BANK FOR INTERNATIONAL SETTLEMENTS

US monetary normalisation, bond markets and policy choices in emerging markets

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- Two financial trends in EMEs over the past 5 years to note:
  - Increased corporate borrowing in foreign currency
  - Increased foreign holdings of EM local currency debt

- Both trends have been reinforced by aggressive and unconventional monetary expansion in the advanced economies.

- So: how will EMEs be affected as the normalisation of global monetary policy proceeds?

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)

In basis points

	Low in 2004 to high in 2006[1]	2013 Q1 to 2013 Q4
Federal funds rate	+425	0
2-year yield	+292	+8
10-year yields	+27	+90
Inflation element	*+4*	*-5*
Real	*+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*

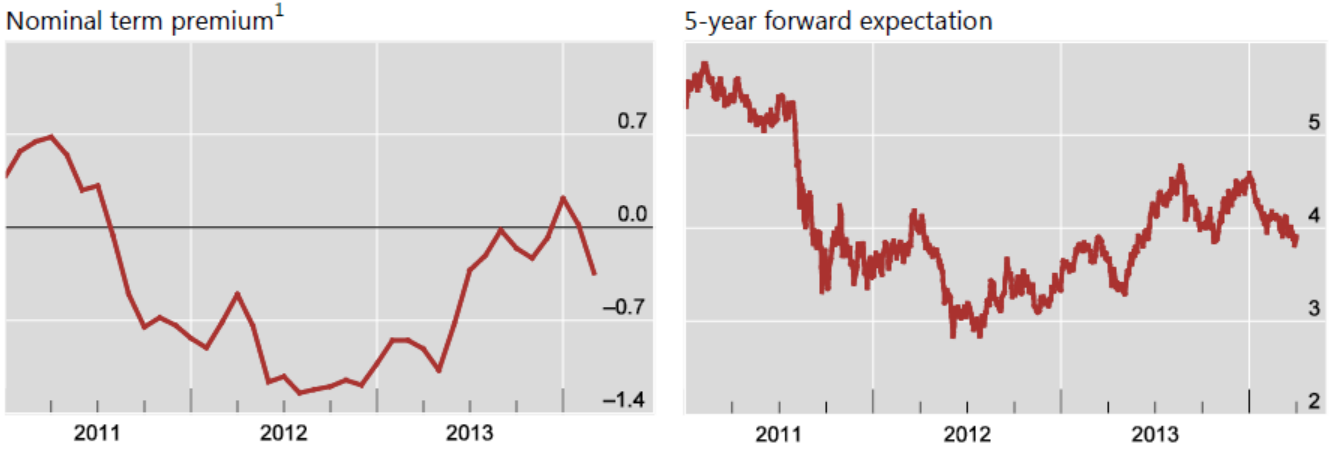
* See Adrian and Fleming, 2013

Bond yields in early 2014

- Term premium still near zero
- 5-year forward expectation of 10-year yield is 4%

