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Philip Turner

The "World" Long Term Interest Rate and EME's

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BANK FOR INTERNATIONAL SETTLEMENTS

The “world” long-term interest rate and EMEs

Philip Turner

Bank for International Settlements

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Graph 1

Long-term interest rates are key

In per cent

A. Real long-term interest rate



B. Term premium in 10-year US Treasury¹



¹ Sum of inflation and real yield risk premia in the 10-year US Treasury yield. These are calculated using the BIS term structure model.

Sources: King and Low (©February 2014); Bloomberg; national data; BIS calculations.



- Trend decline in world real long-term interest rate since 2000 cannot be purely a monetary phenomenon
... “global saving glut, global banking glut etc ...”
- Aggressive and non-conventional monetary expansion in the advanced economies added to this
- Change in term premium the major factor
(contrary to expectations theory of interest rates)
 - Key monetary transmission channel in US (echoes of Tobin)
 - Stimulates offshore dollar bond issuance (McCauley et al, 2014)

- This decline in long-term rates reinforced two financial trends in EMEs
 - Increased corporate borrowing in foreign currency
 - Increased foreign holdings of EM local currency debt

- How will EMEs be affected by the normalisation of global monetary policy?



1. ONSET OF MONETARY NORMALISATION IN THE USA

- 2004-06 → Tightening led by the **policy rate** in the US
- 2013 → Tightening led by the **long-term rate** as the term premium narrowed by about 100 basis points (Graph 1)

Two episodes of tightening

In basis points

Table 1

	Low in 2004 to high in 2006 ¹	2013 Q1 to 2013 Q4
Federal Funds rate	+425	0
2-year yield	+292	+8
10-years yields	+27	+90
<i>Inflation element</i>	+4	–5
<i>Real</i>	+23	+95

Averages of daily rates over the period indicated. ¹ Changes from the period 25 June 2003 to 29 June 2004 (when the Federal funds rate was at 1%) to the period 1 June to 31 December 2006 (Federal funds rate at 5.25%).

This pattern of tightening is unusual – even in 1994 the bond market sell-off was driven by changes in expectations about future policy rates*

* See Adrian and Fleming, 2013

Bond yields by May 2014

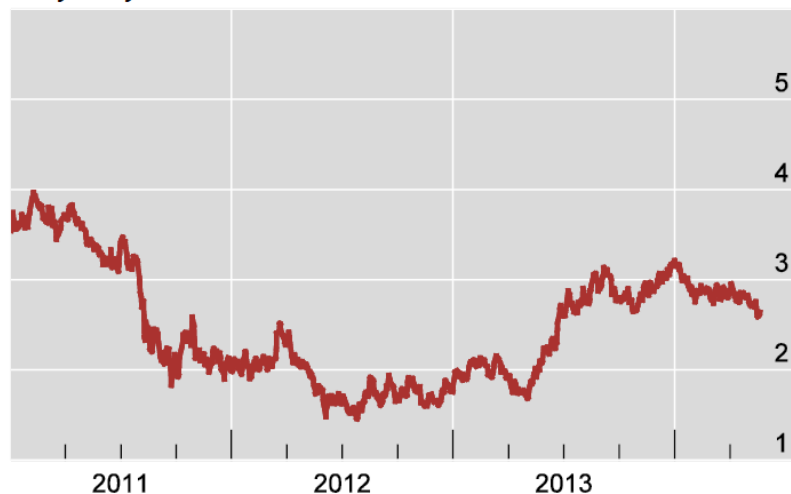
- 10-year yield below 3%
- 5-year forward expectation of 10-year yield is 3½%
(compared with over 5% before mid-2011)

Graph 2

Yields on 10-year US Treasuries¹

In per cent

10-year yield



5-year forward expectation



¹ Zero-coupon yields.

Sources: Bloomberg; national data; BIS calculations.

Long-term yields decline in 2014

Long-term yields decline in 2014

In basis points

Table 2

	Changes from Q4 2013 to mid-May 2014 ¹
Federal Funds rate	0
2-year US yields (zero-coupon)	6
10-year US yields (zero-coupon)	-24
<i>Inflation element</i>	-30
<i>Real</i>	6
10-year Bunds	-42
10-year Gilts	-17

¹ Based on averages of daily rates; for mid-May 2014, average for 12–16 May 2014.

