

Annexes

BIS Statistics: Charts

The statistics published by the BIS are a unique source of information about the structure of and activity in the global financial system. BIS statistics are presented in graphical form in this annex and in tabular form in the *BIS Statistical Bulletin*, which is published concurrently with the *BIS Quarterly Review*. For introductions to the BIS statistics and a glossary of terms used in this annex, see the *BIS Statistical Bulletin*.

The data shown in the charts in this annex can be downloaded from the *BIS Quarterly Review* page on the BIS website (www.bis.org/publ/quarterly.htm). Data may have been revised or updated subsequent to the publication of this annex. For the latest data and to download additional data, see the statistics pages on the BIS website (www.bis.org/statistics/index.htm). A release calendar provides advance notice of publication dates (www.bis.org/statistics/relcal.htm).

A Locational banking statistics

A.1 Cross-border claims, by sector, currency and instrument.....	A4
A.2 Cross-border claims, by borrowing region.....	A5
A.3 Cross-border claims, by borrowing country	A6
A.4 Cross-border claims, by nationality of reporting bank and currency of denomination.....	A7
A.5 Cross-border liabilities of reporting banks.....	A8

B Consolidated banking statistics

B.1 Consolidated claims of reporting banks on advanced economies.....	A9
B.2 Consolidated claims of reporting banks on emerging market economies	A10

C Debt securities statistics

C.1 Global debt securities markets.....	A11
C.2 Total debt securities, by sector of issuer	A11
C.3 International debt securities, by currency and sector	A12
C.4 International debt securities issued by borrowers from emerging market economies	A12

D Derivatives statistics

D.1 Exchange-traded derivatives.....	A13
--------------------------------------	-----

D.2 Global OTC derivatives markets	A14
D.3 OTC foreign exchange derivatives.....	A14
D.4 OTC interest rate derivatives.....	A15
D.5 OTC equity-linked derivatives	A15
D.6 OTC commodity derivatives.....	A16
D.7 Credit default swaps.....	A16
D.8 Concentration in global OTC derivatives markets.....	A17

E Global liquidity indicators

E.1 Growth of international bank credit.....	A18
E.2 Global bank credit to the private non-financial sector, by residence of borrower	A19
E.3 Global credit to the non-financial sector, by currency	A20
E.4 US dollar-denominated credit to non-banks outside the United States	A21

F Statistics on total credit to the non-financial sector

F.1 Total credit to the non-financial sector (core debt)	A22
F.2 Total credit to the private non-financial sector (core debt)	A23
F.3 Bank credit to the private non-financial sector (core debt)	A24
F.4 Total credit to households (core debt)	A25
F.5 Total credit to non-financial corporations (core debt).....	A26
F.6 Total credit to the government sector at market value (core debt).....	A27
F.7 Total credit to the government sector at nominal value (core debt)	A28

G Debt service ratios for the private non-financial sector

G.1 Debt service ratios of the private non-financial sector	A29
G.2 Debt service ratios of households	A30
G.3 Debt service ratios of non-financial corporations.....	A31

H Property price statistics

H.1 Real residential property prices	A32
--	-----

I	Effective exchange rate statistics	
I.1	Real effective exchange rates	A33
J	Credit-to-GDP gaps	
J.1	Credit-to-GDP gaps.....	A34
K	Consumer price indices	
K.1	Consumer price indices.....	A35

A Locational banking statistics

Cross-border claims, by sector, currency and instrument

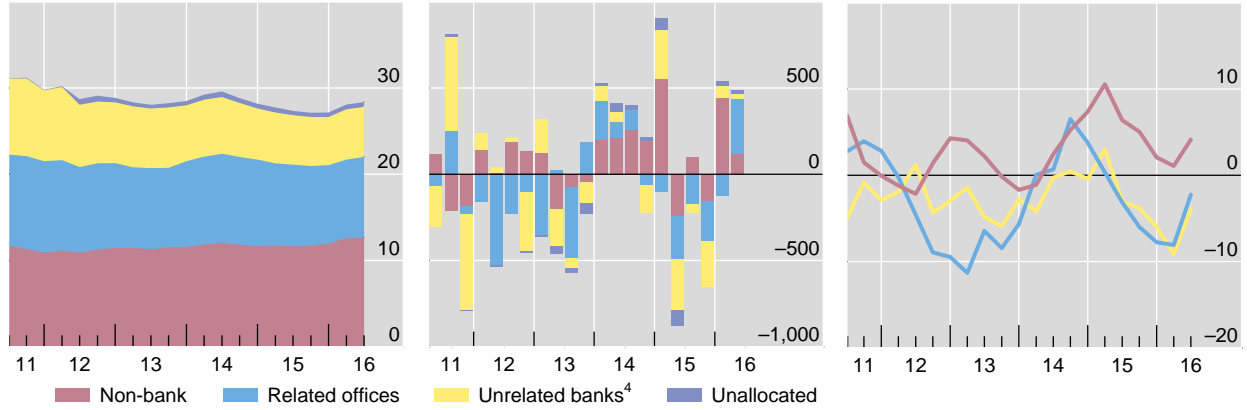
Graph A.1

Amounts outstanding, in USD trn¹

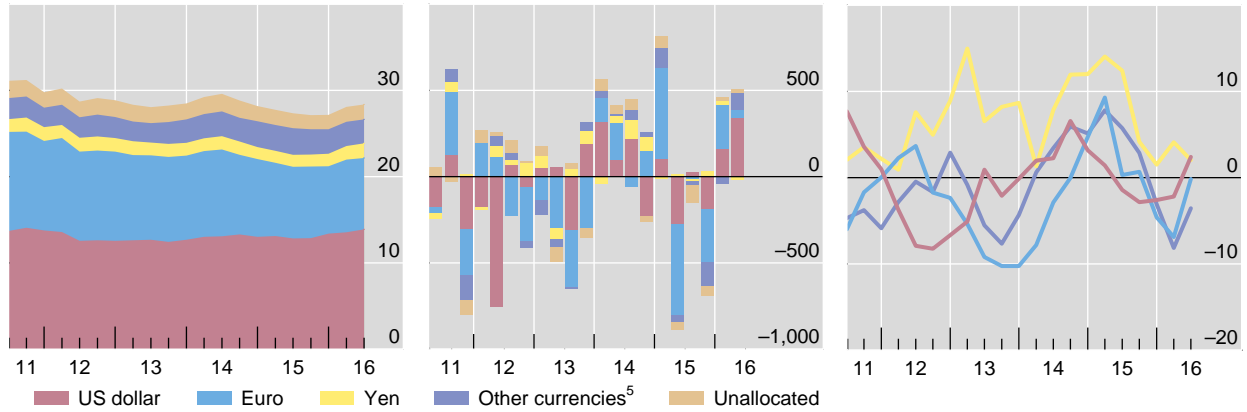
Adjusted changes, in USD bn²

Annual change, in per cent³

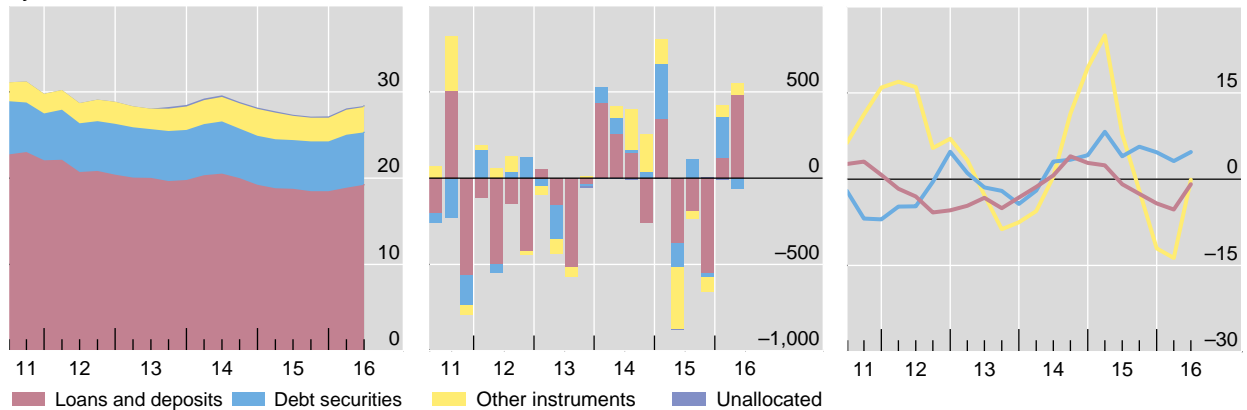
By sector of counterparty



By currency



By instrument



Further information on the BIS locational banking statistics is available at www.bis.org/statistics/bankstats.htm.

¹ At quarter-end. Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date. ² Quarterly changes in amounts outstanding, adjusted for the impact of exchange rate movements between quarter-ends and methodological breaks in the data. ³ Geometric mean of quarterly percentage adjusted changes. ⁴ Includes central banks and banks unallocated by subsector between intragroup and unrelated banks. ⁵ Other reported currencies, calculated as all currencies minus US dollar, euro, yen and unallocated currencies. The currency is known but reporting is incomplete.

Source: BIS locational banking statistics.

Cross-border claims, by borrowing region

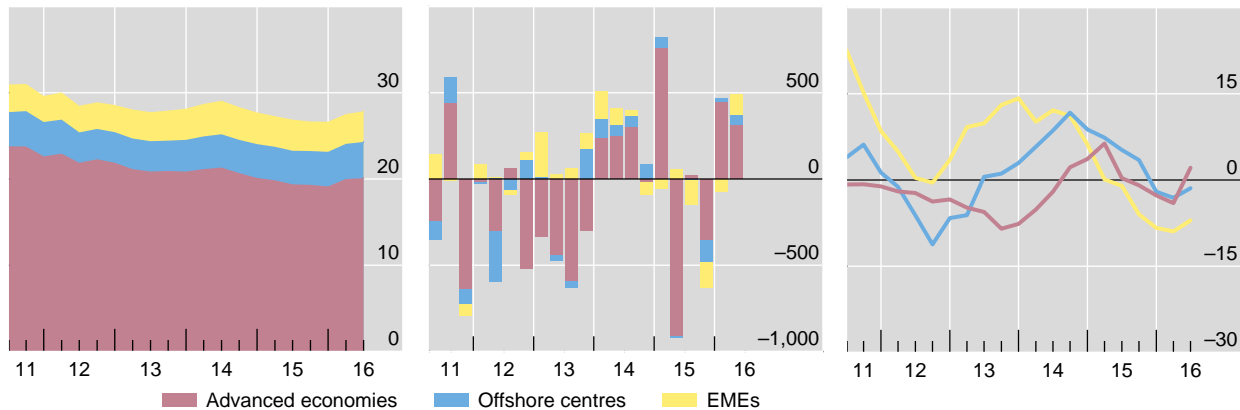
Graph A.2

Amounts outstanding, in USD trn¹

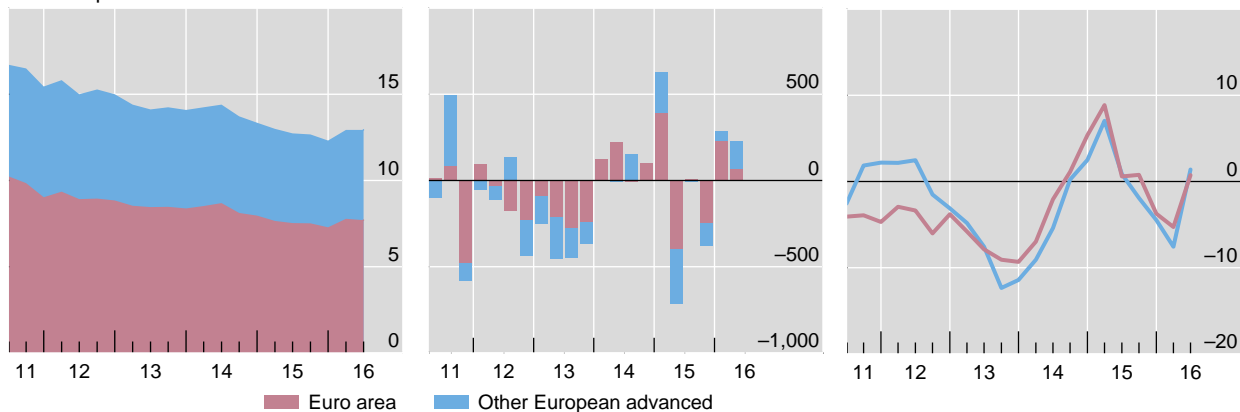
Adjusted changes, in USD bn²

Annual change, in per cent³

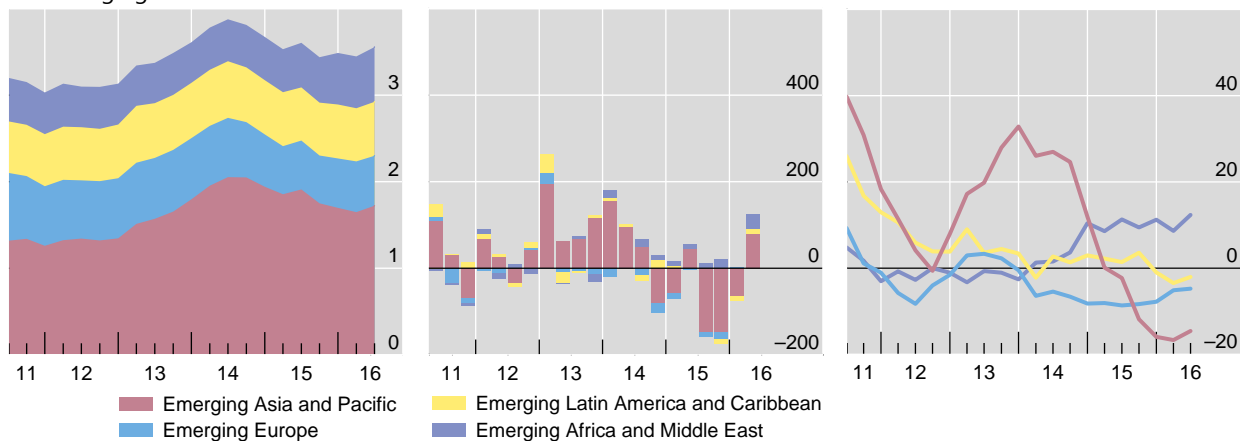
On all countries



On Europe



On emerging market economies



Further information on the BIS locational banking statistics is available at www.bis.org/statistics/bankstats.htm.

¹ At quarter-end. Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date. ² Quarterly changes in amounts outstanding, adjusted for the impact of exchange rate movements between quarter-ends and methodological breaks in the data. ³ Geometric mean of quarterly percentage adjusted changes.

Source: BIS locational banking statistics.

