

Observations on US Economy, Central Bank Policy, and Implications for Interest Rates

Taylor Howerton

Director

Financial Risk Management

3333 Peachtree Road NE, 11th Floor

Atlanta, Georgia 30326

Tel: 404-926-5735

Taylor.Howerton@suntrust.com

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STRH Financial Risk Management Product Capabilities

STRH Financial Risk Management provides a comprehensive array of products and services to corporate, commercial, institutional, and private clients

Financial Risk Management Team

- We focus on a value-added, customer-specific approach to managing the risk associated with global currency, interest rate, and commodity exposure
- Our Financial Risk Management teammates have extensive experience at leading institutions around the world

Interest Rates

- Swaps across all major currencies and floating-rate indices
- Vanilla Options (Caps, Floors, Swaptions)
- Exotic Options
- Treasury Locks and Options
- Cross-Currency Swaps
- Basis Swaps

Foreign Exchange

- Spot and Forward Contracts
- Non-Deliverable Forwards
- Options (Puts, Calls, Collars, Extendable, Range Reset, Participators)
- Online Foreign Exchange
- Foreign Exchange Swaps
- Retail Banknotes and Travelers Checks

Commodities

- OTC Swaps and Options
- Spot and Forward
 - Crude
 - Natural Gas
 - Heating Oil
 - Diesel

Strategic

- Risk management solutions tailored to meet specific client objectives
- Exposure identification
- Risk management policy formulation
- Hedge program evaluation
- Cross-border acquisitions/divestitures
- Seamless integration with other product areas

Tactical

- Cash flow hedging
- Balance sheet and income statement risk management
- Synthetic netting and pooling
- Net investment hedging
- Multi-currency asset / liability management












Insightful

- Historical evaluation and forecasting for currencies, rate indices, and commodities
- Market intelligence and commentary
- Economic overviews
- Industry best practices
- Evaluation of client's industry trends, risk management practices, and derivative transaction flows

Contents

- **Current state of the recovery**
- **Monetary policy response**
- **Market response**
- **Concerns going forward**
- **Reasons for optimism**
- **Discussion**

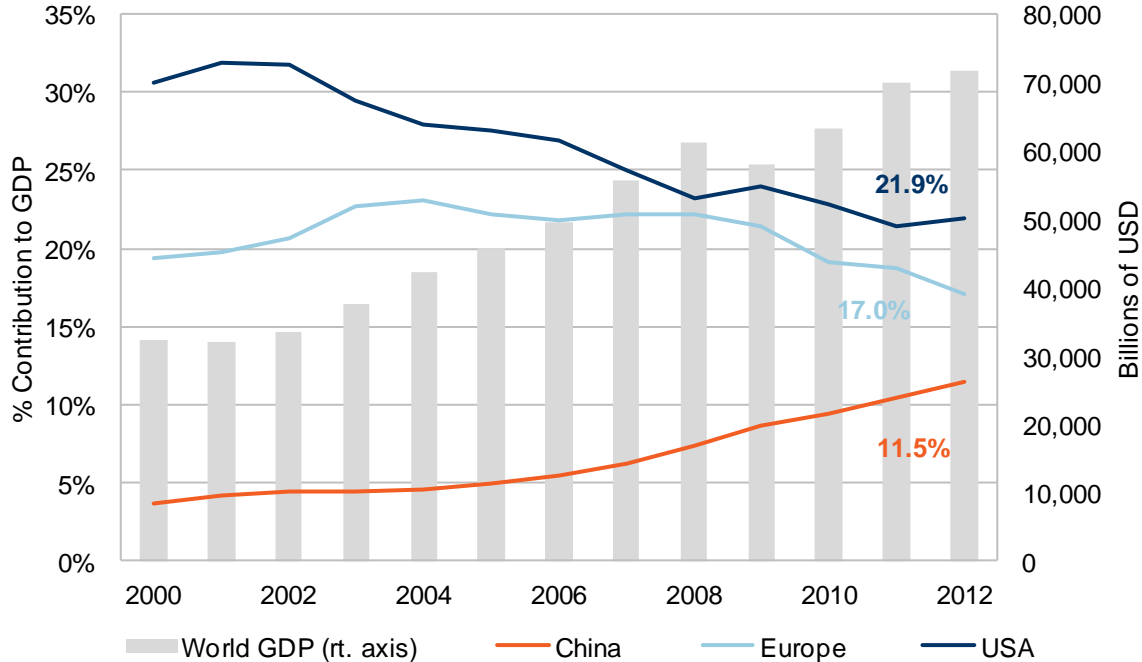
Sluggish Recovery in World's Largest Economies

	2012 GDP (blns)	2012 GDP	GDP 2013E	GDP 2014E	Unemployment Rate
 United States	\$15,684	2.2%	1.6%	2.7%	7.2%
 China	\$8,358	7.8%	7.8%	7.7%	4.1%
 Japan	\$5,960	1.9%	1.2%	1.2%	4.1%
 Germany	\$3,400	0.9%	0.5%	1.3%	6.9%
 France	\$2,613	0.0%	0.4%	0.8%	10.5%
 UK	\$2,435	0.3%	1.3%	1.5%	7.7%
 Brazil	\$2,252	0.9%	3.3%	3.2%	5.3%
 Italy	\$2,013	(2.4%)	(2.1%)	0.7%	12.1%
 Russia	\$2,015	3.4%	1.2%	3.3%	5.3%
 India	\$1,842	3.2%	4.4%	6.3%	9.4%
 Canada	\$1,821	1.7%	1.4%	2.2%	6.9%
World	\$71,918	3.1%	3.1%	3.8%	9.0%

The US holds 4.5 % of the world's population and produces 22% of global GDP

Worldwide GDP Composition

Top Global GDP Contributors

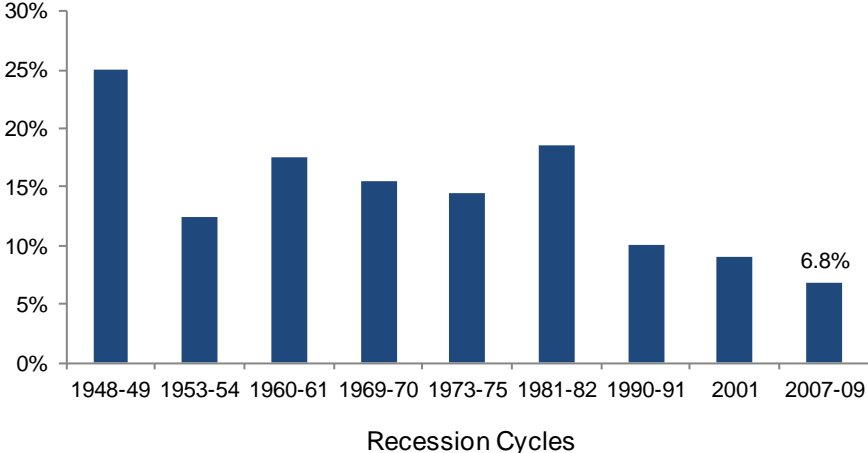


- The US percentage of global output has declined from above 30% at the turn of the millennium to now ~22%
- The European Monetary Union has seen its share of GDP decline steadily as debt issues linger

US share of global GDP is falling as China's share is increasing. China's share doubled in the last six years

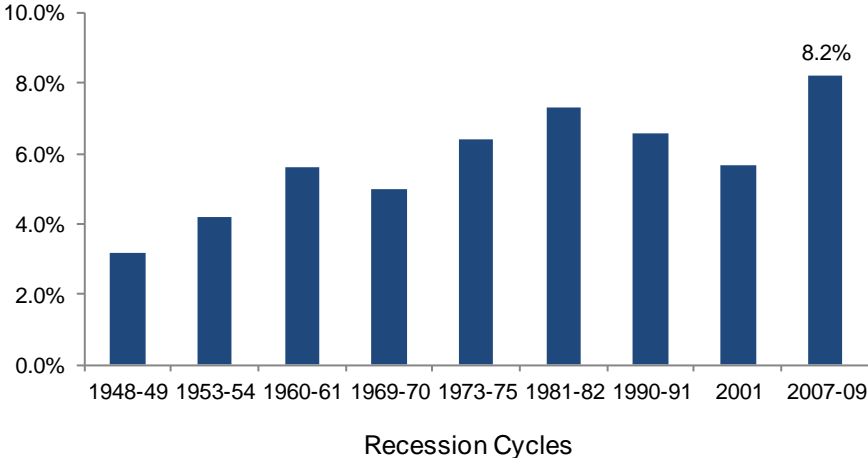
Economic Indicators by Comparable Recessions

