Debt and the financial cycle: domestic and global

Introduction

A pure business cycle view is not enough to understand the evolution of the global economy since the financial crisis of 2007–09

Analysis from the perspective of financial cycles needed

The role of debt, leverage and risk-taking play in driving economic and financial developments

Recent developments and trends

High private sector debt levels - can undermine sustainable economic growth

Debt trap: low interest rates encourage the taking on of even more debt

EMEs – tapping into international securities market; foreign currencies -> currency risk

Trend of moving from public towards private financing – destabilizing effect -> Procyclical; financing of domestic finance institutions

Financial cycles

Joint fluctuations in a wide set of financial variables including both quantities and prices.

Self-reinforcing interactions between perceptions of value and risk, risk-taking and financing constrains -> booms and busts

Measured by a combination of credit aggregates and property prices

Deeper recessions – balance sheet recessions

Financial cycles - characteristics

Longer (15-20 years) than business cycles (1-5 years)

Peaks tend to coincide with banking crises or periods of financial stress
◦ Financial booms: growth in asset prices and credit, loose financing conditions, financial innovation -> excessive leverage and overinvestment in some sectors -> inability to service debt

Often syncrhonised across economies
◦ Liquidity conditions highly correlated across markets
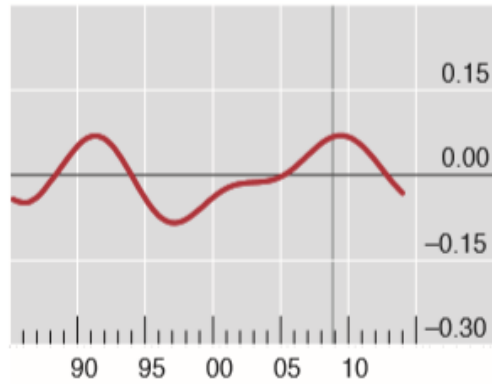◦ Excernal capital – big role in unsustainable credit booms

Change with the macroeconomic environment and policy frameworks
◦ Grown since 1980s – liberalisation of financial systems, stable macroeconomic conditions, disregard for developments in credit
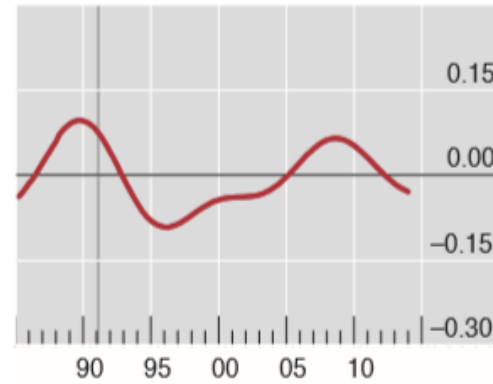
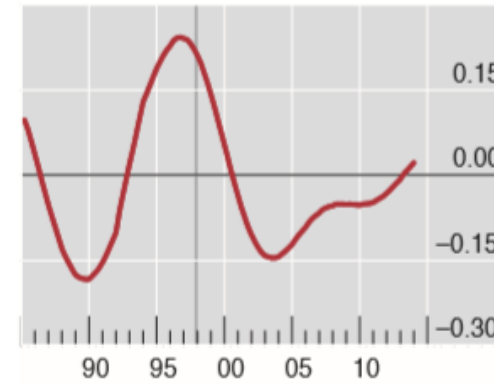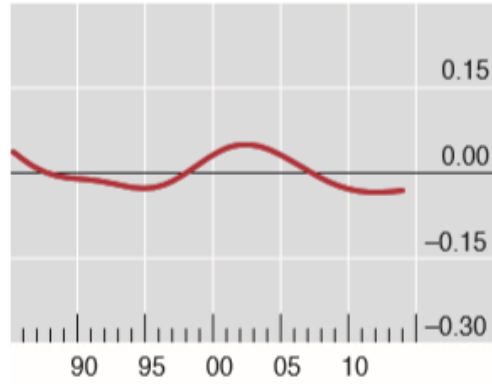## Financial cycle peaks tend to coincide with crises[1]

Graph IV.1

Euro area[2]

Other advanced countries[3]

Emerging Asia[4]

