Global drivers and effects of capital flows: views from the recent literature

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Outline

1. Traditional view of capital flows
2. Some puzzles
3. New, emerging view

Traditional view

Capital flows are counterpart to domestic saving and investment decisions – current account as a resource and financing constraint:

$$Y = C + I + G + X - M$$

$$X - M = Y - C - I - G$$

$$CA = Y - C - G - I$$

$$CA = S - I$$

$$(CA = \Delta B)$$

No distinction between resource and financing constraints, current account synonymous with foreign borrowing/lending.

Traditional view (2)

Further assumptions:

- Single agent economy: firms, households, government can be summed up into one representative decision maker;
- No financial sector;
- Economic area defined by GDP boundary: no off-shore activities (eg off-shore borrowing by subsidiaries of domestic firms);
- GDP and currency areas coincide (all borrowing/lending by domestic agents takes place in domestic currency).

Traditional view (3)

Implications for analysis:

- For vulnerabilities, look at domestic imbalances, external current account, net capital flows, net IIPs;
- Sufficient to consider overall resource imbalances in the economy;
- Global factors do not affect domestic financing conditions if net capital flows are small;
- Standard macro policies for correcting imbalances:
  - Low domestic saving relative to investment, or excessive aggregate spending relative to domestic income (deficits);
  - High domestic saving relative to investment, or insufficient aggregate spending relative to domestic income (surpluses).
- Strategic policy choices summarised in the "trilemma".

Old puzzles

Why are some imbalances so persistent?

- Last US surplus in 1981, UK in 1983, Spain in 1986;
- Last deficit in Japan and Switzerland in 1980, China in 1993, Korea in 1997.

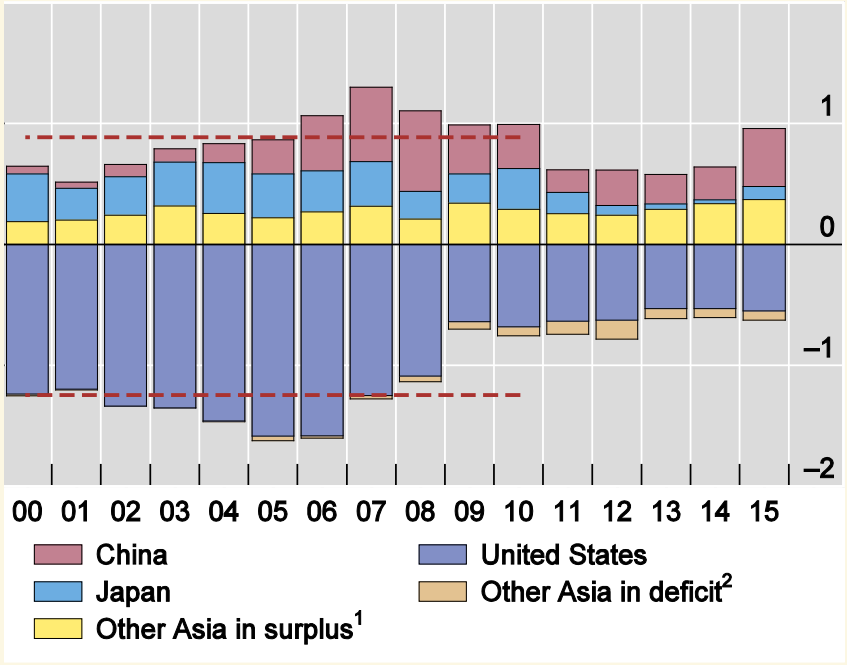
Possible reasons for persistence:

- Part of economic development, eg deficits in Brazil, India, Mexico, South Africa, Turkey,
- vs surpluses in Austria, Germany, Japan, the Netherlands, Nordic countries, Switzerland;
- Persistent surpluses are also not surprising in commodity (esp. oil) exporting countries.

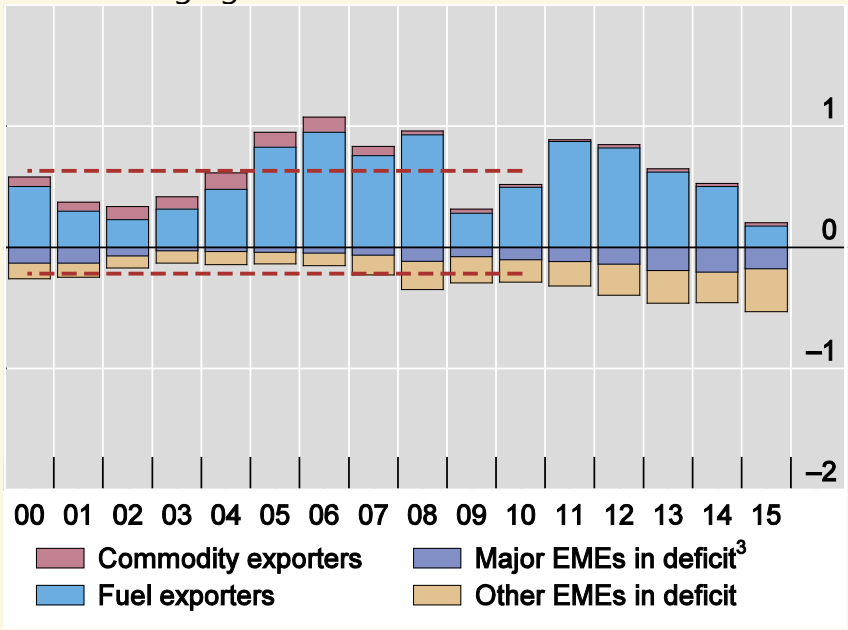
Global imbalances

Current account balances as a percentage of world GDP

United States and Asia



Other emerging market economies



The dashed lines denote average values of surpluses and deficits during the period 2000–10.