US GDP Growth Three Years Into Recovery



- Since the Great Depression, ten recessions have been followed by a recovery that lasted at least three years
- The recovery that started June 2009 is the weakest coming out of a recession as shown in the graphs to the left:
 - GDP growth has never been weaker
 - Unemployment rate has never remained so high

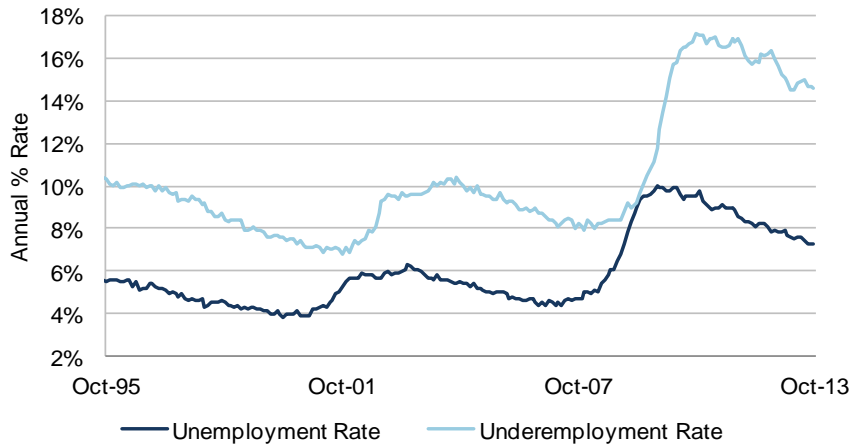
US Unemployment Rate Three Years Into Recovery



History suggests recessions caused by financial crises lead to much slower recoveries

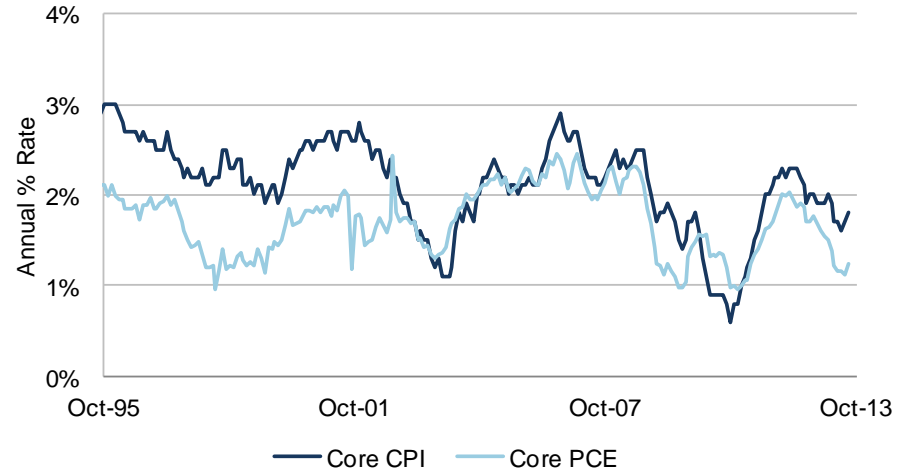
The Fed's Dual Mandate

Unemployment (U-3) & Underemployed (U-6): Since 1994

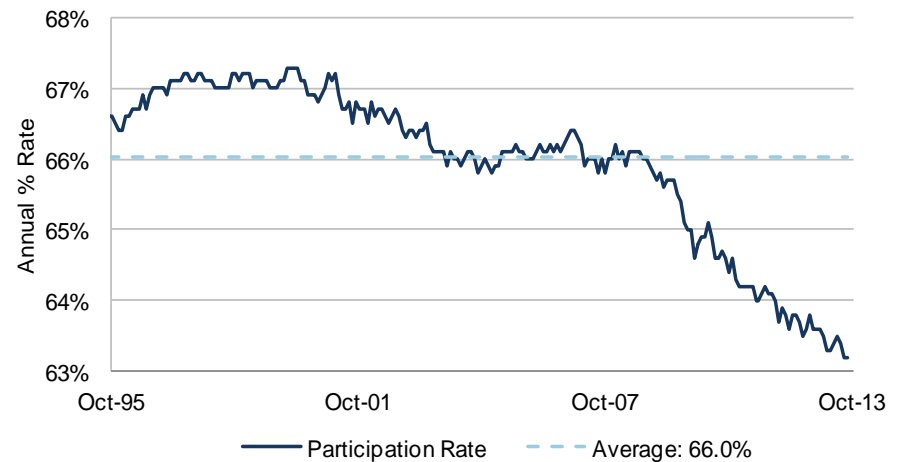


- The unemployment rate has fallen to 7.2% from a peak of 10%. Large part of the drop is due to falling participation rate
- Core inflation metrics, the second part of the Fed's dual mandate, remain dormant
 - Yet, given the expansion of the Fed's balance sheet, price stability may become a greater challenge in the future