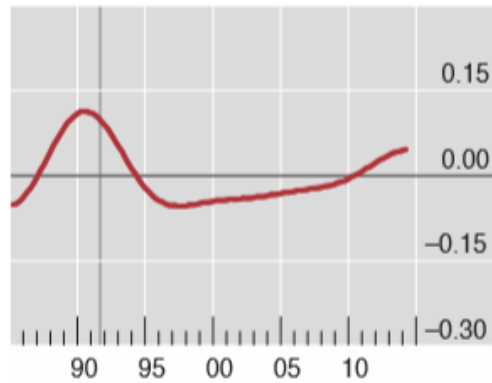### Germany

Japan
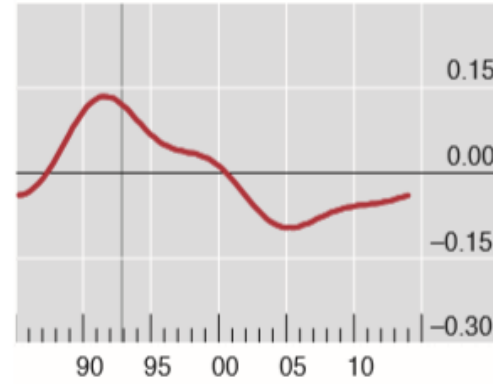
Korea
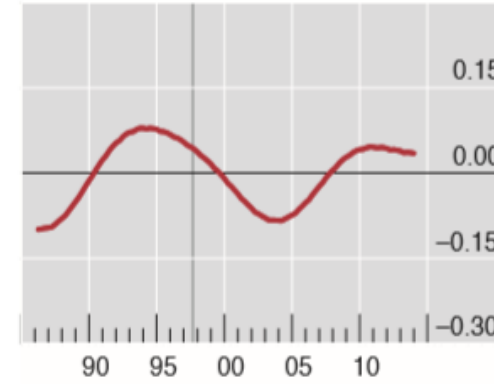
Switzerland

United Kingdom
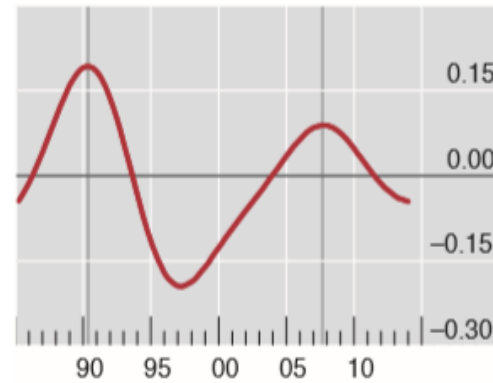
United States
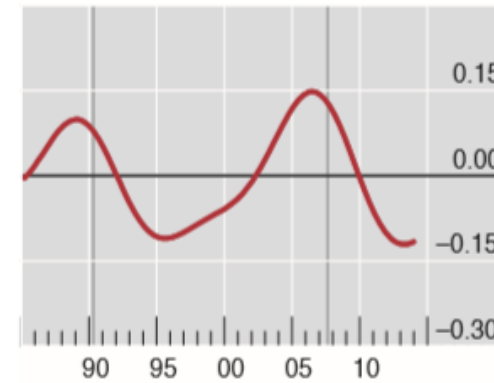
Financial cycles - measurement

Harder to measure than business cycle – lack of information

Credit aggregates and property prices important role (proxies for leverage and available collateral)

Turning point method:
◦ identifies peaks and throughs by looking at growth rate of a range of underlying series
◦ **Real credit growth, credit-to-GDP ratio and real property price growth** – most important set of variables

Statistical filters approach:
◦ Bandpass filter; cycles between 8 and 30 years; series combined into a single series
◦ joint developments in real credit growth, the credit-to-GDP ratio and real property price growth

Where do countries stand in the financial cycle ?

- Countries like Spain and Greece

- US ,UK and Central Eastern Europen countries

- Nordic countries n and Australia

- EME's and Asia

Where are countries in the financial cycle?[1]

