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San Bernardino County
Investment Summary
Quarter Ending December 31, 2016

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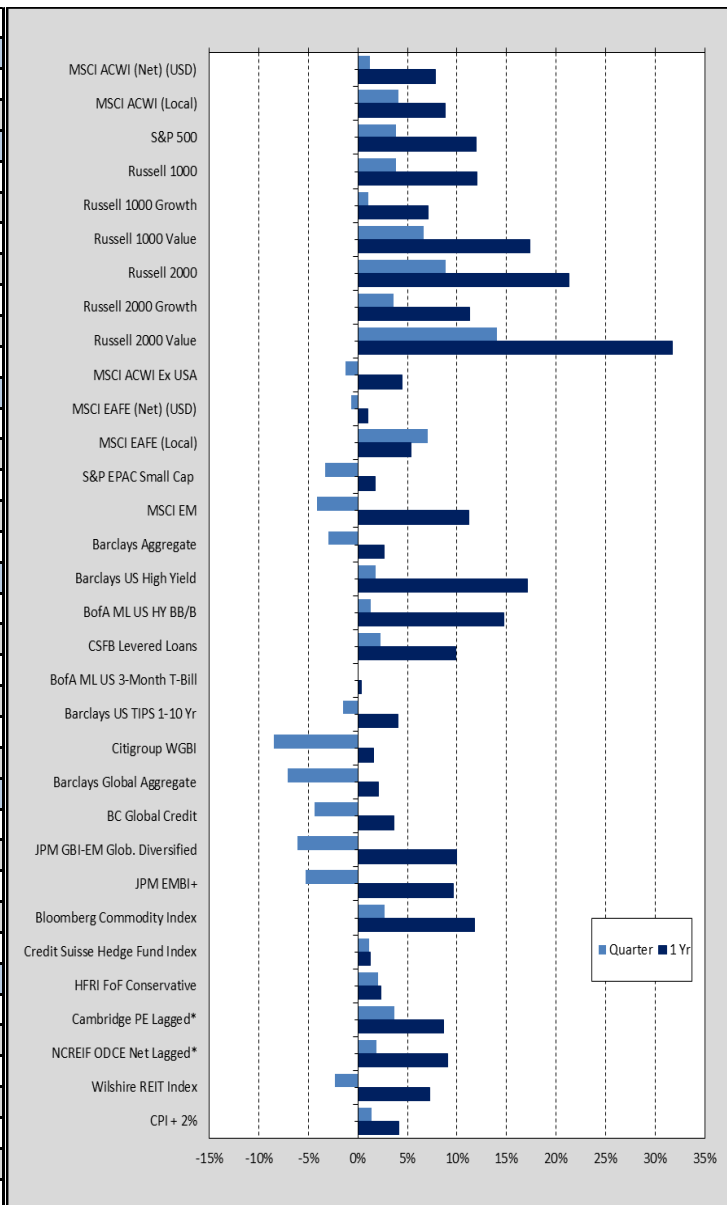
Market Environment Update and Outlook

- **Third quarter GDP growth rate (third estimate) printed at 3.5%.**
 - Retail sales ended November at +3.7% on a YoY basis. In the same period last year the YoY growth rate was 1.0%.
 - The inventory-to-sales ratio ended November flat at 1.4 and has remained relatively flat since early 2010.
 - Corporate profits (ended July) as a percent of GDP increased to 9.0% from 8.5% (in April) and remain elevated relative to historical levels.
 - The U.S. trade deficit widened ended November as the rate of change in imports increased to a 15 month high.
- **The unemployment rate decreased to 4.7% in Q4 from 4.9% in Q3; U-6, a broader measure of unemployment, decreased to 9.1% during the fourth quarter from 9.7%.**
- **The Case-Shiller Home Price Index (ended October) increased to 185.06 from 183.3 in July and is at levels higher than that of pre-financial crisis levels of 150.9.**
- **Rolling 12-month seasonally adjusted CPI saw an uptick to 2.09% at the end of December; Capacity Utilization was flat at 75.5% ended Q4.**
- **Fed Funds rate was increased +0.25% to a targeted range of 0.50% - to - 0.75%. The 10-year Treasury Yield (constant maturity) finished Q4 at 2.5% up 0.9% from Q3.**
- **The Fed balance sheet decreased slightly during Q4 2016, while the European Central Bank balance sheet continues to increase.**
 - ECB held its benchmark refinance rate at 0%, deposit rates -0.4% and asset purchases at €80 billion per month of corporate and public securities, announced slowing of bond purchase pace in 2017.
- **S&P valuations increased slightly in Q4 remaining above the 10-year and long-term averages.**
 - Cyclically adjusted Shiller PE ratio (27.84x) is above the long-term average of 16.71x and above the 10-year average of 24.46x.

San Bernardino County Employees' Retirement Association

Market Environment – Q4 2016 Overview

		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Equity Benchmarks						
MSCI ACWI (Net) (USD)	World	1.2%	7.9%	3.1%	9.4%	3.6%
MSCI ACWI (Local)	World (Local Currency)	4.1%	8.8%	6.4%	11.9%	4.3%
Domestic Equity Benchmarks						
S&P 500	Large Core	3.8%	12.0%	8.9%	14.7%	6.9%
Russell 1000	Large Core	3.8%	12.1%	8.6%	14.7%	7.1%
Russell 1000 Growth	Large Growth	1.0%	7.1%	8.6%	14.5%	8.3%
Russell 1000 Value	Large Value	6.7%	17.3%	8.6%	14.8%	5.7%
Russell 2000	Small Core	8.8%	21.3%	6.7%	14.5%	7.1%
Russell 2000 Growth	Small Growth	3.6%	11.3%	5.1%	13.7%	7.8%
Russell 2000 Value	Small Value	14.1%	31.7%	8.3%	15.1%	6.3%
International Equity Benchmarks						
MSCI ACWI Ex USA	World ex-US	-1.3%	4.5%	-1.8%	5.0%	1.0%
MSCI EAFE (Net) (USD)	Int'l Developed	-0.7%	1.0%	-1.6%	6.5%	0.7%
MSCI EAFE (Local)	Int'l Developed (Local Currency)	7.1%	5.3%	5.5%	11.8%	2.2%
S&P EPAC Small Cap	Small Cap Int'l	-3.3%	1.7%	2.4%	10.7%	3.1%
MSCI EM	Emerging Equity	-4.2%	11.2%	-2.6%	1.3%	1.8%
Domestic Fixed Income Benchmarks						
Barclays Aggregate	Core Bonds	-3.0%	2.6%	3.0%	2.2%	4.3%
Barclays US High Yield	High Yield	1.8%	17.1%	4.7%	7.4%	7.5%
BofA ML US HY BB/B	High Yield	1.3%	14.7%	4.9%	7.1%	6.9%
CSFB Levered Loans	Bank Loans	2.3%	9.9%	3.8%	5.3%	4.3%
BofA ML US 3-Month T-Bill	Cash	0.1%	0.3%	0.1%	0.1%	0.8%
Barclays US TIPS 1-10 Yr	Inflation	-1.5%	4.0%	1.5%	0.7%	3.8%
Global Fixed Income Benchmarks						
Citigroup WGBI	World Gov. Bonds	-8.5%	1.6%	-0.8%	-1.0%	3.0%
Barclays Global Aggregate	Global Core Bonds	-7.1%	2.1%	-0.2%	0.2%	3.3%
BC Global Credit	Global Bonds	-4.4%	3.7%	1.0%	2.6%	3.9%
JPM GBI-EM Glob. Diversified	Em. Mkt. Bonds (Local Currency)	-6.1%	9.9%	-4.1%	-1.3%	3.8%
JPM EMBI+	Em. Mkt. Bonds	-5.3%	9.6%	5.8%	5.1%	6.6%
Alternative Benchmarks						
Bloomberg Commodity Index	Commodities	2.7%	11.8%	-11.3%	-9.0%	-5.6%
Credit Suisse Hedge Fund Index	Hedge Fund	1.1%	1.3%	1.6%	4.4%	3.8%
HFRI FoF Conservative	Fund of Hedge Funds	2.0%	2.3%	1.9%	3.5%	1.3%
Cambridge PE Lagged*	Private Equity	3.7%	8.6%	10.7%	13.1%	10.8%
NCREIF ODCE Net Lagged*	Real Estate	1.8%	9.1%	11.4%	11.3%	5.0%
Wilshire REIT Index	REIT	-2.3%	7.2%	13.8%	12.0%	4.8%
CPI + 2%	Inflation/Real Assets	1.3%	4.1%	3.2%	3.4%	3.8%



* As of 9/30/2016

Global Equity

- **U.S. equities posted modest gains in the fourth quarter (+3.8%) according to the S&P 500. Volatility related to political change and economic uncertainty continued in the quarter.**
- **Small cap stocks outperformed large cap stocks during the quarter, with the Russell 2000 Index returning 8.8% and the Russell 1000 Index returning 3.8%.**
- **International equities underperformed U.S. markets during the quarter, returning -1.3%, as measured by the MSCI ACWI ex-U.S. Index. Emerging markets returned -4.2% as measured by the MSCI Emerging Markets Index in U.S. dollar terms.**
 - Developed international markets returned -0.7% in USD terms, while in local currency terms returned +7.1% as measured by the MSCI EAFE Index.

Private Equity

- **Total fundraising in 2016 was as follows:**
 - Private equity fundraising totaled \$395.4 billion.
 - Buyout and Special Situations fundraising totaled \$219.7 billion.
 - While leverage multiples are nearly as high as pre-GFC levels, companies' abilities to service their debt is stronger than in prior years.
 - Venture capital fundraising totaled \$56.8 billion.
 - Fundraising continues to be strong, largest amounts since the dot-com era.
 - Fund of fund and multi-manager co-investment fundraising totaled \$52.8 billion.
 - Growth equity fundraising totaled \$23.9 billion.

Fixed Income

- **The nominal yield curve steepened in Q4. Intermediate yields increased 79 –to- 85 basis points and long duration yields increased 74 basis points.**
- **The spread between two and 10-year rates increased to 125 basis points from 83 basis points in Q3. Treasury Inflation-Protected Securities, or TIPS, returned -1.5% during the quarter, as measured by the BBg Barclays US TIPS 1-10 Yr Index.**
- **The BBg Barclays Long Duration Credit Index lost -5.02% as the long end of the curve ended the quarter 74 basis points higher.**
- **Long Treasuries lost -11.67% and investment-grade US corporate debt lost -2.98%.**
- **The BBg Barclays 1-3 year Government/ Credit Index returned -0.39%. US high yield bonds gained +1.8% driven by Energy names and tighter spreads.**
- **Emerging markets debt sustained moderate losses.**
 - US dollar-denominated debt, as measured by the JP Morgan EMBI Index, lost -5.3%; local currency debt lost -6.1%, according to the JP Morgan GBI-EM BD Index.
 - Inflows in 2016 have not made up for outflows since 2013 in local currency EMD.

Real Assets/Inflation-Linked Assets

- **Energy remains attractive.**
 - Private equity and debt opportunities are attractive.
 - Fire sale prices never materialized but focusing on assets outside of the hottest zip codes provides potential for strong returns as market normalizes.
- **Infrastructure – select opportunities to access growth markets.**
 - High quality assets are receiving premium bids from direct investors (Pension Funds and Sovereigns) with low costs of capital and long hold horizons; focus on mismanaged or niche opportunities.
- **Metals & Mining – have commodity prices bottomed?**
 - Peak capex occurred in 2012, lagging commodity price drops that began in 2011.
 - Diverse demand drivers for underlying commodity prices.
- **Timber – low return potential and limited opportunity for outperformance.**
- **Agriculture – near-term slowdown in price appreciation creates opportunity to invest in a strong (very) long term outlook supported by demographic trends.**

Commodities

- **Commodities ended the quarter up +2.3% as measured by the Bloomberg Commodity Index.**
 - Weakness in Gold (lost -12.5%) in the fourth quarter outweighed by positive performance in the broader basket of commodities.

Real Estate

- **NEPC continues to be neutral on core real estate in the US and remains positive on non-core real estate, that is, value-add and opportunistic strategies.**
- **Real estate fundamentals (rent growth, occupancy, net absorption) remain strong; however, valuations are high on an absolute and relative basis.**
 - Rising interest rates have been baked into existing valuations but excess cap rate expansion (beyond general expectations) will reset valuations.
- **Overall, the non-core real estate investment environment in the U.S. is normalizing; however, select areas remain attractive.**
- **REITs, at Q4, are trading below NAV but have been volatile and are still at historically high FFO multiples.**
- **Europe is viewed as the best place for a marginal dollar of non-core real estate investment.**
 - Current US-dollar denominated investors with currency exposure will feel near-term impact of Brexit, but new investors may benefit from a strong US-dollar. Long-term Brexit implications, however, are unclear.

Extended US Economic Cycle

Economic cycles don't die of old age

We believe the US economy is in an extended expansionary cycle despite being eight years removed from the last recession

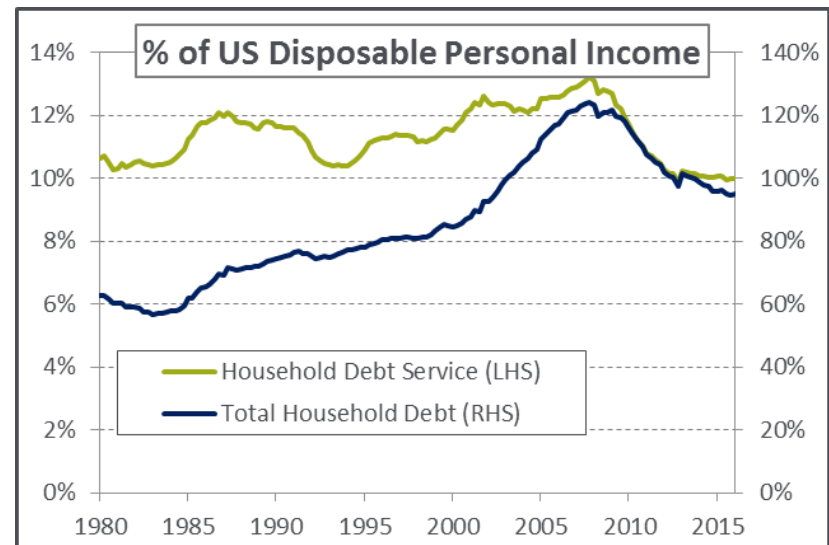
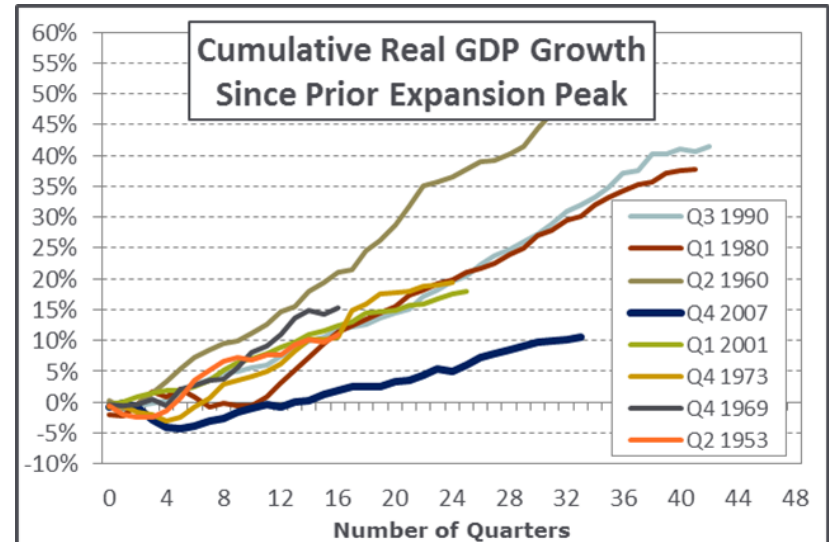
The health of US consumers continue to drive economic growth given relatively low debt levels

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

We anticipate inflation will shift marginally higher in the coming years

Improvements in wage growth and the ongoing recovery in housing further support modest upticks in inflation

The strength of the US dollar is likely to restrain inflationary pressures and offset the potential impact of fiscal stimulus in the US



Source: (Top) Federal Reserve Bank of St. Louis
Source: (Bottom) FRED

Extended US Economic Cycle

US recession concerns are muted

The US economy is likely to experience slow and steady growth as excess capacity is gradually absorbed by the economy

The labor market recovery has been robust but excess capacity remains as many have yet to return to the workforce

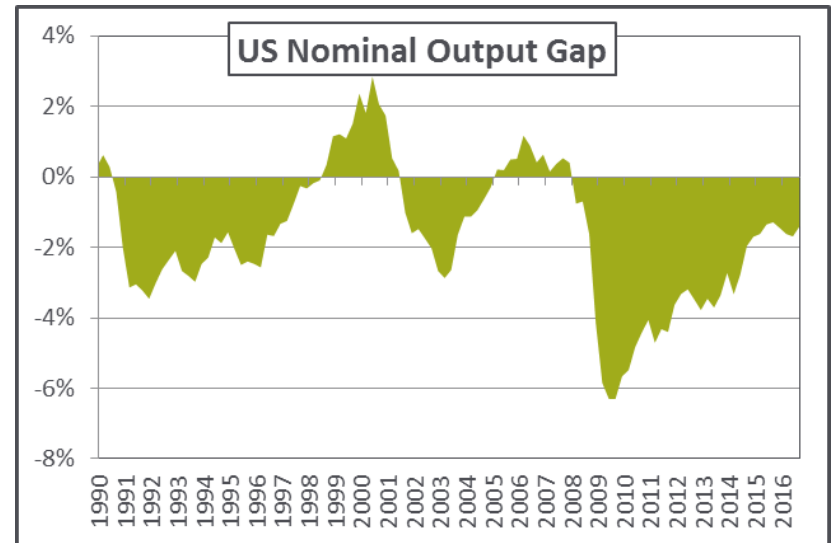
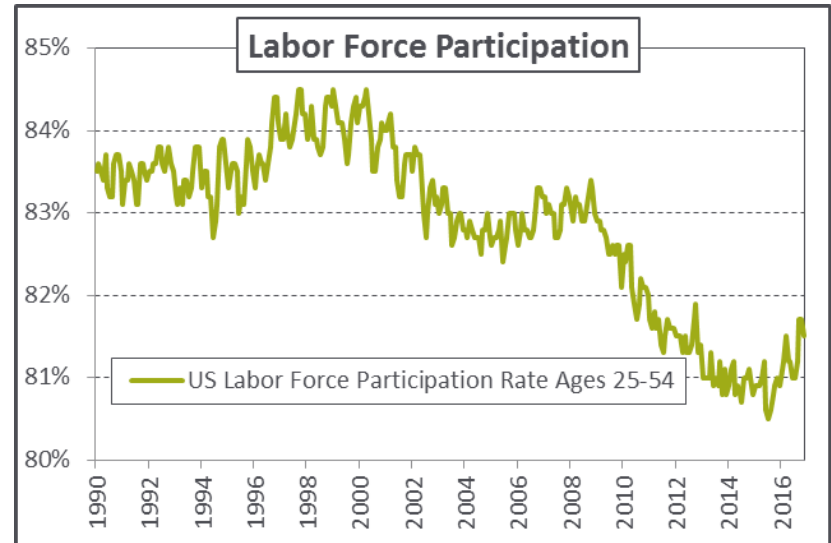
US dollar strength and corporate profitability trends are the primary sources of concern for potential weakness

Fiscal stimulus unlikely to push economic growth into a higher gear

Tax cuts and infrastructure spending modestly improve the US growth profile

The potential of higher US growth is likely muted by corresponding dollar strength

US stimulus may benefit non-US developed economies as marginally higher US growth weakens their currencies and improves competitiveness



Source: (Top) FRED
Source: (Bottom) Congressional Budget Office, Bloomberg

Federal Reserve Gradualism

The Federal Reserve is expected to slowly increase interest rates

Expected path of Fed policy through 2019 matters more than timing of the next hike

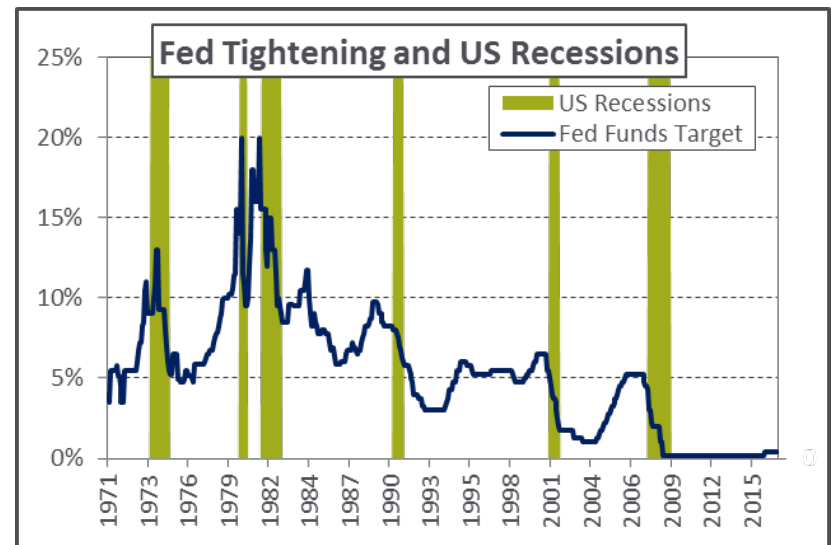
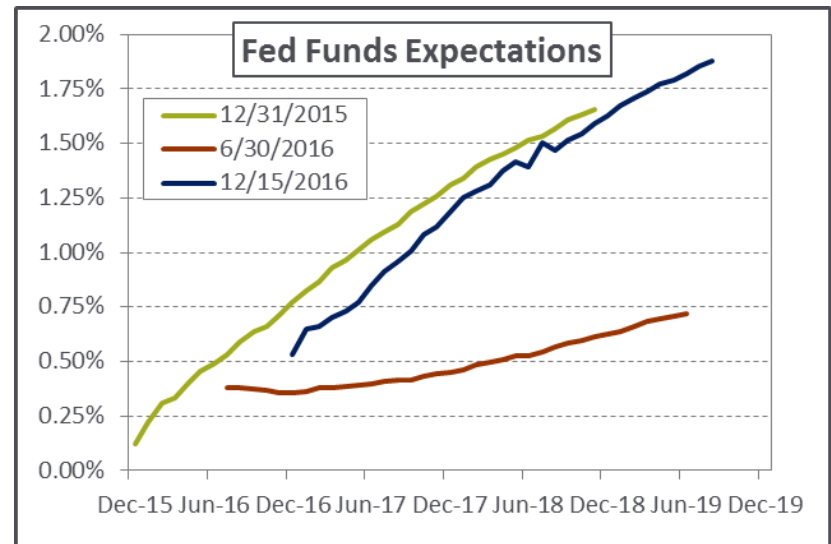
Fed has stated a willingness to let the economy "run hot" and accept some inflation to repair the deflationary effects of the past eight years

A relatively accommodative Fed is likely to continue, unless there is a dramatic acceleration in inflation

Historically, rapid tightening of Fed policy precedes a US recession

Tighter monetary policy slows inflation by decreasing economic activity

The Fed's monetary policy statements are closely scrutinized and deviations from "lower for longer" can materially impact the market outlook



Source: (Top) Federal Reserve, Bloomberg
Source: (Bottom) Federal Reserve, NBER, Bloomberg

Federal Reserve Gradualism

US dollar strength is interconnected with Federal Reserve policy

The US dollar is sensitive to changes in Fed rate expectations and interest rate differentials relative to the rest of the world

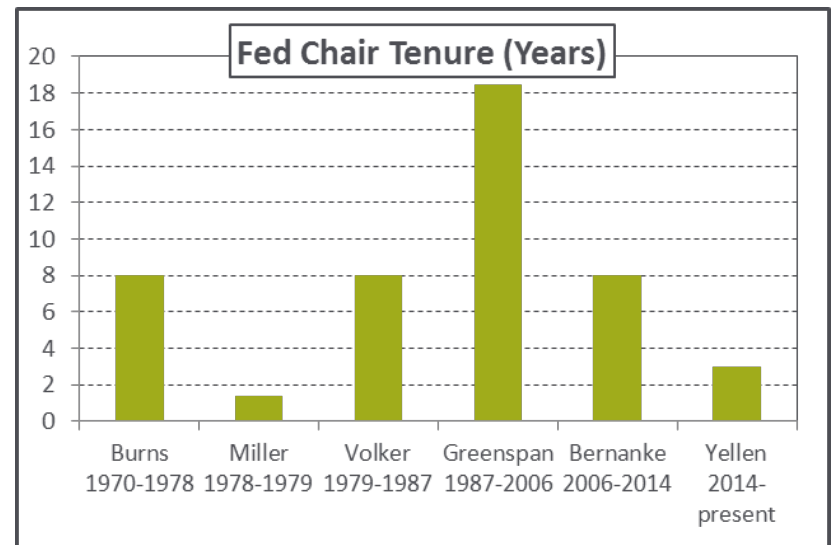
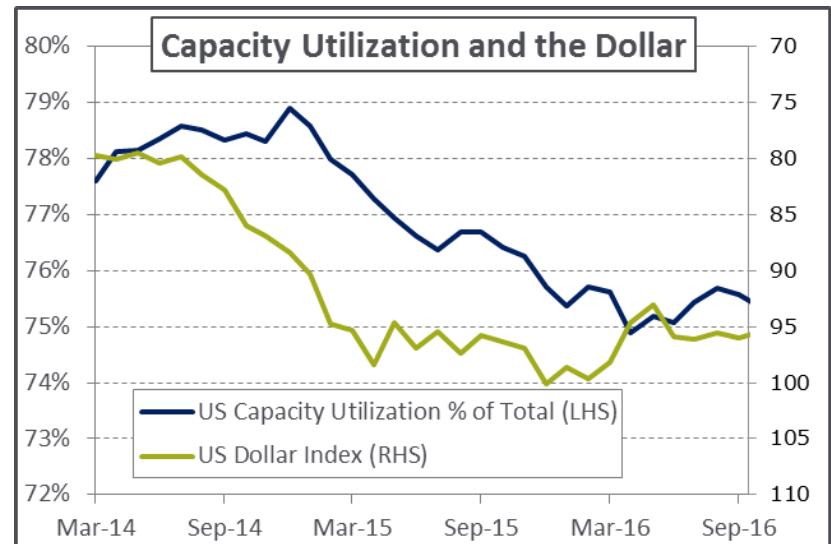
Fed must balance the path of future interest rate increases with the disruptive effects of a strong dollar on global markets

Dollar strength weakens the outlook for US corporate earnings and rapid dollar appreciation likely strains US profit margins

2017 is likely to be a year for greater uncertainty regarding Fed policy

Politics could intersect with Fed policy due to more vocal executive branch and conclusion of Janet Yellen's term in February 2018

The path of Fed rate hikes in 2017 and beyond is less clear due to the potential impact of fiscal stimulus



Source: (Top) Federal Reserve, Bloomberg
Source: (Bottom) Federal Reserve

China Transitions

The PBOC is tasked with straddling a delicate path as the economy evolves

China maintains control of its currency and monetary policy but would have to make concessions to open its capital account and allow the free movement of capital

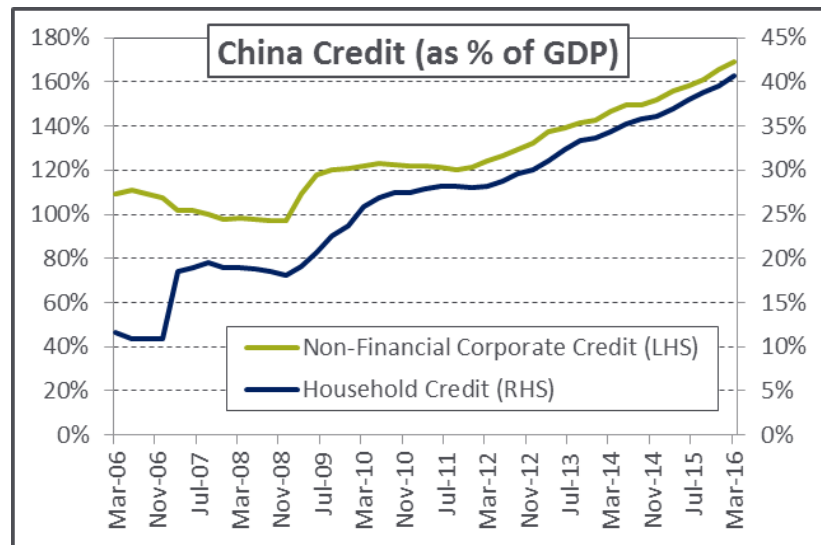
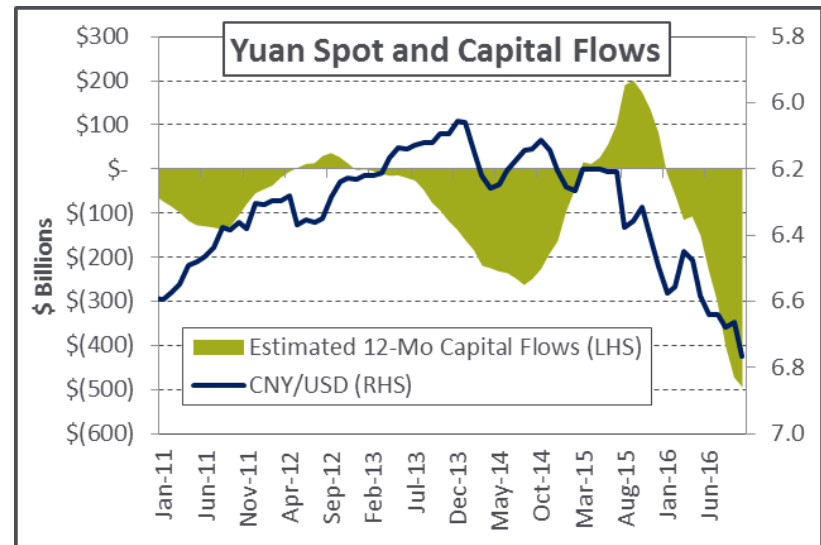
Restrictions on capital markets are slowly being eased, with an eye towards limiting social disruption

Concerns of a rapid currency devaluation have forced a more managed transition process that likely delays the opening of equity and bond markets to global investors

Managed policy transitions come with significant risks which require balance

Fiscal policy: Consequences of unsustainable credit growth if too accommodative or a hard economic landing if too austere

Monetary policy: Potential for asset price bubbles in real estate and capital markets if policy changes slowly or move rapidly and spur capital flight



Source: (Top) SAFE, Bloomberg
Source: (Bottom) Bank for International Settlements

Globalization Backlash

Weak economic growth and uneven wage gains over the last decade have fueled political discontent in the West

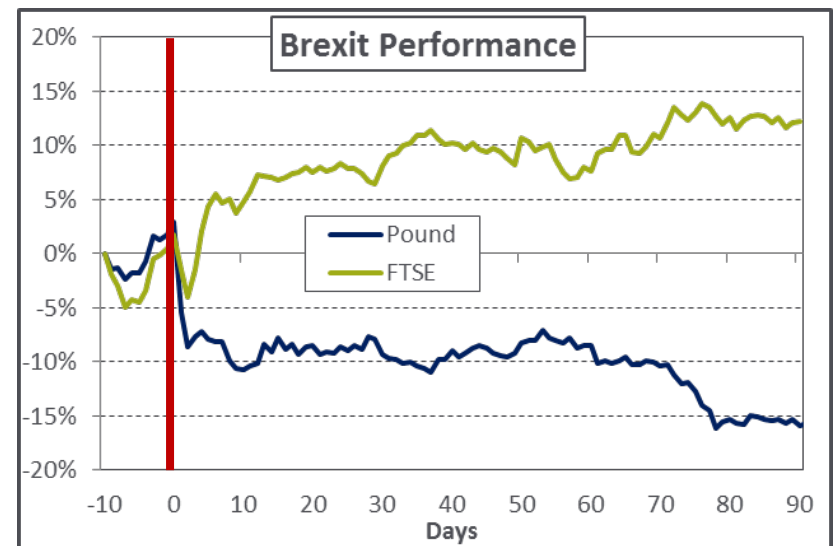
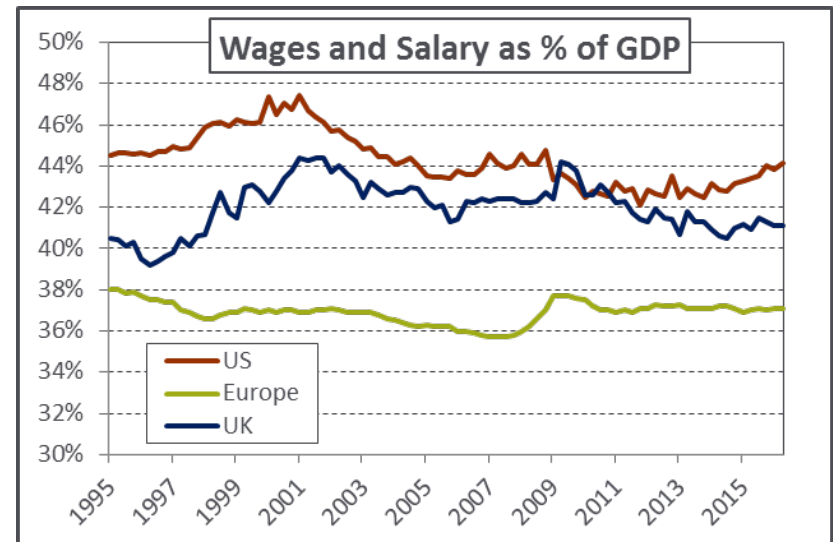
The backlash against globalization does not materially alter the fundamentals of the global capital markets, but does increase economic and market uncertainty

Populist movements destabilize the established political order but are not inevitably bearish for equity markets

Political uncertainty intensifies currency volatility and in cases of depreciation may stimulate local equity markets (e.g. UK)

May bring increased fiscal spending and higher inflation, a welcome benefit for developed market economies

However, a shift away from political orthodoxy heightens low probability political tail-risks such as a US-China trade war or a dissolution of the euro



Source: (Top) Bureau of Economic Analysis, Eurostat, Bloomberg
Source: (Bottom) Bloomberg

Highlights of Fourth Quarter Happenings at NEPC

December 2016

NEPC Insights

- NEPC's Election Perspective: The Race to the Bottom (October 2016)
- Interest Rate Risk and Asset/Liability Management for Cash Balance Plans (October 2016)
- 2016 3rd Quarter Market Thoughts (October 2016)
- Behind The Curtain: Operational Capabilities Are A Must for OCIOs (November 2016)
- NEPC's 2016 Hedge Fund Operational Due Diligence Survey Results (November 2016)
- NEPC Market Chatter: To PE or not to PE... That is the Question (November 2016)
- Caution: Construction Ahead – Healthcare Organizations Use Private Equity Investments to Support Innovation (December 2016)

Webinar Replays

- Investor Insights – Perspectives on the 2016 US Election (November 2016)
- Defined Benefit Plan Trends Survey Results (December 2016)
- Digging Deeper on ESG (December 2016)

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

Client Awards

We'd like to congratulate the following clients for their recent award wins at *Chief Investment Officer's 7th Annual 2016 Industry Innovation Awards*:

- Texas Tech University System's CIO, Tim Barrett as 2016 recipient of the Endowment Award
- MoDot & Patrol Employees' Retirement System's CIO, Larry Krummen as the 2016 recipient of the Public Defined Benefit Plan Below \$15 Billion Award
- State of Wisconsin Investment Board's CIO, David Villa as the 2016 recipient of the Public Defined Benefit Plan Above \$100 Billion Award



Upcoming Events

NEPC's 22nd Annual Investment Conference will be held on May 9-10, 2017 at the InterContinental Hotel in Boston, MA. Details to come in the upcoming months!