Cross-border claims, by borrowing country

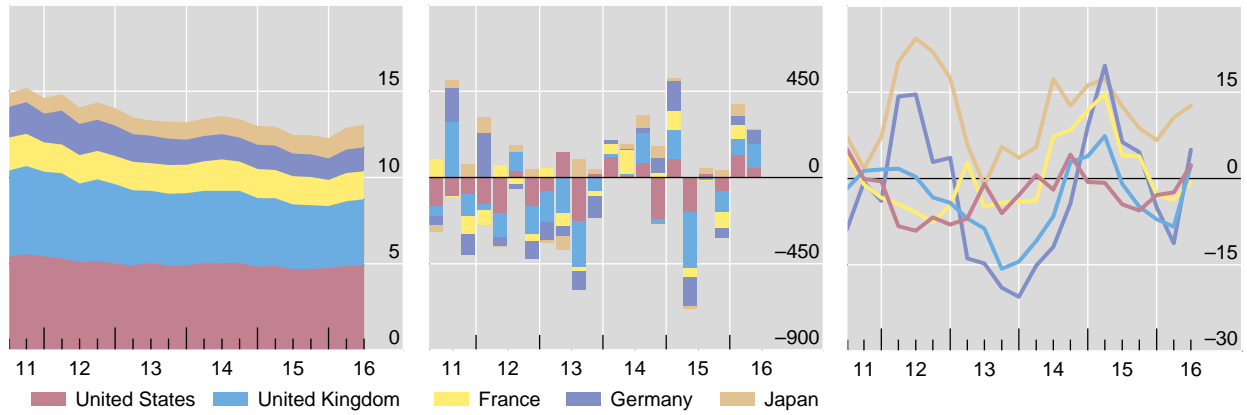
Graph A.3

Amounts outstanding, in USD trn¹

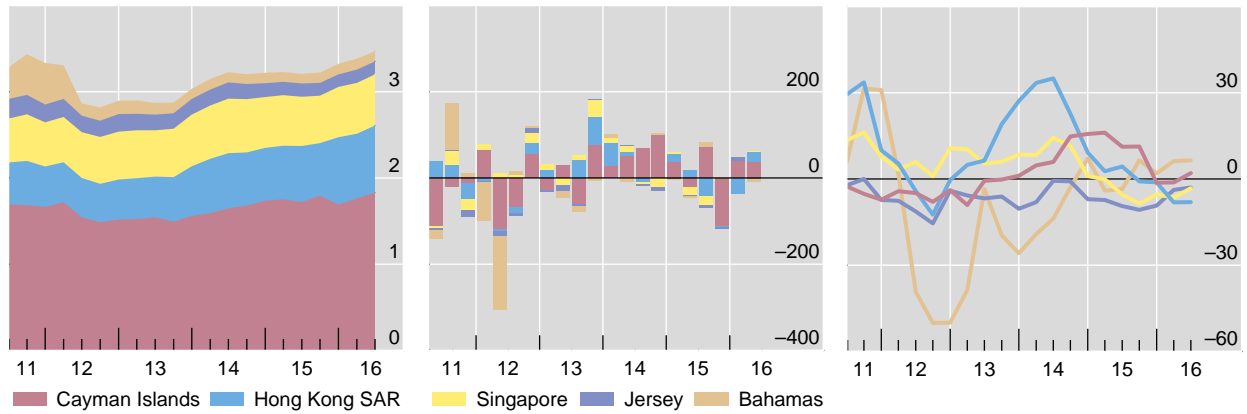
Adjusted changes, in USD bn²

Annual change, in per cent³

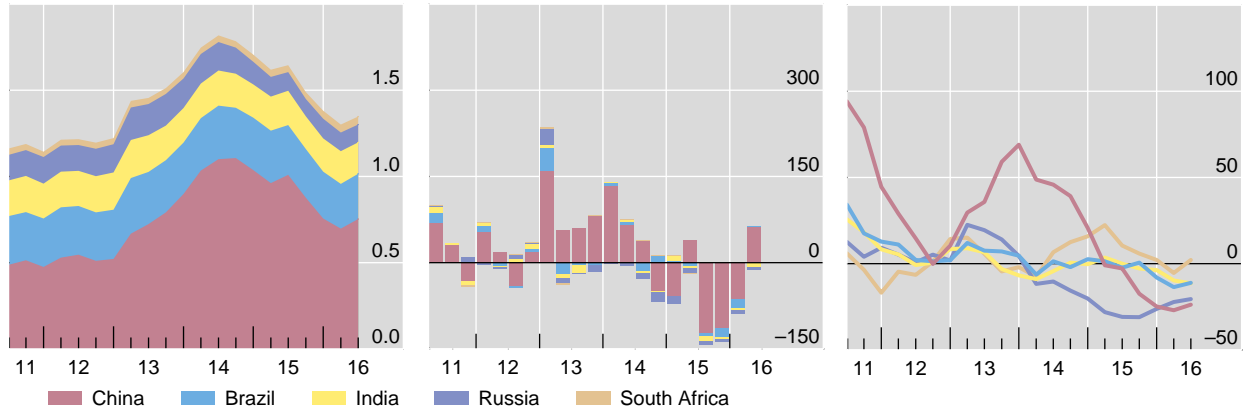
On selected advanced economies



On selected offshore centres



On selected emerging market economies

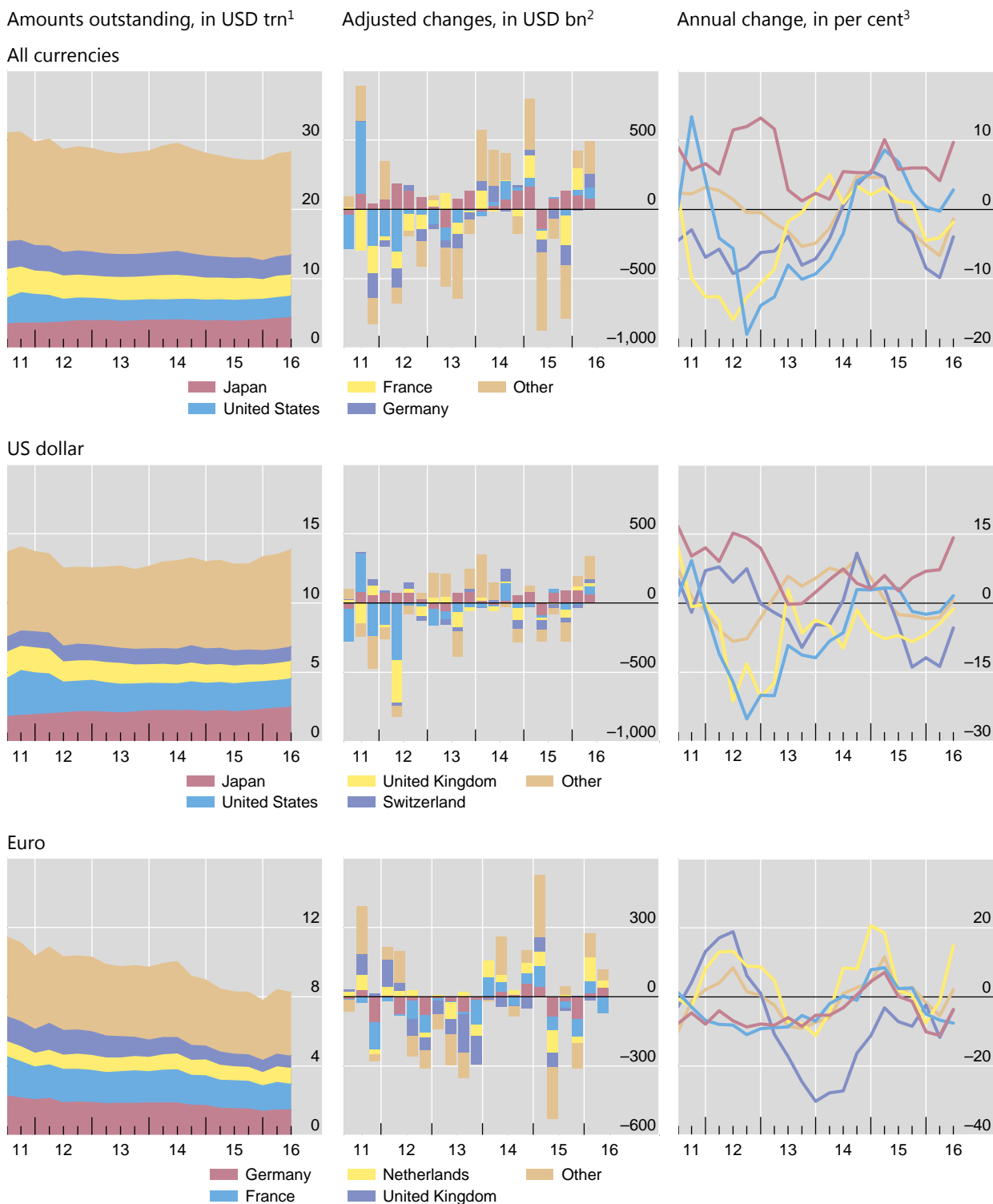


Further information on the BIS locational banking statistics is available at www.bis.org/statistics/bankstats.htm.

¹ At quarter-end. Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date. ² Quarterly changes in amounts outstanding, adjusted for the impact of exchange rate movements between quarter-ends and methodological breaks in the data. ³ Geometric mean of quarterly percentage adjusted changes.

Source: BIS locational banking statistics.

Cross-border claims, by nationality of reporting bank and currency of denomination Graph A.4



Further information on the BIS locational banking statistics is available at www.bis.org/statistics/bankstats.htm.

¹ At quarter-end. Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date. ² Quarterly changes in amounts outstanding, adjusted for the impact of exchange rate movements between quarter-ends and methodological breaks in the data. ³ Geometric mean of quarterly percentage adjusted changes.

Source: BIS locational banking statistics.

Cross-border liabilities of reporting banks

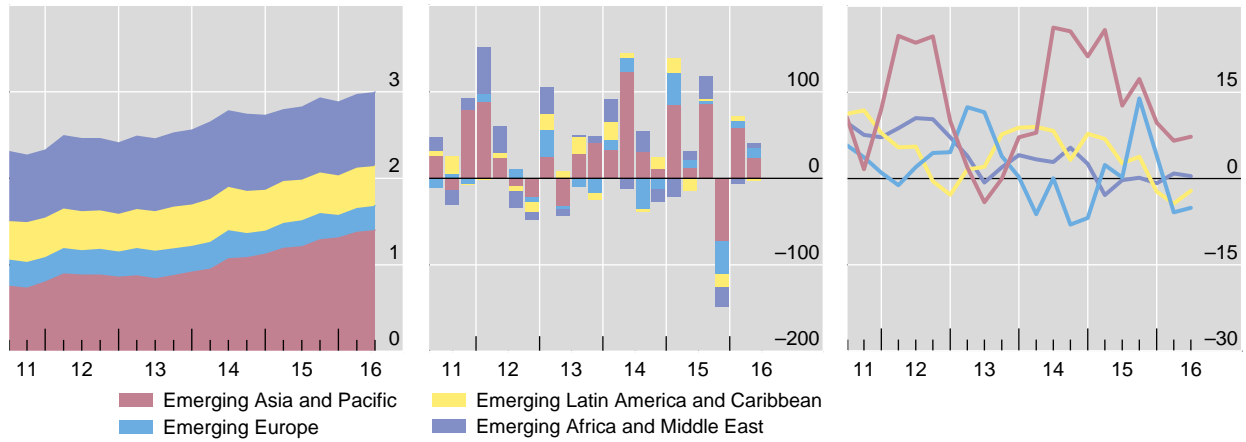
Graph A.5

Amounts outstanding, in USD trn¹

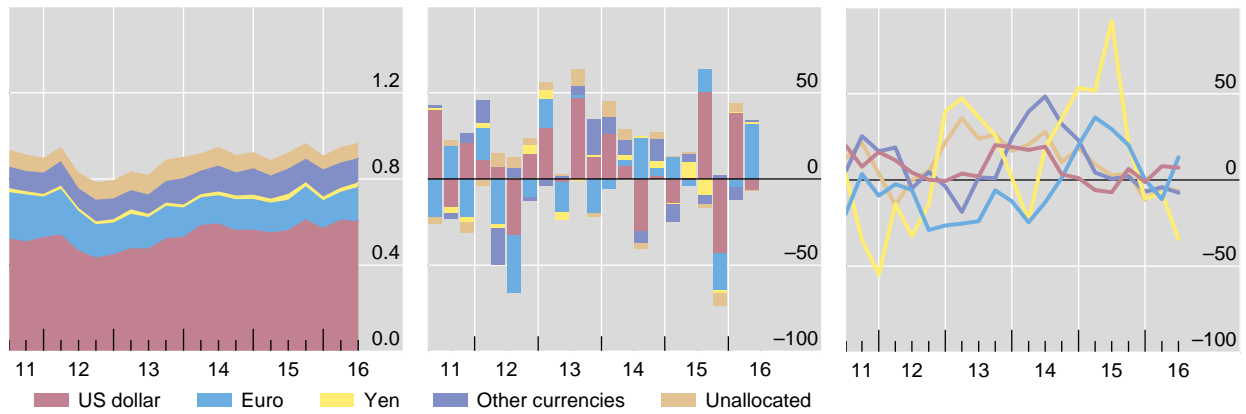
Adjusted changes, in USD bn²

Annual change, in per cent³

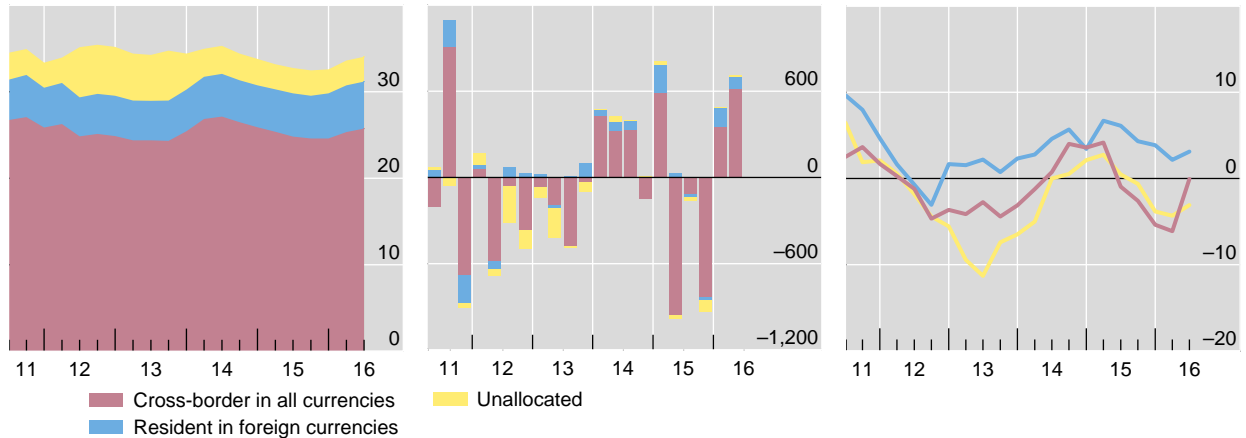
To emerging market economies



To central banks



By currency type and location



Further information on the BIS locational banking statistics is available at www.bis.org/statistics/bankstats.htm.

¹ At quarter-end. Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date. ² Quarterly changes in amounts outstanding, adjusted for the impact of exchange rate movements between quarter-ends and methodological breaks in the data. ³ Geometric mean of quarterly percentage adjusted changes.

Source: BIS locational banking statistics.