Changes in a range of cycle indicators

Graph IV.2

Real credit growth[2]
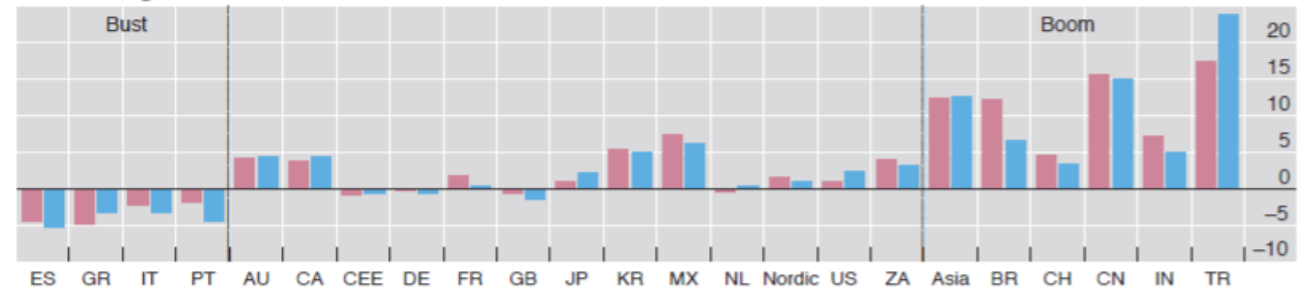
Real residential property price growth[3]
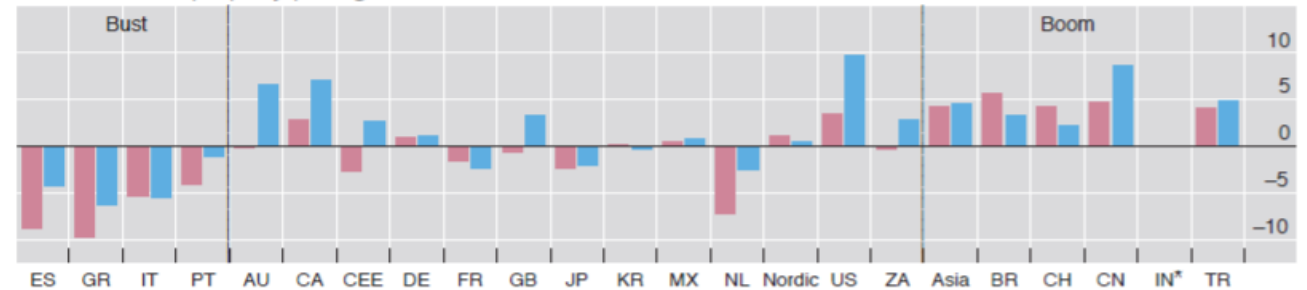
Medium-term financial indicator[4]
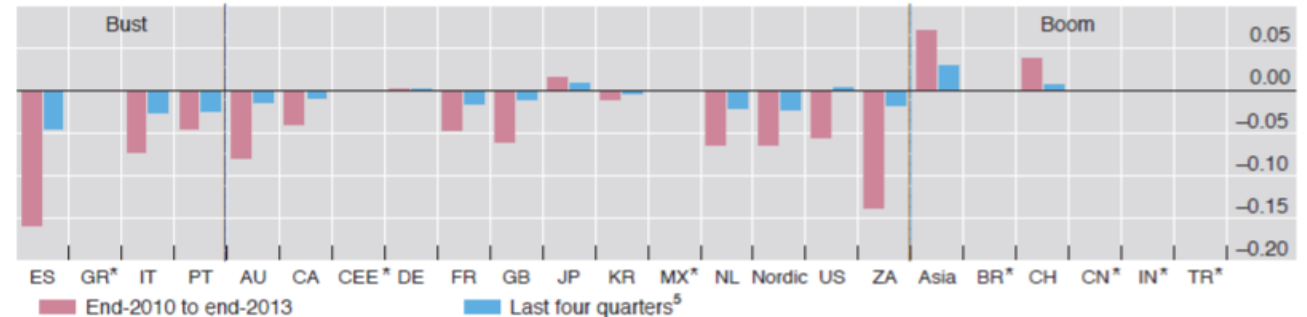
End-2010 to end-2013   Last four quarters[5]

AU = Australia; BR = Brazil; CA = Canada; CH = Switzerland; CN = China; DE = Germany; ES = Spain; FR = France; GB = United Kingdom;

What is driving the financial cycle ?

- Spain achieved through decrease in nominal debt

- US achieved through increase in nominal GDP

- UK did a mix of both

Uneven deleveraging after the crisis

Graph IV.3

United States · United Kingdom · Spain
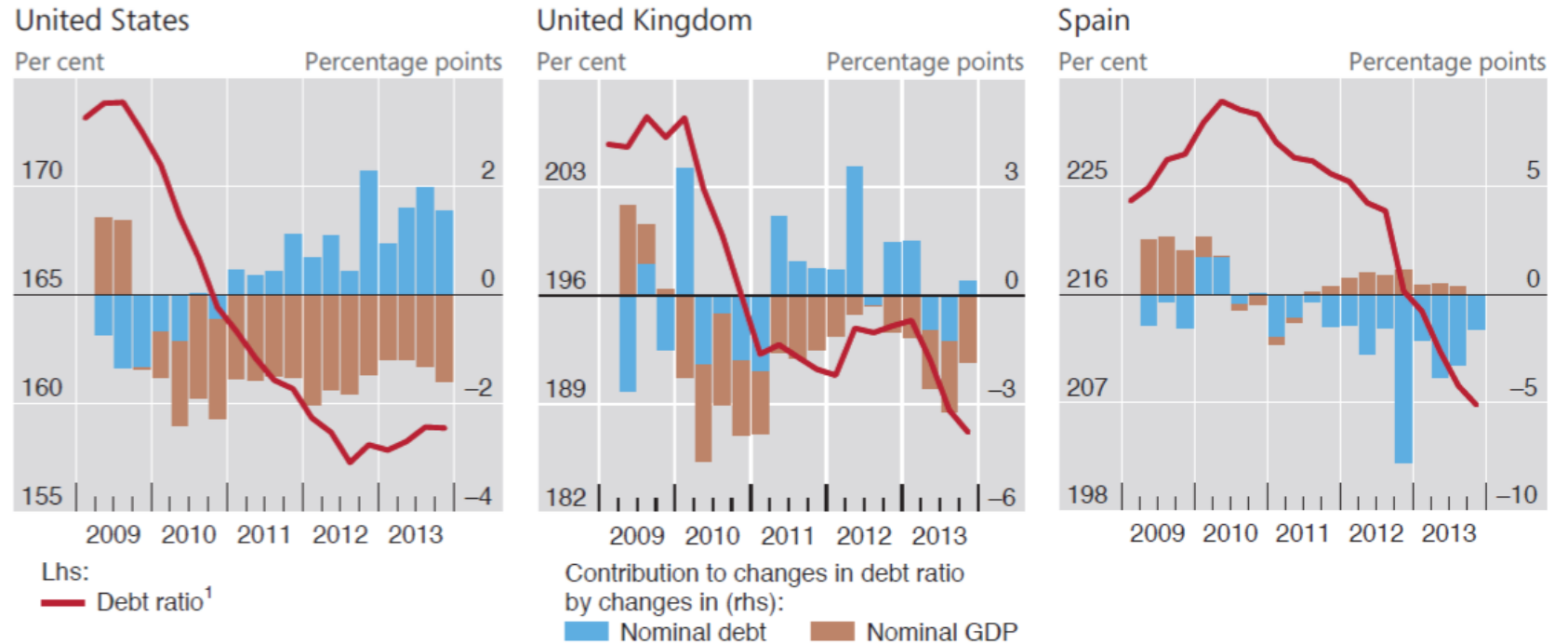
¹ Ratio of total credit to the private non-financial sector to nominal GDP.