Yields on 10-year US Treasuries

In per cent — Graph 1



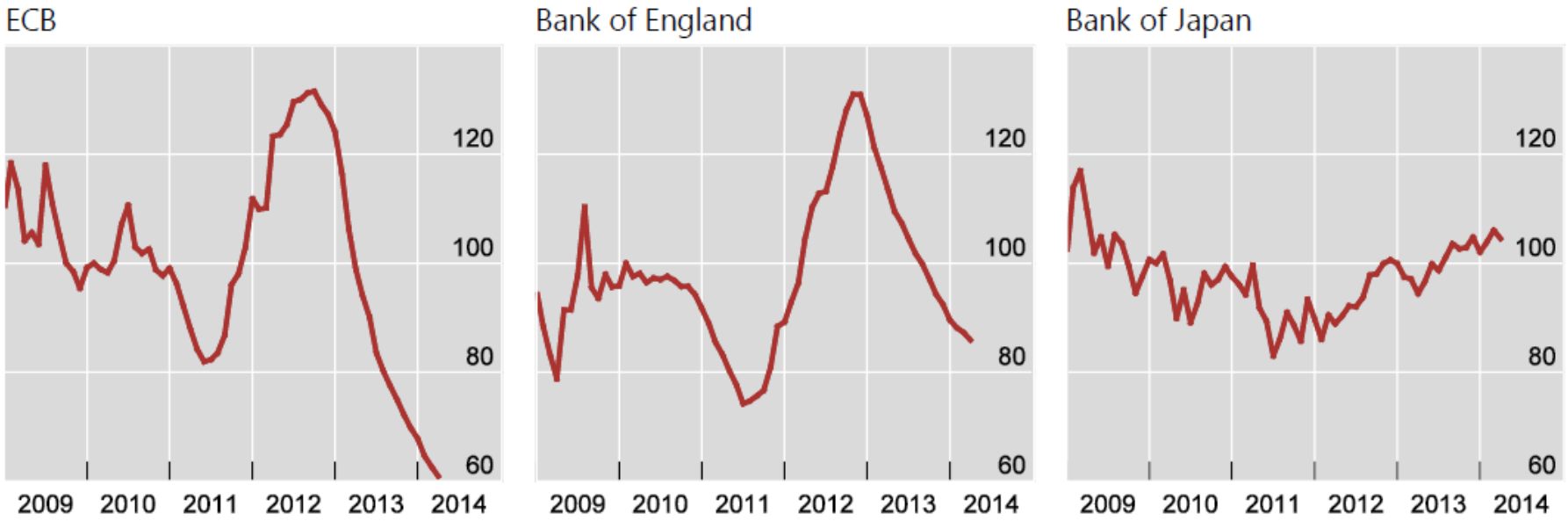
[1] Sum of inflation and real yield risk premia in the 10-year US Treasury yield. These are calculated using the BIS term structure model.

Sources: Bloomberg; national data; BIS calculations.

Divergent central bank balance sheets, global demand and exchange rates

Central bank balance sheets relative to Federal Reserve[1]

