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2016 Capital Market Discussion and Projections

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Process Overview

Why Make Capital Market Projections?

Guiding Objectives

- Cornerstones of strategic planning—expectations and time horizon.
- Projections represent our best thinking regarding the long-term (5- to 10-year) outlook, recognizing our median projections represent the midpoint of a range, rather than a specific number.
- Develop results that are readily defensible both for individual asset classes and for total portfolios.
- Be conscious of the level of change suggested in strategic allocations for long-term investors: DC participants, wealthy families, DB plan sponsors, foundations, endowments, and trusts.
- Reflect common sense and recent market developments.
- Balance conflicting goals and conflicting opinions.

How are Capital Market Projections Constructed?

- Annual Process to update 10-Year Projections
  - Evaluate current environment and economic outlook
  - Examine relations between economy and historical asset class performance
  - Create 10-year risk, return, and correlation projections
  - Test projections for reasonable results
- Cover Most Broad Asset Classes and Inflation
  - Broad Domestic Equity
    - *Large Cap*
    - *Small Cap*
  - International Equity
    - *Developed Markets*
    - *Emerging Markets*
  - Domestic Fixed Income
  - International Fixed Income
  - Real Estate
  - Alternative Investments
  - Cash
  - Inflation
- Incorporates both advanced quantitative modeling as well as qualitative feedback and expertise of Callan consulting professionals.

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2016 Capital Market Expectations

Themes Explored in Setting the 2016 Expectations

- Despite sideways capital markets during 2015, most asset classes appear to be at least fairly valued or overpriced.
- Things were looking up for the economy as 2015 progressed, but market sentiment turned back sharply, twice (mid year and as the year ended). Is this pessimism warranted?
  - Current U.S. economic data and the outlook are positive, but long-term growth expectations are lower.
  - Anemic growth and the fear of deflation hang over Europe and Japan, yet both regions show positive response to continuing stimulus.
  - Emerging markets appear to be one of the few areas of the capital markets to show compelling value, both equity and debt. Is it time? Economic growth will be muted relative to past cycles, given weakness in developed ex-U.S. and reliance on commodities.
  - China, now the second largest economy, is adjusting to slower growth, with attendant volatility.
- How far can yields in the U.S. rise?
  - Stimulus in Europe and elsewhere has led to even lower yields overseas; U.S. yields even more attractive.
  - Market is debating how long the Fed will take to raise rates, and how high they can go. Divergent economic progress and rate policies between U.S. and other central banks challenge U.S. policy effectiveness.
  - Do rising rates doom the return expectations for fixed income?
- Are Non-U.S. equity markets poised to rebound, or will they continue to re-price to reflect weakening expectations?
- Are low oil prices good or bad? Is prolonged distress in the commodity complex cause for concern?
- Sharp contrast remains between a long term, strategic vision for an investor (10+ years), the short term (1-3 years) reality, and the path from the current conditions to the long term expectations.

The Capital Markets at January 2016

U.S. and Global Capital Markets Rattled by Investor Uncertainty

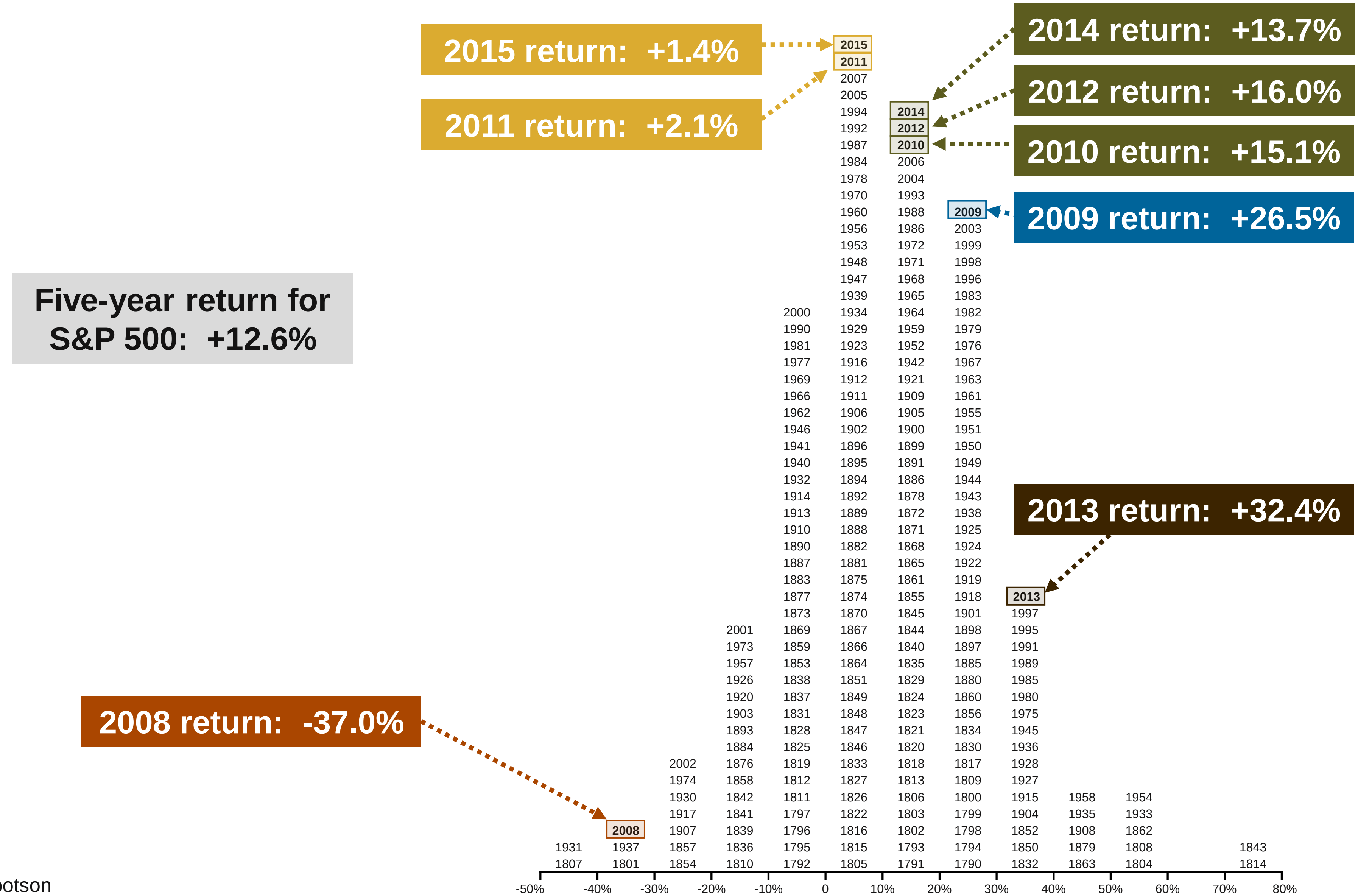
- Results for 2015 show impact of increased investor uncertainty, as volatility returned to the equity markets. Underlying economic data remain positive, and tell a story of persistent modest growth in the U.S. and recovery in Europe. Emerging markets continue to suffer.
- Five-year US equity returns through 2015 are very strong, driven by 2012-14. Ten-year returns no longer include the 2000 – 2002 downturn, nor the robust 2003-04 results. Fifteen-year equity returns are still below long-run averages, and are equal to those of fixed income.

							Average Annual Returns for periods ended 12.31.2015		
	2010	2011	2012	2013	2014	2015	5 Years	10 Years	15 Years
Broad U.S. Stock Market									
Russell 3000	16.93	1.03	16.42	33.55	12.56	0.48	12.18	7.35	5.39
Large Cap U.S. Stocks									
S&P 500	15.06	2.11	16.00	32.39	13.69	0.92	12.57	7.31	5.00
Small Cap U.S. Stocks									
Russell 2000	26.85	-4.18	16.35	38.82	4.89	-4.41	9.19	6.80	7.28
Non-U.S. Stock Markets									
MSCI EAFE US$	7.75	-12.14	17.32	22.78	-4.90	-0.81	3.60	3.03	3.54
MSCI Emerging Markets	19.20	-18.17	18.63	-2.27	-1.82	-14.60	-4.47	3.95	8.87
Fixed Income									
Barclays Aggregate	6.54	7.84	4.21	-2.02	5.97	0.55	3.25	4.51	4.97
Barclays Glbl Agg ex USD	4.95	4.36	4.09	-3.08	-3.09	-6.02	-0.84	3.10	4.59
Barclays Long Gov/Credit	10.16	22.49	8.78	-8.83	19.31	-3.30	6.98	6.45	7.07
Real Estate									
NCREIF	13.11	14.26	10.54	10.98	11.82	13.52	12.22	7.77	8.97
Hedge Funds									
CS Hedge Fund Index	10.95	-2.52	7.67	9.73	4.13	-0.71	3.55	4.97	5.95
Private Equity									
Cambridge Private Equity*	19.46	11.00	13.33	22.13	12.75	7.10*	16.03*	12.65*	7.91*
Commodities									
Bloomberg Commodity	16.67	-13.37	-1.14	-9.58	-17.04	-24.70	-13.52	-7.49	-2.49
Cash Market									
90-Day T-Bill	0.13	0.10	0.11	0.07	0.03	0.05	0.07	1.24	1.61
Inflation									
CPI-U**	1.50	2.96	1.74	1.50	0.76	0.86	1.94	1.91	1.95

* Private equity data is time-weighted return series for periods ended 6.30.2015 rather than 12.31.2015 in select columns due to a reporting lag.
** CPI-U data are measured as year-over-year change through 12.31.2015.
Source: Callan Associates

Stock Market Returns by Calendar Year

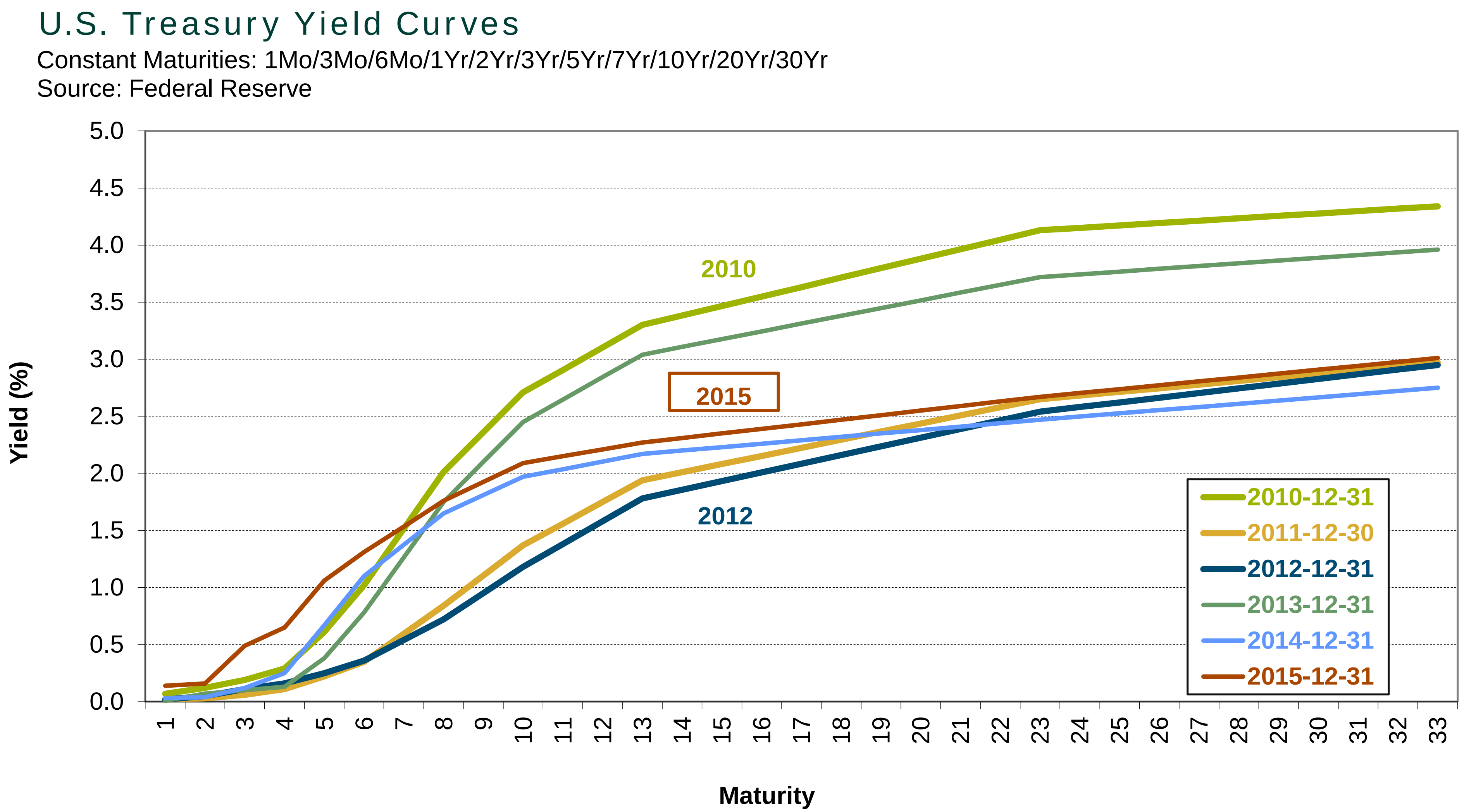
2015 Performance in Perspective: History of the U.S. Stock Market (227 Years of Returns)