Sources: National data; BIS; BIS calculations.

Global Liquidity and domestic fuel prices?

Two reasons for increase in investment by privates:

1. Banks are more careful.

2. Bond market in advanced economies

Low yields in advanced economies push funds into emerging market economies   Graph IV.4

External flows into EME debt[1]
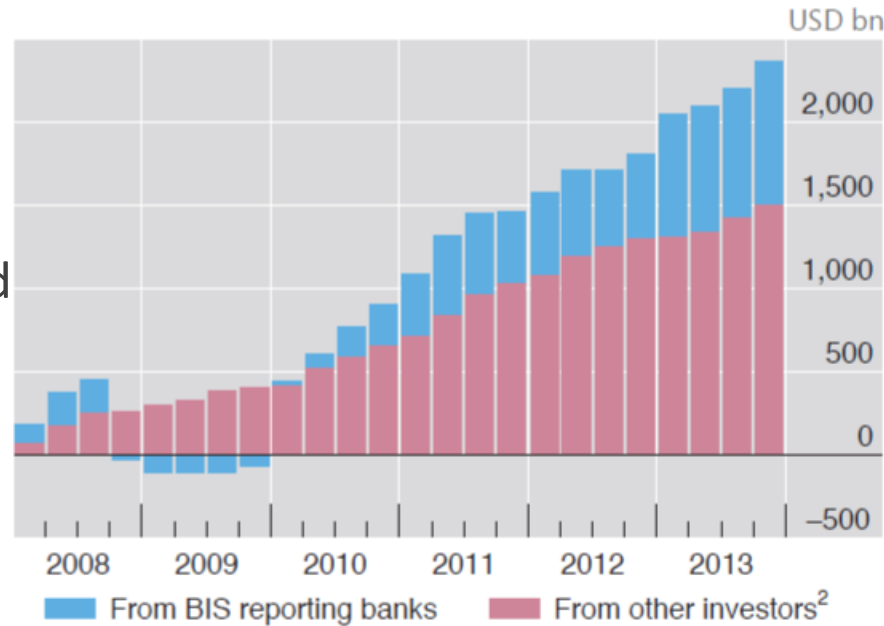
International debt securities issuance by EME non-financial corporations[3]
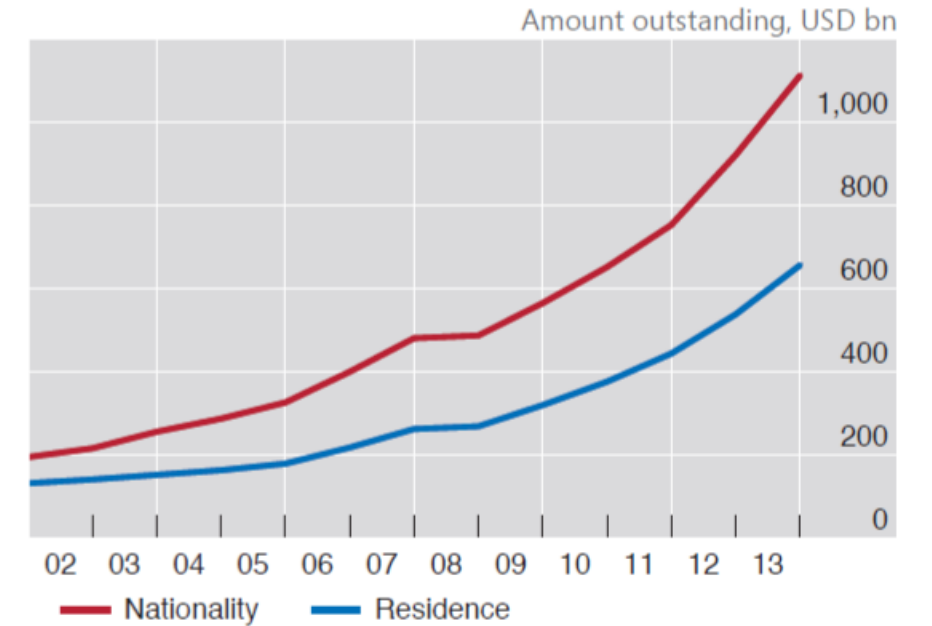
[1] Cumulative inflows starting in Q1 2008; excluding Hong Kong SAR and Singapore.   [2] Portfolio debt securities (liabilities) plus other debt instruments (liabilities) minus corresponding BIS reporting banks' inflows. For India, the balance of payments data start in Q2 2009 and end in Q1 2013.   [3] Excluding official sector and banks.