2010=100 Graph 2

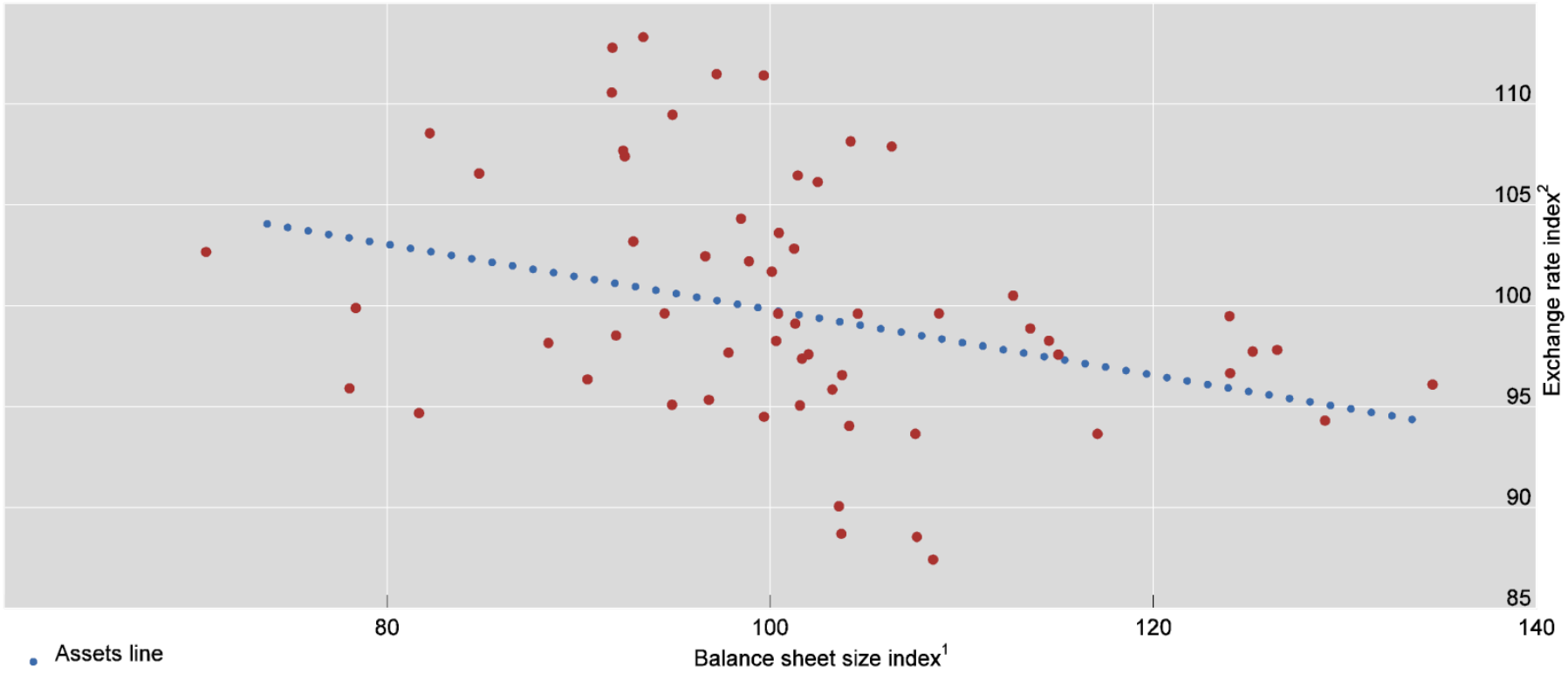


[1] Balance sheets converted into US dollars at average exchange rate of 2010.

Source: Datastream; BIS calculations.

Graph 3

The relative size of central bank balance sheets and exchange rates (2010=100)



Note: data are quarterly averages over the period 2009 Q1-2013 Q4; regression line analytical form is (t-statistics in parenthesis):

$$XR = 116.6_{(18.8)} - 0.16_{(-2.7)} * BS$$

[1] Balance sheets of BoE, BoJ and ECB relative to FED. [2] Exchange rates are expressed as number of dollars for one unit of other currencies.

Sources: Datastream; BIS calculations.

The policy rate (Federal funds rate) near zero ⟶ 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 ⟶ Δ carry-to-risk ratio

- SEE GRAPH 4 ON THE NEXT SLIDE

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

Graph 4

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

The vertical line corresponds to May 1st 2013 (FOMC statement changing the wording on asset purchases).

[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.

"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

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

- 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, unknown but higher than current levels

* See Goodhart and Lim, 2011

** Gagnon and Sack, 2014

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 1

	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
Memorandum:					
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.

Net issuance of international bonds by companies in emerging Europe[1]

By nationality of issuer, $ billion

Table 2

	2010	2011	2012	2013	Total
Total	29.0	16.7	66.7	48.8	155.1
Banks	17.8	6.0	44.6	19.0	87.4
Non-banks	11.2	4.6	22.1	29.8	67.7

Source: An extension of Turner (2014).

[1] Including Russia, Turkey and Ukraine.

Net issuance of international bonds by EM companies: by country

By nationality of issuer, $ billion

Table 3

	2010	2011	2012	2013	Total
Russia	20.7	6.2	51.0	27.6	105.5
Ukraine	0.9	1.2	–1.1	4.2	5.2
Turkey	2.6	1.8	6.3	9.4	20.2
Czech Republic	2.9	0.4	3.5	2.5	9.4
Hungary	–1.1	–0.3	1.6	0.9	1.1
Poland	2.0	1.4	5.9	–0.5	8.8

Source: An extension of Turner (2014).

Shrinking international bond issuance in 2014 Q1?

Change in net issuance of international bonds by EM corporates — Table 4

	2010–13 $ bn	% change from 2013 Q1 to 2014 Q1
Total	924	–32
Banks	335	–55
Non-banks	589	–25

… but wide diversity across countries

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?

A substitute for reduced borrowing from international banks?

