Preparing for the Biggest Change in Six Years: A Fed Increase in the Discount Rate

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Agenda

- U.S. Monetary Policy: Are We There Yet?
- Looking Ahead
- Is This Time Different?
- Potential Strategies

U.S. Monetary Policy: Are We There Yet?

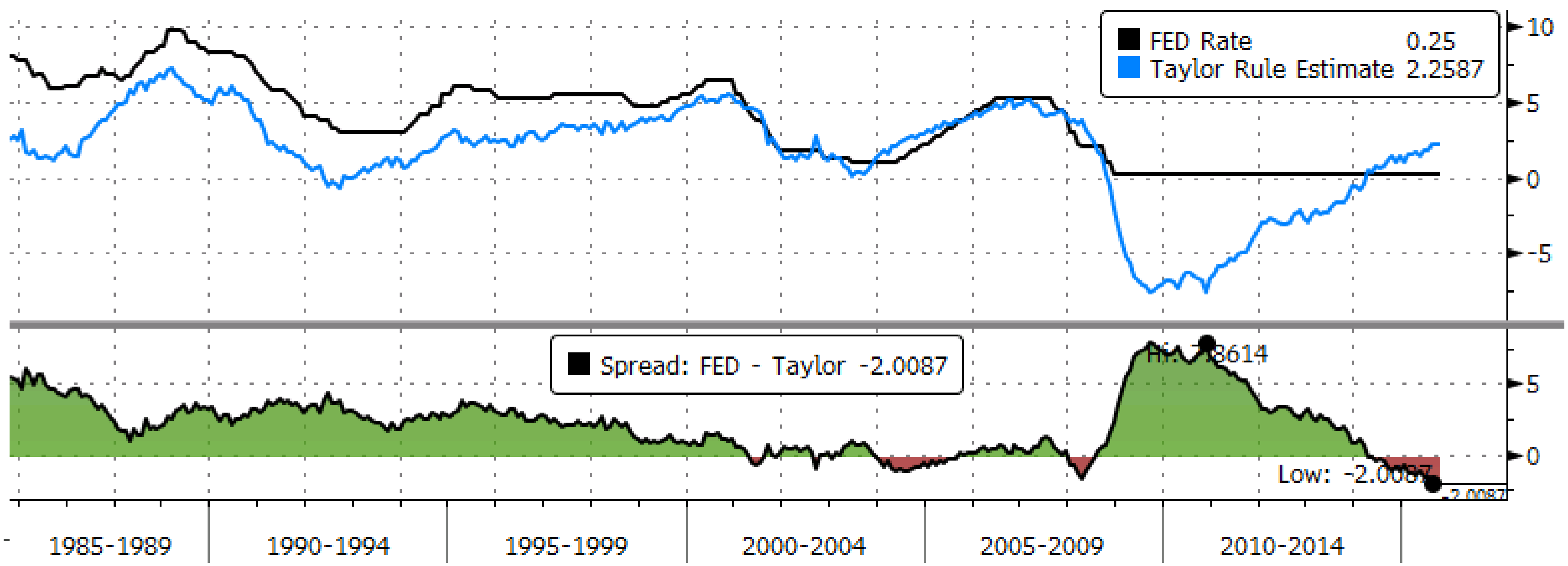
- The Federal Reserve has a dual mandate:
  - Employment Maximization
  - Price Stability

- The Taylor Rule Says "Yes"

Taylor Rule Est		Neutral Real Rate								
2.26	=	1.50								

	Inflation		Alpha		Infl		Target	
+	Core PCE	+[	Alpha	*(	Infl	-	Target	)]
+	1.31	+[	0.50	*(	1.31	-	2.00	)]

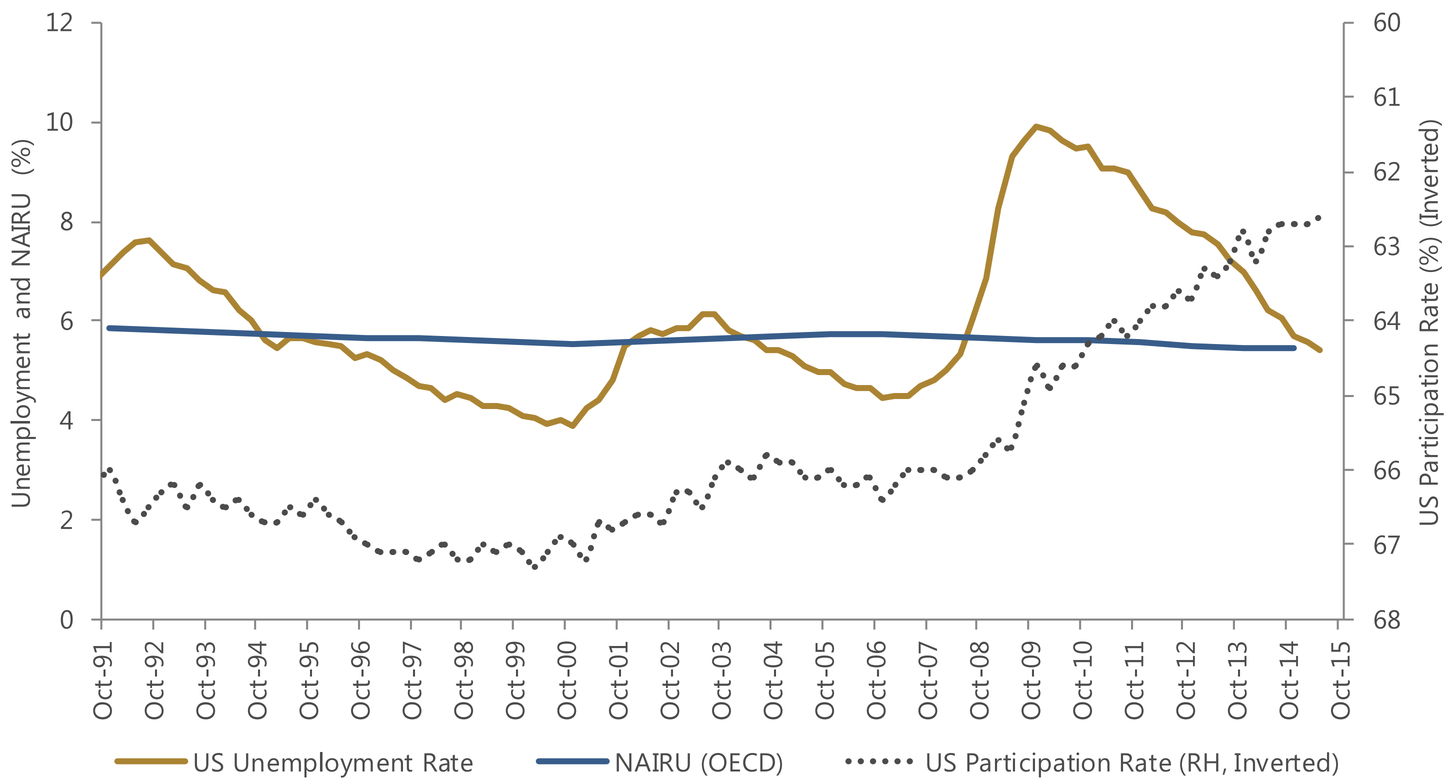
	Beta		Okun Factor		NAIRU		Unemp	
+[	1.00	*	2.00	*(	5.00	-	5.10	)]



U.S. Monetary Policy: Are We There Yet?