Offsetting the stimulus from abroad through tighter domestic policy is not easy

1. Foreign currency

2. What if we raise interest rate ?

Taylor Rule and low domestic interest rate

Low policy rates coincide with credit booms

Graph IV.5
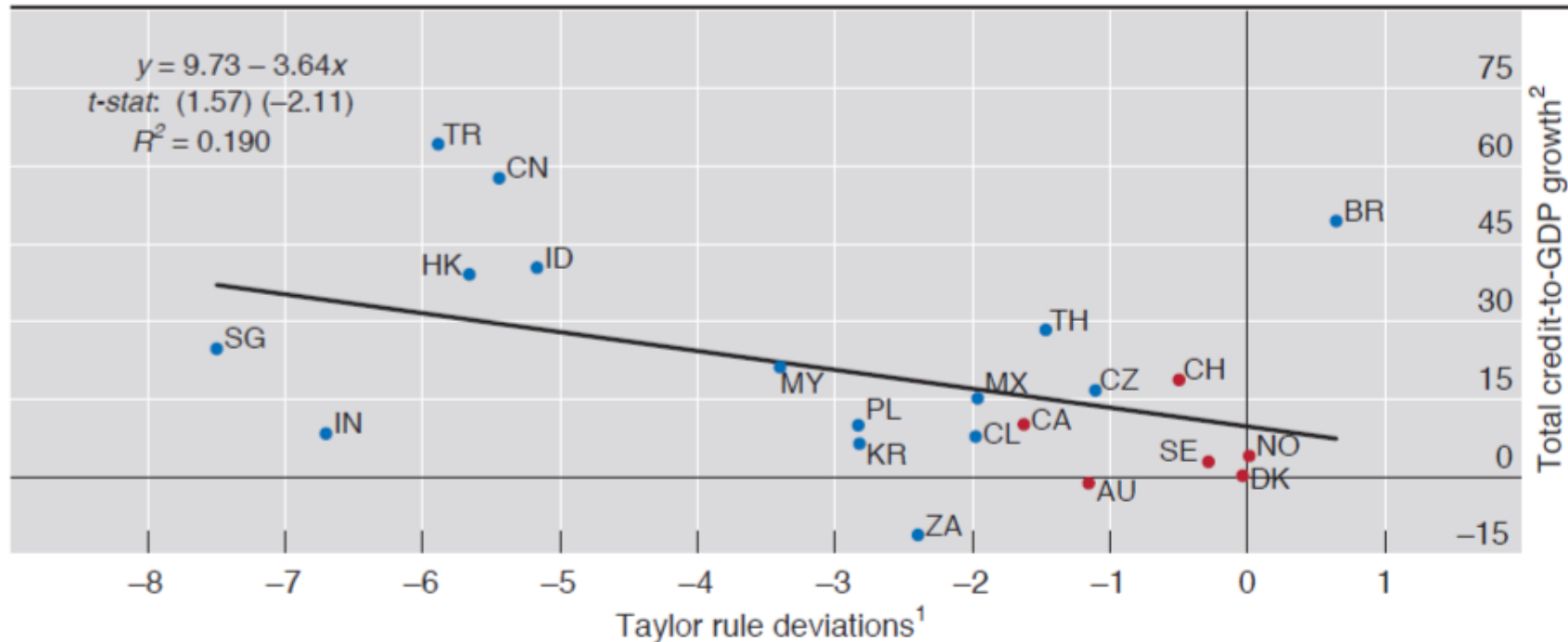
Indicators point the risk of financial distress

Early warning indicators :

Indicate that vulnerabilities have been building up in the financial system

- Many years of strong credit

- Property prices increase

→ Increase in the interest rates

Can not predict the exact timing of the financial distress but help identify unsustainable credit and property prices development

Credit-to-GDP gaps

The difference between the credit to GDP ratio and its long-term trend

High credit-to-GDP gap = trouble for the bank system

High positive gap / Negative gap

When credit-to-GDP gap > 10% : serious banking strains within 3 years has been observed in the past

		Credit-to-GDP gap[2]
Boom	Asia[6]	19.9
	Brazil	13.7
	China	23.6
	India	–2.7
	Switzerland	13.1
	Turkey	17.4
Mixed signals	Australia	–6.9
	Canada	5.6
	Central and eastern Europe[7]	–10.5
	France	–0.9
	Germany	–8.8
	Japan	5.3
	Korea	4.1
	Mexico	3.7
	Nordic countries[8]	–0.5
	Netherlands	–13.2
	South Africa	–3.1
	United Kingdom	–19.6
	United States	–12.3
Bust	Greece	–11.3
	Italy	–6.4
	Portugal	–13.9
	Spain	–27.8
Legend[1]		Credit/GDP gap >10
		2 ≤ Credit/GDP gap ≤ 10