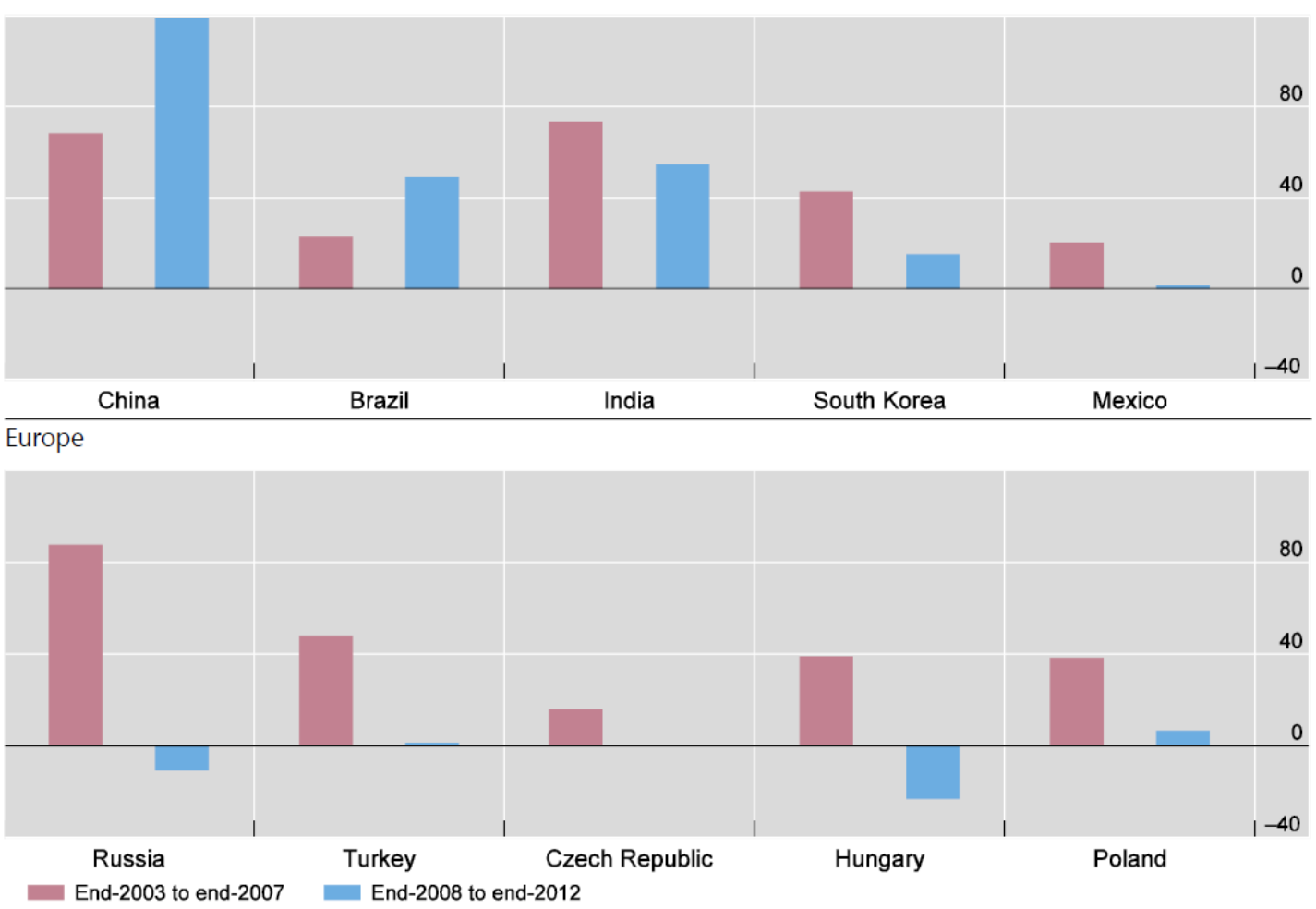
- No, for the biggest issuers – Brazil, China where borrowing from international banks increased from 2003-07 to 2008-12

- Yes, for emerging Europe

Changes in banks' consolidated foreign claims on EM private sector

In billions of US dollars

Graph 5



Source: BIS consolidated banking statistics.

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

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 portfolio investment from advanced economies to EM bonds 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

Equities versus bonds

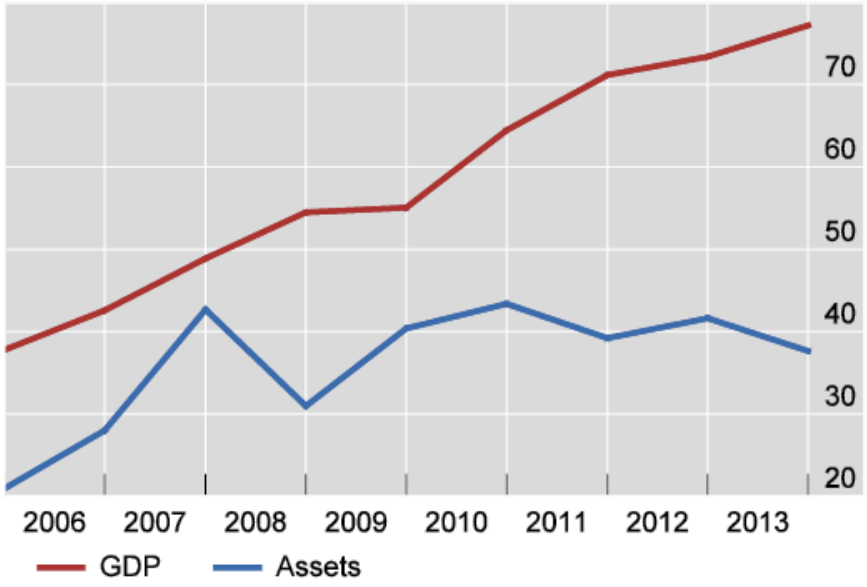
- EM assets flat as proportion of advanced economy assets
- EM GDP has risen much faster
- Foreign demand for bonds a **yield play** but for equities represents a stake in **EME growth potential**