NEPC Gives Back

- NEPC employees sorted and prepared 6,853 pounds of food during a volunteer day at the Greater Boston Food Bank, an organization that works to end hunger in the area by providing people in need with healthy food and resources.
- During the month of November, NEPC's November team raised over \$5,000 to support men's health research.
- In support of Breast Cancer Awareness Month, NEPC employees wore their favorite pair of jeans with a purpose and participated in the American Cancer Society Denim Day by sporting denim and the color pink. Together, we raised over \$2,500.
- As part of our Annual United Way campaign, over 50 NEPC employees assembled Literacy Kits for children during the holiday season. The kits were filled with developmental games, arts and crafts supplies, and reading materials.

MARK YOUR CALENDAR!

Total Fund Performance

San Bernardino County Employees' Retirement Association

Total Fund Performance Summary (Gross)

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank
Total Fund	\$8,796,477,524	2.4%	1	7.0%	1	10.2%	1	5.1%	35	8.7%	37	4.5%	78
<i>Policy Index</i>		-1.0%	97	1.5%	99	6.8%	84	3.7%	85	6.6%	93	4.7%	72
<i>S&P 500</i>		3.8%	1	7.8%	1	12.0%	1	8.9%	1	14.7%	1	6.9%	1
<i>BBgBarc US Aggregate TR</i>		-3.0%	99	-2.5%	99	2.6%	99	3.0%	87	2.2%	99	4.3%	92
<i>60% MSCI ACWI (Gross)/40% CITI WGBI</i>		-2.7%	99	0.6%	99	5.9%	95	2.0%	99	5.6%	98	4.0%	94
<i>InvestorForce Public DB > \$1B Gross Median</i>		0.7%		4.6%		7.6%		4.7%		8.5%		5.2%	

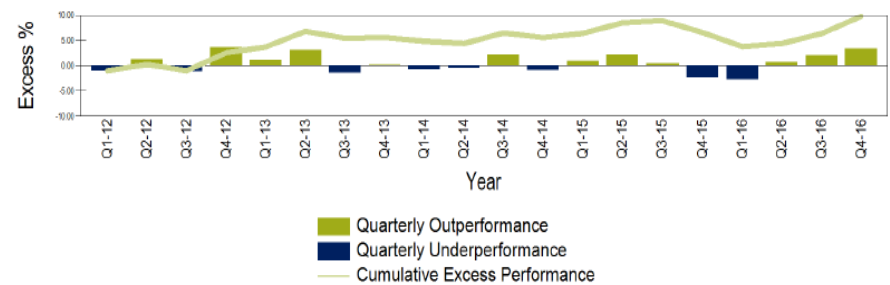
In the year ended December 31, 2016 the Fund returned -10.2% ranking in the 1st percentile of Pubic Funds > \$1Billion. The Fund's assets totaled \$8.8 billion, an increase of \$779.6 million from a year ago.

The Fund experienced a net investment gain of \$817.3 million in the year ended December 31, 2016 including a net investment gain of \$204.4 million in the fourth calendar quarter.

In the three -year period ended December 31, 2016 the Fund returned 5.1% and ranked in the 35th percentile among its peers. The Sharpe Ratio over this period of 1.4 ranks in the 1st percentile, indicating that the Fund earned a much higher rate of return for each incremental unit of risk taken during the period versus its peers.

In the five-year period ended December 31, 2016 the Fund returned 8.7% per annum and ranked in the 37th 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.

Quarterly and Cumulative Gross Performance vs. Policy



Statistics Summary

3 Years Ending December 31, 2016

	Sharpe Ratio	Sharpe Ratio Rank	Sortino Ratio	Sortino Ratio Rank
Total Fund	1.4	1	2.4	1
InvestorForce Public DB > \$1B Gross Median	0.7	--	1.2	--

5 Years Ending December 31, 2016

	Sharpe Ratio	Sharpe Ratio Rank	Sortino Ratio	Sortino Ratio Rank
Total Fund	2.3	1	3.4	1
InvestorForce Public DB > \$1B Gross Median	1.3	--	2.0	--

Total Fund Performance Summary

Statistics Summary

1 Year Ending December 31, 2016

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Sortino Ratio	Sortino Ratio Rank
Total Fund	10.2%	1	4.3%	2	2.3	1	2.4	5
InvestorForce Public DB > \$1B Gross Median	7.6%	--	6.3%	--	1.2	--	1.6	--

Statistics Summary

3 Years Ending December 31, 2016

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Sortino Ratio	Sortino Ratio Rank
Total Fund	5.1%	35	3.7%	1	1.4	1	2.4	1
InvestorForce Public DB > \$1B Gross Median	4.7%	--	6.2%	--	0.7	--	1.2	--

Statistics Summary

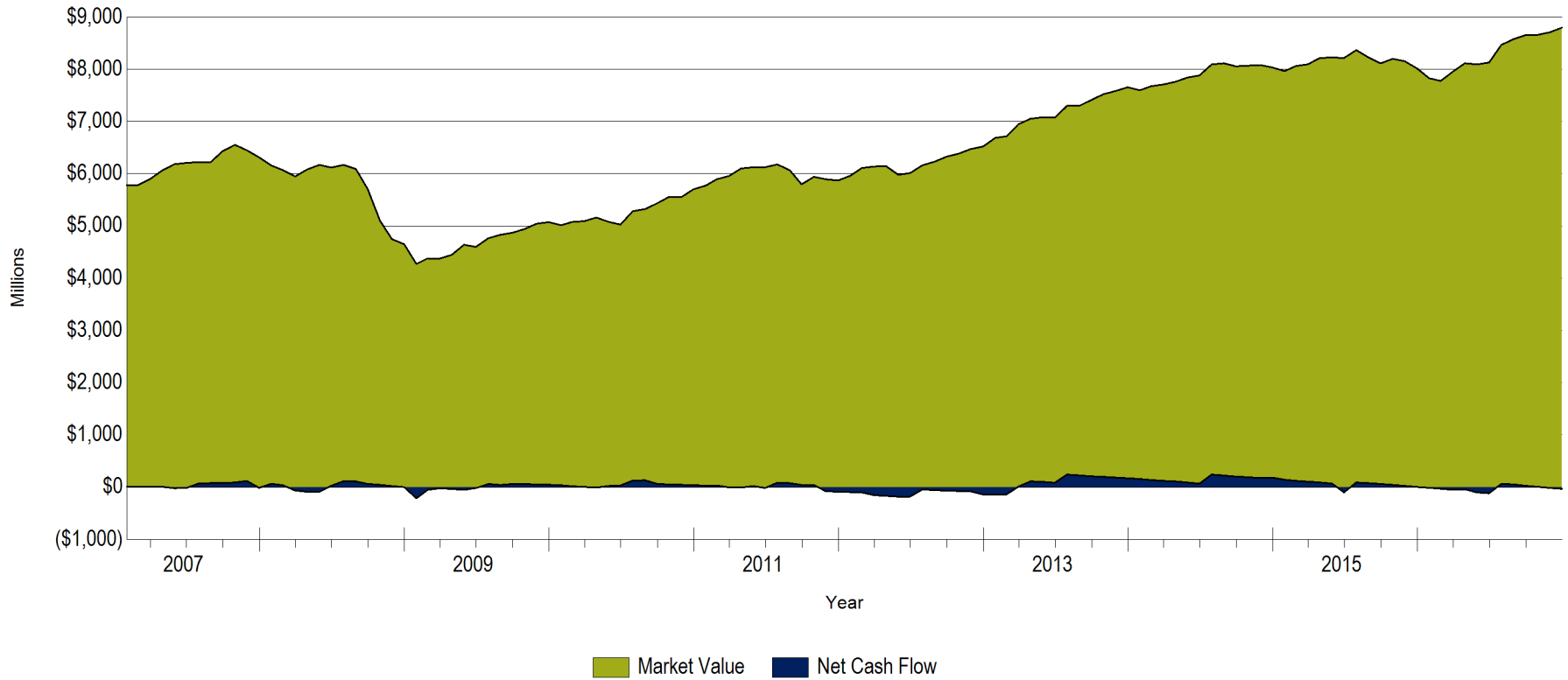
5 Years Ending December 31, 2016

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Sortino Ratio	Sortino Ratio Rank
Total Fund	8.7%	37	3.8%	1	2.3	1	3.4	1
InvestorForce Public DB > \$1B Gross Median	8.5%	--	6.2%	--	1.3	--	2.0	--

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

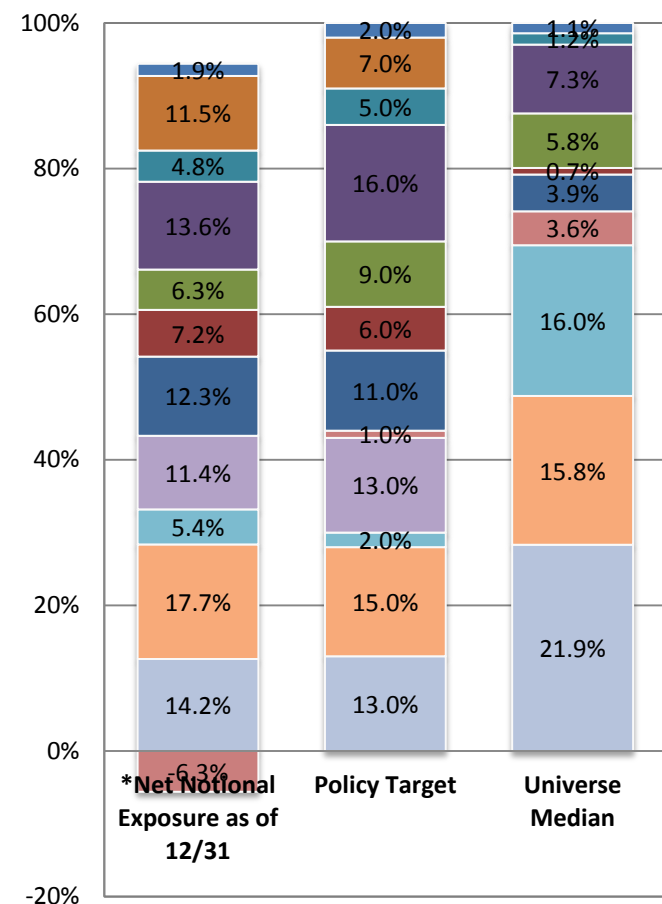
Total Fund Asset Growth Summary

10 Years Ending December 31, 2016



	Last Three Months	One Year	Five Years	Ten Years
Beginning Market Value	\$8,653,368,081	\$8,016,829,561	\$5,870,386,138	\$5,727,403,449
Net Cash Flow	-\$61,298,343	-\$37,680,736	\$63,732,215	-\$24,780,022
Net Investment Change	\$204,407,786	\$817,328,699	\$2,862,359,171	\$3,093,854,097
Ending Market Value	\$8,796,477,524	\$8,796,477,524	\$8,796,477,524	\$8,796,477,524

Total Fund Asset Allocation vs. Policy Targets



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

	*Net Notional Exposure	*Net Notional Exposure as of 12/31	Policy Target	*Difference	Policy Ranges	Within Range	Universe Median
US Equities	1,250,456	14.2%	13.0%	1.2%	8%-18%	Yes	21.9%
Int'l Equities	1,559,411	17.7%	15.0%	2.7%	10%-20%	Yes	15.8%
U.S. Core	477,618	5.4%	2.0%	3.4%	-3%-7%	Yes	16.0%
US Credit	1,002,133	11.4%	13.0%	-1.6%	8%-18%	Yes	
Non-US Core Fixed Income	(556,748)	-6.3%	1.0%	-7.3%	-4%-6%	No	3.6%
Non-US Credit	1,077,678	12.3%	11.0%	1.3%	6%-16%	Yes	3.9%
Emerging Market Debt	635,740	7.2%	6.0%	1.2%	1%-11%	Yes	0.7%
Real Estate	550,317	6.3%	9.0%	-2.7%	4%-14%	Yes	5.8%
Private Equity	1,194,118	13.6%	16.0%	-2.4%	11%-21%	Yes	7.3%
Real Assets	425,043	4.8%	5.0%	-0.2%	0%-10%	Yes	1.2%
Absolute Return	1,015,369	11.5%	7.0%	4.5%	2%-12%	Yes	
Cash	165,341	1.9%	2.0%	-0.1%	0%-10%	Yes	1.1%
	8,796,478	100.0%	100.0%				

*Net Notional Exposure is the combination of physical exposures as reported by State Street and the synthetic exposures reported by Russell. Universe Medians are a quarter lagged due to availability

San Bernardino County Employees' Retirement Association

SBCERA Delta Adjusted Asset Summary

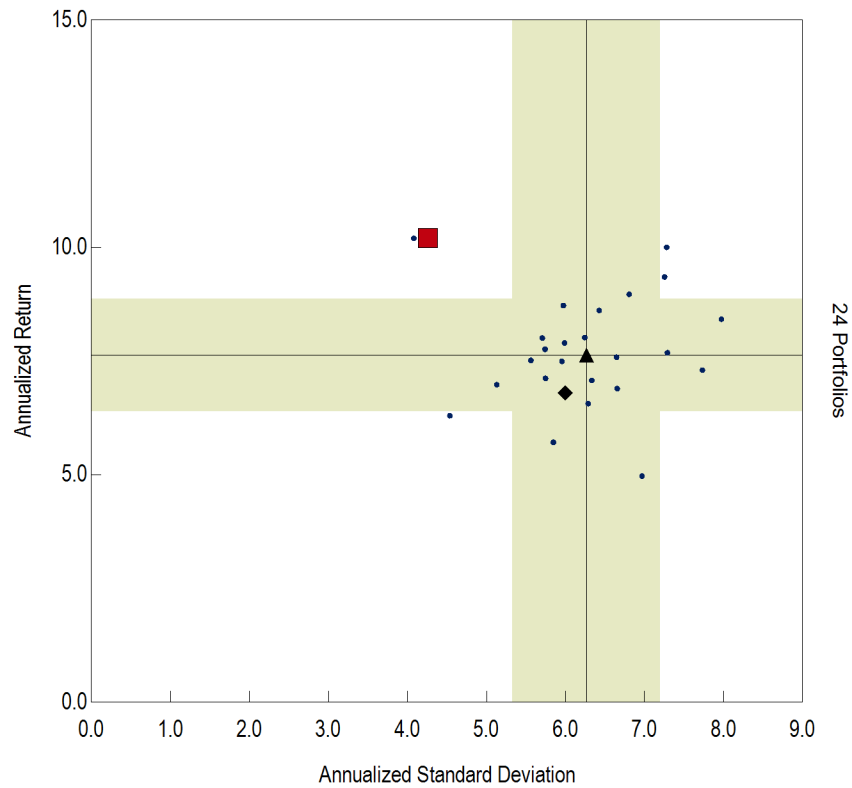
Asset Class	Physical Exposure		Delta Adjusted Synthetic Exposure		Net Position		Overlay Target		Policy Target	
	Value	%	Value	%	Value	%	Value	%	Value	%
Total Market Value	8,622.5	100.0%	-0.0	0.0%	8,622.5	100.0%	8,622.5	100.0%	8,622.5	100.0%
Cash	1,416.4	16.43%	-1,039.6	-12.06%	376.8	4.37%	0.0	0.0%	0.0	0.00%
Cash	1,416.4	16.43%	-1,039.6	-12.06%	376.8	4.37%	0.0	0.0%	0.0	0.00%
Equity	1,361.9	15.79%	1,452.7	16.85%	2,814.6	32.64%	3,178.7	36.87%	3,211.9	37.25%
Emerging Markets	418.0	4.85%	181.3	2.1%	599.3	6.95%	682.7	7.92%	689.8	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	123.1	1.43%	838.0	9.72%	961.1	11.15%	960.0	11.13%	970.0	11.25%
US Large Cap	820.7	9.52%	137.5	1.6%	958.3	11.11%	1,237.3	14.35%	1,250.3	14.50%
US Small Cap	0.1	0.0%	295.9	3.43%	296.0	3.43%	298.7	3.46%	301.8	3.50%
Fixed	2,768.4	32.11%	-413.2	-4.79%	2,355.3	27.32%	2,368.0	27.46%	2,392.7	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	1,768.6	20.51%	-666.2	-7.73%	1,102.4	12.79%	1,109.3	12.87%	1,120.9	13.00%
High Yield **	999.8	11.6%	0.0	0.0%	999.8	11.6%	810.7	9.4%	819.1	9.50%
US Fixed Income	0.0	0.0%	253.0	2.93%	253.0	2.93%	448.0	5.2%	452.7	5.25%
Other	3,075.8	35.67%	0.0	0.0%	3,075.8	35.67%	3,075.8	35.67%	3,017.9	35.00%
Alternatives	197.5	2.29%	0.0	0.0%	197.5	2.29%	197.5	2.29%	198.3	2.30%
Commodities	139.1	1.61%	0.0	0.0%	139.1	1.61%	139.1	1.61%	155.2	1.80%
Infrastructure	70.8	0.82%	0.0	0.0%	70.8	0.82%	70.8	0.82%	69.0	0.80%
Private Equity	1,117.1	12.96%	0.0	0.0%	1,117.1	12.96%	1,117.1	12.96%	1,164.0	13.50%
Real Estate	602.8	6.99%	0.0	0.0%	602.8	6.99%	602.8	6.99%	508.7	5.90%
Tactical Cash	948.5	11.0%	0.0	0.0%	948.5	11.0%	948.5	11.0%	922.6	10.70%

** HY CDX credit spread protection of \$700mm face is not reflected on Asset Summary

Source: Russell Investments

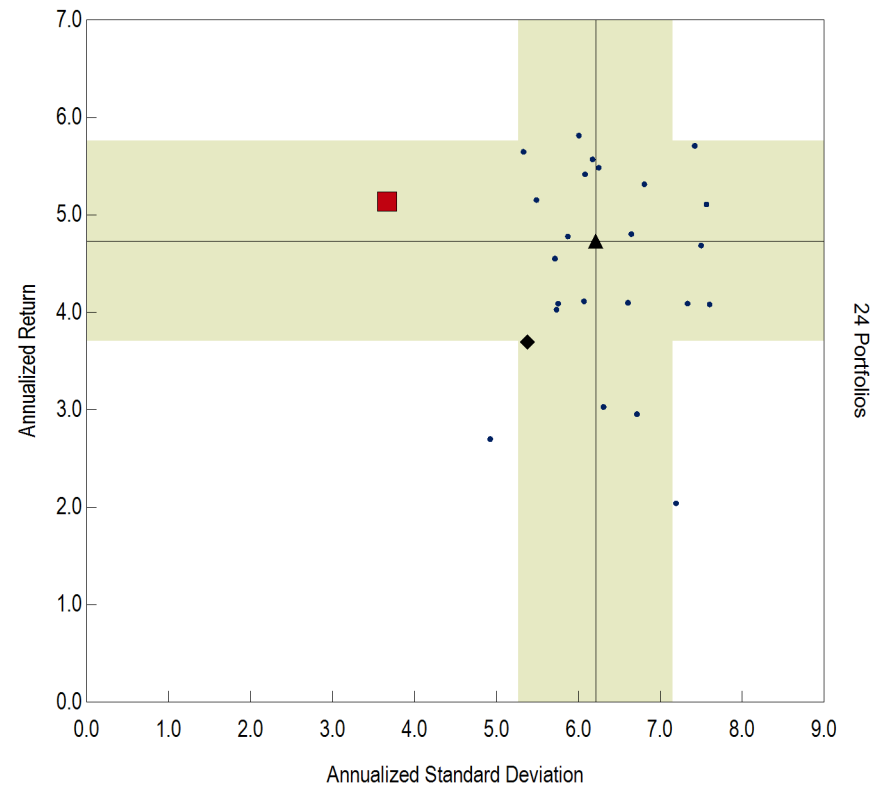
Total Fund Risk/Return

1 Year Ending December 31, 2016



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

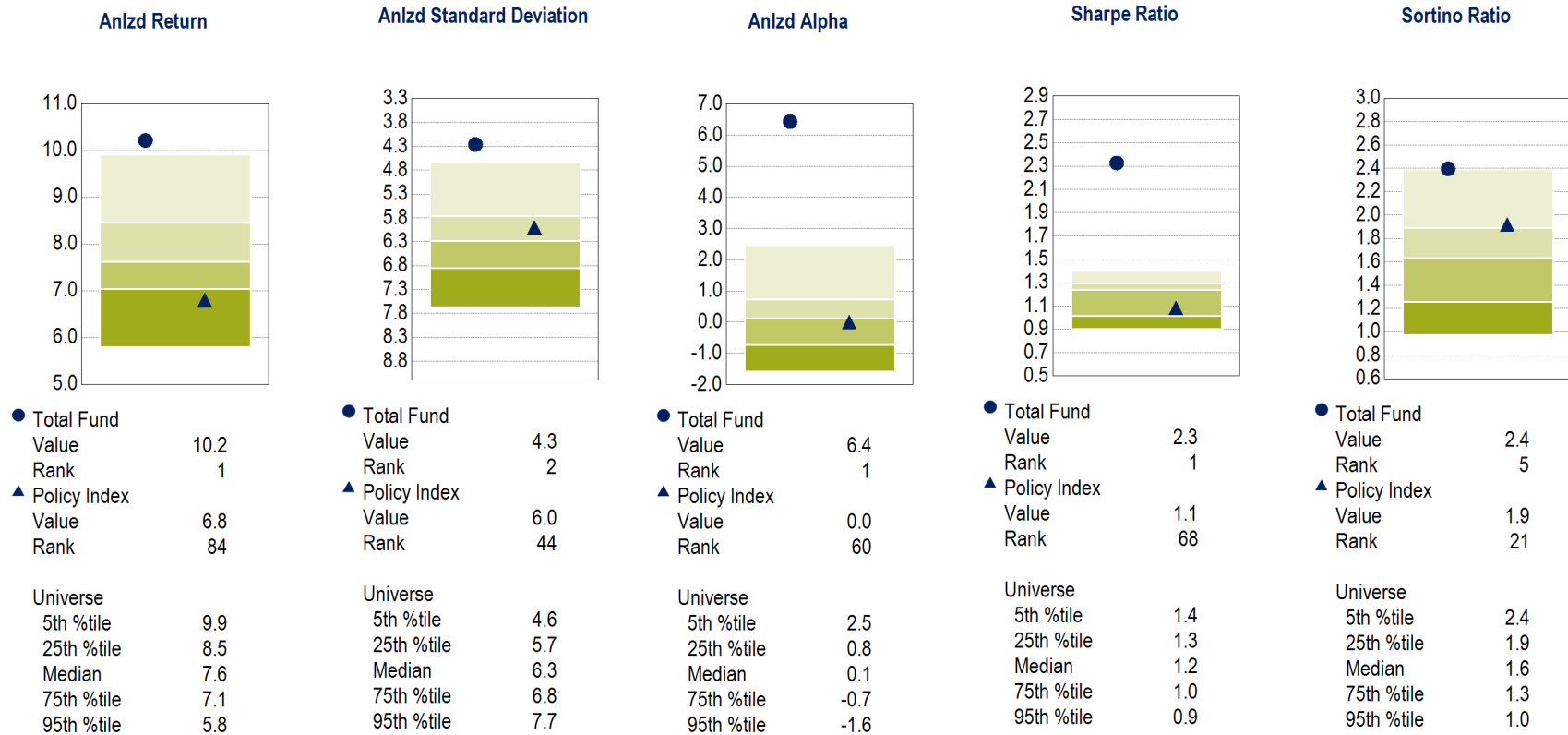
3 Years Ending December 31, 2016



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

Total Fund Risk Statistics vs. Peer Universe

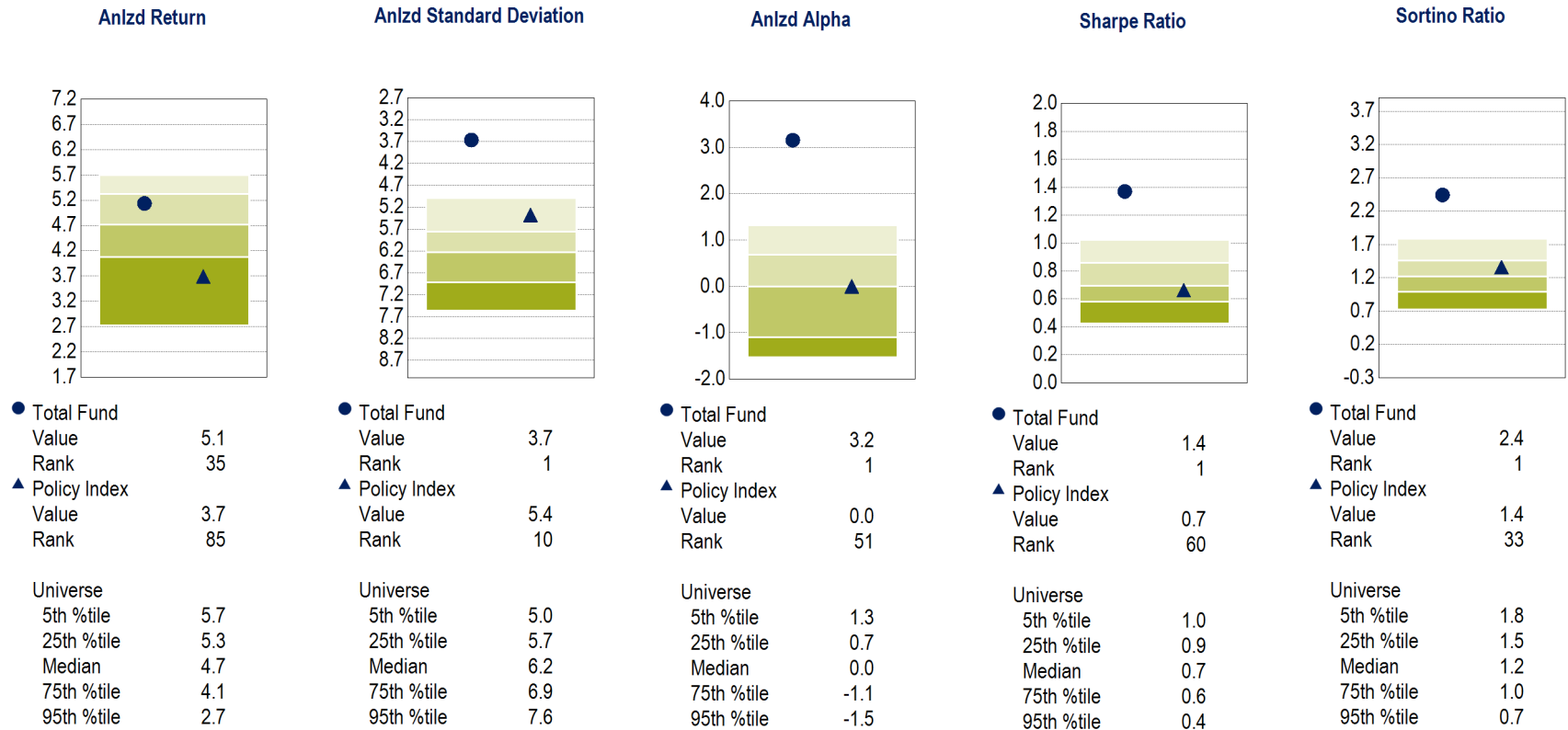
Total Fund vs. InvestorForce Public DB > \$1B Gross (USD)
1 Year



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

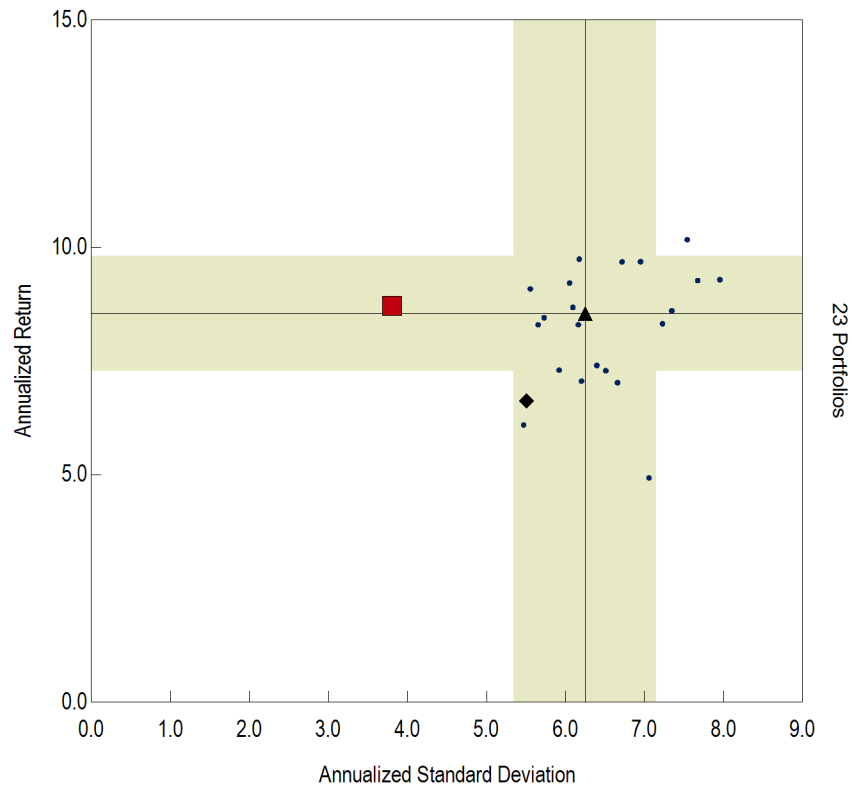
Total Fund vs. InvestorForce Public DB > \$1B Gross (USD)
3 Years



