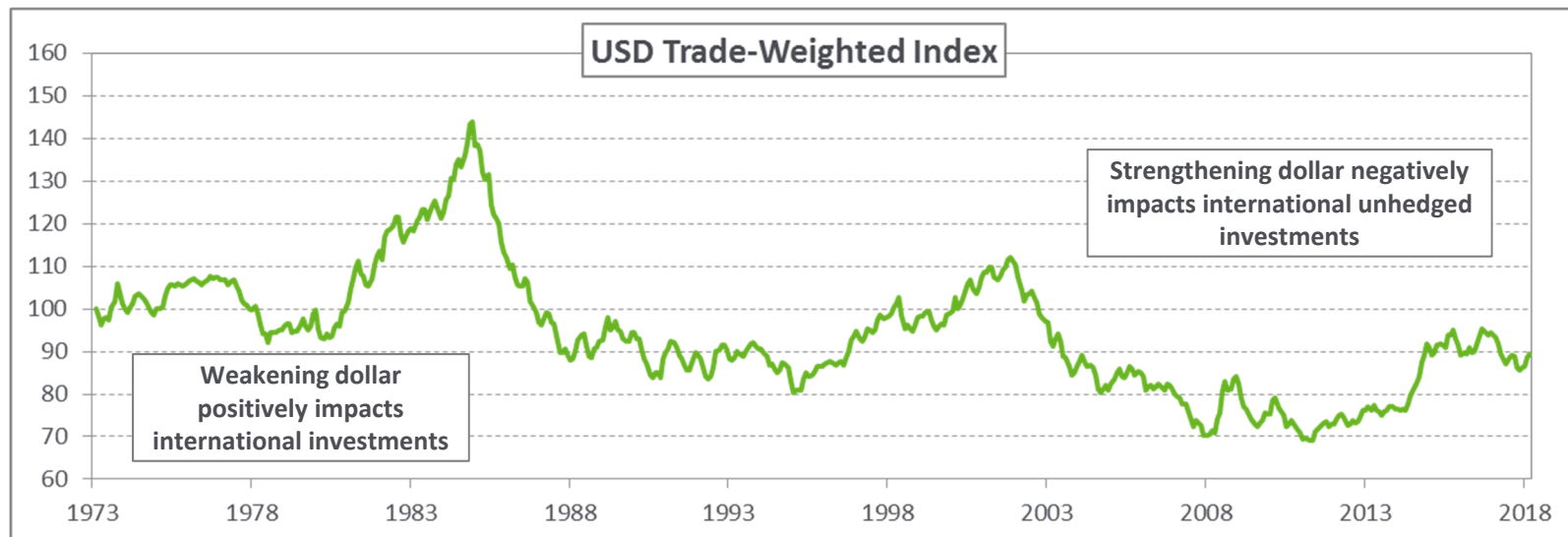
Source: Federal Reserve, Bank of Japan, ECB, Bloomberg, NEPC



CURRENCIES

Currencies	% Change Relative to USD			
	Spot	1 Month	YTD	1 Year
Euro	1.17	-0.1%	-5.9%	2.2%
British Pound	1.32	-0.6%	-6.9%	1.4%
Japanese Yen	110.75	-1.7%	-1.4%	1.5%
Swiss Franc	0.99	-0.5%	-6.0%	-3.3%
Australian Dollar	0.74	-2.2%	-8.1%	-3.7%
Chinese Yuan	6.62	-3.2%	-5.0%	2.2%
Brazilian Real	3.88	-3.8%	-17.8%	-14.7%
Russian Ruble	62.76	-0.6%	-10.4%	-7.5%
Indian Rupee	68.46	-1.5%	-7.0%	-5.6%
Mexican Peso	19.92	-0.1%	-6.6%	-9.0%
South African Rand	13.73	-7.5%	-13.7%	-4.8%