EME assets and GDP

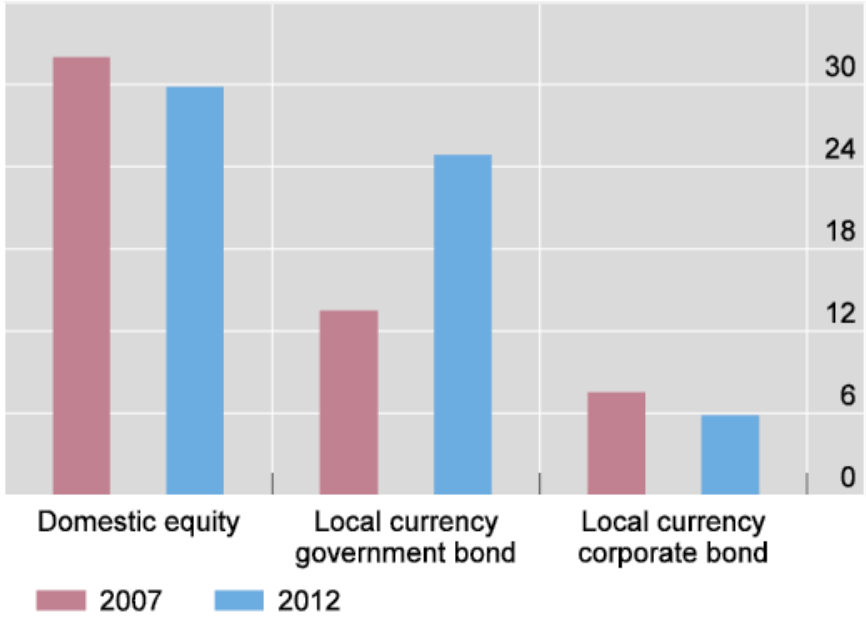
In per cent

Graph 6

As a percentage of G5[1] values



Foreign ownership of EME assets



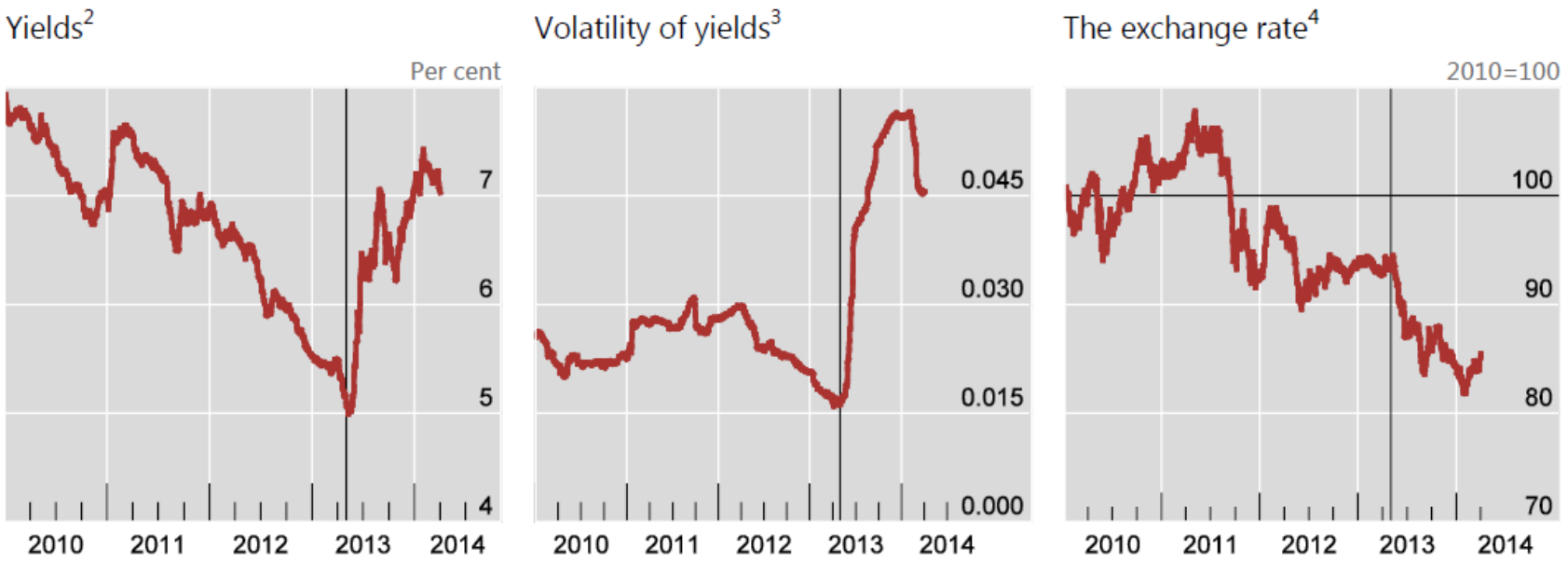
Note: Selected 22 EMEs. EME financial assets = stock of international debt and domestic bonds and notes by all issuers by residence + equity market cap. FC=T14b (intl bonds and notes by residence), LC=T16A (domestic debt by residence), eq=BBG U$ market cap G5 equity market cap and government debt.