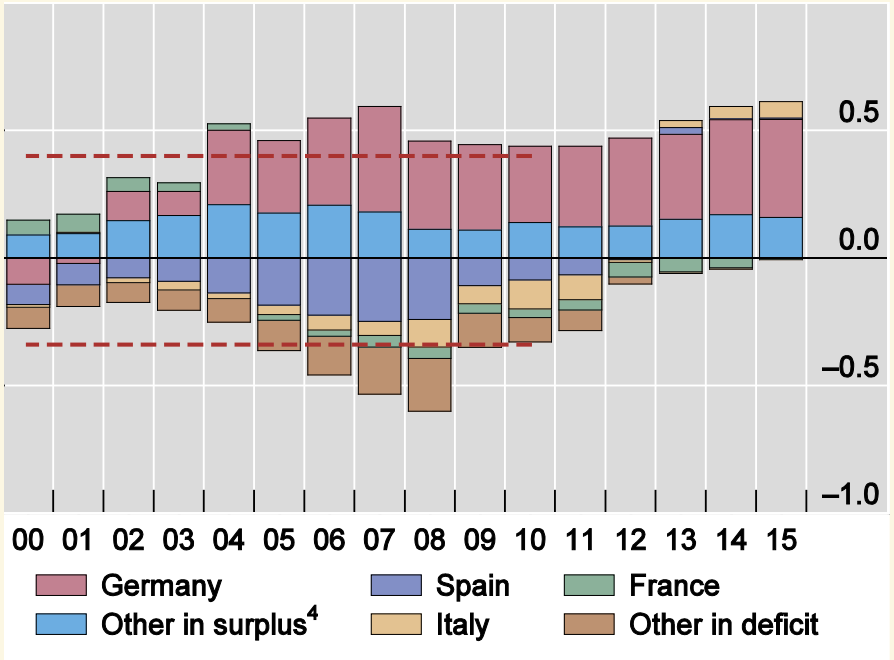
[1] Including Chinese Taipei, Hong Kong SAR, Korea, Malaysia, Singapore and Thailand. [2] Including India. [3] Brazil, central and eastern Europe (CEE), Colombia, Mexico, South Africa and Turkey.

Source: IMF, *World Economic Outlook*, April 2015.

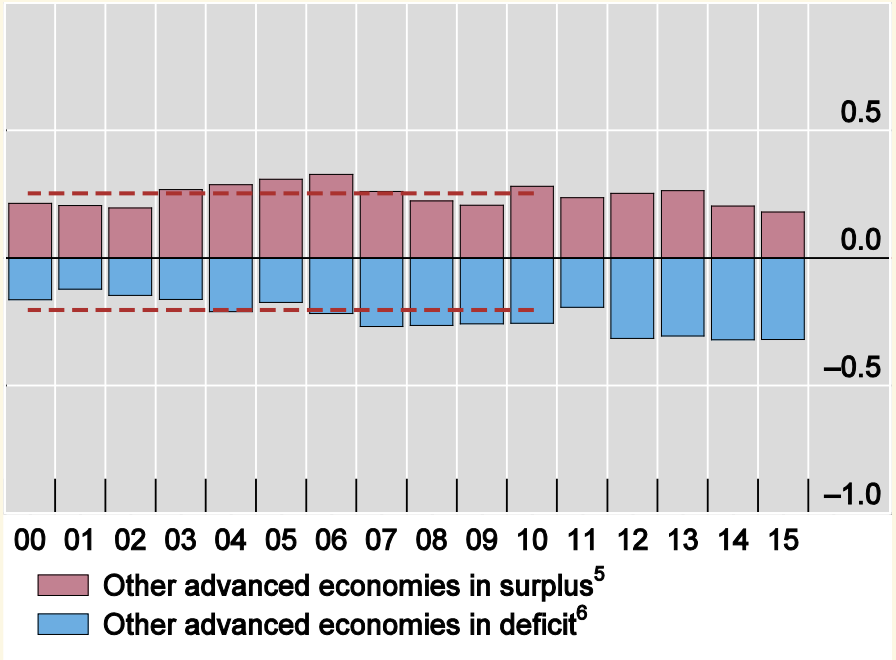
Global imbalances (cont)

Current account balances as a percentage of world GDP

Euro area



Other advanced economies



The dashed lines denote average values of surpluses and deficits during the period 2000–10.

[4] Includes Austria, Belgium, Finland and the Netherlands. [5] Denmark, Israel, Norway, Sweden and Switzerland. [6] Australia, Canada, New Zealand and the United Kingdom.

Source: IMF, *World Economic Outlook*, April 2015.

Old puzzles (2)

"Uphill capital flows":

- Why do we observe persistent deficits in advanced economies (US, UK, France, Italy, Spain, Australia),
- … and surpluses in EMEs (China, Korea, Southeast Asia)?

One explanation: "saving glut hypothesis"

- Use of USD as anchor currency in main deficit and surplus economies;
- "Excessive" saving in China and EM Asia;
- Resistance to exchange rate appreciation and capital inflows in surplus EMEs;
- Strong preference of investors in China / EM Asia for US financial assets.

New puzzles

Prior to the crisis, US had large CA deficit, China and EM Asia large surpluses. There were large capital inflows from China / EM Asia to the US (7% of region's GDP in net cross-border bank claims).

At the same time, euro area's CA was roughly in balance, but net capital flows from the euro area to the US were nevertheless large (8% of euro area's GDP in net cross-border bank claims).

By looking at CA balances, one would expect China and EM Asia to be hit by the US-based crisis much more than the euro area.

Yet China was largely unaffected, while the euro area was hit very hard. What did we miss by focusing on current accounts and net flows?