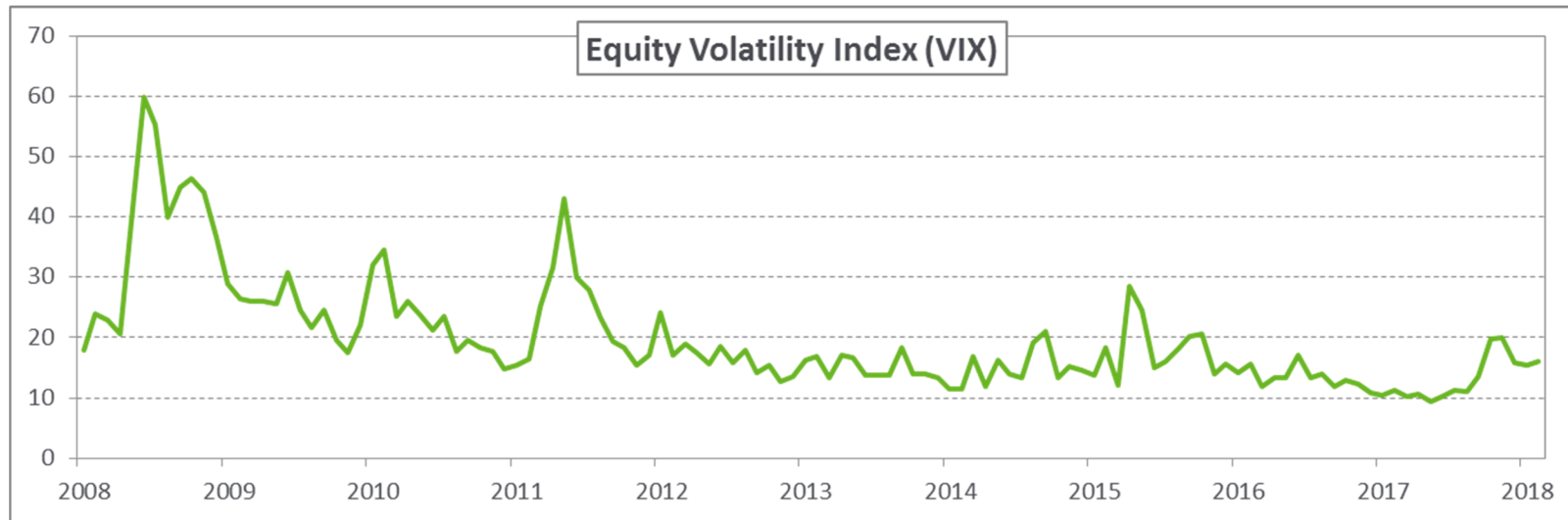
Source: Bloomberg



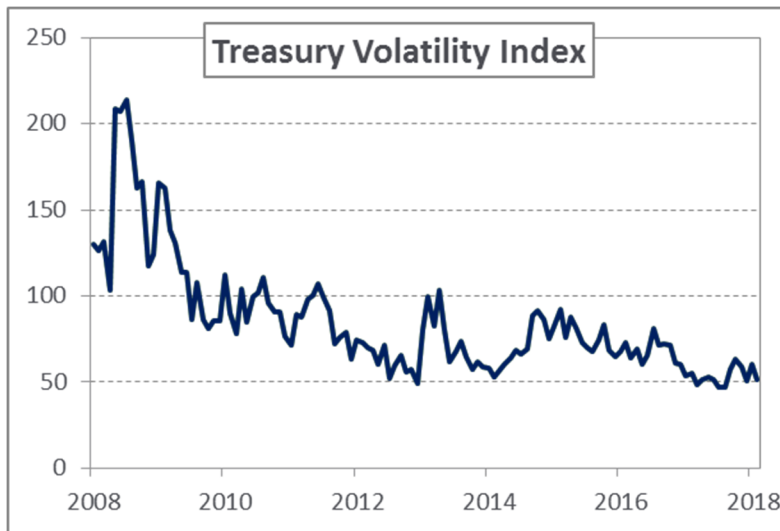
Source: Bloomberg



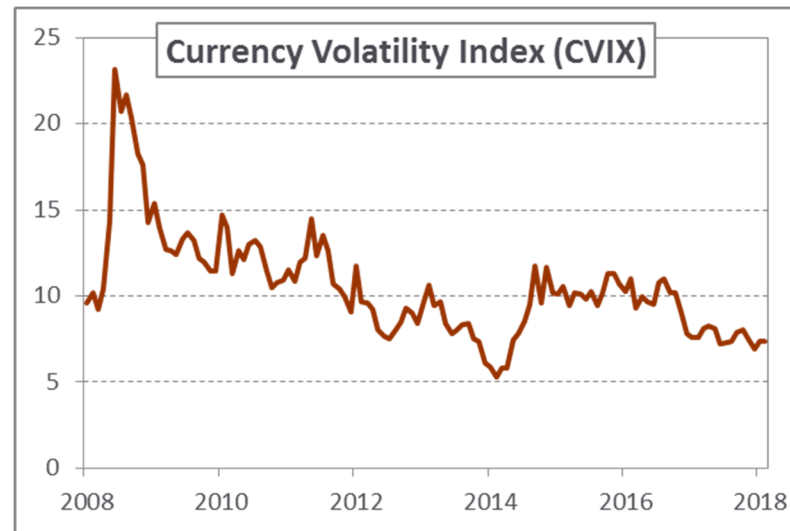
VOLATILITY



Source: CBOE, Bloomberg



Source: Merrill Lynch, Bloomberg



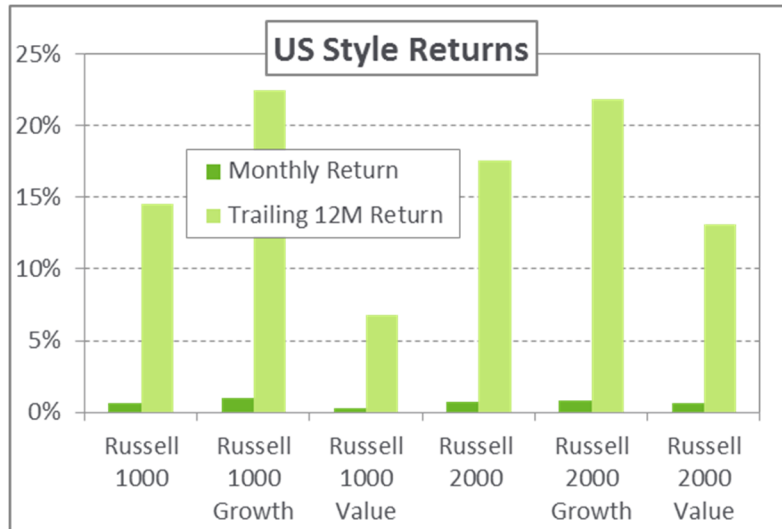
Source: Deutsche Bank, Bloomberg



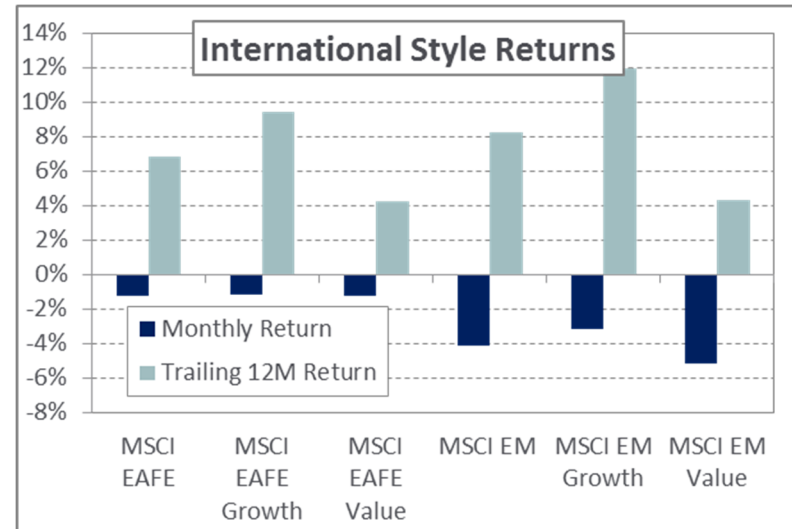
EQUITY

NEPC, LLC

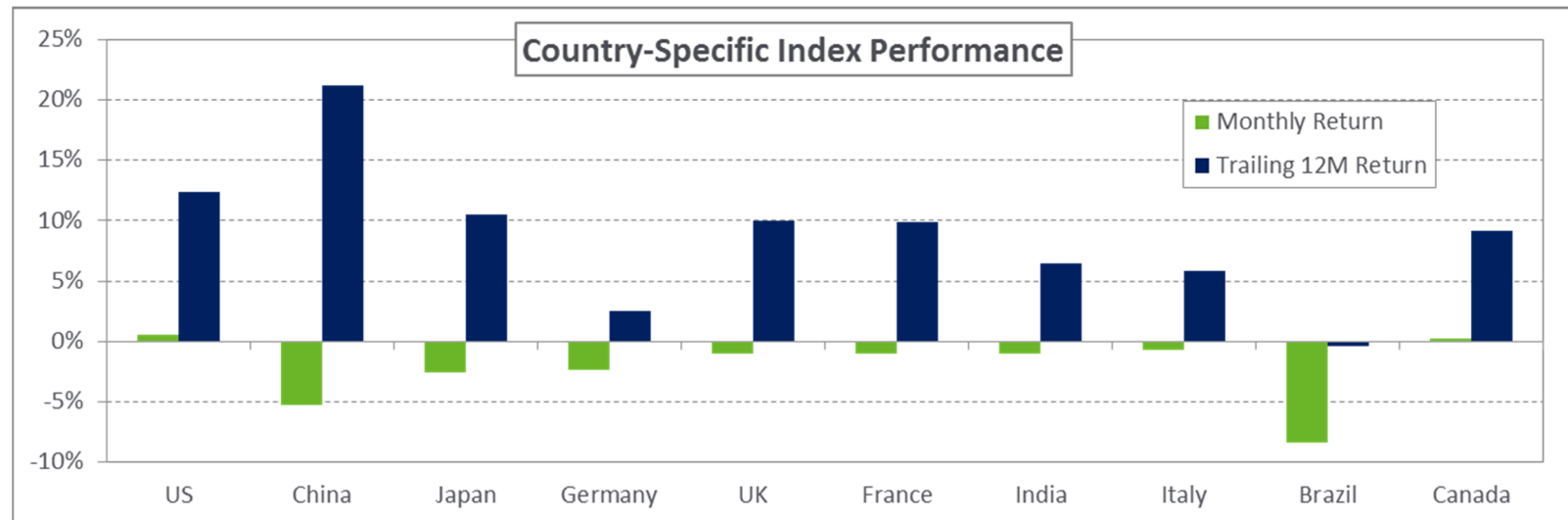
EQUITY INDEX PERFORMANCE



Source: Russell, Bloomberg



Source: MSCI, Bloomberg



Source: MSCI, Bloomberg
Represents returns in USD

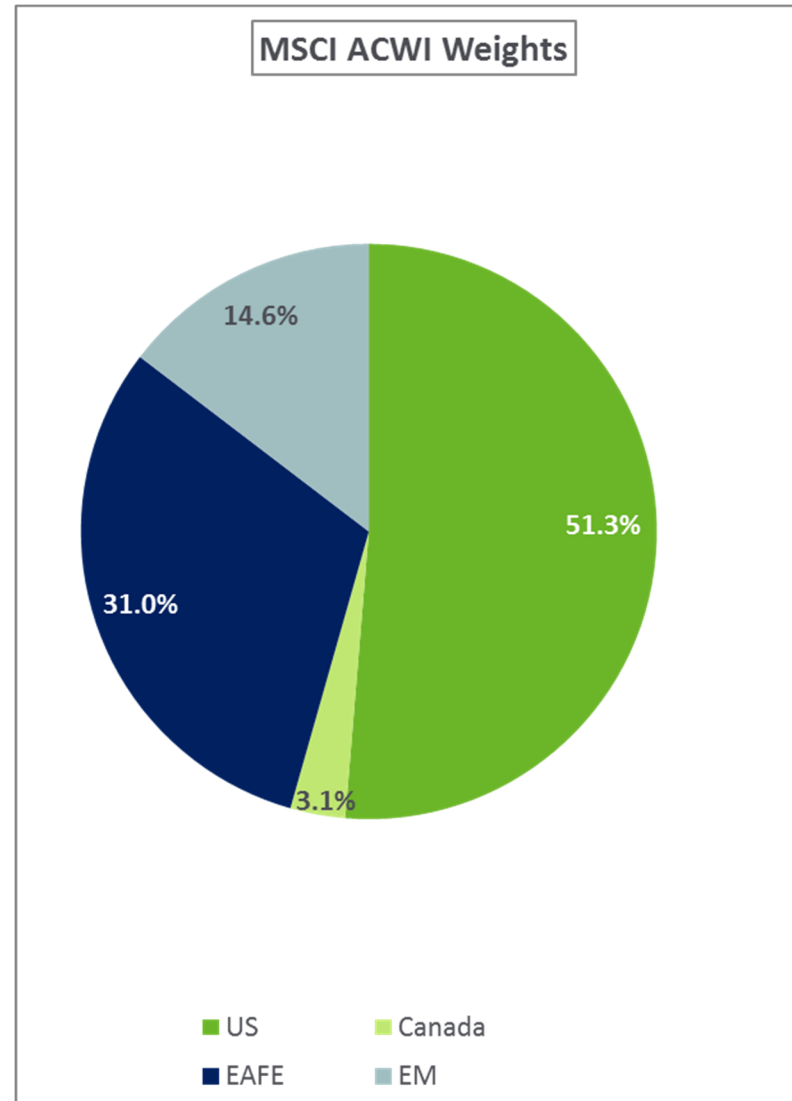


INDEX COMPOSITION

	MTD	QTD	YTD	Index Weight
S&P 500	0.6%	3.4%	2.6%	100%
Cons Disc	3.6%	8.1%	11.3%	13.0%
Cons Staples	4.4%	-1.8%	-9.0%	7.0%
Energy	0.7%	13.2%	6.3%	6.4%
Financials	-1.9%	-3.3%	-4.3%	13.4%
Health Care	1.6%	3.0%	1.6%	14.3%
Industrials	-3.3%	-3.3%	-5.0%	9.6%
Info Tech	-0.4%	7.0%	10.7%	25.8%
Materials	0.3%	2.4%	-3.4%	2.6%
Real Estate	4.3%	5.8%	0.3%	2.9%
Telecom	2.3%	-1.4%	-9.1%	2.0%
Utilities	2.7%	3.5%	-0.2%	3.0%