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

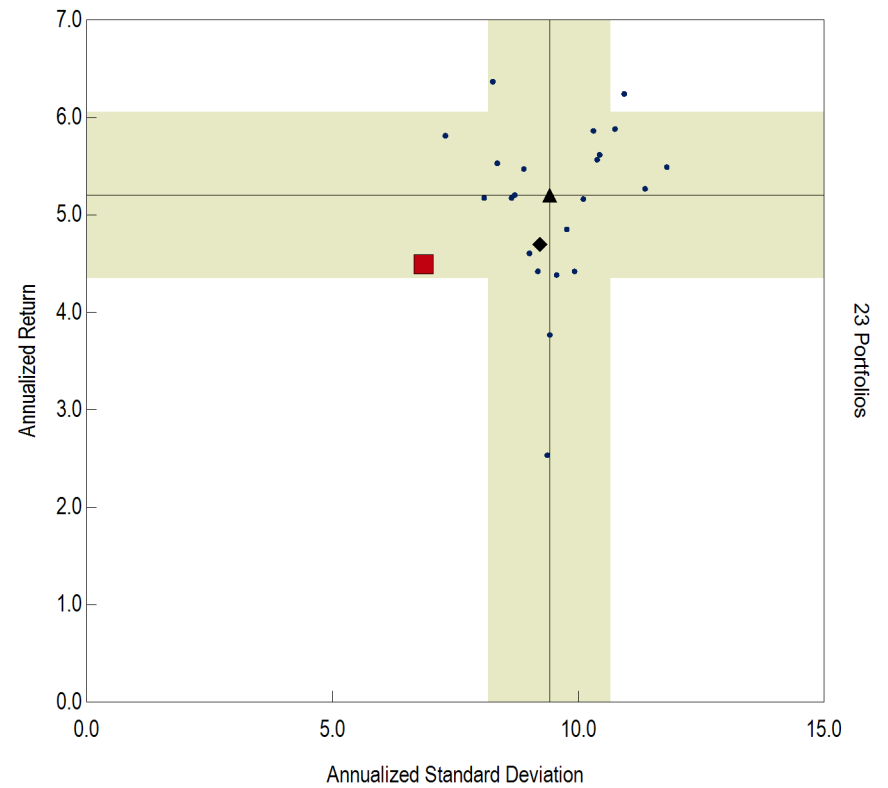
Total Fund Risk/Return

5 Years Ending December 31, 2016



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

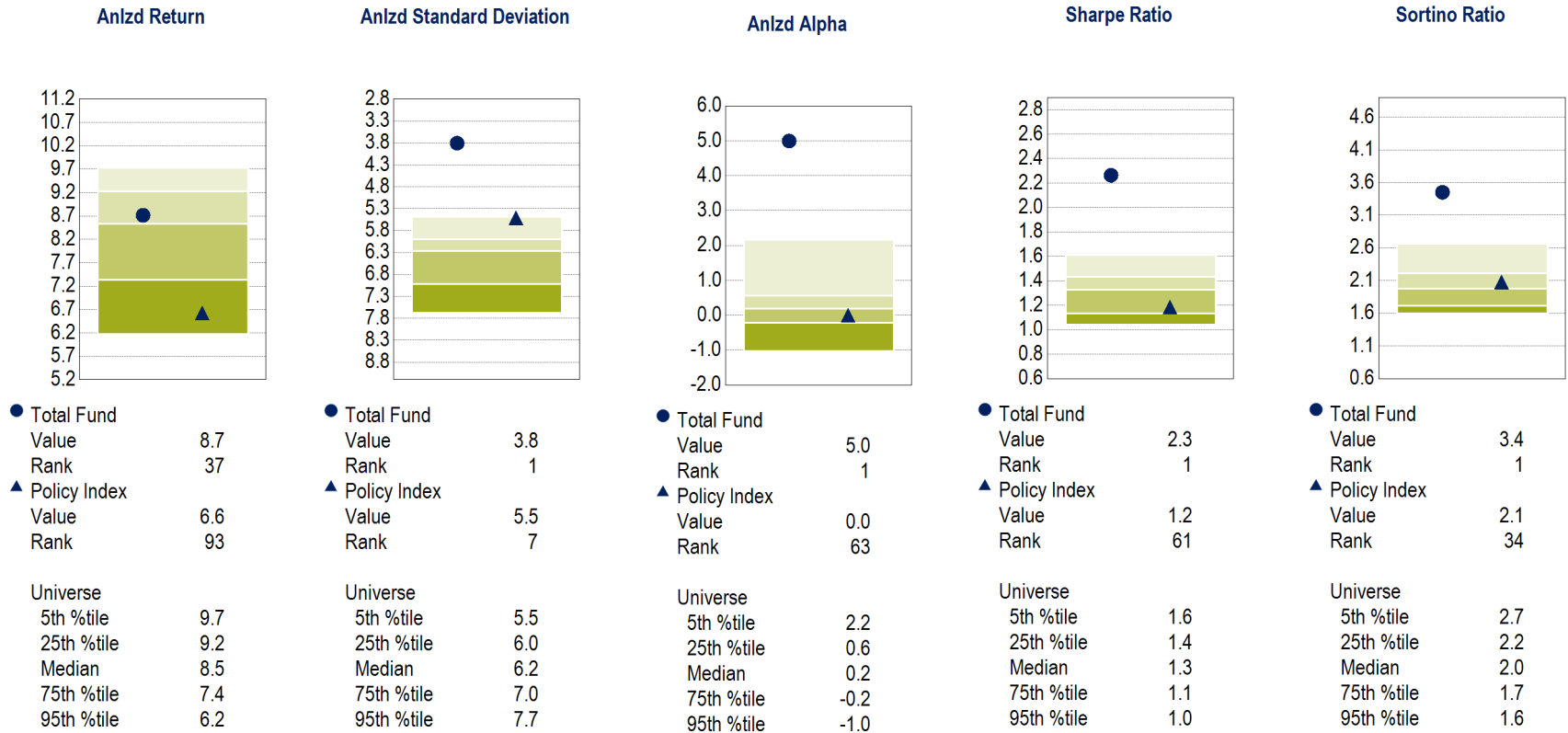
10 Years Ending December 31, 2016



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

Total Fund Risk Statistics vs. Peer Universe

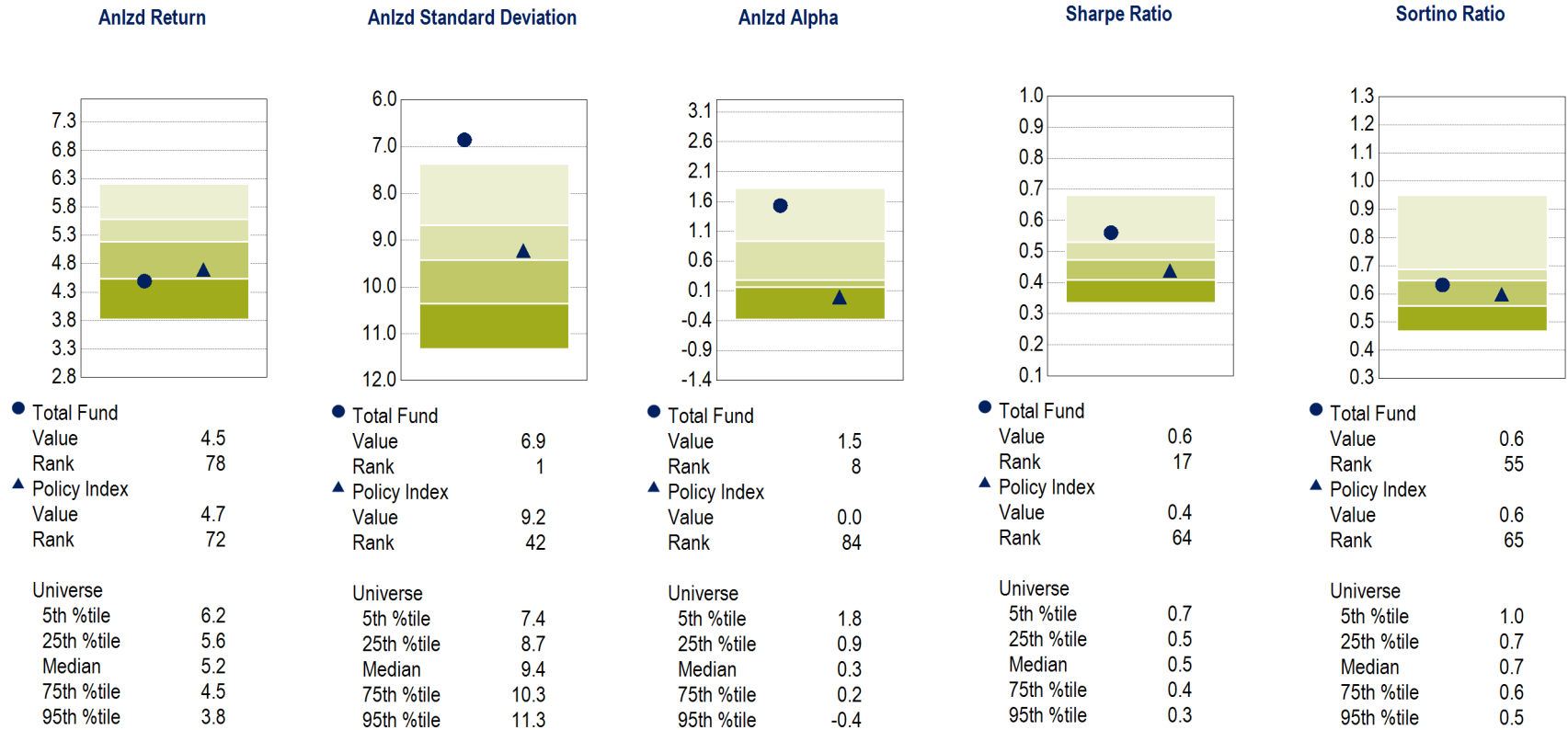
Total Fund vs. InvestorForce Public DB > \$1B Gross (USD)
5 Years



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



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 December 31, 2016

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Tracking Error	Info Ratio	Rank
Domestic Equity	9.3%	2.3%	99	3.9%	1	13.3%	-0.8	82
Russell 3000	--	12.7%	56	11.3%	48	0.0%	--	--
International Developed	1.4%	40.8%	1	28.0%	99	22.0%	1.8	4
MSCI EAFE	--	1.0%	78	13.4%	75	0.0%	--	--
International Emerging	4.7%	2.8%	94	14.4%	23	4.4%	-1.9	99
MSCI Emerging Markets	--	11.2%	35	17.8%	87	0.0%	--	--
U.S. Credit Strategies	11.7%	8.9%	5	3.9%	7	4.4%	-0.8	9
50% Credit Suisse Leveraged Loan Index / 50% BofA ML US HY BB-B Rated Constrained Index	--	12.3%	1	4.1%	10	0.0%	--	--
Non-U.S. Credit Composite	13.3%	7.0%	--	4.0%	--	13.4%	0.1	--
BofA Merrill Lynch Euro High Yield Constrained	--	5.9%	--	11.6%	--	0.0%	--	--
Non-U.S. Core Composite	0.8%	0.9%	83	8.8%	85	4.9%	-0.2	83
BBgBarc Global Aggregate TR	--	2.1%	74	7.3%	71	0.0%	--	--
Emerging Markets Debt Composite	7.2%	16.6%	6	7.1%	38	7.2%	0.9	14
50% JPM EMBI Global Diversified/50% JPM GBI - EM Global Diversified	--	10.2%	65	10.7%	73	0.0%	--	--
Alpha Pool Composite	19.2%	10.0%	1	5.0%	55	5.0%	1.3	11
91 Day T-Bill + 3%	--	3.3%	27	0.0%	1	0.0%	--	--

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Private Equity Composite	13.6%	9.5%	--	3.6%	--
Cambridge Associates Global All PE (Qtr Lag)	--	8.5%	--	4.3%	--
Real Estate Composite	6.4%	12.9%	8	2.2%	17
NCREIF Property Index 1 Qtr Lag	--	9.2%	23	3.9%	57
Real Assets Composite	4.8%	4.6%	84	5.1%	70
Bloomberg Commodity Index	--	11.8%	11	12.5%	98

Percent of Total equals 95% 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 December 31, 2016

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Tracking Error	Info Ratio	Rank
Domestic Equity	9.3%	-1.5%	99	4.7%	1	14.6%	-0.7	65
Russell 3000	--	8.4%	33	11.0%	50	0.0%	--	--
International Developed	1.4%	3.2%	1	23.7%	99	17.7%	0.3	26
MSCI EAFE	--	-1.6%	50	12.6%	78	0.0%	--	--
International Emerging	4.7%	-4.0%	86	12.9%	8	5.2%	-0.3	91
MSCI Emerging Markets	--	-2.6%	48	16.3%	82	0.0%	--	--
U.S. Credit Strategies	11.7%	4.9%	20	3.0%	4	3.7%	0.2	24
50% Credit Suisse Leveraged Loan Index / 50% BofA ML US HY BB-B Rated Constrained Index	--	4.3%	36	3.9%	37	0.0%	--	--
Non-U.S. Credit Composite	13.3%	4.2%	--	3.0%	--	10.3%	0.8	--
BofA Merrill Lynch Euro High Yield Constrained	--	-3.9%	--	10.2%	--	0.0%	--	--
Non-U.S. Core Composite	0.8%	-5.5%	96	8.0%	85	5.4%	-1.0	97
BBgBarc Global Aggregate TR	--	-0.2%	73	5.0%	50	0.0%	--	--
Emerging Markets Debt Composite	7.2%	4.9%	39	6.3%	33	5.1%	0.8	50
50% JPM EMBI Global Diversified/50% JPM GBI - EM Global Diversified	--	1.0%	66	8.7%	68	0.0%	--	--
Alpha Pool Composite	19.2%	3.2%	13	3.7%	15	3.7%	0.0	80
91 Day T-Bill + 3%	--	3.1%	14	0.0%	1	0.0%	--	--

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Private Equity Composite	13.6%	11.3%	--	4.2%	--
Cambridge Associates Global All PE (Qtr Lag)	--	10.5%	--	6.3%	--
Real Estate Composite	6.4%	12.1%	59	3.3%	34
NCREIF Property Index 1 Qtr Lag	--	11.3%	81	4.6%	48
Real Assets Composite	4.8%	1.4%	77	5.8%	72
Bloomberg Commodity Index	--	-11.3%	99	14.3%	95

Percent of Total equals 95% 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 December 31, 2016

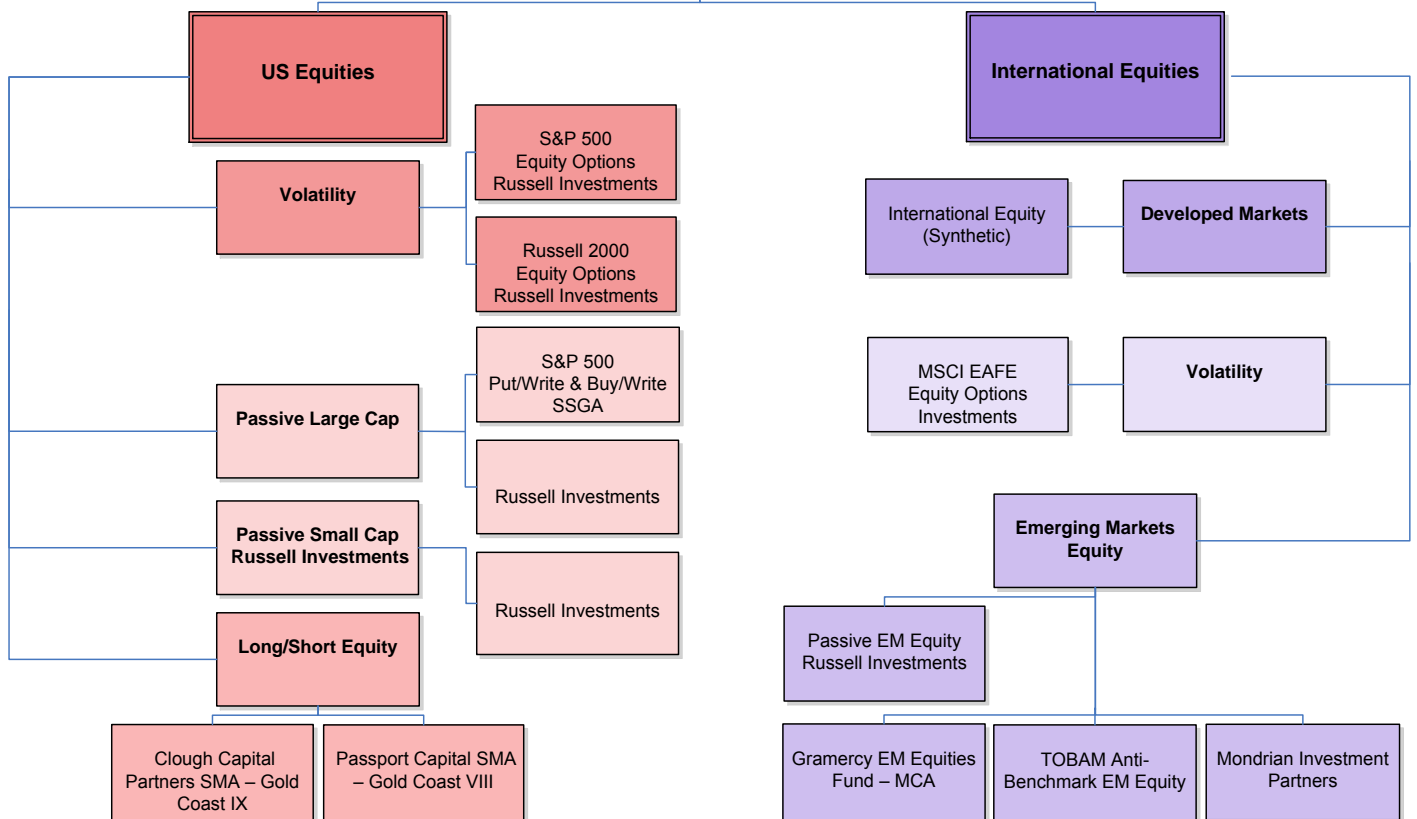
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Tracking Error	Info Ratio	Rank
Domestic Equity	9.3%	2.8%	99	5.1%	1	12.5%	-0.9	94
Russell 3000	--	14.7%	31	10.6%	30	0.0%	--	--
International Developed	1.4%	19.2%	1	23.2%	99	16.3%	0.8	12
MSCI EAFE	--	6.5%	46	13.5%	83	0.0%	--	--
International Emerging	4.7%	-0.2%	73	14.3%	12	4.4%	-0.3	78
MSCI Emerging Markets	--	1.3%	56	16.2%	65	0.0%	--	--
U.S. Credit Strategies	11.7%	8.6%	3	3.1%	1	3.8%	0.6	3
50% Credit Suisse Leveraged Loan Index / 50% BofA ML US HY BB-B Rated Constrained Index	--	6.2%	12	3.6%	5	0.0%	--	--
Non-U.S. Credit Composite	13.3%	8.7%	--	3.9%	--	10.1%	0.3	--
BofA Merrill Lynch Euro High Yield Constrained	--	5.7%	--	11.6%	--	0.0%	--	--
Non-U.S. Core Composite	0.8%	1.7%	65	8.7%	87	6.6%	0.2	73
BBgBarc Global Aggregate TR	--	0.2%	83	4.6%	41	0.0%	--	--
Emerging Markets Debt Composite	7.2%	4.7%	52	6.7%	29	4.9%	0.5	57
50% JPM EMBI Global Diversified/50% JPM GBI - EM Global Diversified	--	2.3%	66	9.1%	67	0.0%	--	--
Alpha Pool Composite	19.2%	6.2%	18	3.2%	1	3.2%	1.0	33
91 Day T-Bill + 3%	--	3.1%	93	0.0%	1	0.0%	--	--

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Private Equity Composite	13.6%	12.3%	--	4.2%	--
Cambridge Associates Global All PE (Qtr Lag)	--	12.1%	--	6.5%	--
Real Estate Composite	6.4%	10.7%	87	3.4%	19
NCREIF Property Index 1 Qtr Lag	--	11.2%	72	4.5%	28
Real Assets Composite	4.8%	3.1%	82	5.4%	74
Bloomberg Commodity Index	--	-9.0%	99	13.4%	99

Percent of Total equals 95% because Beta Overlay is not included as these statistics are not relevant for alternative asset classes.

Global Equity Portfolio

Global Equity Strategies
28% +/- 10% Target Allocation Range



San Bernardino County Employees' Retirement Association

Global Equity Strategies Performance Detail - Gross

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Total Equity	1,356,697,730	15.4	-2.9	99	0.1	99	7.2	86	-1.0	99	4.9	99	--	--
MSCI ACWI			1.2	88	6.6	79	7.9	79	3.1	90	9.4	92	3.6	99
Excess Return			-4.1		-6.5		-0.7		-4.1		-4.5			
InvestorForce Public DB Total Eq Gross Median			2.3		7.7		9.8		5.1		11.6		5.1	
Domestic Equity	817,100,317	9.3	-1.3	99	0.4	99	2.3	99	-1.5	99	2.8	99	-0.9	99
Russell 3000			4.2	64	8.8	64	12.7	56	8.4	33	14.7	31	7.1	62
Excess Return			-5.5		-8.4		-10.4		-9.9		-11.9		-8.0	
InvestorForce Public DB US Eq Gross Median			4.4		9.2		13.0		8.0		14.3		7.2	
Large Cap Equity	650,054,290	7.4	-0.3	88	2.0	95	6.1	83	-0.2	98	3.7	99	0.0	99
S&P 500			3.8	58	7.8	64	12.0	55	8.9	30	14.7	47	6.9	73
Excess Return			-4.1		-5.8		-5.9		-9.1		-11.0		-6.9	
eA All US Equity Gross Median			4.6		9.6		12.6		7.8		14.5		7.8	
SsgA S&P500	621,664,412	7.1	0.9	82	4.2	86	5.9	83	5.0	81	7.7	99	2.5	99
S&P 500			3.8	58	7.8	64	12.0	55	8.9	30	14.7	47	6.9	73
Excess Return			-2.9		-3.6		-6.1		-3.9		-7.0		-4.4	
eA All US Equity Gross Median			4.6		9.6		12.6		7.8		14.5		7.8	
Russell US Large Cap Volatility	28,389,878	0.3	-21.1	99	-29.9	99	-25.0	99	-51.5	99	-35.0	99	--	--
S&P 500			3.8	58	7.8	64	12.0	55	8.9	30	14.7	47	6.9	73
Excess Return			-24.9		-37.7		-37.0		-60.4		-49.7			
eA All US Equity Gross Median			4.6		9.6		12.6		7.8		14.5		7.8	

San Bernardino County Employees' Retirement Association

Global Equity Strategies Performance Detail - Gross

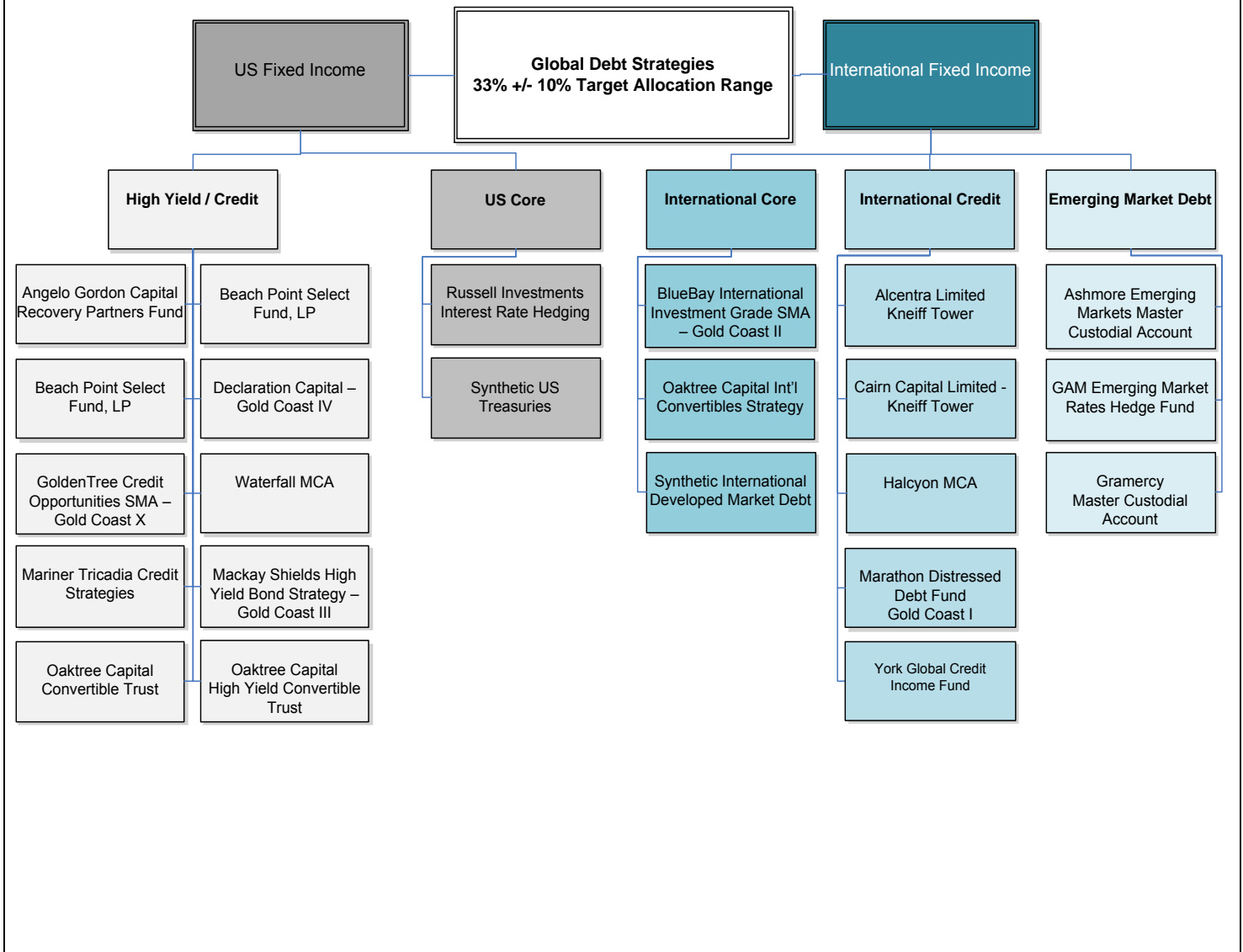
	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Small Cap Equity	94,512	0.0	0.2	94	0.3	99	0.5	99	-28.1	99	-30.3	99	--	--
<i>Russell 2000</i>			<i>8.8</i>	<i>52</i>	<i>18.7</i>	<i>40</i>	<i>21.3</i>	<i>46</i>	<i>6.7</i>	<i>57</i>	<i>14.5</i>	<i>63</i>	<i>7.1</i>	<i>81</i>
Excess Return			<i>-8.6</i>		<i>-18.4</i>		<i>-20.8</i>		<i>-34.8</i>		<i>-44.8</i>			
<i>eA US Small Cap Equity Gross Median</i>			<i>9.1</i>		<i>17.1</i>		<i>20.6</i>		<i>7.3</i>		<i>15.4</i>		<i>8.5</i>	
Russell US Small Cap Volatility	94,512	0.0	0.2	85	0.3	97	0.5	97	-28.1	99	-30.3	99	--	--
<i>Russell 2000</i>			<i>8.8</i>	<i>20</i>	<i>18.7</i>	<i>14</i>	<i>21.3</i>	<i>18</i>	<i>6.7</i>	<i>65</i>	<i>14.5</i>	<i>51</i>	<i>7.1</i>	<i>70</i>
Excess Return			<i>-8.6</i>		<i>-18.4</i>		<i>-20.8</i>		<i>-34.8</i>		<i>-44.8</i>			
<i>eA All US Equity Gross Median</i>			<i>4.6</i>		<i>9.6</i>		<i>12.6</i>		<i>7.8</i>		<i>14.5</i>		<i>7.8</i>	
LongShort Equity	166,951,515	1.9	-5.1	99	-5.5	99	-9.2	99	-4.1	99	1.9	99	--	--
<i>Credit Suisse Long Shrt Eq USD</i>			<i>-0.2</i>	<i>99</i>	<i>1.7</i>	<i>99</i>	<i>-3.4</i>	<i>99</i>	<i>1.8</i>	<i>99</i>	<i>6.1</i>	<i>99</i>	<i>4.0</i>	<i>99</i>
Excess Return			<i>-4.9</i>		<i>-7.2</i>		<i>-5.8</i>		<i>-5.9</i>		<i>-4.2</i>			
<i>InvestorForce Public DB US Eq Gross Median</i>			<i>4.4</i>		<i>9.2</i>		<i>13.0</i>		<i>8.0</i>		<i>14.3</i>		<i>7.2</i>	
Clough	80,424,127	0.9	-4.1	99	-0.5	98	-7.5	99	-2.0	99	4.2	99	--	--
Passport	86,527,388	1.0	-6.0	99	-9.7	99	-7.1	99	-0.4	98	5.7	99	--	--

San Bernardino County Employees' Retirement Association

Global Equity Strategies Performance Detail - Gross

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
International Equity	539,597,414	6.1	-5.1	99	-0.3	96	16.9	1	-1.3	99	7.2	76	2.1	1
MSCI EAFE			<u>-0.7</u>	42	<u>5.7</u>	47	<u>1.0</u>	99	<u>-1.6</u>	99	<u>6.5</u>	78	<u>0.7</u>	99
Excess Return			-4.4		-6.0		15.9		0.3		0.7		1.4	
InvestorForce Public DB Gbl Eq Gross Median			-1.4		5.0		6.4		5.6		13.7		1.2	
International Developed	121,786,407	1.4	0.1	11	5.0	29	40.8	1	3.2	1	19.2	1	5.5	1
MSCI EAFE			<u>-0.7</u>	21	<u>5.7</u>	24	<u>1.0</u>	78	<u>-1.6</u>	50	<u>6.5</u>	46	<u>0.7</u>	99
Excess Return			0.8		-0.7		39.8		4.8		12.7		4.8	
InvestorForce Public DB Dev Mkt ex-US Eq Gross Median			-2.0		4.1		2.7		-1.7		6.2		2.3	
Russell International Volatility	121,786,407	1.4	0.1	23	5.0	52	40.8	1	3.2	13	21.7	1	--	--
MSCI EAFE			<u>-0.7</u>	36	<u>5.7</u>	46	<u>1.0</u>	54	<u>-1.6</u>	80	<u>6.5</u>	87	<u>0.7</u>	90
Excess Return			0.8		-0.7		39.8		4.8		15.2			
eA All EAFE Equity Gross Median			-1.8		5.2		1.1		0.1		8.2		2.5	
International Emerging	417,811,006	4.7	-6.5	88	-1.7	94	2.8	94	-4.0	86	-0.2	73	1.8	34
MSCI Emerging Markets			<u>-4.2</u>	25	<u>4.5</u>	23	<u>11.2</u>	35	<u>-2.6</u>	48	<u>1.3</u>	56	<u>1.8</u>	31
Excess Return			-2.3		-6.2		-8.4		-1.4		-1.5		0.0	
Mondrian	118,493,426	1.3	-4.6	50	-1.1	86	8.2	63	-2.9	82	1.2	91	3.5	38
MSCI Emerging Markets			<u>-4.2</u>	42	<u>4.5</u>	40	<u>11.2</u>	44	<u>-2.6</u>	78	<u>1.3</u>	88	<u>1.8</u>	81
Excess Return			-0.4		-5.6		-3.0		-0.3		-0.1		1.7	
eA Emg Mkts Equity Gross Median			-4.7		3.4		9.9		-1.2		3.3		3.1	
Gramercy Emerging Market Equity	63,801,662	0.7	-3.3	28	6.4	22	7.8	66	0.6	20	--	--	--	--
MSCI Emerging Markets			<u>-4.2</u>	42	<u>4.5</u>	40	<u>11.2</u>	44	<u>-2.6</u>	78	<u>1.3</u>	88	<u>1.8</u>	81
Excess Return			0.9		1.9		-3.4		3.2					
eA Emg Mkts Equity Gross Median			-4.7		3.4		9.9		-1.2		3.3		3.1	
Tobam	235,416,750	2.7	-8.3	91	-3.8	94	--	--	--	--	--	--	--	--
MSCI Emerging Markets			<u>-4.2</u>	42	<u>4.5</u>	40	<u>11.2</u>	44	<u>-2.6</u>	78	<u>1.3</u>	88	<u>1.8</u>	81
Excess Return			-4.1		-8.3									
eA Emg Mkts Equity Gross Median			-4.7		3.4		9.9		-1.2		3.3		3.1	

Global Debt Strategies



San Bernardino County Employees' Retirement Association

Global Debt Strategies Performance Detail - Gross

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Total Fixed	2,838,902,765	32.3	2.0	1	5.7	1	9.7	1	4.6	1	7.9	1	--	--
<i>InvestorForce Public DB Total Fix Inc Gross Median</i>			-2.0		-1.5		4.1		2.8		2.9		5.2	
U.S. Credit Strategies	1,031,971,602	11.7	3.6	1	6.0	2	8.9	5	4.9	20	8.6	3	8.6	1
<i>50% Credit Suisse Leveraged Loan Index / 50% BofA ML US HY BB-B Rated Constrained Index</i>			<u>1.8</u>	2	<u>5.9</u>	2	<u>12.3</u>	1	<u>4.3</u>	36	<u>6.2</u>	12	<u>5.7</u>	36
<i>Excess Return</i>			1.8		0.1		-3.4		0.6		2.4		2.9	
<i>BofA Merrill Lynch US High Yield Master II TR</i>			1.9	2	7.5	1	17.5	1	4.7	25	7.4	6	7.3	11
<i>eA Global Credit Fixed Income Gross Median</i>			-3.6		-0.9		5.3		2.1		4.3		5.3	
AG Capital	2,399,387	0.0	0.0	7	16.1	1	1.0	89	0.4	75	7.3	7	--	--
Golden Tree Asset Management	350,086,595	4.0	5.0	1	6.3	1	12.5	1	9.6	1	12.3	1	--	--
Beach Point Capital (Formerly Post)	138,192,208	1.6	4.9	1	9.7	1	13.5	1	8.0	1	11.6	1	--	--
Golden Tree Distressed Debt	26,974,768	0.3	-0.1	8	-1.0	51	-5.4	98	14.5	1	16.1	1	--	--
Mackay / Gold Coast	97,005,596	1.1	-0.1	8	5.5	2	8.9	5	3.4	43	7.8	4	7.6	7
Mariner Tricadia	75,977,683	0.9	1.2	4	1.3	17	-2.2	95	0.8	74	5.2	33	--	--
MD SASS Waterfall Victoria	28,941,380	0.3	4.3	--	6.2	--	10.3	--	--	--	--	--	--	--
OCM Convertible	16,563,581	0.2	0.4	6	5.2	2	3.4	78	1.9	54	7.8	4	--	--
OCM High Income	16,416,428	0.2	1.3	3	6.8	1	9.9	4	5.2	11	7.6	4	--	--
Russell Interest Rate Hedging	25,361,125	0.3	41.7	1	33.8	1	-6.5	99	-29.9	99	-20.5	99	--	--
Stone Tower Credit (Apollo)	78,942,954	0.9	2.6	3	5.9	12	10.3	17	4.1	25	8.0	5	--	--
Sutherland REIT Holdings	90,629,522	1.0	0.0	--	3.1	--	3.9	--	--	--	--	--	--	--
Waterfall Asset Management	42,791,325	0.5	0.0	--	0.1	--	28.6	--	--	--	--	--	--	--
Waterfall Victoria	41,371,234	0.5	2.0	--	4.7	--	10.9	--	--	--	--	--	--	--