B Consolidated banking statistics

Consolidated claims of reporting banks on advanced economies

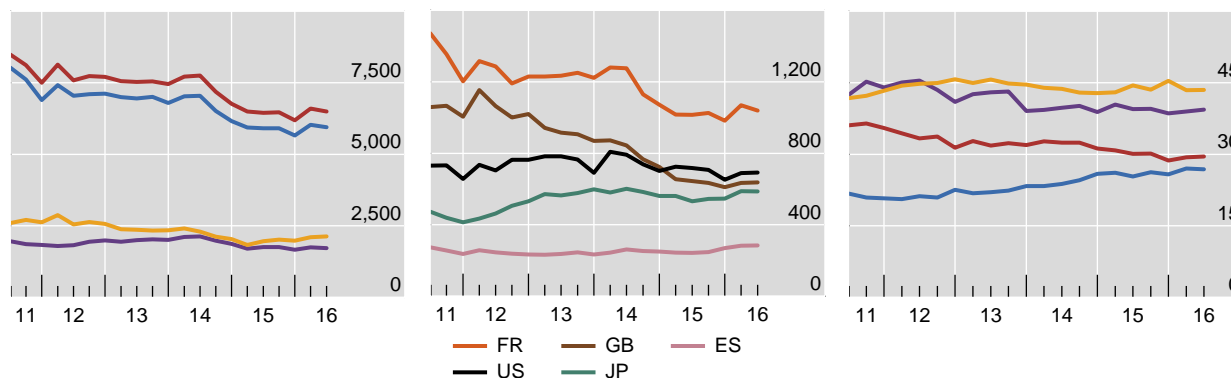
Graph B.1

Foreign claims and local positions, in USD bn^{1,2}

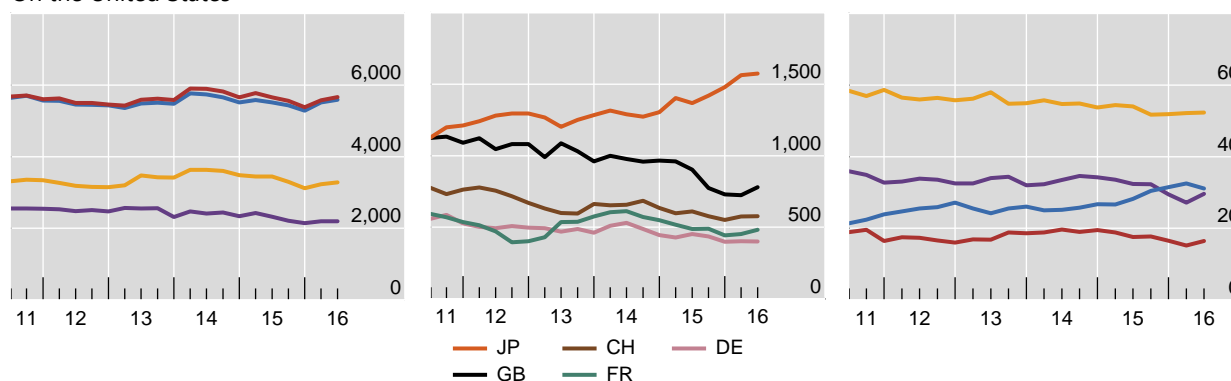
Foreign claims of selected creditors, in USD bn^{1,3}

International claims, by sector and maturity, in per cent⁴

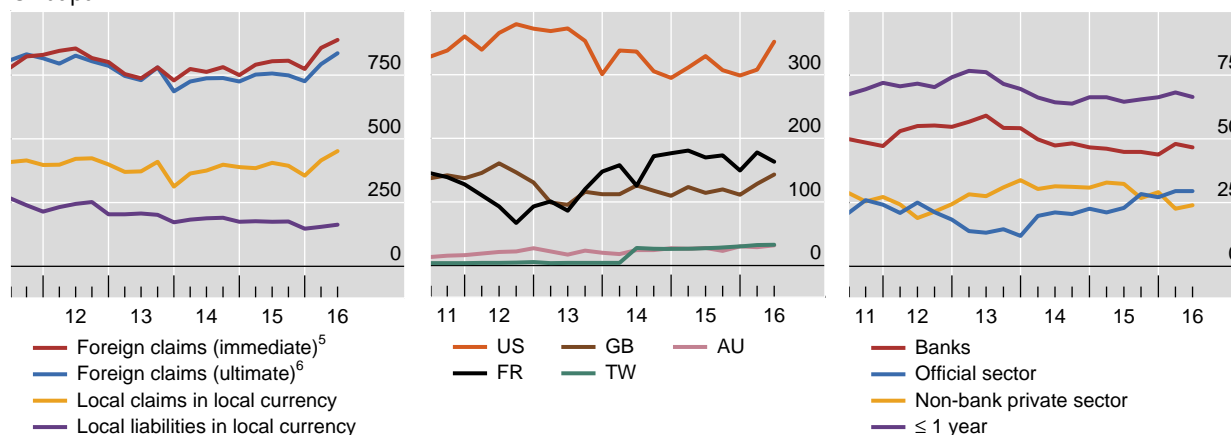
On the euro area



On the United States



On Japan



AU = Australia; CH = Switzerland; DE = Germany; FR = France; GB = United Kingdom; JP = Japan; NL = Netherlands; US = United States.

Further information on the BIS consolidated banking statistics is available at www.bis.org/statistics/bankstats.htm.

¹ Amounts outstanding at quarter-end. Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date. ² Excludes domestic claims, ie claims on residents of a bank's home country. ³ Foreign claims on an ultimate risk basis, by nationality of reporting bank. The banking systems shown are not necessarily the largest foreign bank creditors on each reference date. ⁴ As a percentage of international claims outstanding. ⁵ On an immediate counterparty basis. Includes the unconsolidated claims of banks headquartered outside but located inside CBS-reporting countries. ⁶ On an ultimate risk basis.

Source: BIS consolidated banking statistics (CBS).

Consolidated claims of reporting banks on emerging market economies

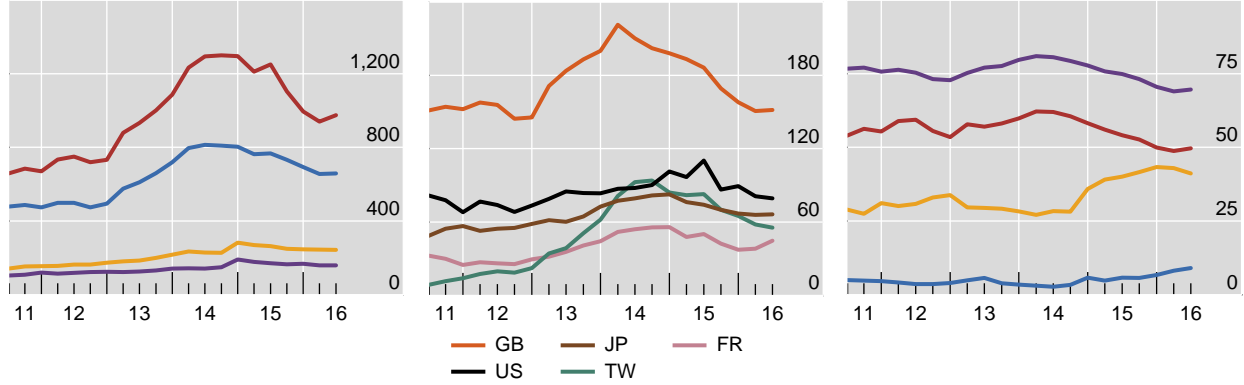
Graph B.2

Foreign claims and local positions, in USD bn^{1,2}

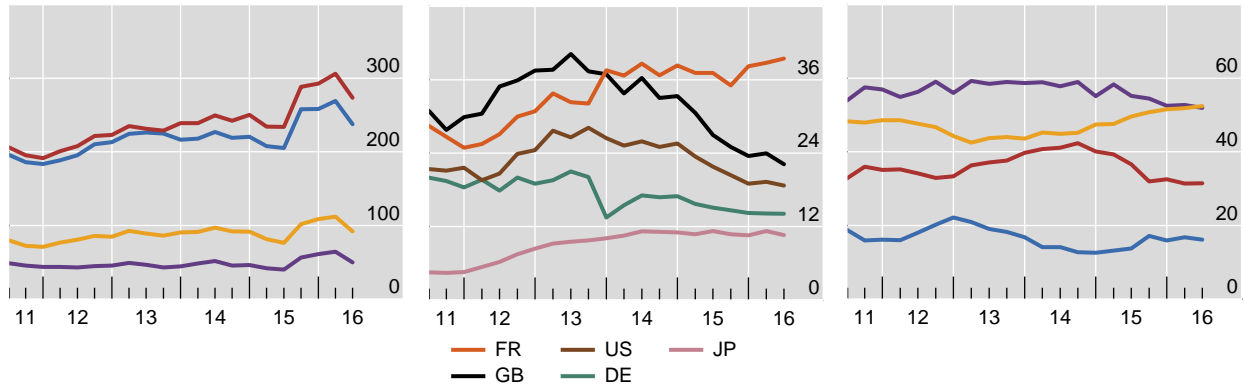
Foreign claims of selected creditors, in USD bn^{1,3}

International claims, by sector and maturity, in per cent⁴

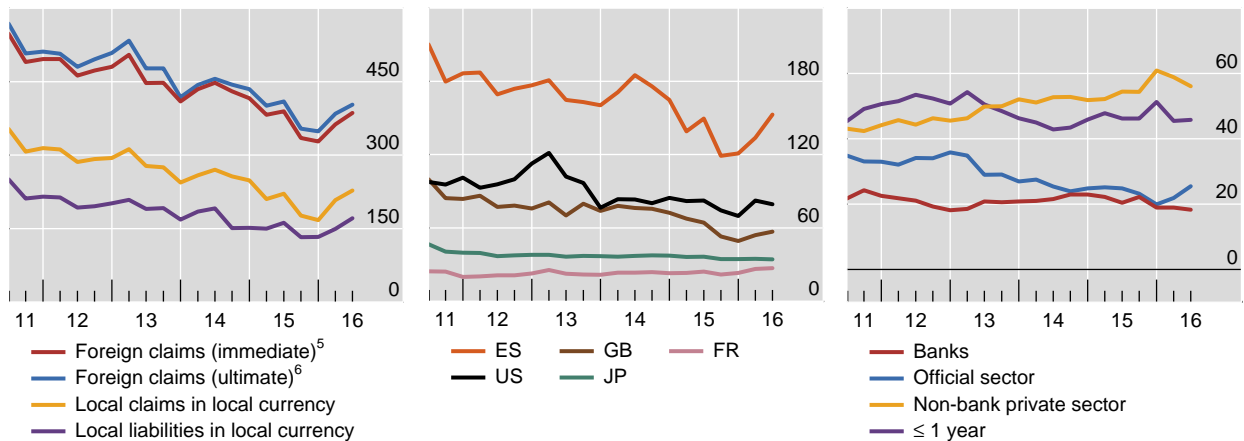
On China



On Turkey



On Brazil



AU = Australia; DE = Germany; ES = Spain; GB = United Kingdom; GR = Greece; JP = Japan; NL = Netherlands; TW = Chinese Taipei; US = United States.

Further information on the BIS consolidated banking statistics is available at www.bis.org/statistics/bankstats.htm.

¹ Amounts outstanding at quarter-end. Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date. ² Excludes domestic claims, ie claims on residents of a bank's home country. ³ Foreign claims on an ultimate risk basis, by nationality of reporting bank. The banking systems shown are not necessarily the largest foreign bank creditors on each reference date. ⁴ As a percentage of international claims. ⁵ On an immediate counterparty basis. Includes the unconsolidated claims of banks headquartered outside but located inside CBS-reporting countries. ⁶ On an ultimate risk basis.

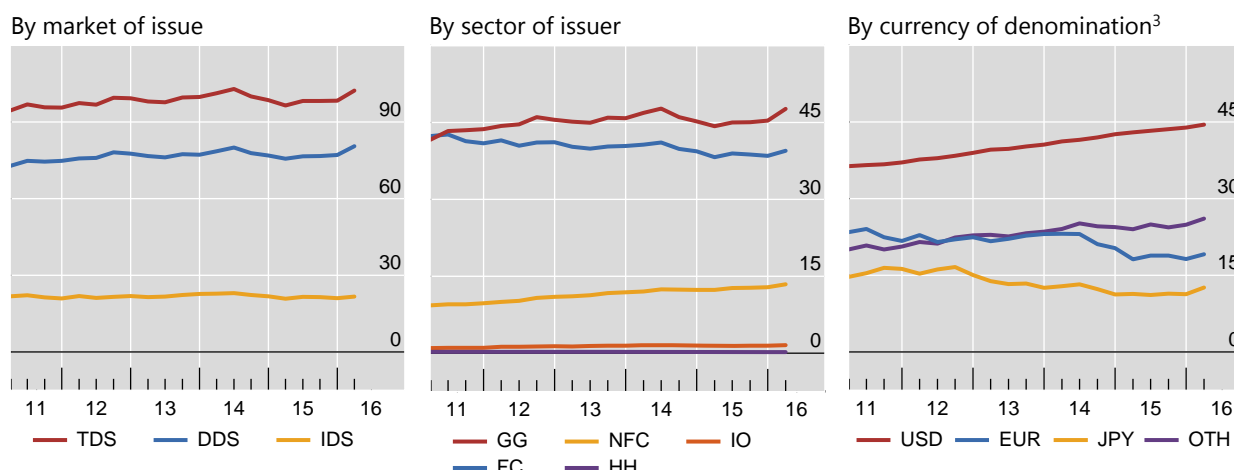
Source: BIS consolidated banking statistics (CBS).

C Debt securities statistics

Global debt securities markets¹

Amounts outstanding, in trillions of US dollars²

Graph C.1



DDS = domestic debt securities; IDS = international debt securities; TDS = total debt securities.

FC = financial corporations; GG = general government; HH = households and non-profit institutions serving households; IO = international organisations; NFC = non-financial corporations.

EUR = euro; JPY = yen; OTH = other currencies; USD = US dollar.

Further information on the BIS debt securities statistics is available at www.bis.org/statistics/secstats.htm.

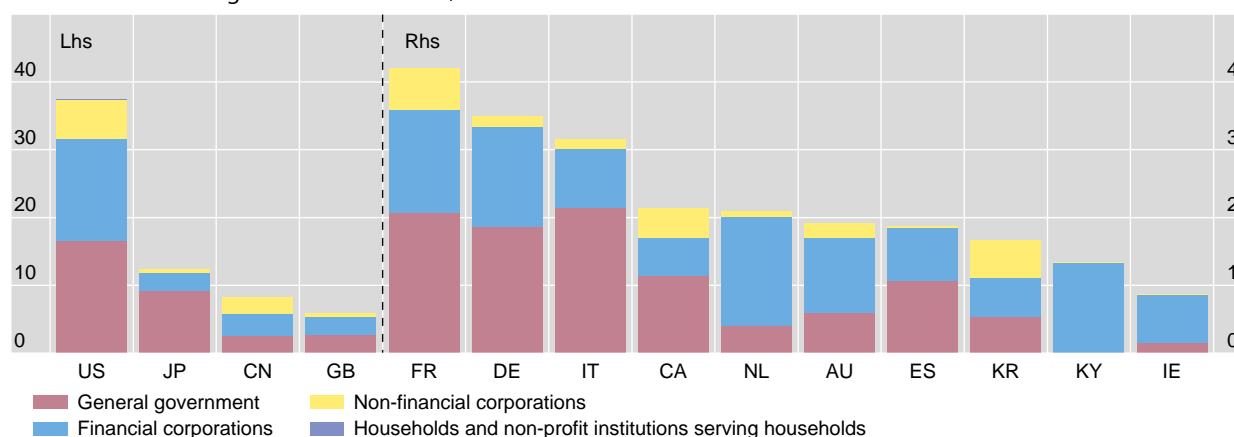
¹ Sample of countries varies across breakdowns shown. For countries that do not report TDS, data are estimated by the BIS as DDS plus IDS. For countries that do not report either TDS or DDS, data are estimated by the BIS as IDS. ² At quarter-end. Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date. ³ Where a currency breakdown is not available, DDS are assumed to be denominated in the local currency.

Sources: IMF; Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; national data; BIS debt securities statistics; BIS calculations.

Total debt securities, by residence and sector of issuer¹

Amounts outstanding at end-March 2016, in trillions of US dollars²

Graph C.2



AU = Australia; CA = Canada; CN = China; DE = Germany; ES = Spain; FR = France; GB = United Kingdom; IE = Ireland; IT = Italy; JP = Japan; KR = Korea; KY = Cayman Islands; NL = Netherlands; US = United States.

Further information on the BIS debt securities statistics is available at www.bis.org/statistics/secstats.htm.

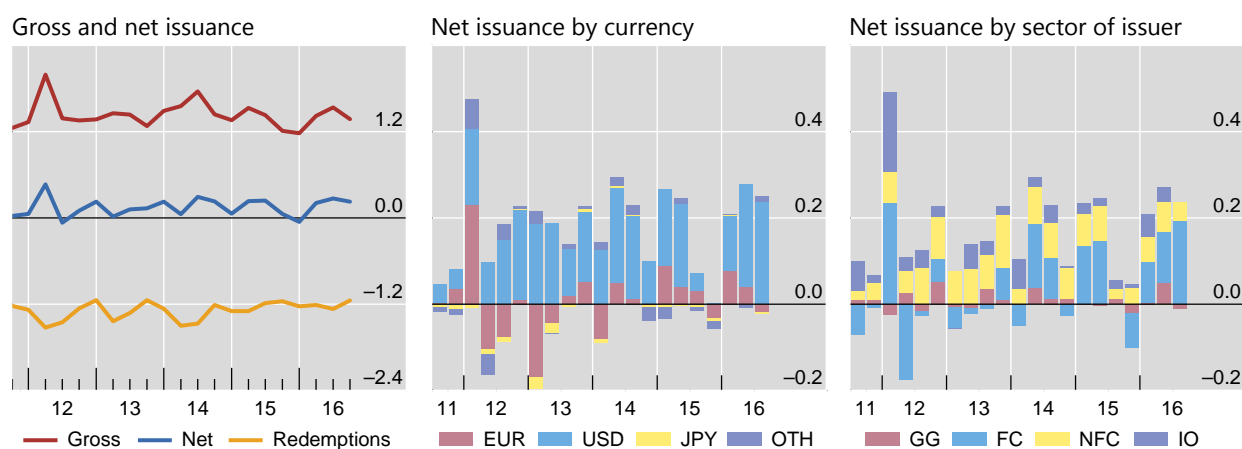
¹ For countries that do not report TDS, data are estimated by the BIS as DDS plus IDS. ² Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Sources: National data; BIS debt securities statistics.