	MTD	QTD	YTD	Index Weight
MSCI ACWI	-0.5%	0.7%	-0.2%	100%
Cons Disc	0.8%	3.0%	4.0%	12.2%
Cons Staples	2.2%	-1.3%	-6.1%	8.0%
Energy	0.6%	10.2%	6.1%	6.8%
Financials	-2.4%	-5.6%	-6.6%	17.8%
Health Care	1.2%	2.5%	1.5%	10.9%
Industrials	-2.9%	-2.7%	-4.3%	10.8%
Info Tech	-1.1%	3.9%	7.2%	19.4%
Materials	-1.8%	0.4%	-3.3%	5.2%
Real Estate	0.4%	1.4%	-2.3%	3.0%
Telecom	0.1%	-4.2%	-9.4%	2.8%
Utilities	1.3%	1.3%	0.0%	3.0%

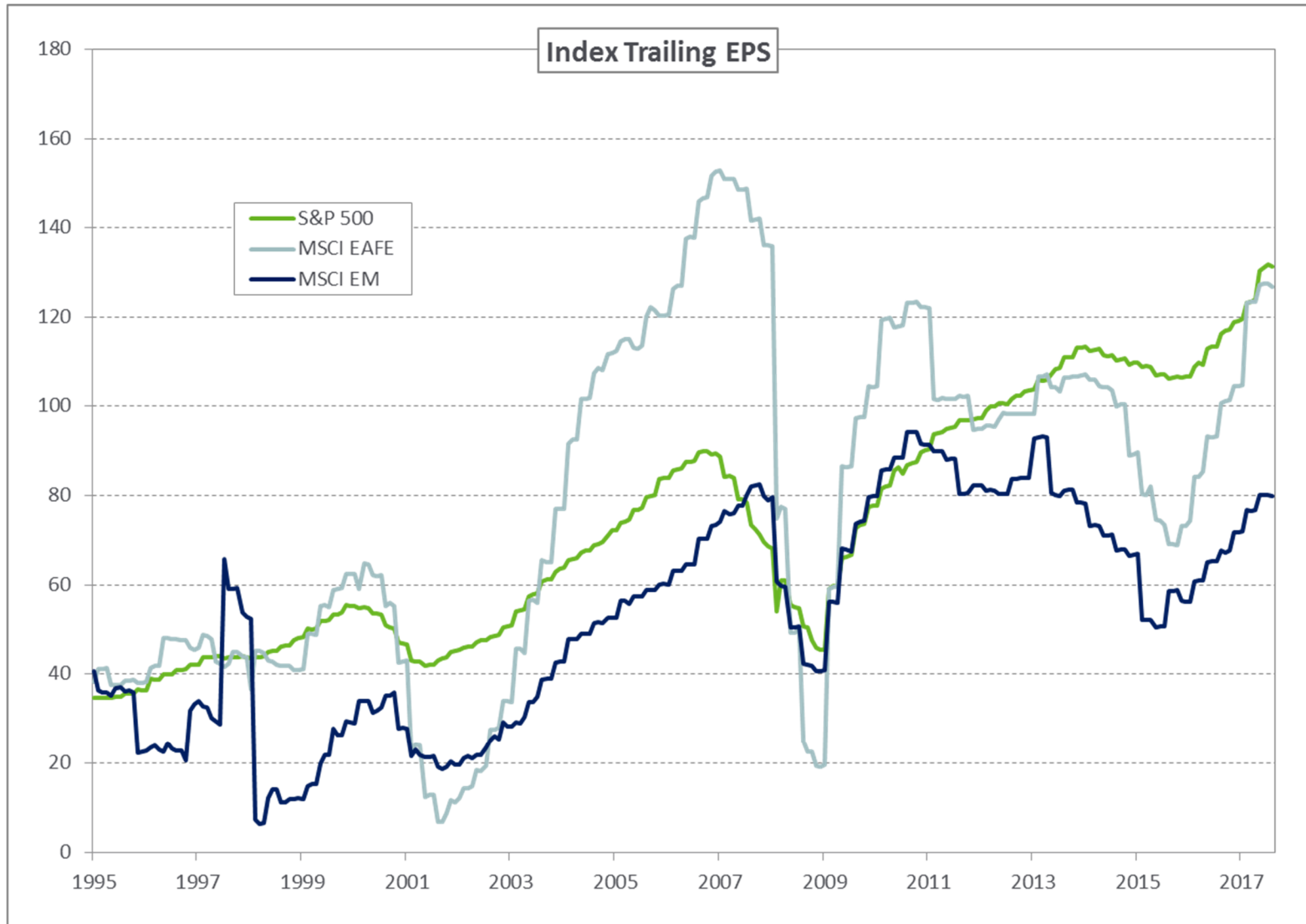
Source: S&P, MSCI, Bloomberg



Source: MSCI, Bloomberg



EARNINGS



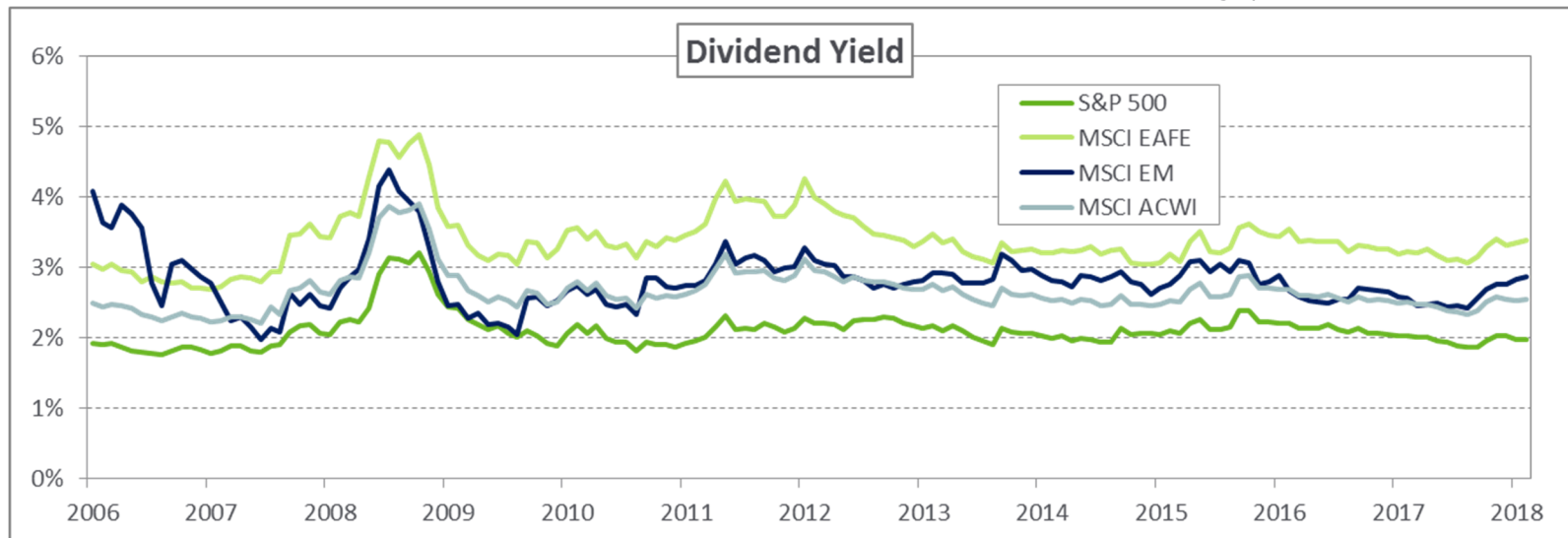
Source: S&P, MSCI, Bloomberg



YIELDS



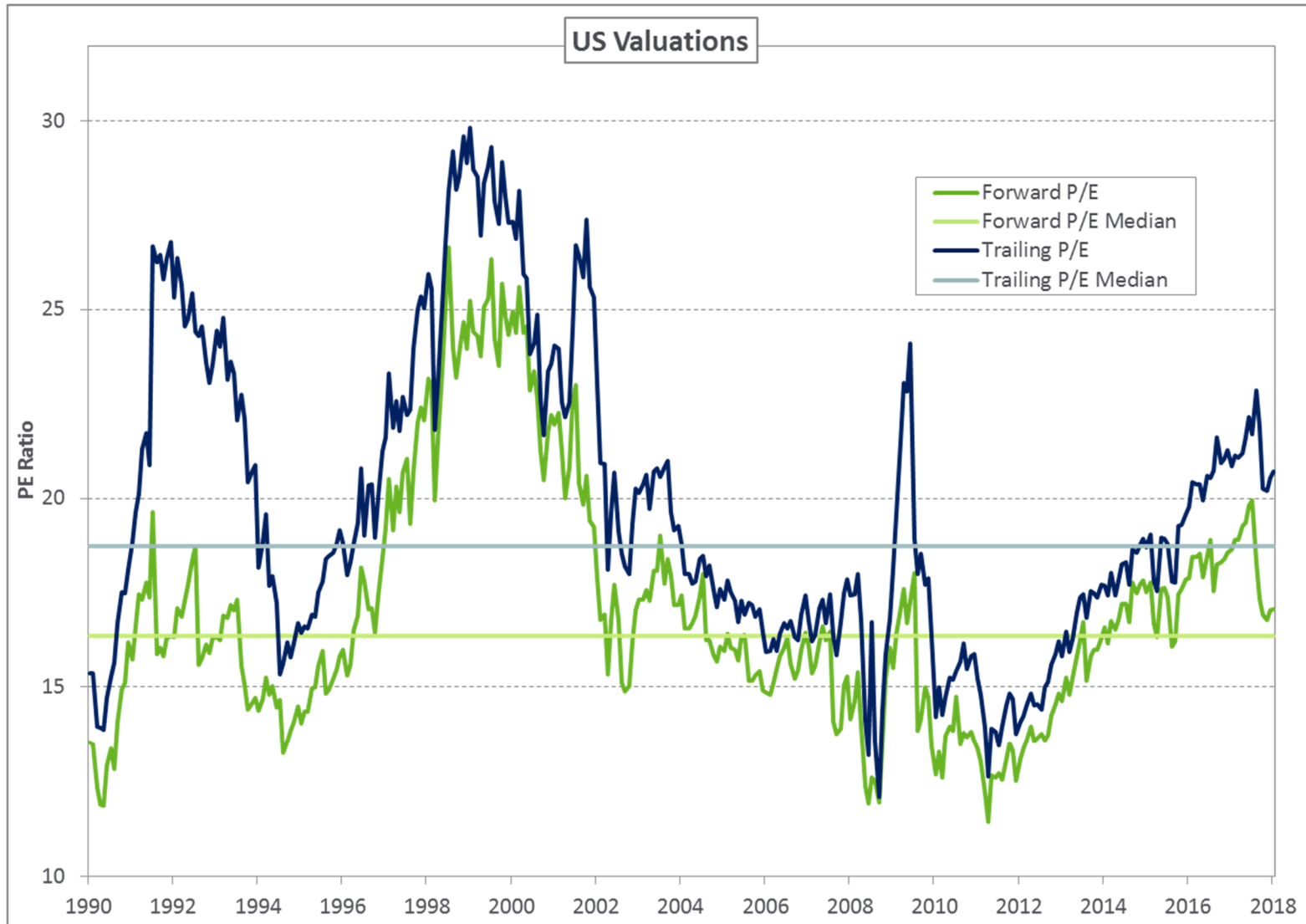
Source: S&P, MSCI, Bloomberg
Earnings yield calculated as 1/PE Ratio



Source: S&P, MSCI, Bloomberg



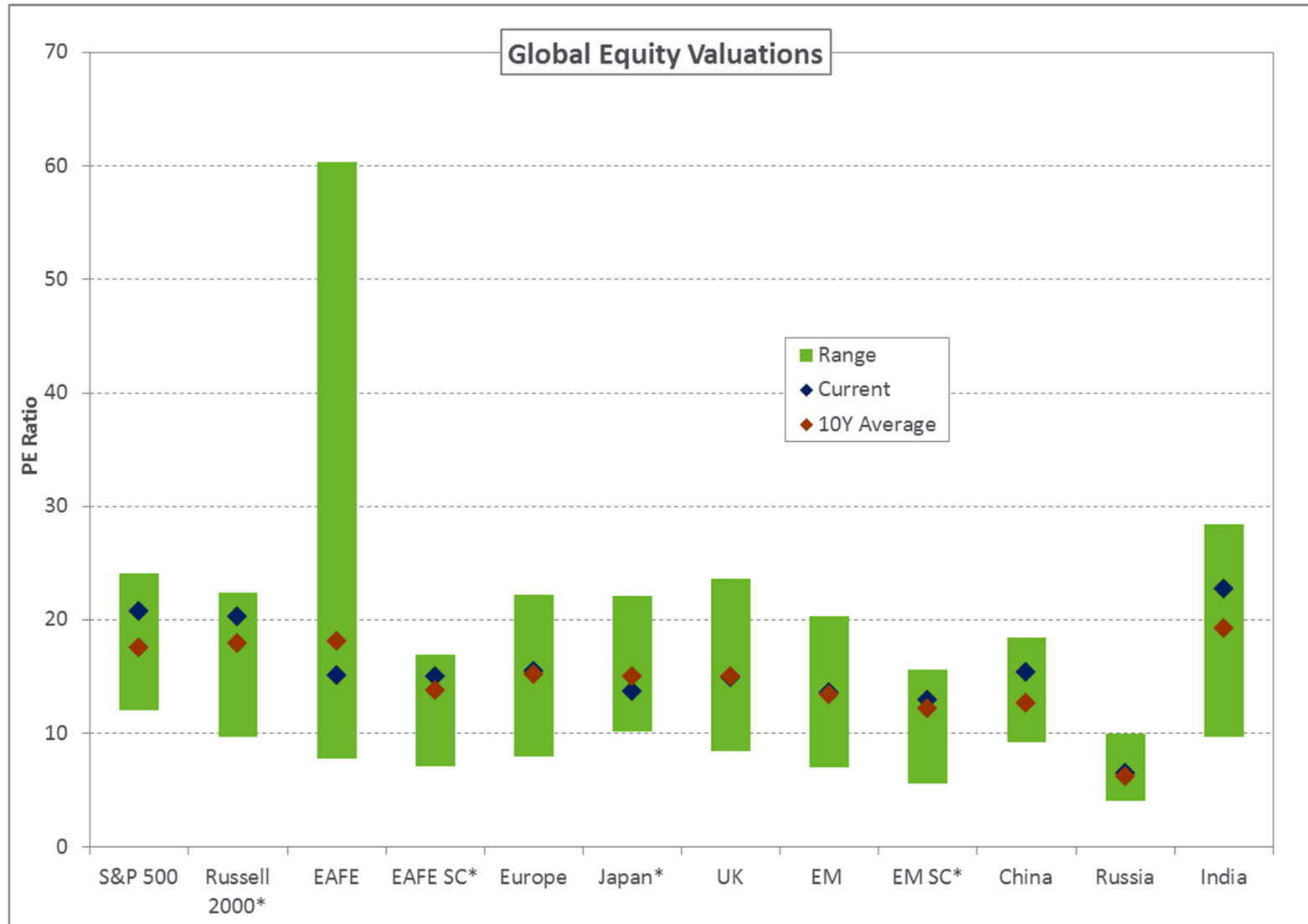
US EQUITY VALUATIONS



Source: S&P, Bloomberg
Medians calculated as of 01/31/1990



GLOBAL EQUITY VALUATIONS



Source: S&P, Russell, MSCI, Bloomberg, NEPC