Core Inflation Metrics



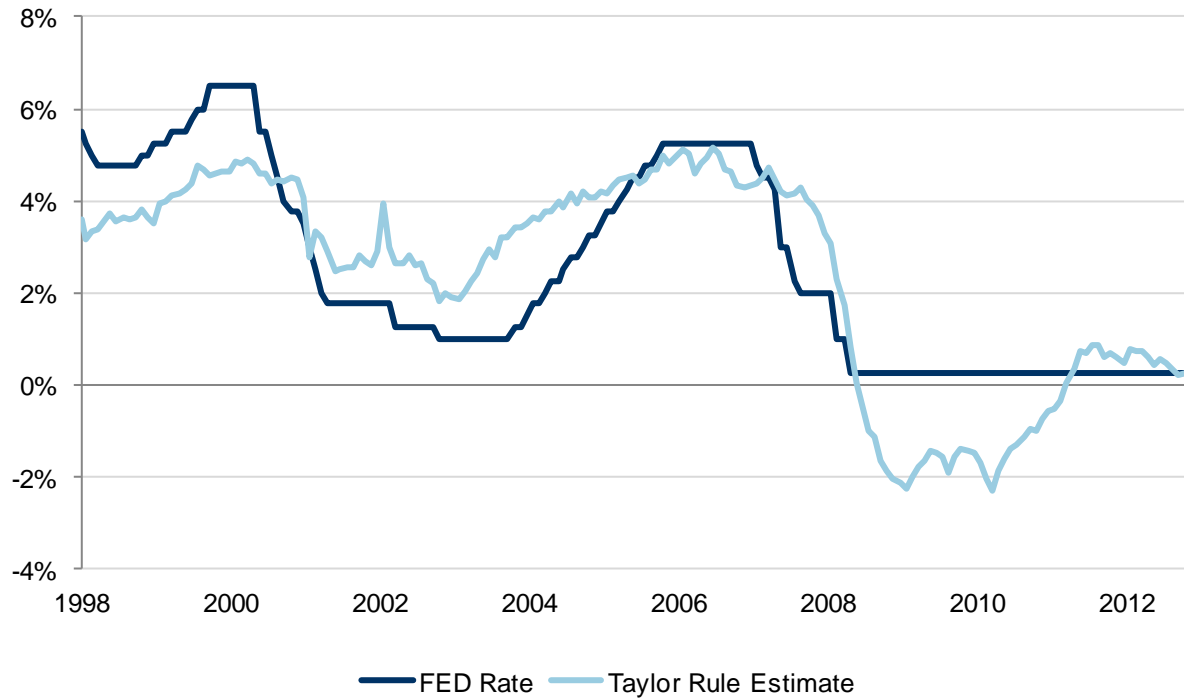
Labor Force Participation Rate



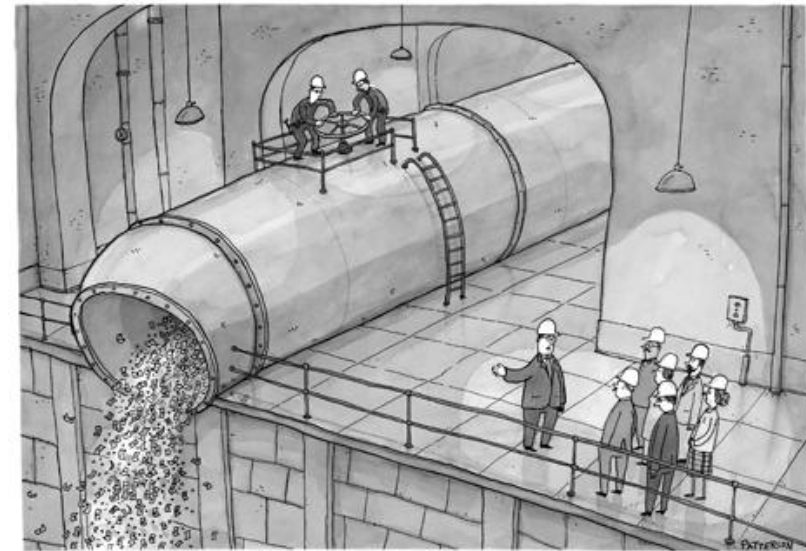
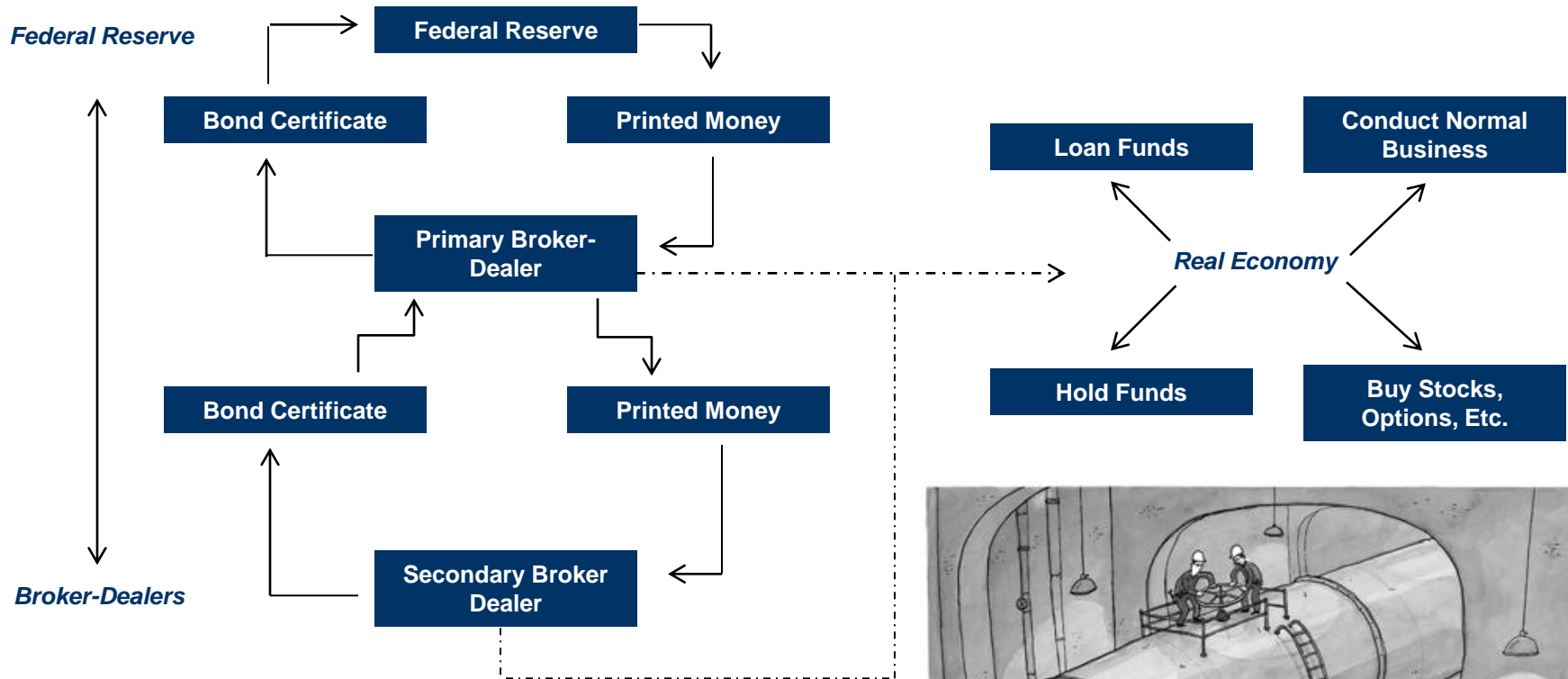
Taylor Rule

The Taylor Rule estimates the Fed Funds Target Rate given current levels of inflation and economic output

Federal Funds Target Rate and Taylor Rule Estimate (%)



Quantitative Easing: Basic Process



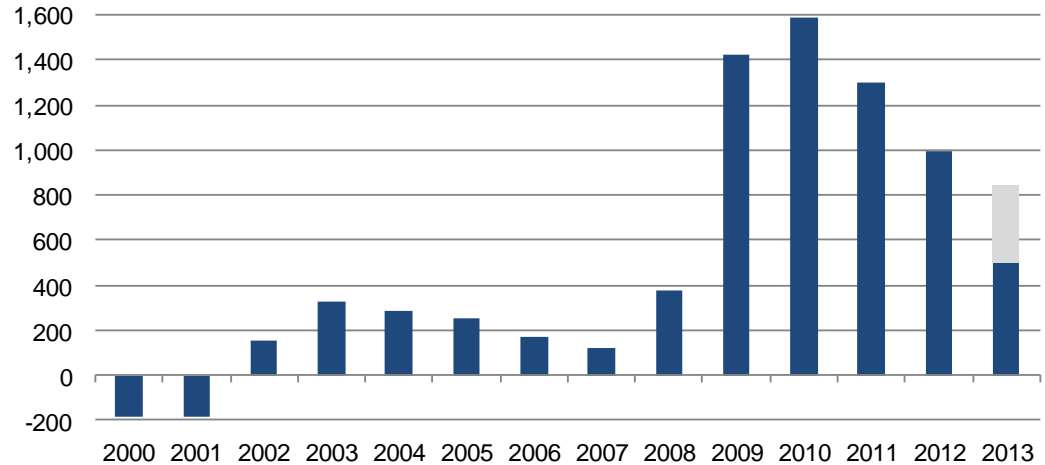
"And this is where we adjust the interest rate."

Who is Buying our Debt?

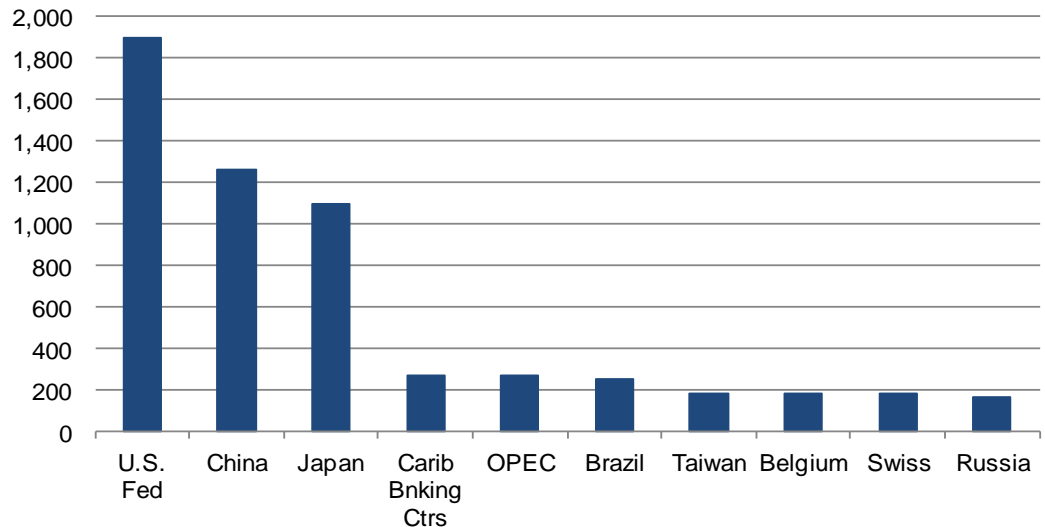
US Federal Deficits – Implications for Rates?