Source: Ibbotson

Treasury Rates Barely Moved in 2015

U.S. Treasury Yield Curves



Source: Federal Reserve and Callan

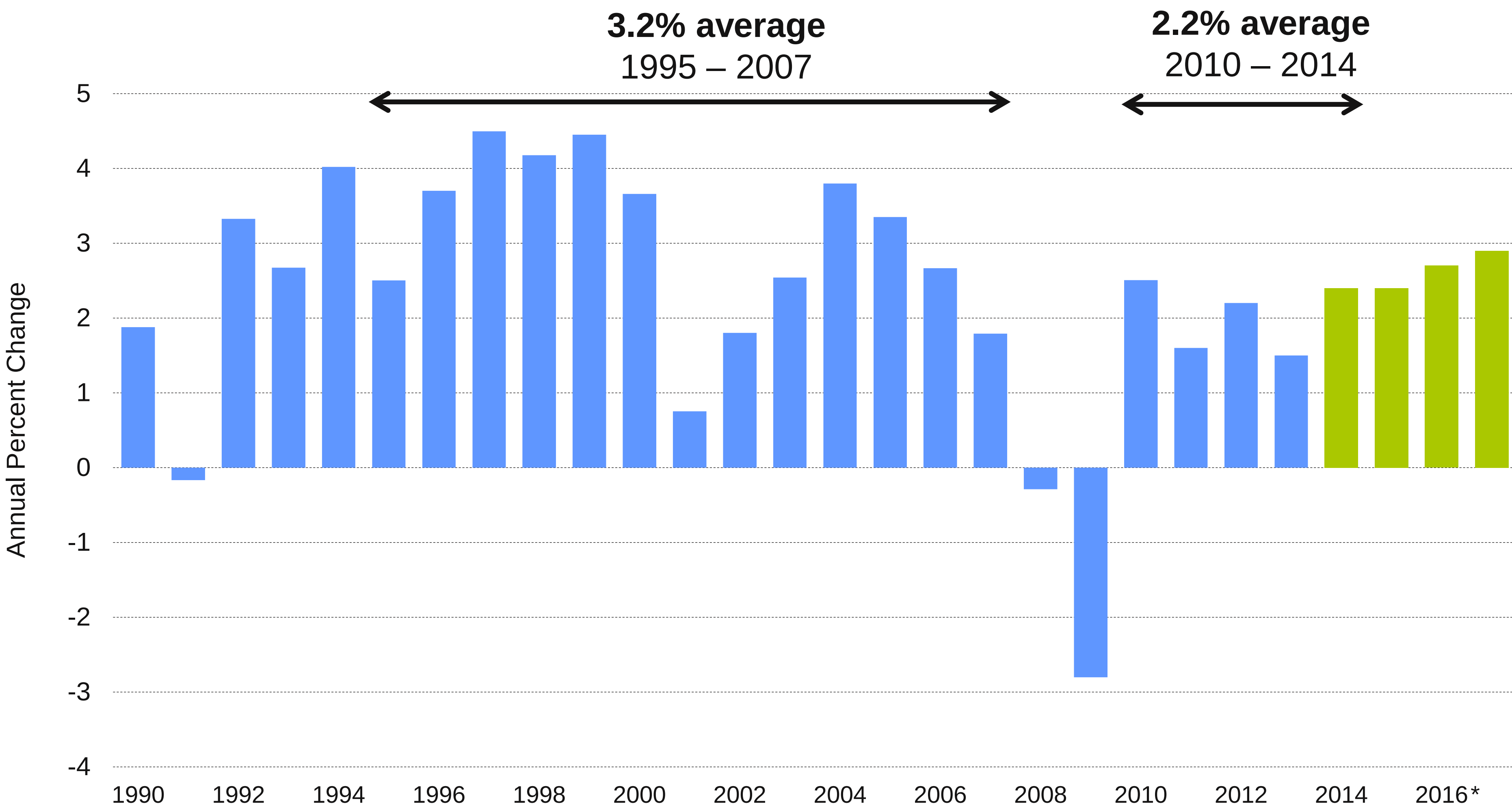
Economy Update Through December 2015

Rebound Continues in the US; Concerns Remain Elsewhere

- Defying market sentiment that turned sharply negative as 2015 progressed, signs from the global economy are actually positive.
- The US economy continues to show strength.
  - Second quarter GDP growth came in strong at 3.9%, third quarter at 2.0%, slowing toward 1% in the fourth; growth for the year will come in 2.4%.
  - Job market is front and center. Job growth has been very strong – consistent monthly gains in excess of 200,000 in 2015, hitting 300,000 in October. Unemployment rate down to 5%.
  - Labor force participation remains a problem. Labor force matters because it determines the unemployment rate, a variable the Fed is keying on for policy moves.
  - Consumer spending is strong, driving GDP growth. Auto sales set a new peak in 2015, housing robust through the summer. However, inventories were built in anticipation of even stronger spending, which points to weaker Q4 GDP and a slower start to 2016.
- Modest recovery is taking shape in Europe in response to continued stimulus.
  - Progress on the recovery in Europe may be clouded by refugee crisis.
- Capital markets simply shrugged at end of Fed accommodation and the first rate hike in 9 years in the fourth quarter. However, markets do not buy Fed's articulated pace of rate hikes: futures market predicts fewer hikes and a slower pace.
- Energy prices took another dive, dragging inflation back down.
- Slowing growth in China a major source of negative sentiment and market volatility.
  - Context matters: China is now the second largest economy, slowing growth means dropping below 7%.
  - US economic exposure to China is relatively small compared to Europe and emerging markets.