International debt securities, by currency and sector

In trillions of US dollars

Graph C.3



EUR = euro; JPY = yen; OTH = other currencies; USD = US dollar.

FC= financial corporations; GG = general government; IO = international organisations; NFC = non-financial corporations.

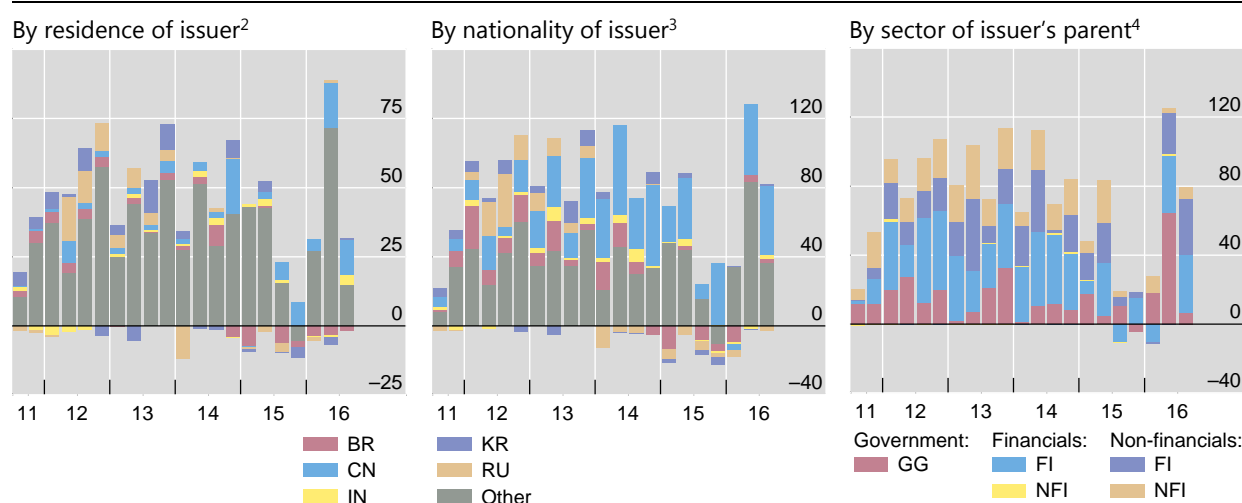
Further information on the BIS debt securities statistics is available at www.bis.org/statistics/secstats.htm.

Sources: IMF; Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; BIS debt securities statistics.

International debt securities issued by borrowers from emerging market economies¹

Net issuance, in billions of US dollars

Graph C.4



BR = Brazil; CN = China; IN = India; KR = Korea; RU = Russia.

FI = financial corporations; GG = general government; NFI = non-financial corporations.

Further information on the BIS debt securities statistics is available at www.bis.org/statistics/secstats.htm.

¹ For the sample of countries comprising emerging market economies, see the glossary to the *BIS Statistical Bulletin*. ² Country where issuer resides. ³ Country where issuer's controlling parent is located. Includes issuance by financing vehicles incorporated in offshore financial centres with parents based in an emerging market economy. ⁴ By nationality, ie issuers with parents based in an emerging market economy. Issuers are grouped by sector of their parent.

Sources: IMF; Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; BIS debt securities statistics.

D Derivatives statistics

Exchange-traded derivatives

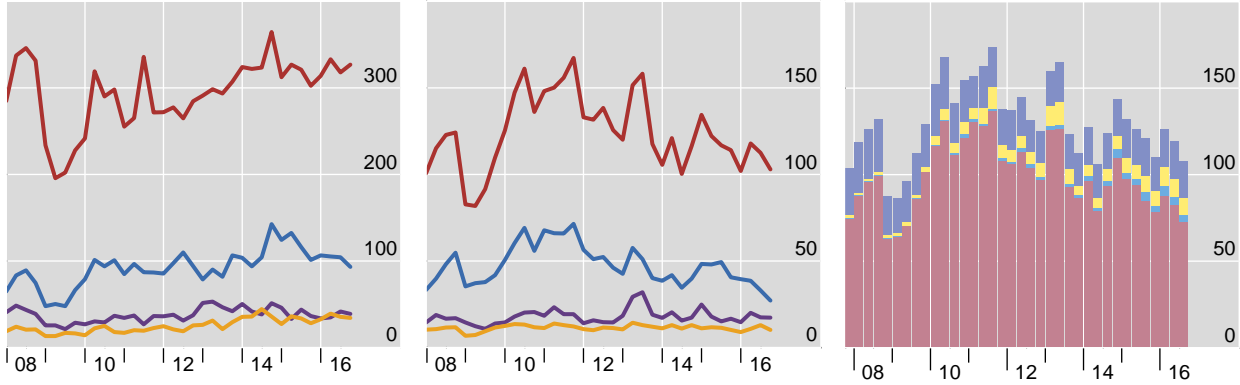
Graph D.1

Open interest, by currency¹

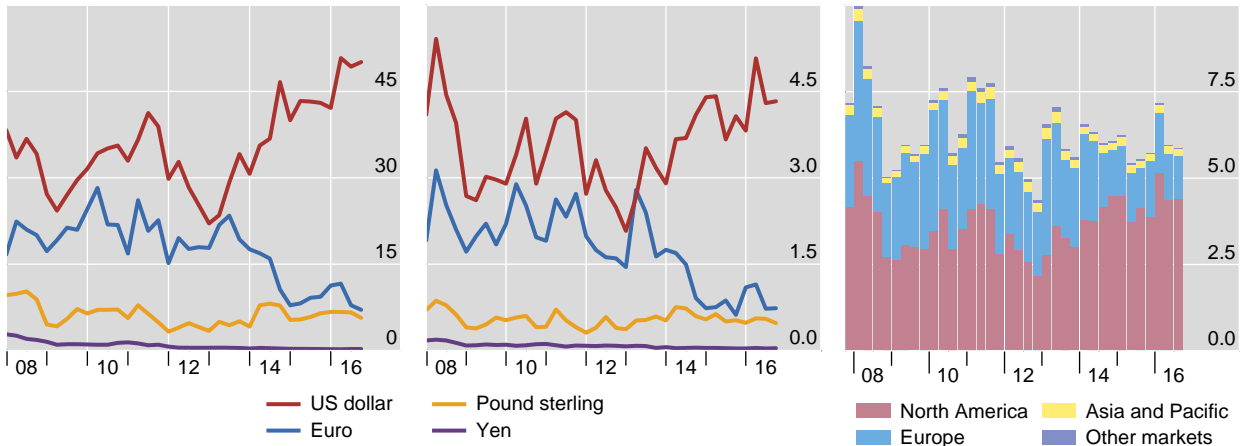
Daily average turnover, by currency²

Daily average turnover, by location of exchange²

Foreign exchange derivatives, USD bn³



Interest rate derivatives, USD trn³



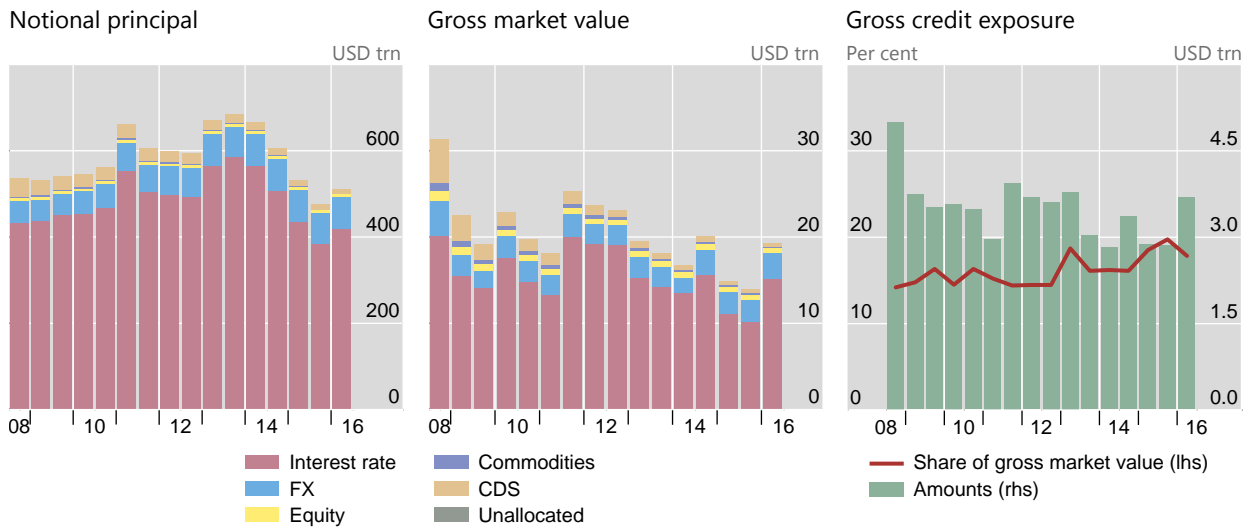
Further information on the BIS derivatives statistics is available at www.bis.org/statistics/extderiv.htm.

¹ At quarter-end. Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date. ² Quarterly averages of daily turnover. ³ Futures and options.

Sources: Euromoney TRADEDATA; Futures Industry Association; The Options Clearing Corporation; BIS derivatives statistics.

Global OTC derivatives markets¹

Graph D.2



Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

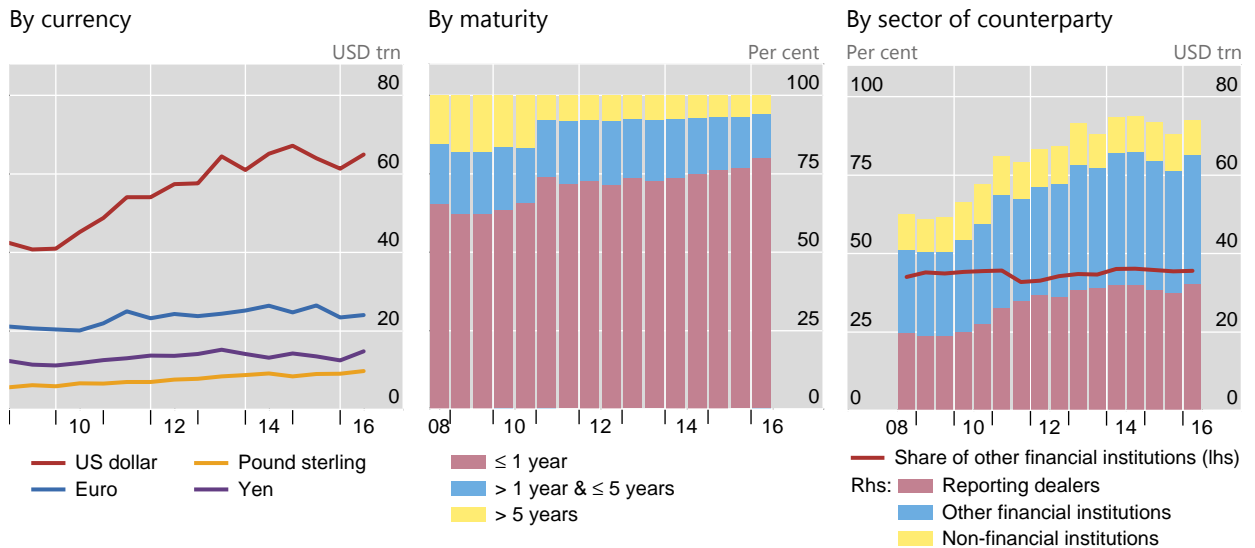
¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS derivatives statistics.

OTC foreign exchange derivatives

Notional principal¹

Graph D.3



Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

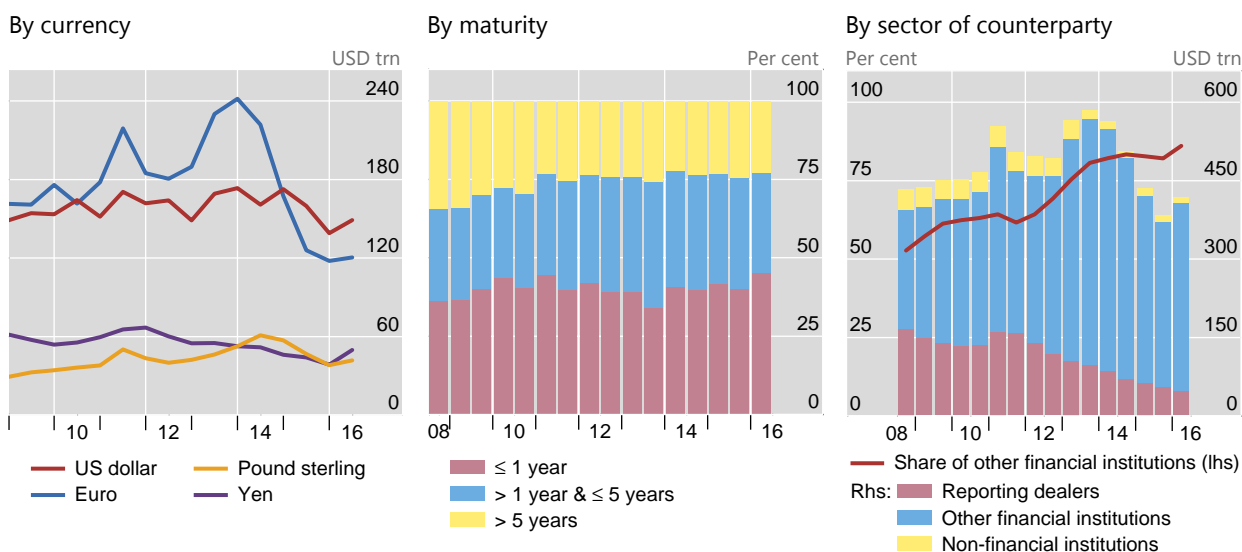
¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS derivatives statistics.

OTC interest rate derivatives

Notional principal¹

Graph D.4



Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

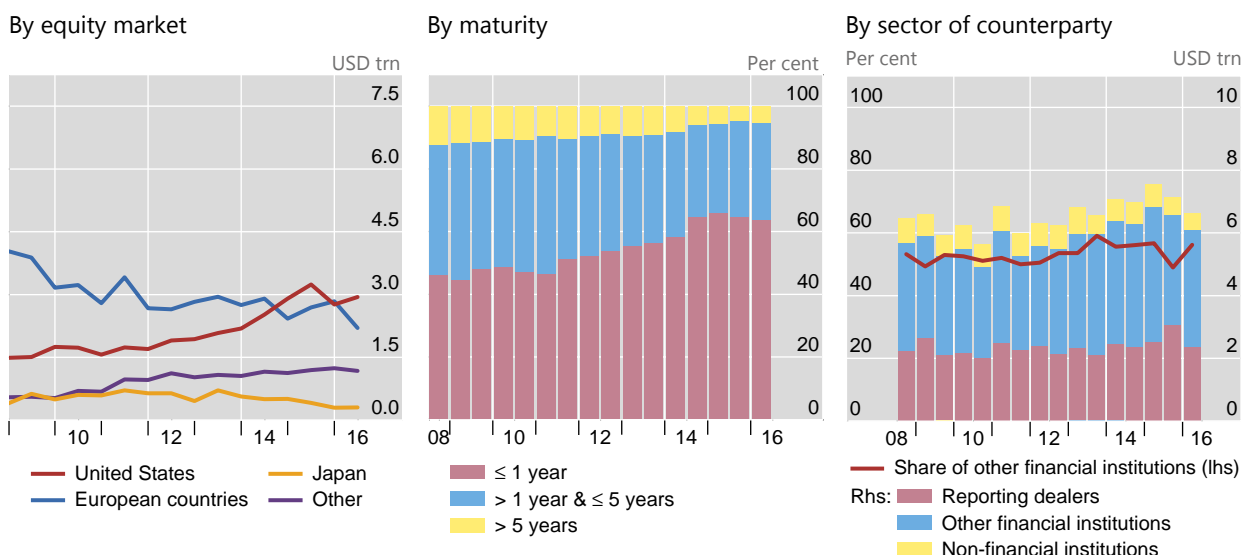
¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS derivatives statistics.