- Unemployment is close to NAIRU
- But labor participation rate is at a 40-year low

US Employment



Source: Bloomberg as of 10/29/2015

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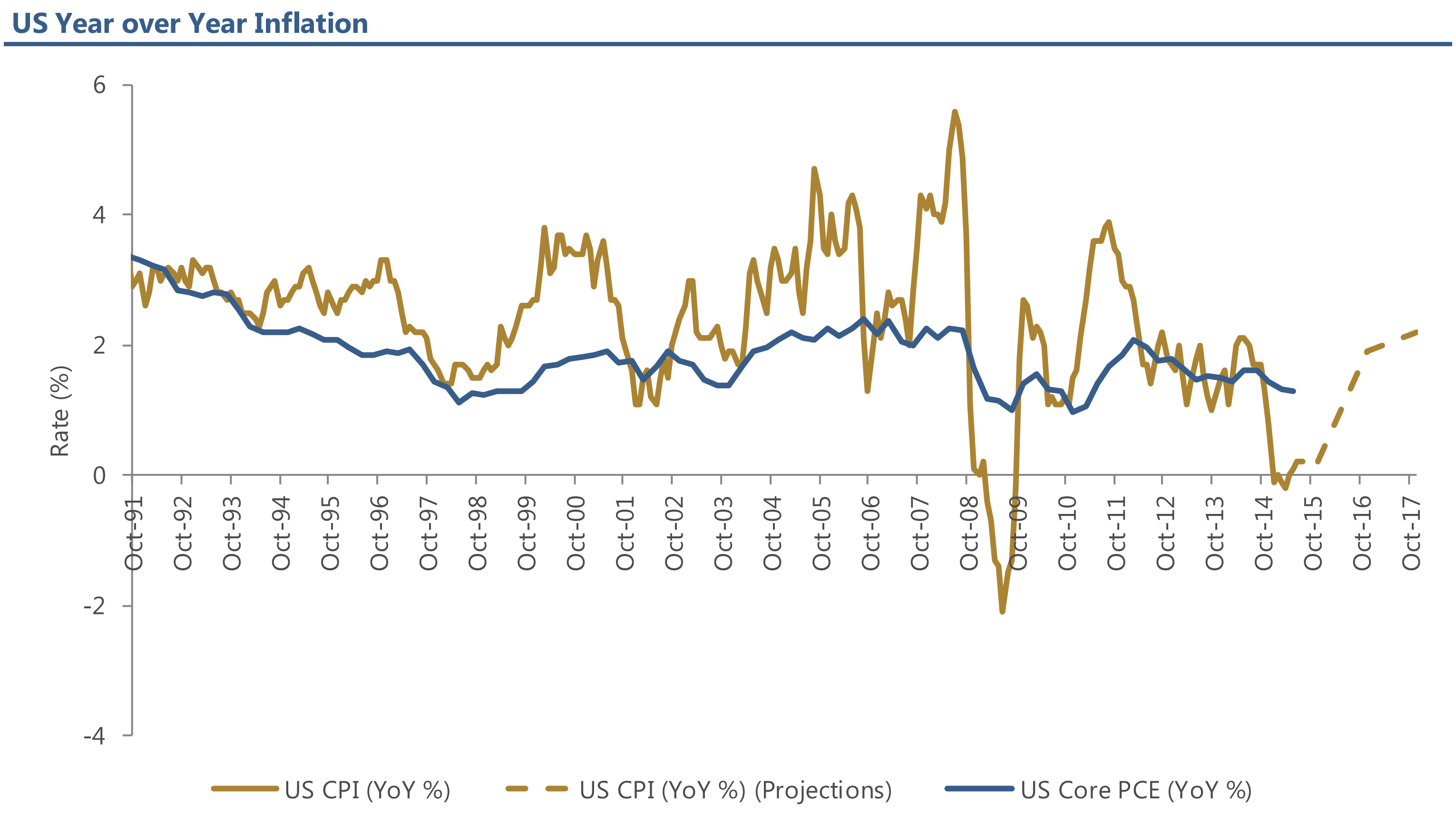
U.S. Monetary Policy: Are We There Yet?

- Core Inflation remains below target
- Headline Inflation (CPI) year-over-year readings should stabilize going forward



Source: Bloomberg as of 10/29/2015

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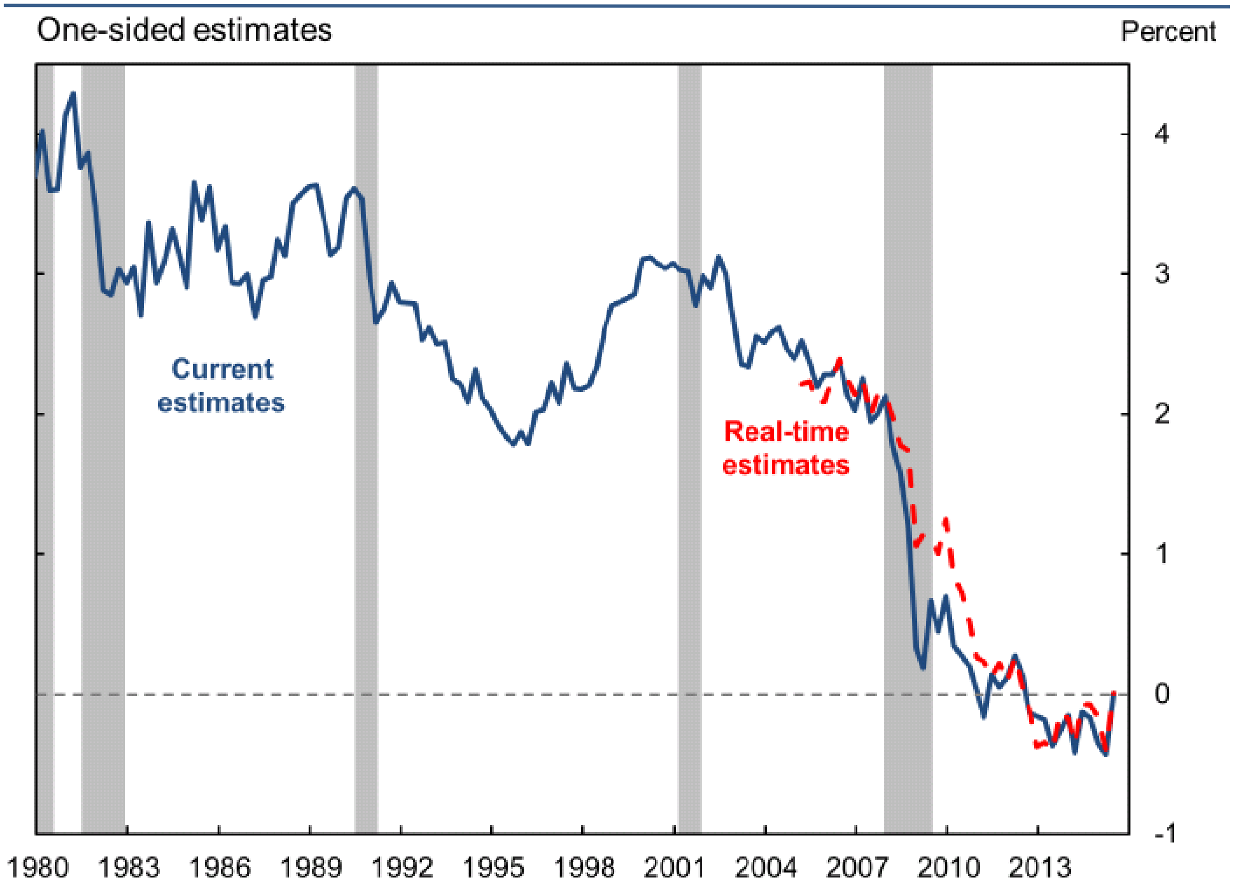
U.S. Monetary Policy: Are We There Yet?