Sources: Bloomberg; national data; BIS calculations.

The policy rate (Federal funds rate) near zero $\longrightarrow$ positive carry remains

- Significance:
 - Defines the base for international banks' **short-term dollar funding** costs
 - Drives **carry trades** along maturity spectrum
- Near zero since late 2008
- Δ bond market volatility $\longrightarrow$ Δ carry-to-risk ratio
- SEE GRAPH 3 ON THE NEXT SLIDE

**Timing and degree of next stage of
monetary normalisation (that is, higher policy rates) still open**



Graph 3

Dollar term spread and interest rate carry-to-risk ratio



¹ Ten-year swap rate minus three-month money market rate, in basis points. ² Defined as the differential between 10-year swap rate and three-month money market rate divided by the three-month/10-year swaption implied volatility.

Sources: Bloomberg; BIS calculations.

Timing of higher policy rates is uncertain

- Central bank forecasts of their policy rate are accurate only a **couple of quarters** ahead*
- Increases tend to be **underpredicted** in the early stages of an upturn

* See Goodhart and Lim, 2011

“Fed drains punch bowl, but don’t leave party yet”

An FT article from Wells Fargo Asset Management drew attention to this:

**“Investors are cautious not to leave the party too early.
The Fed may be starting to empty its punch bowl just
as the market is mixing a new batch.”**

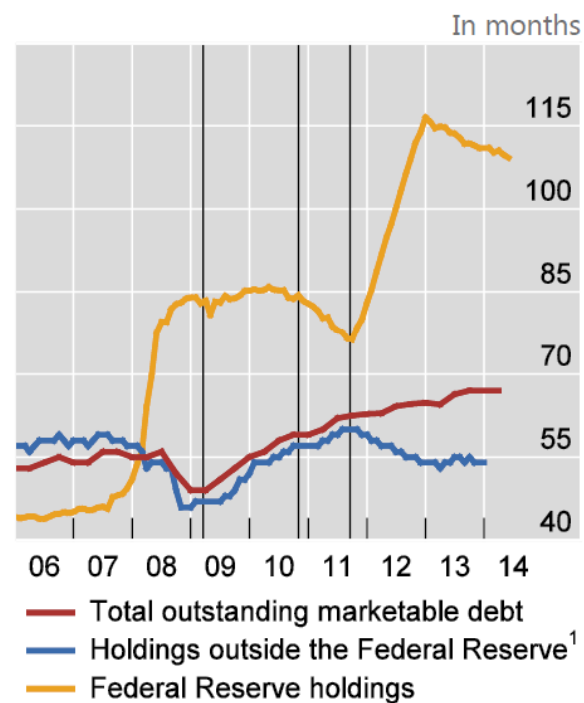
“Fed drains punch bowl, but don’t leave
party yet”, James Paulsen, *Financial Times*,
18 March 2014