OTC equity-linked derivatives

Notional principal¹

Graph D.5



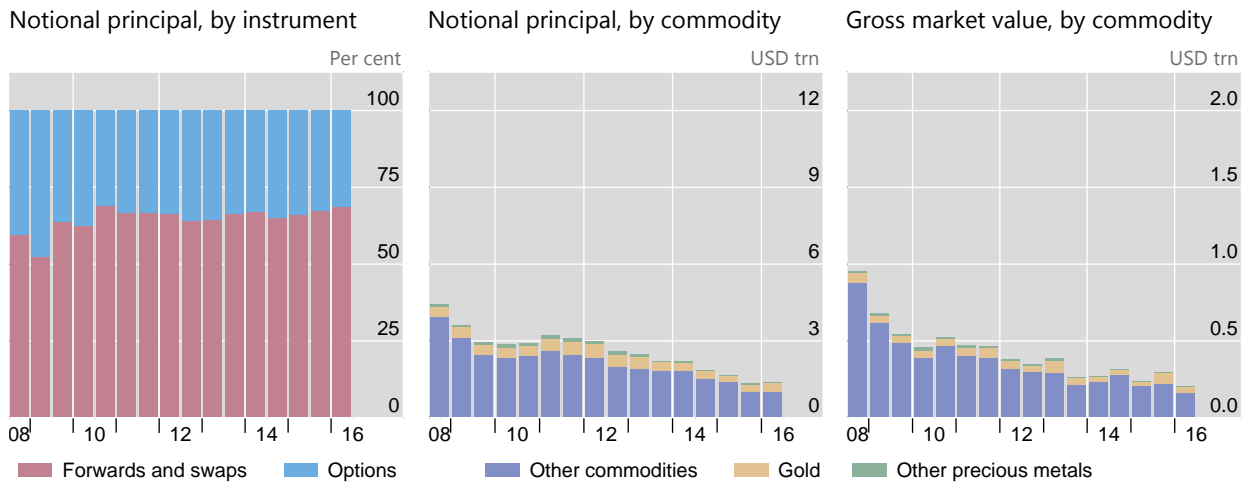
Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS derivatives statistics.

OTC commodity derivatives¹

Graph D.6



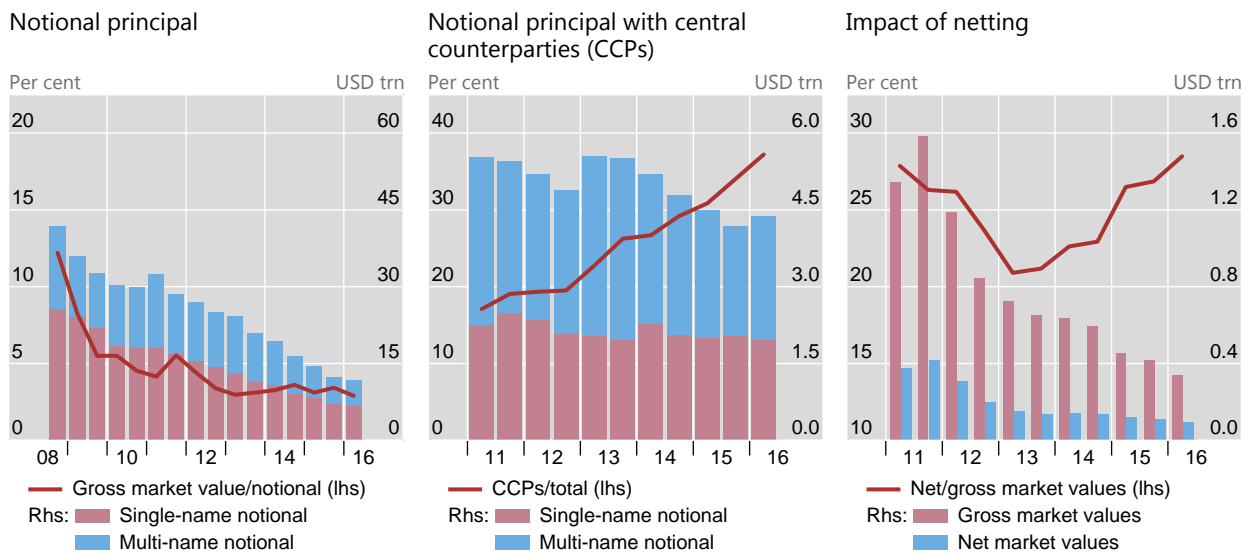
Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS derivatives statistics.

Credit default swaps¹

Graph D.7



Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

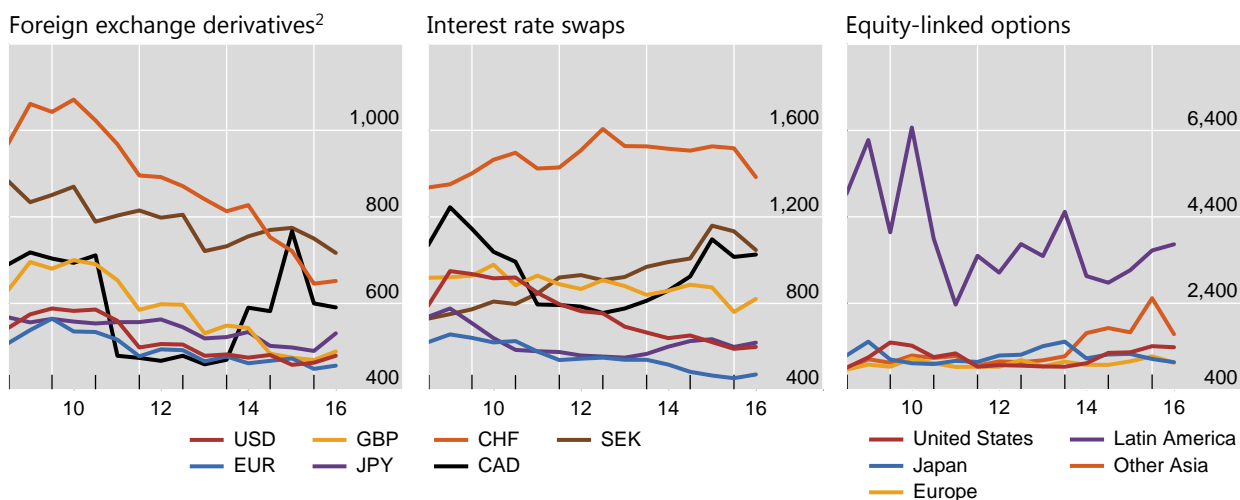
¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS derivatives statistics.

Concentration in global OTC derivatives markets

Herfindahl index¹

Graph D.8



CAD = Canadian dollar; CHF = Swiss franc; EUR = euro; GBP = pound sterling; JPY = yen; SEK = Swedish krona; USD = US dollar.

Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

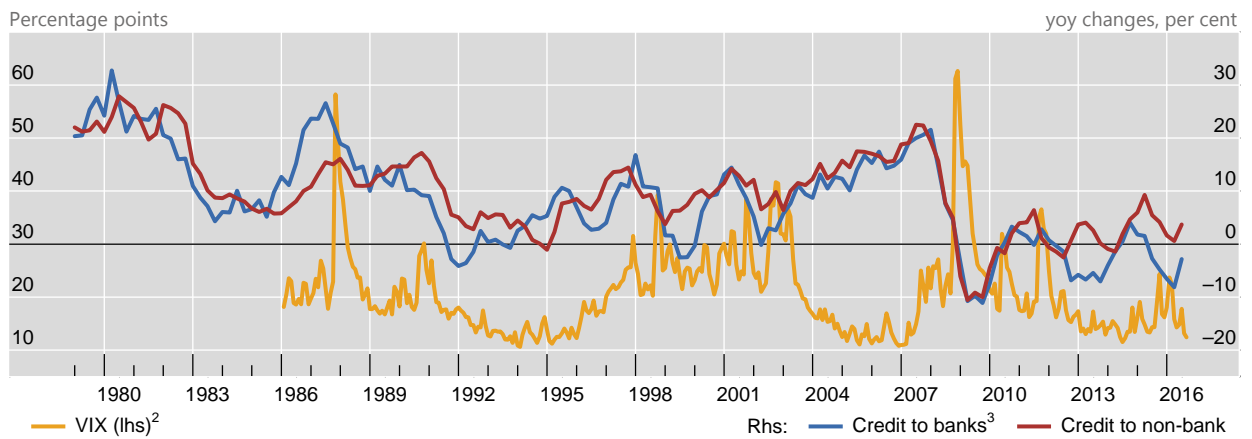
¹ The index ranges from 0 to 10,000, where a lower number indicates that there are many dealers with similar market shares (as measured by notional principal) and a higher number indicates that the market is dominated by a few reporting dealers. ² Foreign exchange forwards, foreign exchange swaps and currency swaps.

Source: BIS derivatives statistics.

E Global liquidity indicators

Growth of international bank credit¹

Graph E.1



In June 2016, the presentation of data in this graph was revised to show the year-on-year changes in credit, instead of the contribution to growth, and to exclude credit unallocated by sector, which was previously included in credit to banks.

Further information on the BIS global liquidity indicators is available at www.bis.org/statistics/gli.htm.

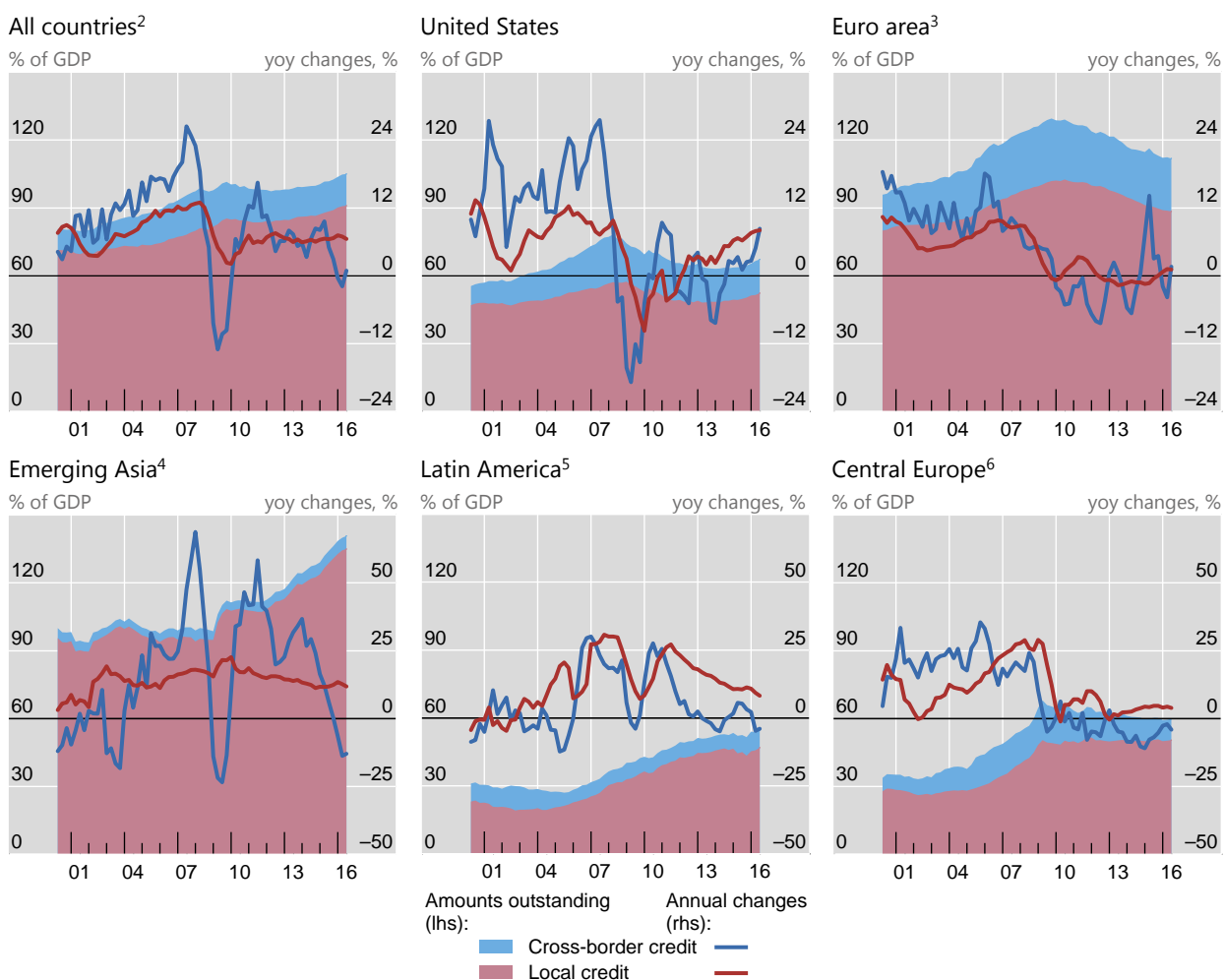
¹ LBS-reporting banks' cross-border claims plus local claims in foreign currencies. ² Chicago Board Options Exchange S&P 500 implied volatility index; standard deviation, in percentage points per annum. ³ Including intragroup transactions.

Sources: Bloomberg; BIS locational banking statistics (LBS).

Global bank credit to the private non-financial sector, by residence of borrower

Banks' cross-border credit plus local credit in all currencies¹

Graph E.2



Further information on the BIS global liquidity indicators is available at www.bis.org/statistics/gli.htm.

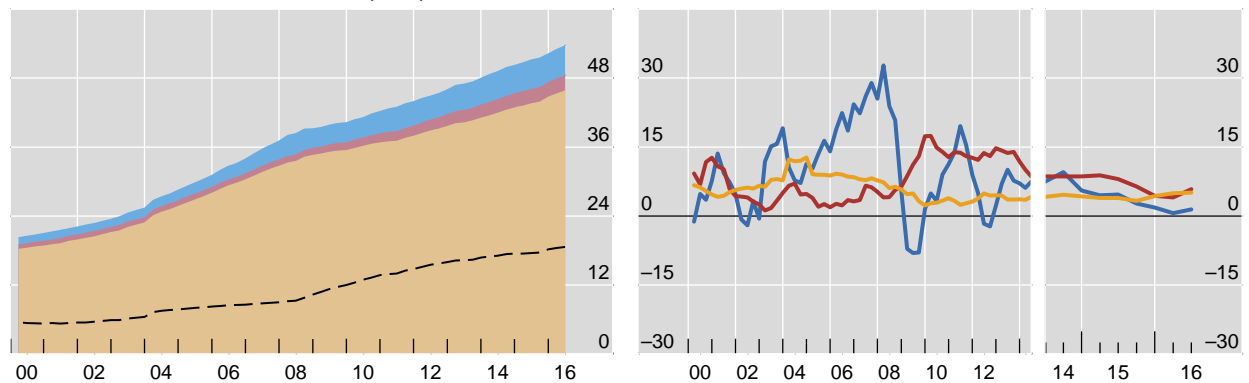
¹ Cross-border claims of LBS reporting banks to the non-bank sector plus local claims of all banks to the private non-financial sector. Weighted averages of the economies listed, based on four-quarter moving sums of GDP. ² Australia, Canada, Denmark, Japan, New Zealand, Norway, Russia, Saudi Arabia, South Africa, Sweden, Switzerland, Turkey and the United Kingdom, plus the countries in the other panels. ³ Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal and Spain. ⁴ China, Hong Kong SAR, India, Indonesia, Korea, Malaysia, Singapore and Thailand. ⁵ Argentina, Brazil, Chile and Mexico. ⁶ The Czech Republic, Hungary and Poland.