[1] Germany, France, Japan, UK, US.

Sources: BIS calculations based on Bloomberg and IMF WEO, authors' calculations.

Yields of local EM government bonds and the exchange rates[1]

Graph 7



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.

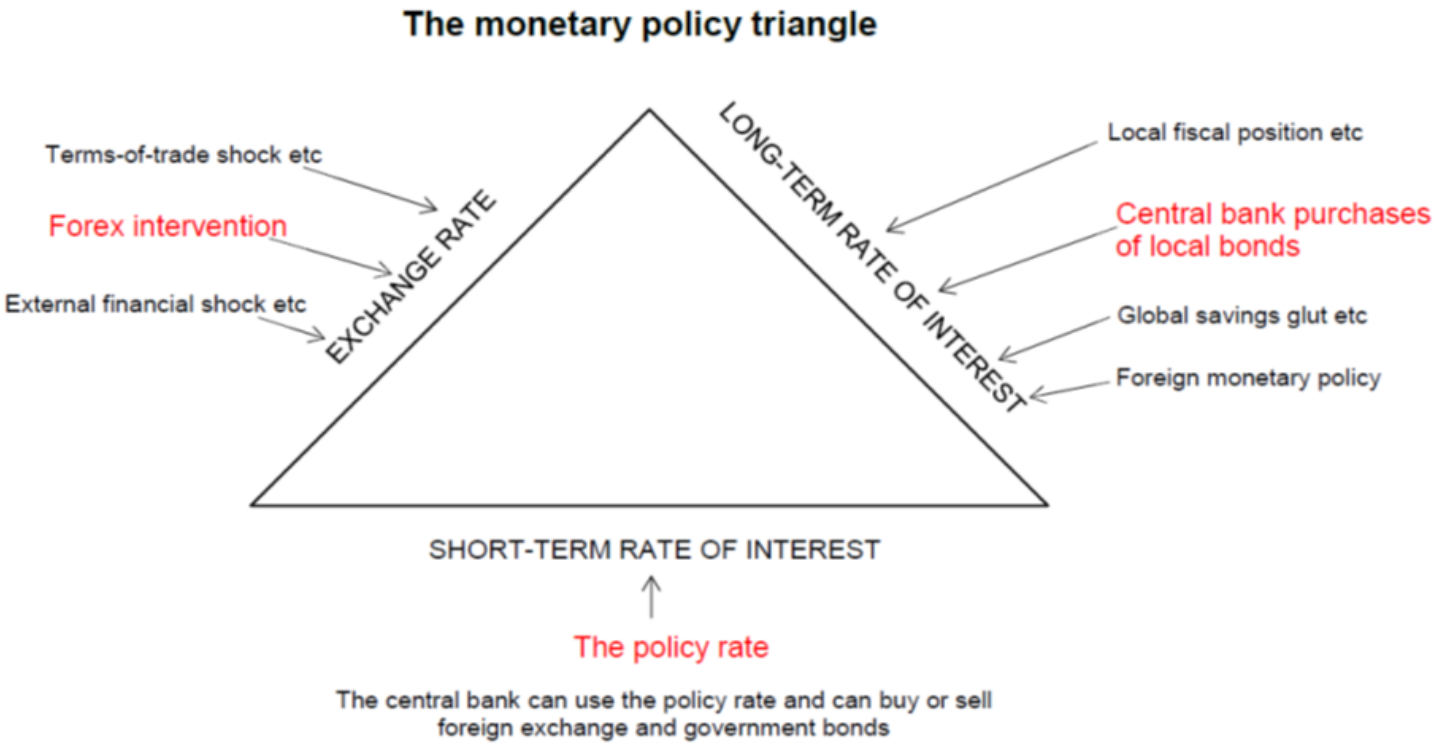
Sources: Bloomberg; national data; BIS calculations.