San Bernardino County Employees' Retirement Association

Global Debt Strategies Performance Detail - Gross

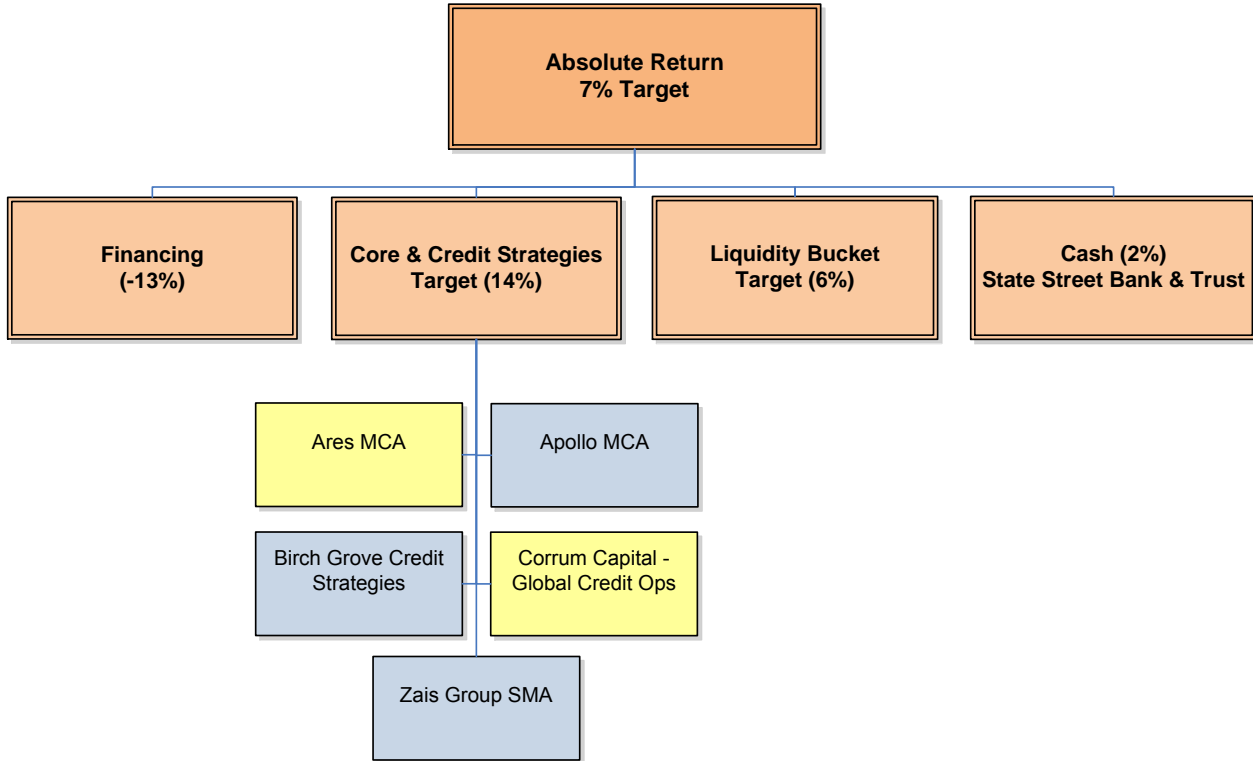
	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Non-U.S. Fixed Income Composite	1,806,931,163	20.5	1.2	2	5.5	1	10.2	1	4.5	1	7.5	1	5.2	48
<i>BBgBarc Global Aggregate TR</i>			<u>-7.1</u>	99	<u>-6.3</u>	99	<u>2.1</u>	83	<u>-0.2</u>	99	<u>0.2</u>	99	<u>3.3</u>	99
Excess Return			8.3		11.8		8.1		4.7		7.3		1.9	
<i>InvestorForce Public DB Total Fix Inc Gross Median</i>			-2.0		-1.5		4.1		2.8		2.9		5.2	
Non-U.S. Credit Composite	1,171,192,065	13.3	1.1	--	4.2	--	7.0	--	4.2	--	8.7	--	--	--
<i>BofA Merrill Lynch Euro High Yield Constrained</i>			<u>-4.4</u>	--	<u>0.0</u>	--	<u>5.9</u>	--	<u>-3.9</u>	--	<u>5.7</u>	--	<u>5.2</u>	--
Excess Return			5.5		4.2		1.1		8.1		3.0		--	
Marathon/Gold Coast	184,306,655	2.1	3.5	1	5.5	2	2.5	82	5.1	16	9.6	2	--	--
Alcentra Core European Credit	345,677,402	3.9	3.4	1	5.2	2	9.6	4	10.2	1	16.3	1	--	--
Halcyon Asset Management	99,661,496	1.1	9.1	1	17.5	1	23.5	1	--	--	--	--	--	--
<i>BofA Merrill Lynch Euro High Yield Constrained</i>			<u>-4.4</u>	77	<u>0.0</u>	40	<u>5.9</u>	39	<u>-3.9</u>	92	<u>5.7</u>	16	<u>5.2</u>	52
Excess Return			13.5		17.5		17.6							
<i>eA Global Credit Fixed Income Gross Median</i>			-3.6		-0.9		5.3		2.1		4.3		5.3	
Oaktree Capital	35,060,293	0.4	-3.6	50	0.6	30	1.4	88	-0.8	81	3.8	59	--	--
York Global Credit	138,031,446	1.6	2.5	1	7.6	1	10.8	3	6.0	4	--	--	--	--
<i>BofA Merrill Lynch Euro High Yield Constrained</i>			<u>-4.4</u>	77	<u>0.0</u>	40	<u>5.9</u>	39	<u>-3.9</u>	92	<u>5.7</u>	16	<u>5.2</u>	52
Excess Return			6.9		7.6		4.9		9.9					
<i>eA Global Credit Fixed Income Gross Median</i>			-3.6		-0.9		5.3		2.1		4.3		5.3	
Caim Composite	294,062,668	3.3	-3.5	50	-0.5	48	3.4	77	0.3	76	4.2	52	--	--
<i>BofA Merrill Lynch Euro High Yield Constrained</i>			<u>-4.4</u>	77	<u>0.0</u>	40	<u>5.9</u>	39	<u>-3.9</u>	92	<u>5.7</u>	16	<u>5.2</u>	52
Excess Return			0.9		-0.5		-2.5		4.2		-1.5			
<i>eA Global Credit Fixed Income Gross Median</i>			-3.6		-0.9		5.3		2.1		4.3		5.3	
Non-U.S. Core Composite	74,392,105	0.8	-6.7	81	-3.9	72	0.9	83	-5.5	96	1.7	65	--	--
<i>BBgBarc Global Aggregate TR</i>			<u>-7.1</u>	86	<u>-6.3</u>	90	<u>2.1</u>	74	<u>-0.2</u>	73	<u>0.2</u>	83	<u>3.3</u>	84
Excess Return			0.4		2.4		-1.2		-5.3		1.5			
<i>eA All Global Fixed Inc Gross Median</i>			-2.0		-0.3		4.6		1.7		3.2		4.6	
Bluebay/Goldcoast	74,392,105	0.8	-6.7	81	-3.9	72	0.9	83	-5.5	96	1.6	65	--	--
<i>BBgBarc Global Aggregate TR</i>			<u>-7.1</u>	86	<u>-6.3</u>	90	<u>2.1</u>	74	<u>-0.2</u>	73	<u>0.2</u>	83	<u>3.3</u>	84
Excess Return			0.4		2.4		-1.2		-5.3		1.4			
<i>eA All Global Fixed Inc Gross Median</i>			-2.0		-0.3		4.6		1.7		3.2		4.6	

San Bernardino County Employees' Retirement Association

Global Debt Strategies Performance Detail - Gross

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Emerging Markets Debt Composite	635,739,098	7.2	1.3	5	8.0	2	16.6	6	4.9	39	4.7	52	4.1	85
50% JPM EMBI Global Diversified/50% JPM GBI - EM Global Diversified			-5.1	80	-1.9	74	10.2	65	1.0	66	2.3	66	5.4	70
Excess Return			6.4		9.9		6.4		3.9		2.4		-1.3	
eA All Emg Mkts Fixed Inc Gross Median			-3.5		0.3		11.0		4.3		4.9		6.9	
Ashmore Emerging Markets Liquid Investments	150,957,529	1.7	-0.4	11	3.0	15	15.6	9	2.6	59	3.3	61	5.9	67
JP Morgan GBI - EM Global Diversified Index			-6.1	93	-3.6	92	9.9	70	-4.1	93	-1.3	92	3.8	89
Excess Return			5.7		6.6		5.7		6.7		4.6		2.1	
eA All Emg Mkts Fixed Inc Gross Median			-3.5		0.3		11.0		4.3		4.9		6.9	
Ashmore Local Currency	89,270,756	1.0	-4.0	60	-0.4	53	13.7	9	-3.7	92	-2.0	98	--	--
JP Morgan ELMI+			-3.6	58	-2.1	64	3.5	61	-3.8	93	-1.3	95	1.6	98
Excess Return			-0.4		1.7		10.2		0.1		-0.7			
JP Morgan EMBI Global Index			-4.2	61	-0.6	54	10.2	17	5.6	5	5.4	23	6.8	14
eA All Global Fixed Inc Gross Median			-2.0		-0.3		4.6		1.7		3.2		4.6	
GAM Emerging Markets Rates	43,718,722	0.5	1.0	5	1.4	36	6.8	91	3.1	56	--	--	--	--
JP Morgan ELMI+			-3.6	53	-2.1	78	3.5	99	-3.8	90	-1.3	92	1.6	99
Excess Return			4.6		3.5		3.3		6.9					
JP Morgan EMBI Global Index			-4.2	68	-0.6	63	10.2	65	5.6	27	5.4	44	6.8	55
eA All Emg Mkts Fixed Inc Gross Median			-3.5		0.3		11.0		4.3		4.9		6.9	
Gramercy Funds Management LLC	269,706,891	3.1	6.5	1	15.9	1	21.3	2	10.7	1	--	--	--	--
JP Morgan ELMI+			-3.6	53	-2.1	78	3.5	99	-3.8	90	-1.3	92	1.6	99
Excess Return			10.1		18.0		17.8		14.5					
JP Morgan EMBI Global Index			-4.2	68	-0.6	63	10.2	65	5.6	27	5.4	44	6.8	55
eA All Emg Mkts Fixed Inc Gross Median			-3.5		0.3		11.0		4.3		4.9		6.9	
Prudential Investment Management	82,085,200	0.9	-6.3	97	2.7	17	9.7	73	--	--	--	--	--	--
JP Morgan ELMI+			-3.6	53	-2.1	78	3.5	99	-3.8	90	-1.3	92	1.6	99
Excess Return			-2.7		4.8		6.2							
JP Morgan EMBI Global Index			-4.2	68	-0.6	63	10.2	65	5.6	27	5.4	44	6.8	55
eA All Emg Mkts Fixed Inc Gross Median			-3.5		0.3		11.0		4.3		4.9		6.9	

Absolute Return (Alpha Pool)

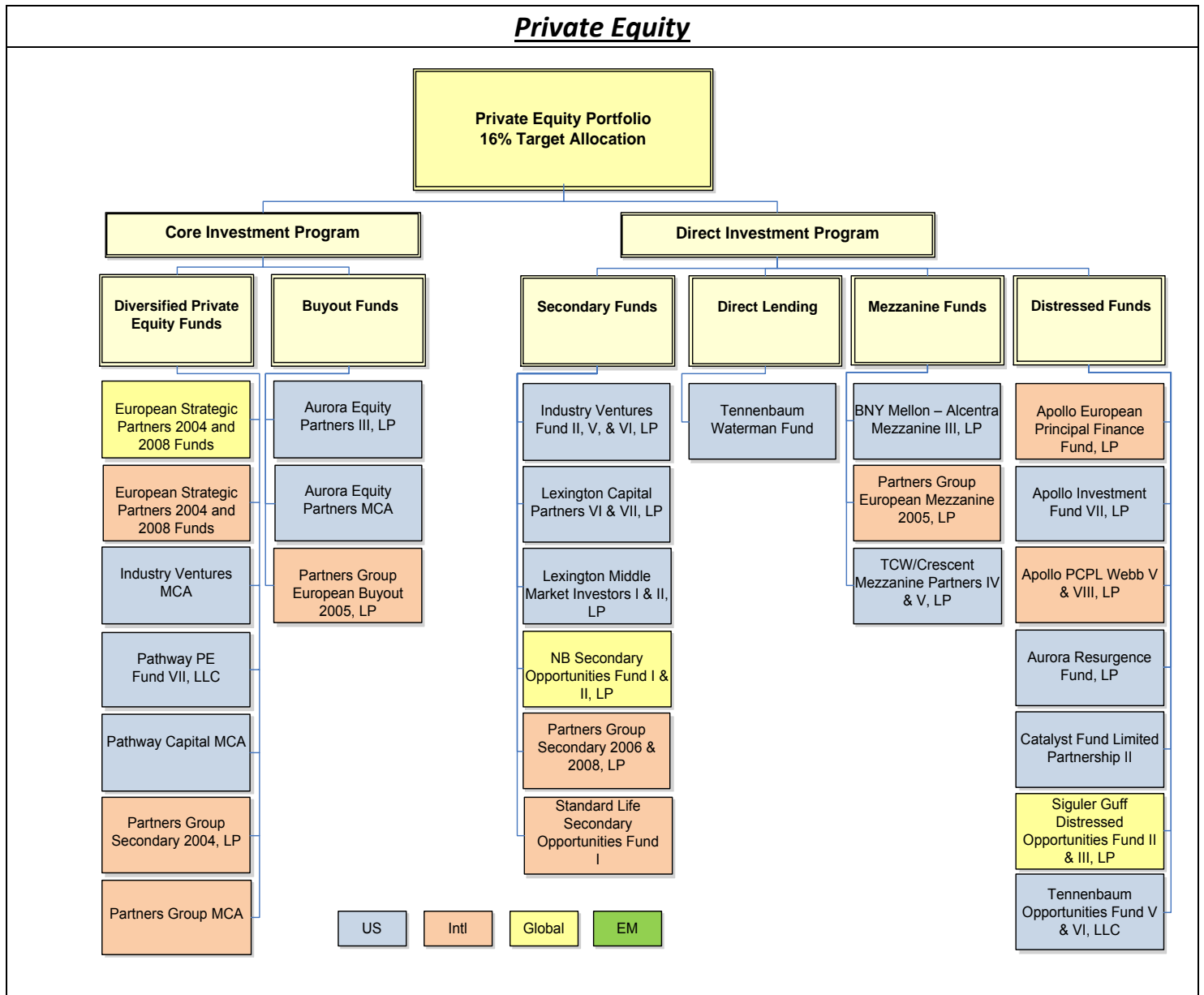


San Bernardino County Employees' Retirement Association

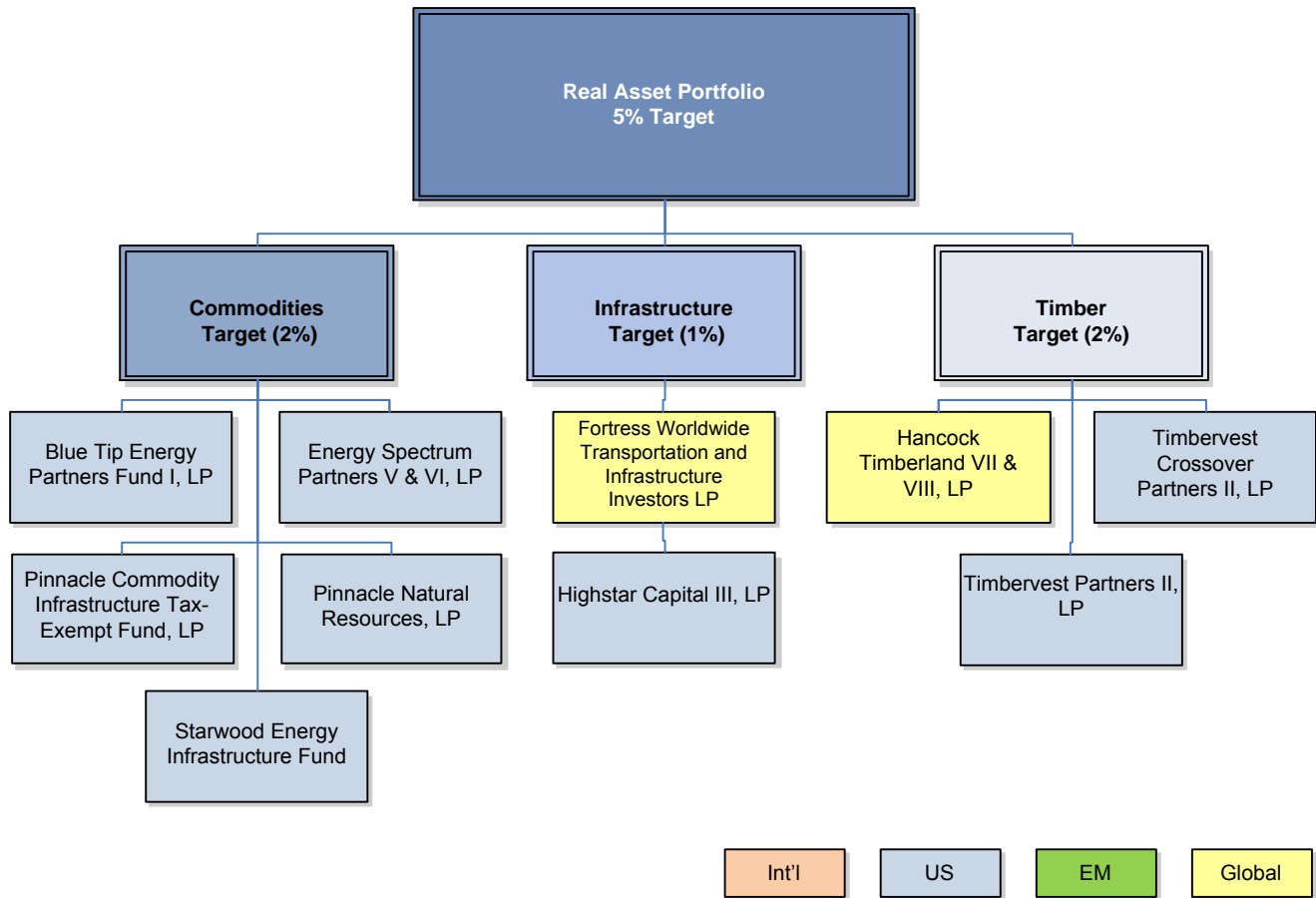
Alpha Pool Strategies Performance Detail - Gross

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Alpha Pool Composite	1,686,687,956	19.2	2.7	19	8.7	9	10.0	1	3.2	13	6.2	18	4.5	14
<i>91 Day T-Bill + 3%</i>			<u>0.8</u>	79	<u>1.7</u>	95	<u>3.3</u>	27	<u>3.1</u>	14	<u>3.1</u>	93	<u>3.7</u>	43
Excess Return			1.9		7.0		6.7		0.1		3.1		0.8	
Alpha Liquidity (Ssga)	155,842,364	1.8	0.2	29	0.3	45	0.7	84	0.4	65	0.4	80	--	--
Apollo Global Management	10,062,071	0.1	10.8	1	17.4	1	21.3	1	--	--	--	--	--	--
Apollo SCRF III	31,457,839	0.4	--	--	--	--	--	--	--	--	--	--	--	--
Ares Eco Master Fund II	201,058,190	2.3	2.1	6	--	--	--	--	--	--	--	--	--	--
Ares Strategic Investment	226,831,278	2.6	2.2	5	5.8	12	5.4	43	--	--	--	--	--	--
Birch Grove Credit Strategies	115,701,514	1.3	1.5	14	13.3	1	4.4	53	5.0	11	--	--	--	--
Sterling Stamos	180,170,347	2.0	3.2	2	7.0	6	7.7	26	4.2	24	4.5	33	--	--
Stone Tower Off (Apollo)	374,949,478	4.3	1.8	9	5.4	14	9.8	18	5.7	4	8.6	3	--	--
Zais	120,094,185	1.4	3.2	2	15.6	1	9.4	19	4.8	14	9.7	1	--	--
Zais Group Invest Advisors	220,140,850	2.5	5.9	1	18.9	1	28.3	1	7.3	1	--	--	--	--
Zais Zephyr A 6 LP	23,510,162	0.3	8.8	--	14.4	--	--	--	--	--	--	--	--	--

Private Equity

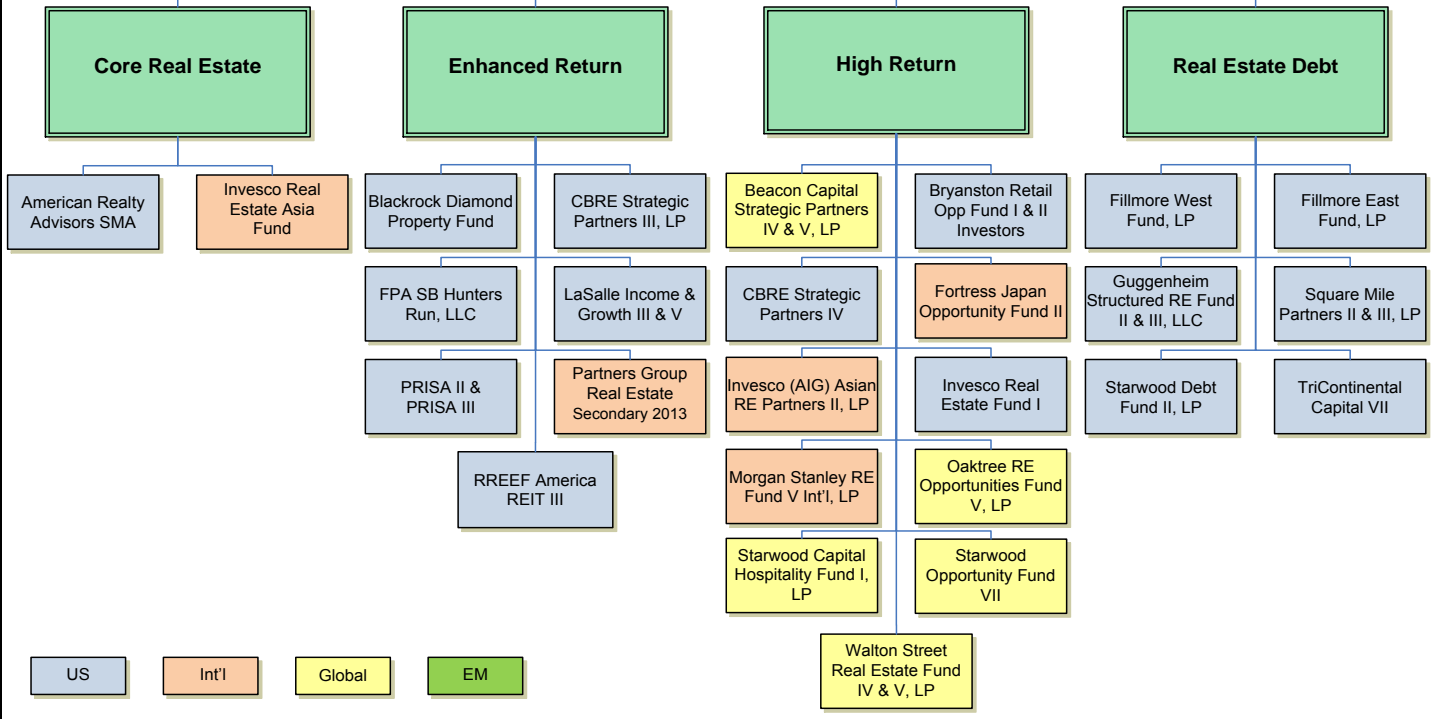


Real Asset Portfolio



Real Estate

**Real Estate Portfolio
9% Target Allocation**



San Bernardino County Employees' Retirement Association

Alternatives Performance Detail - Gross

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Private Equity Composite	1,194,118,294	13.6	3.1	--	5.9	--	9.5	--	11.3	--	12.3	--	8.9	--
Cambridge Associates Global All PE (Qtr Lag)			<u>3.8</u>	--	<u>6.4</u>	--	<u>8.5</u>	--	<u>10.5</u>	--	<u>12.1</u>	--	<u>10.2</u>	--
Excess Return			-0.7		-0.5		1.0		0.8		0.2		-1.3	
Russell 3000			4.2	--	8.8	--	12.7	--	8.4	--	14.7	--	7.1	--
Cambridge Associates US All PE (1 Qtr Lag)			3.7	--	7.8	--	8.6	--	10.7	--	13.1	--	10.8	--
Real Estate Composite	563,658,613	6.4	1.7	41	4.1	32	12.9	8	12.1	59	10.7	87	3.5	99
NCREIF Property Index 1 Qtr Lag			<u>1.8</u>	40	<u>3.8</u>	34	<u>9.2</u>	23	<u>11.3</u>	81	<u>11.2</u>	72	<u>7.2</u>	1
Excess Return			-0.1		0.3		3.7		0.8		-0.5		-3.7	
InvestorForce Public DB Real Estate Pub+Priv Gross Median			1.3		2.8		8.8		12.3		12.0		4.9	
Pramerica Real Estate Capital VI	8,298,703	0.1	--	--	--	--	--	--	--	--	--	--	--	--
FPA SB Hunter	87,016	0.0	--	--	--	--	--	--	--	--	--	--	--	--
eA US REIT Gross Median			-2.7		-3.7		7.0		13.7		12.5		5.9	
Real Assets Composite	425,042,798	4.8	0.8	60	2.8	45	4.6	84	1.4	77	3.1	82	2.0	99
Bloomberg Commodity Index			<u>2.7</u>	5	<u>-1.3</u>	99	<u>11.8</u>	11	<u>-11.3</u>	99	<u>-9.0</u>	99	<u>-5.6</u>	99
Excess Return			-1.9		4.1		-7.2		12.7		12.1		7.6	
NCREIF Timberland 1 Qtr Lag			0.7	64	1.8	64	3.4	89	7.6	34	6.9	68	6.4	6
Timber	200,003,246	2.3	-0.3	--	-0.8	--	4.6	--	4.4	--	5.6	--	2.7	--
NCREIF Timberland 1 Qtr Lag			<u>0.7</u>	--	<u>1.8</u>	--	<u>3.4</u>	--	<u>7.6</u>	--	<u>6.9</u>	--	<u>6.4</u>	--
Excess Return			-1.0		-2.6		1.2		-3.2		-1.3		-3.7	
Infrastructure	70,846,514	0.8	5.0	--	21.8	--	20.0	--	-2.5	--	0.2	--	--	--
Russell 3000			<u>4.2</u>	--	<u>8.8</u>	--	<u>12.7</u>	--	<u>8.4</u>	--	<u>14.7</u>	--	<u>7.1</u>	--
Excess Return			0.8		13.0		7.3		-10.9		-14.5			
Commodities	154,193,038	1.8	0.5	--	0.0	--	-0.7	--	0.2	--	1.9	--	--	--
Bloomberg Commodity Index			<u>2.7</u>	--	<u>-1.3</u>	--	<u>11.8</u>	--	<u>-11.3</u>	--	<u>-9.0</u>	--	<u>-5.6</u>	--
Excess Return			-2.2		1.3		-12.5		11.5		10.9			

Appendix: Private Equity and Real Estate Performance

San Bernardino County Employees' Retirement Association

Private Equity Performance Ending September 30, 2016

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Cumulative Distributions	Valuation	IRR	TVPI Ratio
Apollo European Principal Finance Fund (Feeder), LP	2009	\$ 53,798,648	\$ 46,307,695	\$ 67,424,636	\$ 1,907,230	11.89%	1.50
Apollo Investment Fund VII, L.P.	2008	\$ 10,000,000	\$ 8,324,297	\$ 14,230,738	\$ 2,804,144	24.21%	2.05
Apollo PCPL Webb V	2010	\$ 4,844,398	\$ 4,844,398	\$ 5,196,757	\$ 60,542	6.77%	1.09
Apollo PCPL Webb VIII	2010	\$ 4,734,303	\$ 4,734,303	\$ 12,146,258	\$ 2,423	46.47%	2.57
ARES European Loan Opp Fund	2015	\$ 15,000,000	\$ 8,413,136	\$ -	\$ 8,435,359	0.26%	1.00
Ares Special Situations Fund IV, LP	2015	\$ 50,000,000	\$ 17,326,733	\$ -	\$ 11,101,177	-28.14%	0.64
Aurora Equity Partners III, L.P.	2005	\$ 25,000,000	\$ 23,544,536	\$ 41,219,765	\$ 2,748,858	14.43%	1.75
Aurora Equity Partners IV, L.P.	2012	\$ 20,000,000	\$ 15,562,251	\$ 1,381,143	\$ 29,382,415	18.78%	1.72
Aurora Resurgence Fund, L.P.	2008	\$ 15,000,000	\$ 5,653,009	\$ 10,350,965	\$ -	17.60%	1.82
Baring Asia Private Equity Fund IV, L.P.	2015	\$ 2,931,918	\$ 2,922,361	\$ 435,400	\$ 2,548,571	1.44%	1.02
BNY Mellon - Alcentra Mezzanine III	2012	\$ 25,000,000	\$ 23,254,658	\$ 26,583,881	\$ 40,180	12.46%	1.14
Catalyst Fund II, L.P.	2007	\$ 10,000,000	\$ 9,934,668	\$ 4,033,566	\$ 17,420,538	12.73%	2.15
Catalyst Fund LP IV, L.P.	2015	\$ 8,000,000	\$ 2,382,999	\$ -	\$ 2,489,747	3.67%	1.04
Charlesbank Equity Fund VIII	2015	\$ 7,500,000	\$ 3,541,183	\$ 38,338	\$ 3,732,616	6.64%	1.06
DRI II, L.P.	2009	\$ 20,000,000	\$ 19,917,669	\$ 26,264,884	\$ -	19.58%	1.33
European Strategic Partners 2004	2004	\$ 240,733,172	\$ 219,926,377	\$ 231,656,439	\$ 39,910,514	3.70%	1.23
European Strategic Partners 2008	2010	\$ 31,336,670	\$ 25,566,042	\$ 10,265,195	\$ 20,322,778	5.66%	1.19
Industry Ventures Fund V	2008	\$ 10,000,000	\$ 9,500,000	\$ 20,712,664	\$ 8,537,460	33.06%	3.08
Industry Ventures Fund VI	2011	\$ 20,000,000	\$ 18,000,000	\$ 10,292,688	\$ 13,584,608	11.21%	1.33
Industry Ventures Partnership Holdings Fund II, L.P.	2012	\$ 25,000,000	\$ 22,500,000	\$ 5,231,047	\$ 39,272,037	28.20%	1.98
Industry Ventures Partnership Holdings Fund III, L.P.	2013	\$ 25,000,000	\$ 16,500,000	\$ 803,450	\$ 19,128,231	13.61%	1.21
Industry Ventures Partnership Holdings Fund III-A, L.P.	2014	\$ 12,500,000	\$ 9,625,000	\$ 3,352,672	\$ 7,824,625	10.83%	1.16
Industry Ventures Partnership Holdings IV, LP	2016	\$ 25,000,000	\$ 1,000,000	\$ -	\$ 957,204	-4.27%	0.96
Industry Ventures Secondary VII, L.P.	2013	\$ 25,000,000	\$ 18,750,000	\$ 1,307,027	\$ 20,258,148	11.36%	1.15
Insight Venture Partners III Co-Invest	2014	\$ 4,000,000	\$ 3,544,000	\$ -	\$ 4,360,712	11.00%	1.23
Lexington Capital Partners VI-B	2006	\$ 25,000,000	\$ 24,591,319	\$ 27,026,703	\$ 6,720,364	6.69%	1.37
Lexington Capital Partners VII (Offshore)	2011	\$ 25,000,000	\$ 19,477,293	\$ 18,169,044	\$ 11,468,031	16.61%	1.51
Lexington Middle Market I	2005	\$ 25,000,000	\$ 24,771,942	\$ 30,858,420	\$ 7,715,278	11.36%	1.56
Lexington Middle Market II - Offshore	2008	\$ 10,000,000	\$ 9,773,736	\$ 8,341,981	\$ 5,862,258	13.47%	1.45
NB Secondary Opportunities I, LP	2005	\$ 20,000,000	\$ 18,500,843	\$ 21,002,304	\$ 3,817,287	7.03%	1.34
NB Secondary Opportunities II, LP	2008	\$ 20,000,000	\$ 16,951,013	\$ 20,303,118	\$ 6,399,854	15.73%	1.55
Partners Group Access 632, L.P.	2014	\$ 2,782,028	\$ 2,782,028	\$ -	\$ 4,987,529	25.44%	1.78
Partners Group Access 648, L.P.	2014	\$ 4,362,030	\$ 4,028,602	\$ 19,449	\$ 3,168,231	-10.78%	0.79
Partners Group Access 680 L.P.	2015	\$ 7,272,991	\$ 7,272,991	\$ -	\$ 7,252,010	-0.29%	1.00
Partners Group CA Infrastructure, LP Inc	2016	\$ 6,246,500	\$ 327,178	\$ -	\$ 326,922	-0.08%	1.00
Partners Group Client Access 8 LP	2014	\$ 5,531,585	\$ 5,531,585	\$ 6,810,960	\$ 15,036,064	72.09%	3.95
Partners Group Direct Equity 2016 USD A	2016	\$ 20,000,000	\$ 5,192,424	\$ -	\$ 4,809,102	-11.02%	0.93
Partners Group Direct Investment 2012, L.P.	2013	\$ 18,165,037	\$ 16,509,621	\$ 6,932,435	\$ 15,568,022	17.28%	1.36
Partners Group European Mandate, L.P.	2004	\$ 237,718,714	\$ 196,136,552	\$ 202,227,122	\$ 60,269,527	5.69%	1.34
Partners Group European Mezzanine 2005	2005	\$ 101,076,654	\$ 101,076,654	\$ 107,970,072	\$ 20,292,845	3.88%	1.27
Partners Group Princess Learning IC LTD	2014	\$ 8,457,179	\$ 5,814,832	\$ 1,550,144	\$ 4,549,448	5.06%	1.05
Partners Group Seabras Holdings, LLC	2005	\$ 4,800,000	\$ 2,753,156	\$ -	\$ 2,761,937	0.38%	1.00
Partners Group Secondary 2006 LP	2006	\$ 54,435,051	\$ 51,077,528	\$ 49,384,151	\$ 11,063,692	3.64%	1.18
Partners Group Secondary 2008, L.P.	2009	\$ 26,619,869	\$ 23,690,725	\$ 24,840,489	\$ 9,720,903	9.19%	1.45
Partners Group Starfrost Limited	2014	\$ 6,254,685	\$ 3,736,806	\$ -	\$ 4,927,909	10.80%	1.32
Pathway Private Equity Fund VII, L.P.	2004	\$ 904,500,000	\$ 768,982,494	\$ 700,591,046	\$ 516,191,812	9.74%	1.55
Siguler Guff DOF II	2006	\$ 30,000,000	\$ 30,000,000	\$ 40,356,892	\$ 2,054,945	8.70%	1.42
Siguler Guff DOF III	2008	\$ 10,000,000	\$ 9,700,000	\$ 11,278,661	\$ 3,762,279	10.74%	1.55
SL Capital SOF I LP	2014	\$ 25,000,000	\$ 17,365,404	\$ 1,894,785	\$ 18,619,346	13.34%	1.18
TCW/Crescent Mezzanine IV, L.P.	2006	\$ 40,000,000	\$ 39,590,976	\$ 43,109,680	\$ 1,456,578	2.83%	1.13
TCW/Crescent Mezzanine V, L.P.	2008	\$ 20,000,000	\$ 19,949,723	\$ 23,059,490	\$ 3,396,854	9.70%	1.33
Tennenbaum Opportunities Fund, LP	2016	\$ 20,000,000	\$ 2,643,281	\$ 419,566	\$ 2,763,498	15.08%	1.20
Tennenbaum Opportunities Fund V, L.P.	2007	\$ 10,000,000	\$ 10,000,000	\$ 8,811,028	\$ 4,829,972	5.15%	1.36
Tennenbaum Opportunities Fund VI, L.P.	2011	\$ 20,000,000	\$ 17,294,340	\$ 8,024,031	\$ 15,554,154	9.14%	1.36
Tennenbaum Special Situations Fund IX	2015	\$ 50,000,000	\$ 21,837,087	\$ -	\$ 22,876,718	7.41%	1.05
Tennenbaum Waterman Fund, LP	2012	\$ 70,000,000	\$ 70,000,000	\$ 18,587,234	\$ 73,419,655	11.04%	1.31
The Resolute Fund II	2016	\$ 1,720,184	\$ 1,392,873	\$ 183,903	\$ 1,259,886	4.09%	1.04
The Resolute Fund III	2014	\$ 8,000,000	\$ 2,675,847	\$ 52,120	\$ 3,282,571	14.85%	1.25
Thoma Bravo XI	2014	\$ 8,000,000	\$ 7,845,858	\$ -	\$ 8,698,751	8.56%	1.11
Total: San Bernardino		\$ 2,536,321,615	\$ 2,100,850,024	\$ 1,874,732,340	\$ 1,141,714,347	8.26%	1.42