Sources: BIS credit to the non-financial sector and locational banking statistics (LBS); BIS calculations.

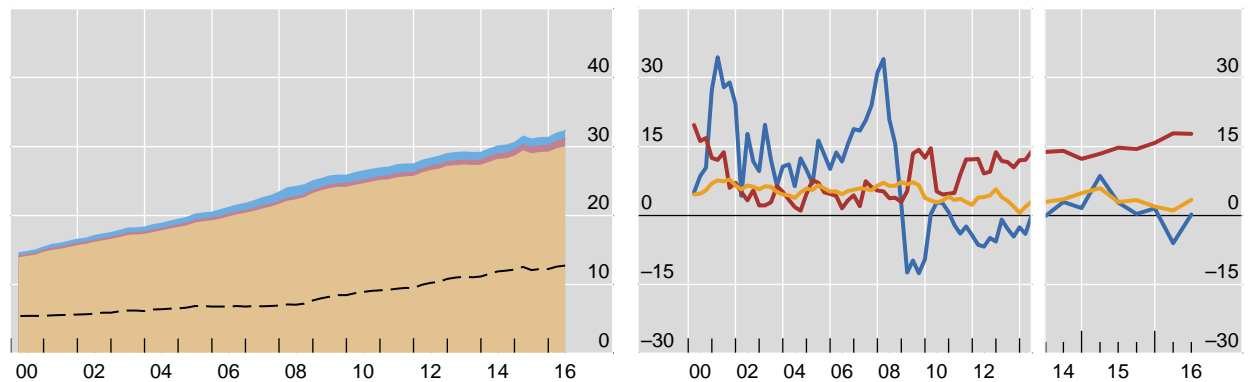
Amounts outstanding, in USD trn¹

Annual change, in per cent

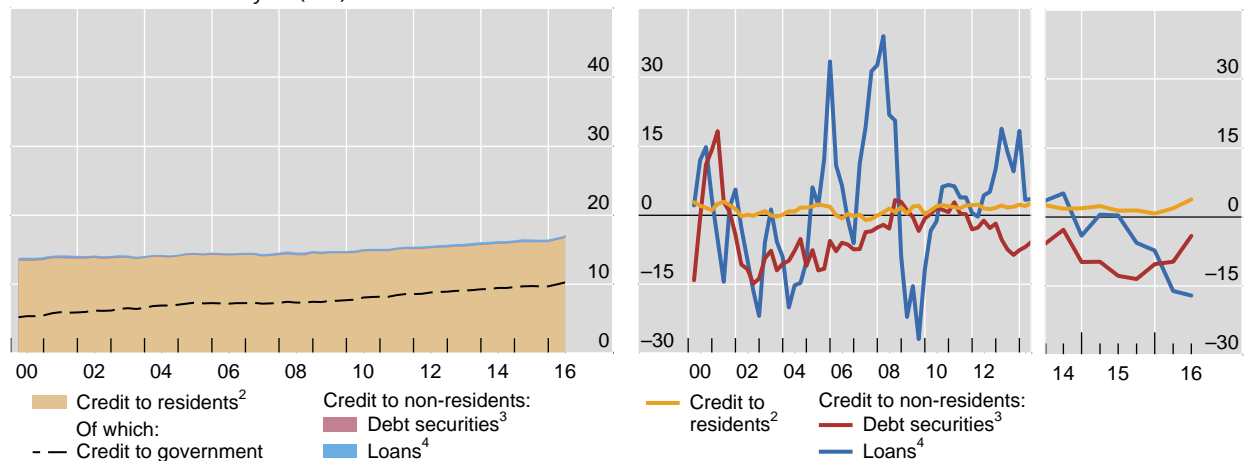
Credit denominated in US dollars (USD)



Credit denominated in euros (EUR)



Credit denominated in yen (JPY)



Further information on the BIS global liquidity indicators is available at www.bis.org/statistics/gli.htm.

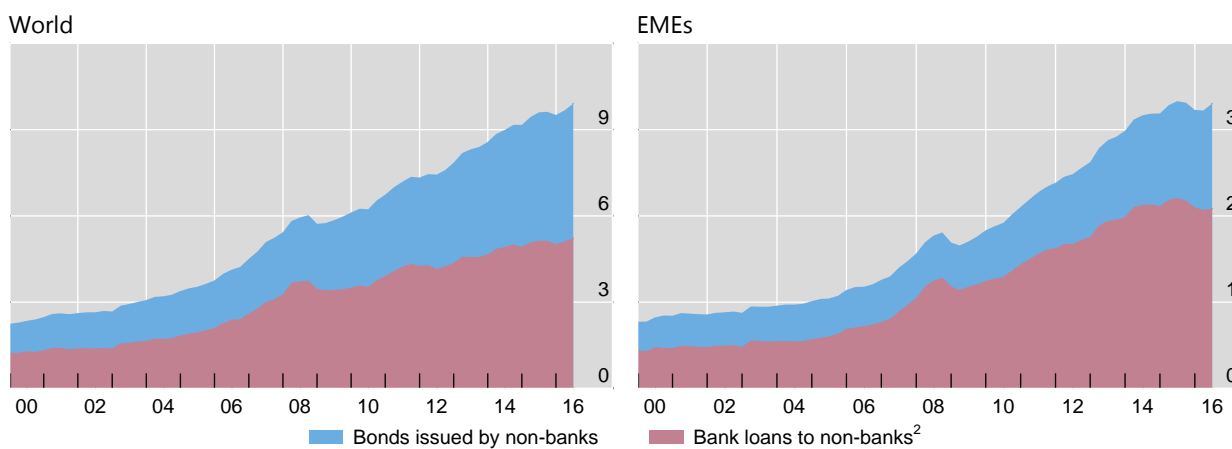
¹ Amounts outstanding at quarter-end. Amounts denominated in currencies other than USD are converted to USD at the exchange rate prevailing at end-December 2015. ² Credit to non-financial borrowers residing in the United States/euro area/Japan. National financial accounts are adjusted using BIS banking and securities statistics to exclude credit denominated in non-local currencies. ³ Excluding debt securities issued by special purpose vehicles and other financial entities controlled by non-financial parents. EUR-denominated debt securities exclude those issued by institutions of the European Union. ⁴ Loans by LBS-reporting banks to non-bank financial entities, including non-bank financial entities, comprise cross-border plus local loans. For countries that are not LBS-reporting countries, local loans in USD/EUR/JPY are estimated as follows: for China, local loans in foreign currencies are from national data and assumed to be composed of 80% USD, 10% EUR and 10% JPY; for other non-reporting countries, local loans to non-banks are set equal to LBS-reporting banks' cross-border loans to banks in the country (denominated in USD/EUR/JPY), on the assumption that these funds are lent to non-banks. For the purpose of the "global liquidity: total credit by currency of denomination" series, LBS-reporting countries exclude China and Russia.

Sources: IMF, *International Financial Statistics*; Datastream; BIS debt securities statistics and locational banking statistics (LBS).

US dollar-denominated credit to non-banks outside the United States¹

Amounts outstanding, in trillions of US dollars

Graph E.4



¹ Non-banks comprise non-bank financial entities, non-financial corporations, governments, households and international organisations. ² Loans by LBS-reporting banks to non-bank borrowers, including non-bank financial entities, comprise cross-border plus local loans. For countries that are not LBS-reporting countries, local loans in USD are estimated as follows: for China, local loans in foreign currencies are from national data and are assumed to be composed of 80% USD; for other non-reporting countries, local loans to non-banks are set equal to LBS-reporting banks' cross-border loans to banks in the country (denominated in USD), on the assumption that these funds are onlent to non-banks. For the purpose of the "global liquidity: total credit by currency of denomination" series, LBS-reporting countries exclude China and Russia.

Sources: Datastream; BIS debt securities statistics and locational banking statistics (LBS).

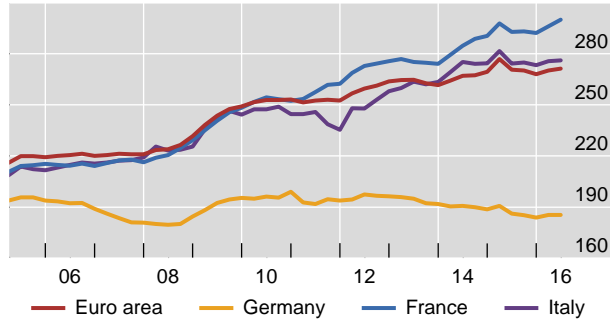
F Statistics on total credit to the non-financial sector

Total credit to the non-financial sector (core debt)

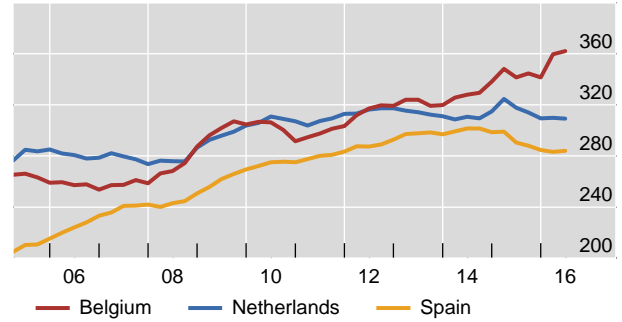
As a percentage of GDP

Graph F.1

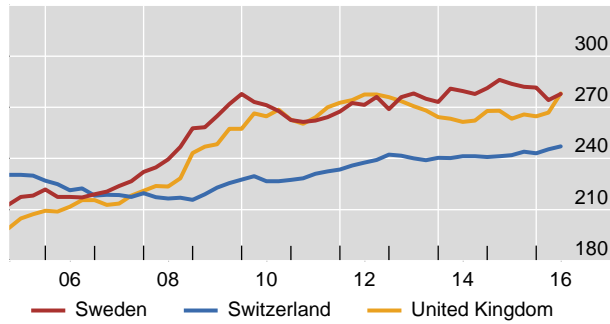
Euro area: aggregate and major countries



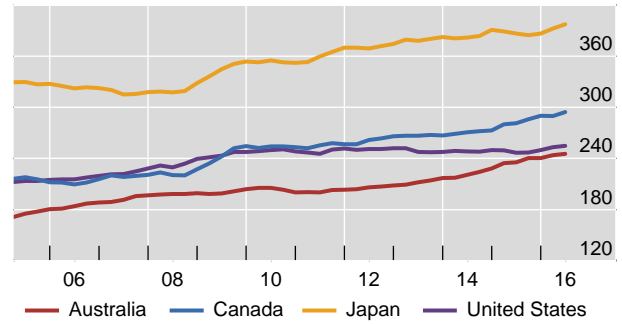
Euro area: other countries



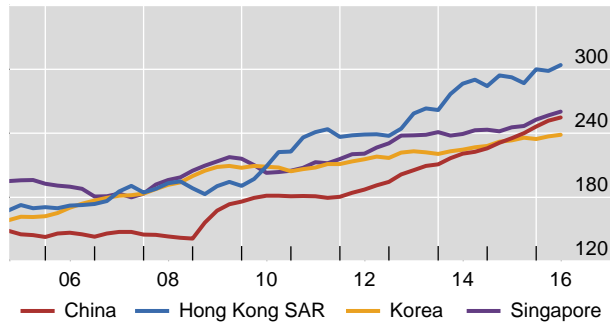
Other European countries



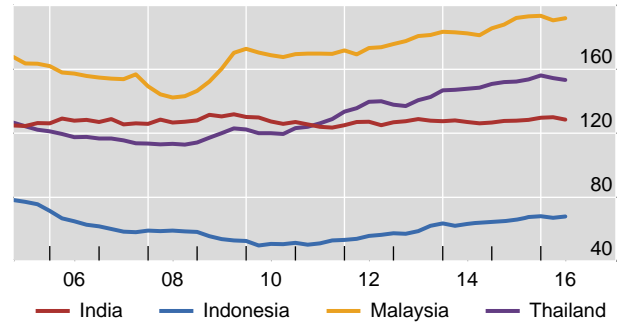
Major advanced economies



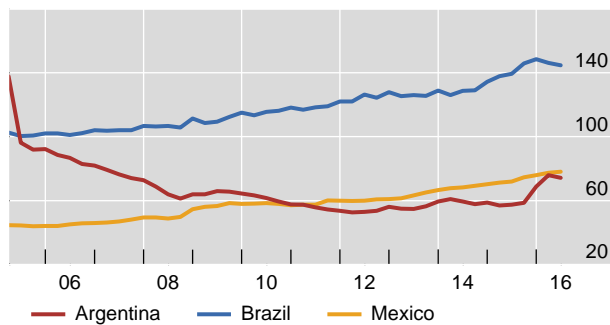
Emerging Asia



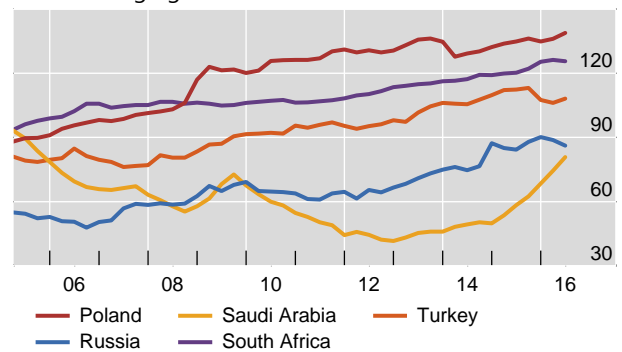
Other emerging Asia



Latin America



Other emerging market economies



Further information on the BIS credit statistics is available at www.bis.org/statistics/totcredit.htm.

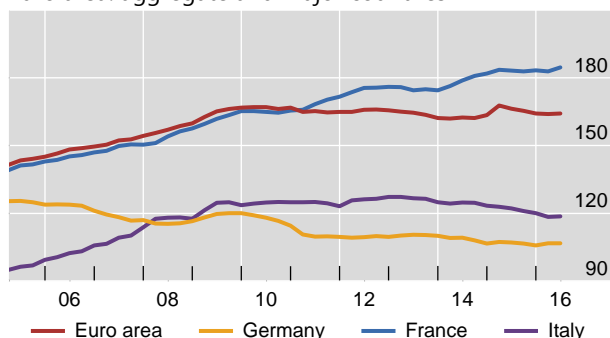
Source: BIS total credit statistics.

