*6th ICRIER Annual International Conference on Issues of Concern for G20 Countries*

# How Will Quantitative Easing Unravel?

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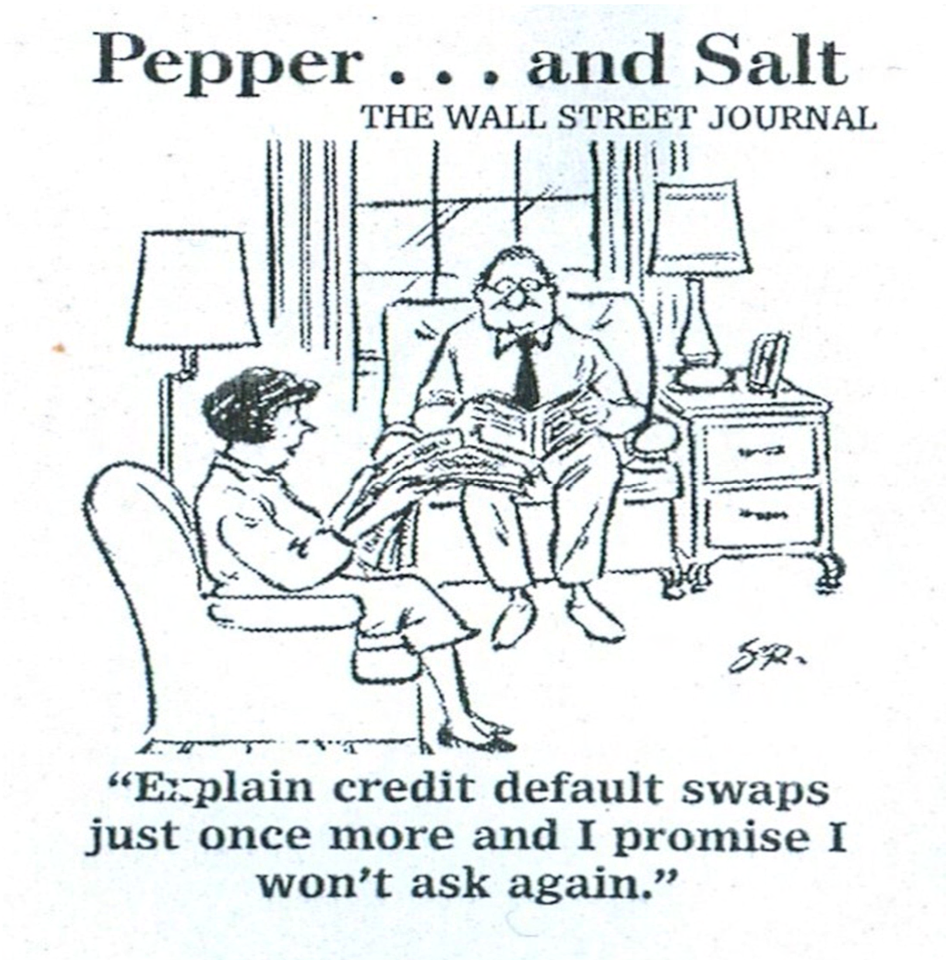
# Outline

- What exactly *IS* QE?
- The Pros and Cons of QE
- Normalizing Monetary Policy
- Spill Overs on EMEs
- Concluding Questions

# Read QE for CDS……



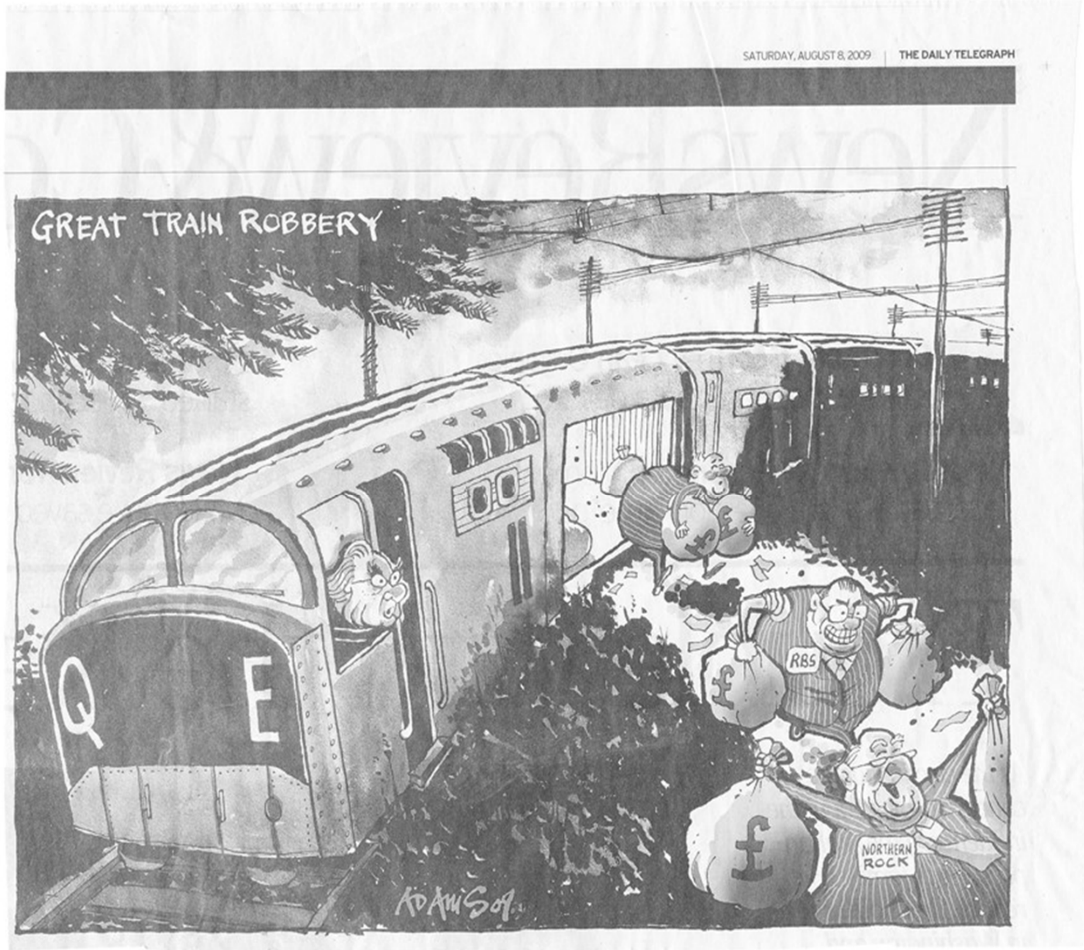

"Explain credit default swaps just once more and I promise I won't ask again."