- Is the natural rate permanently lower? From SF Fed Paper 10/15:
  - "Since the start of the Great Recession, the estimated natural rate of interest fell sharply and shows no sign of recovering"
  - "If the natural rate remains low, future episodes of hitting the zero lower bound are likely to be frequent and long-lasting"

Laubach-Williams Model Estimates of the Natural Rate of Interest

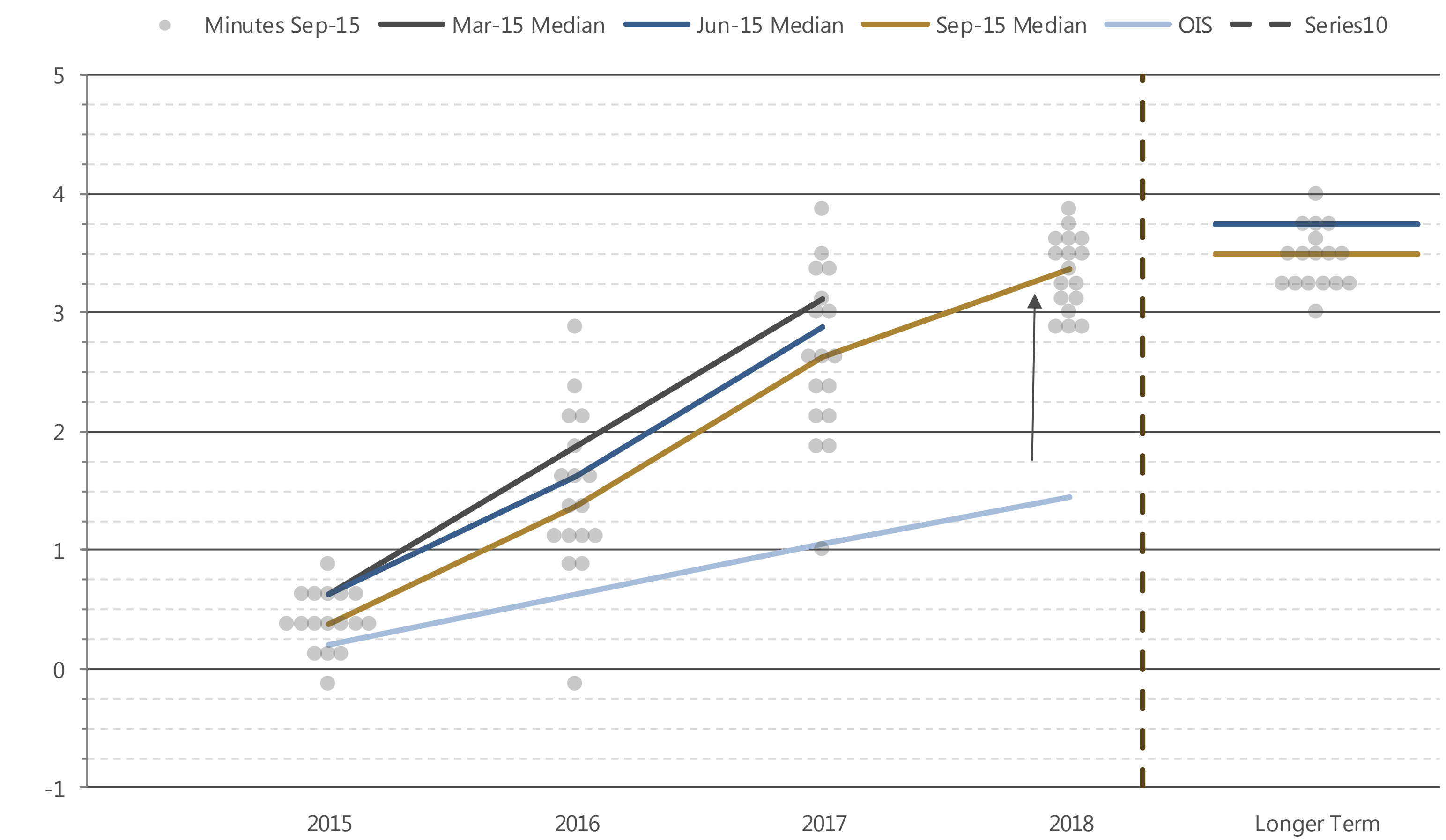


Source: Federal Reserve Bank Of San Francisco, Measuring the Natural Rate of Interest Redux, October 2015

Information on this page representing proprietary valuation models removed at request of author prior to posting on this website.

Some Rates Markets Are a Sell, as The Market Underprices Fed Hikes

- We believe the Fed will hike 3-4 times per year once the rate hiking cycle starts.
- Therefore, we believe the Fed will hike at a pace more in line with the FOMC's economic projections than current OIS pricing.