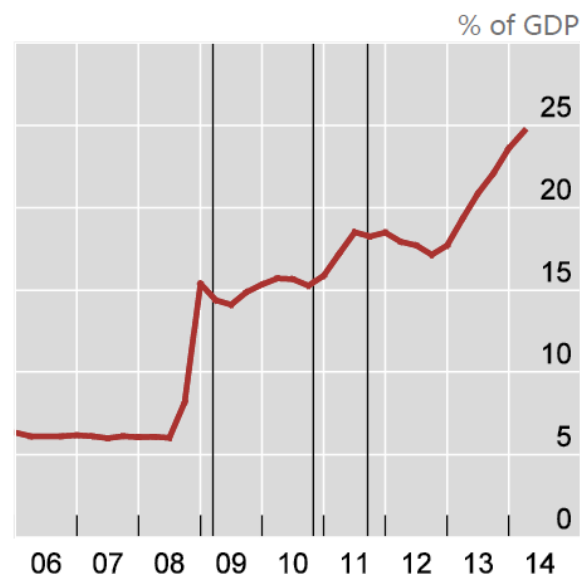
Graph 4

The balance sheet of the Federal Reserve and US public debt

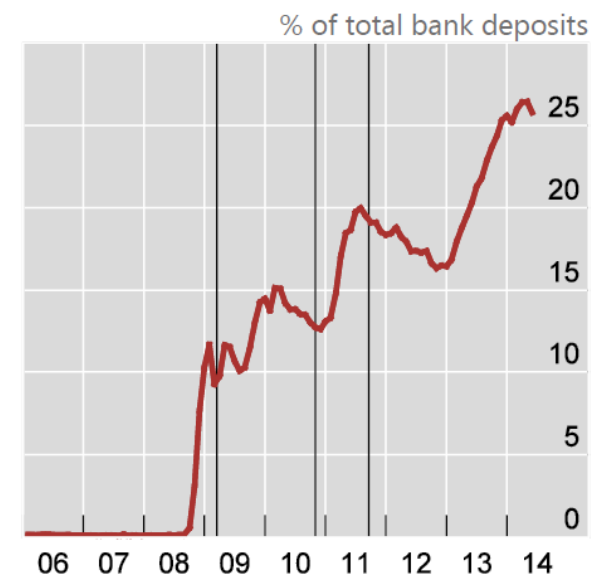
Average maturity of outstanding US public debt



Total assets



Bank reserves deposited with the Federal Reserve



The vertical lines correspond to March 2009 (LSAP1), November 2010 (LSAP2) and September 2011 (MEP).

¹ Private sector and foreign official holdings.

Sources: Datastream; US Treasury; national data.

Objectives for the central bank's balance sheet

- Additional uncertainty about
 - a) **Pace of central bank sales of long-term assets** ... larger sales imply smaller rises in the policy rate during normalisation
 - b) Policy objective for bank reserves or **liquidity in the financial system****
- “New normal” for interest rates, long or short is unknown
- A new theory of monetary policy required? (Friedman, 2014)