# Is QE Helicopter Drop of Money?

# Is QE the Liquidity that Doused the Financial Crisis?

# Is QE a Liquidity Trap?

# Is QE a Bail out of Delinquent Banks?



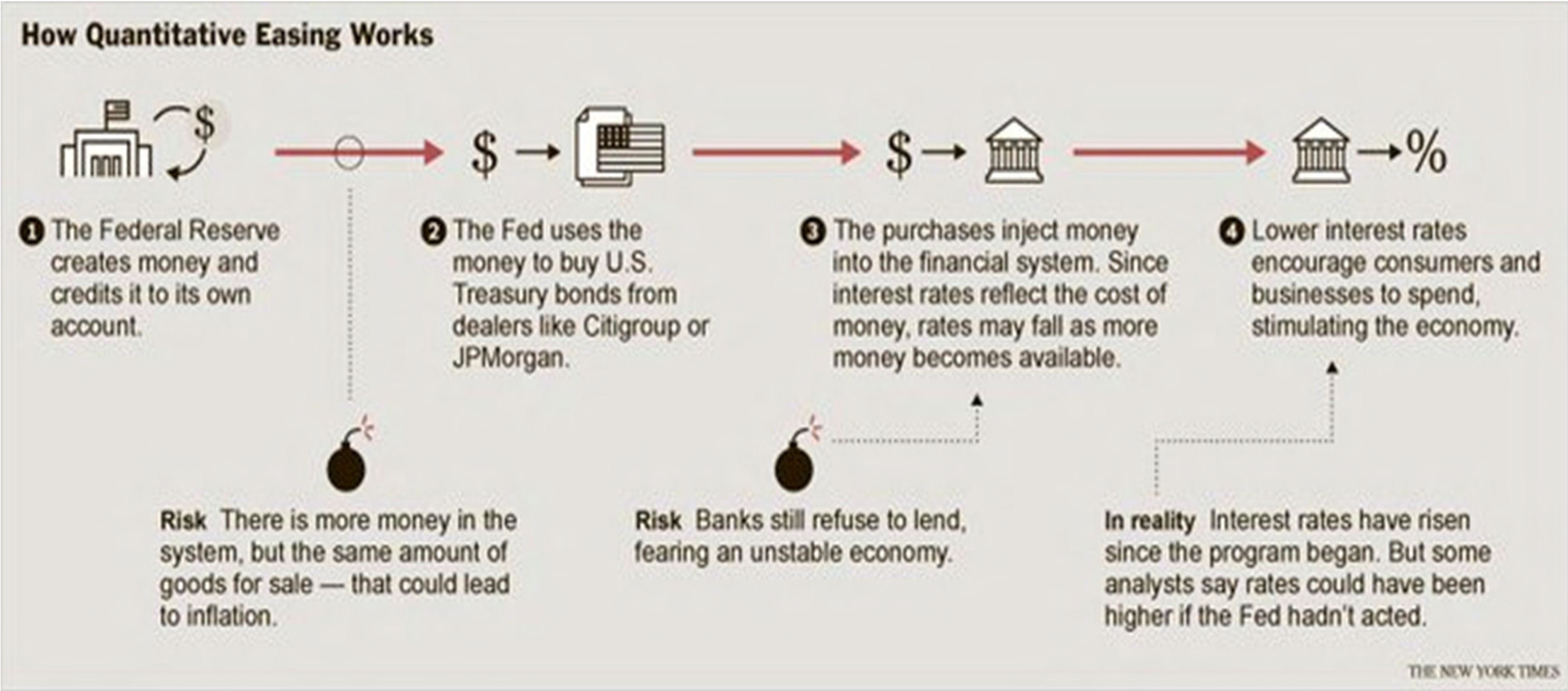
# What *is* QE?

- Means different things to different people as it is a sub-set of Unconventional Monetary Policy (UMP):
  - Monetary policy ***beyond the zero bound*** to influence the yield curve: shift from targeting short-term IR to targeting banking reserves.
  - ***Downward pressure on long-term rates through purchase of long dated government bonds*** by central banks (how is this any different from OMO of RBI?)
  - ***Purchase of private (GSE) securities*** by central bank
  - QE= ***outright money creation***? (the ***'helicopter drop')***
  - ***QE and Credit Easing***: Expansion of balance sheet versus targeting specific markets without affecting its size, such as '*Operation Twist*' (play on maturity profiles) and distribution between treasury bonds and MBS.

# Bank of England definition of QE

- “ 'Quantitative Easing' ….does not involve printing more banknotes. Furthermore, the asset purchase programme is not about giving money to banks. Rather, the policy is designed to circumvent the banking system. The Bank of England electronically creates new money and uses it to purchase gilts from private investors such as pension funds and insurance companies. These investors typically do not want to hold on to this money, because it yields a low return. So they tend to use it to purchase other assets, such as corporate bonds and shares.” http://www.bankofengland.co.uk/monetarypolicy/Pages/qe/default.aspx

# QE Fund Flows




**<u>How the Balance sheet expansion is funded:</u>**

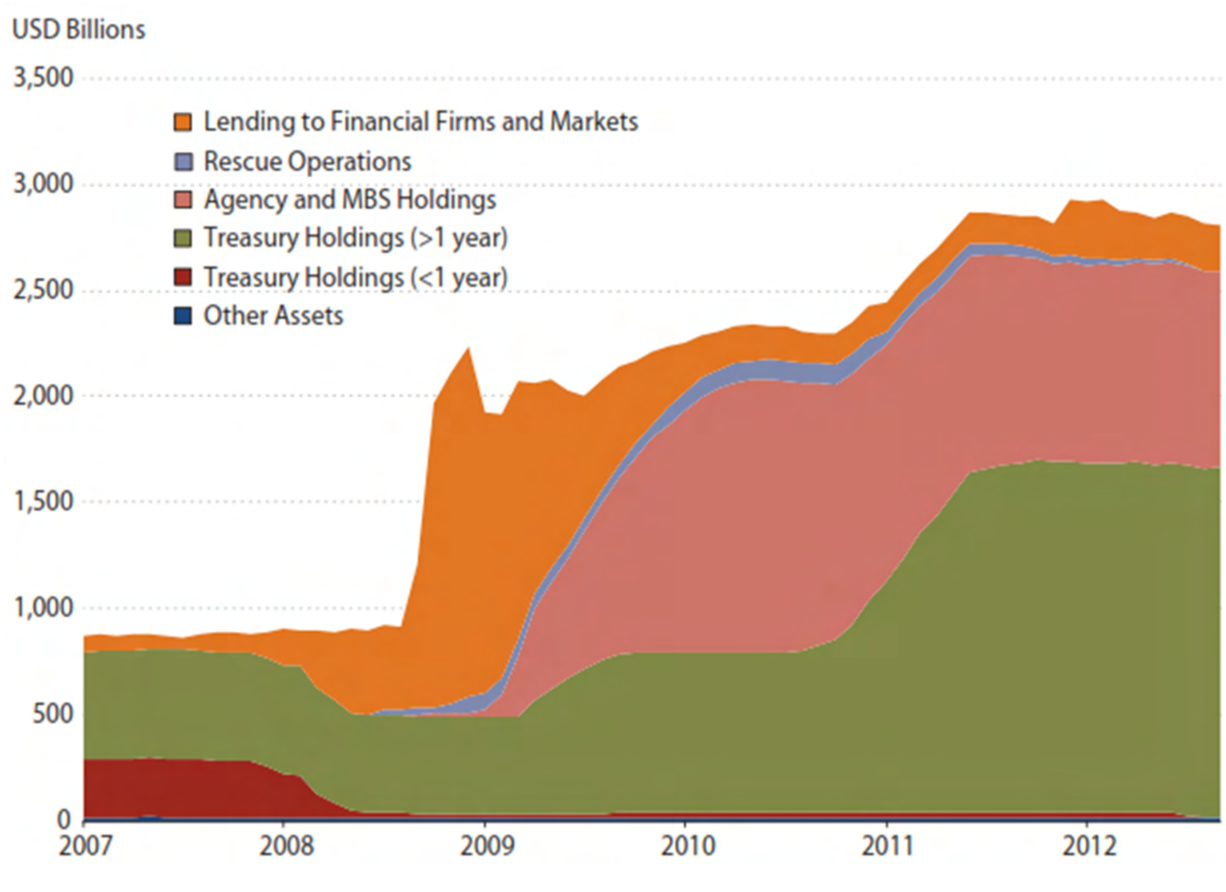
increase in money in circulation + interest on excess reserves (IOER)