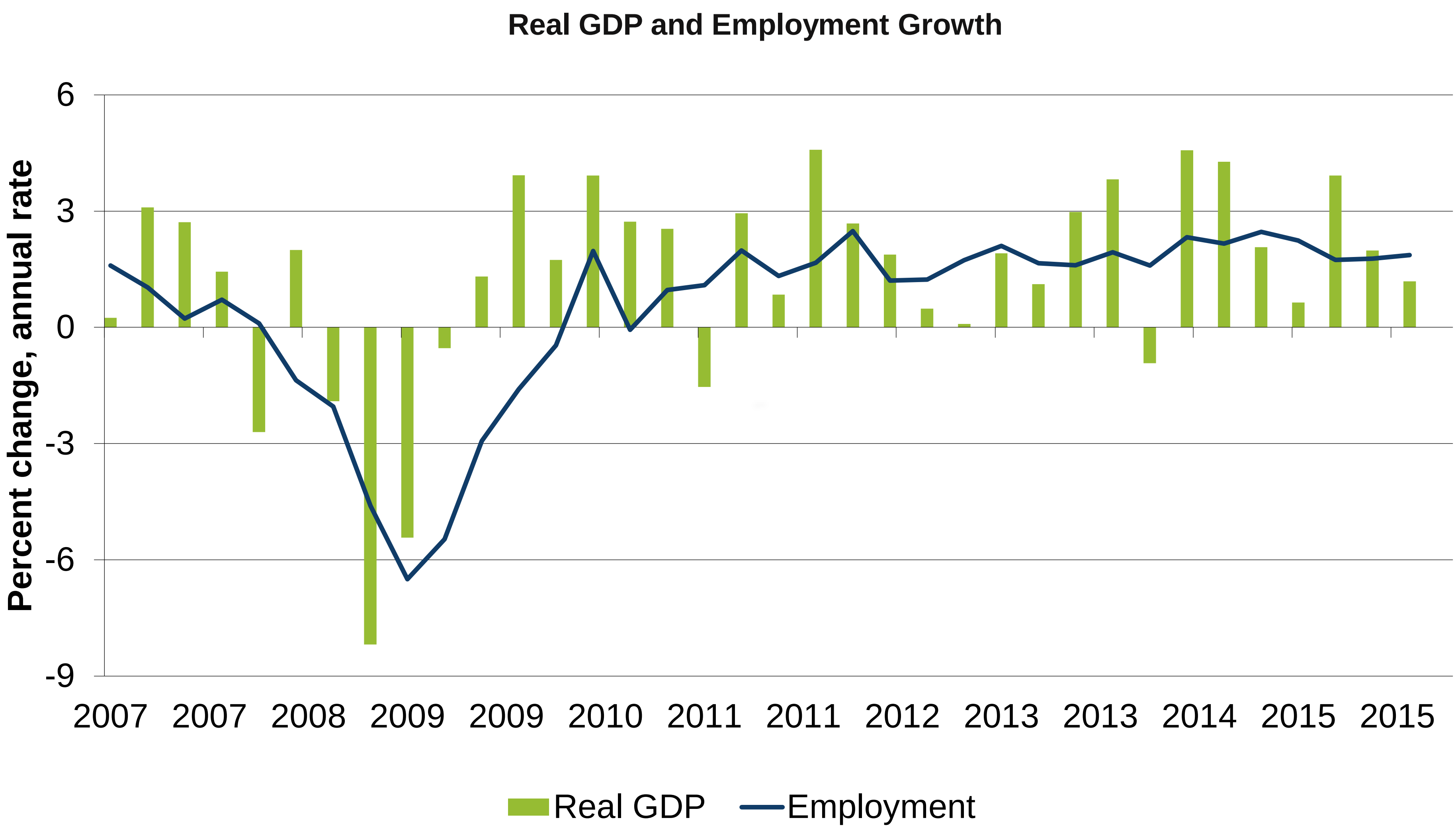
U.S GDP Growth on a Slower Trajectory

Real GDP Growth



* 2015 estimate, 2016-17 forecast – IHS Global Insight
Source: IHS

Job Market Gains Have Been Steadier Than Real GDP Growth

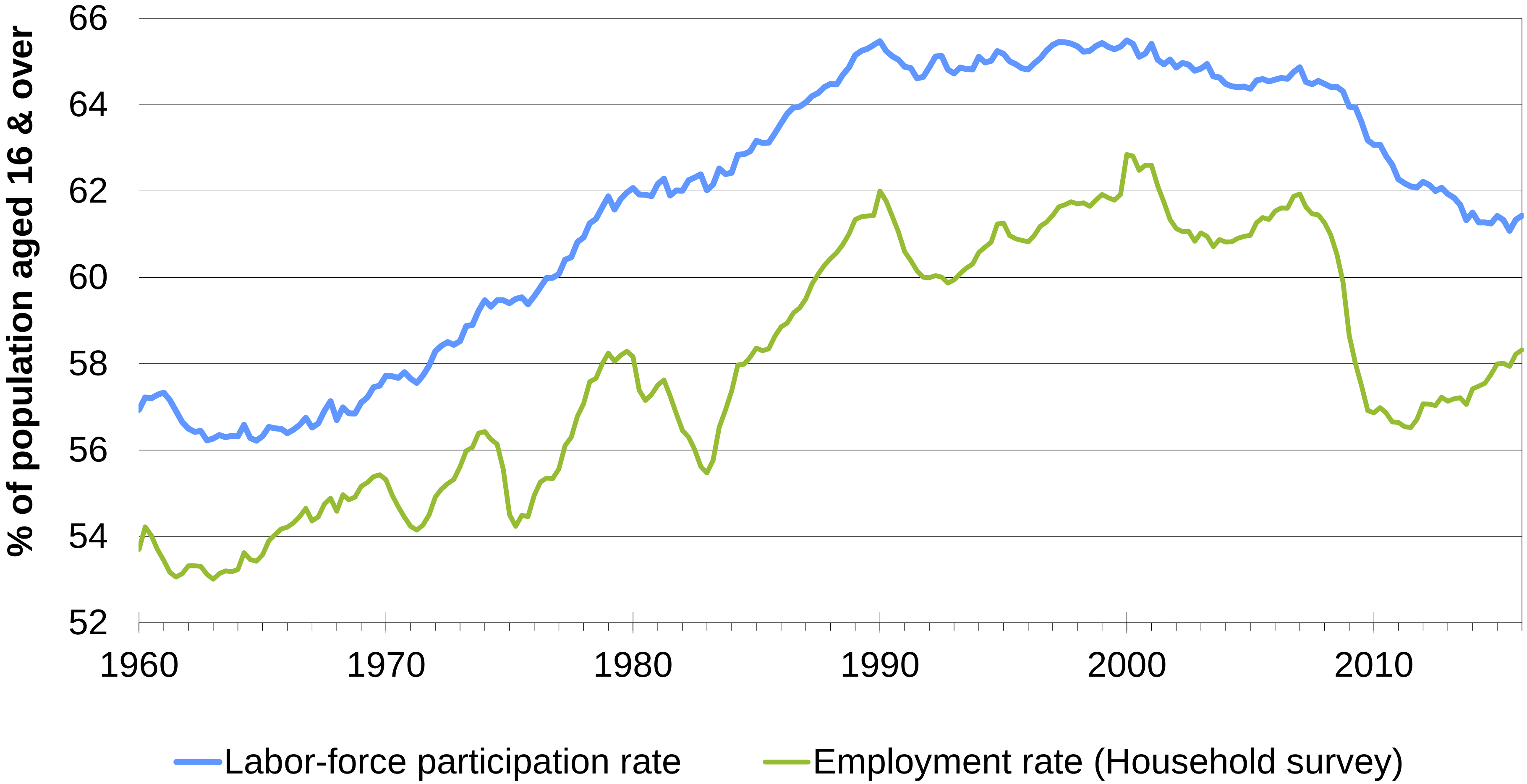


Source: IHS

Labor-Force Participation and Employment Rates Suppressed

Aging of the Baby Boomers Keep Rates Below Pre-Recession Levels

Labor Force Participation and Employment Rates

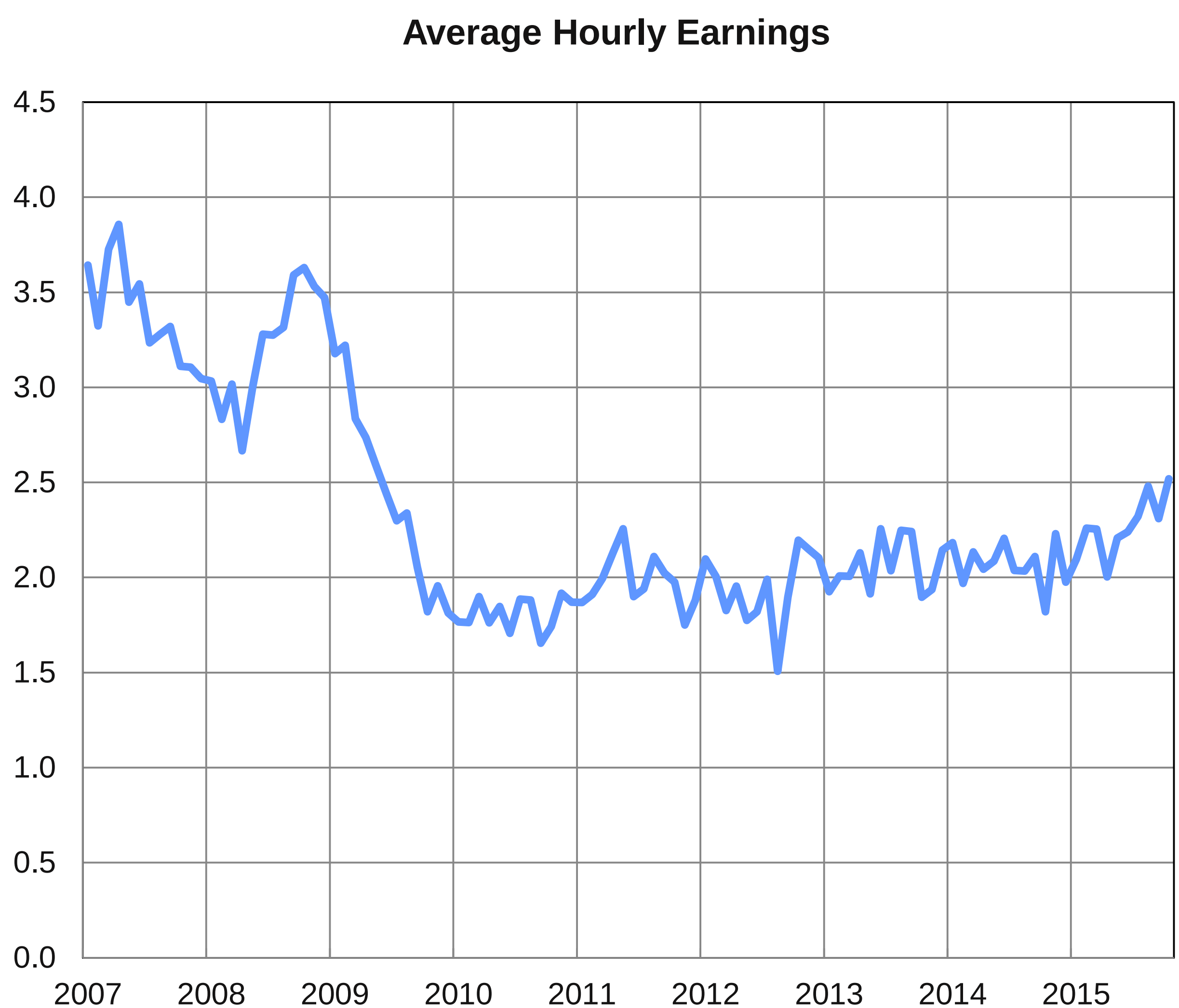


Source: IHS

Nascent Inflation Pressures From Wages

Wages flat until recently

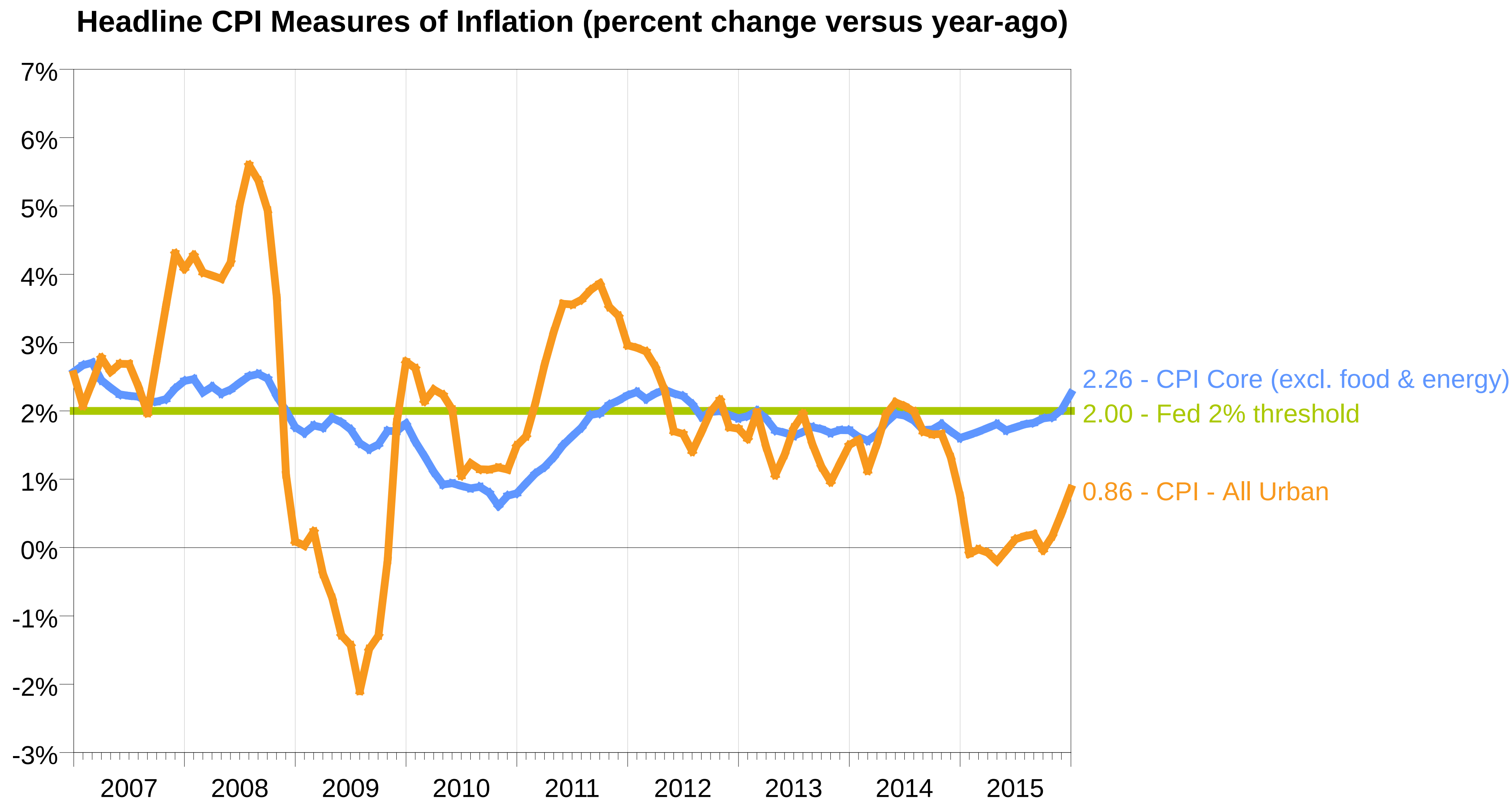
- Sector mix
  - new jobs created in lower-paying fields
- Experience displacement
  - more experienced employees being replaced by less experienced ones
- "Pent up wage deflation"
  - sticky wages prevented full wage adjustments from occurring during the recession
- Substantial job gains and unemployment at 5% is beginning to put pressure on wages
  - still sector and region specific



Source: IHS, US BLS, Callan Associates

Are Fears of Deflation Warranted?

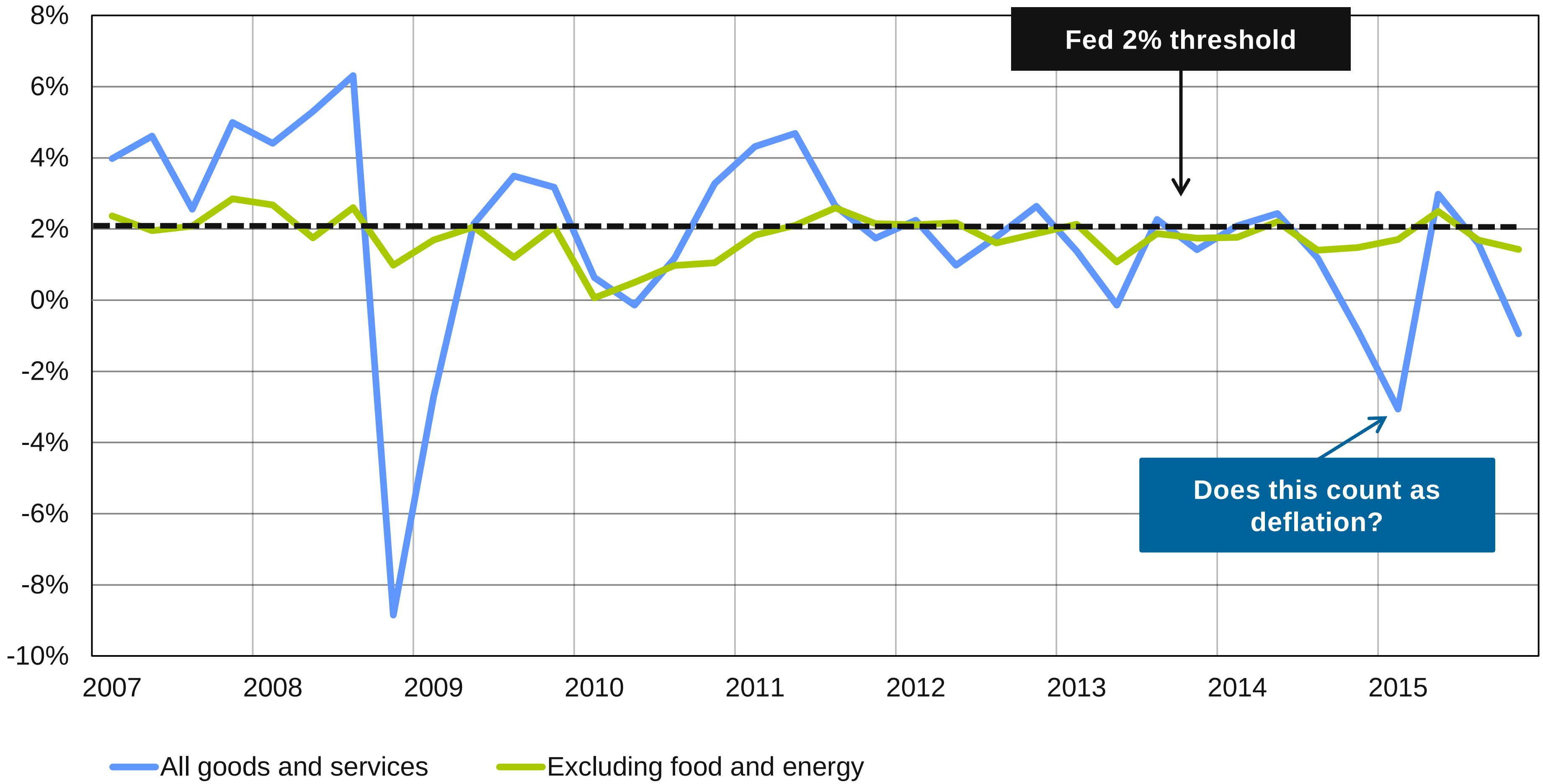
CPI Took a Dive With Oil Prices in the Second Half of 2014



Source: Bureau of Labor Statistics and Callan

What the Fed Looks at to Determine Inflation

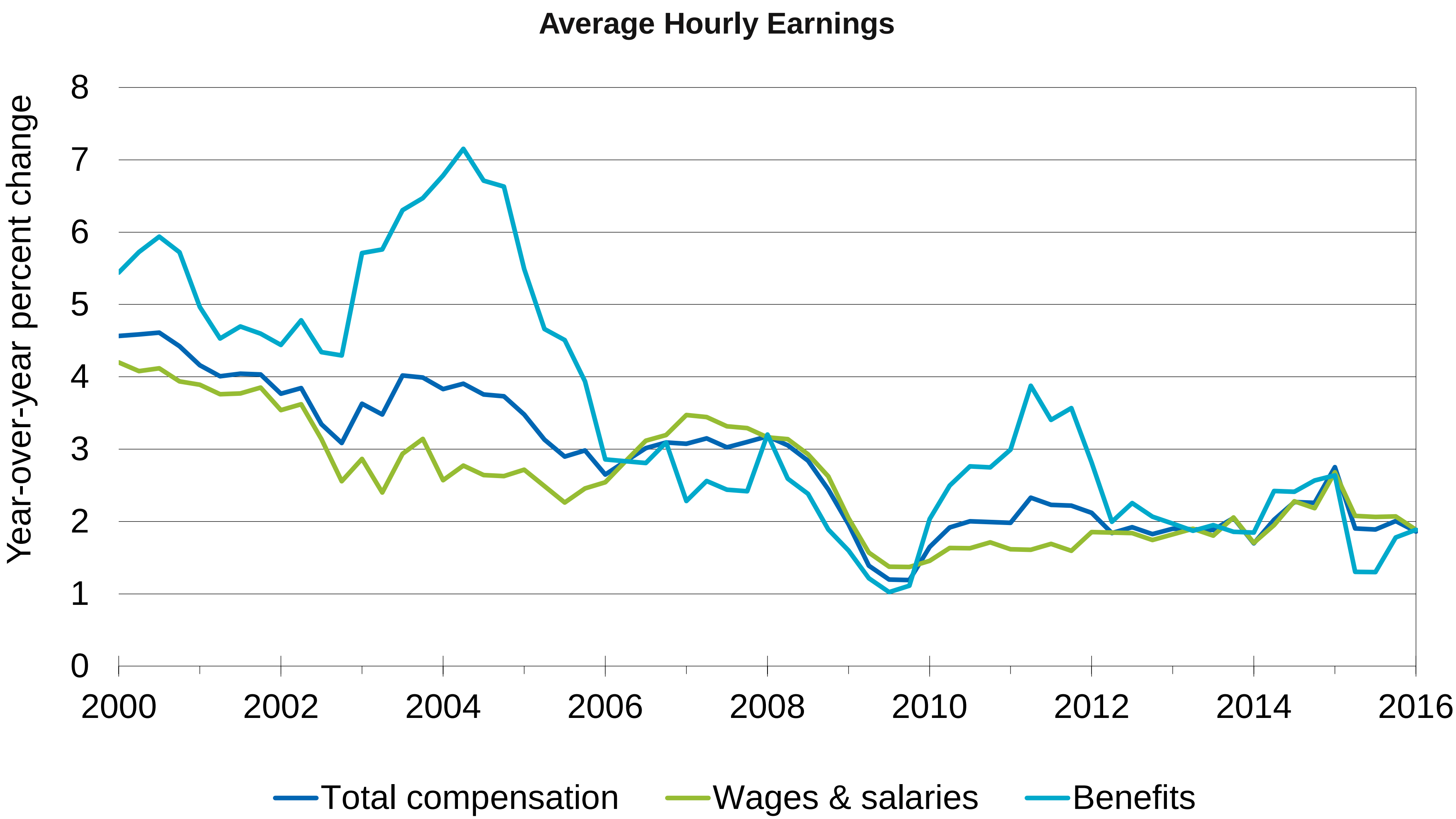
Personal Consumption Price Deflators (percent change, annual rate)



Source: IHS

Worker Comp Could Accelerate as Labor Markets Tighten

Affordable Care Act Will Boost Cost of Benefits



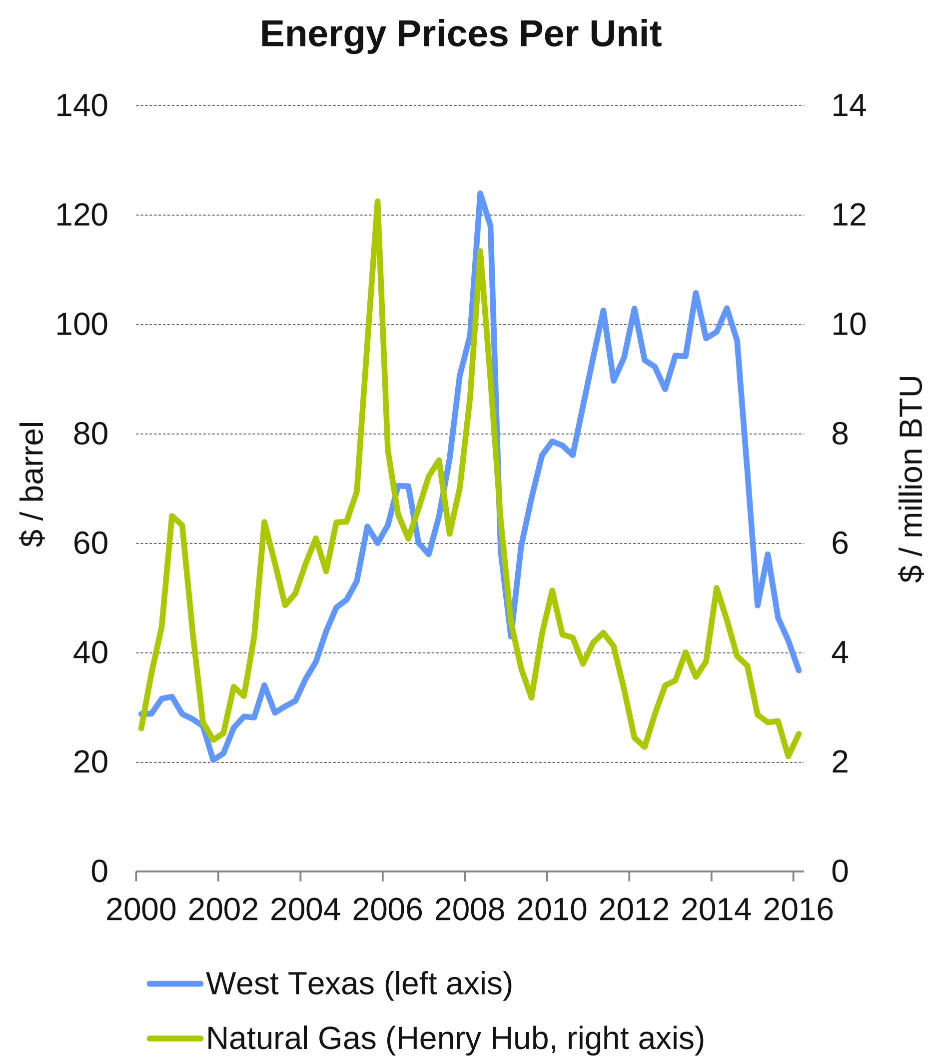
Source: IHS

Oil Price Plunged Continues

End of the Energy Super-Cycle

Impact of a drop in oil prices from $112 per barrel in June 2014 to below $40:

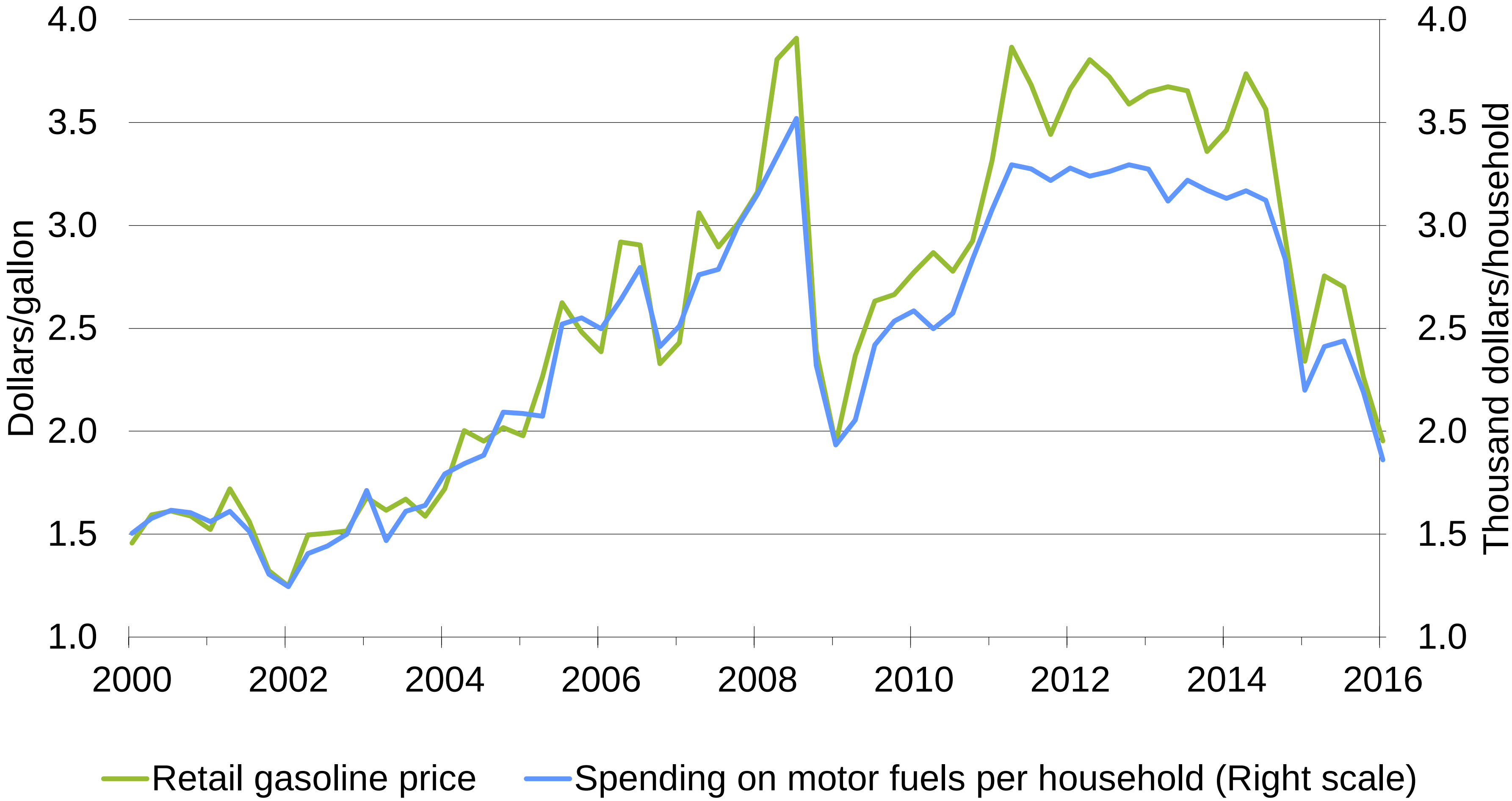
- Most from redeployed consumer spending, particularly to lower- and middle-income households
- Additional effects from improved consumer sentiment and reduced business costs
- Includes offsetting impact of reduced drilling investment and increased imports
- Economic benefits not linear as additional declines in prices have triggered disproportionate production impact



Source: Global Insight

Lower Gasoline Prices = Substantial Savings to Households

Retail Gasoline Price and Annualized Spending on Motor Fuels



Source: IHS

Markets, Not OPEC, Will Determine Energy Prices

- OPEC's December 2015 meeting made it clear there will be no cuts in production and market forces will determine prices.
- Elevated OPEC production will lead to a further buildup of global oil stocks in the first half of 2016, keeping prices weak.
- As sanctions end, Iran's oil exports are assumed to increase 400,000 barrels/day by the end of 2016, but the amount is highly uncertain.
- Global oil demand growth will slow from the strong 2015 increase of 1.7 million barrels/day (MMb/d), but remain above 1.0 MMb/d.
- Low prices will drive down non-OPEC production (primarily US shale oil) through mid-2016, leading to a roughly balanced global market.
- Reduced production costs and increased productivity in oil continue to push break-even prices lower, limiting upside price risks.
- Gas inventories are very high, keeping prices low through 2016.
- The first liquefied natural gas (LNG) exports from the US lower-48 states are set to begin in late January.

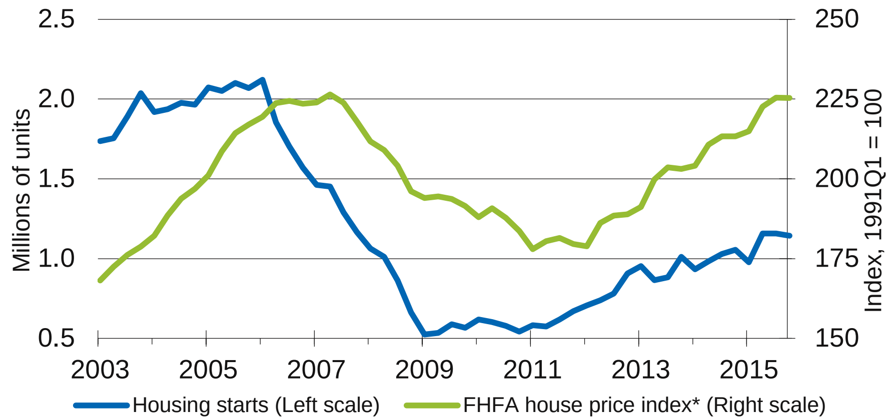
The Recovery in Housing Markets Seems to Have Arrived

- **Pluses:**
  - Reasonable mortgage rates
  - Rates of mortgage default and foreclosure continue to decline
  - Sustained job creation
  - Improving credit availability for builders and buyers
  - Consumer de-leveraging helps with home price affordability
  - Supplies of new and existing homes are tight, spurring home price appreciation
  - Rental markets tight, spurring multi-family starts
  - Young adults have postponed homeownership; potential pent-up demand
- **Minuses:**
  - Adverse household formation among under-35 and 35-44 year-old households; overall HH formation has slowed
  - Greater perceived risk of holding real estate
  - Higher input prices for builders squeezing margins
  - Shortage of buildable lots
  - Job mobility stuck at recession levels
  - Significant student loan burden
  - Lack of distressed properties for sale, impacting investor demand
  - Baby boomers are downsizing

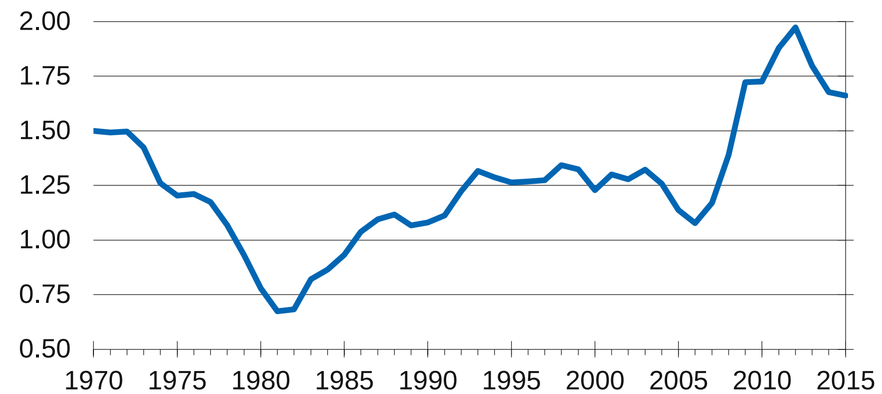
Single-Family Housing Improving, But Slowly

Sales and Starts Well Below Pre-Recession Levels; Affordability Eroding

Housing Starts and Home Prices

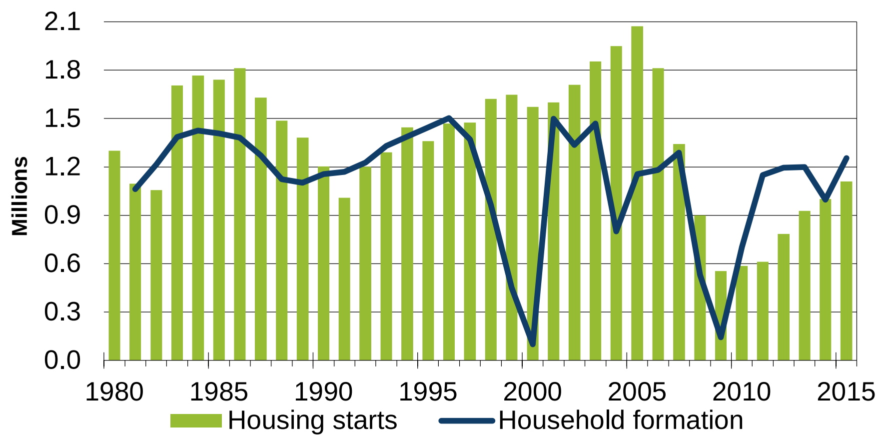


Home Price Affordability Index*

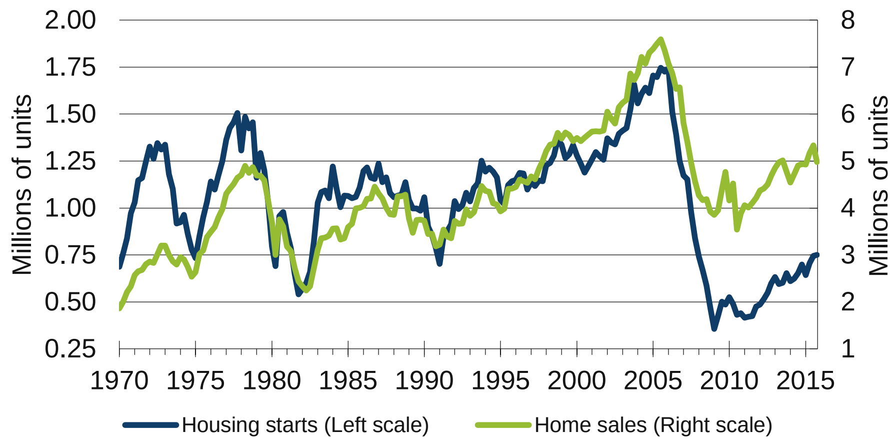


* A value of 1.00 indicates a household earning the median income can afford a median-priced single-family home.

Housing Starts and Household Formation



Single Family Housing Starts and Sales



Source: IHS

Consumer Spending: Regaining the Leading Role

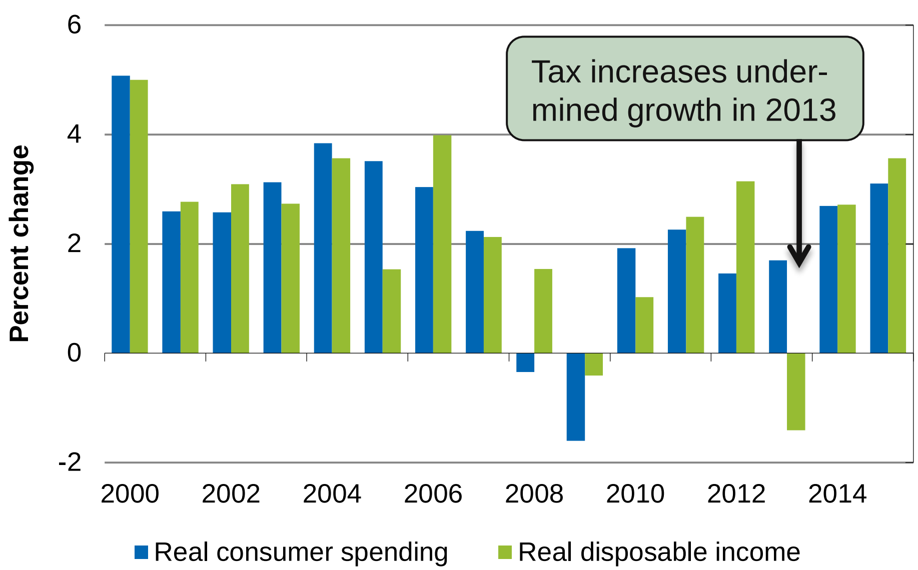
Positives Outweigh the Negatives

Negative Forces	Positive Forces
Slow wage growth	Pent-up demand for homes and durable goods (autos)
Debt burdens still high, student debt burdens	Jobs growth
Low fertility rates and population growth rates	Consumer confidence elevated
Real median household income flat, income inequality up	Lower energy prices helping with higher food prices
Poverty rates elevated	Household asset values surpassed pre-crisis levels (for some)
Saving for retirement	Rising disposable income

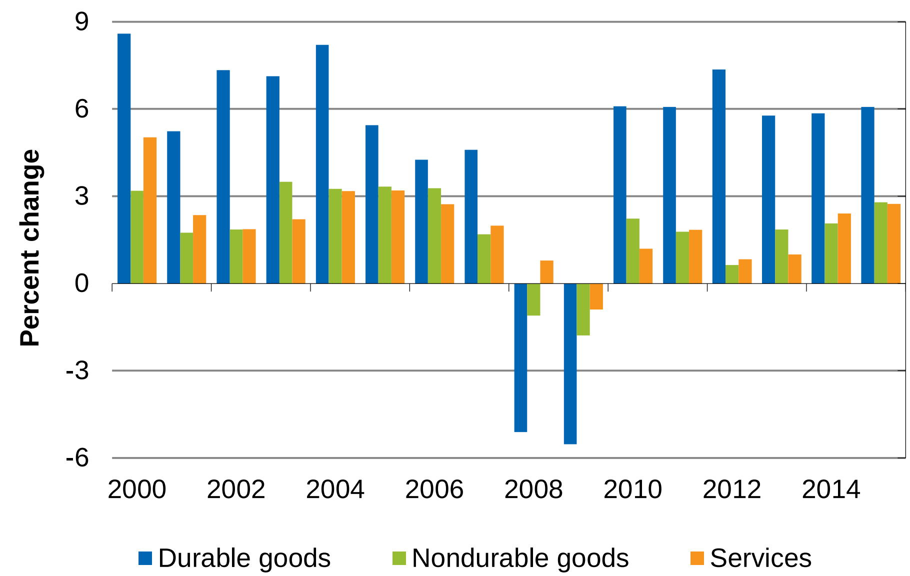
Durable Goods Leads Growth in Real Consumer Spending