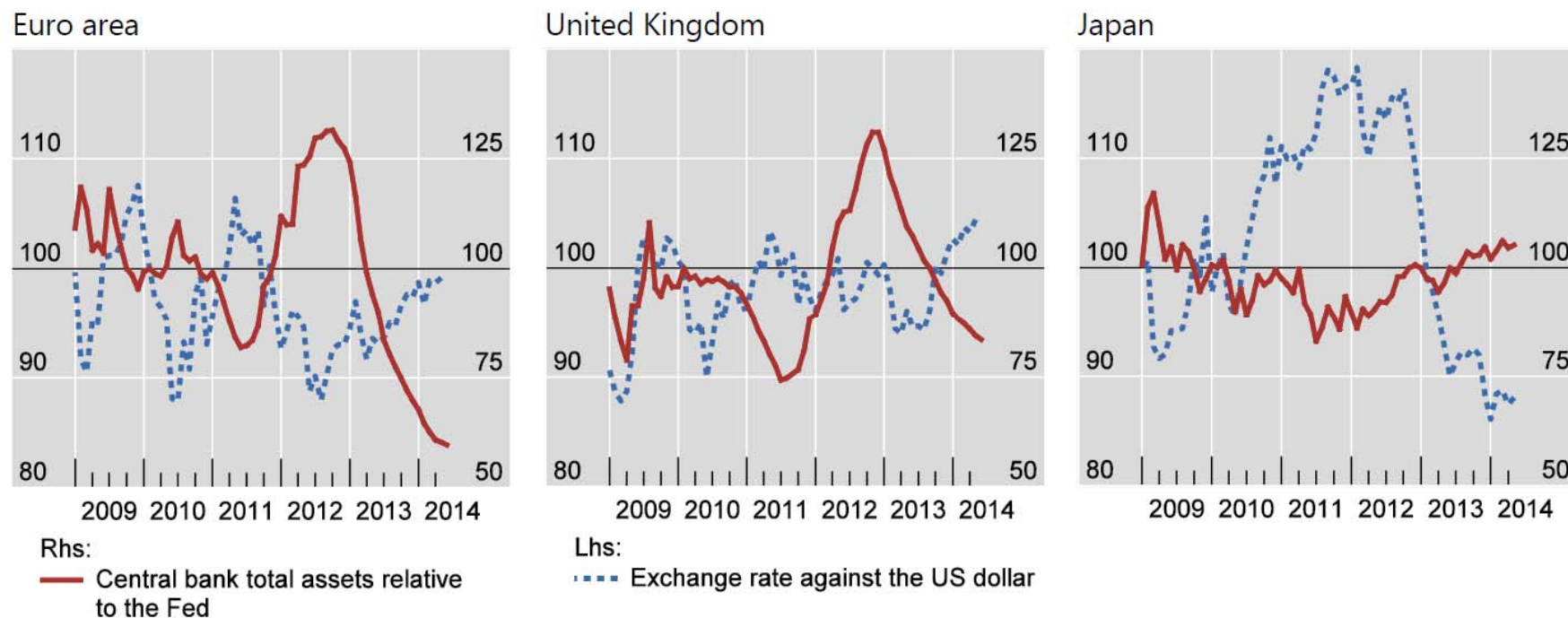
** Gagnon and Sack, 2014

Divergent central bank balance sheets and exchange rates

Graph 5

Central bank balance sheets and exchange rates relative to the United States¹

January 2010=100



¹ Total assets converted to US dollars at average exchange rate of 2010. An increase in the exchange rates implies an appreciation against the US dollar.

Sources: Datastream; national data.

2. BOOM IN INTERNATIONAL BOND ISSUANCE BY EM COMPANIES

- Issuance data on a **nationality (not residence)** basis – including overseas subsidiaries such as financing vehicles
 - A wider concept than balance-of-payments, external debt and other cross-border statistics ... corresponds to the company's consolidated balance sheet
- See table on next slide
- Increased international bond issuance has not reduced cross-border bank borrowing ... so **foreign currency exposures** have risen*

* Turner, 2014



Net issuance of international bonds by EM companies

By nationality of issuer, \$ billion

Table 3

	2010	2011	2012	2013	Total
Total ¹	152	167	284	321	924
Banks	48	49	133	105	335
Non-banks	104	118	151	216	589
<i>Memorandum:</i>					
HK and Singapore	12	10	40	22	84

Source: Turner (2014).

¹ Including euro area member states Estonia, Slovakia and Slovenia and excluding major international banking centres.

Some questions about corporate balance sheets

- Nature and **quality of assets**?
 - Foreign or local currency assets (property developers in China?)
 - Dependence on cyclical high of commodity prices? Many believe we are past the peak in the commodity cycle
- **Corporate leverage**?

Aggregate leverage measured by debt/income in many EMEs has increased since 2008. This means that firms are more sensitive to a simultaneous rise in interest rates and a fall in sales
- Do companies have **natural hedges** from forex exposures?
- Are exposures **concentrated** with weak companies? Do companies with low **Interest Coverage Ratios** (ICRs) account for an increased share of corporate debt?

Good recent analysis in the IMF's April 2014 GFSR, but better data still needed: could corporate credit risks aggravate interest rate risks?

Implications for domestic banks in EMEs

- Companies borrow less from local banks who have to find other customers ... so **bank credit eased** for domestic borrowers
- Companies **fund banks** in local wholesale markets
 - Such deposits are more procyclical than other bank deposits ... and so key to global liquidity*
 - Issuance of overseas debt and domestic bank credit are positively correlated**
- Companies often **hedge forex or maturity exposures** with local banks