# Quantitative Easing by the Federal Reserve

| US Federal Reserve (US$ Trillion) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **M2** | **M0** | **MM** | **Reserves** | **Curr.** | **Balancesheet** | **Backwash** | **GDP** | **GDP QE** |
| | | *Cur+Res* | *M2/M0* | | *M0-Res* | | *R+/Bal+* | *MM*Cur* | *MM*M0* |
| 01-03-2007 | 7.13 | 0.81 | 8.80 | 0.04 | 0.77 | 0.87 | | 6.76 | 7.13 |
| 01-11-2007 | 7.42 | 0.83 | 8.94 | 0.04 | 0.79 | 0.89 | 8.3% | 7.03 | 7.42 |
| 01-03-2008 | 7.62 | 0.82 | 9.30 | 0.04 | 0.78 | 0.88 | -31.6% | 7.21 | 7.62 |
| 01-11-2008 | 7.99 | 1.43 | 5.59 | 0.06 | 1.37 | 2.08 | 1.3% | 7.65 | 7.99 |
| 01-03-2009 | 8.34 | 1.64 | 5.09 | 0.08 | 1.56 | 1.90 | -9.8% | 7.95 | 8.34 |
| 01-11-2009 | 8.47 | 2.01 | 4.22 | 1.14 | 0.87 | 2.17 | 400.5% | 3.66 | 8.47 |
| 01-03-2010 | 8.48 | 2.10 | 4.04 | 1.19 | 0.91 | 2.28 | 39.1% | 3.69 | 8.48 |
| 01-11-2010 | 8.75 | 1.97 | 4.44 | 1.04 | 0.93 | 2.30 | -740.8% | 4.14 | 8.75 |
| 01-03-2011 | 8.90 | 2.40 | 3.71 | 1.44 | 0.96 | 2.55 | 161.7% | 3.57 | 8.90 |
| 01-11-2011 | 9.60 | 2.60 | 3.69 | 1.59 | 1.01 | 2.82 | 56.4% | 3.72 | 9.60 |
| 01-03-2012 | 9.78 | 2.65 | 3.69 | 1.61 | 1.04 | 2.89 | 25.8% | 3.85 | 9.78 |
| 01-11-2012 | 10.29 | 2.64 | 3.90 | 1.55 | 1.10 | 2.83 | 111.6% | 4.27 | 10.29 |
| 01-03-2013 | 10.52 | 2.93 | 3.59 | 1.76 | 1.17 | 3.20 | 58.0% | 4.21 | 10.52 |
| 01-11-2013 | 10.91 | 3.68 | 2.96 | 2.46 | 1.22 | 3.84 | 108.9% | 3.62 | 10.91 |
| 01-03-2014 | 11.01 | 3.87 | 2.84 | 2.61 | 1.26 | 4.17 | 45.6% | 3.58 | 11.01 |
| ***Total*** | ***3.88*** | ***3.06*** | ***-5.95*** | ***2.57*** | ***0.49*** | ***3.30*** | ***77.9%*** | | |

# Federal Reserve Bank Assets

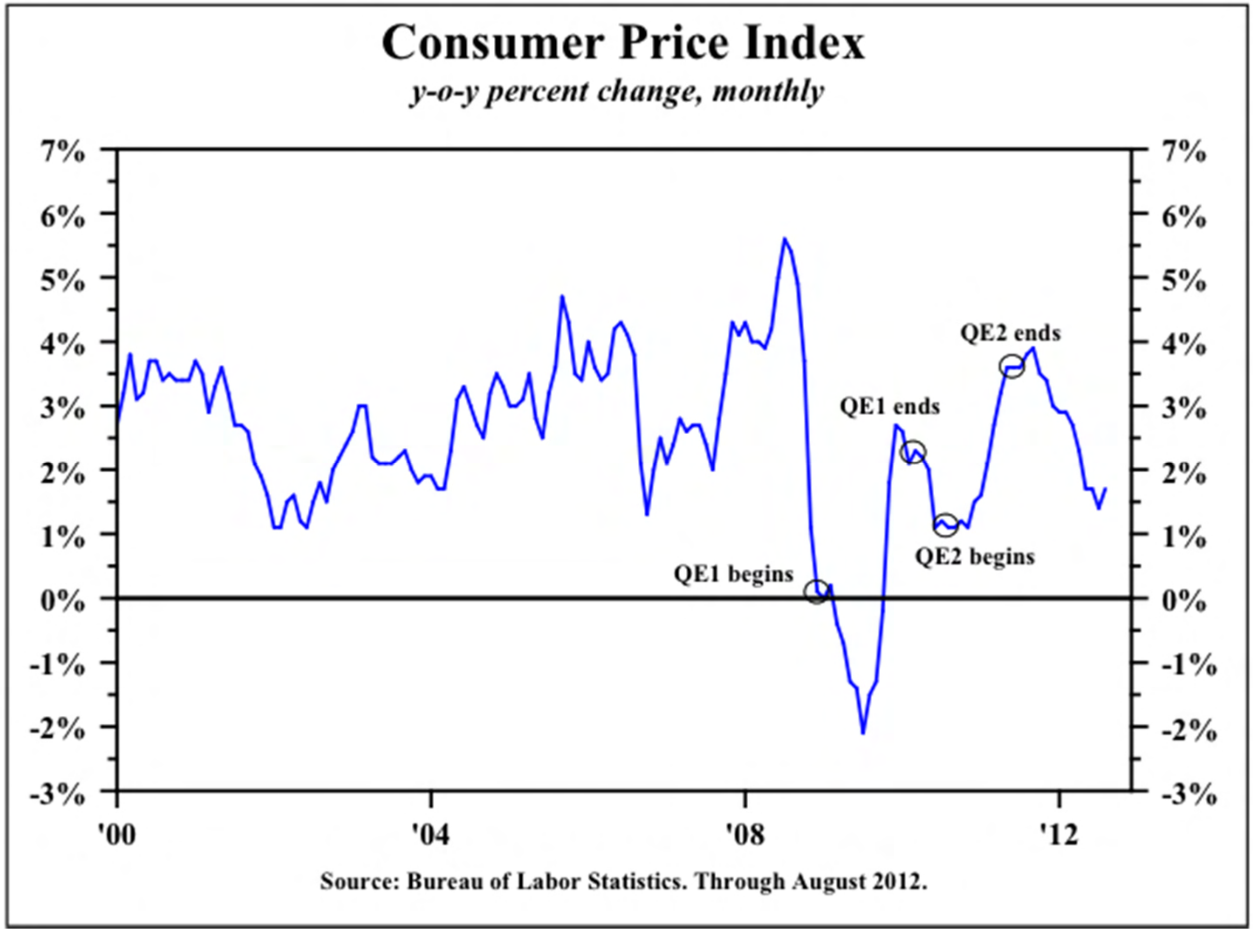
*Federal Reserve Bank of St Louis* **<u>REVIEW</u>**, January/February 2013