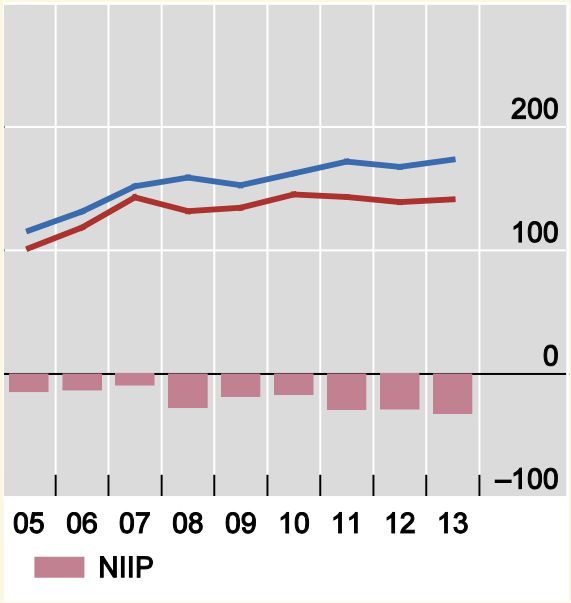
Net international investment positions

NIIPs show difference between gross external assets and liabilities of a country (ie between stocks of their external A&L)

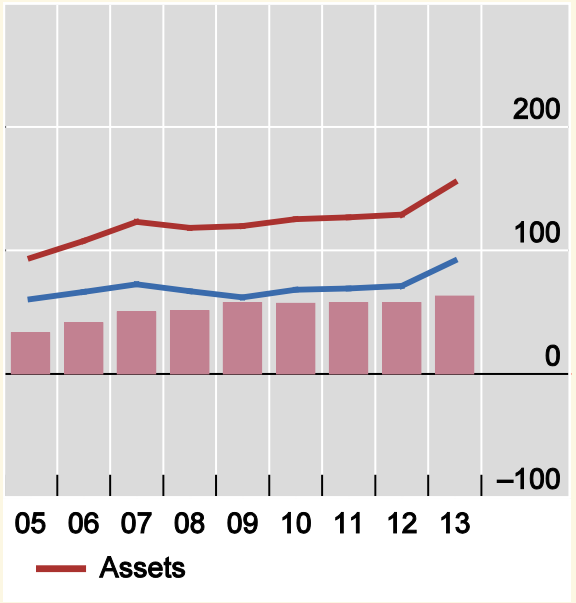
Net international investment positions of major economies

As a percentage of GDP

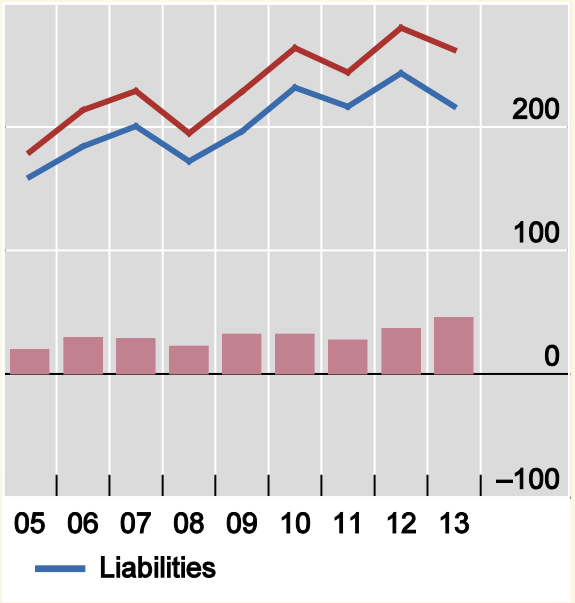
United States



Japan



Germany



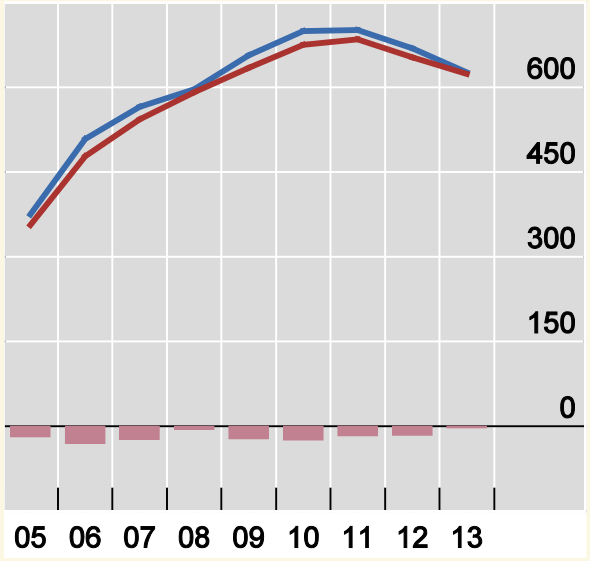
NIIPs (cont)

Can we assess sustainability of external positions on the basis of these NIIPs?