Soruce: Federal Reserve as of September 2015

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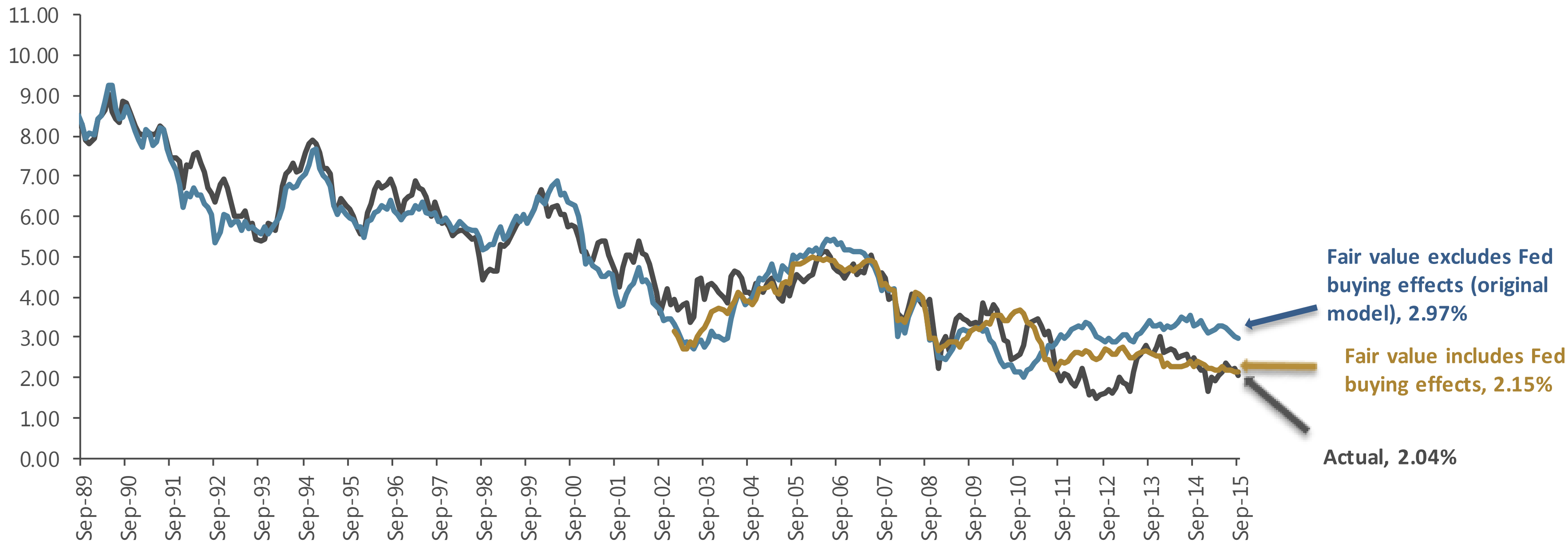
10yr U.S. Treasury Yields

Variables	Current
ISM	50.2
Core CPI	1.80
Fed Funds	0.25
LIBOR–Fed Funds	0.08
Net Foreign Purchases	439

Curve Summary	3m LIBOR	2s	5s	10s	30s	2s-10s	2s-30s
Current Market	0.33	0.63	1.36	2.04	2.85	1.41	2.22
Model Fair Value		0.88	1.97	2.97	3.87	2.08	2.99
Model Fair Value Incorporating Fed QE		0.49	1.31	2.15		1.66	
6 Month Forwards	0.54	0.95	1.60	2.17	2.92	1.22	1.98

10-Year Treasury Current and Fair Value Model



Standish Fair Value Model Factors:

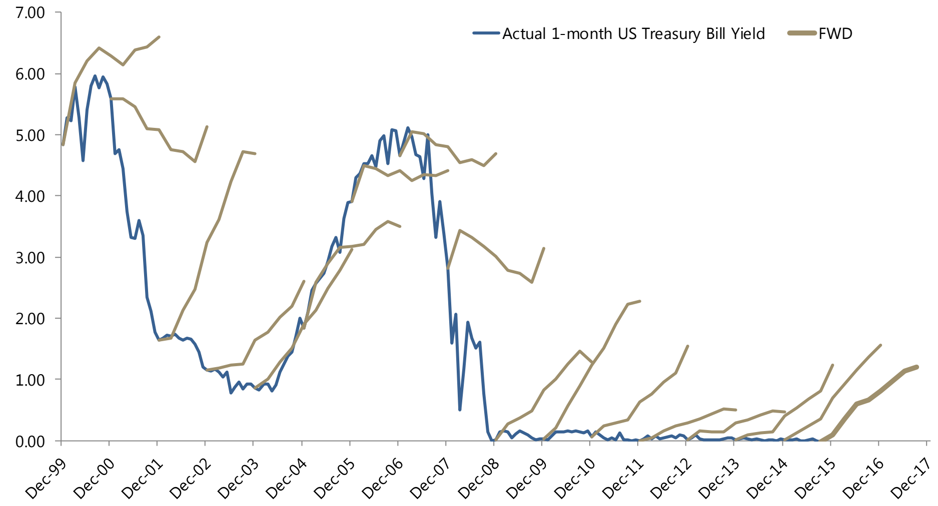
ISM PMI Index
Core CPI 24 month change
Fed Fund Rate
3-month LIBOR minus Fed Funds Rate
Net foreign purchase (12-month total post 2005)

Source: Bloomberg and Standish as of September 30, 2015

Monetary Policy Outlook

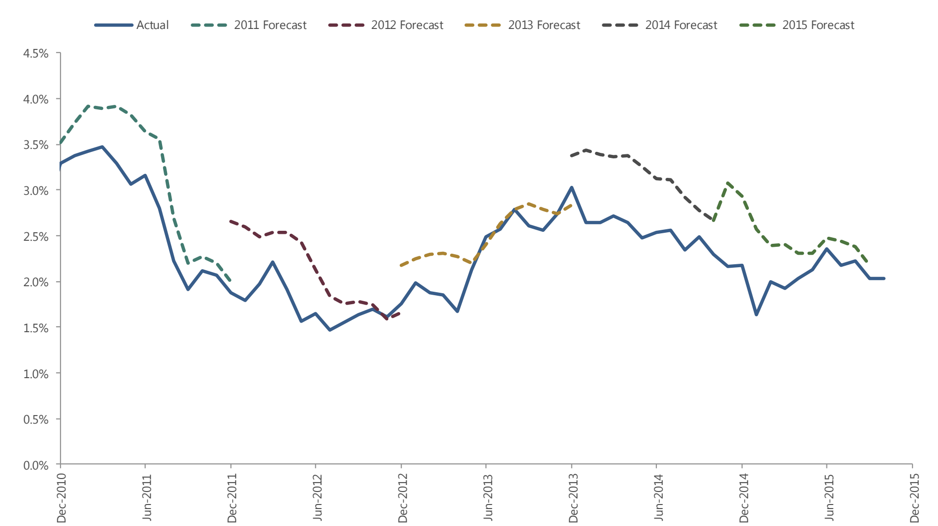
- Market has often over-anticipated monetary policy tightening in the short end…

Actual 1 Month US Treasury Bill Yields vs. Market Expectations (*)



- … as well as in the long end of the curve:

Actual 10yr U.S. Treasury Yield vs. Bloomberg Consensus Forecast



Source: Bloomberg as of October 31 2015

Source: Bloomberg, September 30, 2015

* Methodology: "Market Expectations" are the forward path of 1-month US Treasury Bond yields implied by the US Treasury Yield Curve as of 12/31 of each year.