# Justification for QE

- To counter the effects of ***deleveraging and drop in the money multiplier***:
  - Prevent a deflationary spiral ('Great Depression')
  - expand credit growth and raise growth.
- To stimulate demand through the ***wealth effect*** – asset inflation.
- ***Rescue of Banks and Sovereigns***?

# QE fended off Deflation?

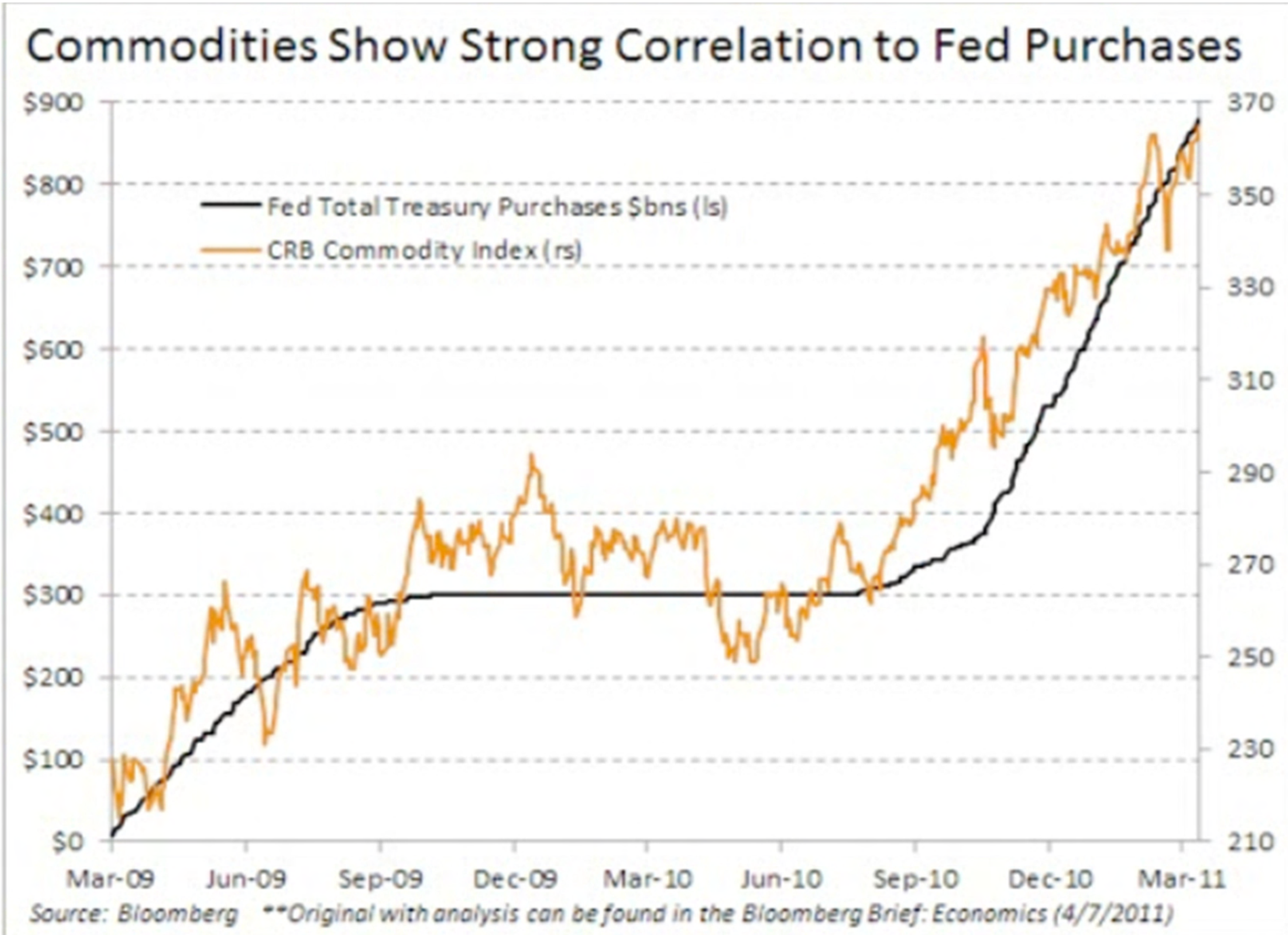


# Criticism of QE

- ***Macro-economic policies can stabilize Business Cycle but less effective in addressing structural problems, such as a financial crisis.***
- ***QE ineffective in reviving economic growth*** because of deleveraging and the liquidity trap. Expansion of monetary base not leading to credit expansion: Monetary policy ineffective in a balance sheet recession – therefore greater reliance on (discredited?) fiscal policy. Performance of fiscal policy also anemic.
- ***Expected consumer price inflation*** despite large liquidity injections has not occurred because of *GLOBAL spare capacity. Real inflation threat* as QE is wound down?
- BIS criticism: QE fuelling ***asset bubbles***:
  - US FED (a) disagrees (b) says that 'macro-prudential policies' the right instrument to deal with bubbles. (one target-one instrument: Tinbergen rule)