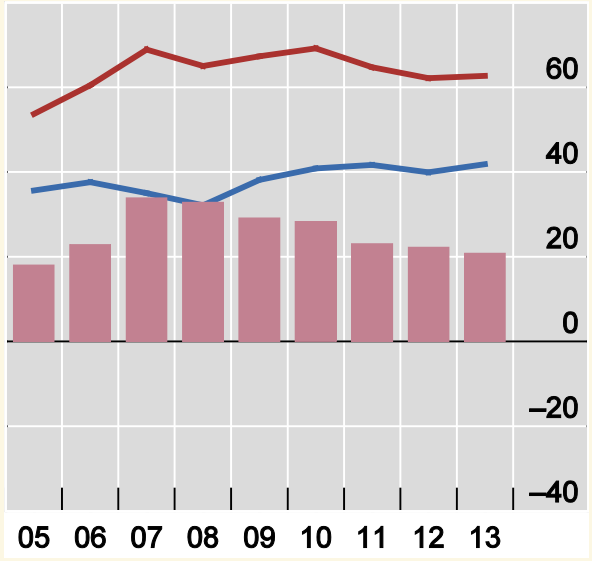
Net international investment positions of major economies

As a percentage of GDP

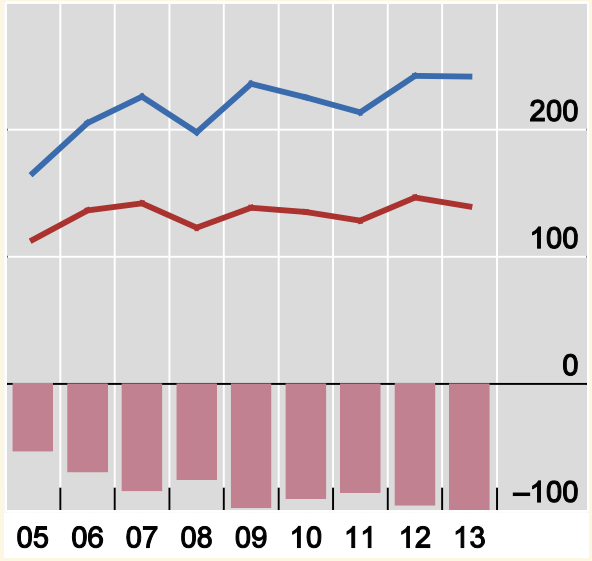
United Kingdom



China



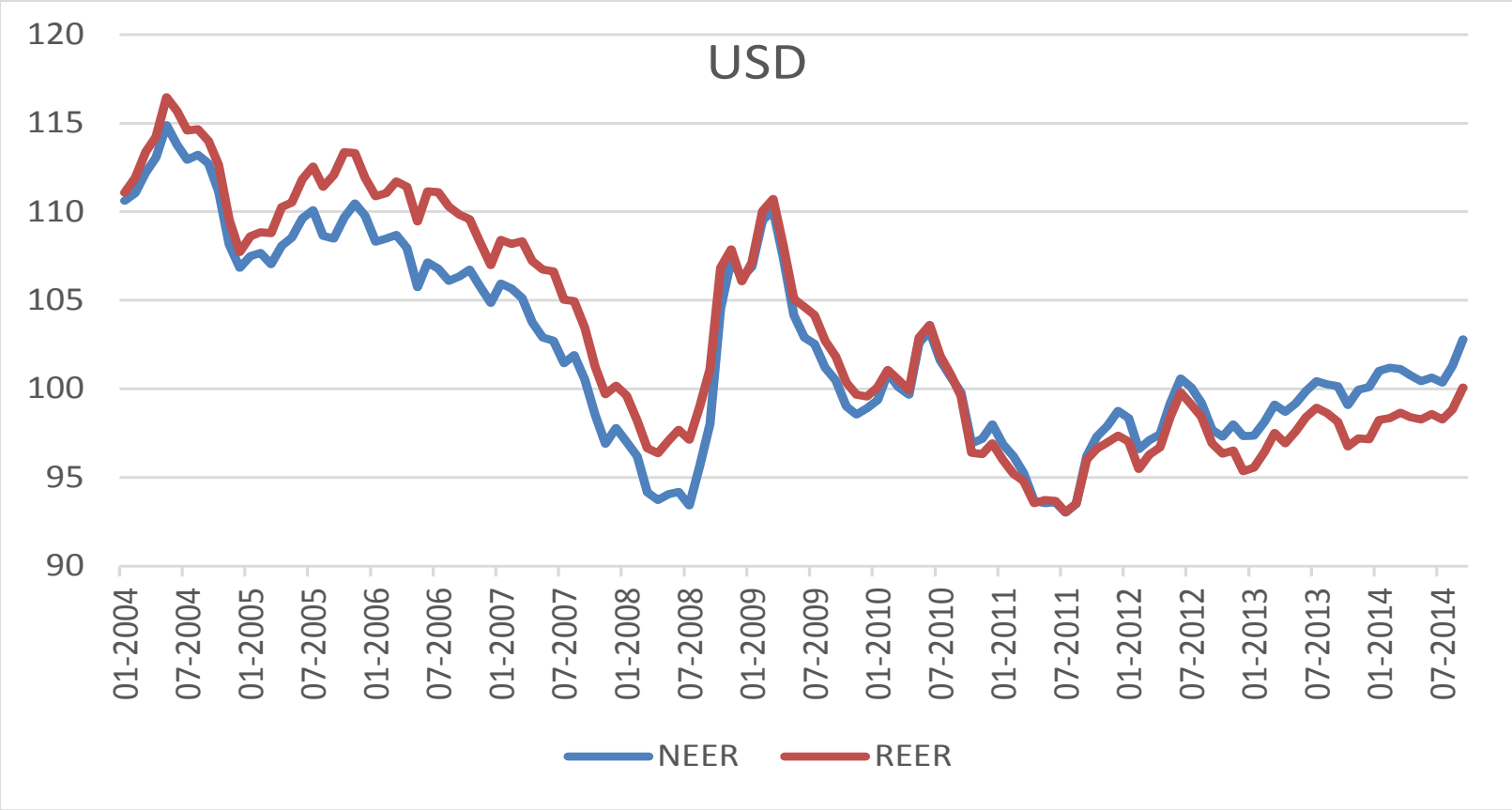
Spain



Sources: IMF, *International Financial Statistics* and *World Economic Outlook*.