- Congressional Budget Office data shows that government spending has ballooned since 2007
- Citing the inability to create a credible plan to tackle the nation's long-term debt, in August 2011 S&P downgraded U.S. long-term credit to AA+ from AAA and kept its outlook negative
- While the amount of public debt outstanding has grown to over \$16 trillion from less than \$9 trillion in 2007, investors have pushed yields to record lows as the US maintains its safe haven status
- Treasury yields could be pressured higher if major foreign owners diversify their holdings of US debt, or if investors start to demand a credit risk premium if the US fiscal condition worsens
- The Fed has increased its holding to 30% of all US debt as a result of the quantitative easing measures in place since late 2008

U.S. Treasury Net Issuance with 2013 Forecast (\$ blns)

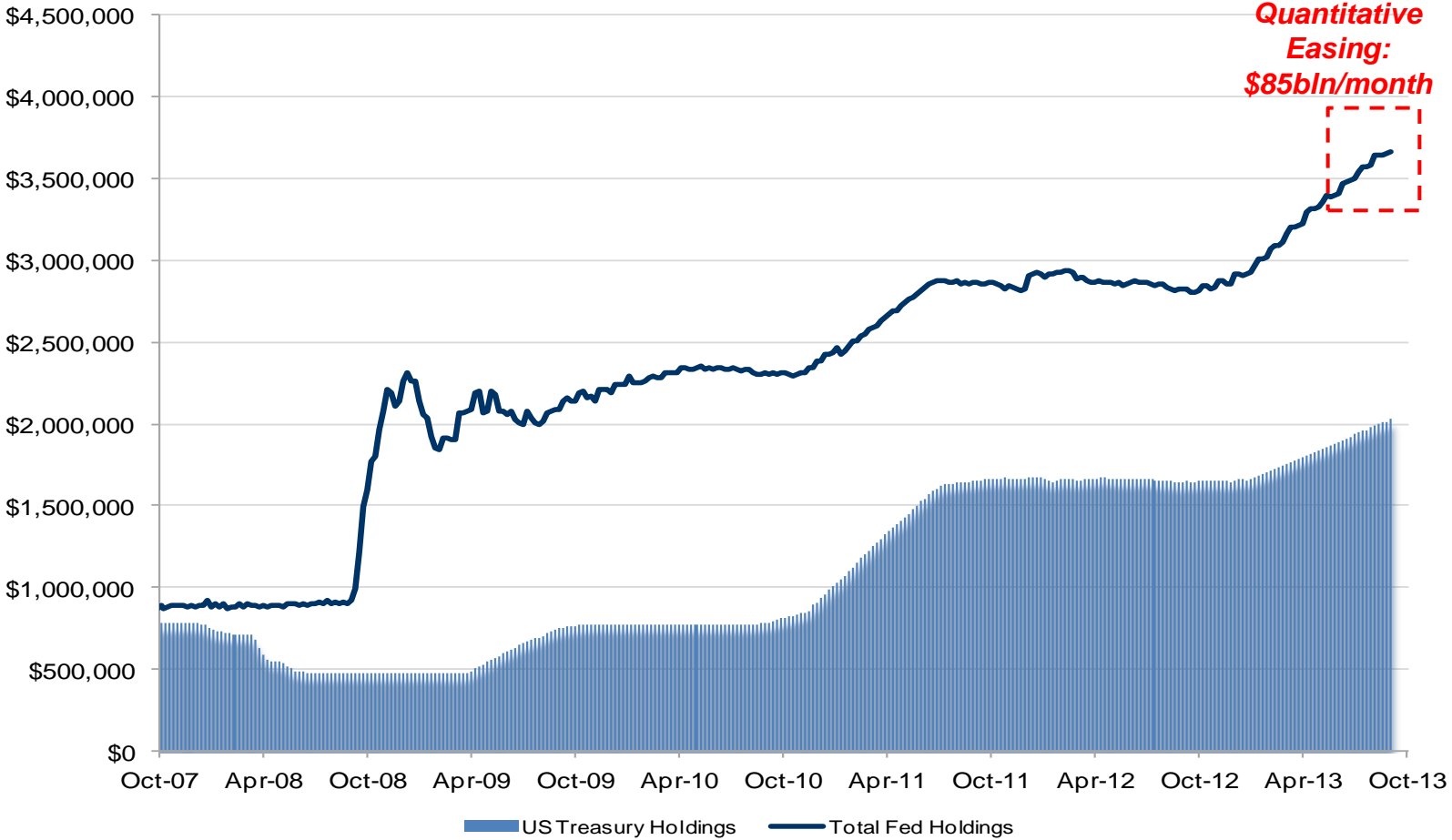


Top 10 Holders of U.S. Debt (\$ blns)



QE and the Fed's Balance Sheet

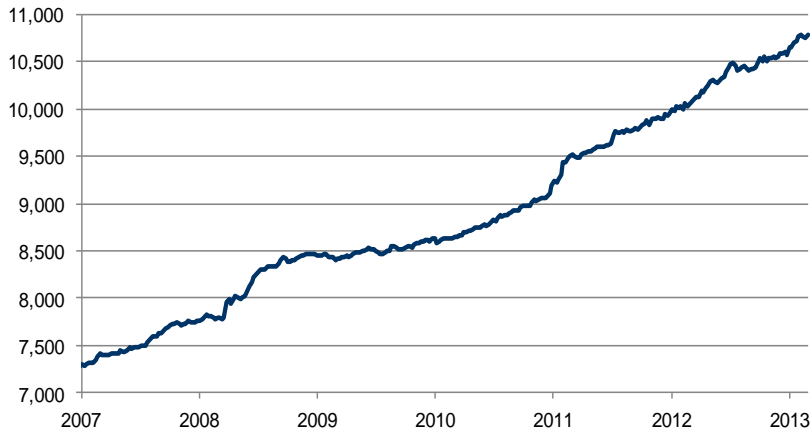
Federal Reserve Balance Sheet: 2007 - Present



Money Supply

Caught in a liquidity trap...