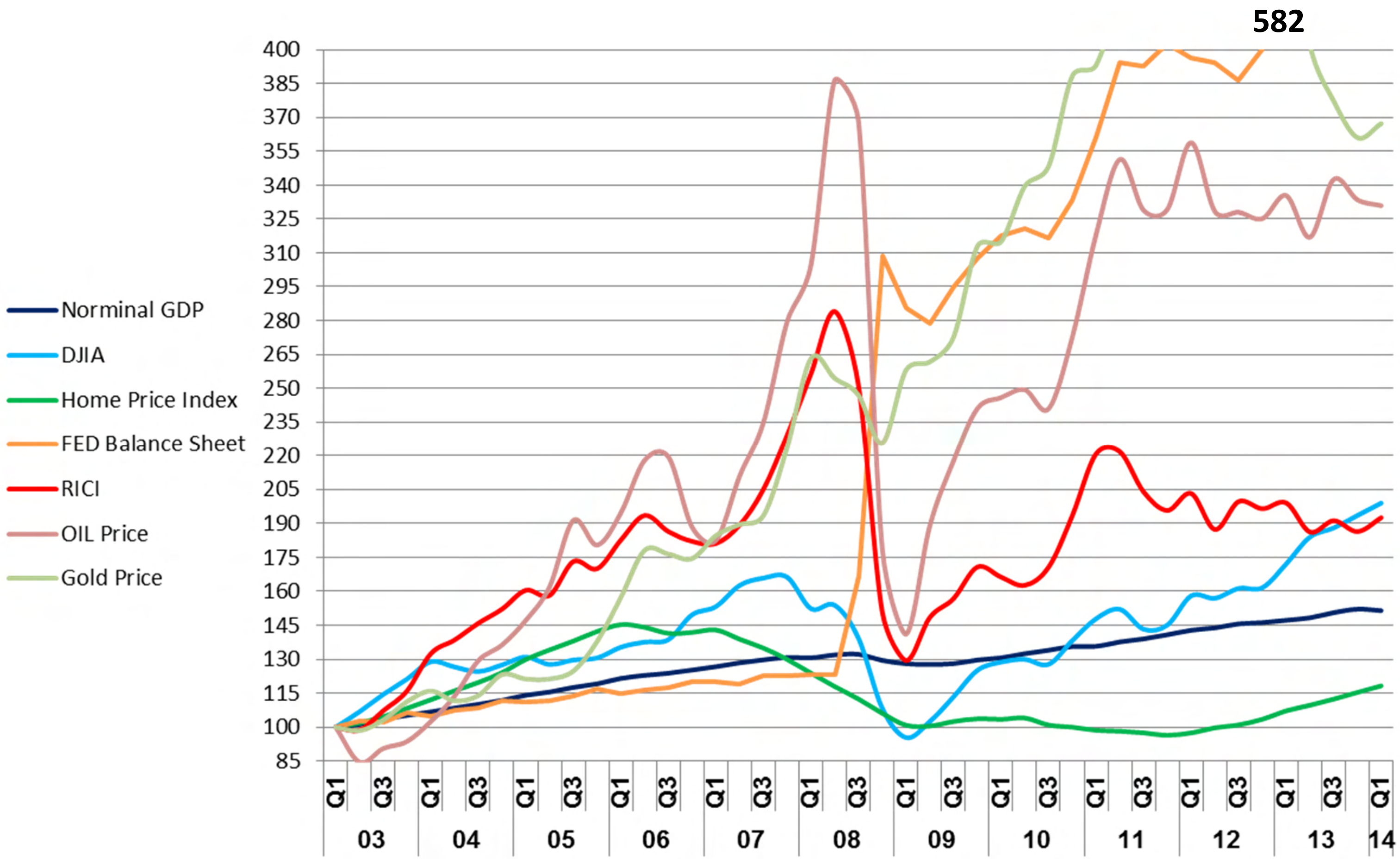
# QE failed to Revive the Real Economy

# QE and Asset Prices I



# QE and Asset Prices II

# QE and Asset Prices III



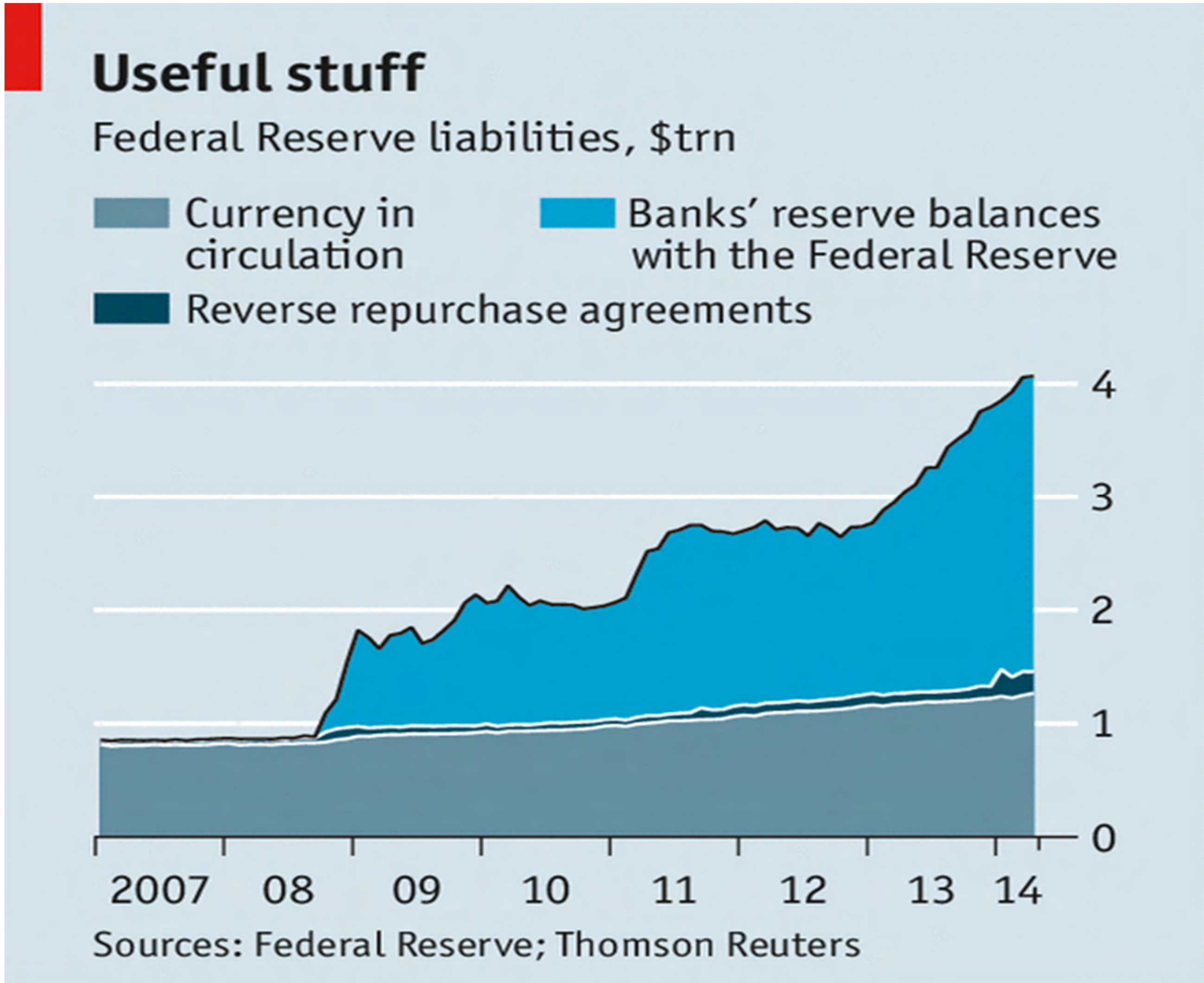

1.Board of Governors US Federal Reserve System, http://www.federalreserve.gov
2. US Bureau of Economic Analysis, http://www.bea.gov/
3. Economic Research, Federal Reserve Bank of St. Louis, http://research.stlouisfed.org
4. http://www.rogersrawmaterials.com/
5. http://www.indexmundi.com/