Supported by Solid Growth in Real Disposable Income

Real Consumer Spending and Disposable Income

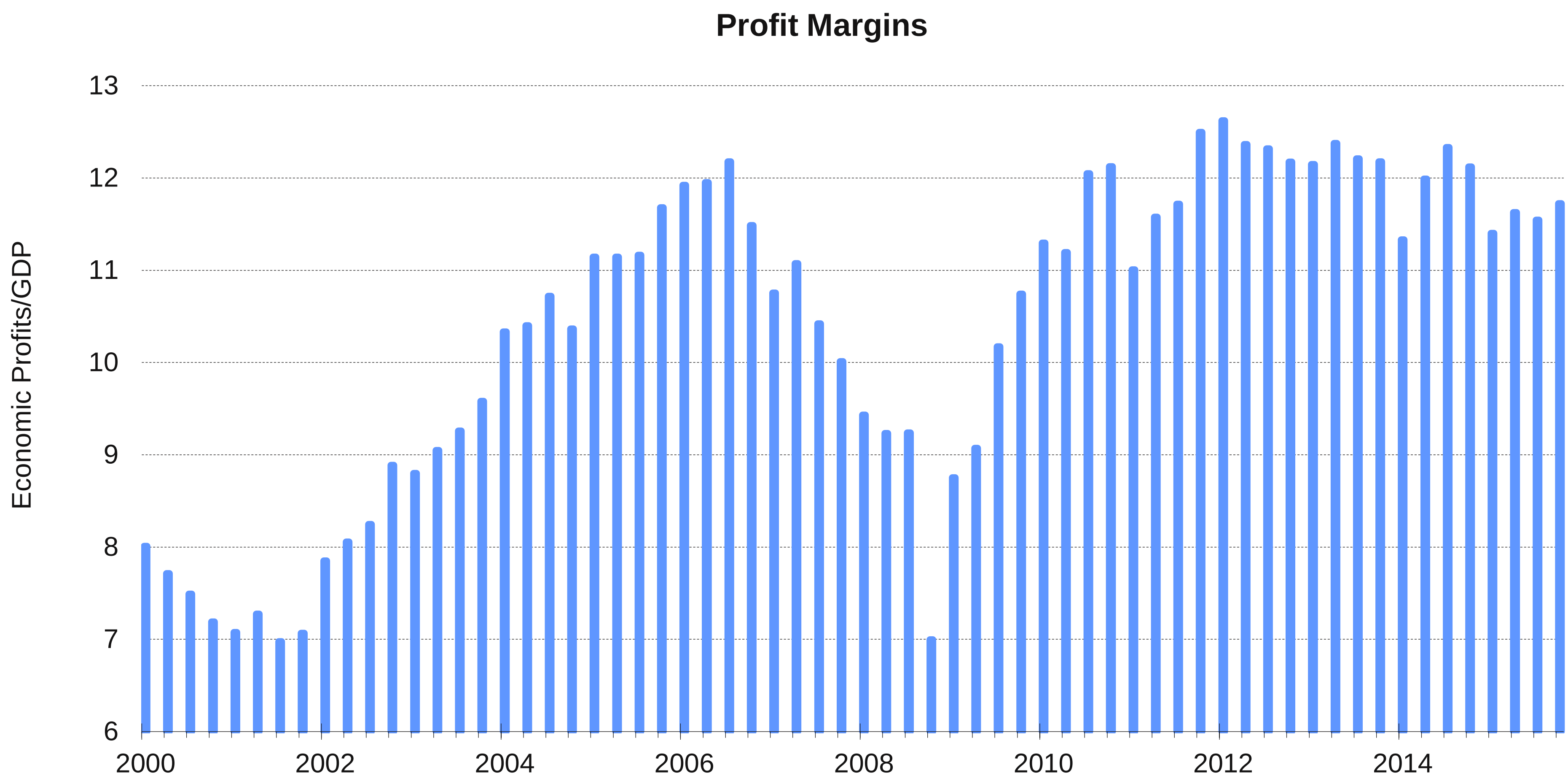


Real Consumer Spending



Source: IHS

Corporate Profit Margins Remain Near All-Time Highs



Source: Global Insight

U.S. Economic Growth by Sector

Annual Percentage Change

	12/31/2006 Share of GDP	12/31/2014 Share of GDP	2007	2008	2009	2010	2011	2012	2013	2014	2015	Direction of Change
Real GDP	100.0%	100.0%	1.8	-0.3	-2.8	2.5	1.6	2.2	1.5	2.4	2.4	Stable above 2% (reaching for 3%?)
Consumption	67.2%	68.2%	2.2	-0.3	-1.6	1.9	2.3	1.5	1.7	2.7	3.1	Back above GDP growth
Residential Investment	5.5%	3.1%	-18.8	-24.0	-21.2	-2.5	0.5	13.5	9.5	1.8	8.6	Recovered in 2015
Bus Fixed Investment	12.6%	13.1%	5.9	-0.7	-15.6	2.5	7.7	9.0	3.0	6.2	3.4	Healthy growth slowed in 2015
Federal Government	7.3%	7.0%	1.7	6.8	5.7	4.3	-2.7	-1.9	-5.7	-2.4	-0.4	End of stimulus
State & Local Government	12.4%	11.0%	1.5	0.3	1.6	-2.7	-3.3	-1.9	-1.0	0.6	1.5	Modest gains as economy improves
Exports	10.3%	13.0%	9.3	5.7	-8.8	11.9	6.9	3.4	2.8	3.4	1.0	Weakened by strong $
Imports	15.7%	15.7%	2.5	-2.6	-13.7	12.7	5.5	2.2	1.1	3.8	5.0	Consumption improving plus strong $

- Recovery has been modest by historical standards. U.S. GDP suffered a hiccup in first quarters of 2014 and 2015, but regained momentum as each year progressed.
- Housing market found a bottom, and new home construction surged following a slump in 2014. Consumer spending moved back into a driving force as the job market solidified and consumer wealth rebounds. Housing remains challenged by demographics.
- Government spending as a percent of GDP peaked in 2011, receded in 2012-14 without further stimulus.
- Note: Imports are a negative number in the calculation of GDP.

Source: IHS Global Insight and Callan

Gradual Acceleration in the Global Economy Still in the Cards

- The world economy remains in low gear; only a modest pickup in growth is expected in 2016.
- Eurozone growth will improve slightly, aided by monetary stimulus, currency depreciation, and pent-up demand.
- China's economic growth will slow further in 2016 because of imbalances in credit, housing, and industrial markets, and the evolution of its economy from building things to buying things, from massive investment to consumption.
- The plunge in materials prices across the commodity complex is restraining growth in the commodity-exporting countries of the Americas, Africa, and Asia-Pacific.
- Prospects for emerging markets will depend in part on structural reforms that raise productivity and allocate capital more efficiently.
- Geopolitical risks abound, threatening both sentiment and actual economics.

Summary of Economic Analysis

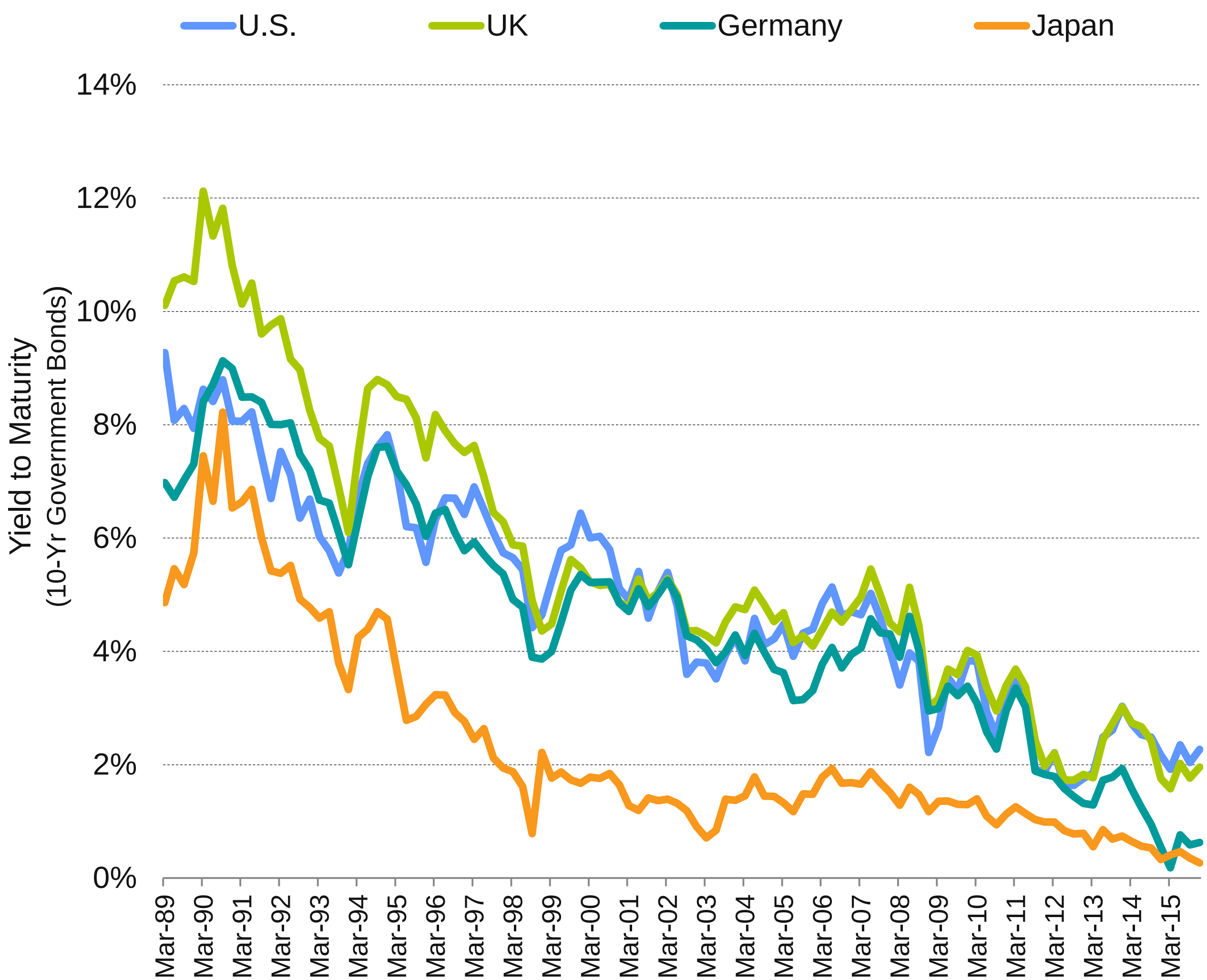
Return to More Normal Economic Conditions

- Economic growth has been subdued in the wake of the Global Financial Crisis
- Geographically dispersed signs of solid economic growth
  - Growth rates in the U.S. and the UK have rebounded strongly
  - Emerging markets growth slowing to “less high” rates
  - Monetary stimulus in Europe and Japan has already shown fruit
    - *U.S. policies ultimately seem to have been successful*
    - *Geopolitical uncertainty weighing on Europe (Syrian refugees, Russia and its interaction with neighbors)*
- Inflation will remain muted (but positive) given spare productive capacity, energy & commodities
  - Labor and capital still underutilized
  - Wage expectations anchored at low levels
  - Energy and raw materials prices suppressed and unlikely to accelerate quickly
- U.S. finally embarked on a path to increase interest rates, countercyclical to other developed economies and just as the capital markets grew jittery, ostensibly over China
- U.S. Forecasts: Real GDP Growth = 2.5 - 3%, Inflation = 2.25%
- Non-U.S. Forecasts: Developed Real GDP Growth = 2%, Inflation = 2%
- Emerging Markets Forecasts: Real GDP Growth = 5%, Inflation = 5%

Have Interest Rates Hit Bottom, At Least in the U.S.?

Government Interest Rates

- Interest rates reached lows not seen in many decades, for a number of reasons including:
  - Central bank intervention including quantitative easing ("QE")
  - Low inflation
  - Flight to quality investments
  - Expanded or new roles for debt (bank capital, long-term liability hedging)
- Low rates can stimulate growth and inflation if there is sufficient loan volume.
  - Both supply and demand will increase as lenders and borrowers improve their balance sheets.



Monetary Policy and Interest Rates

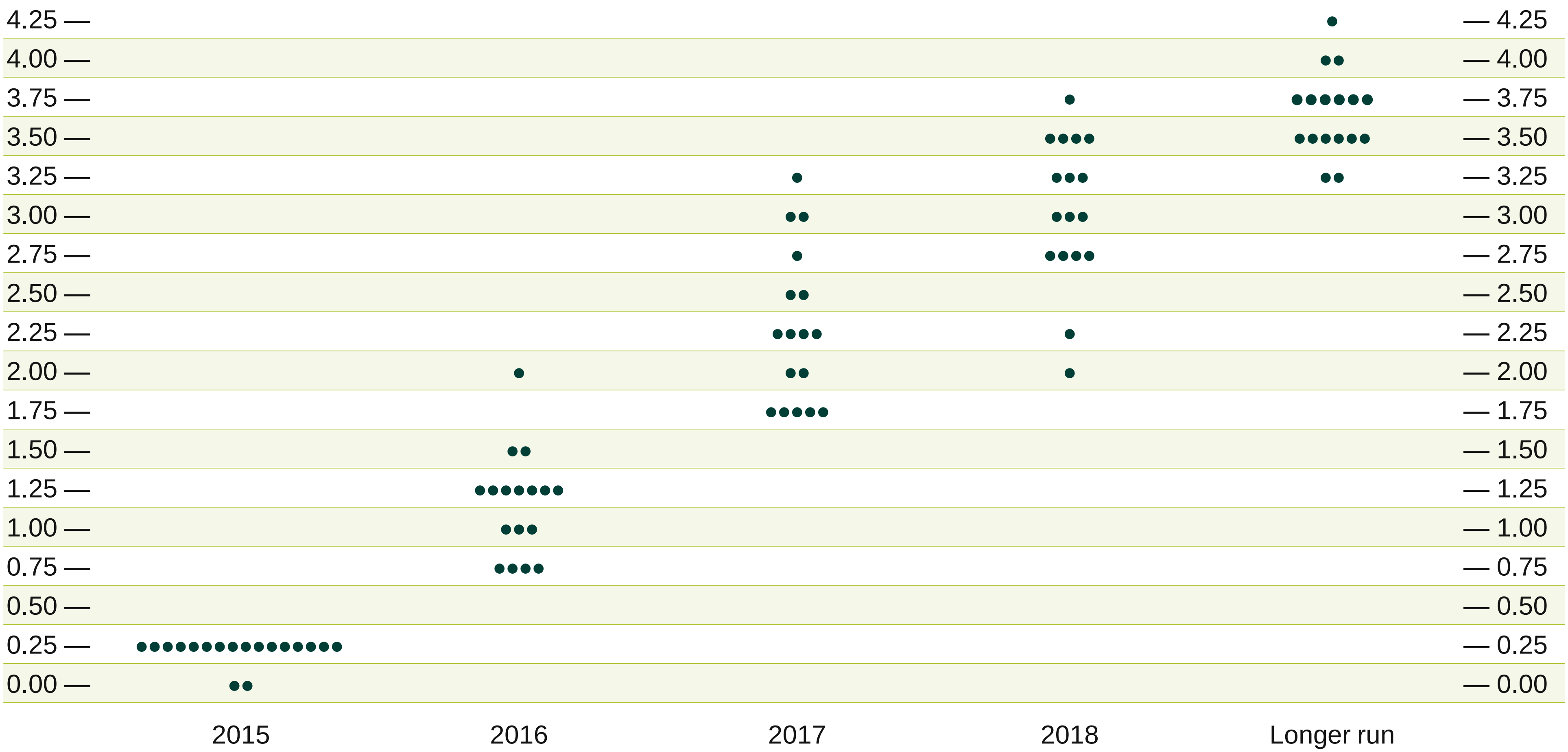
What Will the Fed Do Next?

- Forward guidance stresses that the timing and pace of rate hikes are data dependent in a symmetric way.
- Policymakers happy with progress in the labor market, but likely see greater downside risks to inflation as inflation and inflation expectations have deteriorated, thanks to plunging energy and commodity prices.
- Oil prices believed to be a net positive for U.S. and global economies, and not a source of deflation – until now. How does sustained distress on the commodity complex weigh into Fed deliberations?
- Labor market and inflation moving in different directions. What matters more for the Fed? Probably the labor market.
- Fed has stated it does not have to achieve its 2% inflation goal to raise interest rates, which is good, given recent oil price plunge.
- Fed rate hike was delayed to December 2015. Market expects the Fed to move slowly than the Fed’s expressed timetable.
- Long credit yields blew out in the U.S. during 2015, after denying potential the ate hike in previous years.

The Famous (Infamous?) Dot Chart

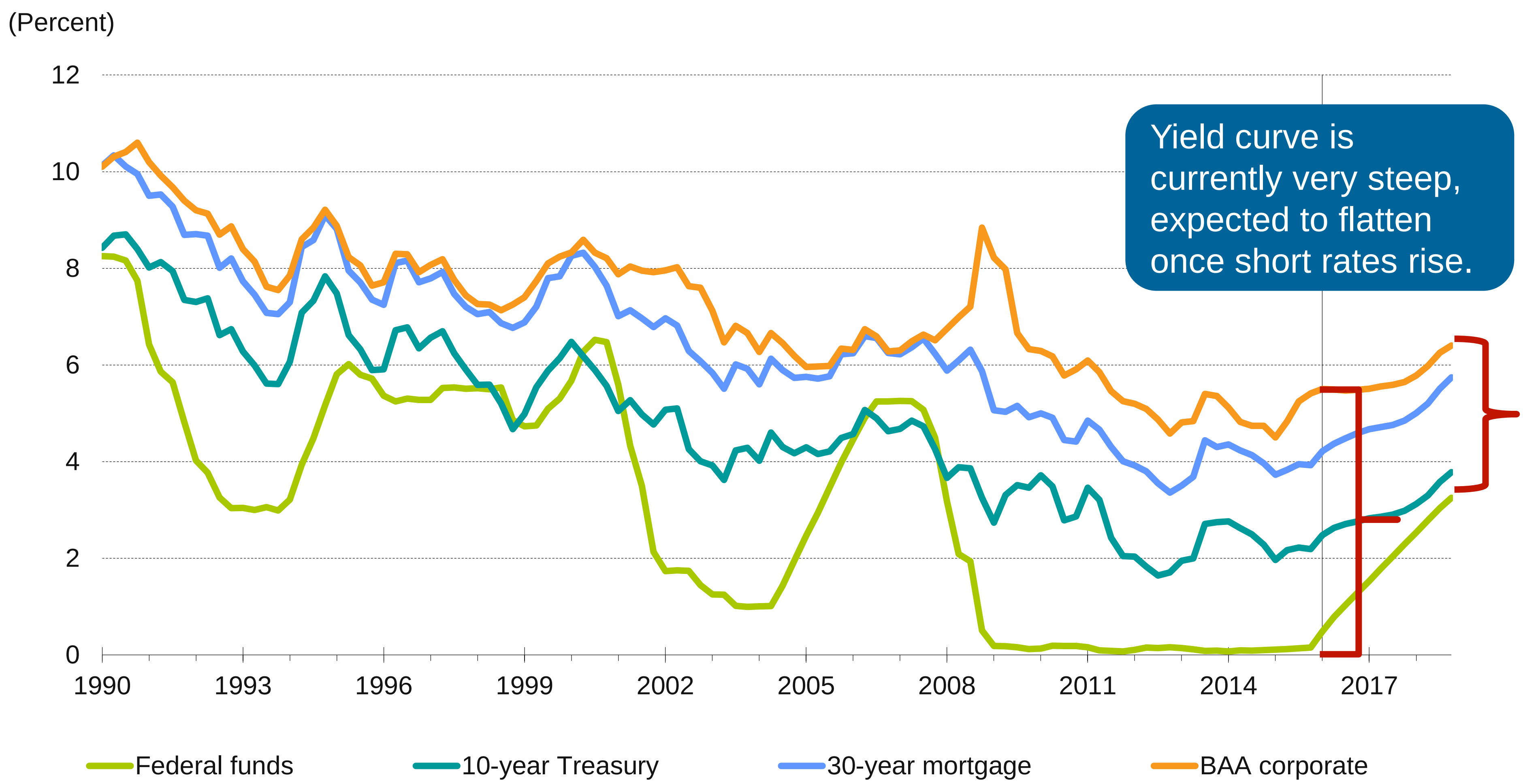
Longer Term Target has Consensus Within the FOMC, But Not the Path to Get There

Target fed funds rate at year-end (December projections)



Each shaded circle indicates the value of an individual participant’s judgment of the midpoint of the target federal funds rate at the end of the specified calendar year and over the longer run. The number in each column represents the lower bound of an 0.25 percentage point range.