New puzzles (2)

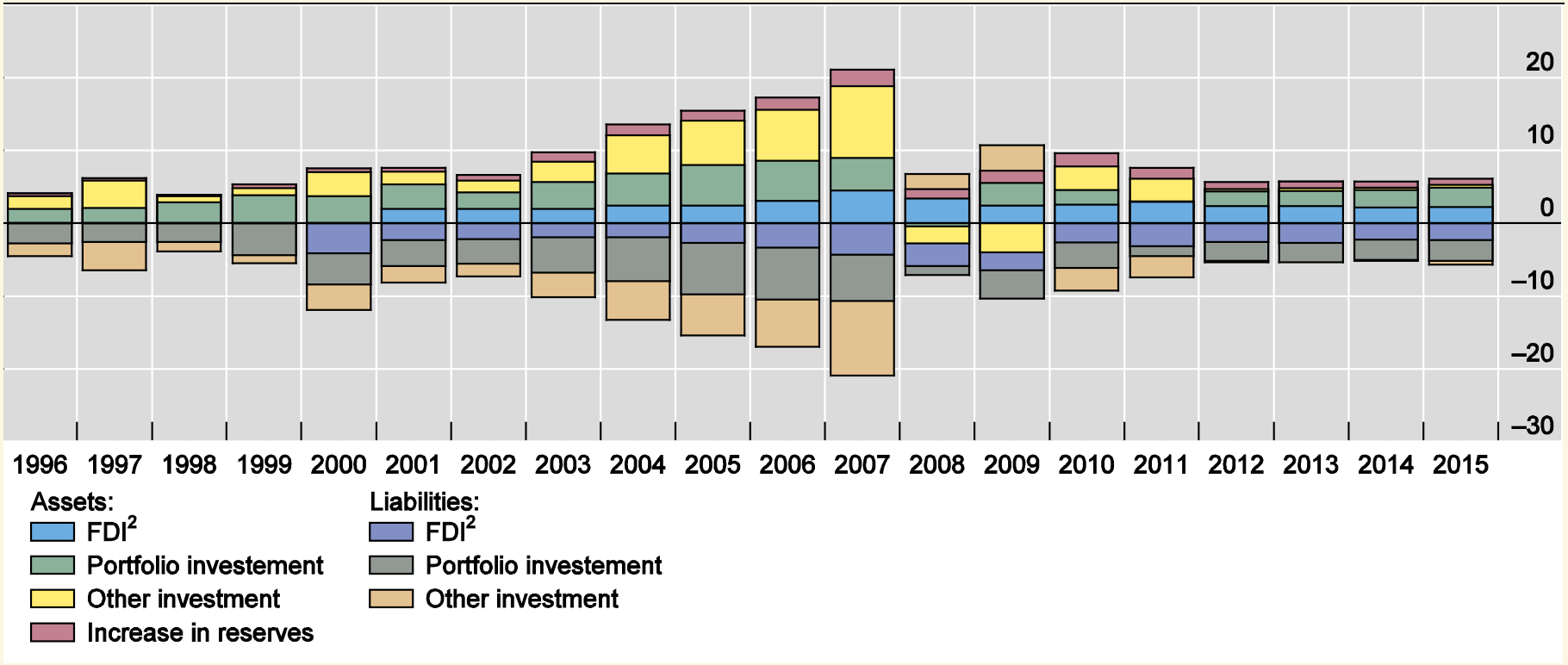
Why did dollar appreciate strongly in late 2008? After all, the US economy was at the center of the crisis and had a large CA deficit?



Insights on the puzzles – look at gross flows, their composition

Global gross capital flows[1]

As a percentage of world GDP



[1] Changes in assets (outflows) and liabilities (inflows) over the period. [2] Foreign direct investment.

Source: IMF, *World Economic Outlook*.

Insights from gross flows (previous slide)

Huge increase in portfolio investment (equities and bonds) and especially cross-border lending ("other investment") in 2003 – 07;

Complete reversal of cross-border banking flows in 2008 – 09; cut-backs in cross-border lending, withdrawal of deposits;

Some recovery in 2010 – 11, but cross-border lending has almost disappeared since 2012;

Portfolio flows have been more resilient to crisis: recovered in 2009, stabilised since at around 2002 level;