# Constraints facing normalization

- ***Fine tuning the normalization:***
  - ***derailing the tepid recovery,*** including in housing markets, as it could suck liquidity out of markets and raise interest rates.
  - ***Threat of inflation*** if it is not quick enough
- ***Conventional monetary tools may not work :*** Reserves held by the FED exceeds currency in circulation
- ***Fiscal Stress*** or the 'QE Trap':
  - US Public Debt has increased substantially since the GFC, and current CBO projections do not see it stabilizing.
  - The debt would increase still further because of rise in interest payments on fresh debt (to refinance maturing securities) and on reserves. Annual interest payments close to $ 100 billion @ 3.75% .
  - FED could also incur huge capital losses: IMF estimate a best case scenario loss of $ 500 billion or 3% of GDP.
  - FED's capital base of $ 50 billion can be easily eroded

  ***(Source***: Richard Koo, Chief Economist, Nomura Research Institute, July 29, 2014)

# The Problem with Rolling Back



# Unraveling of QE

- Normalization of Monetary Policy entails:
  - ***Completing the taper*** (October?) – at which point the Balance sheet would cease to expand
  - ***Tapering re-investment*** of maturing bonds – shrinking the balance sheet
  - ***Selling Bonds*** – accelerate shrinking of balance sheet
  - ***Exiting the Zero bound*** through raising interest rates – the ‘pivot’
  - ***Return to the Taylor Rule***
- Normalization of Monetary Policy ***likely to be protracted***: Taper is the ‘end of the beginning’ rather than ‘beginning of the end’ of UMP.
- ***Sequencing and instruments*** not clear at this stage: the US FED will probably learn through doing.

# Possible Unraveling Scenario

- ***Interest rate increases*** likely before the balance sheet is substantially unwound.
- This is likely to make the ***IOER*** (for depositary institutions) and ***RR*** (for non depositary institutions) ***more important than the FFR*** as the FED main policy instruments to influence short-term interest rates. (currently the EFFR is LOWER than the IOER)
- The ***US FED could hold the assets to maturity***. Their share of the GDP would diminish with expansion of GDP.

# When will the US FED 'pivot'?

- US second quarter 2014 ***growth at 4%.***
- US CPI more or less on ***target at 2%.***
- Unemployment rate near the long-term natural ('NAIRU') rate of ***around 5.5 - 6%***.
- ***Asset prices*** buoyant – need to take the punch bowl away.
- Above data should be ***adequate for the US FED to 'pivot***' in its zero bound interest rate policy
  - But Q1 GDP was negative; labour participation rate still at historic low
- However, there is ***uncertainty in the market about timing*** because of
  - Confusion regarding how to interpret the FED's new 'forward guidance' (Bernanke)and 'optimum control' (Yellen) tools: flip flops on dates and thresholds.
  - differing perspectives within the FED. Chairman Janet Yellen perceived as 'dovish'.
- Because of this uncertainty ***when the FED actually 'pivots' there could be a market bloodbath***, not unlike the tapering announcement in May 2013, – rise in interest rates, strengthening of the dollar and capital flight from EMEs.

# FED Communication and Markets

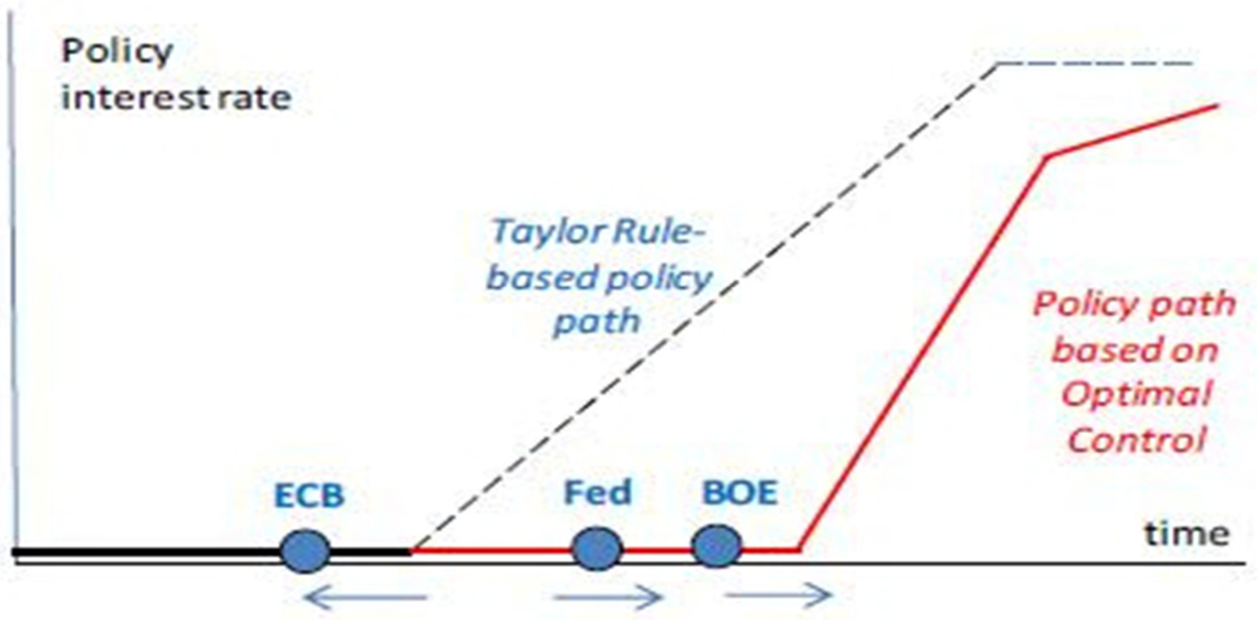
# The Taylor Rule

- **Taylor Rule formula (for inflation target of 2%):**

Current Inflation Rate+(0.5*(Current GDP-Potential GDP))+(0.5*(Current Inflation Rate-Target Inflation Rate))+2

- Since current US macro-economic data is more or less on target, the ***US Fed Funds rate should be 4% and not 0***.
- Why has the US FED deviated from the Taylor Rule for so long ?
  - A recognition that monetary policy rules break down in a ***financial crisis***?
  - Janet Yellen's '***optimum control'*** policy – minimizing deviation from inflation and unemployment targets.
- Would normalization of monetary policy mean a ***return to the Taylor Rule***, or would it be modified to incorporate asset price inflation?