Note: all metrics are calculated since inception

* Denotes cash adjusted

San Bernardino County Employees' Retirement Association

Real Estate Performance Ending September 30, 2016

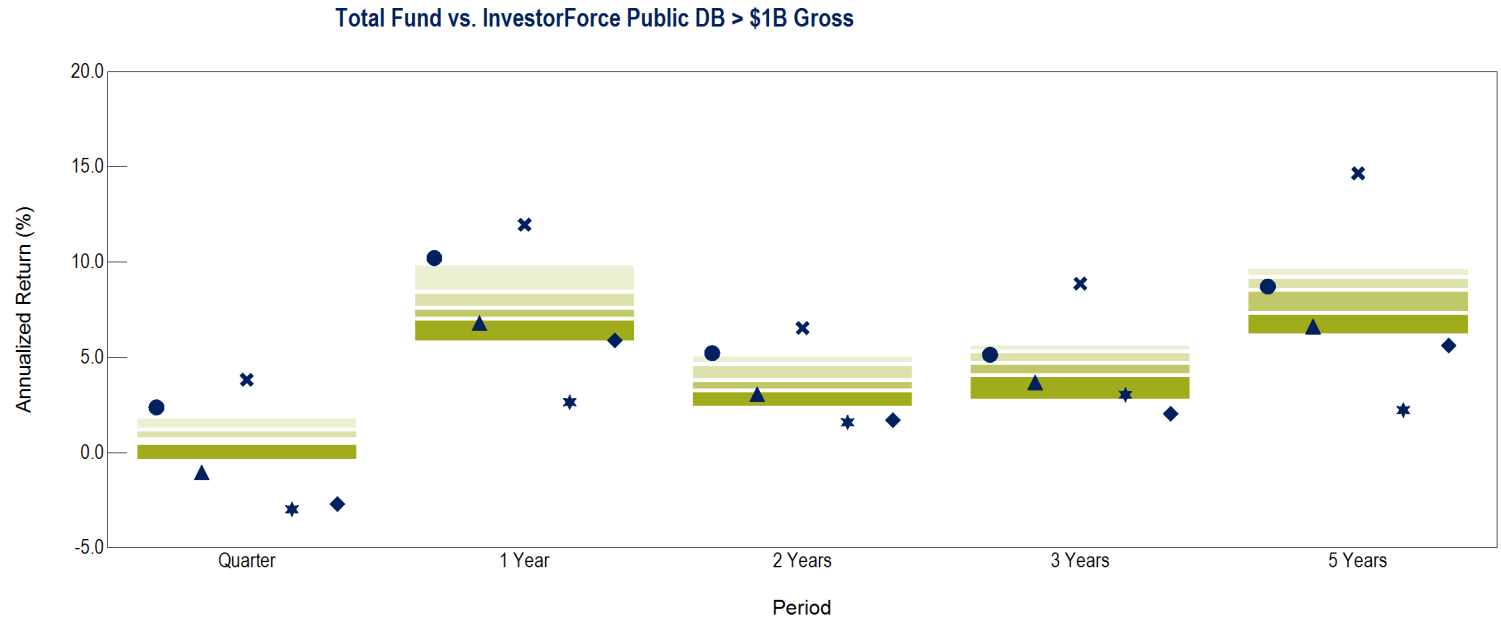
Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Cumulative Distributions	Valuation	IRR	TVPI Ratio
American Realty Advisors	1996	\$ 128,009,773	\$ 128,009,773	\$ 102,618,126	\$ 194,303,452	7.65%	2.32
American Realty Value Add	2006	\$ 13,125,215	\$ 13,125,215	\$ 32,065,484	\$ 87,016	10.95%	2.45
Apollo US Real Estate Fund II	2015	\$ 20,000,000	\$ 11,157,440	\$ 1,608,060	\$ 10,865,213	17.15%	1.11
Beacon Capital Strategic Partners IV, L.P.	2006	\$ 39,000,000	\$ 38,000,000	\$ 30,085,408	\$ 1,510,276	-3.18%	0.83
Beacon Capital Strategic Partners V, L.P.	2007	\$ 20,000,000	\$ 18,000,000	\$ 9,912,568	\$ 1,241,389	-8.00%	0.62
BlackRock Diamond Property Fund	2005	\$ 25,000,000	\$ 25,000,000	\$ 14,472,784	\$ 582,403	-9.72%	0.60
Bryanston Real Estate Opportunity Fund II, L.P.	2009	\$ 20,000,000	\$ 8,589,256	\$ 9,103,079	\$ 2,495,332	9.87%	1.35
Bryanston Retail Opportunity Fund, L.P.	2004	\$ 20,000,000	\$ 8,228,165	\$ 18,492,031	\$ 9,422,299	71.13%	3.39
CBRE Strategic Partners III	2003	\$ 10,000,000	\$ 10,000,000	\$ 12,698,783	\$ -	8.02%	1.27
CBRE Strategic Partners IV	2005	\$ 40,000,000	\$ 40,000,000	\$ 1,532,153	\$ 2,283,109	-24.17%	0.10
Fillmore East Fund	2006	\$ 25,000,000	\$ 31,403,818	\$ 20,777,177	\$ -	-9.78%	0.66
Fillmore West Fund	2008	\$ 20,000,000	\$ 19,561,557	\$ 10,874,164	\$ 11,071,932	1.75%	1.12
Fortress Japan Opportunity Fund II	2012	\$ 21,739,130	\$ 8,237,703	\$ 4,953,358	\$ 17,571,171	24.67%	2.73
Invesco Asian Real Estate Partners II (USD), LP	2007	\$ 20,000,000	\$ 8,374,055	\$ 9,171,403	\$ 1,689,189	6.65%	1.30
Invesco High Yield Debt Fund I	2007	\$ 20,000,000	\$ 20,000,000	\$ 8,567,605	\$ -	-35.57%	0.43
Invesco Real Estate Asia Fund	2014	\$ 51,732,500	\$ 51,732,500	\$ 2,408,395	\$ 62,555,678	10.56%	1.25
INVESCO Real Estate Fund I	2005	\$ 10,000,000	\$ 9,248,390	\$ 10,000,208	\$ 23,872	1.55%	1.08
LaSalle Income & Growth Fund IV	2005	\$ 20,000,000	\$ 19,469,417	\$ 13,482,024	\$ -	-5.51%	0.69
Morgan Stanley Real Estate Fund V International	2005	\$ 27,500,000	\$ 27,377,414	\$ 31,743,090	\$ 1,570,694	7.16%	1.21
Oaktree Real Estate Opportunities V	2012	\$ 25,000,000	\$ 25,000,000	\$ 27,250,000	\$ 11,285,683	13.66%	1.54
Partners Group RE Secondary 2013 (USD) A	2014	\$ 65,000,000	\$ 29,540,619	\$ 4,000,194	\$ 34,666,239	25.95%	1.30
Prologis Japan Fund	2005	\$ 25,290,819	\$ 25,290,819	\$ 33,126,118	\$ -	4.81%	1.31
Prudential PRISA II	2004	\$ 100,000,441	\$ 100,000,441	\$ 32,017,135	\$ 111,941,902	8.37%	1.38
Prudential PRISA III	2003	\$ 40,000,300	\$ 40,000,300	\$ 37,674,874	\$ 35,182,189	19.87%	1.69
RREEF America REIT III	2004	\$ 20,000,000	\$ 20,539,309	\$ 23,555,134	\$ 111,965	3.01%	1.15
Square Mile Partners II	2007	\$ 20,000,000	\$ 19,831,232	\$ 5,078,710	\$ 617,001	-17.75%	0.29
Square Mile Partners III LP	2008	\$ 20,000,000	\$ 21,506,020	\$ 27,612,196	\$ 3,399,416	12.22%	1.44
Starwood Capital Hospitality Fund I-2	2006	\$ 30,000,000	\$ 30,000,000	\$ 18,811,980	\$ 11,211,721	0.01%	1.00
Starwood Debt Fund II, LP	2008	\$ 20,000,000	\$ 17,599,882	\$ 21,669,663	\$ 247,505	6.46%	1.25
Starwood Opportunity Fund VII - A	2006	\$ 25,000,000	\$ 25,000,000	\$ 11,011,048	\$ 8,984,848	-2.60%	0.80
Structured Real Estate III, LP (Guggenheim)	2008	\$ 20,000,000	\$ 20,000,000	\$ 16,320,664	\$ -	-4.99%	0.82
Tri Continental Capital VII	2005	\$ 23,000,000	\$ 22,343,057	\$ 1,539,846	\$ 1,718,710	-19.34%	0.15
Tuckerman Multi-Family Development Fund III	2002	\$ 10,000,000	\$ 10,219,311	\$ 16,939,699	\$ -	26.67%	1.66
Walton Street Real Estate Fund IV, LP	2003	\$ 10,000,000	\$ 9,770,890	\$ 15,024,332	\$ 1,046,163	10.85%	1.64
Walton Street Real Estate Fund V, LP	2006	\$ 40,000,000	\$ 40,000,000	\$ 15,855,960	\$ 16,463,984	-2.59%	0.81
Total: San Bernardino		\$ 1,044,398,178	\$ 952,156,582	\$ 652,053,452	\$ 554,150,351	4.08%	1.26

Note: all metrics are calculated since inception

Appendix: Market Environment

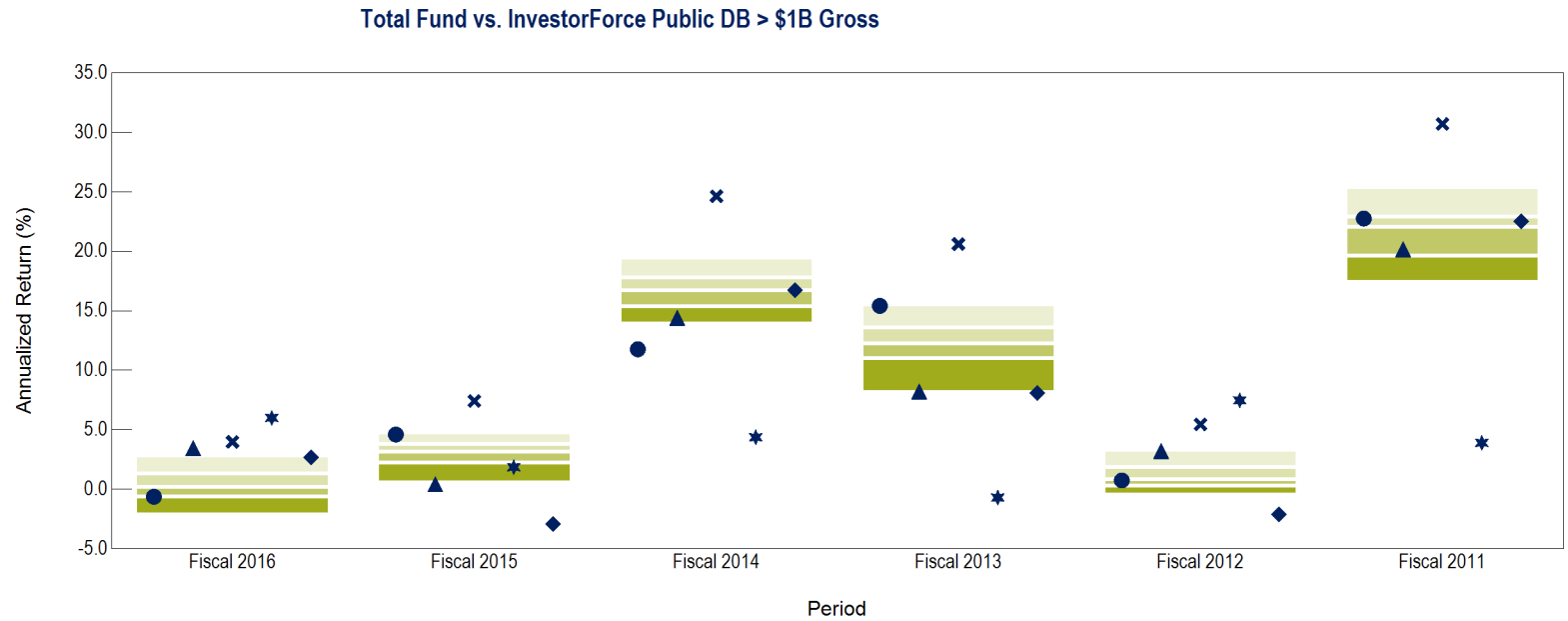


Total Fund Return Summary vs. Peer Universe



	Return (Rank)									
5th Percentile	1.9		9.9		5.1		5.7		9.7	
25th Percentile	1.2		8.5		4.7		5.3		9.2	
Median	0.7		7.6		3.8		4.7		8.5	
75th Percentile	0.5		7.1		3.3		4.1		7.4	
95th Percentile	-0.4		5.8		2.4		2.7		6.2	
# of Portfolios	24		24		24		24		23	
● Total Fund	2.4	(1)	10.2	(1)	5.2	(1)	5.1	(35)	8.7	(37)
▲ Policy Index	-1.0	(97)	6.8	(84)	3.1	(78)	3.7	(85)	6.6	(93)
× S&P 500	3.8	(1)	12.0	(1)	6.5	(1)	8.9	(1)	14.7	(1)
* BBgBarc US Aggregate TR	-3.0	(99)	2.6	(99)	1.6	(99)	3.0	(87)	2.2	(99)
◆ 60% MSCI ACWI (Gross)/40% CITI WGBI	-2.7	(99)	5.9	(95)	1.7	(99)	2.0	(99)	5.6	(98)

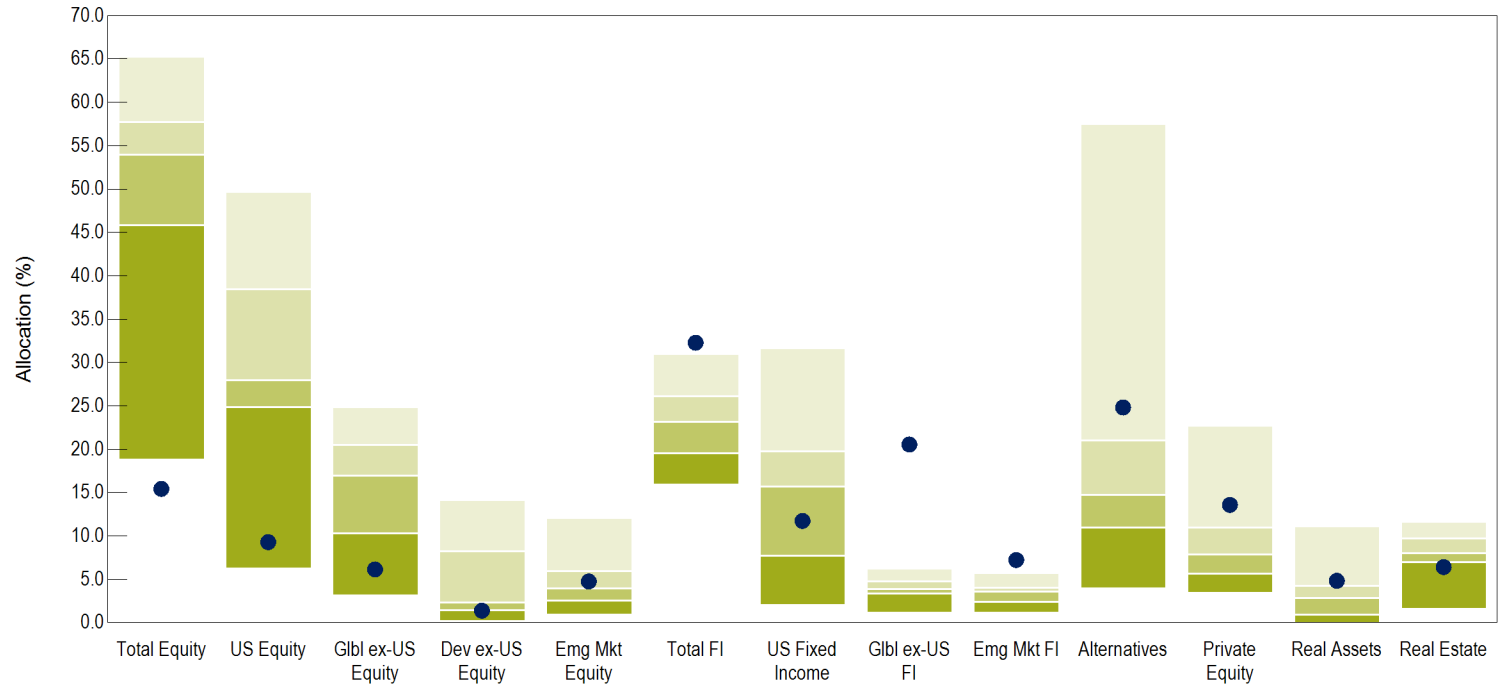
Fiscal Year Ending 6/30 Total Fund Return Summary vs. Peer Universe



	Fiscal 2016		Fiscal 2015		Fiscal 2014		Fiscal 2013		Fiscal 2012		Fiscal 2011	
	Return	(Rank)	Return	(Rank)	Return	(Rank)	Return	(Rank)	Return	(Rank)	Return	(Rank)
5th Percentile	2.8		4.8		19.4		15.5		3.3		25.4	
25th Percentile	1.4		3.9		17.8		13.6		1.9		22.9	
Median	0.3		3.2		16.7		12.3		0.9		22.1	
75th Percentile	-0.6		2.3		15.4		11.0		0.3		19.6	
95th Percentile	-2.1		0.6		13.9		8.2		-0.4		17.4	
# of Portfolios	91		92		65		78		70		67	
● Total Fund	-0.6	(77)	4.6	(7)	11.8	(99)	15.4	(7)	0.8	(58)	22.7	(32)
▲ Policy Index	3.5	(3)	0.4	(96)	14.4	(87)	8.2	(96)	3.2	(6)	20.2	(71)
× S&P 500	4.0	(2)	7.4	(1)	24.6	(1)	20.6	(1)	5.4	(1)	30.7	(1)
* BBgBarc US Aggregate TR	6.0	(1)	1.9	(87)	4.4	(99)	-0.7	(99)	7.5	(1)	3.9	(99)
◆ 60% MSCI ACWI (Gross)/40% CITI WGBI	2.7	(8)	-2.9	(99)	16.7	(51)	8.1	(96)	-2.1	(99)	22.5	(38)

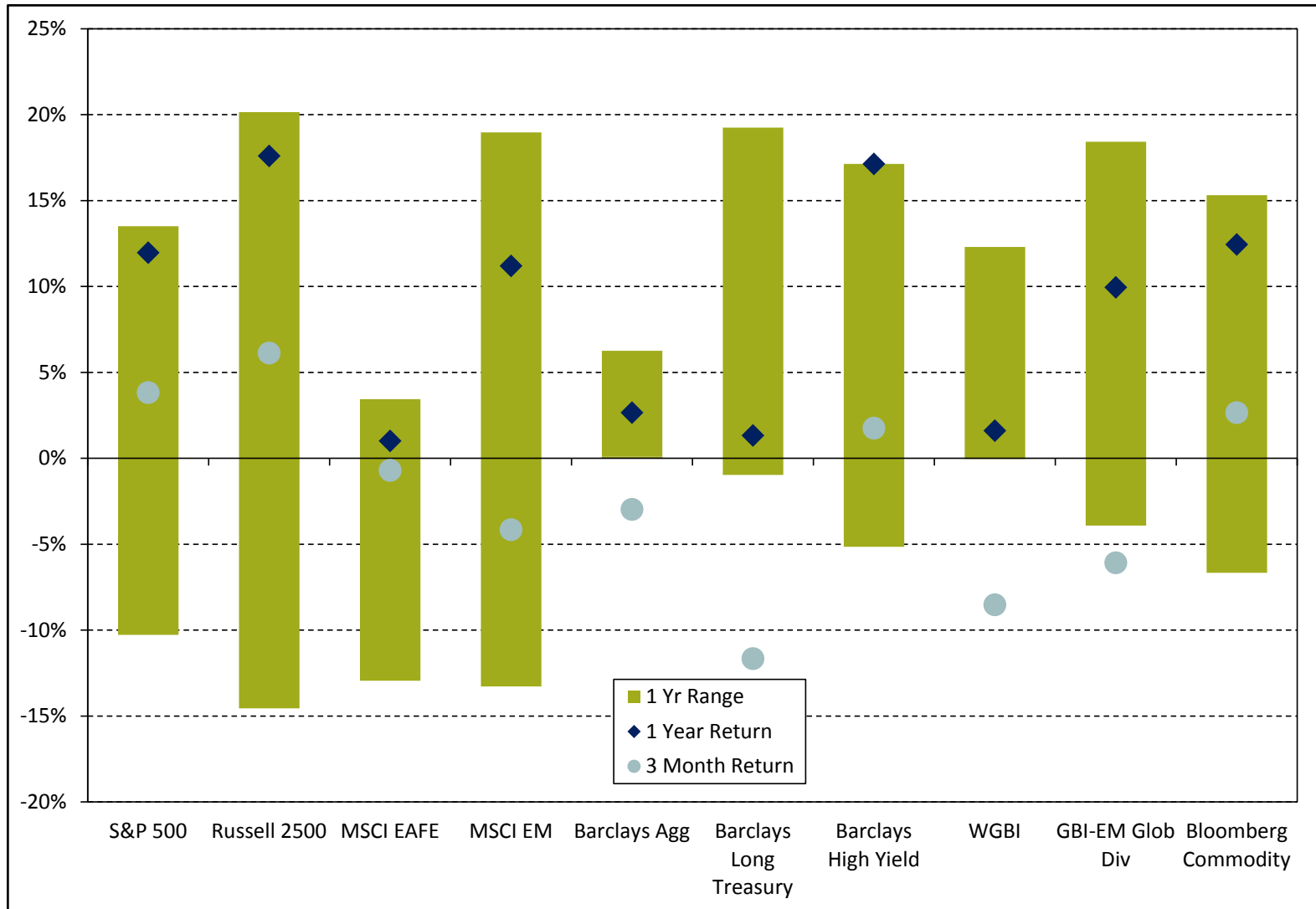
Total Fund Allocations vs. Peer Universe

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



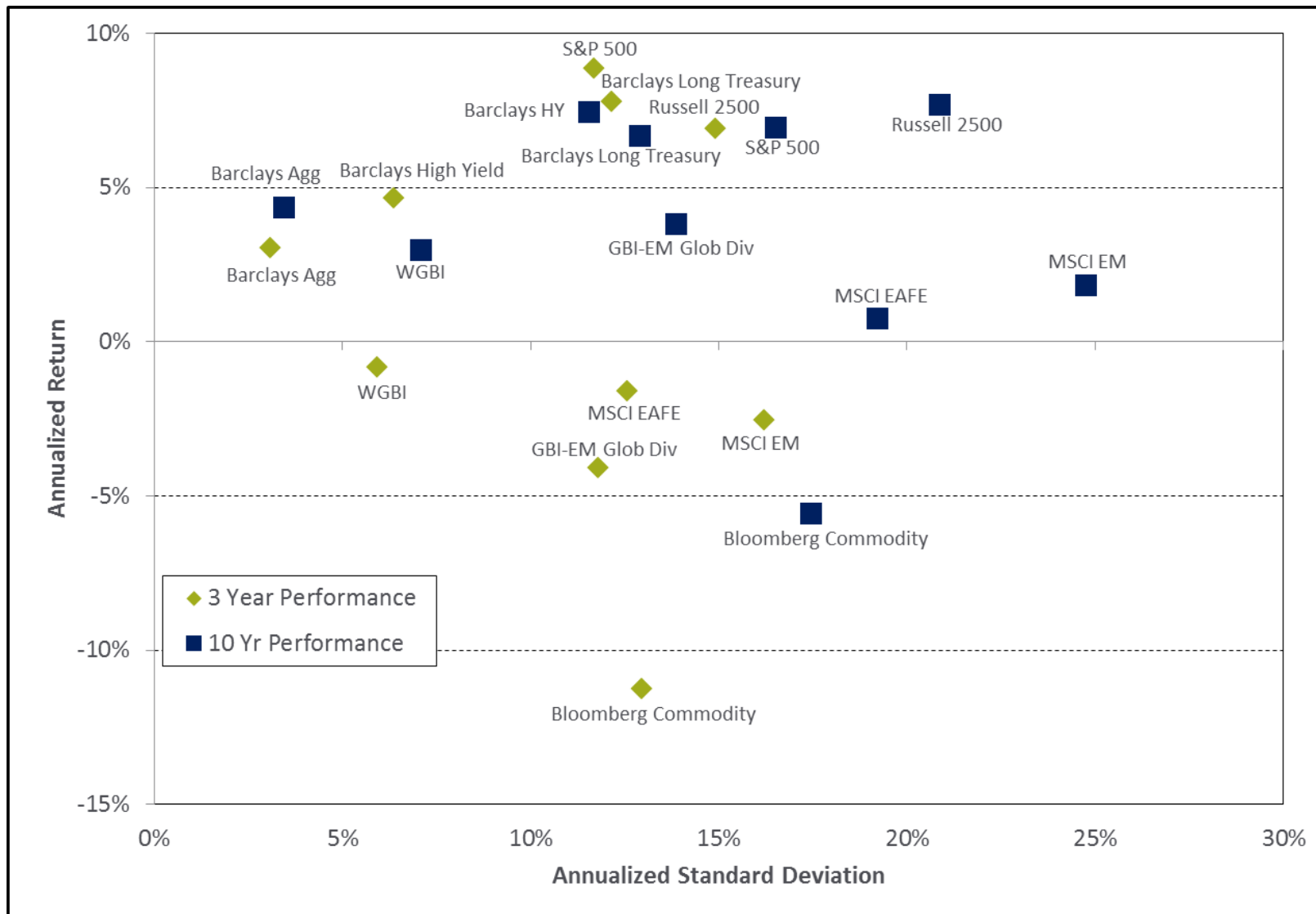
	Allocation (Rank)													
5th Percentile	65.3	49.6	24.8	14.2	12.0	31.0	31.6	6.3	5.7	57.5	22.7	11.1	11.6	--
25th Percentile	57.8	38.5	20.5	8.3	6.0	26.2	19.8	4.9	4.1	21.1	11.1	4.3	9.8	--
Median	54.0	28.0	17.0	2.4	4.1	23.2	15.8	3.9	3.7	14.8	7.9	2.9	8.1	--
75th Percentile	45.9	24.9	10.4	1.5	2.6	19.6	7.8	3.5	2.5	11.0	5.7	1.0	7.0	--
95th Percentile	18.8	6.3	3.2	0.3	1.0	16.0	2.1	1.2	1.2	4.0	3.5	0.0	1.6	--
# of Portfolios	20	15	18	7	15	21	16	9	8	18	17	10	17	--
● Total Fund	15.4 (98)	9.3 (85)	6.1 (83)	1.4 (78)	4.7 (36)	32.3 (5)	11.7 (69)	20.5 (1)	7.2 (1)	24.8 (22)	13.6 (7)	4.8 (22)	6.4 (78)	--

San Bernardino County Employees' Retirement Association
 Near Term Broad Market Performance Summary as of 12/30/2016



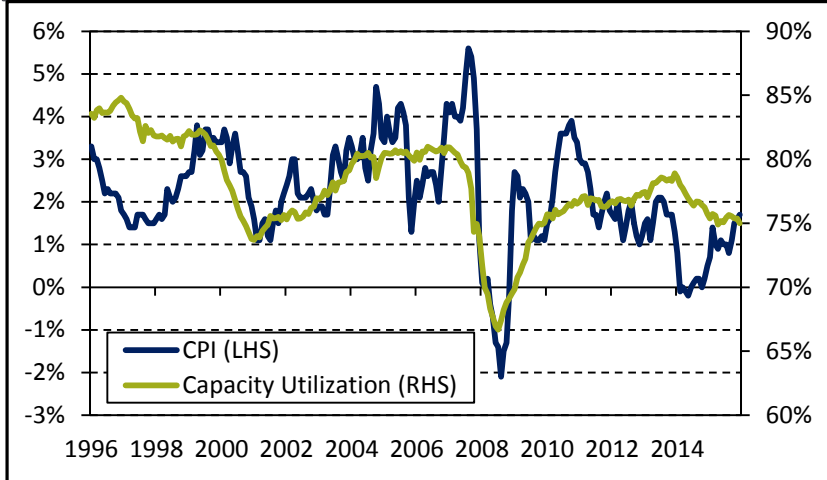
Source: Bloomberg, Standard and Poors, Russell, MSCI, Barclays, Citigroup, JP Morgan
 *1 Yr Range: Represents range of cumulative high/low daily index returns for an investment made one year ago

San Bernardino County Employees' Retirement Association
 Long Term Broad Market Performance Summary as of 12/30/2016



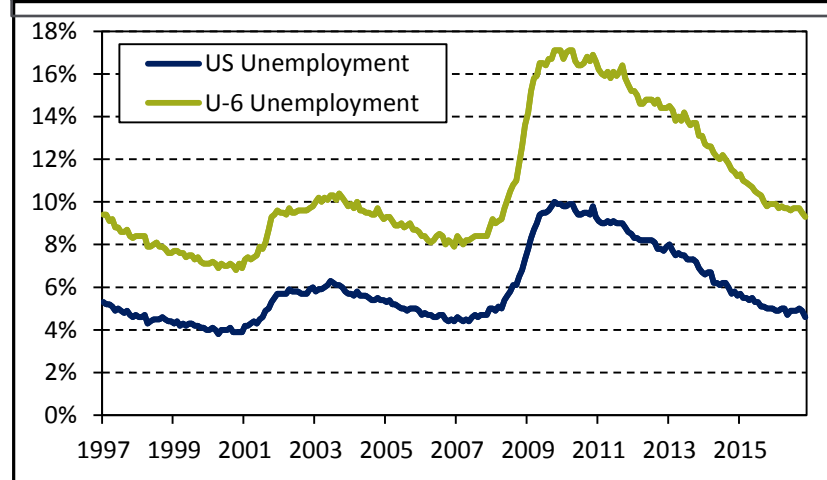
Source: Bloomberg, Standard and Poors, Russell, MSCI, Barclays, Citigroup, JP Morgan