Residential property price gaps

Deviation of real residential property prices from their long-term trend

➔ Tend to build up during a credit boom and fall 2 or 3 years before a crisis

		Credit-to-GDP gap[2]	Property price gap[3]
Boom	Asia[4]	19.9	16.7
	Brazil	13.7	3.7
	China	23.6	–2.2
	India	–2.7	
	Switzerland	13.1	13.0
	Turkey	17.4	
Mixed signals	Australia	–6.9	–2.0
	Canada	5.6	5.1
	Central and eastern Europe[7]	–10.5	–0.1
	France	–0.9	–9.3
	Germany	–8.8	5.4
	Japan	5.3	2.8
	Korea	4.1	4.1
	Mexico	3.7	–1.6
	Nordic countries[8]	–0.5	–2.2
	Netherlands	–13.2	–24.2
	South Africa	–3.1	–7.5
	United Kingdom	–19.6	–11.1
	United States	–12.3	–5.7
Bust	Greece	–11.3	–2.8
	Italy	–6.4	–16.6
	Portugal	–13.9	–7.4
	Spain	–27.8	–28.7
Legend		Credit/GDP gap > 10	Property gap > 10
		2 ≤ Credit/GDP gap ≤ 10	

Debt service ratio

Measures the share of income used to service debt; measurement of the cash flow available to pay current debt obligations

|		Credit-to-GDP gap[2]	Property price gap[3]	Debt service ratio (DSR)[4]	Debt service ratio if interest rates rise by 250 bp[4,5]
Boom	Asia[6]	19.9	16.7	2.4	4.4
	Brazil	13.7	3.7	4.0	6.3
	China	23.6	−2.2	9.4	12.2
	India	−2.7		3.4	4.4
	Switzerland	13.1	13.0	0.6	3.6
	Turkey	17.4		4.5	6.2
Mixed signals	Australia	−6.9	−2.0	1.5	4.5
	Canada	5.6	5.1	2.0	4.9
	Central and eastern Europe[7]	−10.5	−0.1	1.6	2.9
	France	−0.9	−9.3	2.6	4.9
	Germany	−8.8	5.4	−2.7	−0.9
	Japan	5.3	2.8	−4.4	−2.0
	Korea	4.1	4.1	0.8	3.5
	Mexico	3.7	−1.6	0.5	0.9
	Nordic countries[8]	−0.5	−2.2	1.5	4.7
	Netherlands	−13.2	−24.2	1.8	5.2
	South Africa	−3.1	−7.5	−1.0	0.2
	United Kingdom	−19.6	−11.1	0.9	3.6
	United States	−12.3	−5.7	0.3	2.6
Bust	Greece	−11.3	−2.8		
	Italy	−6.4	−16.6	−1.0	0.9
	Portugal	−13.9	−7.4	0.3	4.0
	Spain	−27.8	−28.7	2.3	5.4
Legend		Credit/GDP gap >10	Property gap >10	DSR >6	DSR >6
		2 ≤ Credit/GDP gap ≤ 10		4 ≤ DSR ≤ 6	4 ≤ DSR ≤ 6

Weaker output growth

Specially countries where debt increased above trend for a long time

Large credit gaps countries = prolonged period of rapid growth BUT briefly interrupted by fallout from the financial crisis (advanced economies)

Change in the nature of risks, regarding total credit

- Borrowers have used the favourable conditions to lock in long-term funding = reducing rollover risk

- Longer maturities = benevolent impact BUT can me offset by fickle market liquidity

- When the conditions are good = large quantities and at cheap price. BUT can change really fast if the conditions deteriorate.

- ETFs increased a lot : now 1/5 of all net assets of dedicated EME bonds and equity / 10 yrs ago 2%

Net assets of dedicated EME funds

USD bn

1,200

900

600

300

0

04 06 08 10 12 14

ETFs   Non-ETFs
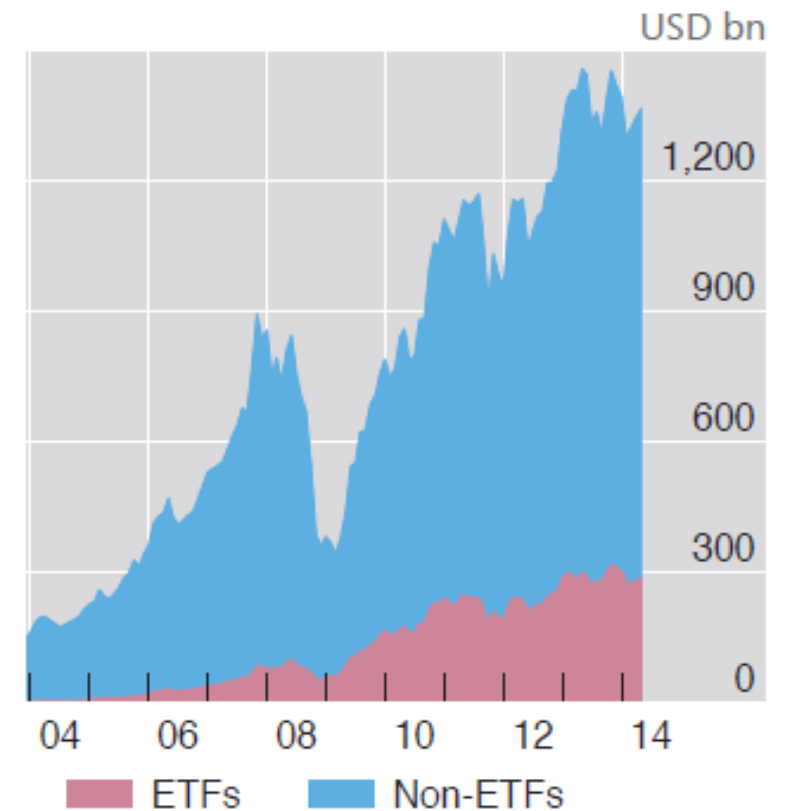
Financing problems of non financing corporations