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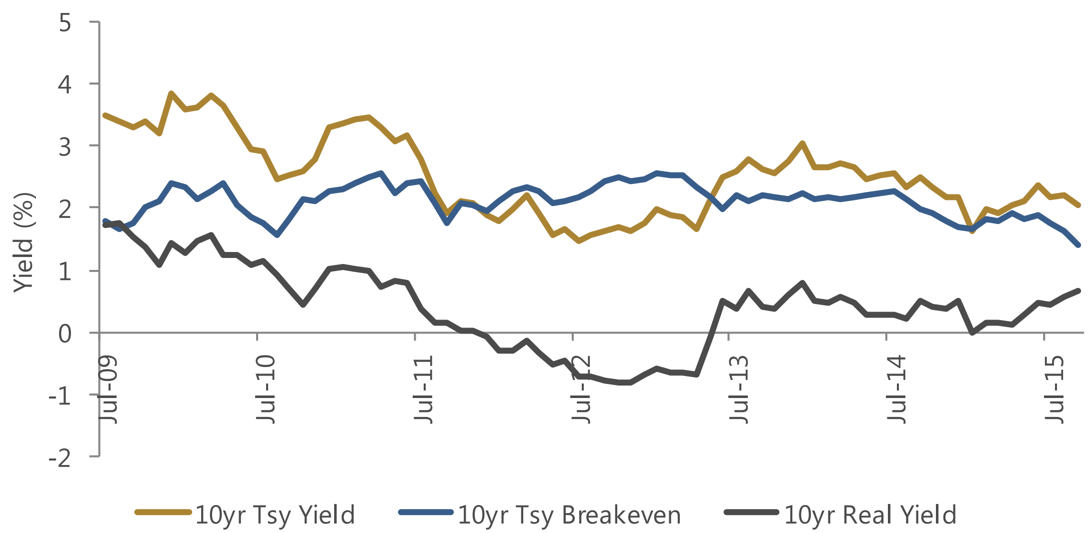
Source: Bloomberg. Data as of October 1, 2015.

10yr Treasury Yield Breakdown

- Following commodity prices, TIPS breakevens have come down materially
- 10yr U.S. Treasury yields have drifted lower, but real yields have held in

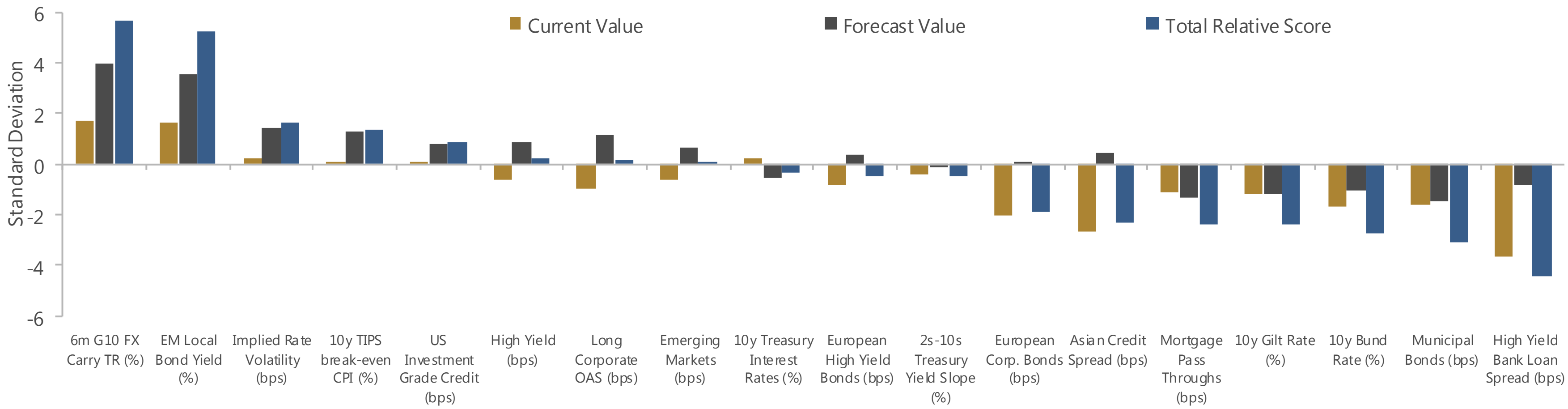
10yr Treasury Yield Breakdown



Source: Bloomberg. Data as of September 29, 2015.

Relative Value Sector Models

Model R-squared	Sector	Current Fair Value: Actual	Fair Value	Attractiveness Score (Stand. Dev.)	Six Month Forecast: Forecast Value	Attractiveness Score (Stand. Dev.)	Total Relative Value Score
77%	6m G10 FX Carry TR (%)	-10.15	-4.29	1.7	3.74	4.0	5.7
83%	EM Local Bond Yield (%)	6.98	6.50	1.7	5.95	3.6	5.2
75%	Implied Rate Volatility (bps)	88	89	0.2	96	1.4	1.6
73%	10y TIPS break-even CPI (%)	1.64	1.66	0.1	1.91	1.3	1.4
83%	US Investment Grade Credit (bps)	163	161	0.1	133	0.8	0.9
81%	High Yield (bps)	588	650	-0.6	501	0.9	0.3
84%	Long Corporate OAS (bps)	222	247	-1.0	192	1.1	0.2
87%	Emerging Markets (bps)	430	518	-0.6	338	0.7	0.0
94%	10y Treasury Interest Rates (%)	2.22	2.12	0.2	2.50	-0.6	-0.4
81%	European High Yield Bonds (bps)	465	626	-0.9	396	0.4	-0.5
95%	2s-10s Treasury Yield Slope (%)	1.48	1.63	-0.4	1.53	-0.1	-0.5
87%	European Corp. Bonds (bps)	125	201	-2.0	121	0.1	-1.9
94%	Asian Credit Spread (bps)	294	377	-2.7	281	0.4	-2.3
96%	Mortgage Pass Throughs (bps)	106	121	-1.1	124	-1.3	-2.4
87%	10y Gilt Rate (%)	1.87	2.52	-1.2	2.50	-1.2	-2.4
85%	10y Bund Rate (%)	0.66	1.46	-1.7	1.16	-1.1	-2.8
87%	Municipal Bonds (bps)	27	54	-1.6	52	-1.5	-3.1
90%	High Yield Bank Loan Spread (bps)	453	691	-3.6	505	-0.8	-4.4



Source: Standish as of September 30, 2015. For illustrative purposes only. Forecast information is not intended to predict future events, but rather to demonstrate the investment process of the firm in utilizing its models and market views in constructing its client portfolios. Sector models are run monthly and are subject to change. Refer to Disclosure in Appendix.