 *Denotes the use of index-adjusted positive PE ratio
 Ranges calculated using trailing 10-year figures



CREDIT

NEPC, LLC

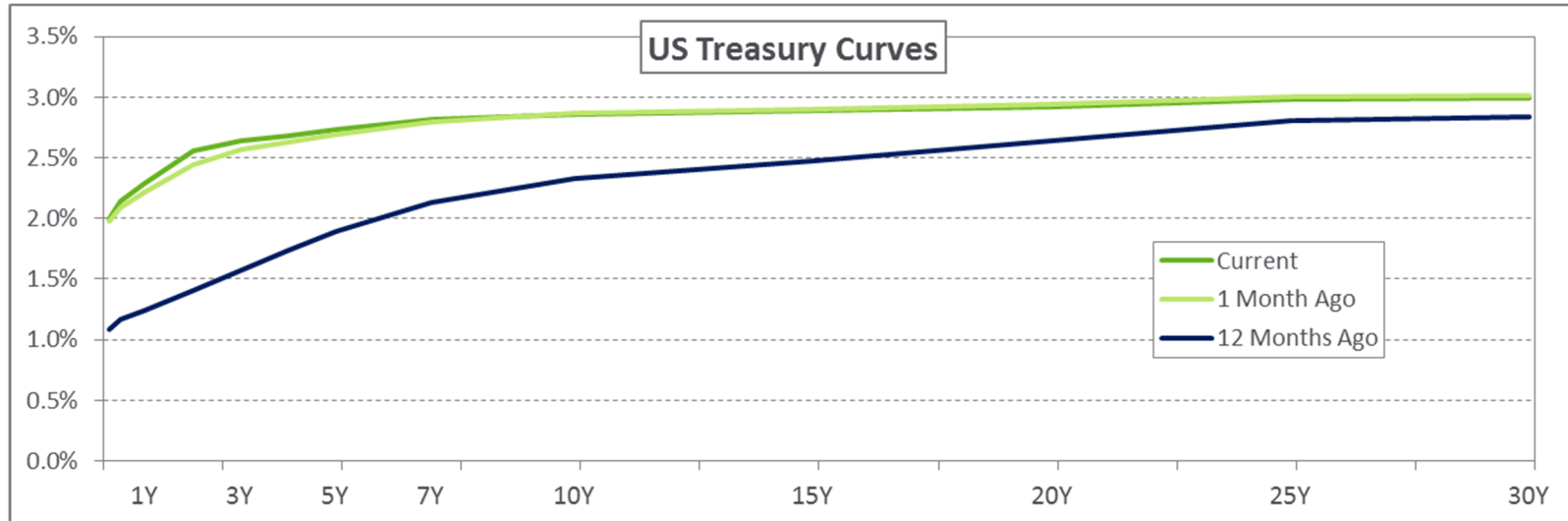
FIXED INCOME CHARACTERISTICS

	Averages			Total Returns (%)		
	Yield to Worst	Spread (bps)	Duration (Years)	1-Month	YTD	1-Year
Barclays Aggregate	3.3%	44	6.0	-0.1%	-0.2%	-0.4%
Barclays Treasury	2.7%	-	6.1	0.0%	0.1%	-0.6%
Barclays Agency	2.8%	14	3.8	0.0%	0.0%	-0.1%
Barclays MBS	3.4%	28	5.1	0.0%	0.2%	0.1%
Barclays ABS	3.0%	42	2.2	0.0%	0.4%	0.2%
Barclays CMBS	3.5%	70	5.3	-0.2%	-0.1%	-0.3%
Barclays Corp IG	4.0%	123	7.3	-0.6%	-1.0%	-0.8%
Barclays Muni	2.7%	-	6.0	0.1%	0.9%	1.6%
Barclays HY Muni	4.8%	-	7.7	0.5%	3.1%	7.1%
Barclays TIPS	3.0%	-	4.9	0.4%	0.8%	2.1%
Barclays HY	6.5%	363	3.9	0.4%	1.0%	2.6%
Barclays Global Agg	2.0%	47	7.1	-0.4%	-2.8%	1.4%
JPM EMBI Glob Div	6.6%	388.06	7.2	-1.2%	-3.5%	-1.6%
JPM CEMBI Broad	5.2%	298.32	4.6	-0.4%	-1.8%	-0.1%
JPM GBI - EM	6.6%	-	5.1	-2.9%	-10.4%	-2.3%