Interest Rates Will Rise From Exceptionally Low Levels



*** 2016-18 estimate – IHS**

Source: IHS

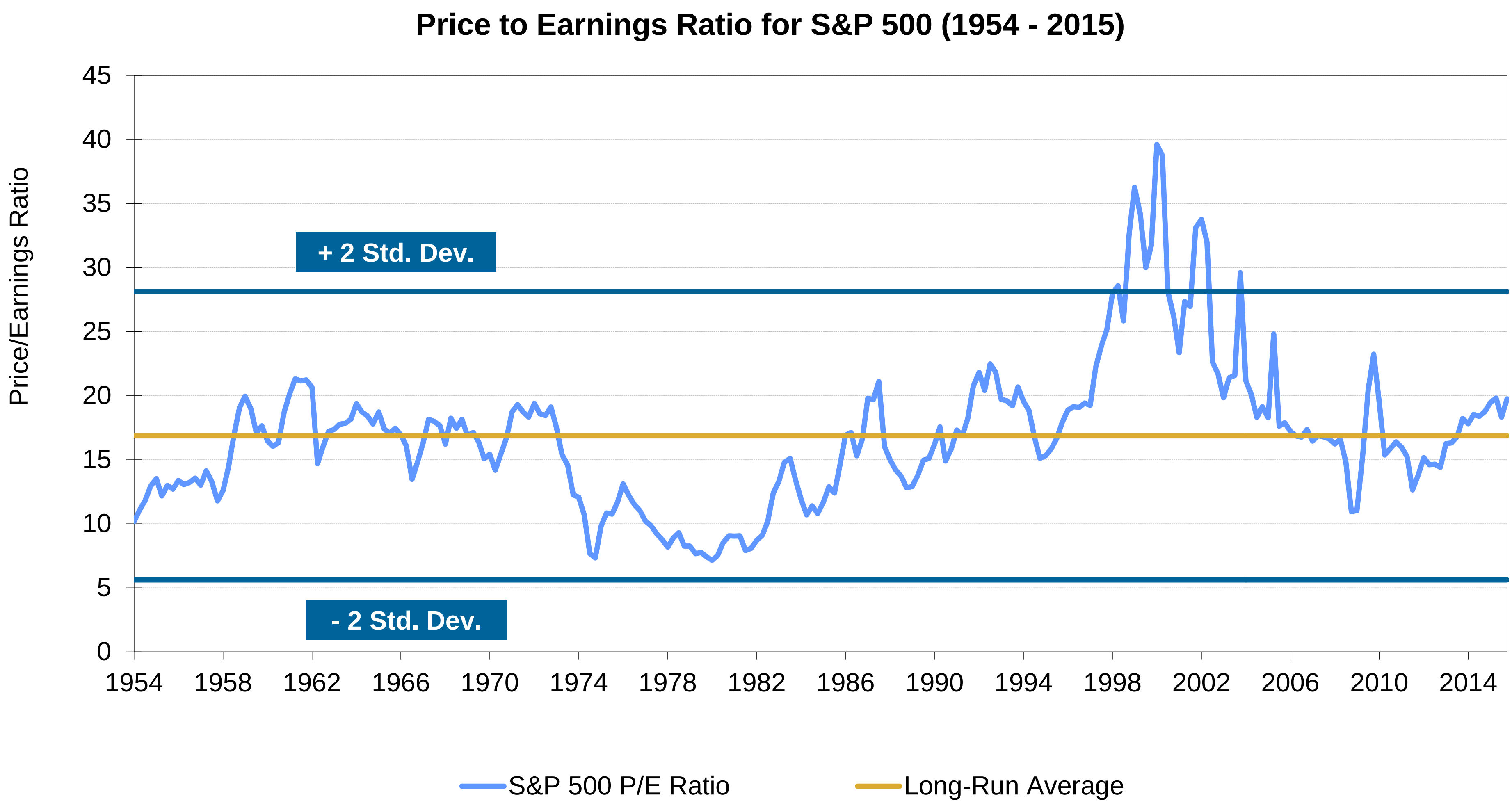
Will Rising Rates Crush U.S. Fixed Income Markets?

Return to More Normal Yield Curve Will Be Painful Before Profitable

- The rise in long yields in 2015 will make the return to normal at the long end of the yield curve less painful.
  - Long bonds suffered losses last year as yields blew out.
  - Lesser yield increases starting today mean lower capital losses especially for long duration securities.
  - Relative to last year there is one less year of low yields and one more year of higher yields in our 10-year projection.
- Yields in the intermediate portion of the curve held up in 2015.
  - Stable yields led to more yield-like returns.
  - Smaller yield increases to reach normal rates will make returns over the next few years more tolerable.
- Cash returns likely to experience gain without pain.
  - The shortest term securities will increase in yield the most over the next few years.
  - Their near-zero duration means that they will increasingly harvest returns without the pain of lost capital.
- Interest rates will rise over approximately the same period as the FOMC expects Fed Funds to rise.
  - Most of the capital losses likely to be realized in the next three years.
  - Higher yields in subsequent years expected to make long-term annualized returns more tolerable.
- The Barclays Capital Aggregate Index is expected to return 3% per year on average.
  - Embedded in the projection is an expectation that we'll reach 2.5% yield for cash and 3.3% for 10-Year Treasury by the end of the 10-year forecast period.

Equity Is Not Yet Egregiously Overpriced

Trailing P/E Caught Up to Its Long Run Average, Moved Sideways in 2015

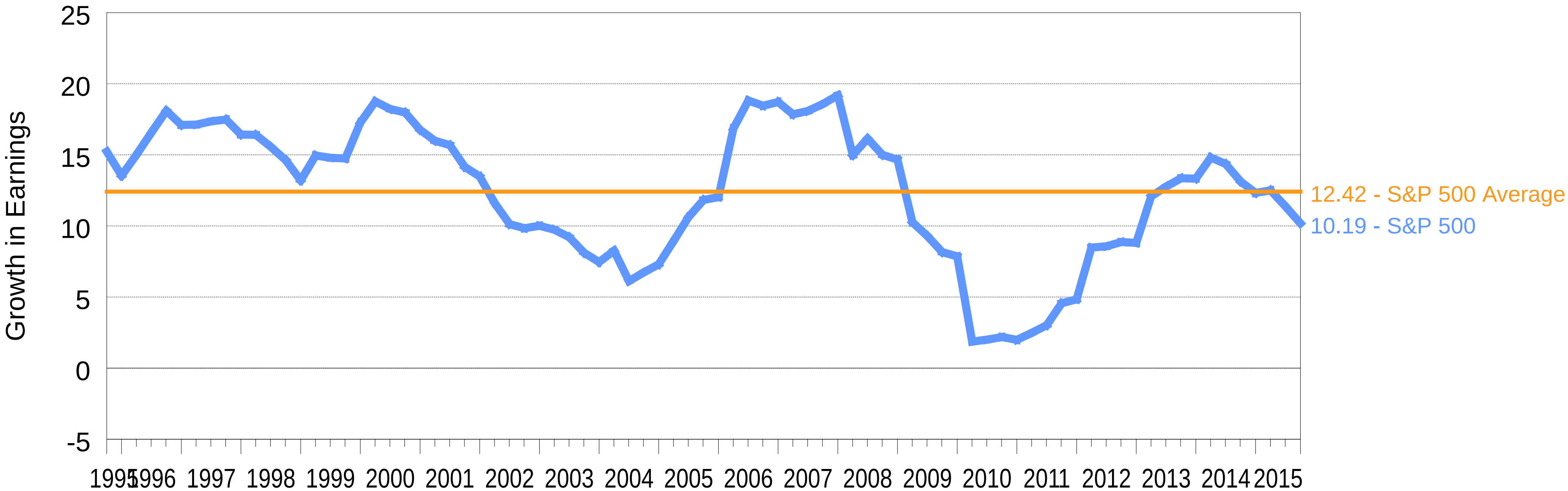


Trailing earnings as reported for the fiscal year; includes negative earnings from 1998 onward.
Source: Standard & Poor's and Callan

Are U.S. Equity Markets Overvalued?

Corporate Profits Are Still Growing Strongly, Although They May Have Peaked

Growth in Earnings for 20 Years ended September 30, 2015



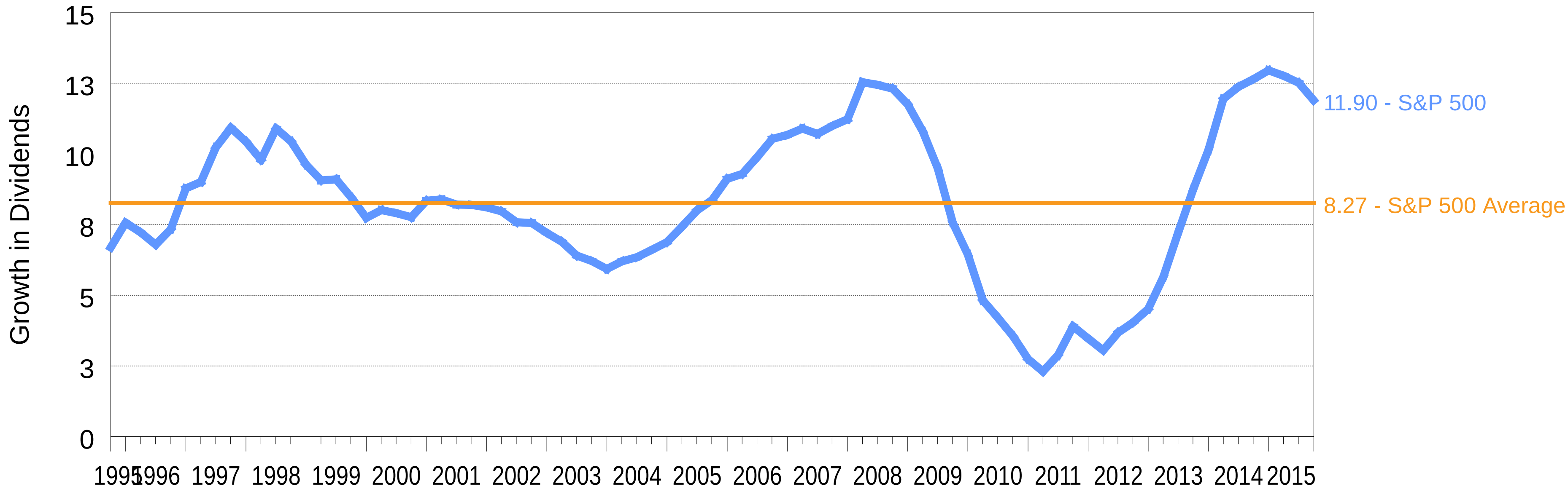
- Corporate profit growth has recovered from the levels experienced soon after the Financial Crisis.
- Current growth is near the long-term average which is at a double digit level.
- Profit growth is forecast to improve with recovering economy.

Source: Standard and Poor's and Callan Associates

Are U.S. Equity Markets Overvalued?

Dividends are Growing at Rates Well Above Average

Growth in Dividends for 20 Years ended September 30, 2015



- The amount of capital that firms are returning to shareholders as ordinary dividends has been growing at an above average pace.

Source: Standard and Poor's

Are U.S. Equity Markets Overvalued?

Future Returns Driven by Economic Performance

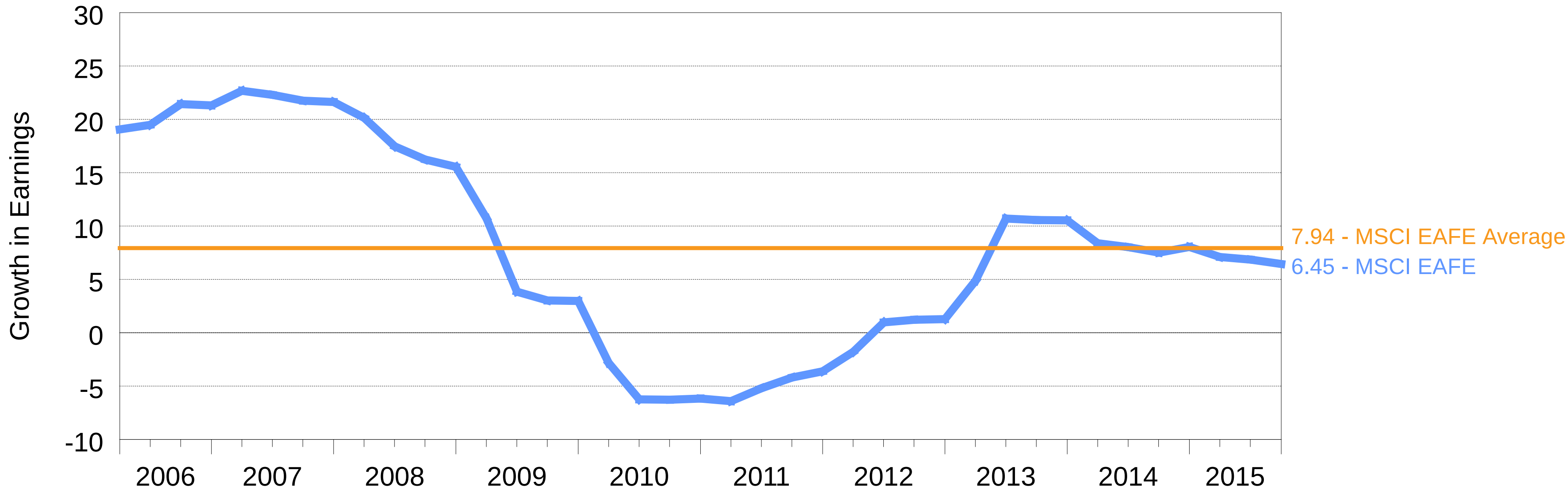
- Current strong dividend growth is expected to return to a more moderate pace.
- Firms are expected to return more capital to moderate the level of cash on their balance sheets.
  - Increases in dividends paid from earnings.
  - Real free cash flow returns (e.g., special dividends and share buybacks).
- Strong profit growth has kept U.S. valuations reasonable.
- Expectations for moderate economic growth should support future corporate profits.
- Continued strong earnings supported by the recovering economy means that valuations can return to average with moderate stock returns rather than a bear market.