# Return to Taylor Rule under 'Optimal Control'?




Stephen L Jen & Faith Yilmaz, *A Prospective 'Pivot' by the FED will Boost the Dollar.* **SLJ Macro Partners, August 6, 2014.** http://www.sljmacro.com/

# Can the US FED learn from Japan

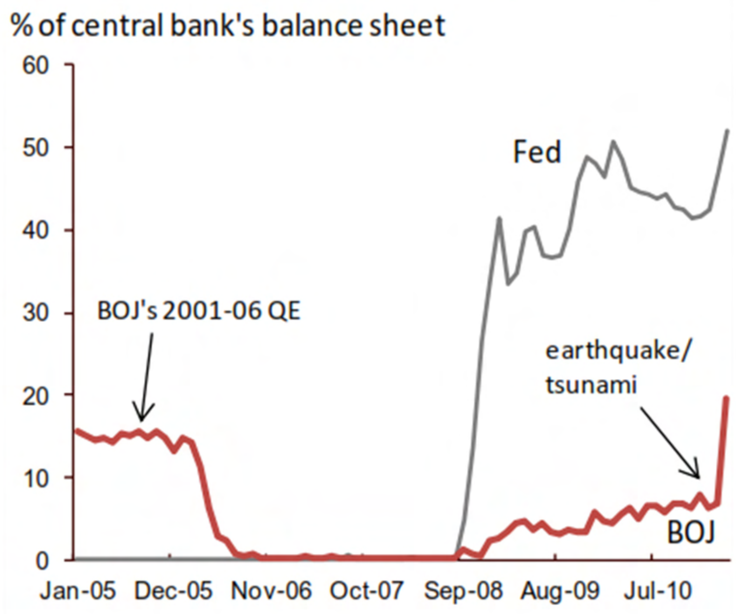
- ***Japanese QE unwinding experience*** of a decade ago may be of limited use
  - ***BOJ had issued 3 month bills*** which could be unwound quickly. QE Mark II by central banks involves long-term bonds, especially following ‘operation twist’.
  - US FED balance sheet/Reserves and GDP ***ratios very different.***
  - US FED has a substantial chunk of ***Mortgage Based Securities in addition to Treasuries***

# QE by US FED and BOJ Compared

**<u>NOMURA GLOBAL ECONOMICS</u>** *Global Weekly Economic Monitor*, April 8, 2011

**FED: bigger reserves/balancesheet**

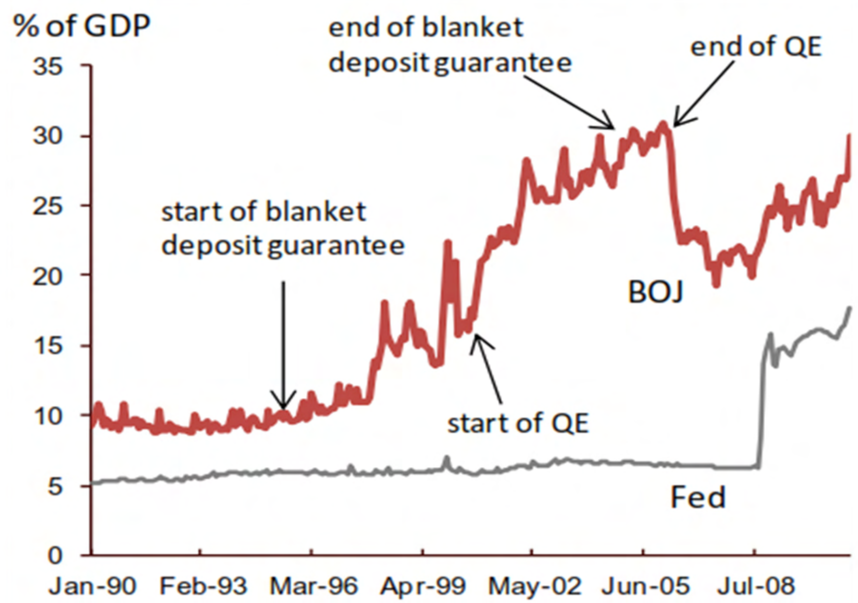
Figure 2. Amount of excess reserves: BOJ vs the Fed




Source: Federal Reserve, BOJ; Nomura Global Economics.

**BOJ: bigger balancesheet/GDP**

Figure 1. Size of central bank balance sheets: BOJ vs the Fed



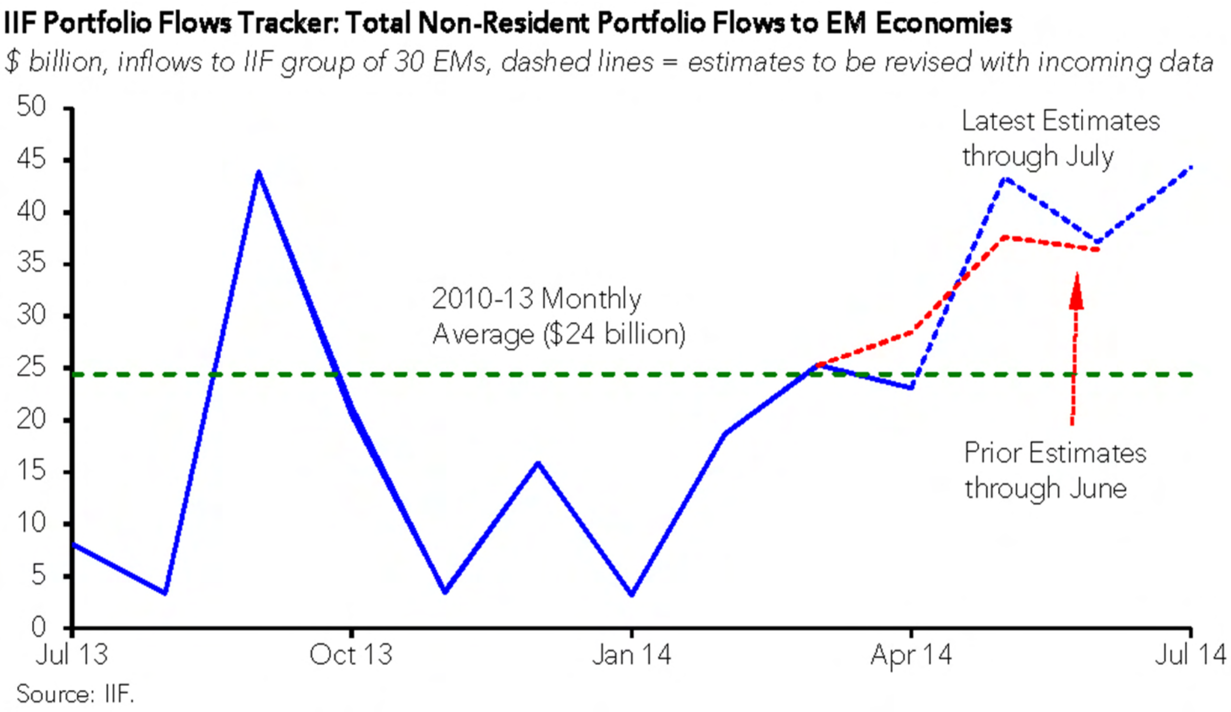

Source: Federal Reserve, BOJ; Nomura Global Economics.