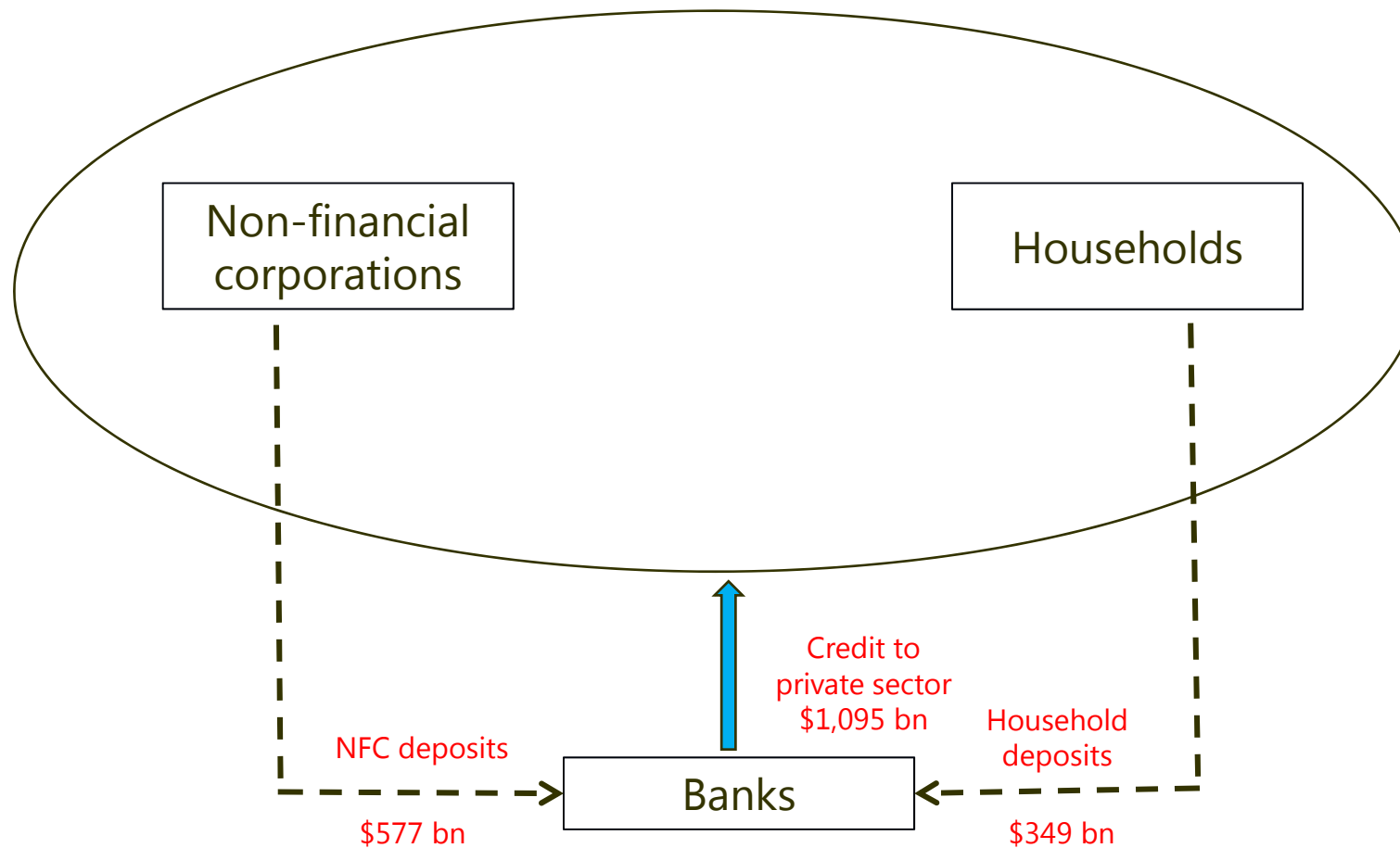
**Bond issuance boom has helped fuel strong credit growth in EMEs
and this may well reverse in the coming year****

* See Chung et al, 2014

** See Inter-American Development Bank, 2014

Change in bank deposits and domestic credit, 2009-13

An example from Latin America*



* Sum of Brazil, Chile, Colombia and Mexico. In billions of US dollars.

Source: IADB (2014)

3. INTEREST RATE EXPOSURES OF FOREIGN INVESTORS IN EM CURRENCIES

- Dollar value of EM **local currency debt outstanding has doubled** since 2008*
- The proportion held by **non-residents** has risen from 13% in 2008 to 27% today
 - Clear evidence that bond flows are more sensitive to global financial conditions than equity flows (IMF, 2014)
 - Three-fold increase in cross-border bond liabilities of EMEs since 2008 (\$billion)***

Dec 2008	Dec 2012	June 2013
583	1748	1674

- IMF estimate that stock of EM bonds in portfolio investment from the advanced economies is **\$480 billion above the extrapolated 2002-07 trend**
- EM local bond yields now react more to **changes in global bond markets****