Federal Reserve (M2) Money Supply

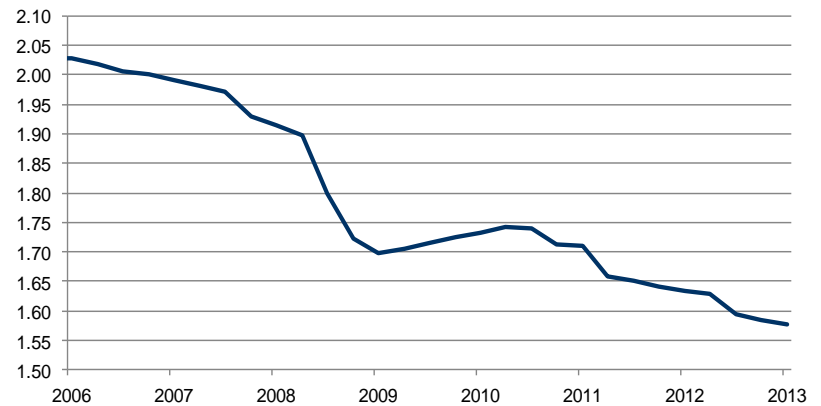


— Federal Reserve Money Supply (M2)

The velocity of M2, a measure of the rate at which money changes hands, has remained unusually low. Increases in velocity can precede increases in prices (inflation)

The broad level of money supply (M2), primarily consisting of household savings, retail money market funds, and time deposits has risen sharply in recent years

Velocity of M2



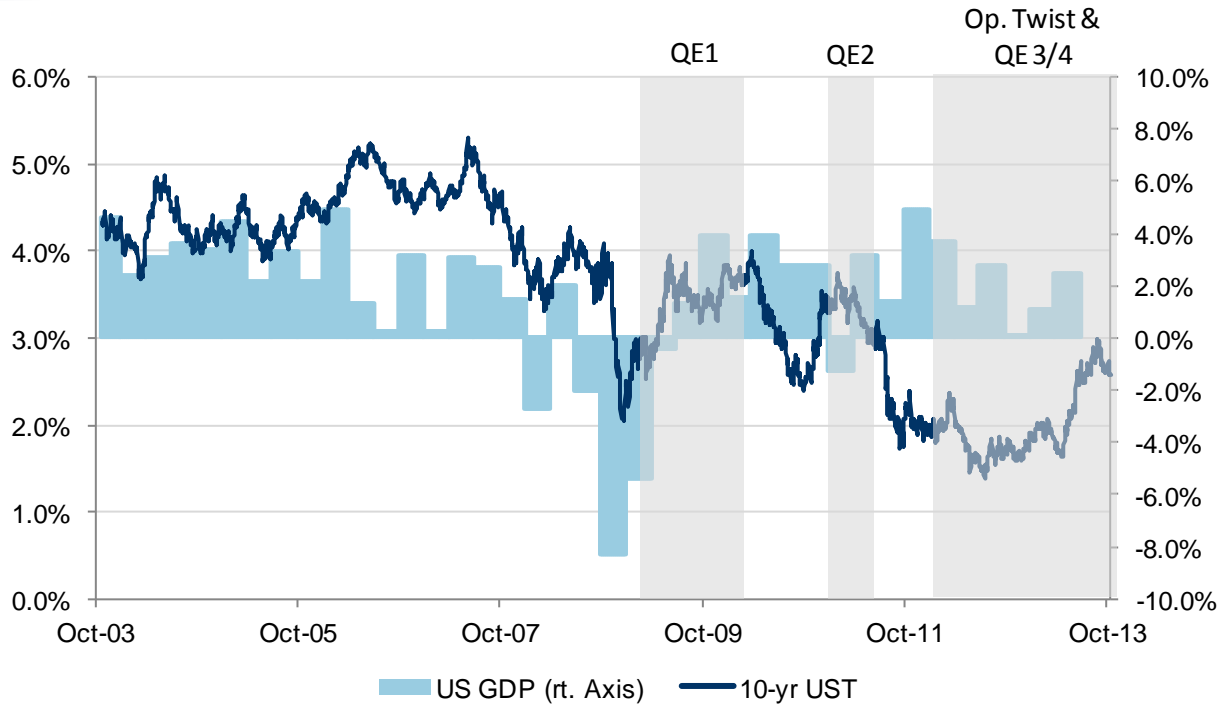
— Velocity of M2

Money continues to lay dormant even as the Fed provides a record amount of stimulus

Market Response to QE

GDP is expanding (slowly), yet US treasury rates are still near record lows

10-yr Treasury Yield vs. GDP (annualized)

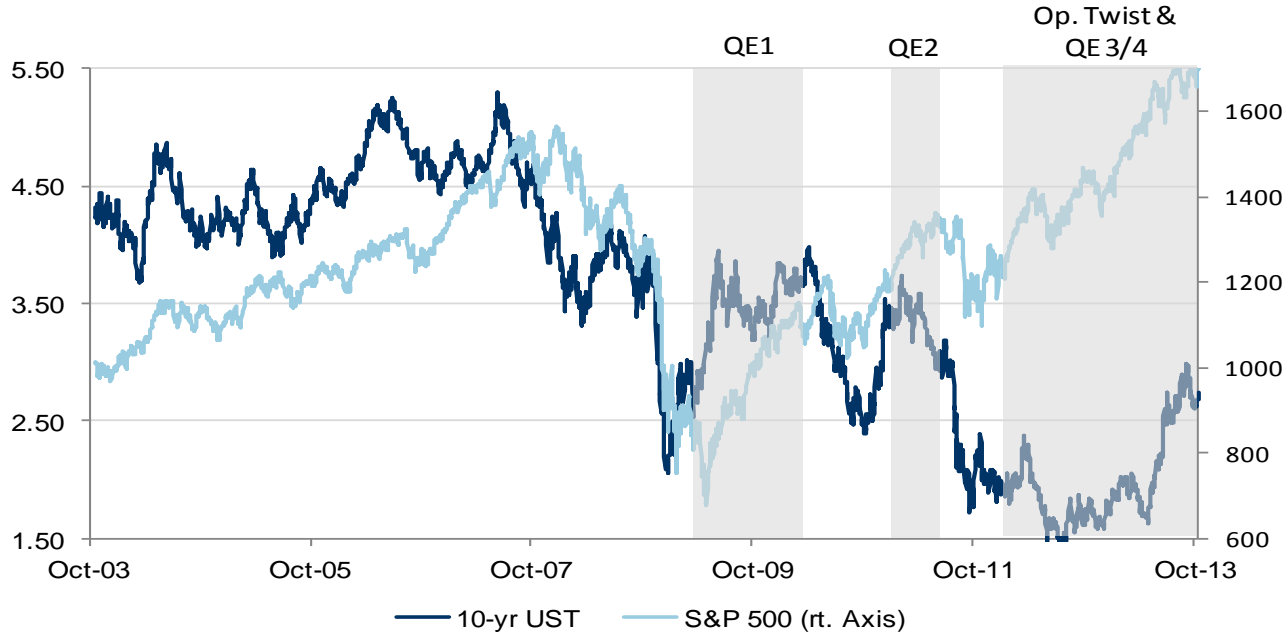


Even in the depth of the recession, the 10-year Treasury yield was above 2%. Over the past 12 months, the 10-year yield reached new record lows following QE despite an expanding economy