# QE: The EME viewpoint

# Market Exchange Rates vs QE

# QE: The EME viewpoint

# Recent Portfolio Flows to EMs




**Main beneficiaries: India, Indonesia, South Africa**

# Monetary Policy Spill overs on EMEs

- US monetary policy responds to the ***domestic economic environment. Other central banks however need to respond*** to US FED actions because of its impact on cross-border capital flows by virtue of the de facto global reserve currency status of the US dollar.
- **EME ambivalence**: critical of both QE ('surplus countries' like China) and QEXIT ('deficit countries' like India)
- **EMEs particularly vulnerable** because of large capital flows in recent years – this could flow out.
- ***EMEs with relatively greater structural macro-economic vulnerabilities*** (such as high CAD, low reserves, inflationary pressures, growth below potential) likely to be more affected during a systemic crisis: India's experience in May 2013 versus post-Lehman in 2008.

# External Shock: 2008 *vs* 2013

| Country | Depreciation | CAB/GDP | Depreciation | CAB/GDP |
|---|---|---|---|---|
| | ***7/8/08-27/10/08*** | ***2008*** | ***22/7/13-30/8/13*** | ***2013*** |
| Argentina | 18.8 | 1.8 | 7.8 | 0.1 |
| Australia | 45.5 | -4.5 | 9.2 | -3.7 |
| Brazil | 50.0 | -1.7 | 15.6 | -2.3 |
| Canada | 30.0 | 0.1 | 2.1 | -3.7 |
| China | 3.0 | 9.3 | -0.3 | 2.6 |
| European Union | 23.1 | -0.91 | -2.4 | 1.0 |
| India | 19.0 | -2.4 | 19.8 | -5.1 |
| Indonesia | 28.7 | 0.1 | 11.9 | -2.8 |
| Mexico | 35.0 | -1.7 | 8.4 | -0.8 |
| South Africa | 58.1 | -7.2 | 3.7 | -6.3 |
| U.K | 27.5 | -1 | -2.6 | -3.5 |

# Hedging against spill overs

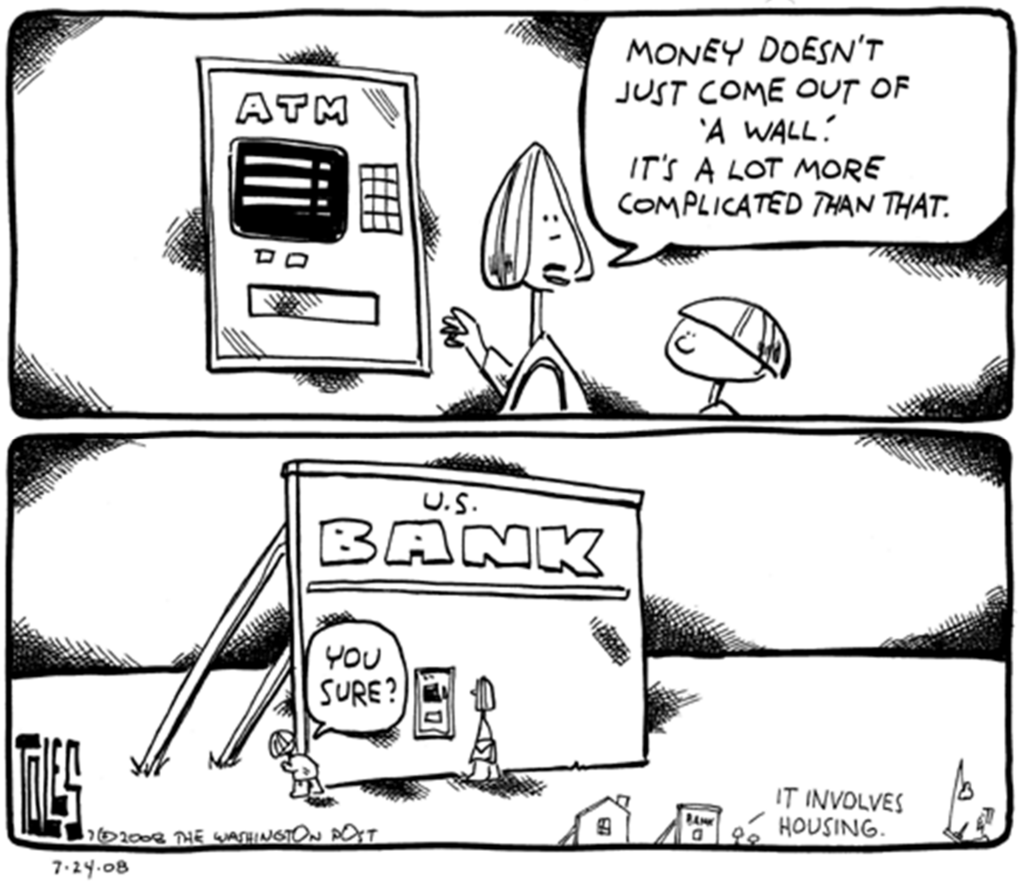
- Developing countries ***cannot have inflation target as the sole objective*** of monetary policy
- **Deficit EMEs may postpone adjustment** because of large inflows, exposing them to higher risk when the cycle turns.
- Need ***instruments to deal with spill overs***, both positive and negative:
  - ***Macro-prudential*** policies – judicious and consistent/transparent use of capital controls
  - ***Market intervention*** – without revealing target to the market, and holding nerve in a crisis.
  - ***Self-insurance*** through reserves
  - ***Swaps, BRICs CRA, IMF*** arrangements

# Likely Impact of QE Exit on EMEs

- Would depend on the ***speed of unwinding*** – the more rapid the unwinding the worse for EMEs: because of the 'QE Trap' and the tepid economic recovery the unwinding is likely to be measured.
- ***Synchronized QE unlikely***: US FED and BOE likely to exit before ECB and BOJ.
- Financial markets have already ***discounted tapering***: 'Taper Talk' in May 2013 much worse than actual taper from October 2013. Taper bark worse than taper bite.
- ***Real bloodbath when FED 'pivots'*** and raises interest rates

# Are Markets Addicted to QE?

# And eventually to Fiat Money?



# Why are EME Central Banks Tanking Up on Gold?