Total credit to the private non-financial sector (core debt)

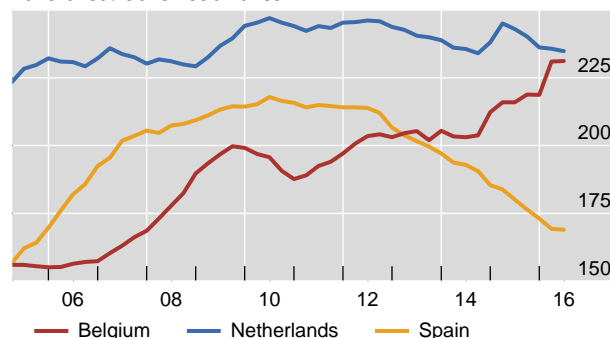
As a percentage of GDP

Graph F.2

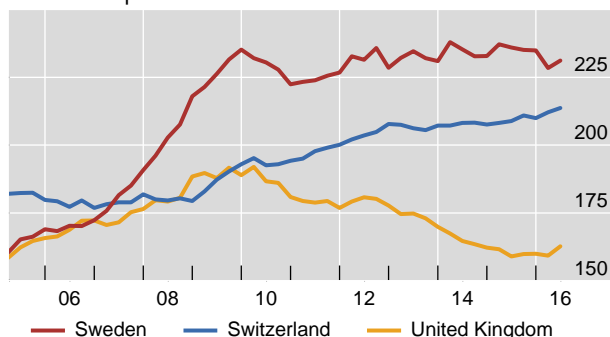
Euro area: aggregate and major countries



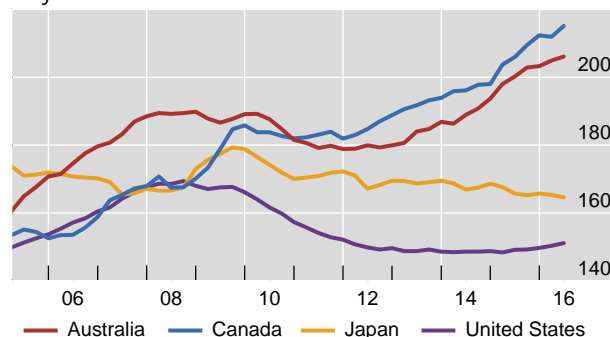
Euro area: other countries



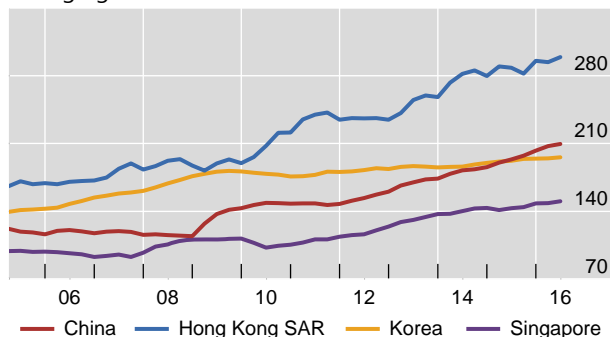
Other European countries



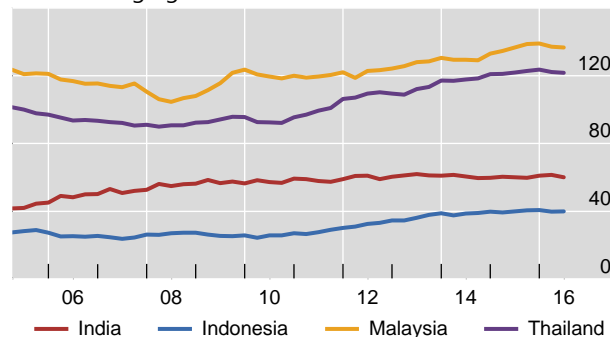
Major advanced economies



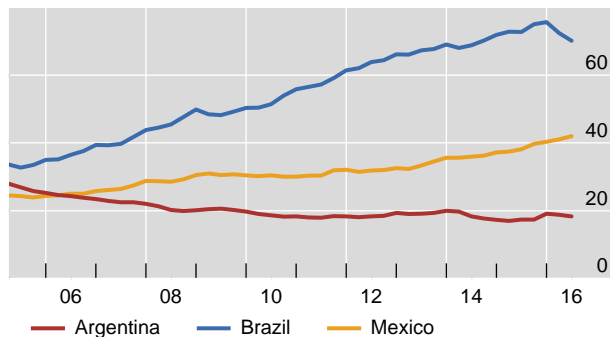
Emerging Asia



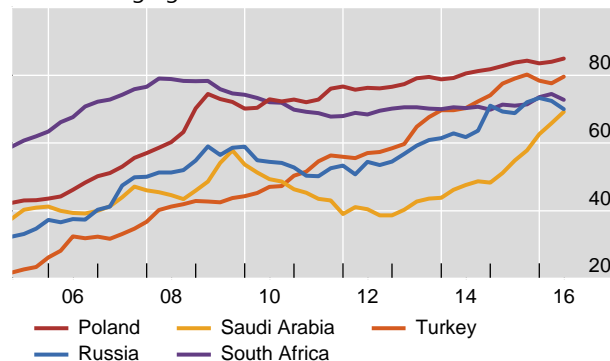
Other emerging Asia



Latin America



Other emerging market economies



Further information on the BIS credit statistics is available at www.bis.org/statistics/totcredit.htm.

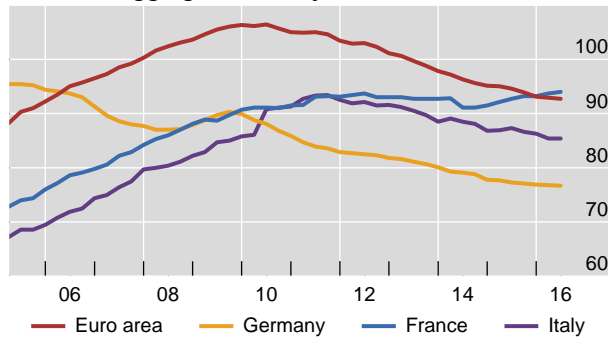
Source: BIS total credit statistics.

Bank credit to the private non-financial sector (core debt)

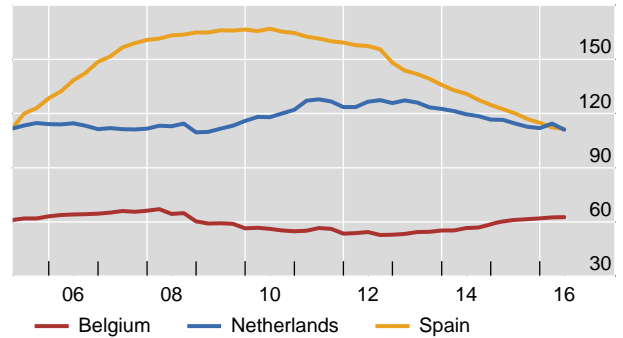
As a percentage of GDP

Graph F.3

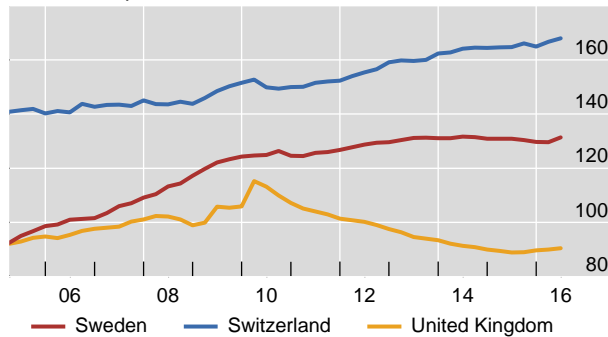
Euro area: aggregate and major countries



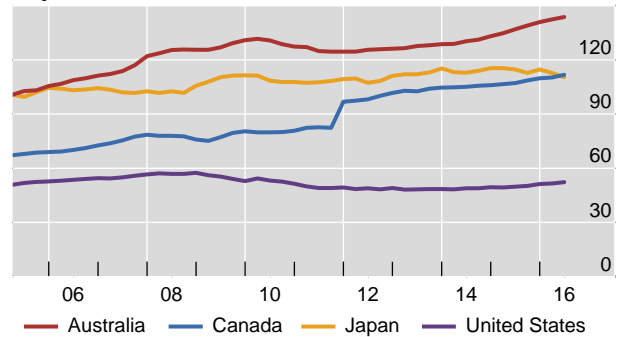
Euro area: other countries



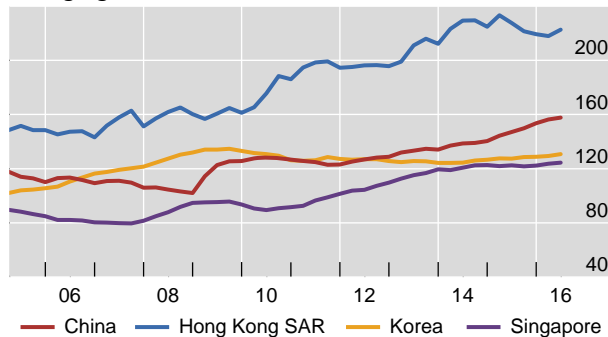
Other European countries



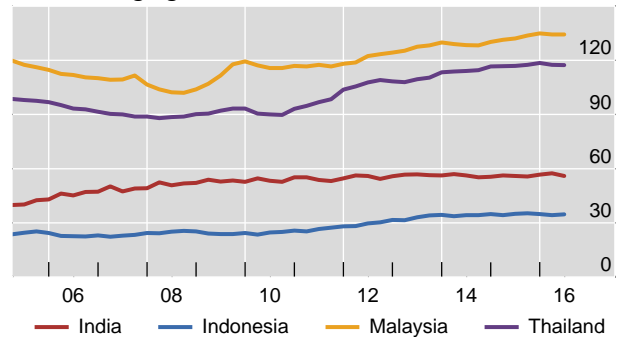
Major advanced economies



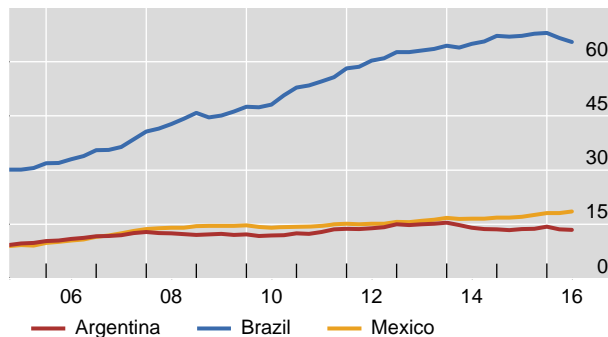
Emerging Asia



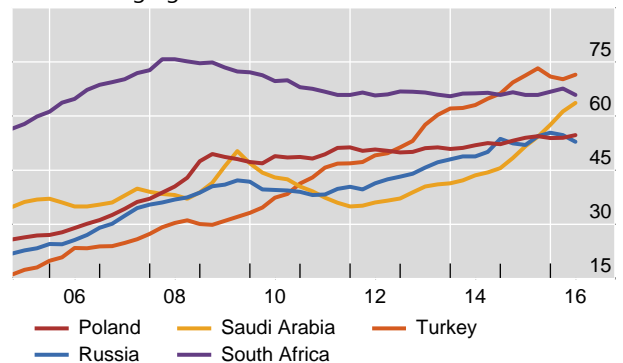
Other emerging Asia



Latin America



Other emerging market economies



Further information on the BIS credit statistics is available at www.bis.org/statistics/totcredit.htm.

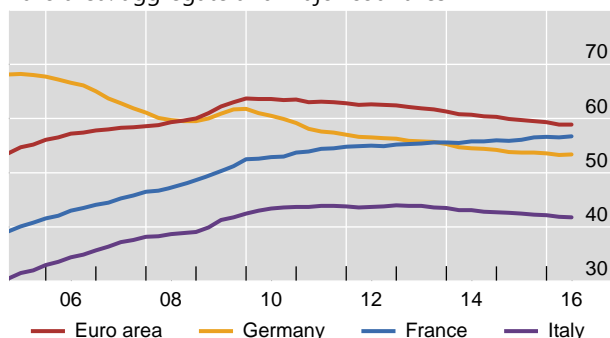
Source: BIS total credit statistics.

Total credit to households (core debt)

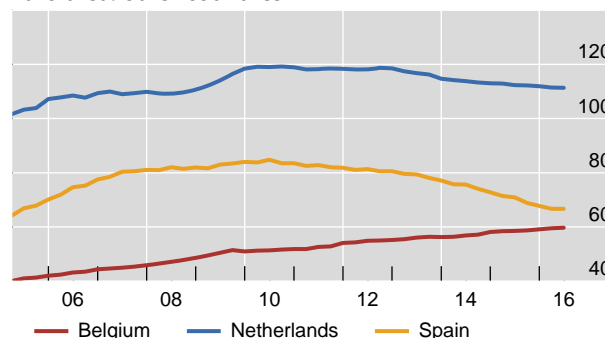
As a percentage of GDP

Graph F.4

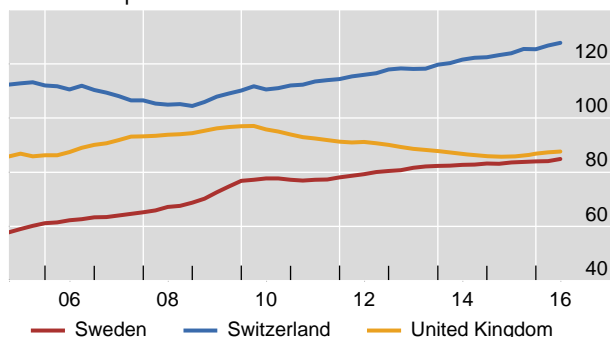
Euro area: aggregate and major countries



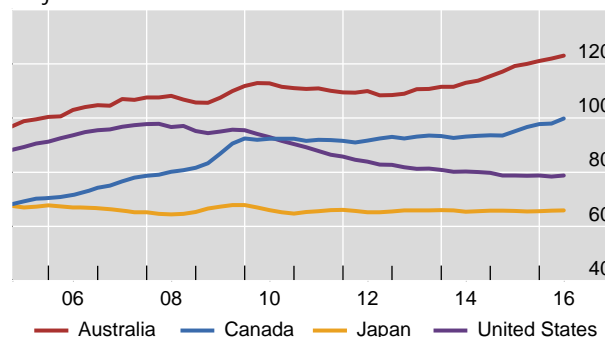
Euro area: other countries



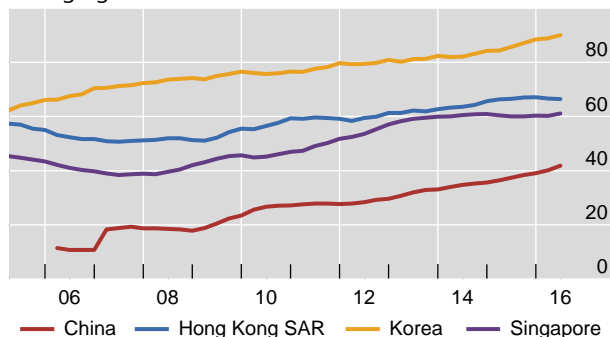
Other European countries



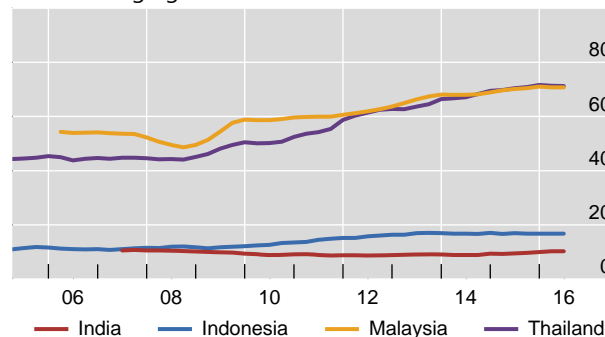
Major advanced economies



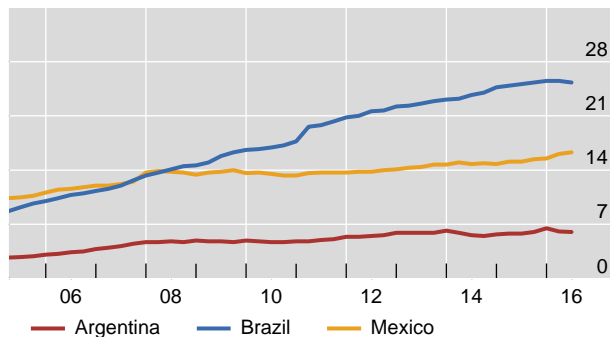
Emerging Asia



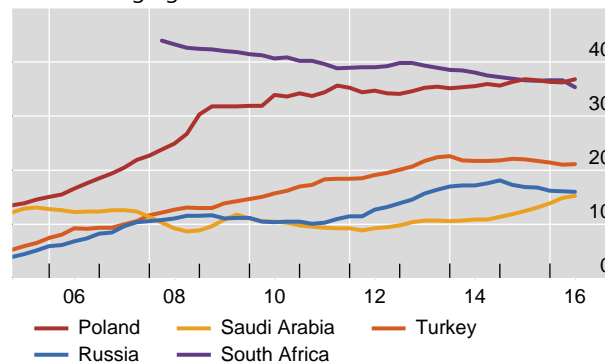
Other emerging Asia



Latin America



Other emerging market economies



Further information on the BIS credit statistics is available at www.bis.org/statistics/totcredit.htm.

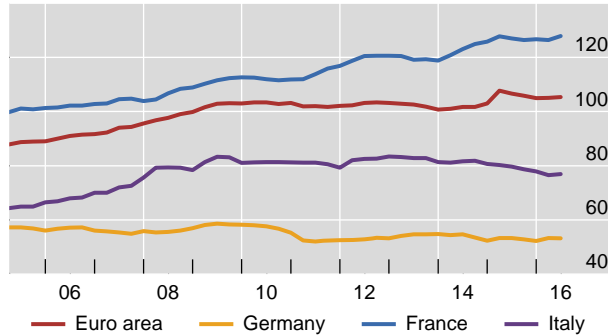
Source: BIS total credit statistics.