Inflation continues rising



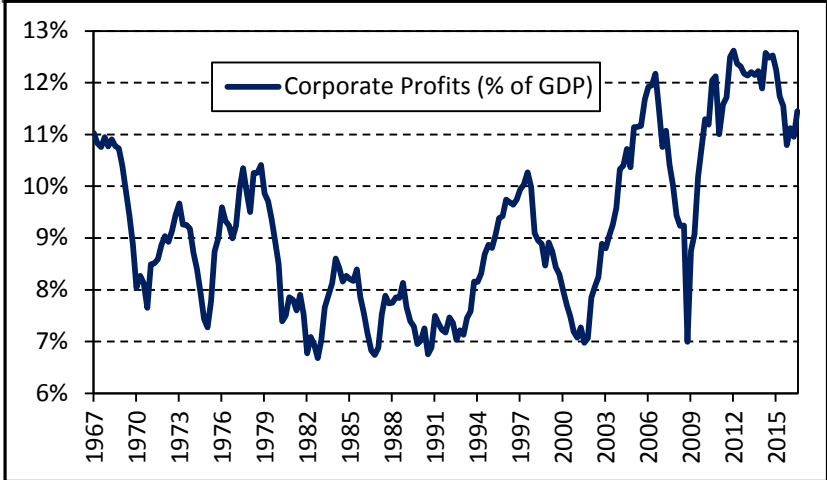
Source: Bloomberg, Federal Reserve, Bureau of Labor Statistics

Unemployment has steadied



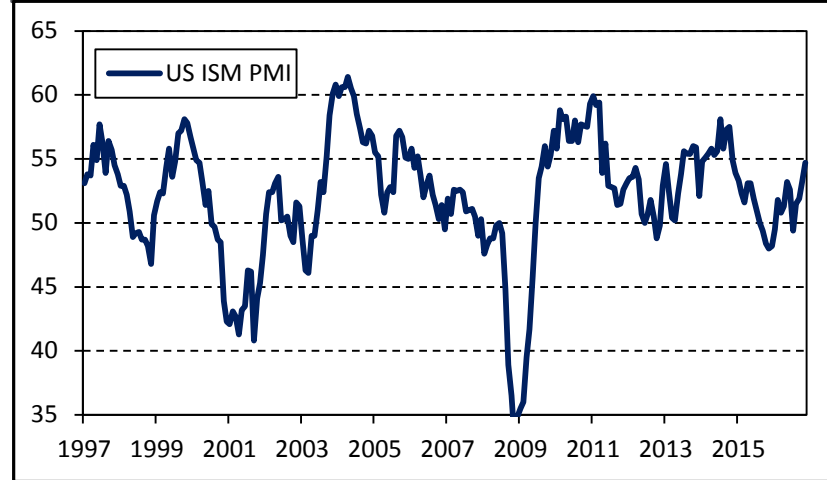
Source: Bloomberg, Bureau of Labor Statistics

Corporate profits experience an uptick



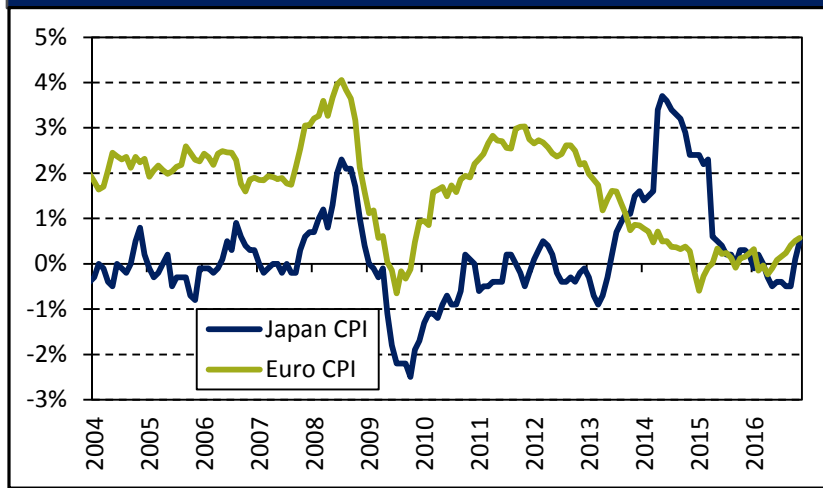
Source: Bloomberg, Bureau of Economic Analysis

Manufacturing shows modest strength



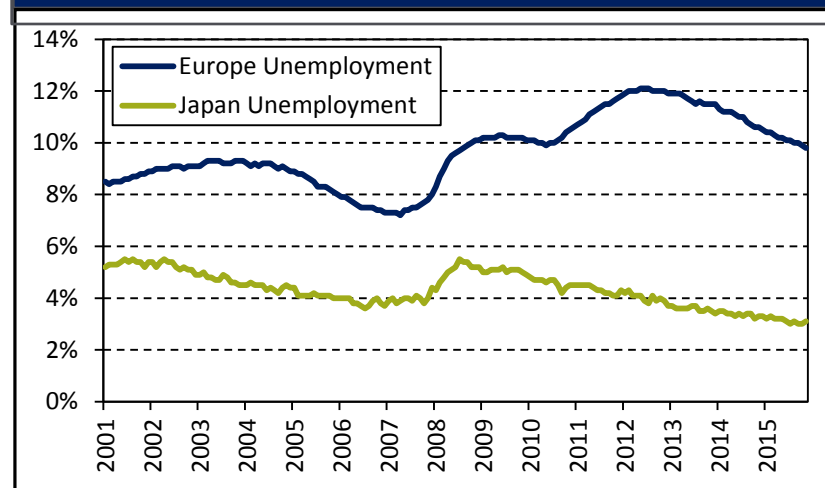
Source: Bloomberg, Institute for Supply Management

Inflation has increased



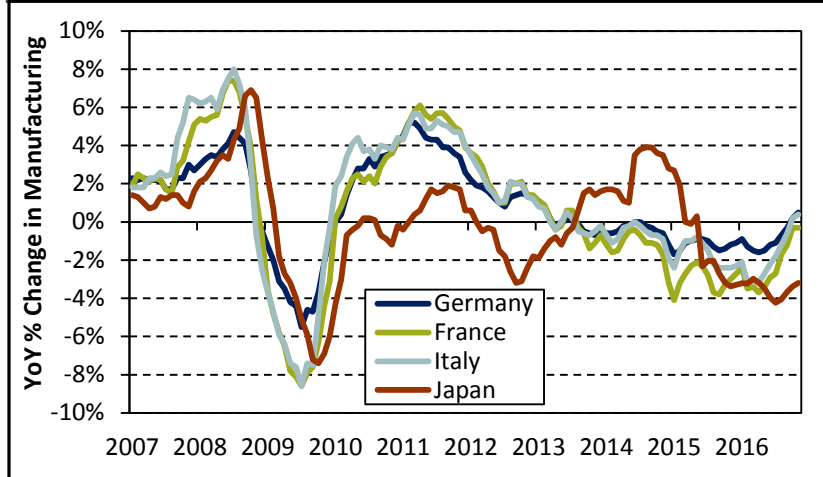
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Europe unemployment edges lower



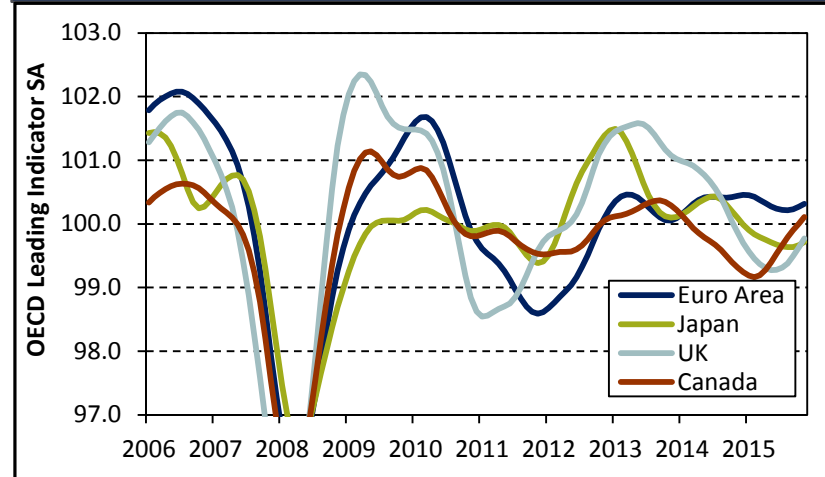
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Manufacturing steadies after showing modest improvement



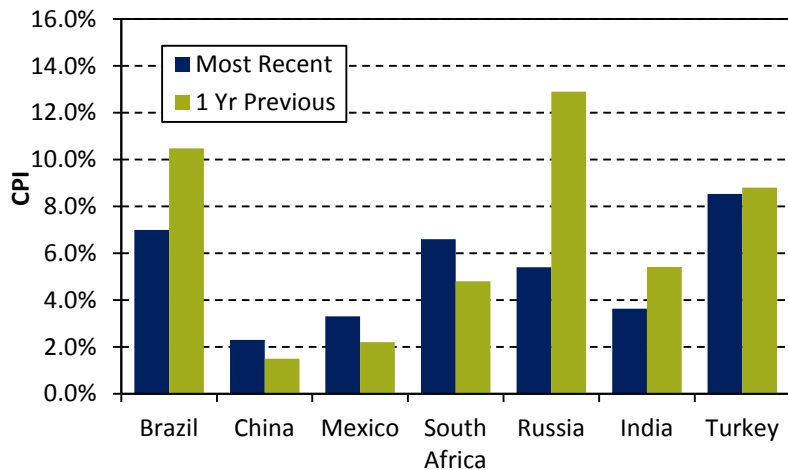
Source: Bloomberg, OECD, Eurostat

Leading indicators mostly trending higher



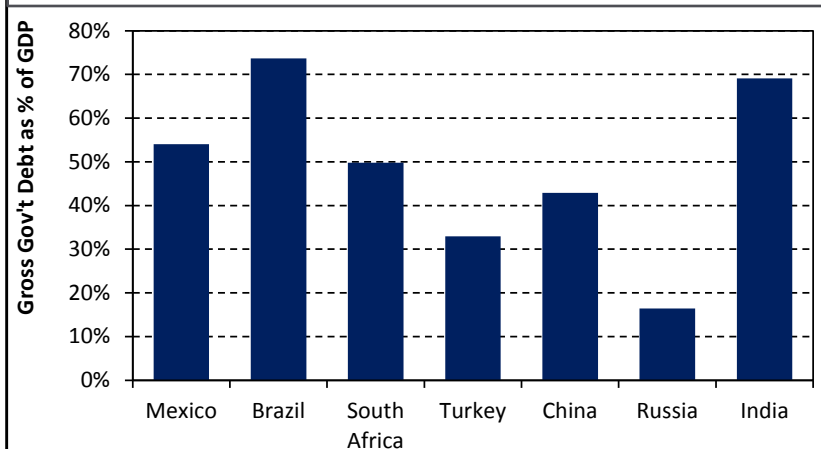
Source: Bloomberg, OECD

EM inflation varies by country



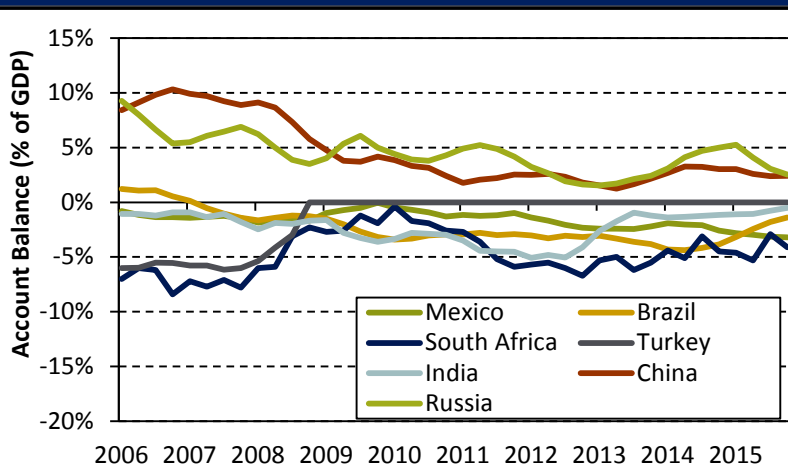
Source: Bloomberg

Relatively healthy Debt/GDP ratios



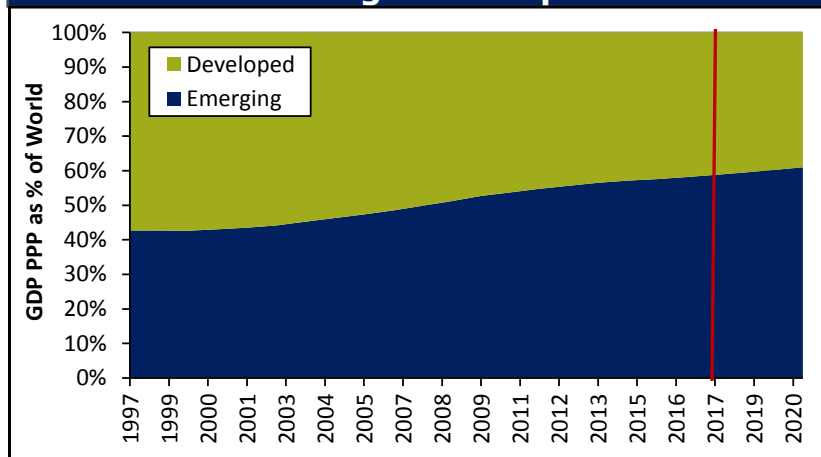
Source: Bloomberg, IMF

Account balances remain steady



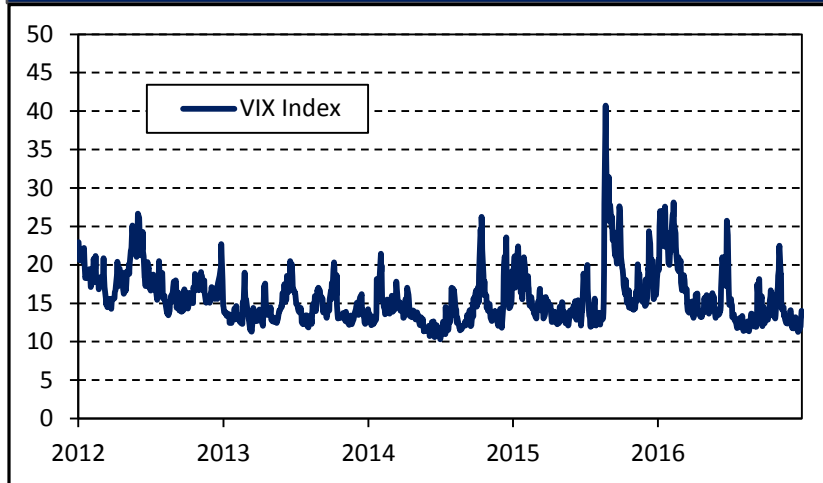
Source: Bloomberg

EM continues trending higher as a percent of global output



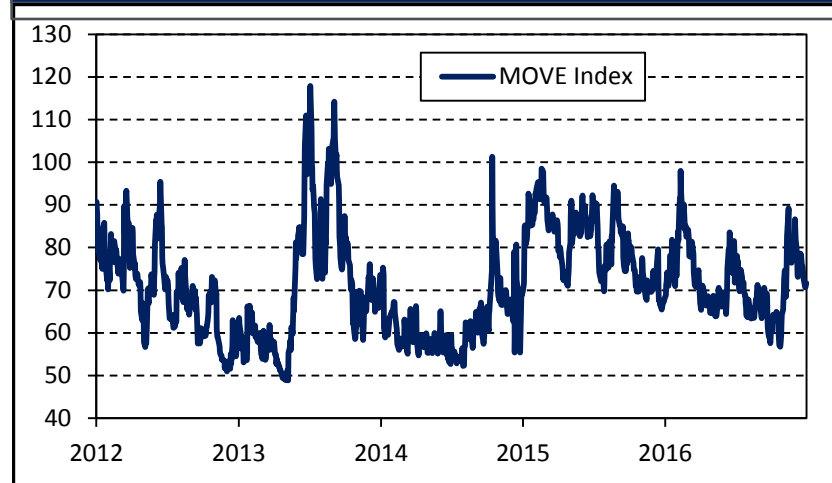
Source: Bloomberg, IMF

Equity volatility remains low



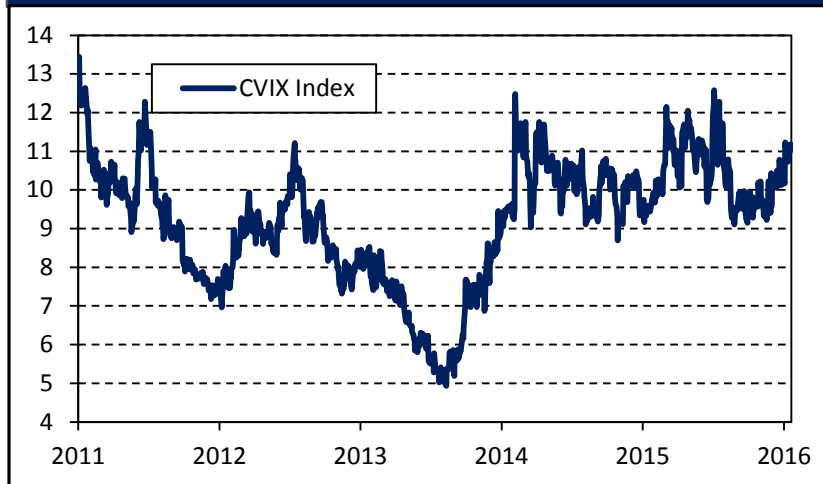
Source: Bloomberg, CBOE

Treasury volatility continues to be elevated



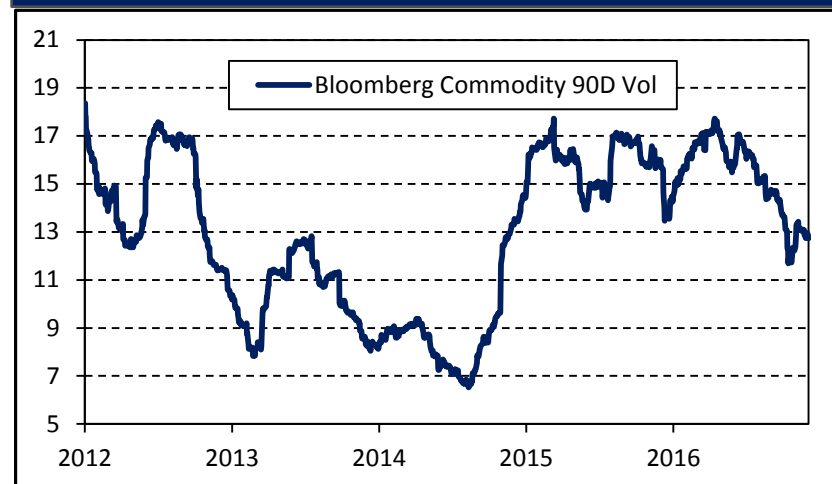
Source: Bloomberg, Merrill Lynch

Currency volatility increased



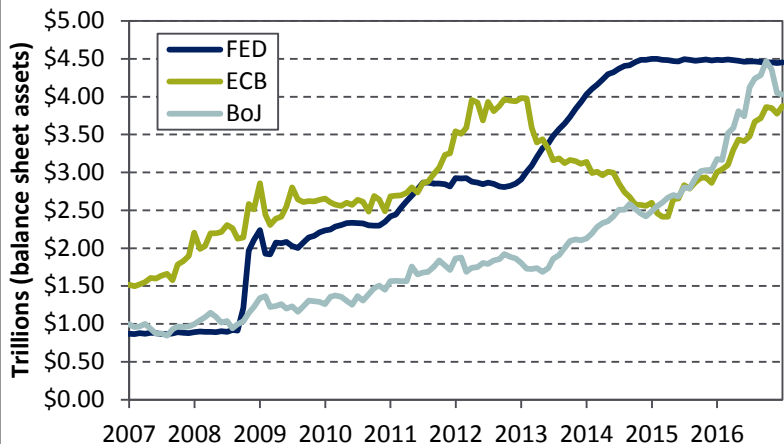
Source: Bloomberg, Deutsche Bank

Commodity volatility has subsided



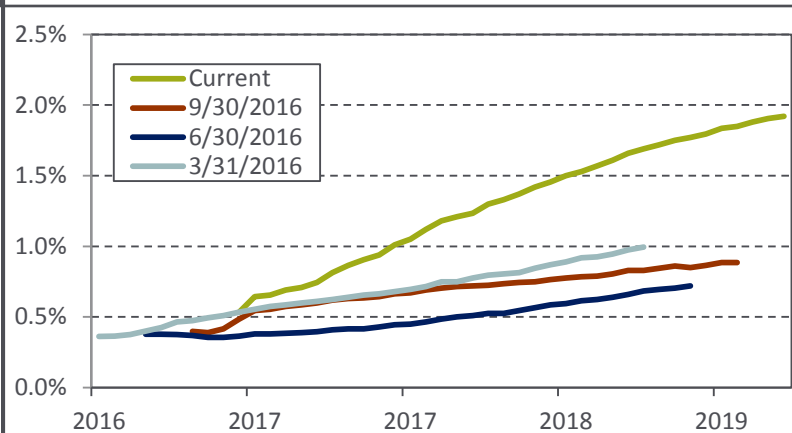
Source: Bloomberg, Merrill Lynch

Yen depreciation has decreased the value of BoJ's balance sheet



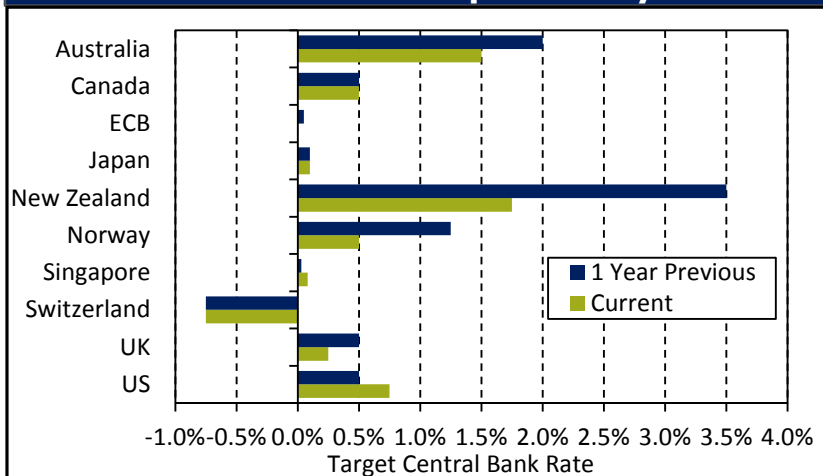
Source: Bloomberg, Federal Reserve, Bank of Japan, ECB, NEPC

Market expectations for interest rates have increased dramatically post rate hike



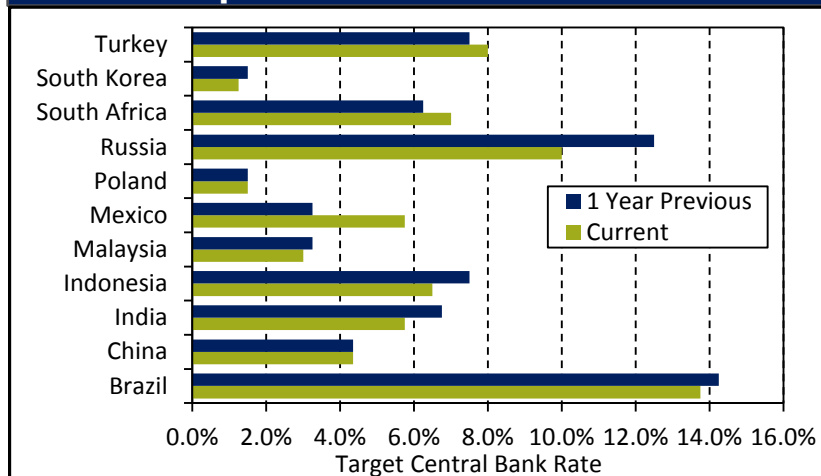
Source: Bloomberg, Federal Reserve

Developed market interest rates are mostly lower than the previous year



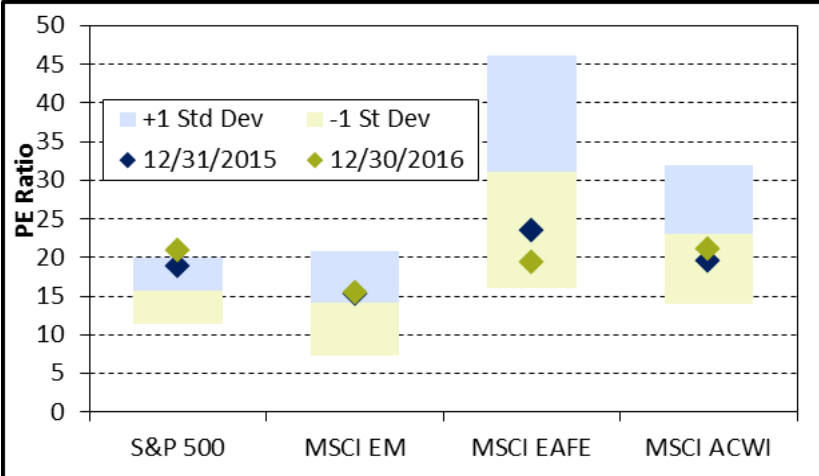
Source: Bloomberg

EM central bank policies vary by country-specific economic conditions



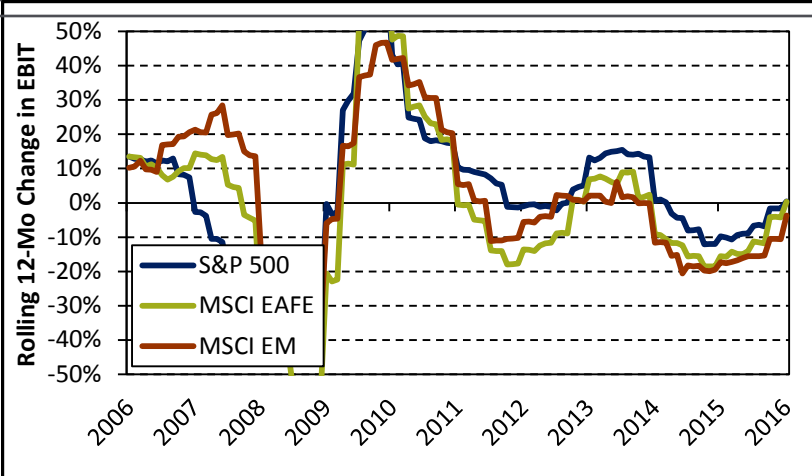
Source: Bloomberg

EAFE's current valuation is lower than the previous year



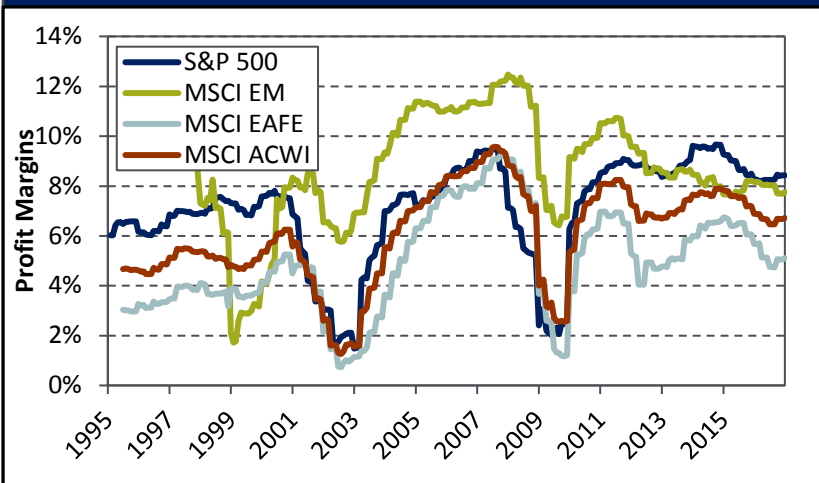
Source: Bloomberg, Standard and Poors, MSCI *MSCI EAFE is ex UK Telecom
*Standard deviation calculations on 20 years of data except S&P 500 (30 years)

Rolling annual earnings growth trending upwards off lows



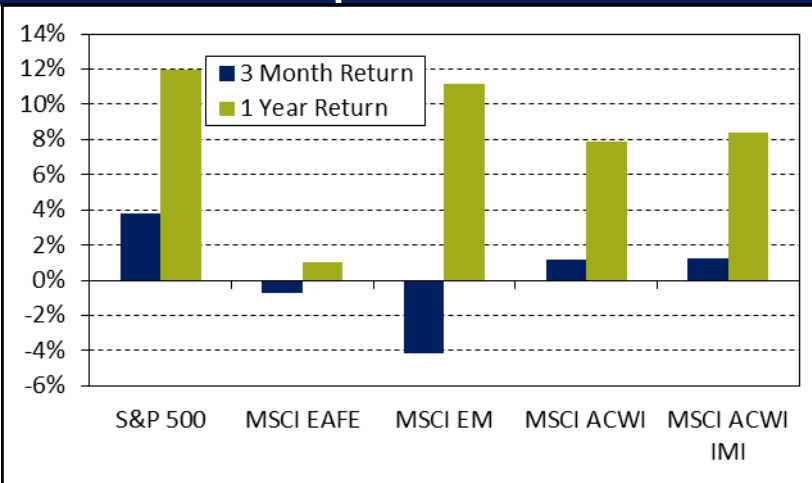
Source: Bloomberg, Standard and Poors, MSCI

Profit margins slightly increased

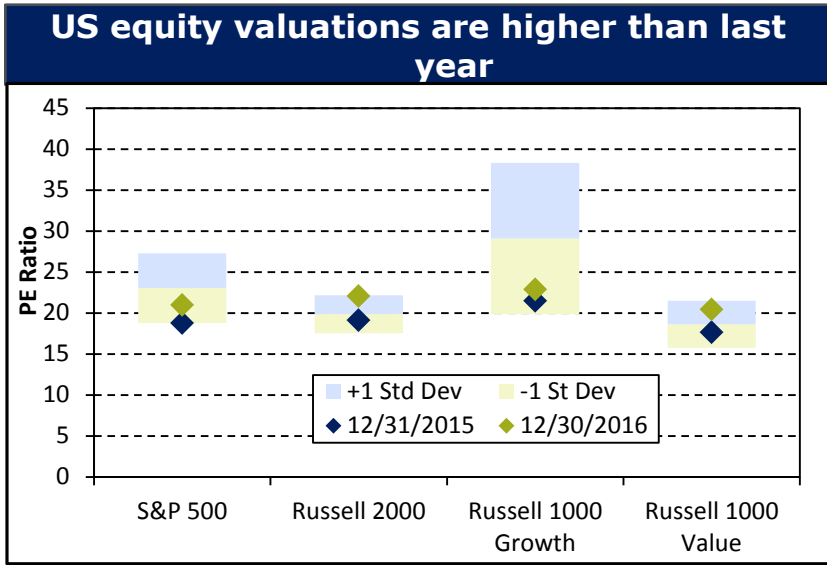


Source: Bloomberg, MSCI

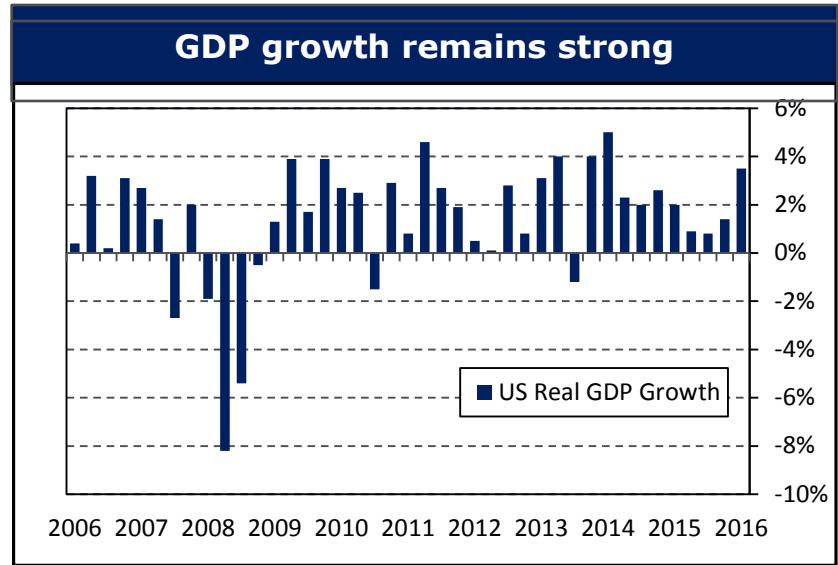
EM has experienced lack-luster short-term performance