Source: Barclays, JPM, Bloomberg



TREASURIES



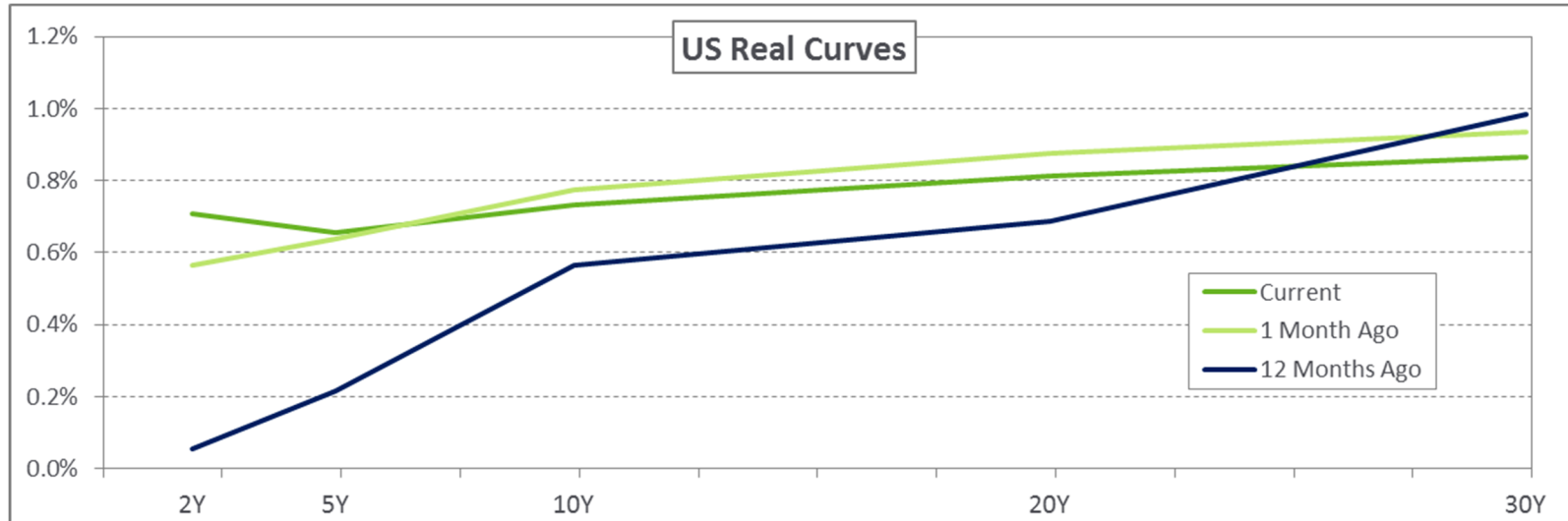
Source: Bloomberg

	Yield (%)			Total Return (%)	
	Current	1 Month Ago	12 Months Ago	1 Month	12 Months
3M Treasury	2.00%	1.98%	1.08%	0.16%	1.29%
6M Treasury	2.14%	2.10%	1.16%	0.17%	1.35%
2Y Treasury	2.56%	2.44%	1.41%	-0.02%	-0.15%
5Y Treasury	2.74%	2.69%	1.90%	-0.05%	-1.51%
10Y Treasury	2.86%	2.87%	2.33%	0.00%	-2.64%
30Y Treasury	2.99%	3.02%	2.84%	0.30%	-0.17%

Source: Barclays, Bloomberg



REAL YIELDS



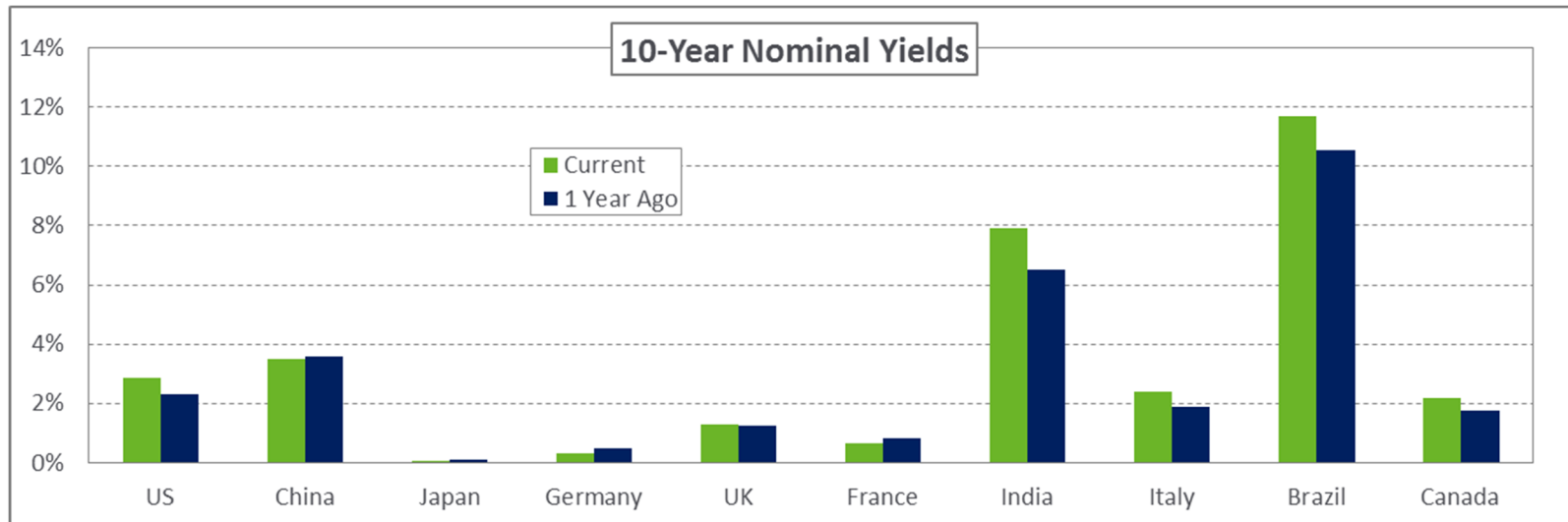
Source: Bloomberg

	Real Rates			Breakeven Rates	
	Current	1 Month Ago	12 Months Ago	Current	12 Months Ago
2Y Treasury	0.71%	0.57%	0.05%	1.80%	1.29%
5Y Treasury	0.65%	0.64%	0.22%	2.08%	1.66%
10Y Treasury	0.73%	0.78%	0.56%	2.13%	1.74%
20Y Treasury	0.81%	0.88%	0.69%	2.08%	1.70%
30Y Treasury	0.87%	0.94%	0.98%	2.12%	1.85%