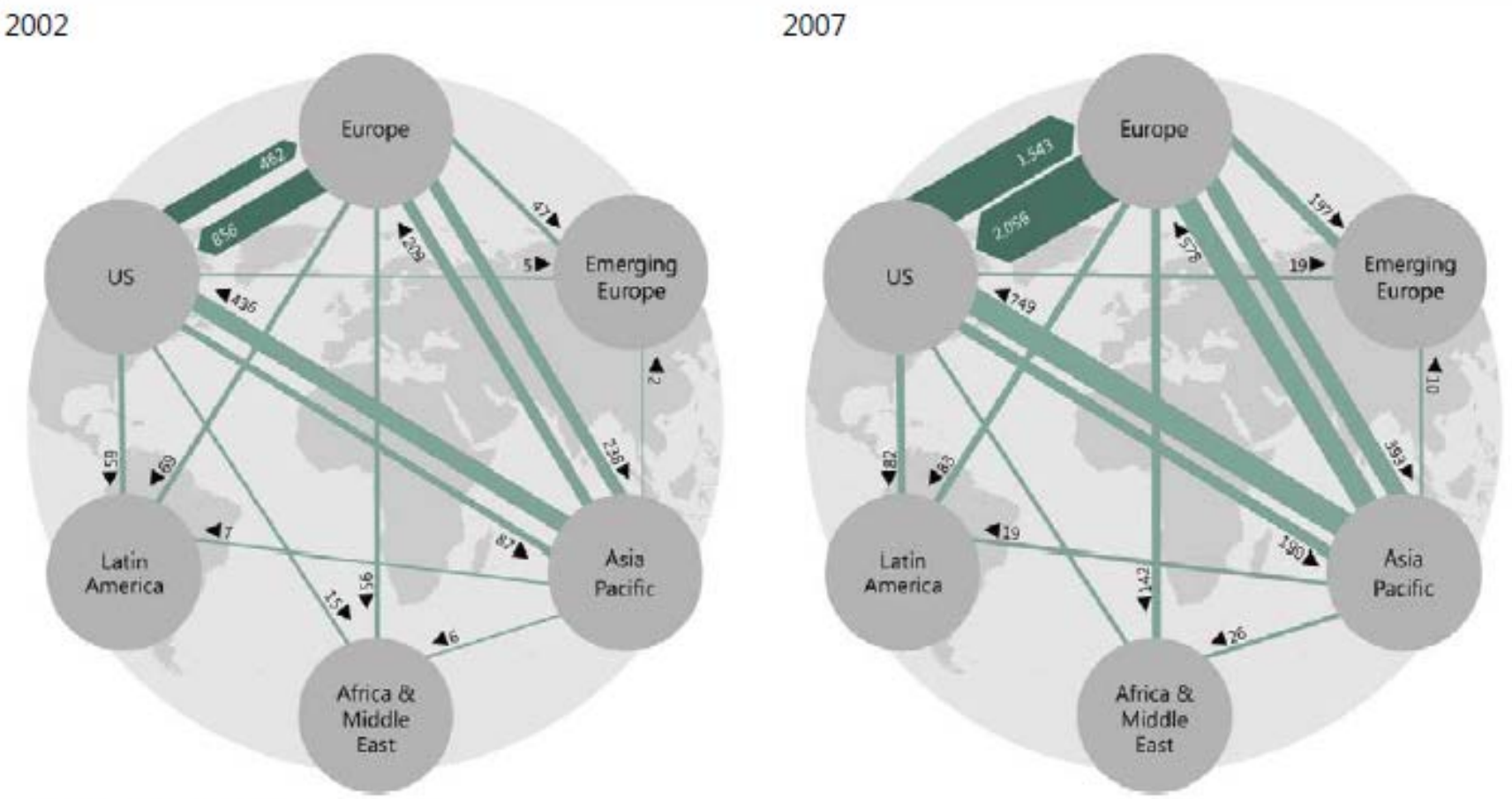
FDI most resilient;

→ to understand the crisis, look at cross-border lending.

US dollar-denominated cross-border claims

In billions of US dollars

Graph 1



Source: BIS locational banking statistics.

Insights from bank flows (previous slide)

Net dollar-denominated cross-border bank flows in the triangle Europe–US–Asia were small relative to gross flows ($0.5 trillion vs $3.6 trillion in 2007).

Gross flows increased from $3.6 trillion in 2002 to $8.3 trillion in 2007.

What was going on? Look at financial sector balance sheets – round-tripping of capital flows:

- European banks borrowed dollars from US money market funds (financing conditions easier in the US than EU, dollar was depreciating against the euro);
- European banks then invested these funds into US bonds, many backed by subprime mortgages.

Insights (cont)

Notice that, even though the current account between Europe and the US was roughly balanced, gross capital flows grew by almost $5 trillion over this period.

Key issue: lending standards depend on the size of the balance sheet: the larger the balance sheet of the financial sector – ie the greater gross capital flows – the easier lending standards tend to be.

European banks effectively contributed to the easing of US financing conditions through round-tripping of capital flows!

Insights (cont)

When the crisis started in Sept 2008, US mortgage bonds fell in value;

EU banks had big losses on their holdings of US asset-backed securities, had to repay short-term dollar loans;

Huge increase in demand for dollars, dollar sharply appreciated.

(Note that in mid-2000s, many prominent US economists predicted an impending collapse of the dollar, focusing on its trend depreciation at the time and high US current account deficit.)

Looking back: why we missed what was going on?

Not because of the lack of data: gross capital flows data have been available all along, in balance of payments and banking statistics - BIS data in slide 16 are aggregates of data coming from national central banks!

Financial regulation was too lax.

Monetary policy was also partly to blame: though policy rates were high by today's standards, markets were given assurance, through "forward guidance", that rates would increase at a "measured pace" and in a predictable manner – this created incentives for investors to borrow short-term.

Looking back (2)

Prevailing international finance models are to blame as well: assumed "triple coincidence" where the GDP area, decision-making unit and currency area are one and the same.

Classic example: Mundell-Fleming model: exchange rate changes affect monetary policy only through changes in net exports.

No room in Mundell-Fleming (or more sophisticated macro models) for foreigners (EU banks) to borrow and lend in massive amounts in domestic currency (USD) and thereby influence domestic financing conditions (US lending standards).

→ Need to break away from the assumptions of "triple coincidence".

Looking back (3)

The traditional model implies that the US deficits are financed by the countries in surplus vis-à-vis the US (ie China, Japan, EM Asia).

It also implies that the CA deficit predicts a crisis: deficit countries have to retrench when surplus countries are no longer willing to lend to them.

But what matters is where the financing comes from:

- a country can have a CA deficit and have most of it financed at home or by countries with which trade is balanced;
- or it can be in surplus and have much of its investment financed from abroad.

Looking back (4)

In the case of the US, most of the financing before the crisis came from Europe, with which trade was balanced – this could have been detected by looking at gross capital flows and their composition.

A sudden stop in capital flows is not caused by the CA deficit as such, but by the disruption of its financing, which can come from all sorts of sources.

In fact, the best predictor of crises is not the CA deficit but the credit boom – once the booms are controlled for, the information content of current accounts vanishes.

→ Shift the focus away from current account to financial imbalances, which are a more important source of macroeconomic dislocations.