Treasury rates are lower now than at any point during the great recession

Market Response to QE

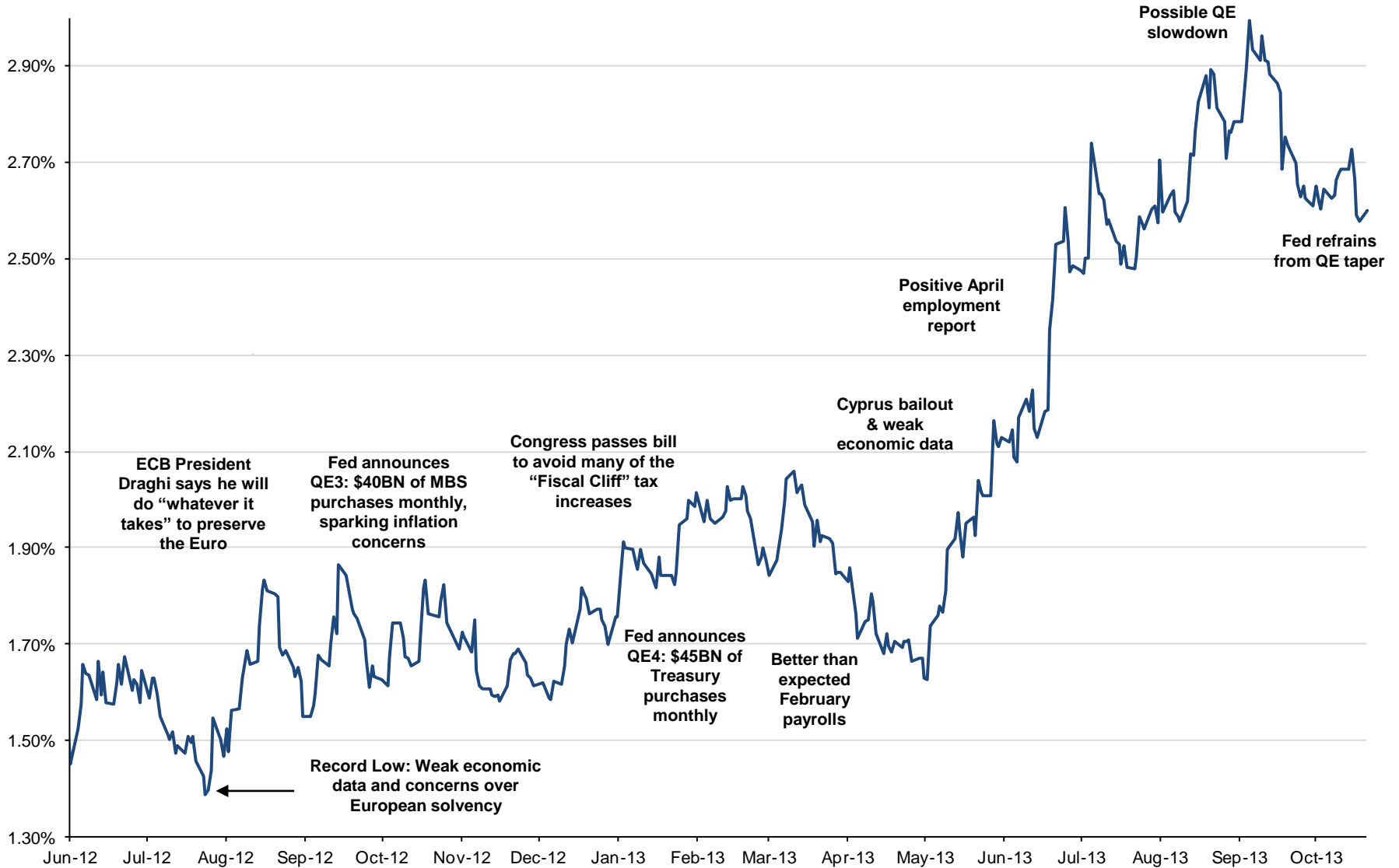
10-yr Treasury Yield vs. S&P 500



- Since the announcement on March 18, 2009 of the first round of Quantitative Easing (ending March 2010), the S&P has gained an impressive 828 points or 104%. Since, the FOMC has unveiled:
 - QE2 (October 2010 - June 2011)
 - Operation Twist (September 2011 - December 2012)
 - QE3 (September 2012 - present)
 - QE4 (January 2013 – present)

Interest Rate Volatility – 10 Year Treasury Yield

Interest rate markets dominated by the Euro-zone, FOMC, and negotiations in Washington



Long-Term View

From a long-term prospective, the bond market has spent the last 30 years in a prolonged “bull market” cycle

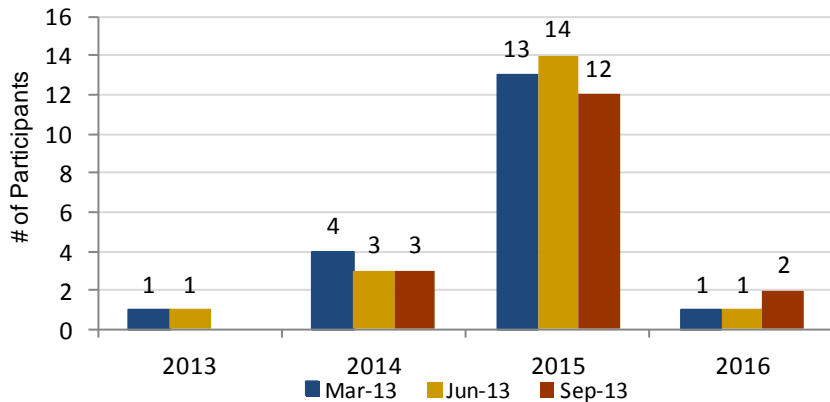


Recent FOMC Commentary

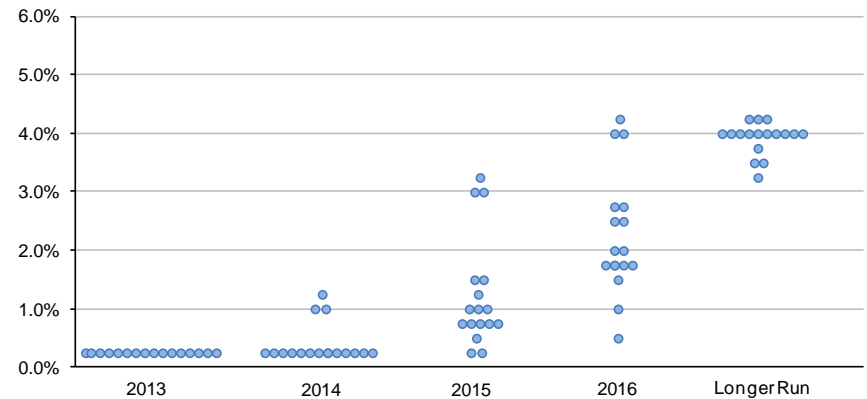
The Fed attempts to provide further clarity on when the market can expect the next tightening cycle

- During the FOMC's September meeting, committee members unexpectedly agreed to maintain the current \$85 bln per month bond-buying program, reiterating their intention to "await more evidence that progress will be sustained before adjusting the pace of its purchases." The Fed will continue to tie monetary policy to economic data instead of a specific calendar date. They restated that the target rate will remain "exceptionally low" as long as the unemployment rate is above 6.5% and "longer-term inflation expectations continue to be well anchored"
 - The government shutdown and debt ceiling issues have delayed expectations of tapering until March
- Treasuries rallied the most in almost 2 years following the Fed's announcement with the 10-yr yield falling 17 bps to 2.69%, its lowest level since August 13th

Indicated Timing of Policy Tightening (Increase in Fed Funds)



Target Federal Funds Rate at Year-End

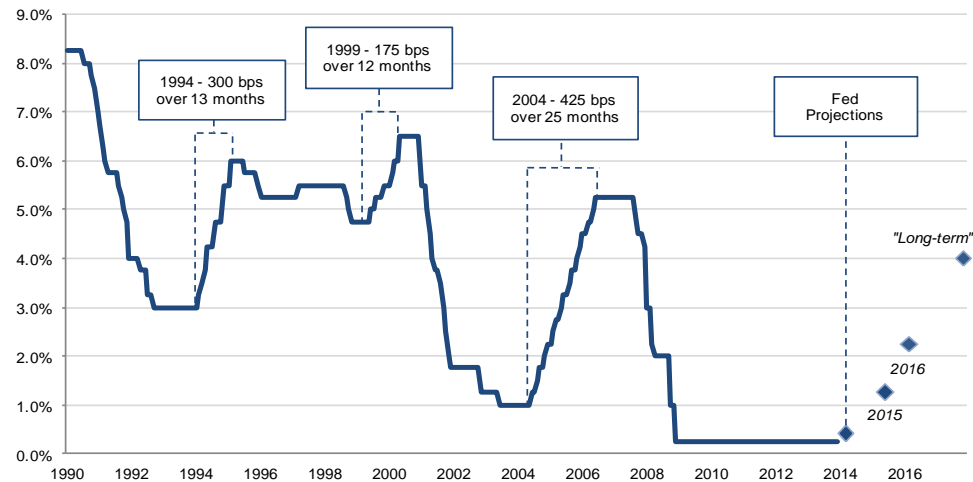


Fed estimates see rates remaining low through 2015. Over the long run though there is consensus that a normal Fed funds rate should be between 4% - 5%