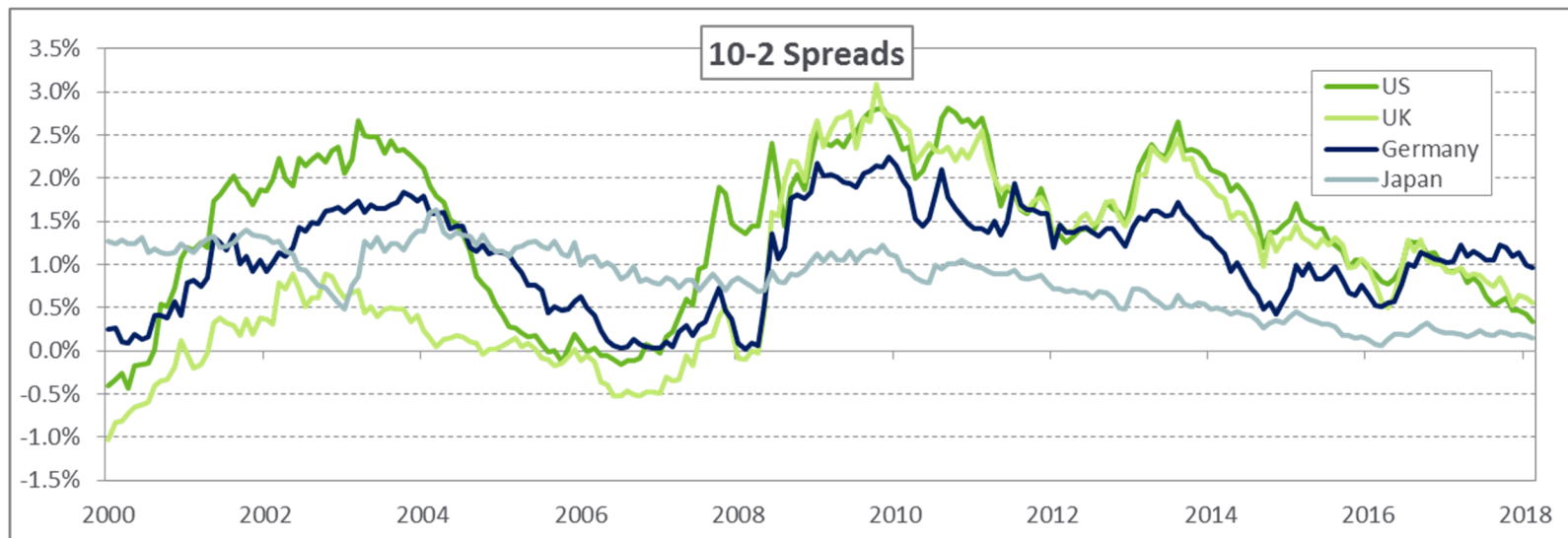
Source: Barclays, Bloomberg



NOMINAL YIELDS



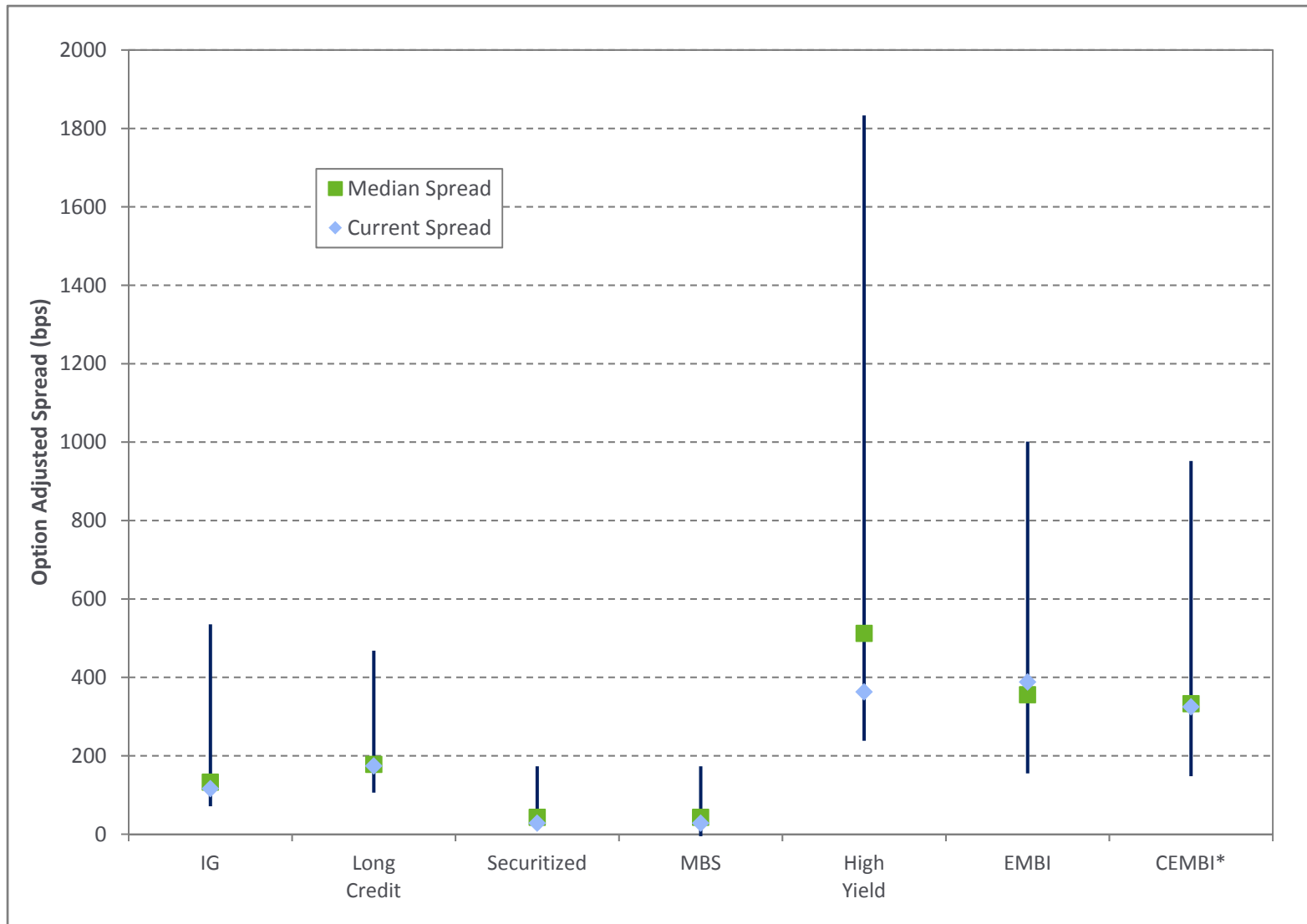
Source: Bloomberg



Source: Bloomberg



CREDIT SPREADS



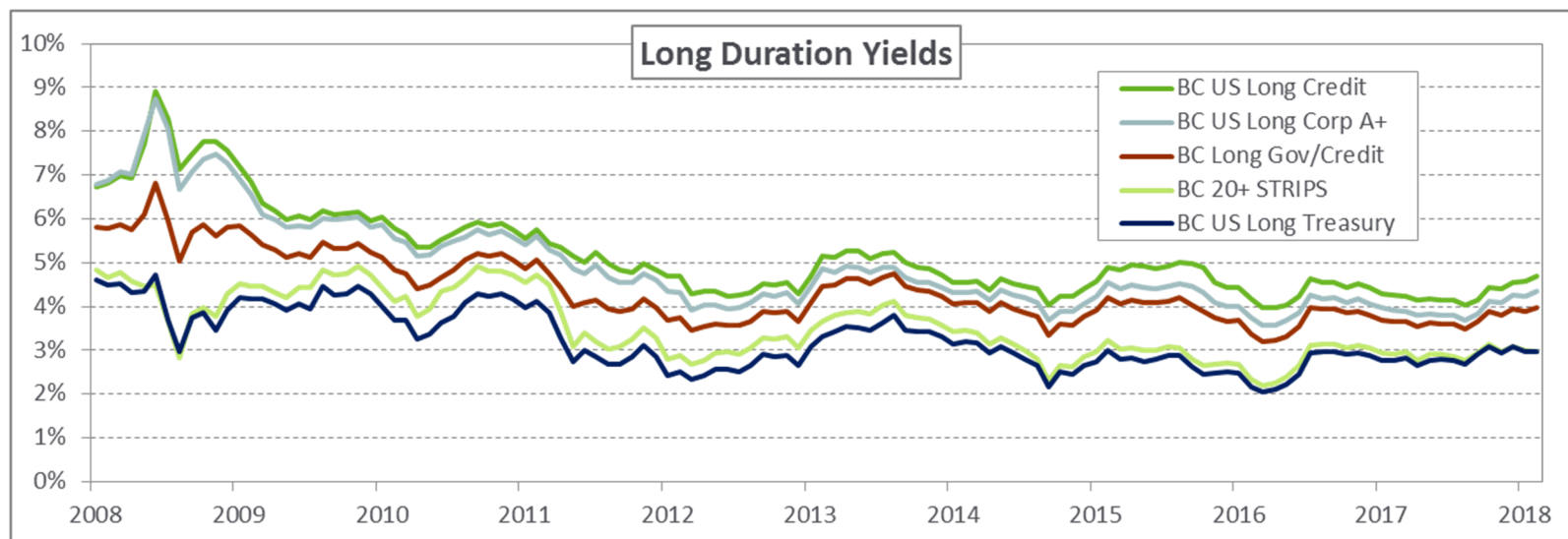
Source: Barclays, JPM, Bloomberg
 Data range: 01/31/2000 through month-end
 *JPM CEMBI calculated since 12/31/2001



LONG DURATION

Index	Month-End Yield	1 Month Prior Yield	1 Year Prior Yield	Duration
Barclays Long Treasury	3.0%	3.0%	2.8%	17.2
Barclays 20+ STRIPS	3.0%	3.0%	2.9%	25.4
Barclays Long Gov/Credit	4.0%	3.9%	3.7%	14.9
Barclays Long Credit	4.7%	4.6%	4.3%	13.4
Barclays Long Corp A+	4.3%	4.2%	3.9%	14.1