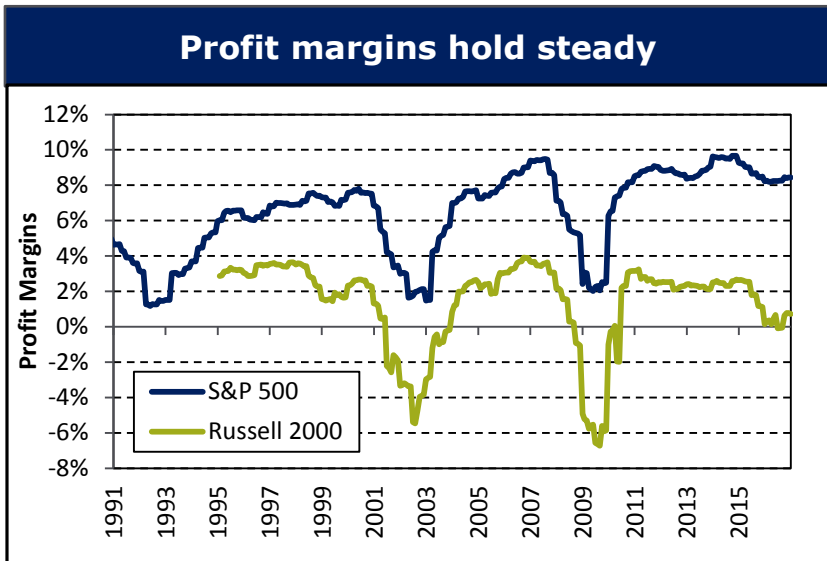
Source: Bloomberg, MSCI



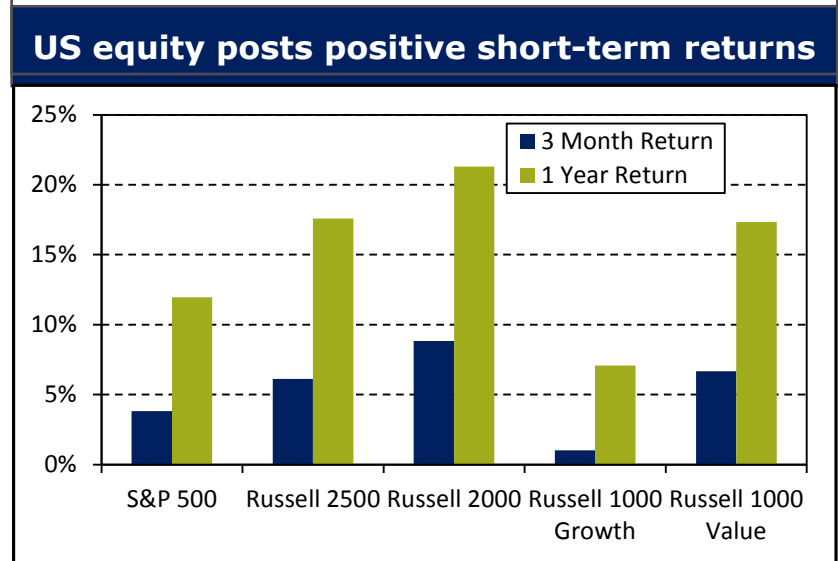
Source: Bloomberg, Standard and Poors, Russell *Russell 2000 PE is index adjusted positive* Standard deviation calculations based on 20 years of data



Source: Bloomberg, Bureau of Economic Analysis

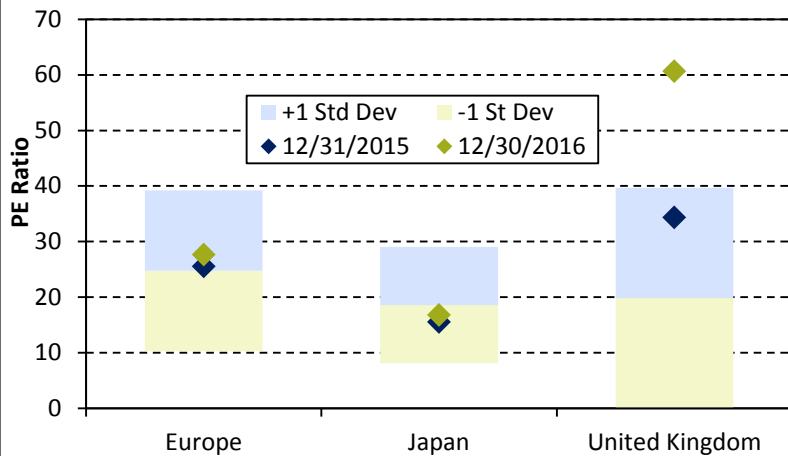


Source: Bloomberg, Standard and Poors, Russell



Source: Bloomberg, Standard and Poors, Russell

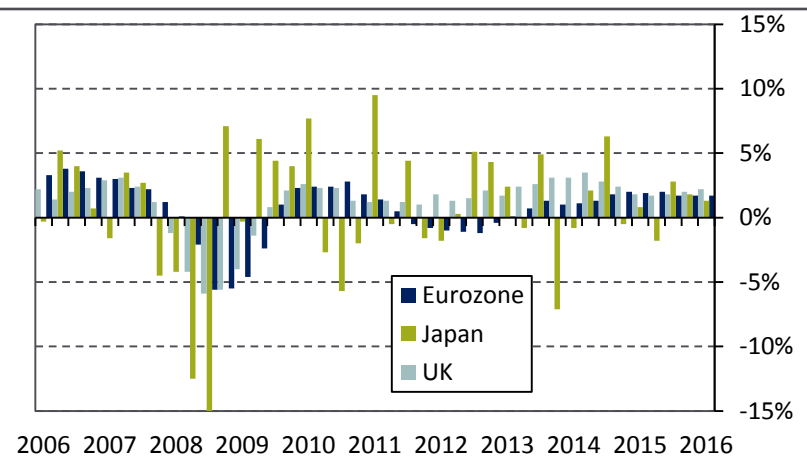
UK PE ratios remain elevated



Source: Bloomberg, MSCI, FTSE *UK represented by FTSE 100 Index

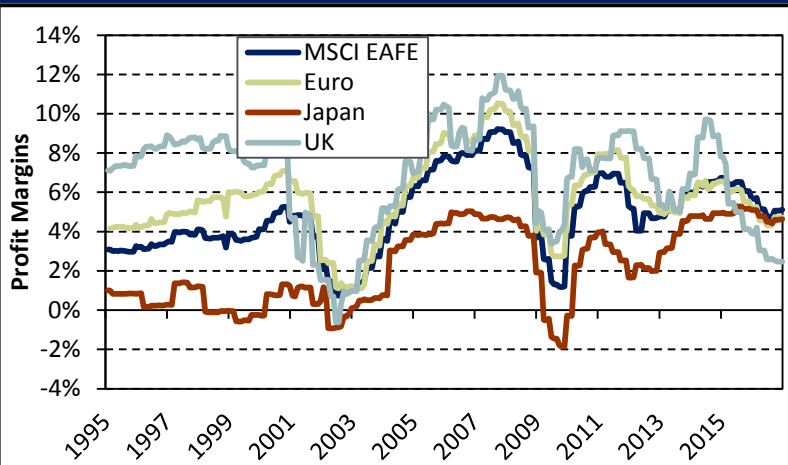
*Standard deviation calculations based on 20 years of data, with Europe since 12/1998

International growth steadies



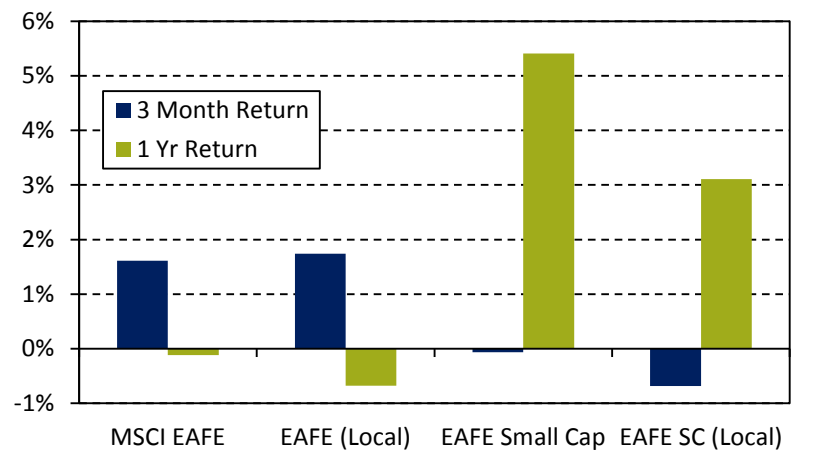
Source: Bloomberg

UK margins continue to decline



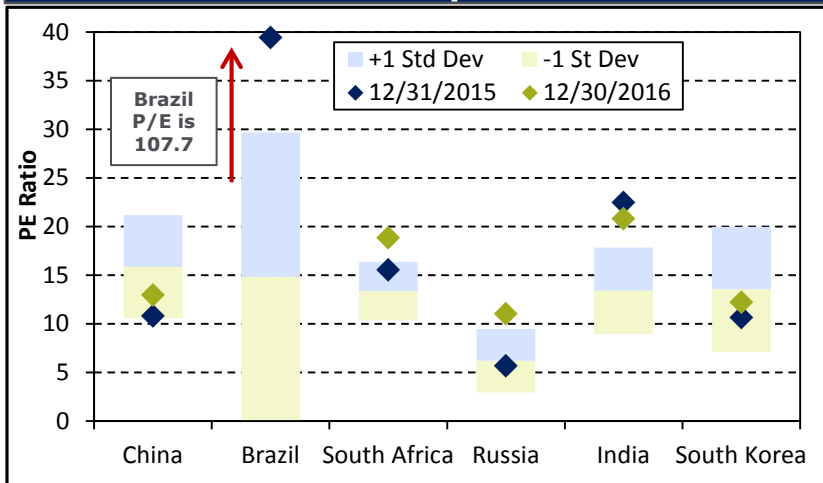
Source: Bloomberg, MSCI

Short-term small cap returns have been lack-luster



Source: Bloomberg, MSCI

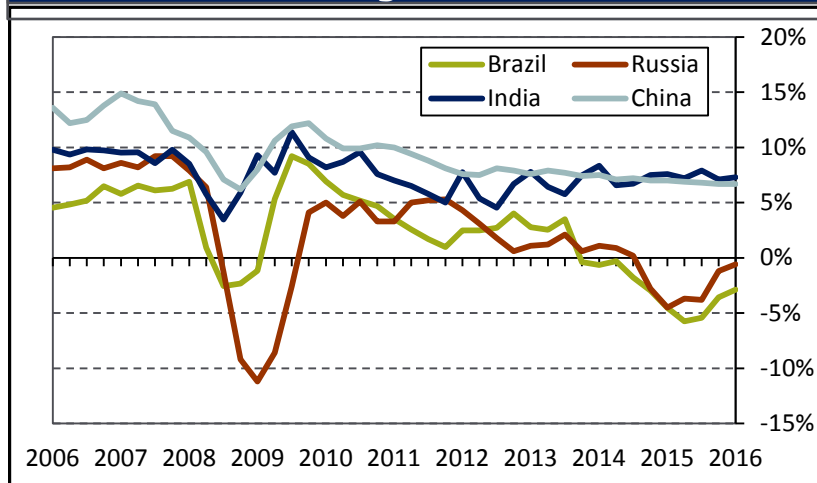
Regional valuations similar year over year with the exception of Brazil



Source: Bloomberg, MSCI

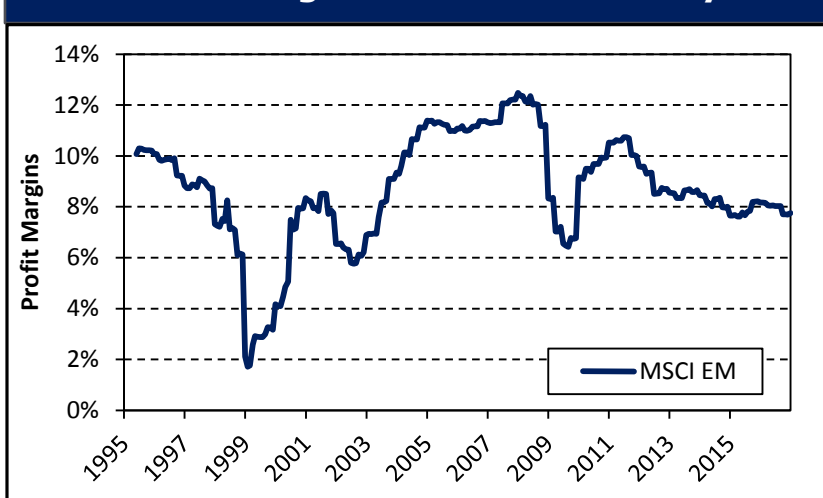
*Standard deviation calculations based on 20 years of data, with Russia since 01/1998

Russia and Brazil experience rebounds off earnings contractions



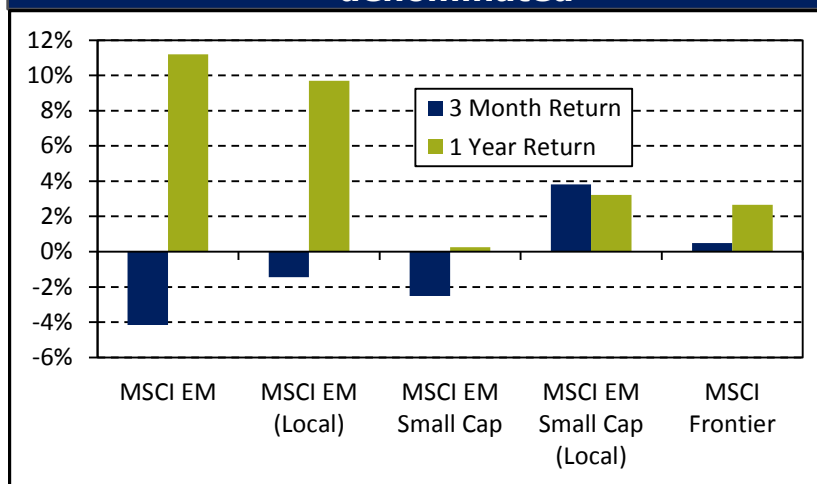
Source: Bloomberg

Profit margins in line with history



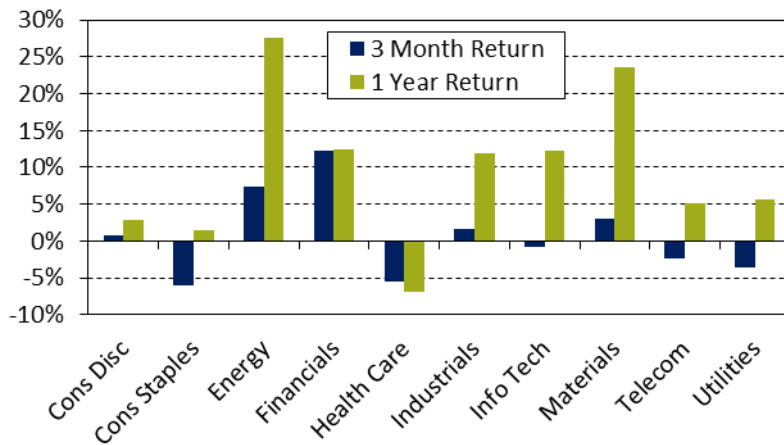
Source: Bloomberg, MSCI

EM local indices have outperformed dollar-denominated



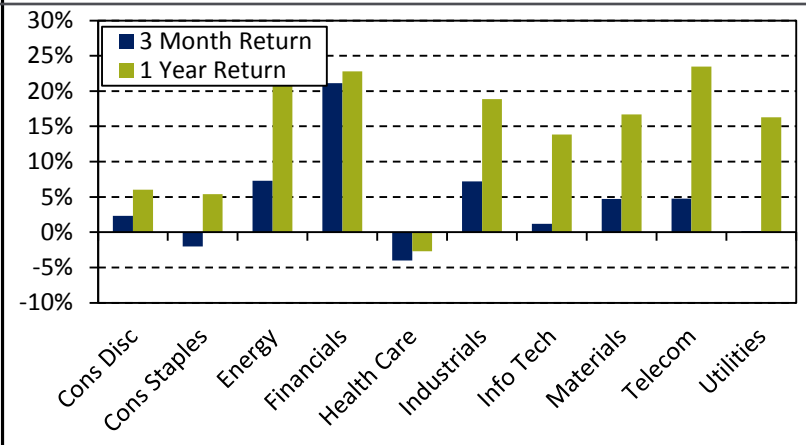
Source: Bloomberg, MSCI

Energy and Financials lead MSCI ACWI short-term returns



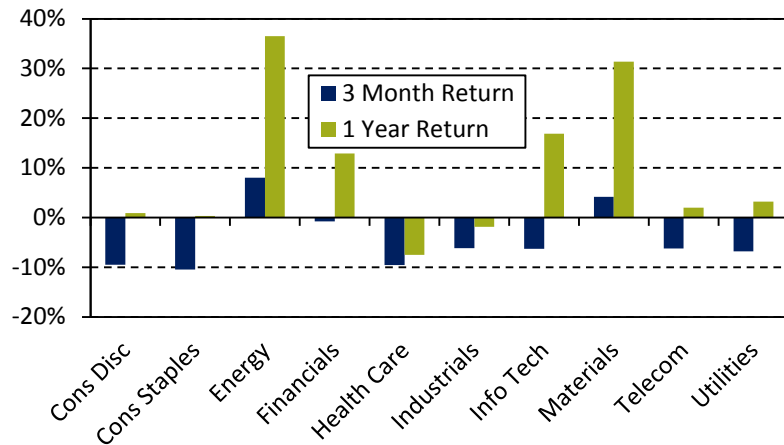
Source: Bloomberg, MSCI

Healthcare and Consumer Staples drag S&P 500 short-term returns



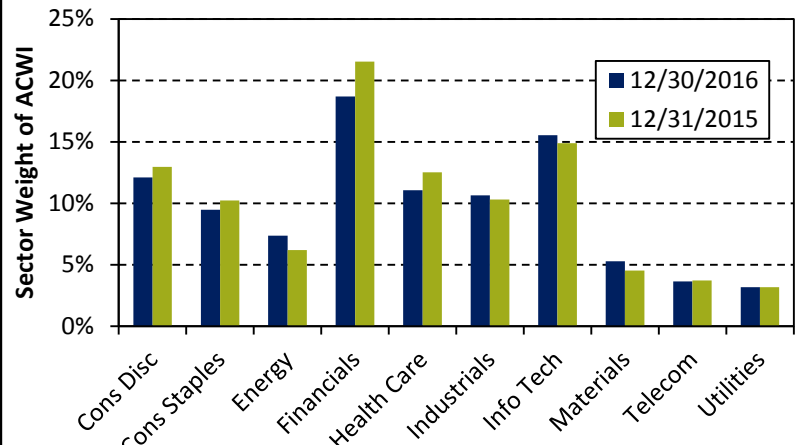
Source: Bloomberg, Standard and Poors

Energy and Materials continue their strong performance in EM



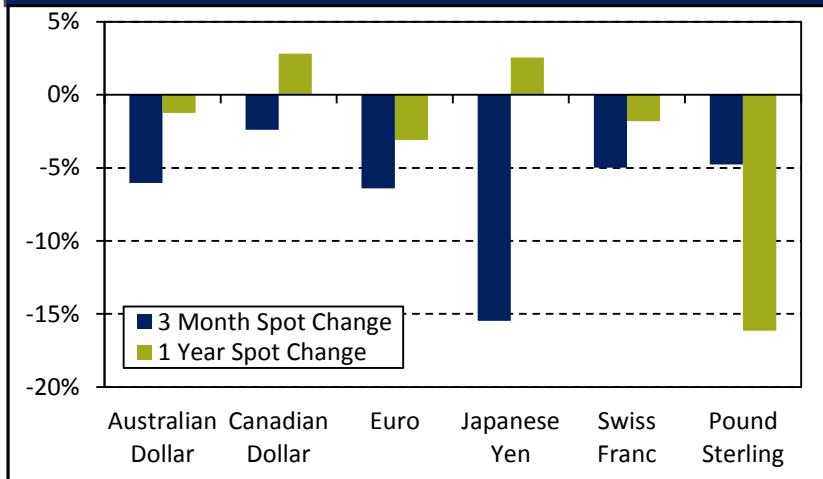
Source: Bloomberg, MSCI

Financials sector weight has decreased significantly



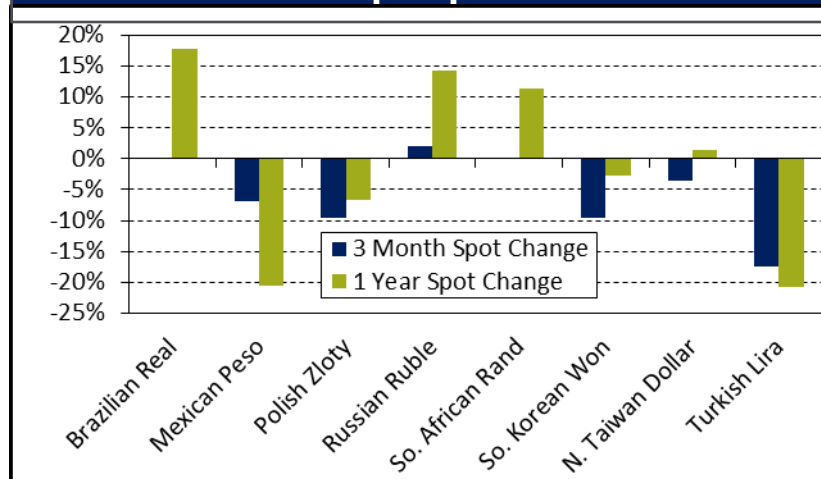
Source: Bloomberg, MSCI

Developed currencies have declined versus the dollar



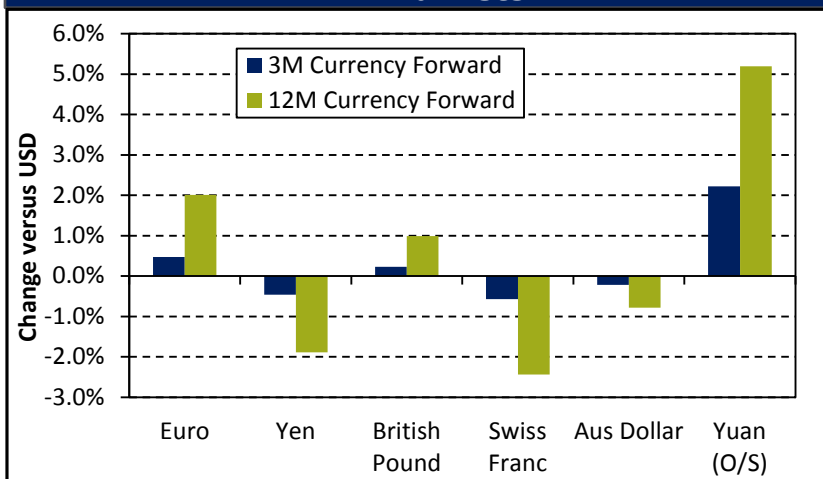
Source: Bloomberg

A number of currencies have experienced sharp depreciation



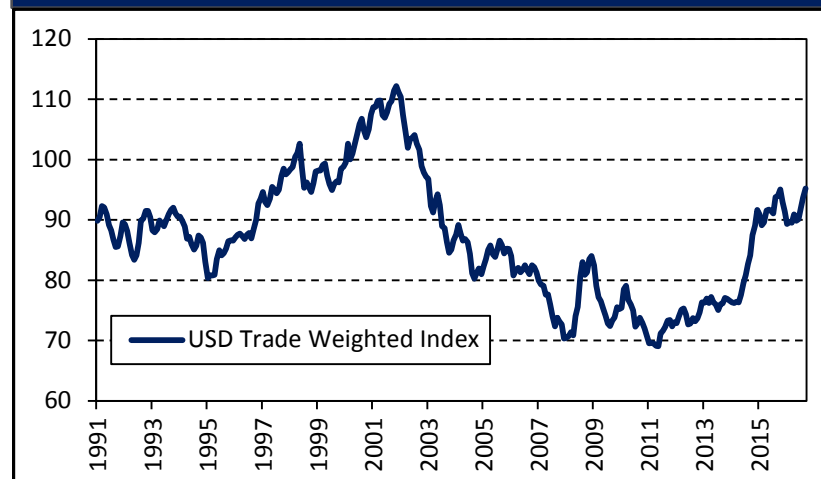
Source: Bloomberg

USD expectations vary across developed markets



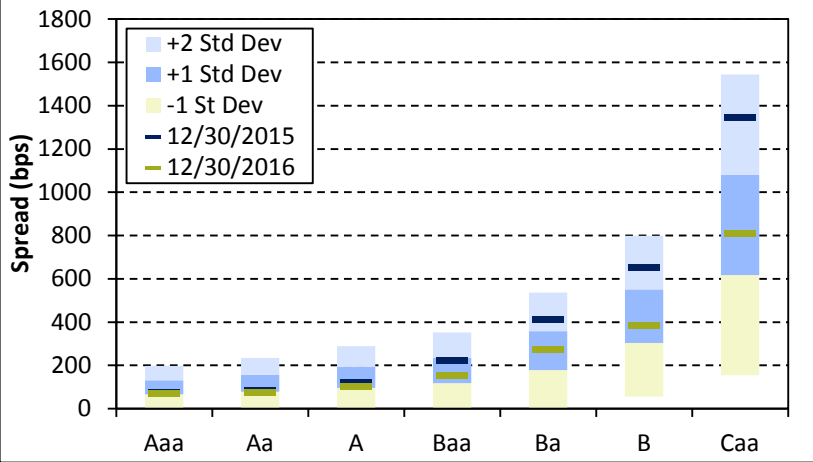
Source: Bloomberg

Dollar strength persists



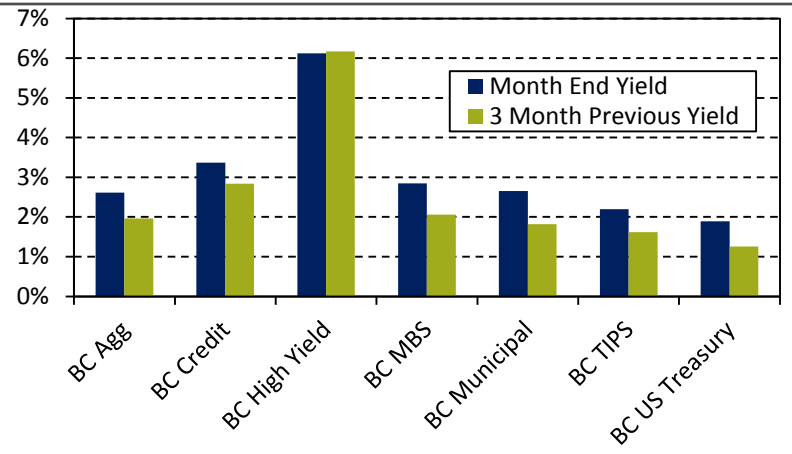
Source: Bloomberg, Federal Reserve

Spreads remain lower than the previous year



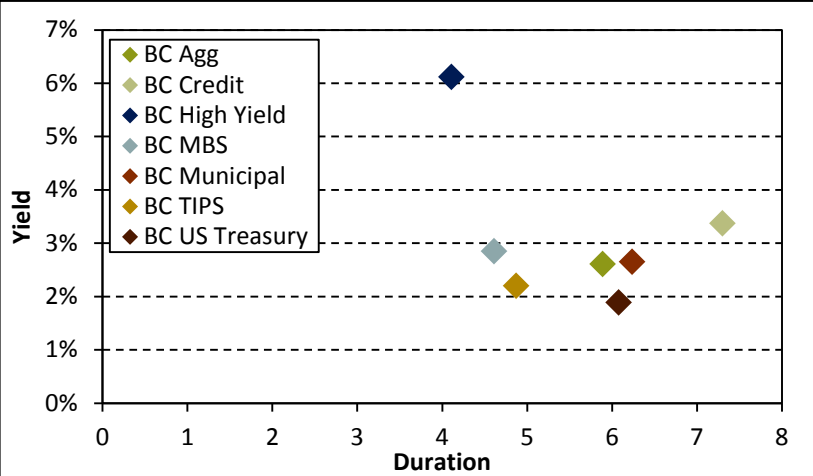
Source: Bloomberg, Barclays
 *Standard deviation calculations based on 20 years of data

Fixed income yields have increased



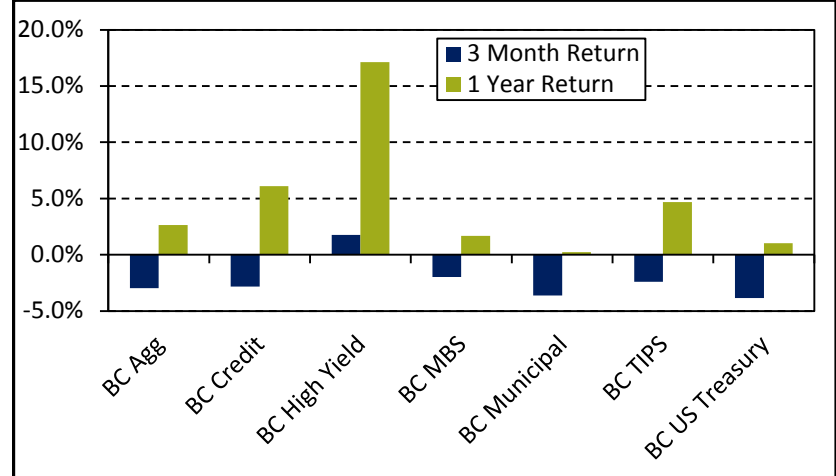
Source: Bloomberg, Barclays

Similar duration/yield profiles among core indices



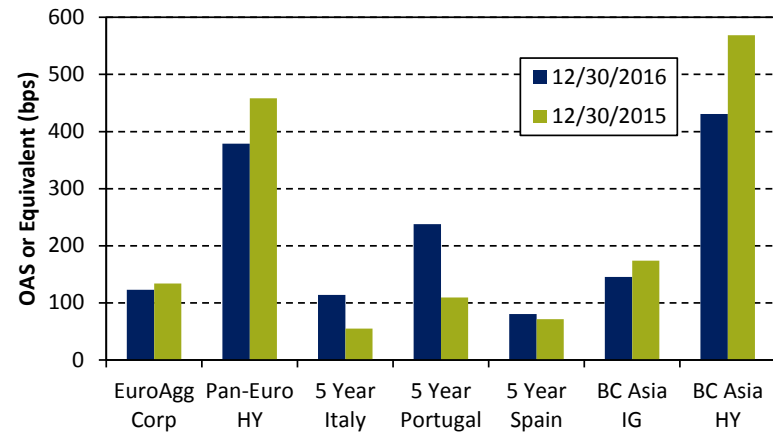
Source: Bloomberg, Barclays

Fixed income returns have broadly declined with recent yield increases



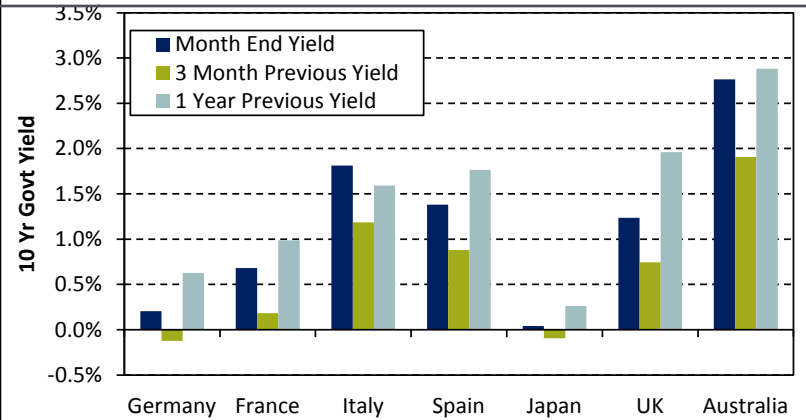
Source: Bloomberg, Barclays

European periphery yields vary relative to Germany



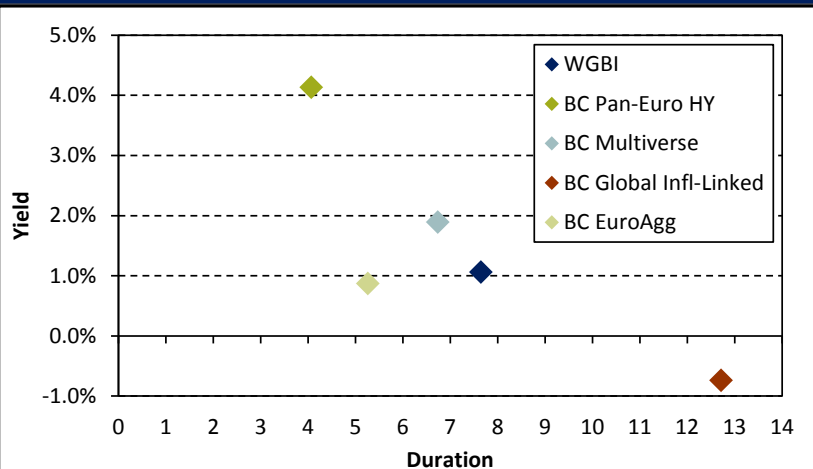
Source: Barclays, Bloomberg, *European periphery spreads are over equivalent German Bund