In many EMEs (Chile, China, Indonesia, Malaysia, Peru) = 20% of the banking system's total assets

Some firms can lose the access to external debt market ➔ then forced to withdraw these deposits ➔ significant funding problems for the banking system

Large asset management companies

Asset allocation decisions can have significant and systemic implications for the EMEs' financial markets

Strong effect if the actions taken by these management companies are correlated across funds.

Returning to sustainable debt levels

o   In the next years several economies will have to face the consequences of adjusting to more sustainable long term debt levels.

➔ Which is that level of sustainable long term debt levels?

o   difficult to determine it, but some indicators suggest that private sector indebtedness is still too high:

Debt service ratios (households and firms)

$$\frac{private\ sector\ debt\ (amortization + interest\ payments)}{private\ sector\ income}$$
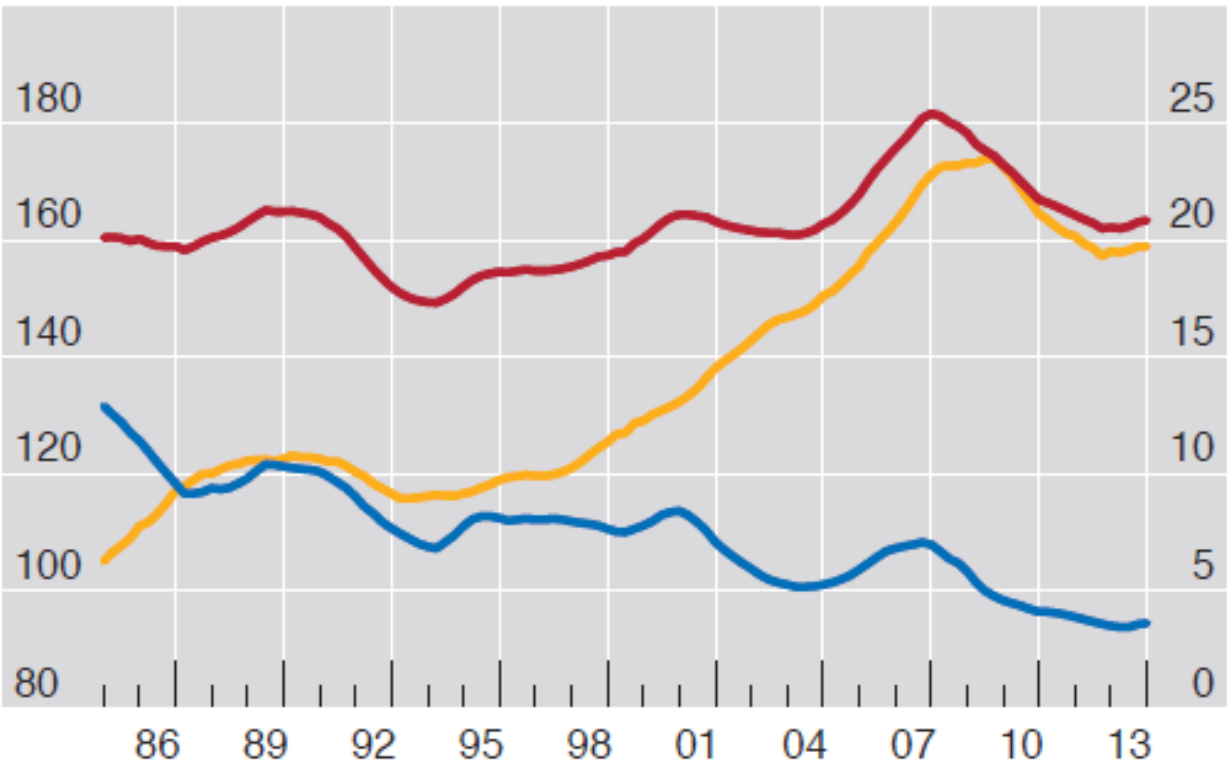
always fluctuated around stable historical averages. That amount could be taken as rough approximations for steady state sustainable levels. GRAPH IV.B