Source: Barclays, Bloomberg



Source: Barclays, Bloomberg



REAL ASSETS

NEPC, LLC

REAL ASSETS INDEX PERFORMANCE

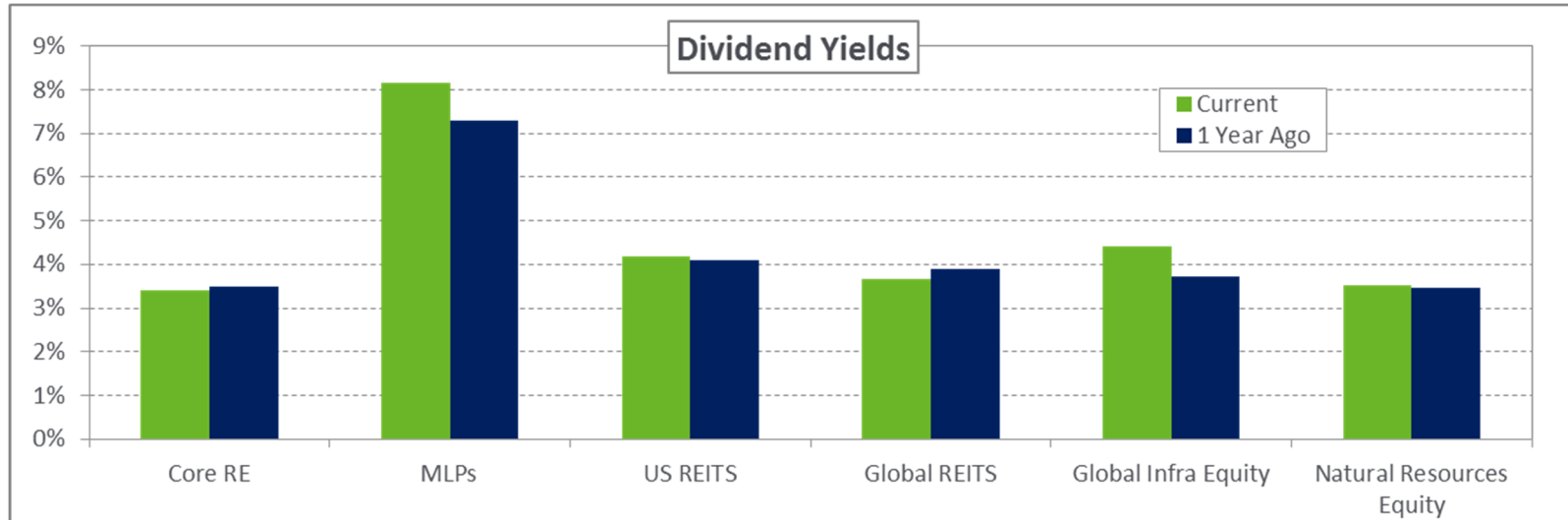
Index	1 Month	3 Month	YTD	1 Year	3 Year	5 Year
Bloomberg Commodity Index	-3.5%	0.4%	0.4%	7.3%	-4.5%	-6.4%
Bloomberg Sub Agriculture Index	-10.5%	-8.7%	-8.7%	-13.3%	-9.9%	-9.5%
Coffee	-8.5%	-5.5%	-5.5%	-16.3%	-13.1%	-9.8%
Corn	-10.8%	-11.0%	-11.0%	-16.9%	-14.7%	-16.2%
Cotton	-7.9%	6.1%	6.1%	25.2%	8.0%	1.8%
Soybean	-15.4%	-18.4%	-18.4%	-13.6%	-9.0%	-5.1%
Soybean Oil	-6.7%	-9.7%	-9.7%	-15.1%	-9.1%	-12.0%
Sugar	-6.3%	-3.1%	-3.1%	-15.3%	-6.2%	-14.7%
Wheat	-7.5%	4.7%	4.7%	-20.1%	-18.6%	-14.8%
Bloomberg Sub Energy	2.7%	10.7%	10.7%	34.8%	-9.0%	-13.0%
Brent Crude	2.7%	16.7%	16.7%	69.6%	-1.5%	-10.8%
Heating Oil	0.3%	10.5%	10.5%	52.2%	-2.5%	-8.8%
Natural Gas	-0.7%	4.2%	4.2%	-17.8%	-23.3%	-21.3%
Unleaded Gas	0.2%	7.7%	7.7%	41.8%	-4.5%	-8.7%
WTI Crude Oil	8.8%	13.2%	13.2%	58.9%	-8.3%	-14.0%
Bloomberg Sub Industrial Metals	-4.8%	1.0%	1.0%	15.2%	6.2%	0.9%
Aluminum	-6.7%	8.7%	8.7%	11.8%	6.1%	-0.2%
Copper	-3.7%	-2.7%	-2.7%	7.5%	2.6%	-1.7%
Nickel	-2.1%	12.1%	12.1%	57.7%	6.2%	0.3%
Zinc	-7.3%	-12.1%	-12.1%	6.1%	12.1%	7.4%
Bloomberg Sub Precious Metals	-3.3%	-4.5%	-4.5%	-0.8%	1.2%	-1.3%
Gold	-3.7%	-5.5%	-5.5%	0.2%	1.5%	-0.1%
Silver	-1.9%	-0.9%	-0.9%	-3.6%	-0.1%	-4.9%
Bloomberg Sub Livestock	2.7%	5.5%	5.5%	-9.4%	-4.5%	-2.7%
Lean Hogs	2.5%	3.0%	3.0%	-11.4%	-3.5%	-8.6%
Live Cattle	2.8%	6.9%	6.9%	-8.7%	-5.3%	0.7%

Source: Bloomberg

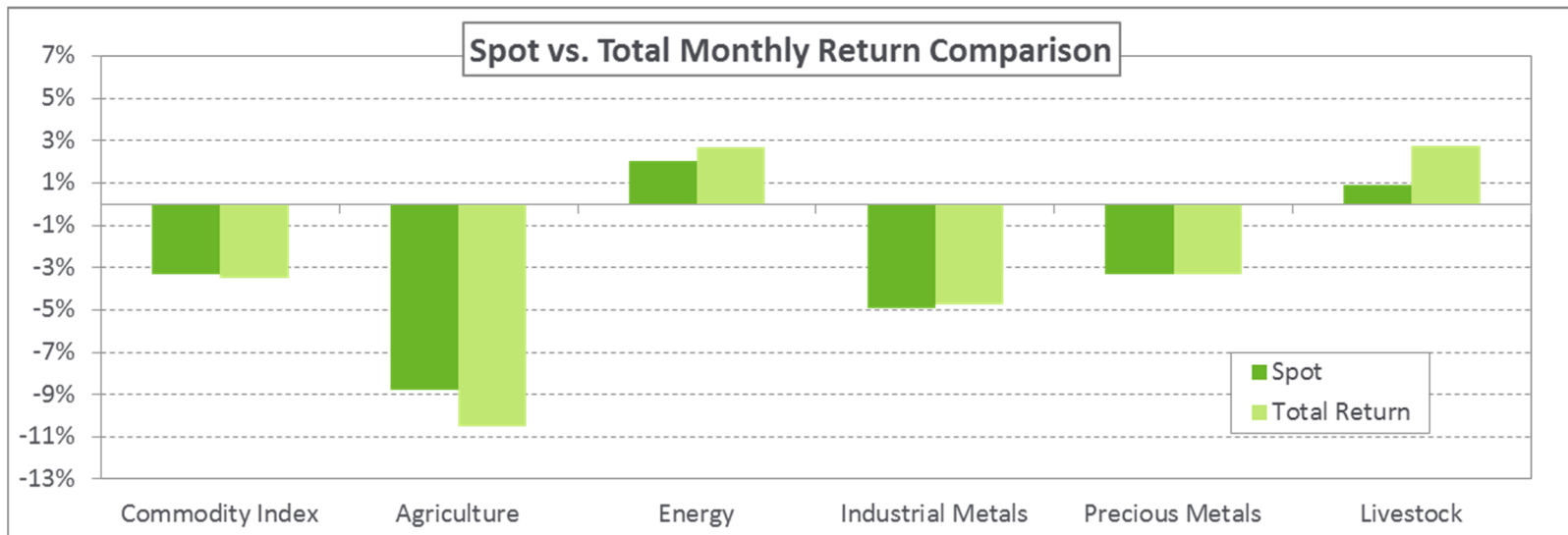
Bloomberg subindex total return indices reflects the return of the underlying one month commodity futures price movements