Monetary conditions in EMs tighten?

- Central banks can deal more readily with shocks to local currency debt than to foreign currency debt … can act as Lender of Last Resort
- But calibrating the monetary policy response is complex.
  Monetary conditions depend on
  a) Short-term policy rate
  b) Exchange rate
  c) Long-term interest rate on government bonds

Policy decisions much more difficult when increased market volatility itself curbs aggregate demand

Monetary policy triangle

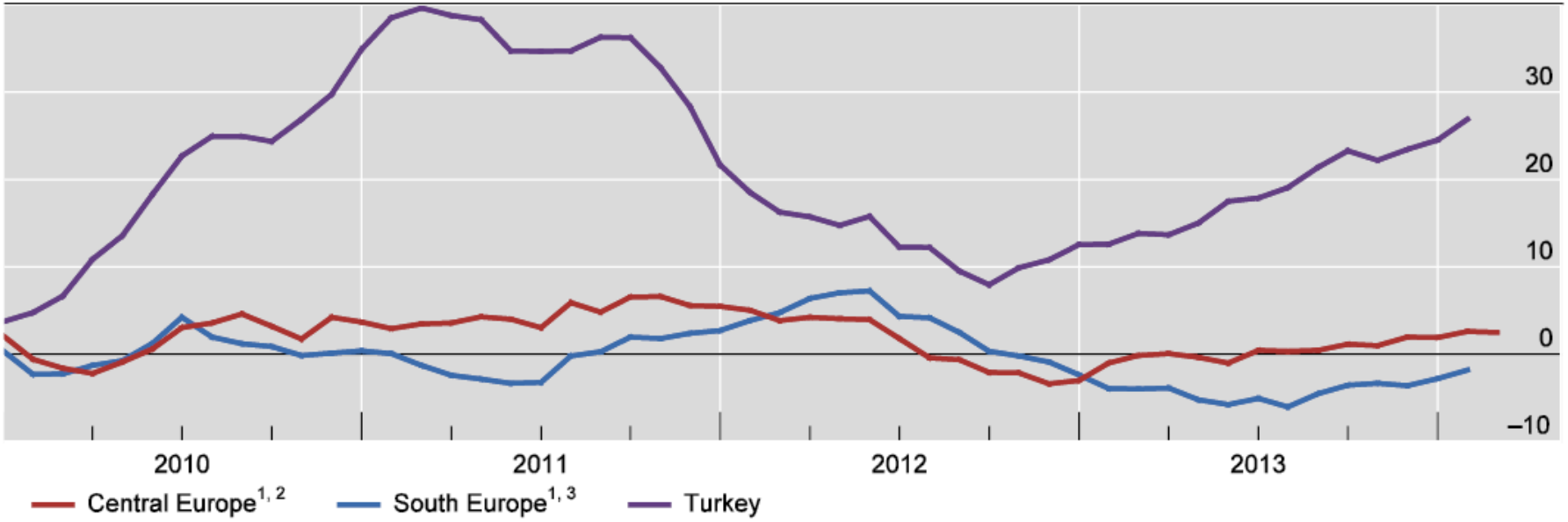


Monetary policy choices in emerging Europe

- With the exception of Turkey, growth of domestic bank credit to the private sector close to zero [Graph 8]
- Closer links to the euro area than Asian or Latin American countries – long-term interest rate on Bunds below that of US Treasuries
- Interest rates have not risen sharply as in some EMs [Graph 9]