Global yields have increased post rate hike



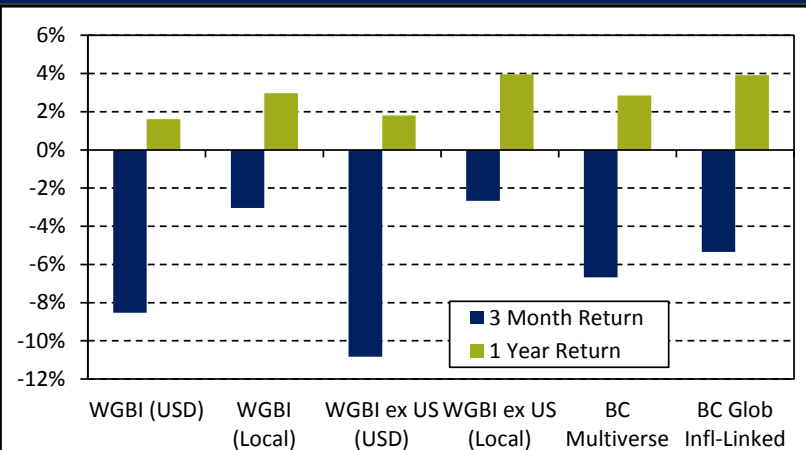
Source: Bloomberg

Low yields persist in global bond universe



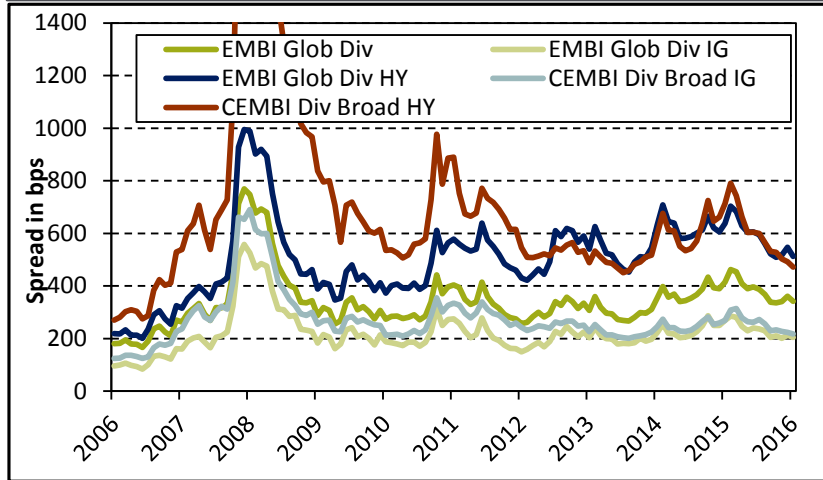
Source: Bloomberg, Citigroup, Barclays

Global bond returns hurt by rising yields



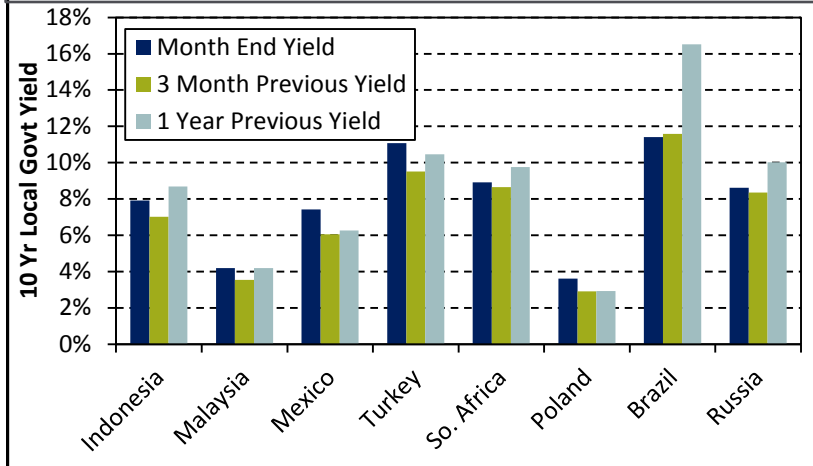
Source: Bloomberg, Citigroup, Barclays

Spreads continue to decline



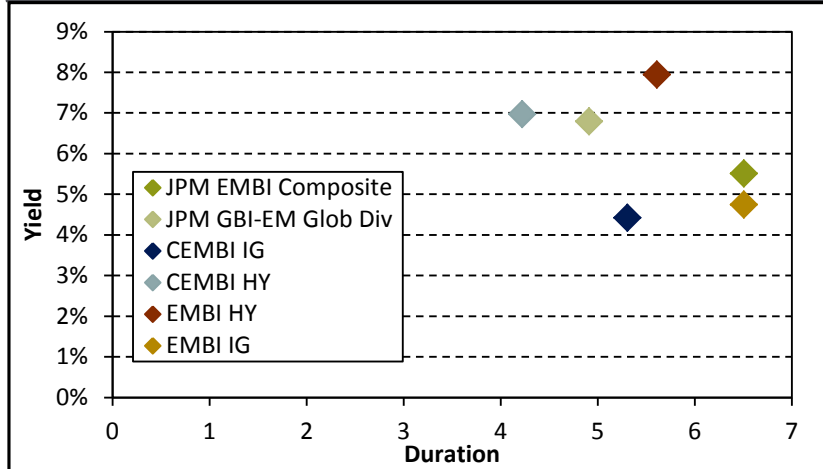
Source: Bloomberg, JP Morgan

EM local bond yields increased slightly



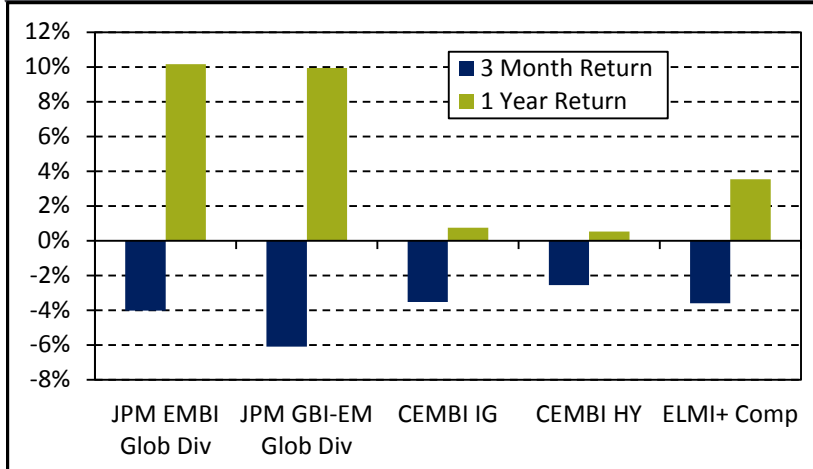
Source: Bloomberg

EM yields remain attractive versus global counterparts



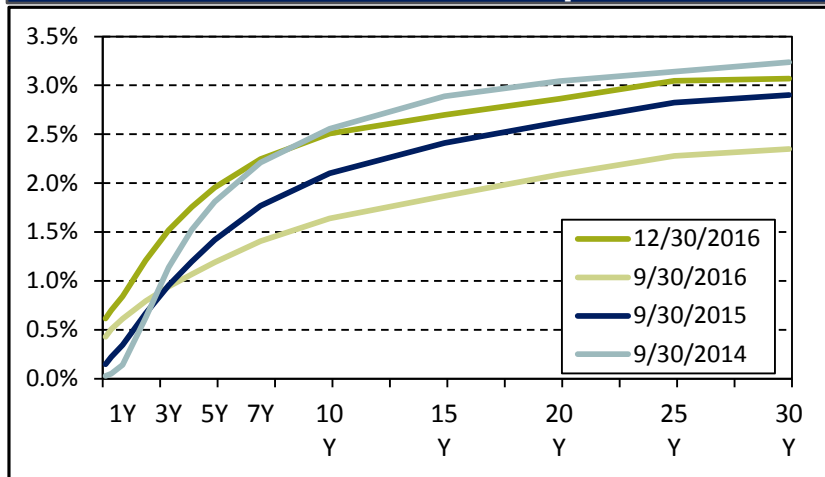
Source: Bloomberg, JP Morgan

EM debt posts negative short-term returns



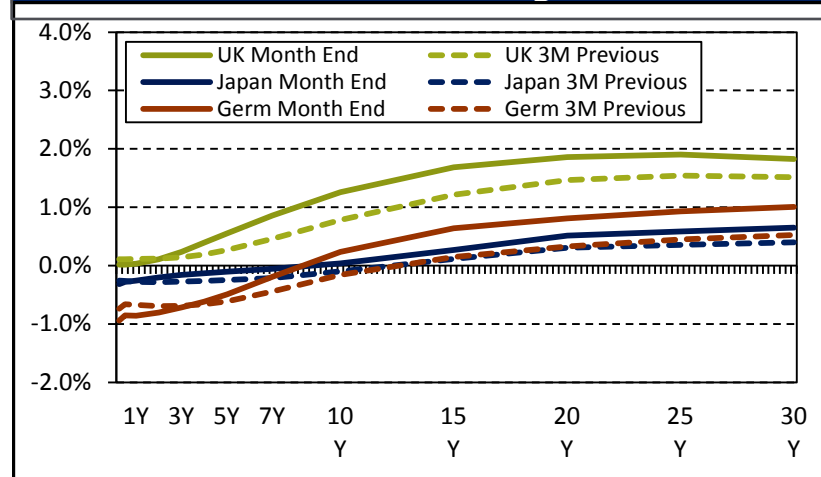
Source: Bloomberg, JP Morgan

Rate expectations have increased relative to three months prior



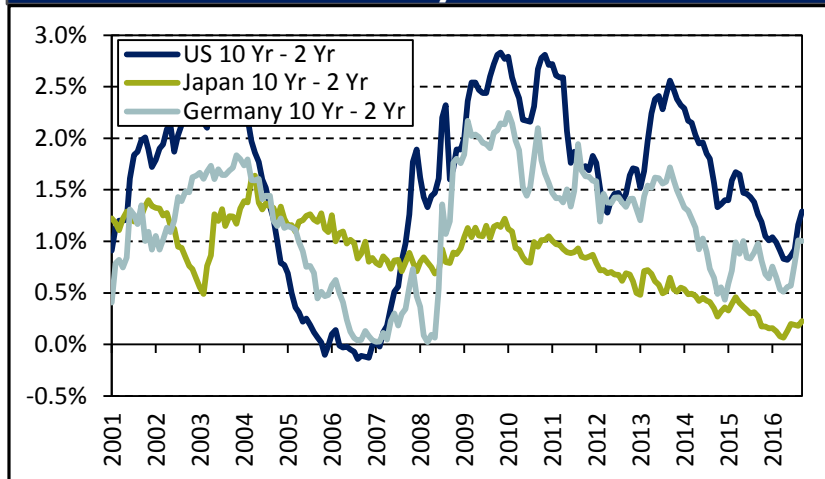
Source: Bloomberg

Interest rate expectations continue increasing



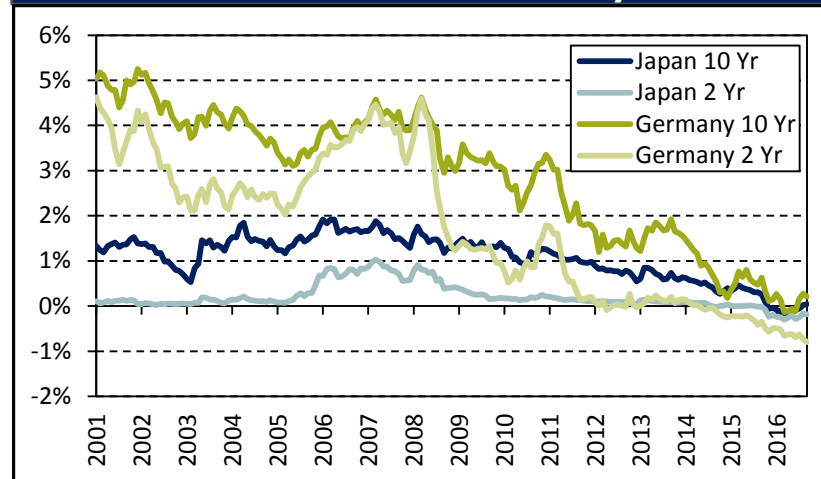
Source: Bloomberg

10-2 spreads spiked with recent increase in yield



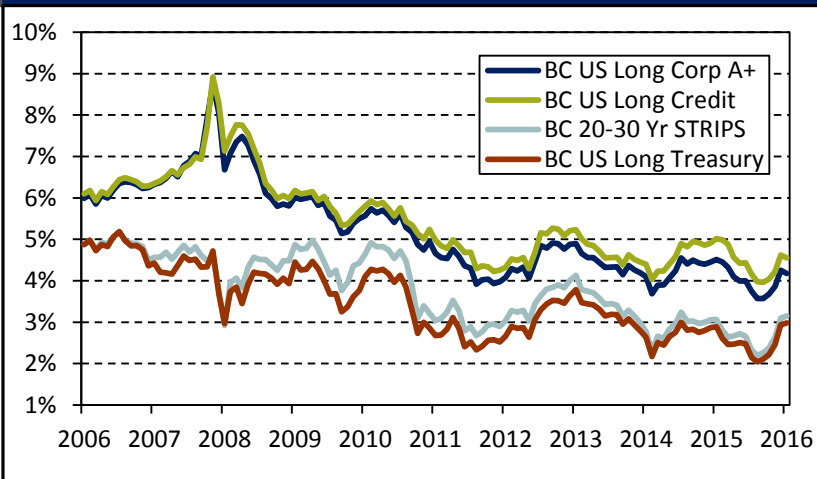
Source: Bloomberg

Sovereign bond yields remain in negative or neutral territory



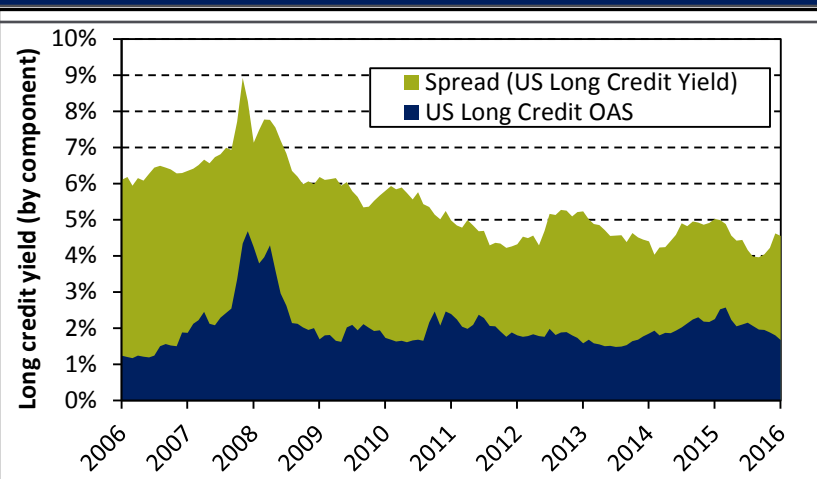
Source: Bloomberg

Long duration yields have steadied



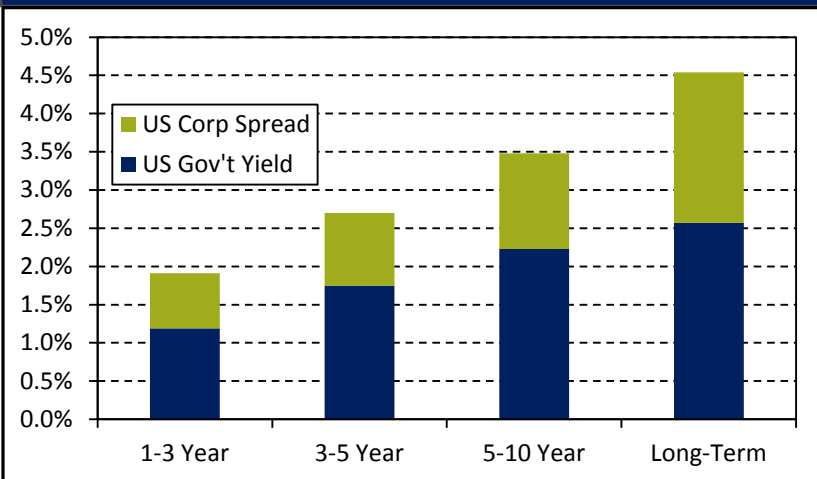
Source: Bloomberg, Citigroup, Barclays

Long credit yield increases



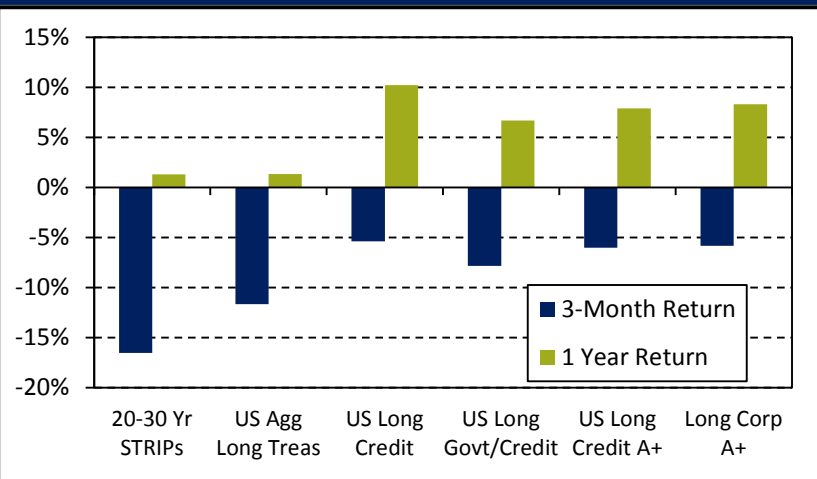
Source: Bloomberg, US Treasury, Barclays, NEPC

Yield and spread components continue to offer modest returns



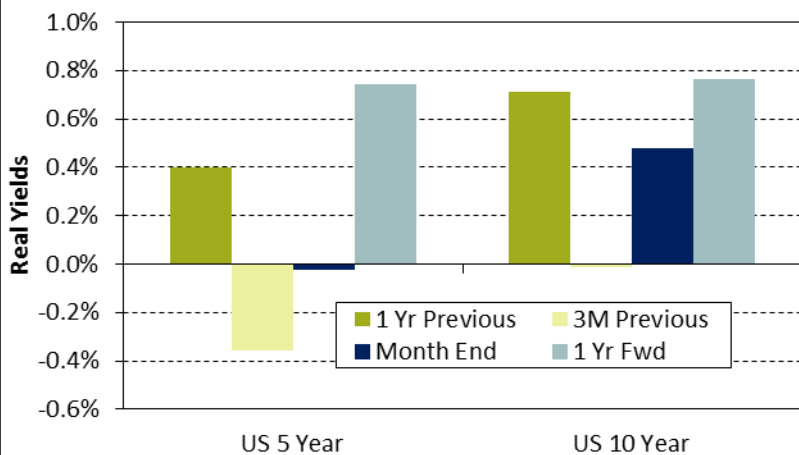
Source: Bloomberg, Barclays

Long duration fixed income posted large short-term losses



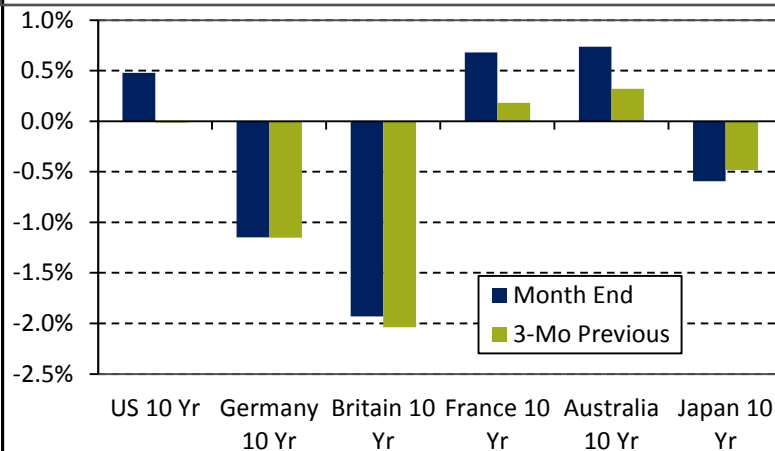
Source: Bloomberg, Barclays

US 10-year real yields increased from three months prior



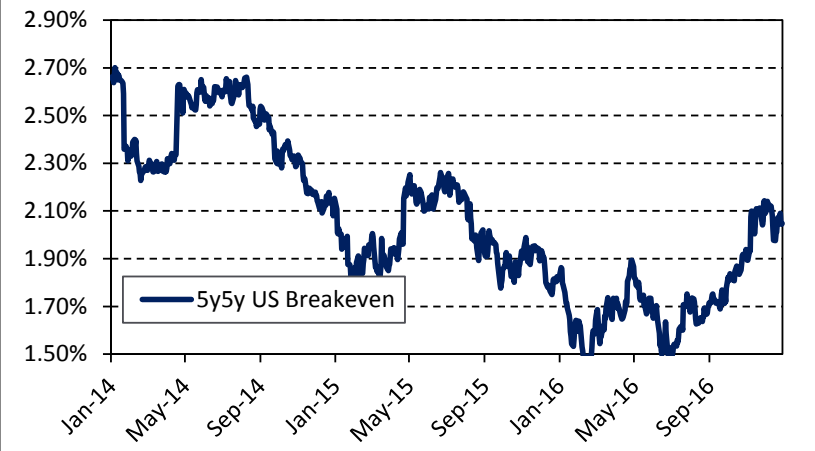
Source: Bloomberg

With the exception of Japan, global real yields have increased



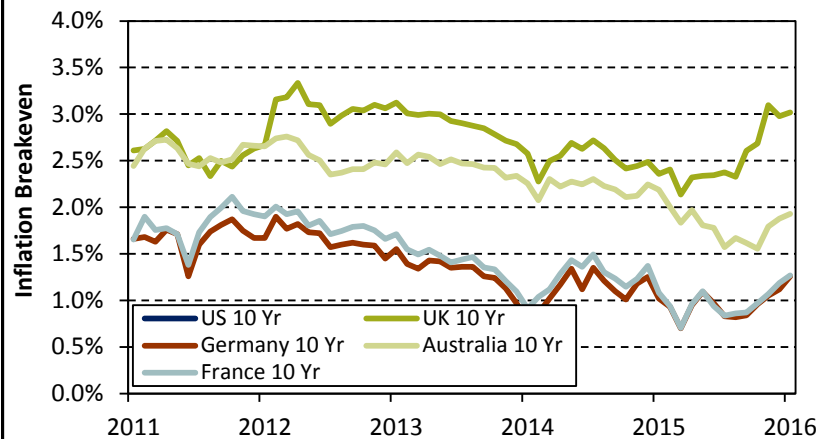
Source: Bloomberg

US inflation expectations have increased but remain low

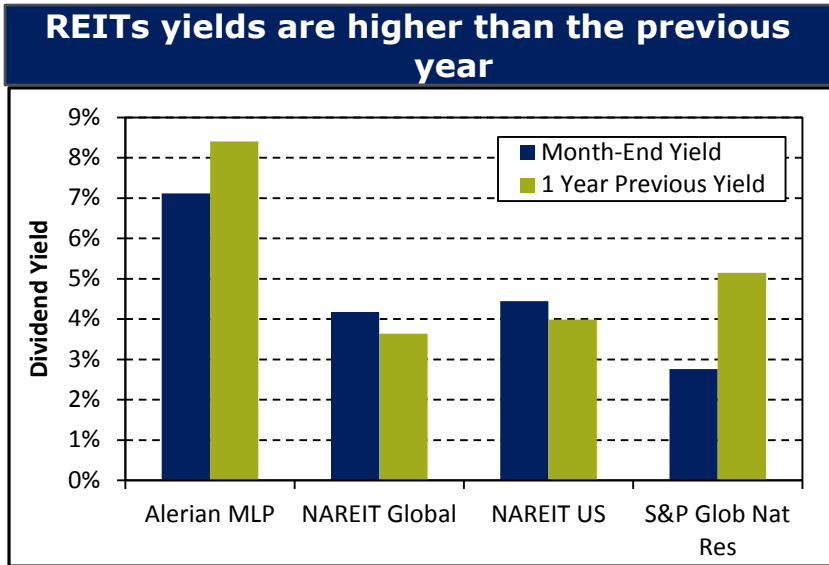


Source: Bloomberg

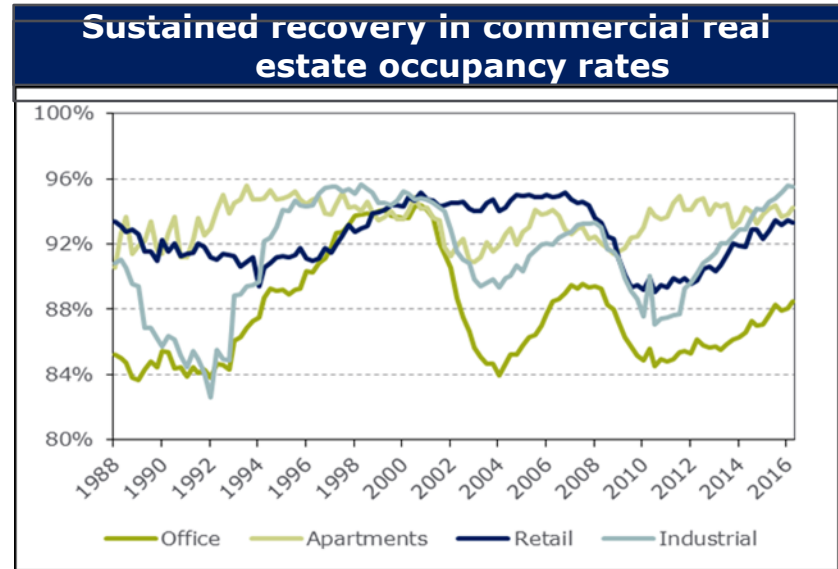
Global inflation expectations continue to increase



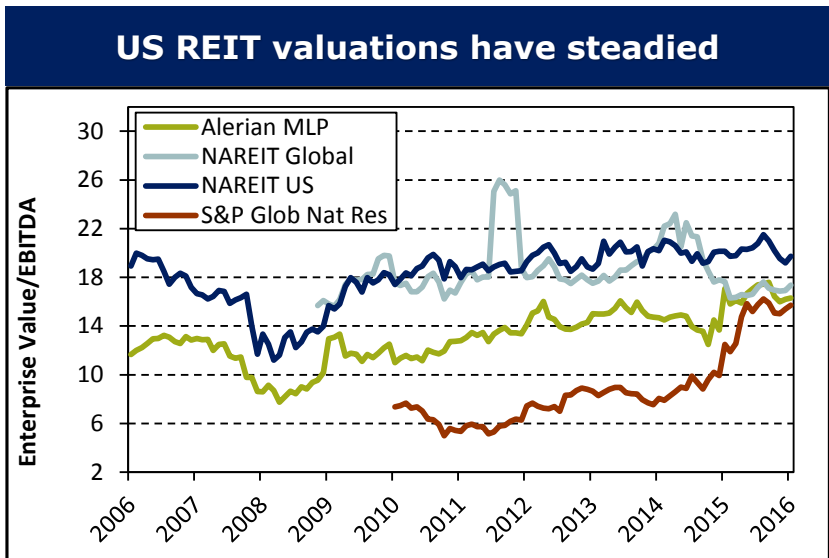
Source: Bloomberg



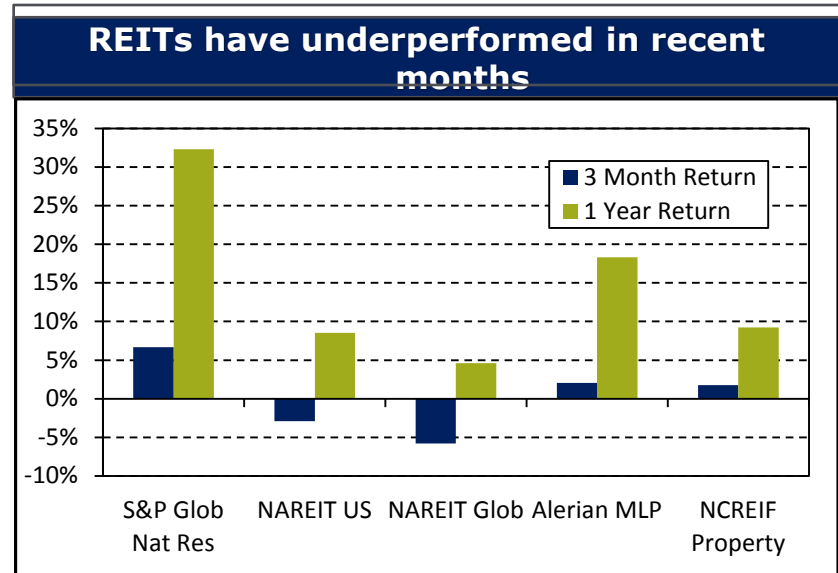
Source: Bloomberg, Alerian, Nareit, Standard and Poors



Source: NCREIF

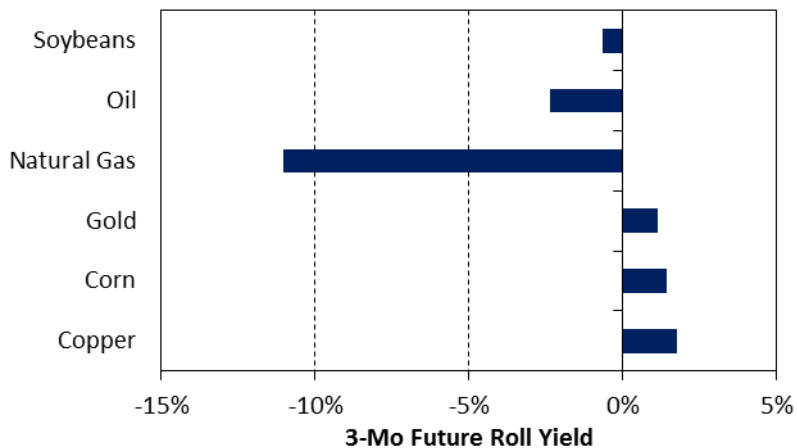


Source: Bloomberg, US Census Bureau



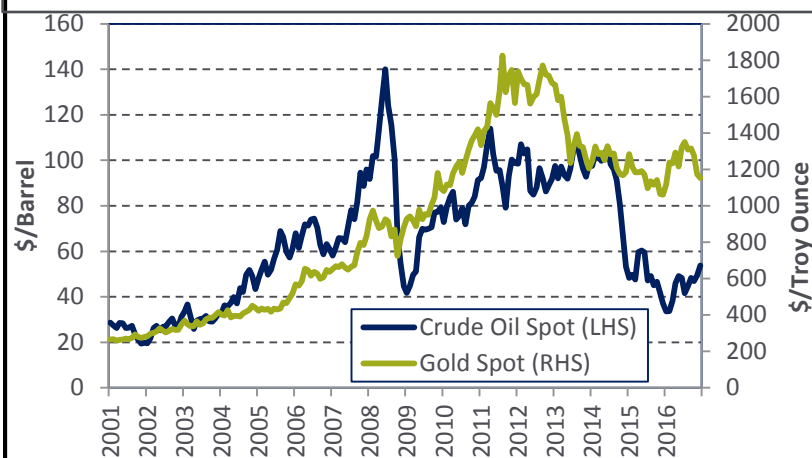
Source: Bloomberg, Alerian, Nareit, Standard and Poors

Negative roll yields remain a hurdle for investing directly in oil and natural gas



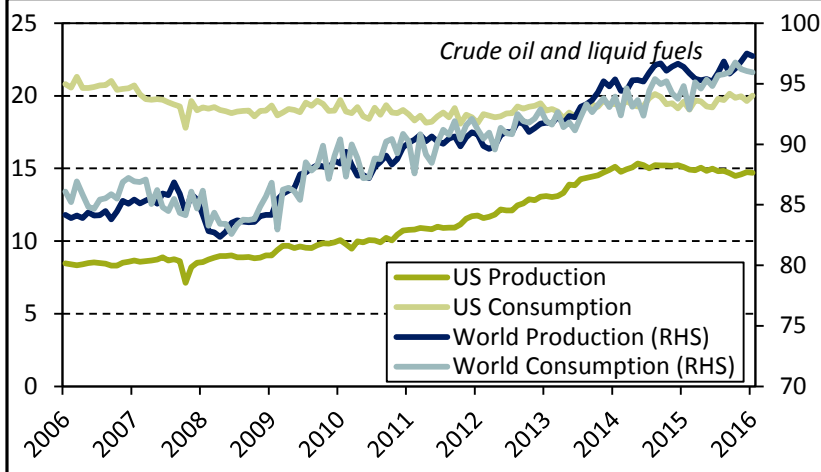
Source: Bloomberg

Gold continues to decline post-election



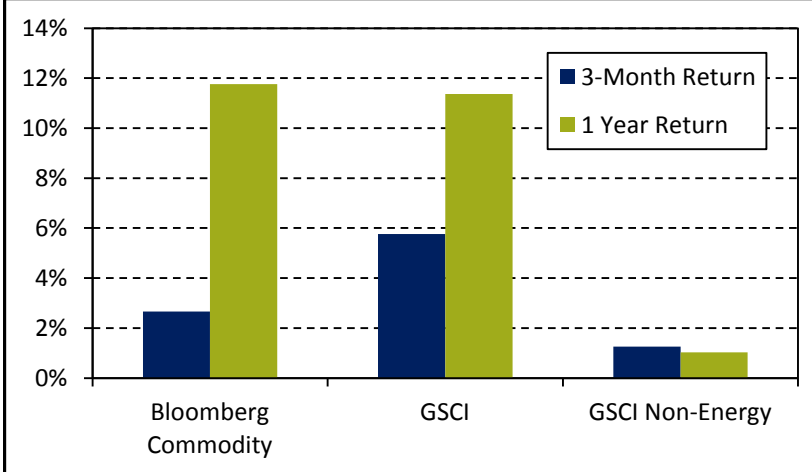
Source: Bloomberg

World production has slightly declined with recent OPEC agreement



Source: Bloomberg, US Department of Energy *Crude oil and liquid fuels

Commodities post strong short-term returns



Source: Bloomberg, Standard and Poors