INCOME YIELD



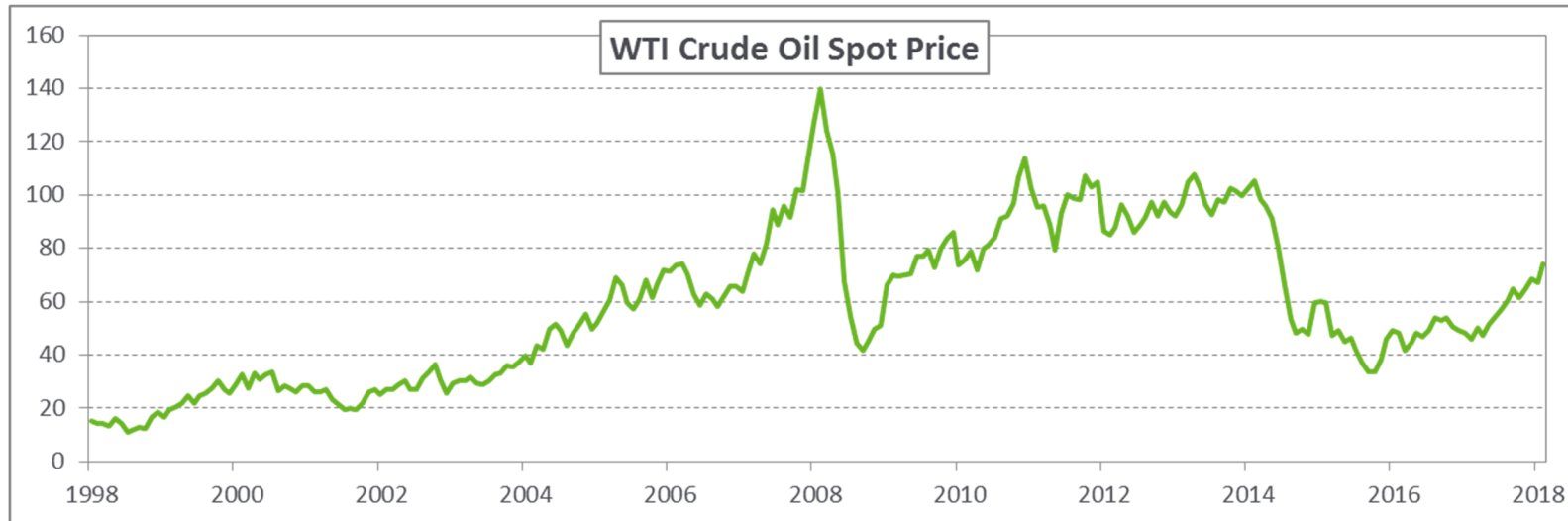
Source: Alerian, NAREIT, S&P, Bloomberg



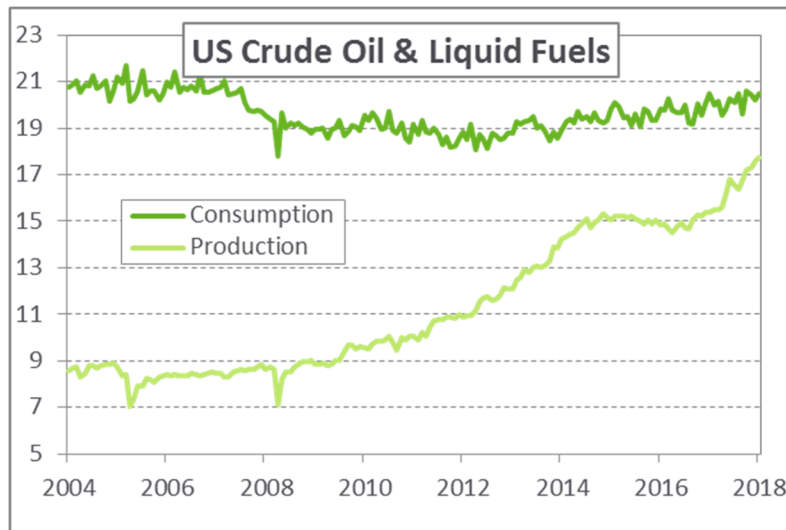
Source: Bloomberg, NEPC



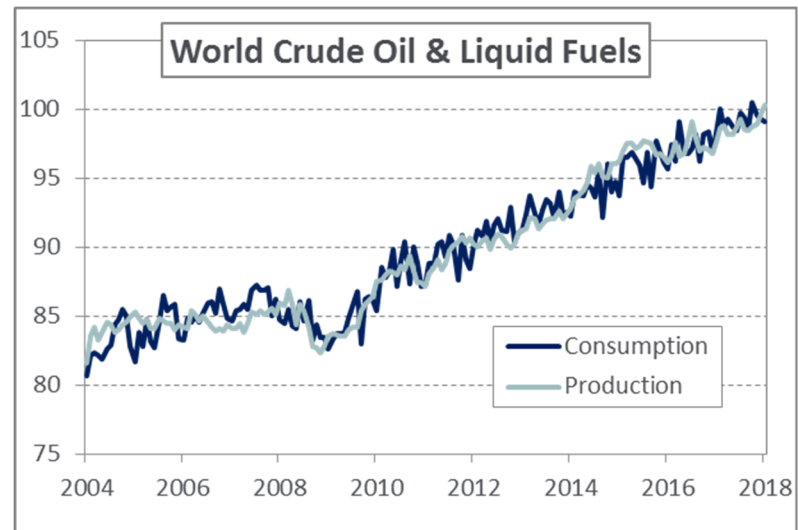
OIL MARKETS



Source: New York Mercantile Exchange, Bloomberg



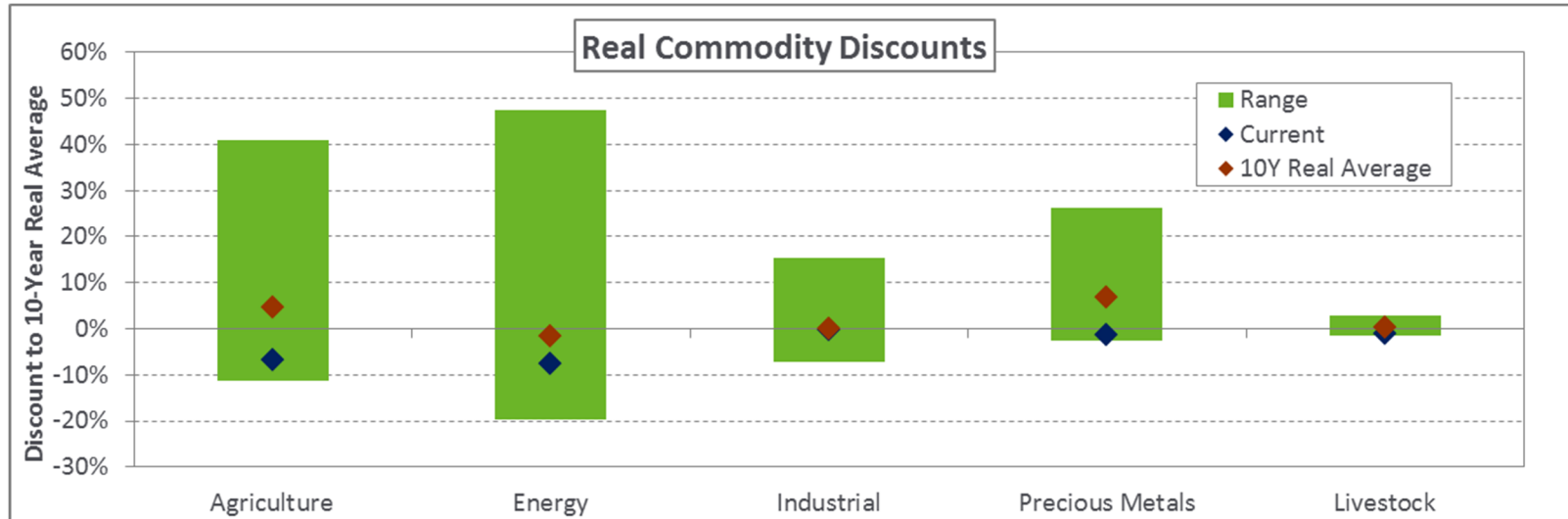
Source: US Department of Energy, Bloomberg



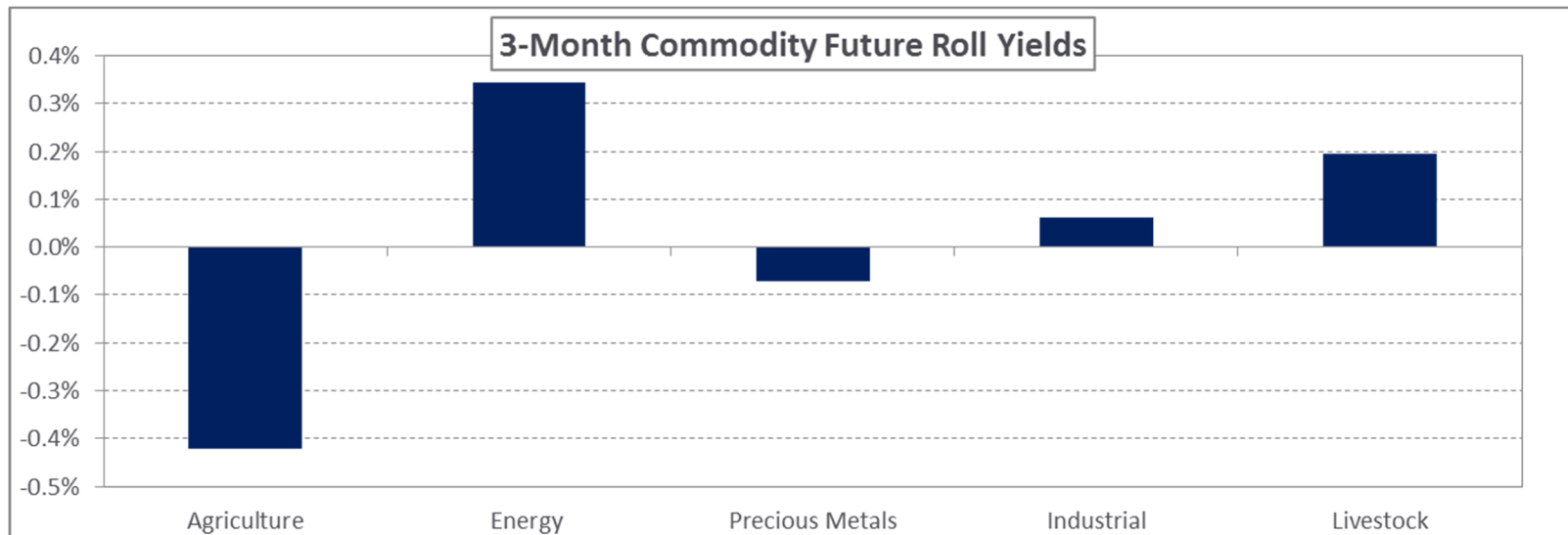
Source: OECD, Bloomberg



VALUATIONS



Source: Bloomberg, NEPC



Source: Bloomberg



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- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
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