Debt service ratios and their main components[1]
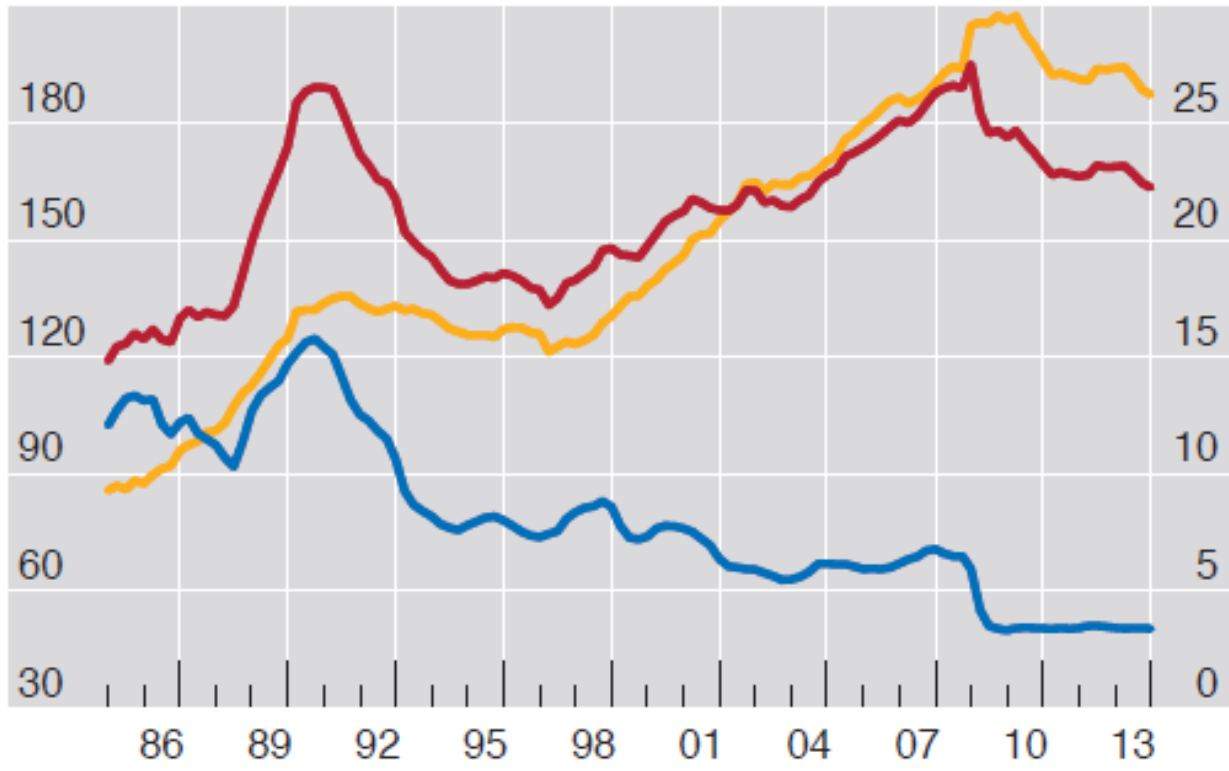
In per cent

Graph IV.B

United States

United Kingdom

Lhs:
— Credit-to-GDP ratio

Rhs:
— Debt service ratio   — Lending rate

[1] For the total private non-financial sector.

Sources: National data; BIS; BIS calculations.

Credit to GDP ratios (aggregate)

$$\frac{DEBT}{GDP}$$

Bringing the economies back to the sustainable levels requires sustantial reductions in credit to GDP ratios.

Debt sustainability requires deleveraging across the globe

Change in credit-to-GDP ratios required to return to sustainable debt service ratios[1]

Graph IV.8

Percentage points

Scenarios:
- Current lending rates
- Lending rates increase by 250 bps

AU = Australia; BR = Brazil; CA = Canada; CH = Switzerland; CN = China; DE = Germany; ES = Spain; FR = France; GB = United Kingdom; IN = India; IT = Italy; JP = Japan; KR = Korea; MX = Mexico; NL = Netherlands; PT = Portugal; TR = Turkey; US = United States; ZA = South Africa.

Asia = Hong Kong SAR, Indonesia, Malaysia and Thailand; CEE = central and eastern Europe: the Czech Republic, Hungary, Poland and

Bringing debt back to sustainable levels

o Bringing the economies back to the sustainable levels requires sustantial reductions in credit to GDP ratios $= \frac{DEBT}{GDP}$.

o How can the economies achieve that?

▪ Through output growth.

▪ Inflation: depend on how the interest rate of the outstanding and new debt adjust to the higher prices.

▪ Reduce directly the outstanding stock of debt, for instance with writedowns. Two main steps:

- Authorities need to induce lenders to recognise losses.

- Authorities should create incentives for lenders to restructure loans so that borrowers have a realistic chance of repaying their debt.

- Interest rates? The impact on interest rates is ambiguous:

- $\downarrow i \downarrow$, debt service burden on household and firms.

- $\downarrow i$, also motivate borrowers to take on even more debt. Debt continues to grow.

⟹ Low interest rates could lead countries into a debt trap.

Conclusion

❑ Analysis from the perspective of financial cycles is needed to understand the developments of local and global financial crises.

❑We can see that the most of the countries have started to pick up from the crisis, and how investment from foreign sources is not always a good thing. We can see benefits of accomodating monetary policy.

❑Early warning indicators help foresee the risks of financial crises, still the shift from bank to market financing has an impact on the financial markets that can't be always controlled.

❑Bringing economies back to sustainable debt levels requires policies that encourage the long-term reduction of the debt/GDP ratio, raising the growth prospects of the economy.