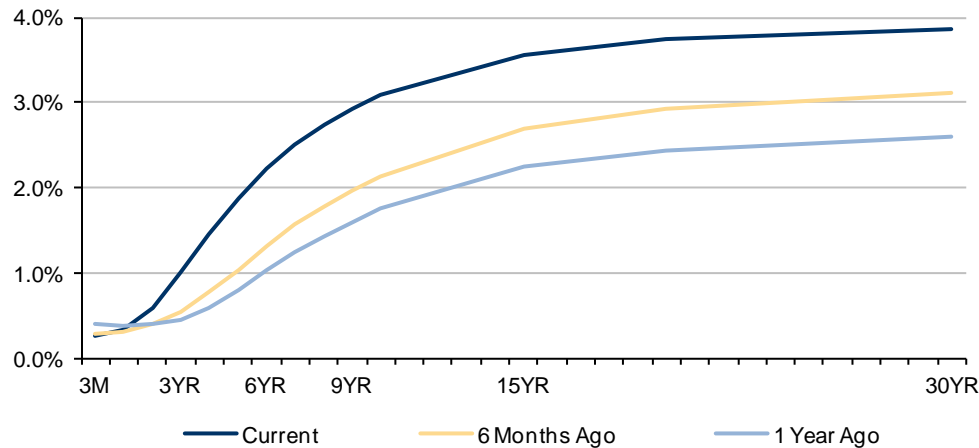
Fed Funds History and LIBOR Projections

Fed projections at the end of graph are based on average expectations of FOMC members provided at the June 2013 FOMC meeting

Fed Funds Target Rate with Last Three Tightening Campaigns



1 Month LIBOR Forward Curves



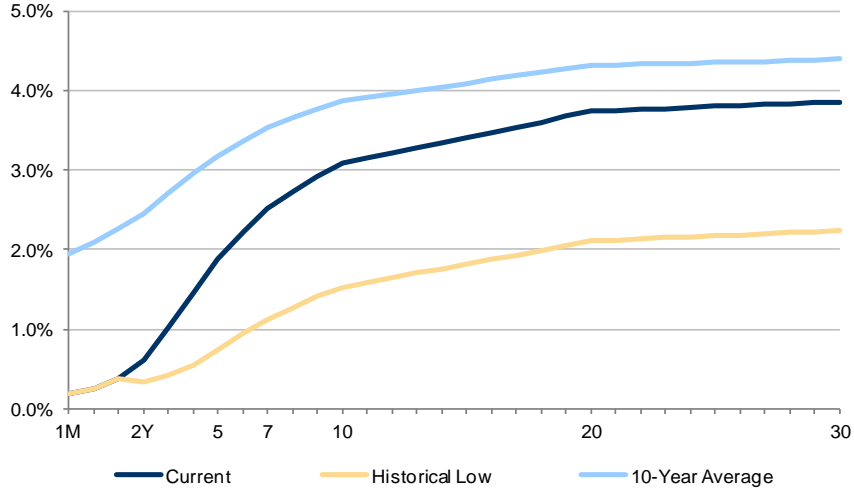
Market expectations for LIBOR have increased significantly as economic conditions improve and the Fed signals a slowing and eventual end to “QE”

During the last three Fed tightening cycles, the Fed has tightened on average 22.5 bps per month for at least 12 months. From 2004 - 2006 the Fed raised rates 425 bps

Historical Level of Rates

Swap rates across the curve are currently at or near their all-time lows

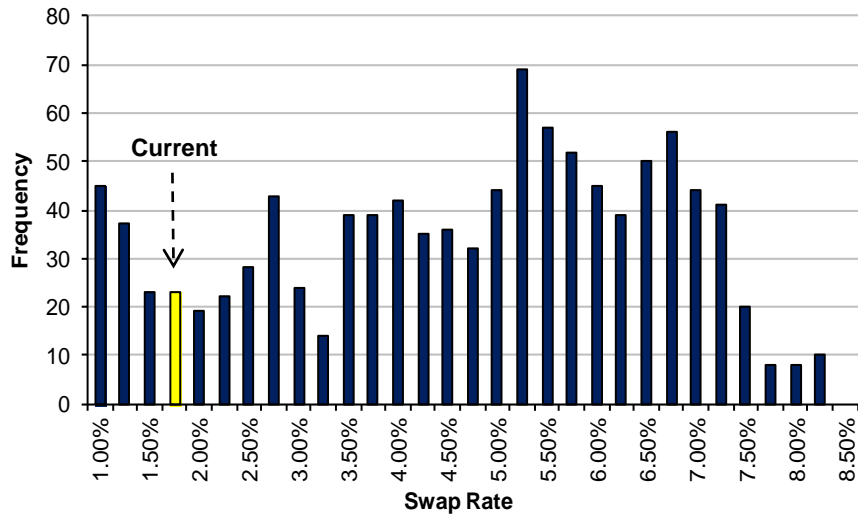
Current Swap Curve vs. Historical Low



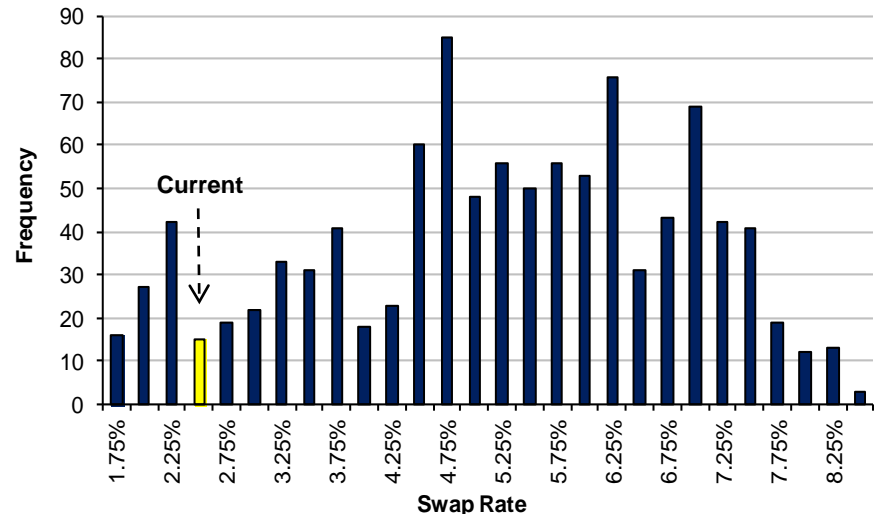
Historical Swap Rate Summary

	3-Yr Swap	5-Yr Swap	10-Yr Swap	30-Yr Swap
Current Rate:	0.79%	1.52%	2.65%	3.56%
20-Year Minimum:	0.56%	0.94%	1.59%	2.24%
Current - Minimum Rate:	0.24%	0.58%	1.07%	1.32%
10-Year Average:	2.93%	3.35%	3.89%	4.37%
Current - Average Rate:	-2.14%	-1.83%	-1.24%	-0.81%




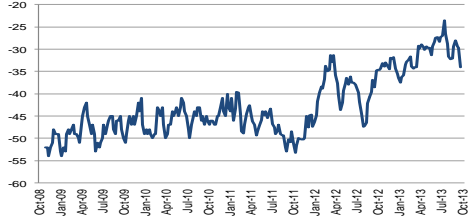

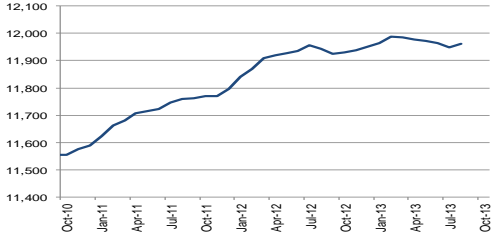

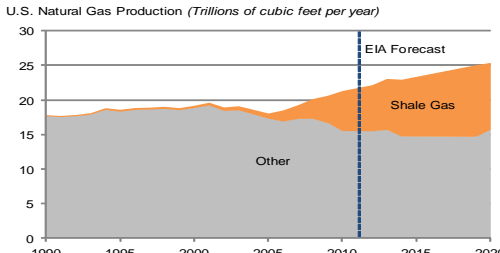
Distribution of 5-Year Swap Rate – Weekly Last 20 Years