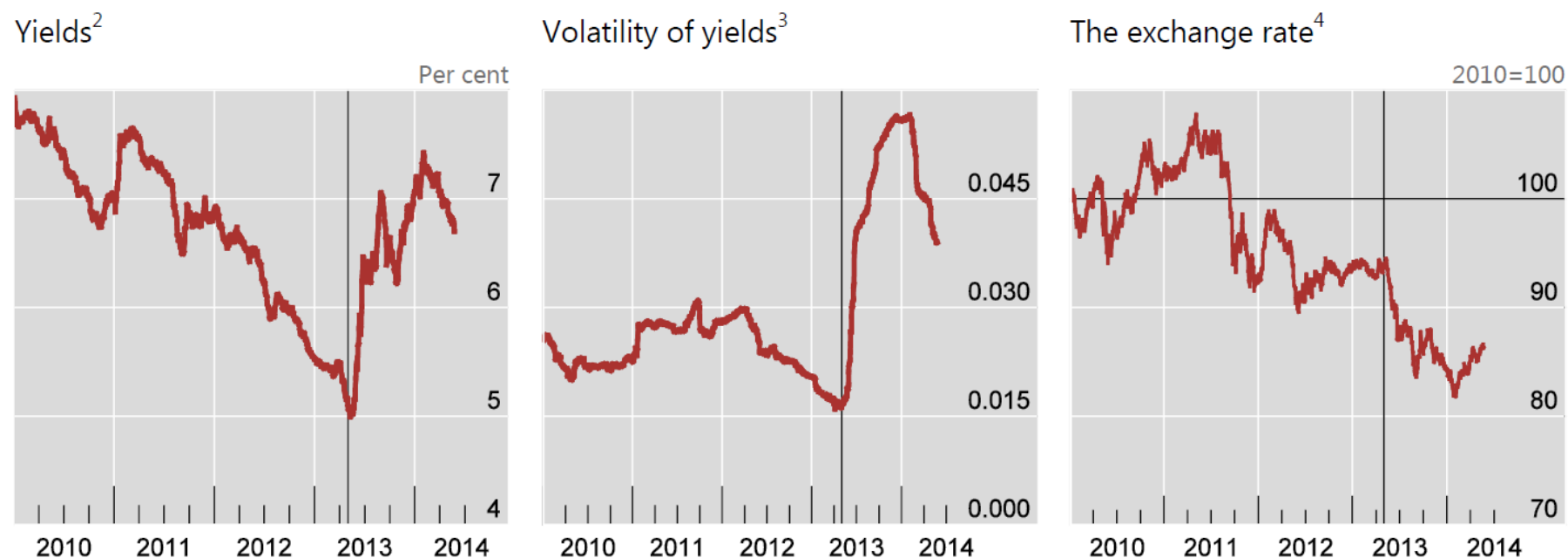
* See World Bank, 2014

** See Miyajima et al, 2012

*** See IMF Coordinated Portfolio Investment Survey, March 2014

Yields of local EM government bonds and the exchange rates¹

Graph 8



The black vertical lines correspond to 1 May 2013 (FOMC statement changing the wording on asset purchases).

¹ All 3 graphs show the simple average of Brazil, India, Indonesia, Malaysia, Mexico, the Philippines, Poland, South Africa and Turkey. ² Yields on 5-year local currency bonds. ³ 180-day moving standard deviation of daily changes in yields. ⁴ In dollars per unit of local currency.

Sources: Bloomberg; national data; BIS calculations.

CONCLUSION

1. Monetary policy normalisation in the advanced economies has started, led by the benchmark **long-term interest rate** – a market-led normalisation
2. Changes in the term premium key ... re-think the role of the central bank's balance sheet
3. The "how" and the "when" of further normalisation not known.
 - a) When **policy rates** will increase is uncertain.
Central banks historically not good at forecasting their own policy rate more than 2-quarters ahead
 - b) **Central bank balance sheet objectives** for coming years not known
 - c) Impact on **exchange rate**
4. Three **shocks** to EMs
 - a) EM corporate bond issuance in international markets: is this reversing?
 - b) Higher long-term rates in local currency
 - c) Lower exchange ratesEMEs now key in the transmission mechanism of global monetary normalisation.

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