New Factors For This Cycle: Leverage

- Monetary tightening tends to destabilize the most leveraged investors

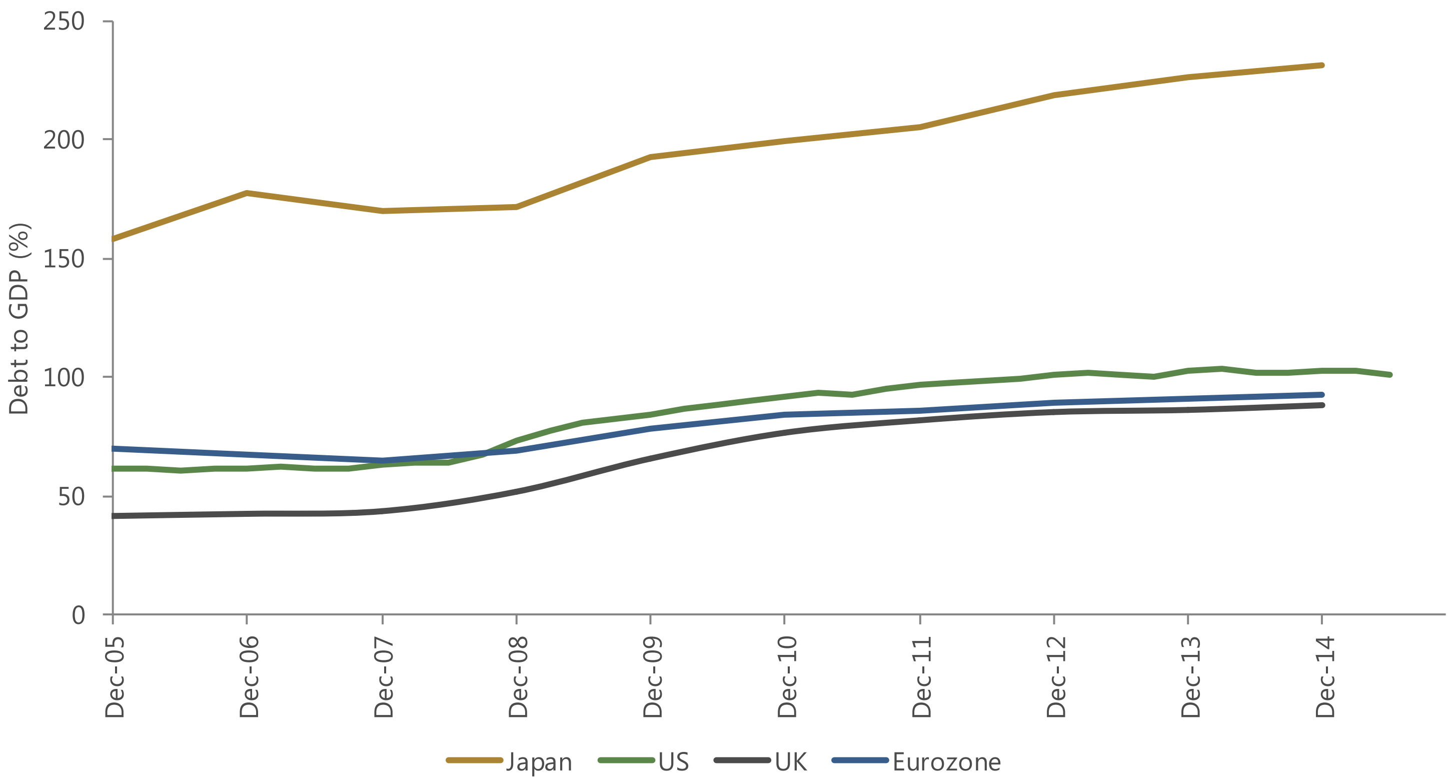
- This time leverage not in financials, but potentially:
  - Sovereign Debt
  - Emerging Market Debt
  - Corporate Debt: IG, HY, Bank Loans
  - Mortgage REITS
  - “All weather” Strategies

Data as of July 31, 2015

New Factors For This Cycle: Leverage – Sovereign Debt

- As the private sector deleveraged post-crisis, countercyclical government programs have stabilized economies at the cost of elevated government debt.
- Current high Debt/GDP may constrain fiscal flexibility going forward.

G4 - Government Debt to GDP

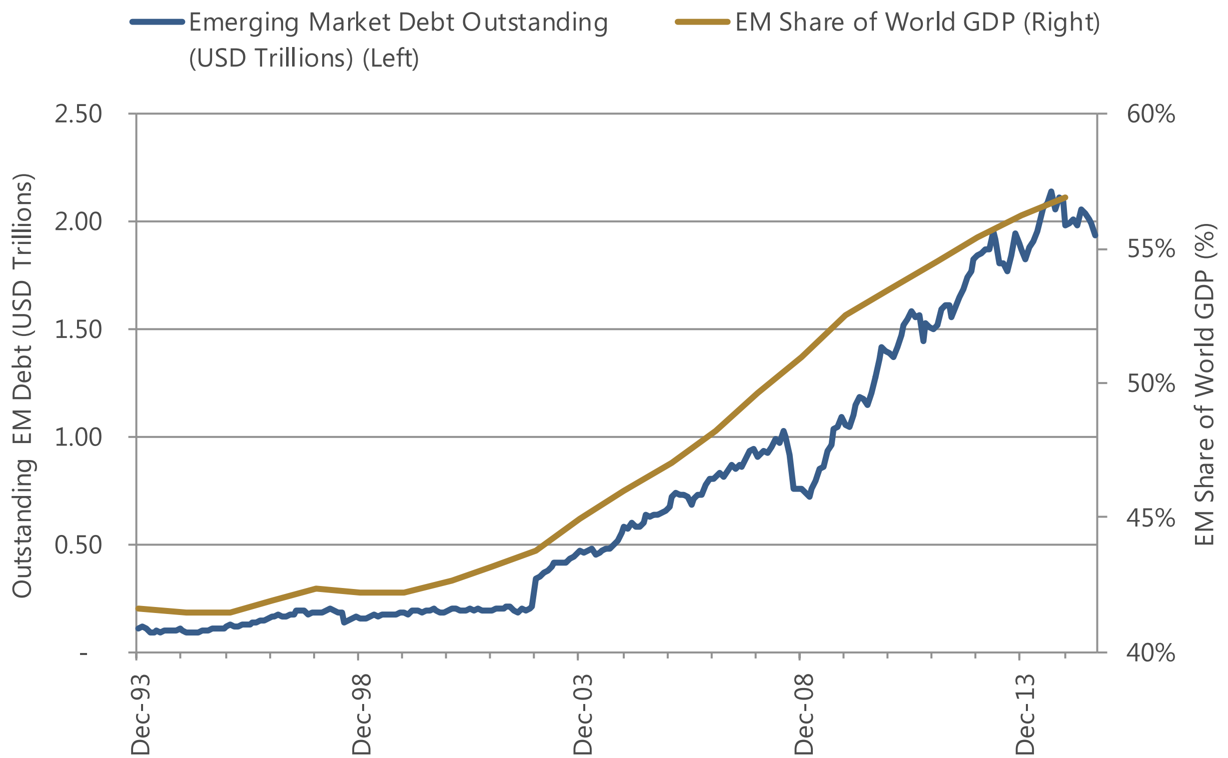


Source: Bloomberg as of 10/29/2015

New Drivers of FX Performance: EM Debt

- Emerging Market's share of the global economy has increased since the late 90's
- The rise in Emerging Market Debt has been even more dramatic

Emerging Market Total Debt Outstanding and EM Share of World GDP



Sources: Bloomberg, JP Morgan. "Emerging Market Debt Outstanding" is total market value of the JP Morgan EMBI Global, CEMBI and GBI-EM Global Indices converted to US Dollars.