Looking back (5)

Another misleading implication of the traditional model: surplus countries are not exposed to financial instability resulting from capital flows.

Experiences of Japan in the 1980s and China since 2010 show that destabilising credit booms – with external financing as a key source of credit expansion – often occur in surplus countries.

The focus on "global imbalances" and the need for external surplus countries to reduce their surpluses by boosting aggregate demand, regardless of domestic financial vulnerabilities, can therefore be counterproductive.

Insights from corporate balance sheets

Has something similar been going on lately?

Are we failing to detect a build-up of vulnerabilities somewhere in the international financial system by relying too much on models that assume triple coincidence?

Hints: look at China and big EMEs; look at corporate balance sheets.

Investors from China / EM Asia did not experience big losses during 2008 – 09, because they mostly held US government bonds, not securities backed by subprime mortgages, as European banks did.

But what happened afterwards nevertheless made China's economy vulnerable.

Corporate balance sheets (2)

Big dollar borrowers of the past few years are not European banks but EME corporates.

And the borrowing is done through corporate bonds issued in international markets, not wholesale bank funding.

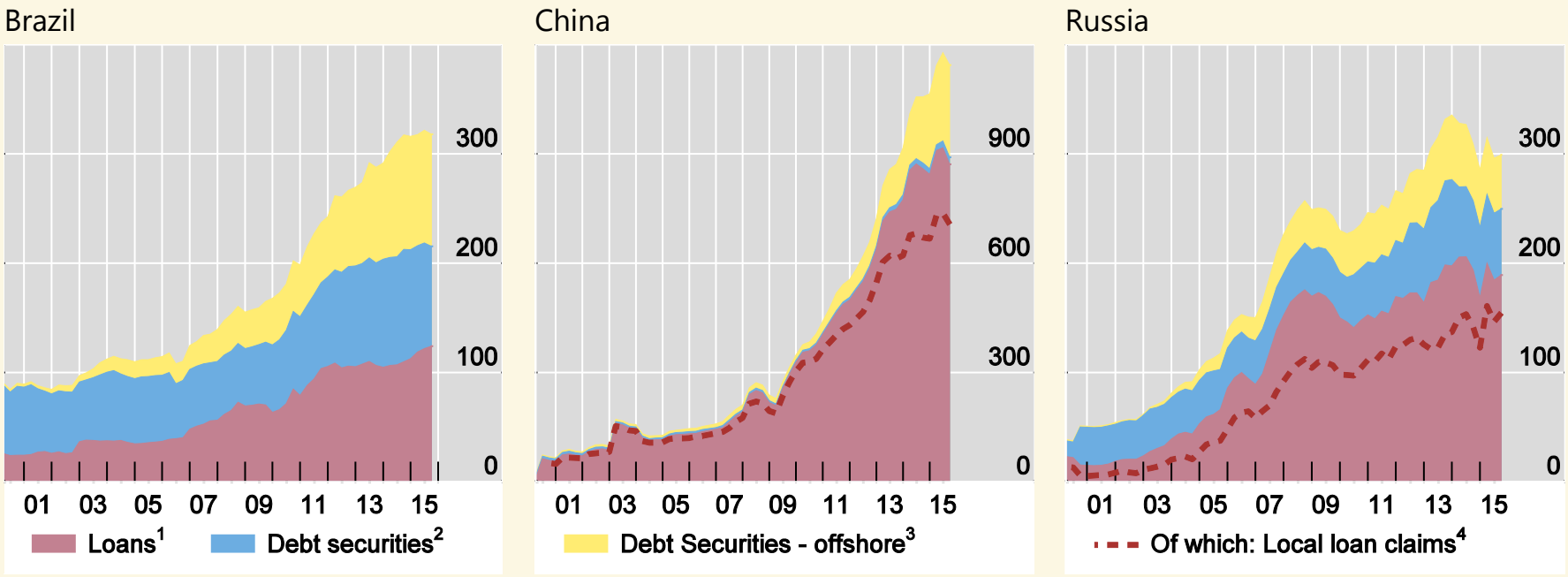
Borrowing in US dollars by non-banks outside the United States stood at $9.7 trillion in mid-2015;

Dollar borrowing by EM borrowers stood at $3.4 trillion, more than double what it was before the global financial crisis;

Roughly 50% of outstanding international debt securities of NFCs headquartered in major EMEs was issued through subsidiaries abroad.