Distribution of 10-Year Swap Rate – Weekly Last 20 Years



Improved U.S. Macro Backdrop

	Metric	Description
 <p>Housing</p>	<p><u>Case-Shiller Home Price Index</u></p> 	<ul style="list-style-type: none"> Home prices up 12% YOY Housing starts up 15% YOY
 <p>Consumer</p>	<p><u>Consumer Sentiment</u></p> 	<ul style="list-style-type: none"> US consumer ~71% of GDP Unemployment rate at 7.2% in October 2013; down from 10% peak in 2009 Consumer sentiment recently reached a five year high Falling savings rate (currently 4.5%)
 <p>Manufacturing</p>	<p><u>U.S. Manufacturing Jobs</u></p> 	<ul style="list-style-type: none"> U.S. manufacturing growth has outpaced other advanced economies, adding over 500,000 jobs in the past three years Rising costs of labor abroad and shipping to the U.S. has led to a repatriation of jobs as technological innovation and specialized skills lead to efficiencies in production domestically The big 3 U.S. automakers all gained market share in 1Q13 for the first time in 20 years with annualized total vehicle sales topping 15MM for the first time since late 2008.
 <p>Energy</p>	<p><u>Natural Gas Production</u></p> 	<ul style="list-style-type: none"> U.S. natural gas production increased 4.5% in 2012 v. 2011 on top of a 6.2% increase in 2010 v. 2010. The EIA estimates the U.S. will become a net exporter of natural gas by 2016 In 2012, the United States became a net exporter of liquefied petroleum gases (LPG) for the first time U.S. carbon emission hit a 20 year low in early 2012 as producers converted from coal to less expensive natural gas to generate power

What Next?

Reasons for Optimism – Higher Rates

- Improving economic backdrop
- Housing market recovery
- Wealth impact from increasing home and equity prices
- Rapid technological innovation
- Stabilizing European debt crisis

Reasons for Concern – Lower Rates

- Structural employment problems
- Global monetary policy can distort markets and create unintended consequences
- Aging demographic trends
- Large fiscal deficit

Q & A

Appendix

The Fixed / Floating Mix Continuum

- While many companies acknowledge the interest rate risk inherent in both a 100% floating (exposure to rising rates) and 100% fixed (opportunity cost to declining rates) debt portfolio, the appropriate mix is a more complicated question to answer. While initially a 50% / 50% mix seems risk “neutral,” there are more criteria a company should examine to determine the appropriate fixed / floating mix:

Tier 1

Cyclicality – The performance of highly cyclical companies serves as a natural hedge of rising floating rates driven by tightening cycles

Back Testing of Historical Performance – How would interest expense have been previously impacted under various fixed / floating debt mixes

Leverage Profile – Companies with stronger credit profiles and healthy financial ratios can tolerate more interest rate volatility

Tier 2

Most Efficient Funding Sources – The Company may borrow more efficiently in the fixed market than the floating market, or vice versa

Management Philosophy – How does management define risk in the context of changing interest rates

Peer Group – A mix significantly different from the industry may create a competitive advantage or disadvantage

Tactical

Core Cash Balance – Interest earnings from cash may act as a natural hedge against interest expense and may provide the flexibility to pay-down debt

Curve Steepness / Absolute Yield – The level of rates and gap between LIBOR & swap rates compared to historical means

Historical Funding Advantage – Floating rates take advantage of a historical market over-estimation of future rate changes



Pay-Fixed Swap

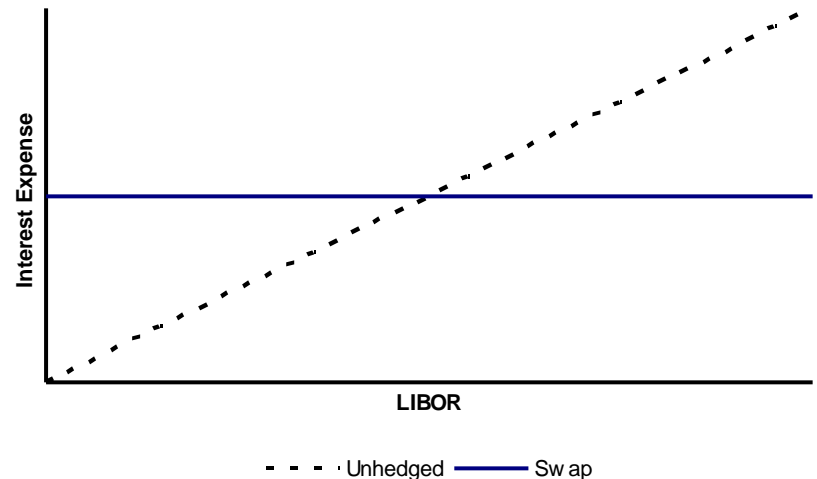
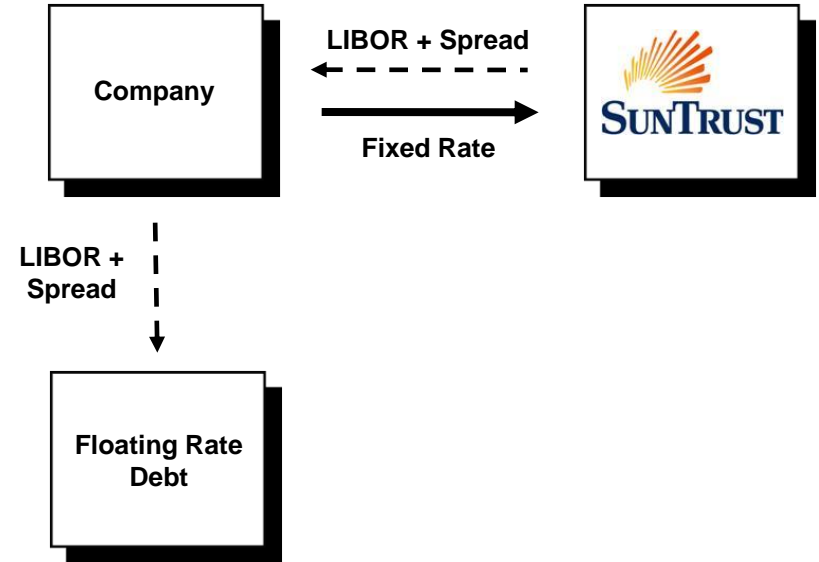
- In a pay-fixed swap, two parties agree to exchange periodic interest cash flows for a set length of time based on a specified amount (the notional amount). One party (the fixed rate payer) agrees to pay a fixed rate in return for receiving a floating rate from the other party (the floating rate payer)
- Completely customizable – ability to set start date, notional, amortization, maturity, payment frequency, etc.
- Commonly used to eliminate the variability of interest expense associated with floating-rate liabilities

Advantages

- Protects against rising interest rates
- No upfront premium
- Creates a fixed interest expense profile
- May result in a cash gain if terminated in a higher rate environment
- Qualifies as a cash flow hedge under ASC 815

Disadvantages

- Opportunity cost associated with lower rates
- May result in a cash outflow if terminated in a lower rate environment



Interest Rate Hedging Alternative – Cancellable Swap

- The key differential between a cancellable swap and a plain vanilla swap is that the Company can terminate the cancellable swap on predetermined date(s) at no cost
- In exchange, the fixed rate will be higher compared to a plain vanilla swap because the Company is paying for the right to cancel the transaction before the stated maturity date
- Typically there is an initial “lock out” period of for example, 36 months. During the initial lock out period the client would be subject to a prepayment calculation if terminated early

Advantages

- Creates a fixed interest expense profile
- Protects against rising interest rates
- No out of pocket cash cost to execute
- Structuring flexibility
- Can be terminated on the predetermined exercise date(s) at no cash cost to the Company

Disadvantages

- May result in a cash outflow if terminated in a lower rate environment and not on a predetermined cancel date
- Client pays higher fixed rate than a plain vanilla swap for the ability to terminate prior to maturity at no cost
- Opportunity cost associated with lower rates – fixed rate could be more expensive over the life if LIBOR remains low