Factor	Large Cap	Small/Mid Cap
Real Capital Appreciation		
Real Dividend Growth	5.50%	1.75%
Payout Ratio Growth	1.00%	-2.25%
P/E Growth (multiple expansion)	-0.50%	1.00%
Real Price Return	3.93%	5.13%
Yield		
Real Dividend Growth	5.75%	1.75%
Current Real Dividend Yield	0.25%	-0.35%
2025 Real Dividend Yield	0.25%	-0.34%
Average Real Dividend Yield	0.25%	-0.34%
Real Free Cash Flow Return	0.70%	0.40%
Real Return	4.88%	5.19%
Inflation	2.25%	2.25%
Mean Nominal Compound Return	**7.24%**	**7.56%**

Can Non-U.S. Equities Overcome Economic Issues?

Developed Markets Corporate Profits are Likely to Grow Faster

Growth in Earnings for 9 1/2 Years ended September 30, 2015



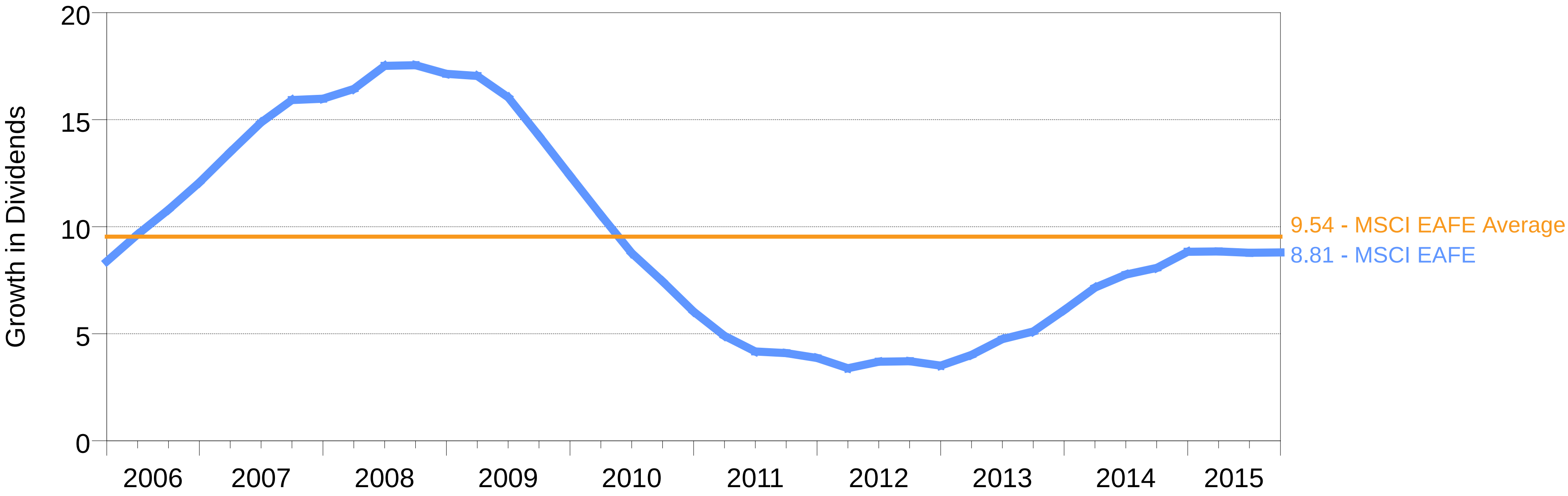
- Corporate profit growth has recovered to the longer-term average.
- Forecast profit growth expected to improve as uncertainties are resolved.
  - Greek bailout
  - European Central Bank Quantitative Easing
  - Japanese stimulus and reforms

Source: MSCI

Can Non-U.S. Equities Overcome Economic Issues?

Developed Markets Dividends are Growing Strongly

Growth in Dividends for 9 1/2 Years ended September 30, 2015



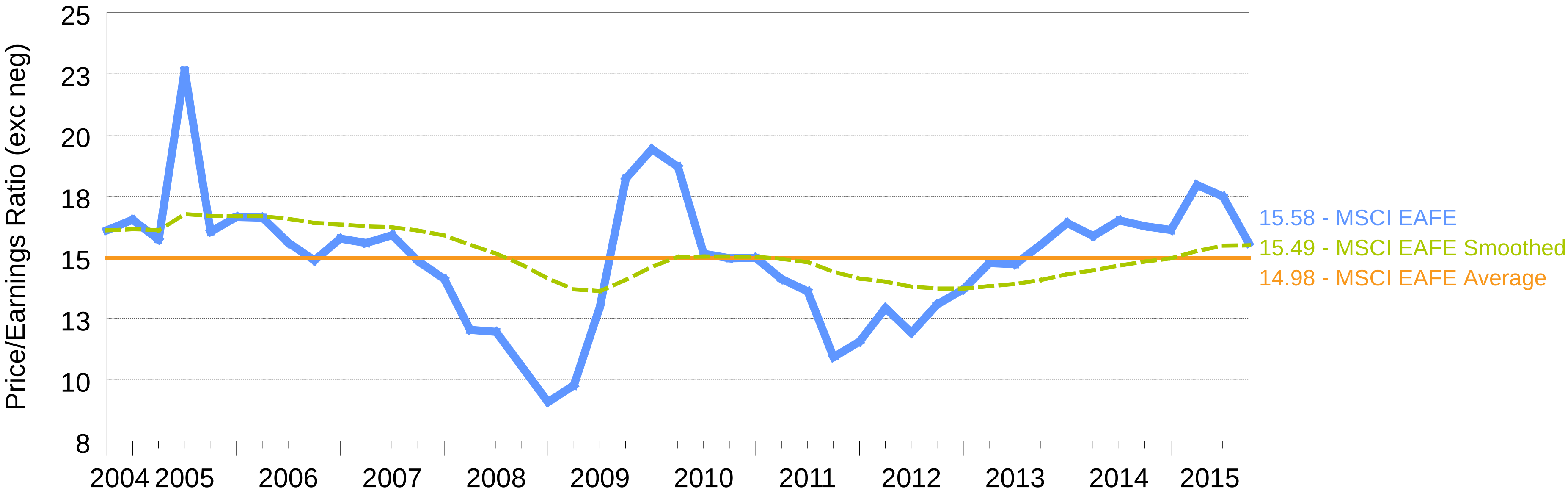
- High dividend growth rate overseas consistent with historical emphasis on the yield component of returns.

Source: MSCI

Can Non-U.S. Equities Overcome Economic Issues?

Developed Markets Valuations are Reasonable

Price/Earnings Ratio (exc neg) for 11 Years ended September 30, 2015



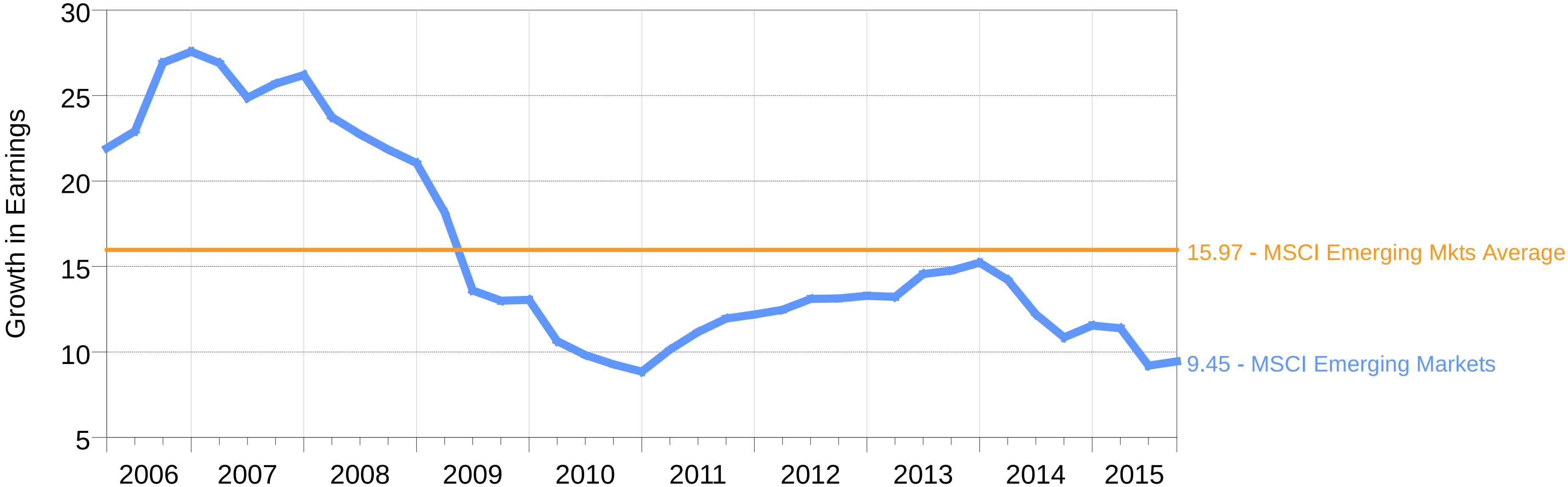
- Valuations are consistent with history.
- Stock prices can increase as earnings increase without creating valuation issues.

Source: MSCI

Can Non-U.S. Equities Overcome Economic Issues?

Emerging Markets Corporate Profits Have Stabilized

Growth in Earnings for 9 1/2 Years ended September 30, 2015



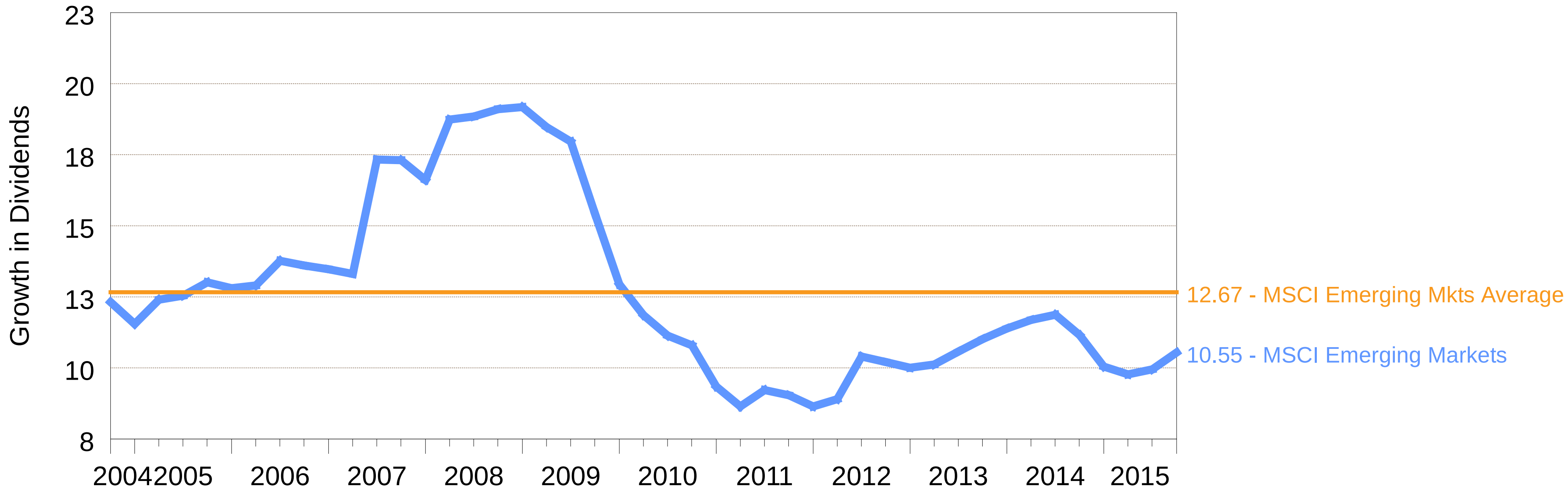
- Corporate profit growth has not yet recovered to levels experienced before the Financial Crisis.
- Profits are likely to grow faster as global demand increases.

Source: MSCI

Can Non-U.S. Equities Overcome Economic Issues?

Emerging Markets Dividends Down but Still Robust

Growth in Dividends for 11 Years ended September 30, 2015



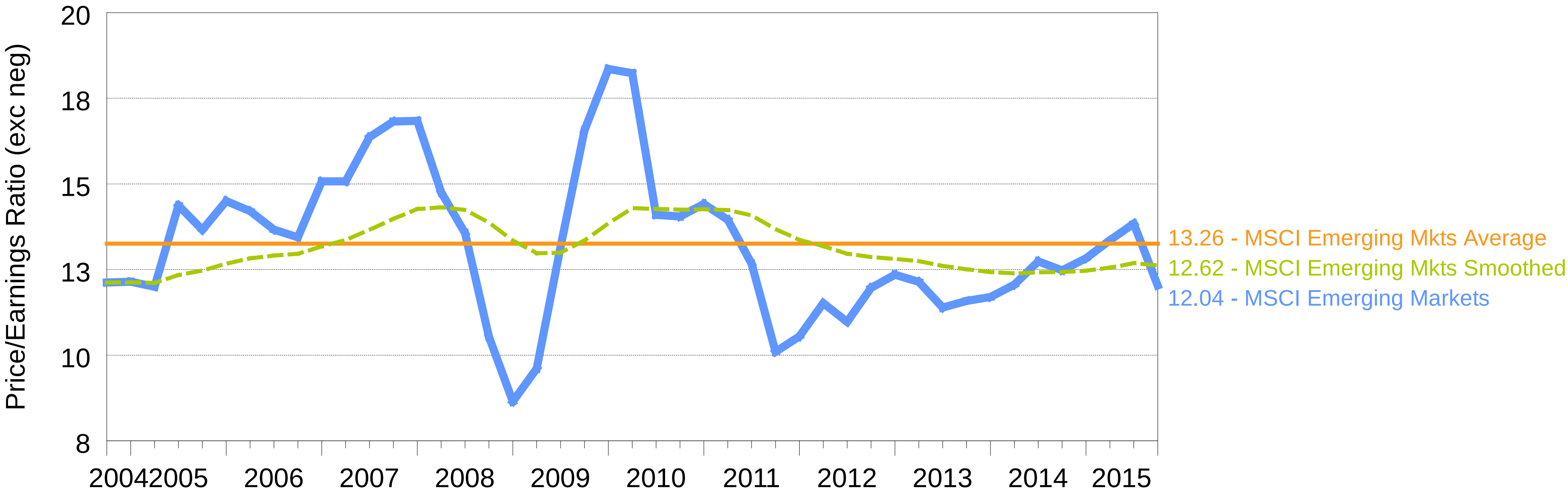
- Dividend growth will follow profit growth higher as internal as well as external demand improves.

Source: MSCI

Can Non-U.S. Equities Overcome Economic Issues?

Emerging Markets Valuations Should Improve

Price/Earnings Ratio (exc neg) for 11 Years ended September 30, 2015



- Valuations are generally lower than developed markets to account for additional risk.
- There is significant room for growth in both earnings and stock prices but a slightly higher growth rate for prices is expected to move valuations closer to historical averages.