Growing US dollar credit to selected EME non-banks

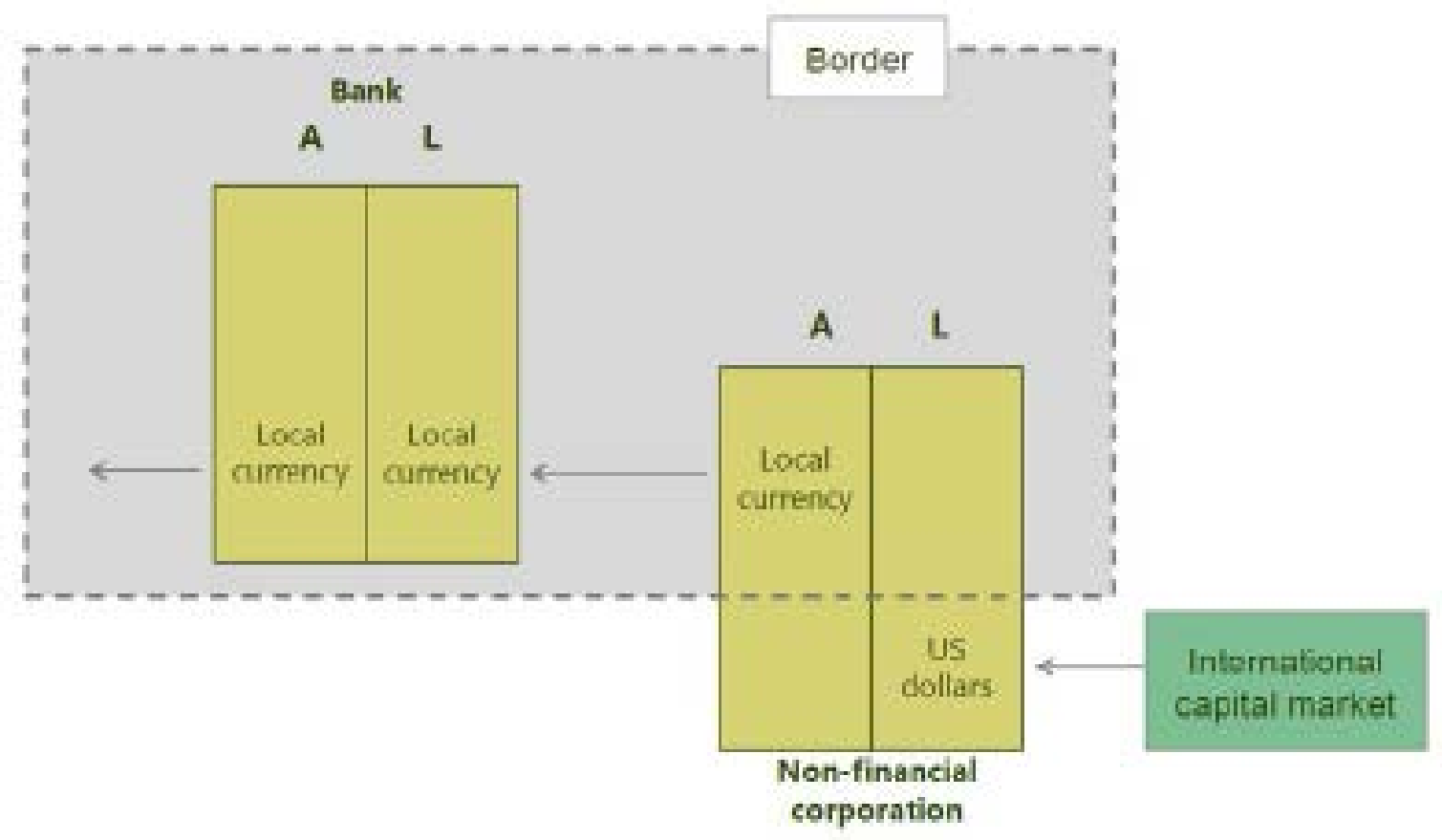
In billions of US dollars



[1] US dollar loans to non-bank residents of the country listed in the panel title. [2] Outstanding US dollar international bonds issued by non-bank residents of the country listed in the panel title. [3] Outstanding US dollar international bonds issued by offshore affiliates of non-banks with a parent entity headquartered in the country listed in the panel title. [4] US dollar loans booked by banks located in the country in the panel title to non-bank borrowers in that country. For China and Russia, figures are estimates based on national data.

Source: National data; BIS international debt securities statistics; BIS locational banking statistics by residence; BIS calculations.

How does EME corporate borrowing in dollars work?



Notice that debt raised through off-shore corporate subsidiaries does not show up in conventional residence-based external debt statistics unless proceeds are repatriated.

Financial stability risks of corporate dollar borrowing

Appreciation of the dollar against the domestic currency may hurt the company's creditworthiness, even if no currency mismatch is captured in the official net external debt statistics.

If the overseas subsidiary of an EM company has taken on USD debt, but the company is holding *domestic* currency financial assets at its headquarters, then the company as a whole has taken on a currency mismatch.

In effect, the firm has taken on a carry trade position: holds cash in local currency, but has dollar liabilities in its overseas subsidiary.

One motive for taking on such a carry trade may be the prospect of financial gain, if the domestic currency is expected to strengthen against the dollar.

Risks (2)

When the dollar weakens, corporate balance sheet looks stronger – creditors willing to give the firm even more debt, financing conditions loosen.

But when the dollar strengthens, corporate balance sheet weakens, the firm's creditworthiness declines. Creditors' capacity to extend credit declines for any given exposure limit. Credit supply tightens.

Worse still: having raised funds abroad, the foreign affiliate of an NFC could also act as a surrogate financial intermediary:

- "Lend" to its headquarters;
- Extend credit to unrelated companies;
- Make a cross-border deposit in a domestic bank.

→ Work out how this affects domestic financing conditions.

Risks (3)

In sum:

- Off-shore borrowing by NFCs – which is missed by residence-based debt measures –makes individual firms financially vulnerable and shapes financial conditions in the home country;
- … which can lead to overheating in EMEs;
- Unwinding of these imbalances may result in turbulence and destabilising dynamics.
- International capital flows may also generate destabilising asset pricing dynamics, especially in the presence of currency mismatches and irrespective of the maturity of the underlying instruments ("risk-taking channel" of exchange rates).

Concluding remarks

"Triple coincidence" of the GDP area, decision-making unit and the currency is misleading:

- Neglects gross flows, even when these are key to balance sheet size and hence to questions of credit standards;
- Neglects the pervasive role of international currencies, especially the US dollar;
- Often draws the boundary in the wrong place when delineating the relevant decision-making unit.

Concluding remarks (2)

How to break away from the "triple coincidence"?

- Define the consolidated decision-making unit;
- Define the balance sheet corresponding to that unit (eg consolidated balance sheet of the national banking system; balance sheet of the corporate sector, with assets and liabilities on nationality rather than residence basis);
- Model behaviour of decision-making units to incorporate the impact of global currencies, denomination of debt contracts (research starting);
- More focus on financial rather than current account imbalances, on the interplay of global and domestic financing conditions.

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