Growth of domestic bank credit to the private sector

Annual percentage changes, in real terms (deflated by CPI) Graph 8



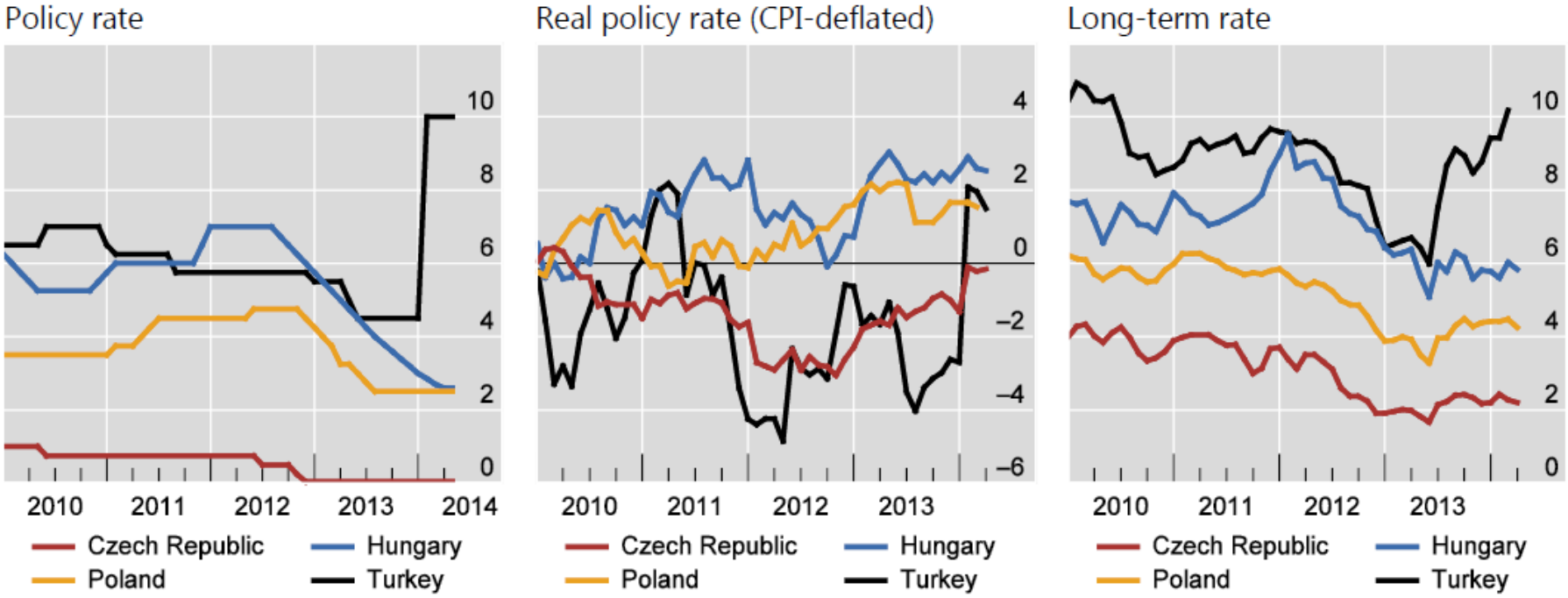
[1] 2010 GDP-PPP weighted averages. [2] Croatia, Czech Republic, Hungary, Slovakia and Poland. [3] Albania, Bosnia & Herzegovina, Bulgaria, Macedonia, Romania and Serbia.

Sources: IMF, *International Financial Statistics*; national data; BIS caculations.

The policy rate and long-term rates in major CEE countries

In per cent

Graph 9



Sources: Datastream; national data.

CONCLUSION

1. Monetary policy normalisation in the advanced economies has started, led by the benchmark **long-term interest rate** – a market led normalisation

2. Further normalisation inevitable. When **policy rates** will increase is uncertain. Central banks historically not good at forecasting their own policy rate more than 2-quarters ahead

3. 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 rates

These shocks will tend to **lower domestic demand** in EMs. Takes 2 to 3 quarters for this to be felt

In addition, some EMs will **tighten monetary policy** … but not necessarily in emerging Europe

EMEs are likely to have a greater influence on the transmission mechanism of global monetary normalisation.
This will feed back to the advanced economies …. so watch out!

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