Source: MSCI

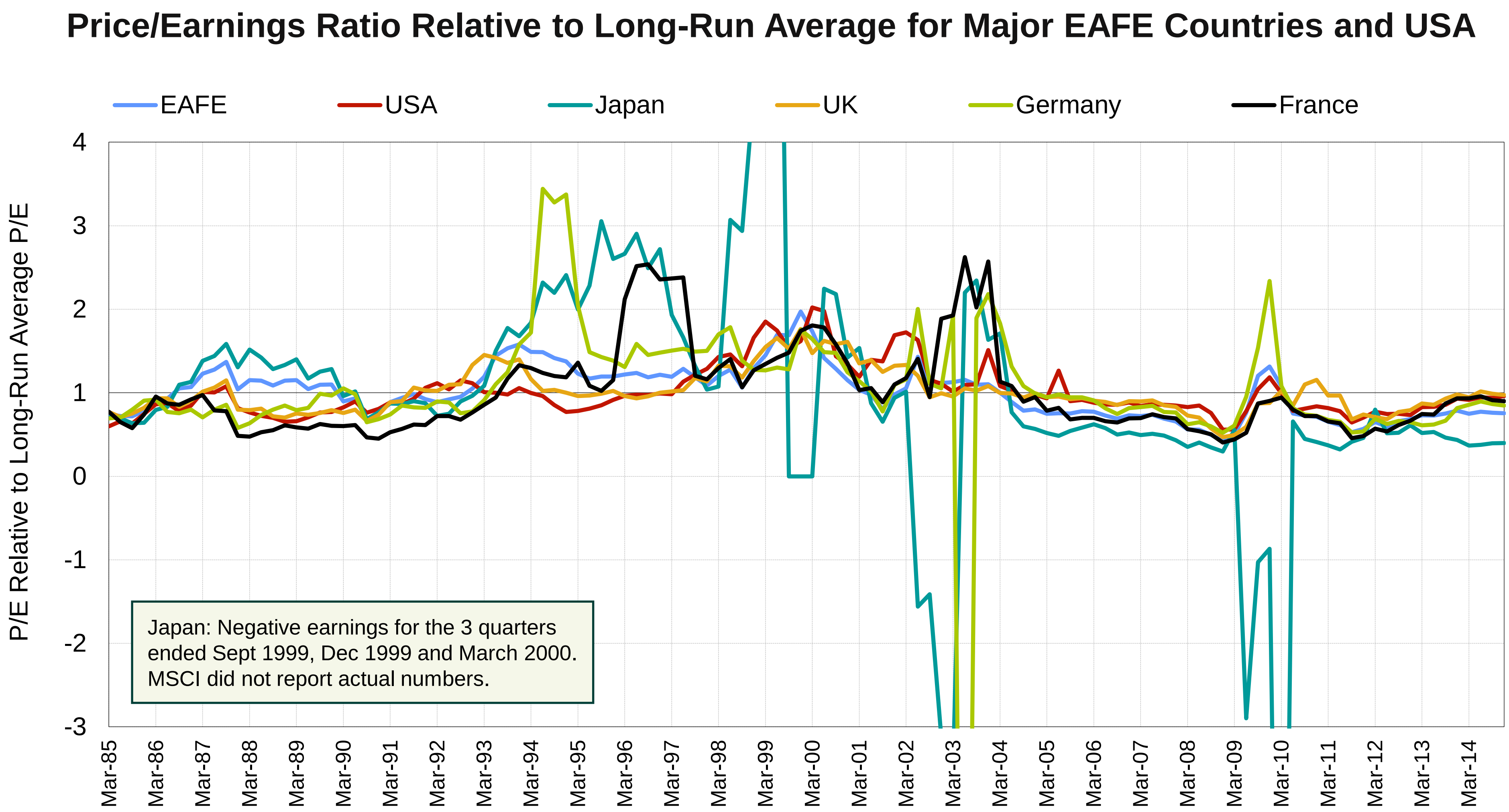
Can Non-U.S. Equities Overcome Economic Issues?

Future Returns Driven by Economic Performance

- Improved developed non-U.S. market economic performance will translate into equity returns.
  - Earnings will improve as economic issues resolved.
  - History of relatively high dividends to continue.
  - Better conditions will lead to more corporate activity.
- Low developed non-U.S. inflation will limit the size of nominal returns.
- Emerging market economic growth is falling but still high.
- Emerging market returns will benefit from growth as well as market factors.
  - Below average valuations
  - Higher dividends
- Emerging market inflation supports nominal returns.
  - Inflation rates are lower and more stable than in decades past.
  - Future price growth depends on government policies as well as economics.

Factor	Developed	Emerging
Real Capital Appreciation		
Real Dividend Growth	5.25%	5.70%
Payout Ratio Growth	1.75%	0.30%
P/E Growth (multiple expansion)	0.00%	0.25%
Real Price Return	3.44%	5.65%
Yield		
Real Dividend Growth	5.50%	6.00%
Current Real Dividend Yield	1.00%	-3.15%
2024 Real Dividend Yield	1.02%	-3.15%
Average Real Dividend Yield	1.01%	-3.15%
Real Free Cash Flow Return	0.70%	0.00%
Real Return	5.15%	2.50%
Inflation	2.00%	5.00%
Mean Nominal Compound Return	**7.26%**	**7.65%**

International Equity Valuations



Source: MSCI except for the USA which is represented by the S&P 500 Index in Callan's database (trailing earnings as reported for the fiscal year; includes negative earnings from 1998 onward).

2016 Capital Market Expectations

- **Broad market bond returns held at 3.0%.**
  - We expect interest rates to rise, especially if the economy continues to expand and the Fed executes on its stated monetary policy. Bonds will suffer capital loss before higher yields kick in. We expect cash yields to move toward 2.5% and 10-year Treasury yields to reach 3.3% over the ten-year projection – a reversion to mean, but lower than the long run averages.
  - Project an upward sloping yield curve, but a very slim risk premium for bonds over cash (0.75%).
  - Cash returns held at 2.25%, reflecting an expected rise in Fed Funds rate.
  - Longer duration returns raised, reflecting sharp reduction in yields in 2014.
- **Domestic Equity reduced to 7.35%, Non-U.S. Equity to 7.55%, both 25 bps reductions.**
  - U.S. markets went sideways in 2015, but the U.S. economic outlook is more muted; fundamentals remain reasonable.
  - Building equity returns from long-term fundamentals, we can build an expectation to just shy of 7.5%:
    - *2.5-3.0% real GDP growth, which means roughly 4.75-5.25% nominal earnings growth,*
    - *2.5 % dividend yield,*
    - *Expect something more from return on free cash flow, besides dividends (The "buyback yield" has been exceptional, one good use of all that cash), perhaps 50-100 bps,*
    - *Small premium for Non-U.S. over Domestic, largely due to Emerging Markets.*
- **Real Estate return held to 6.0%.**
  - Reflects downward pressure on income returns at 4-5% with increased competition for investment.
  - Asset class eyed by those hungering for yield.
- **Hedge Fund return held at 5.25%**
  - Expectations of T-bill plus 3%.

2016 Capital Market Expectations—Return and Risk

Summary of Callan's Long-Term Capital Market Projections (2016 – 2025)

		PROJECTED RETURN			PROJECTED RISK			2015 - 2024		
Asset Class	Index	1-Year Arithmetic	10-Year Geometric*	Real	Standard Deviation	Sharpe Ratio	Projected Yield	10-Year Geometric*	Standard Deviation	Geometric* Delta
Equities										
Broad Domestic Equity	Russell 3000	8.85%	7.35%	5.10%	18.70%	0.353	2.40%	7.60%	19.00%	-0.25%
Large Cap	S&P 500	8.60%	7.25%	5.00%	17.75%	0.354	2.50%	7.50%	18.30%	-0.25%
Small/Mid Cap	Russell 2500	9.85%	7.55%	5.30%	22.75%	0.334	1.90%	7.85%	22.95%	-0.30%
Global ex-U.S. Equity	MSCI ACWI ex USA	9.55%	7.55%	5.30%	21.30%	0.343	2.70%	7.80%	21.45%	-0.25%
International Equity	MSCI World ex USA	9.00%	7.25%	5.00%	20.05%	0.337	3.00%	7.50%	20.20%	-0.25%
Emerging Markets Equity	MSCI Emerging Markets	11.15%	7.60%	5.35%	27.85%	0.320	1.70%	7.90%	27.95%	-0.30%
Fixed Income										
Short Duration	Barclays G/C 1-3	2.60%	2.60%	0.35%	2.25%	0.156	2.80%	2.40%	2.25%	0.20%
Domestic Fixed	Barclays Aggregate	3.05%	3.00%	0.75%	3.75%	0.213	4.60%	3.00%	3.75%	0.00%
Long Duration	Barclays Long G/C	4.30%	3.70%	1.65%	11.40%	0.197	5.30%	3.20%	11.40%	0.50%
TIPS	Barclays TIPS	3.10%	3.00%	0.75%	5.30%	0.160	4.20%	3.00%	5.30%	0.00%
High Yield	Barclays High Yield	5.40%	5.00%	2.75%	10.50%	0.300	8.00%	5.00%	11.10%	0.00%
Non-U.S. Fixed	Barclays Global Aggregate ex US	1.80%	1.40%	-0.85%	9.20%	-0.049	4.00%	2.30%	9.40%	-0.90%
Emerging Market Debt	EMBI Global Diversified	5.10%	4.70%	2.45%	10.00%	0.285	6.50%	4.70%	10.00%	0.00%
Other										
Real Estate	Callan Real Estate	7.20%	6.00%	3.75%	16.45%	0.301	5.00%	6.15%	16.50%	-0.15%
Private Equity	TR Post Venture Cap	13.15%	8.15%	5.90%	32.80%	0.322	0.00%	8.50%	33.05%	-0.35%
Hedge Funds	Callan Hedge FOF Database	5.55%	5.25%	3.00%	9.30%	0.355	2.25%	5.25%	9.30%	0.00%
Commodities	Bloomberg Commodity	4.40%	2.75%	0.50%	18.50%	0.116	2.25%	2.75%	18.50%	0.00%
Cash Equivalents	90-Day T-Bill	2.25%	2.25%	0.00%	0.90%	0.000	2.25%	2.25%	0.90%	0.00%
Inflation	CPI-U		2.25%		1.50%			2.25%	1.50%	0.00%

* Geometric returns are derived from arithmetic returns and the associated risk (standard deviation).

Source: Callan Associates

2016 Capital Market Expectations—Correlation Coefficient Matrix

Key to Constructing Efficient Portfolios

	Broad US Eq	Large Cap	Sm/Mid Cap	Global ex-US	Non-US Equity	Em Mkt Eq	Defens	US Fixed	Long Duration	TIPS	High Yield	Non-US Fixed	Em Mkt Debt	Real Estate	Private Equity	Hedge Funds	Comm	Cash Equiv	Inflation
Broad US Equity	1.000																		
Large Cap	0.997	1.000																	
Small/Mid Cap	0.965	0.940	1.000																
Global ex-US Equity	0.882	0.879	0.853	1.000															
Non-US Equity	0.852	0.850	0.820	0.986	1.000														
Em Mkts Equity	0.861	0.855	0.840	0.933	0.860	1.000													
Defensive	-0.240	-0.230	-0.260	-0.254	-0.230	-0.280	1.000												
US Fixed	-0.108	-0.100	-0.130	-0.123	-0.105	-0.150	0.870	1.000											
Long Duration	0.136	0.138	0.121	0.106	0.119	0.069	0.681	0.918	1.000										
TIPS	-0.050	-0.045	-0.065	-0.053	-0.045	-0.065	0.530	0.580	0.527	1.000									
High Yield	0.640	0.640	0.610	0.629	0.610	0.610	-0.170	0.020	0.220	0.060	1.000								
Non-US Fixed	0.014	0.050	-0.100	0.013	0.060	-0.090	0.480	0.510	0.542	0.340	0.120	1.000							
Em Mkt Debt	0.587	0.590	0.550	0.553	0.530	0.550	-0.120	0.030	0.159	0.170	0.390	0.010	1.000						
Real Estate	0.735	0.730	0.715	0.669	0.650	0.645	-0.140	-0.020	0.188	0.005	0.560	-0.050	0.450	1.000					
Private Equity	0.948	0.945	0.915	0.934	0.905	0.905	-0.240	-0.190	0.054	-0.100	0.640	-0.060	0.560	0.710	1.000				
Hedge Funds	0.797	0.795	0.765	0.760	0.735	0.740	-0.120	0.080	0.272	0.055	0.570	-0.080	0.510	0.600	0.770	1.000			
Commodities	0.167	0.165	0.165	0.177	0.170	0.175	-0.220	-0.120	-0.045	0.100	0.100	0.050	0.190	0.200	0.180	0.210	1.000		
Cash Equivalents	-0.043	-0.030	-0.080	-0.040	-0.010	-0.100	0.300	0.100	-0.049	0.070	-0.110	-0.090	-0.070	-0.060	0.000	-0.070	0.070	1.000	
Inflation	-0.025	-0.020	-0.040	-0.019	-0.050	0.050	-0.200	-0.280	-0.337	0.160	0.060	-0.150	0.000	0.150	-0.030	0.200	0.400	0.050	1.000

- Relationships between asset classes is as important as standard deviation.
- To determine portfolio mixes, Callan employs mean-variance optimization.
- Return, standard deviation and correlation determine the composition of efficient asset mixes.

Source: Callan Associates

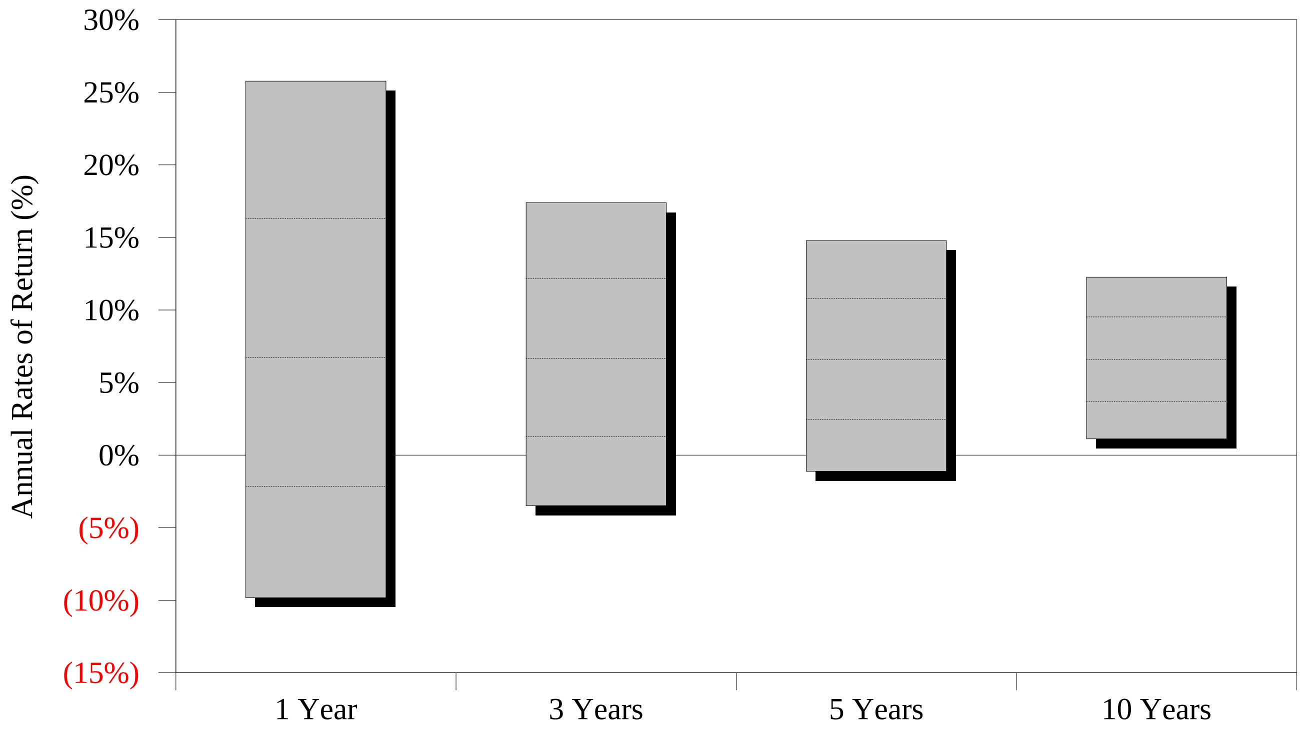
2016 Capital Market Expectations

Asset Classes	Target
US Broad Equity	38%
Global Ex-US Equity	25%
Domestic Fixed	28%
Real Estate	9%
Cash Equivalents	0%
Totals	100%

1-Year Returns (Arithmetic)	7.3%
10-Year Returns (Geometric)	6.6%
Risk (Standard Deviation)	13.1%
Sharpe Ratio	0.4

2016 Capital Market Expectations

Range of Returns



	1 Year	3 Years	5 Years	10 Years
10th Percentile	25.8%	17.4%	14.8%	12.3%
25th Percentile	16.3%	12.2%	10.8%	9.5%
Median	6.7%	6.7%	6.6%	6.6%
75th Percentile	(2.2%)	1.3%	2.5%	3.7%
90th Percentile	(9.8%)	(3.5%)	(1.1%)	1.1%