Data as of July 31, 2015

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New Factors For This Cycle: New "Plumbing"

- Macroprudential reforms are creating a safer financial system:
  - Basel III
  - Central Clearing
  - Money Market Fund Reform
  - Repo Reform

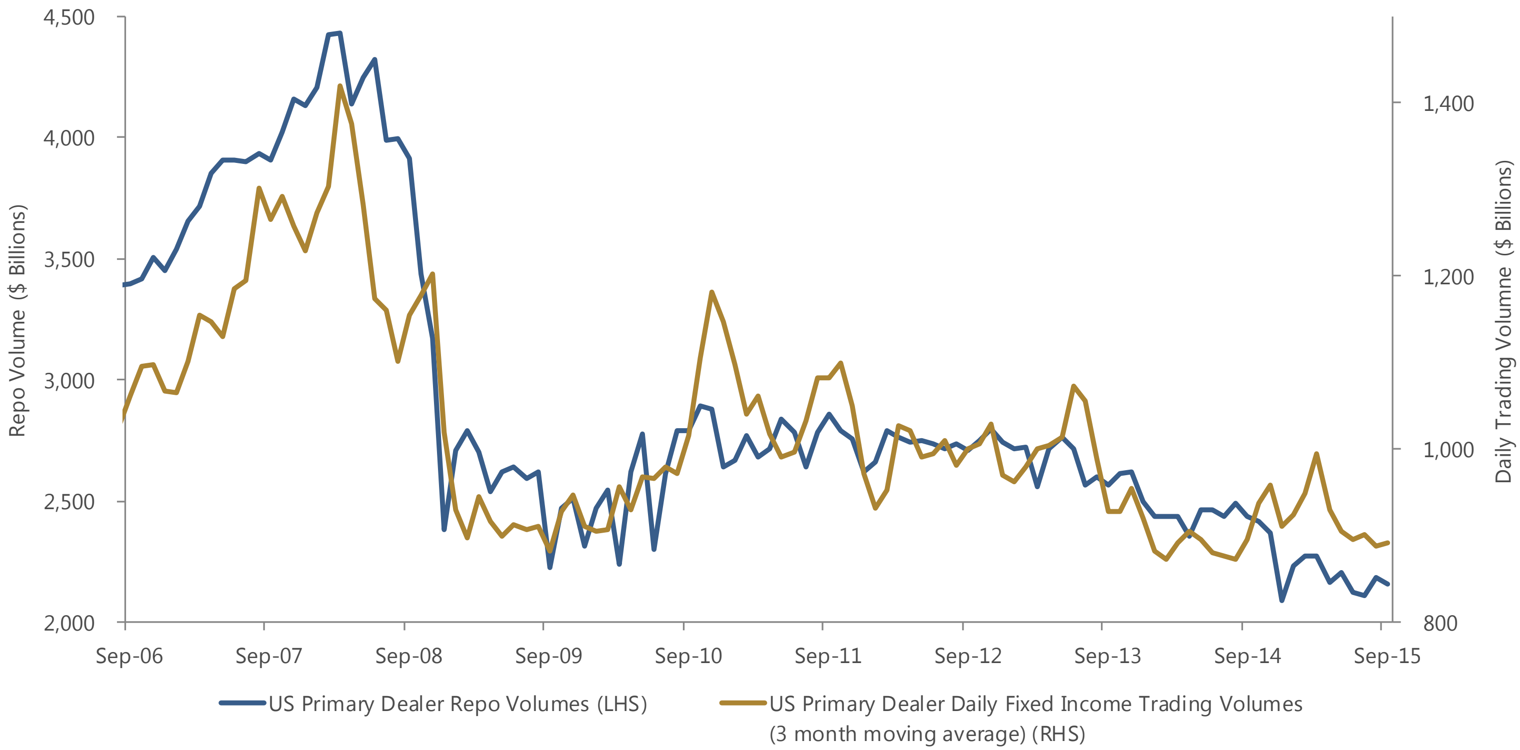
- But also have indirect costs:
  - Cost of capital & leverage is increasing
  - Brokers stepping back as liquidity providers
  - May be indirectly increasing clout of ETFs and HFT in liquidity space
  - Expect 'Risk free assets' (cash) to come at a premium (low yield)

Data as of July 31, 2015

New Factors For This Cycle: Liquidity

- Increased capital costs are weighing on dealer securities inventories and ability/willingness to finance those inventories.
- Most measures point to decreased fixed income market liquidity

US Primary Dealer Repo Volumes & Trading Volumes



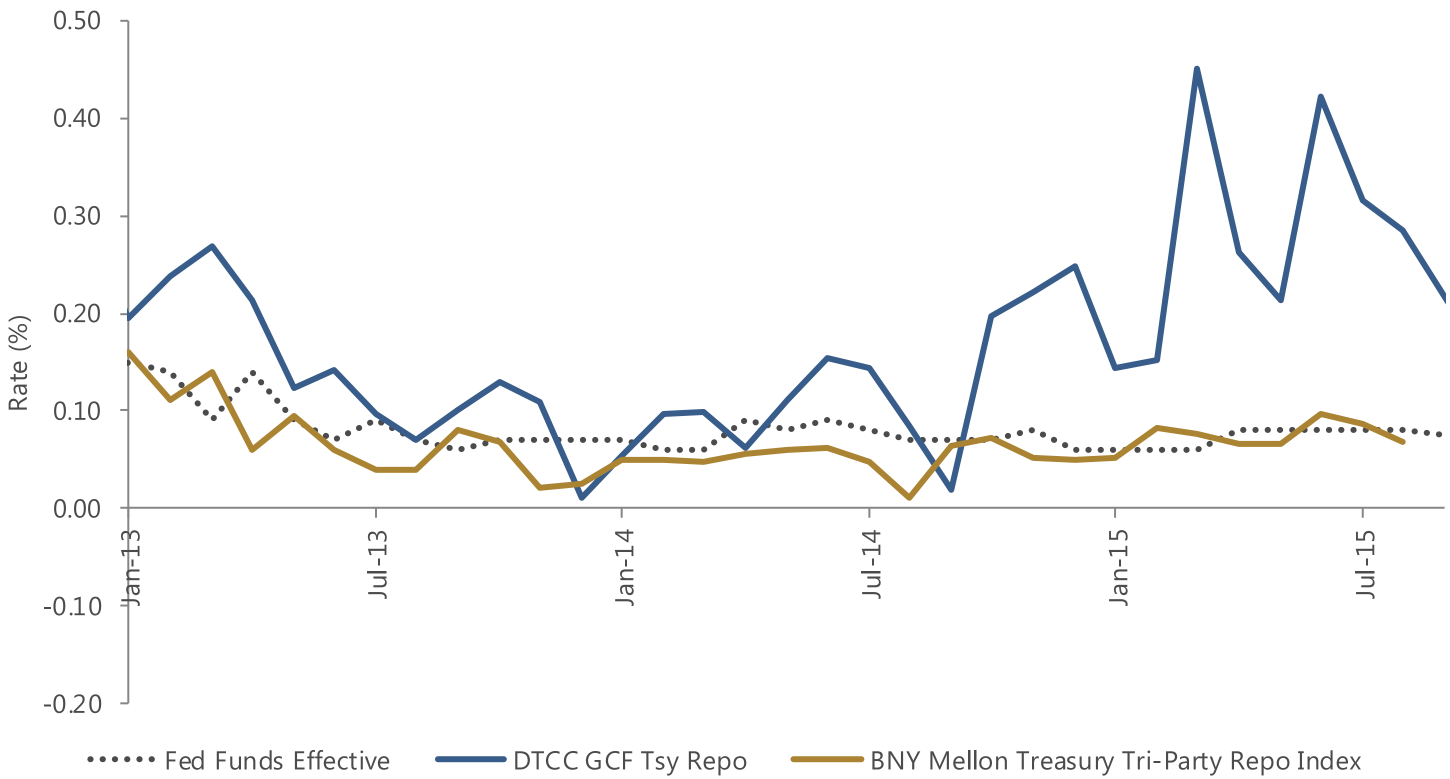
Source: Bloomberg, NY Fed

Data as of September 30 2015

New Factors For This Cycle: Cost of leverage

- Early signs of increased capital costs are popping up.
- Is this tantamount to a “stealth tightening”?

Nettable (DTCC GCF) vs. Non-Nettable (BNY Mellon Index) Treasury Repo



Source: Bloomberg, CME as of 10/29/2015

Data as of September 30 2015

New Factors For This Cycle

Monetary and Fiscal Policy

- Development economy's response to the Global Financial Crisis main characteristics has been
  - Quantitative Easing by Central Banks
  - Fiscal Expansion by Governments
- With two main consequences:
  - Little dry powder from monetary or fiscal policy in another downturn
  - With interest rates at low levels, diverging trends between economies could translate into heightened currency volatility rather than rates volatility.

Changing Inflation Pressures?

- Aging demographics (Japan, U.S., Europe, China) point to lower inflation
- Commodities : temporary or more fundamental pause?

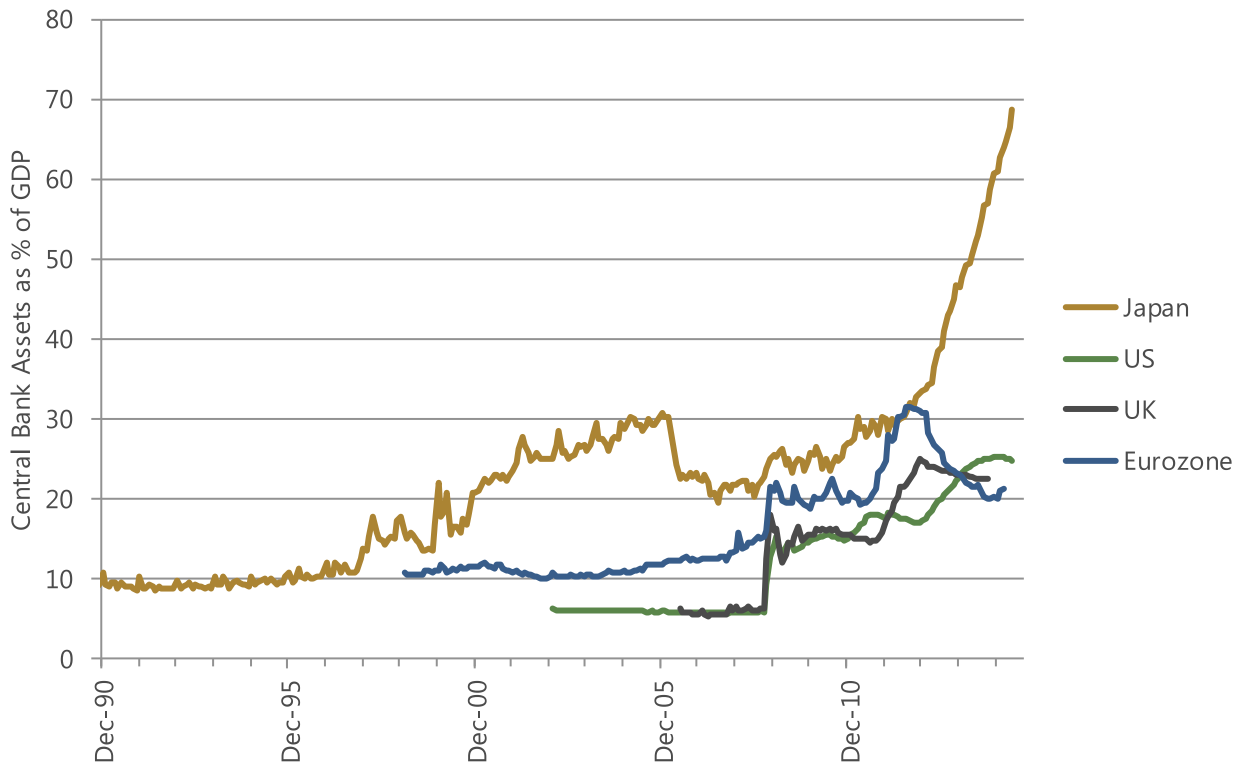
Data as of July 31, 2015

New Factors For This Cycle: QE

Central Bank Balance Sheets Have Grown Dramatically Since the Global Financial Crisis Altering Exchange Rate Dynamics:

- Currency fluctuations are more dependent on domestic macroeconomic developments.
- Standish's Sovereign Analysts and Global Investment Team monitor those developments.

G4 Central Bank Balance Sheets



Source: Thomson Reuters Datastream

Data as of July 31, 2015

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Implications for Asset Allocation

- Fixed Income Strategies:
  1. Reduce duration
  2. Diversify sources of duration
  3. Active, uncorrelated and diversified sources of Fixed Income returns

- Liability Driven Investing
  1. Traditional Implementation with glide path for well funded plans
  2. Creative overlays for underfunded plans?

- … and Optimize Cash

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