Total credit to non-financial corporations (core debt)

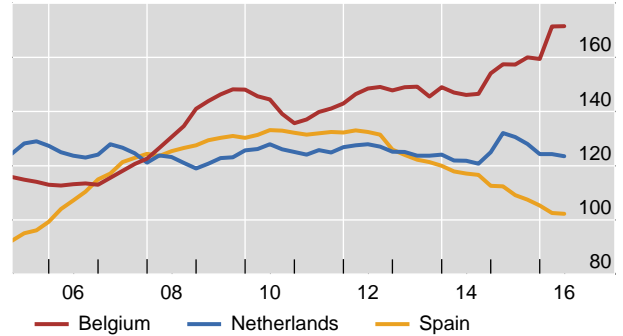
As a percentage of GDP

Graph F.5

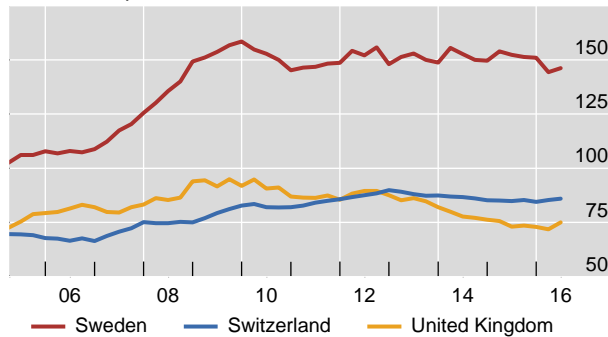
Euro area: aggregate and major countries



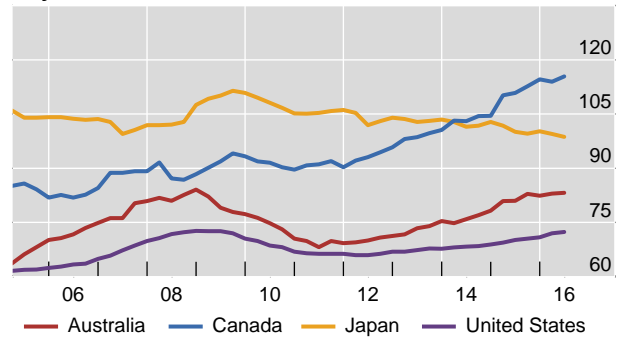
Euro area: other countries



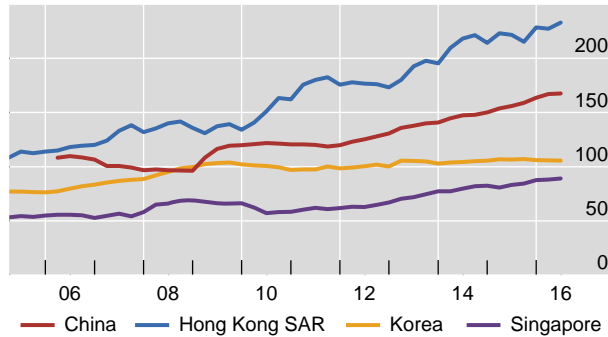
Other European countries



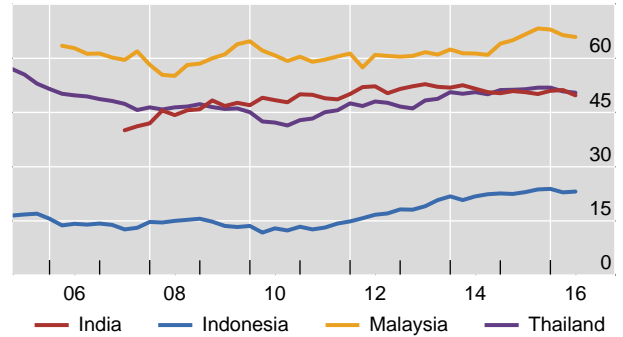
Major advanced economies



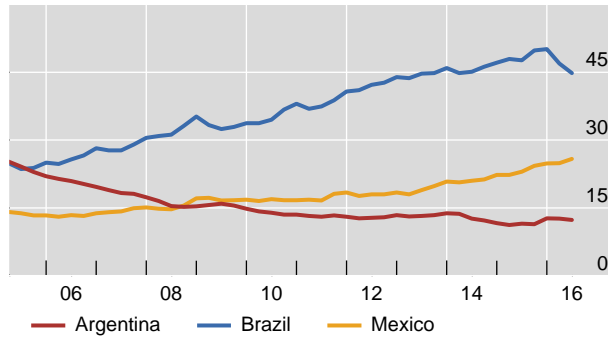
Emerging Asia



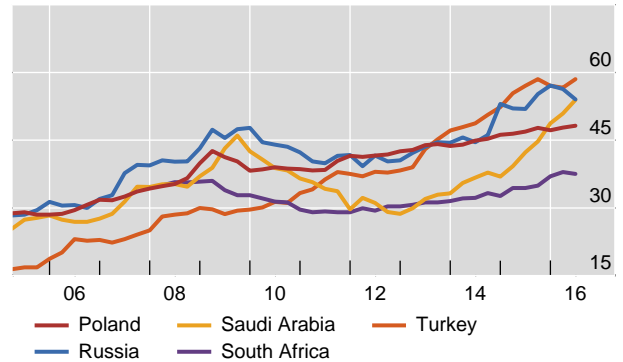
Other emerging Asia



Latin America



Other emerging market economies



Further information on the BIS credit statistics is available at www.bis.org/statistics/totcredit.htm.

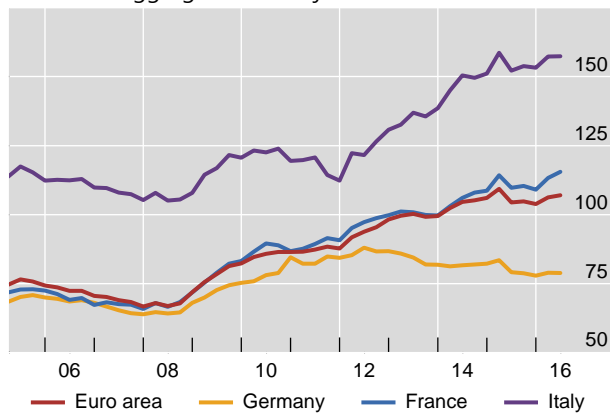
Source: BIS total credit statistics.

Total credit to the government sector at market value (core debt)¹

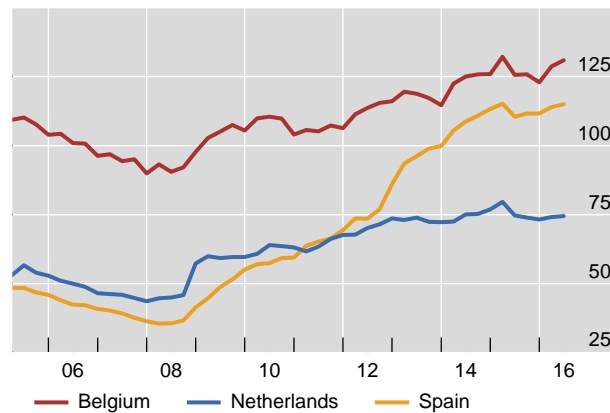
As a percentage of GDP

Graph F.6

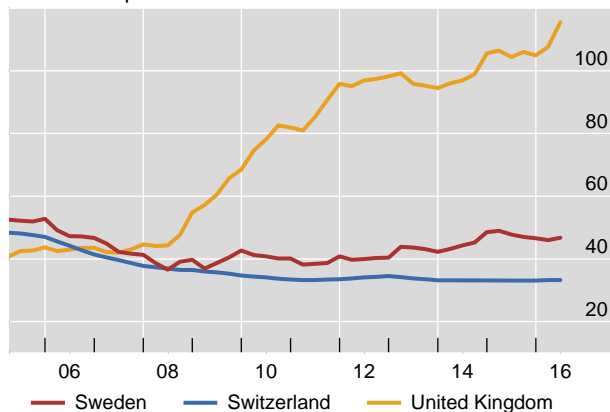
Euro area: aggregate and major countries



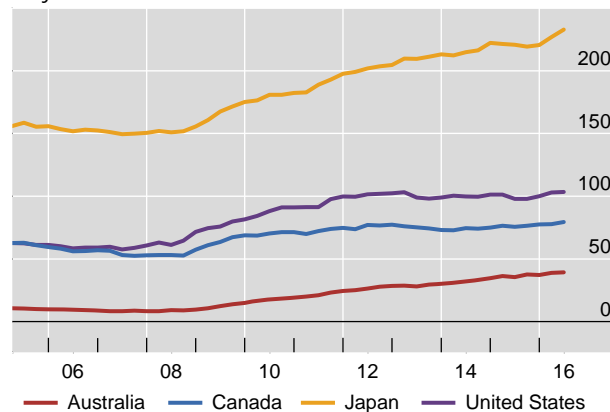
Euro area: other countries



Other European countries



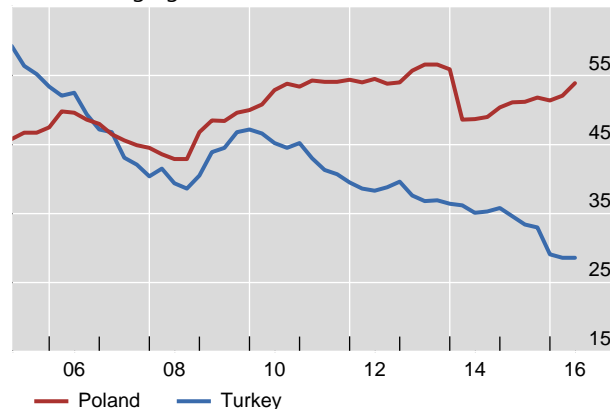
Major advanced economies



Emerging Asia



Other emerging market economies



Further information on the BIS credit statistics is available at www.bis.org/statistics/totcredit.htm.

¹ Consolidated data for the general government sector.

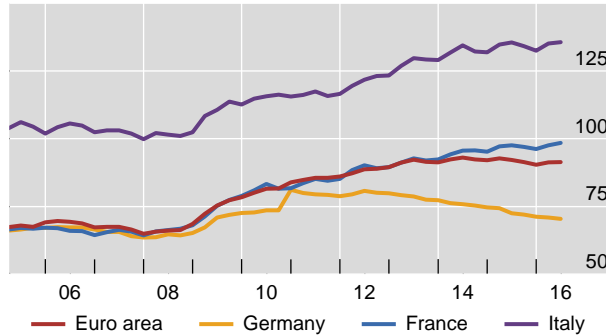
Source: BIS total credit statistics.

Total credit to the government sector at nominal value (core debt)¹

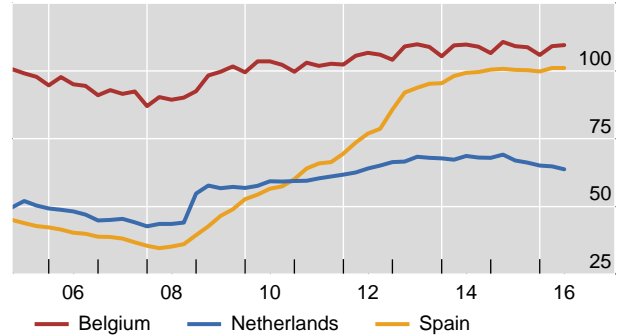
As a percentage of GDP

Graph F.7

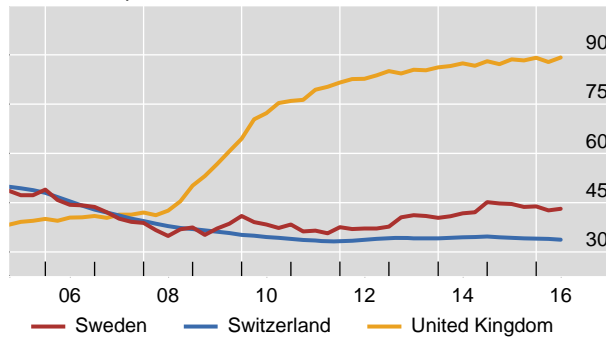
Euro area: aggregate and major countries



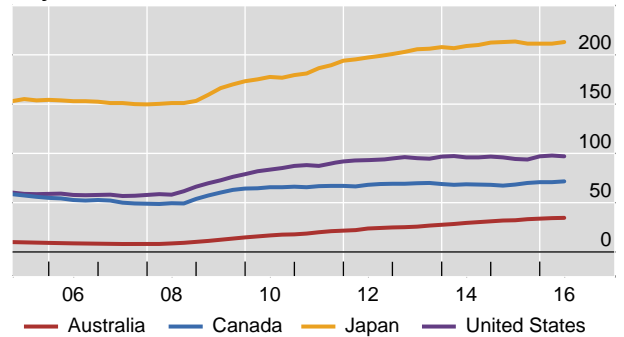
Euro area: other countries



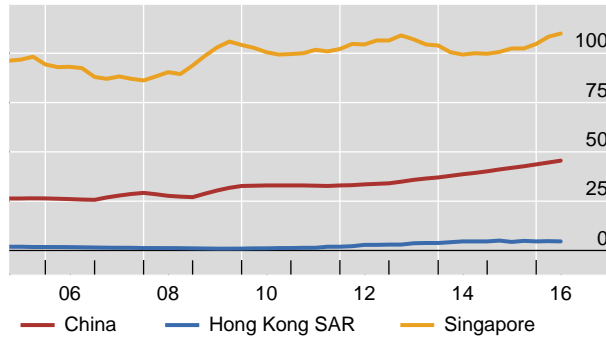
Other European countries



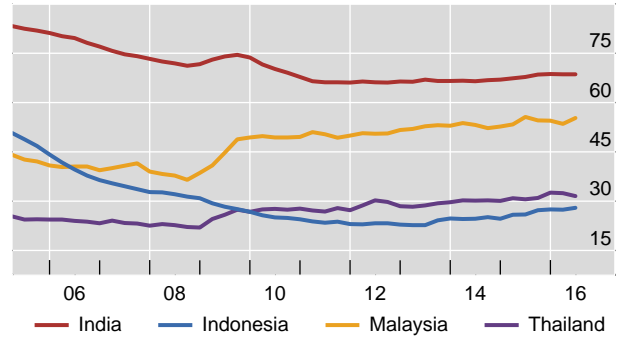
Major advanced economies



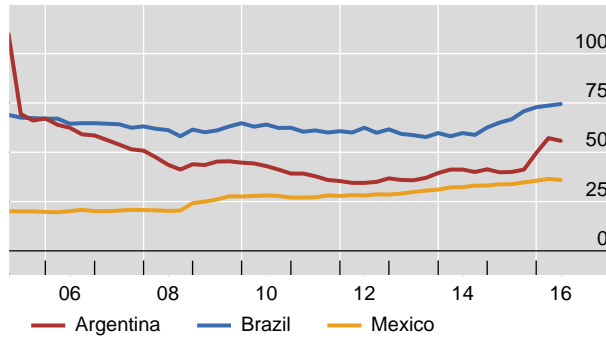
Emerging Asia



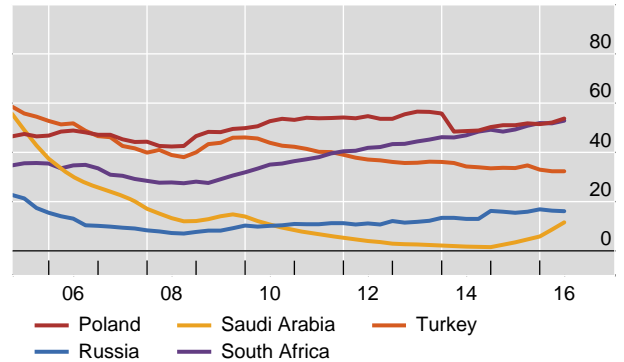
Other emerging Asia



Latin America



Other emerging market economies



Further information on the BIS credit statistics is available at www.bis.org/statistics/totcredit.htm.

¹ Consolidated data for the general government sector; central government for Argentina, Indonesia, Malaysia, Mexico, Saudi Arabia and Thailand.

Source: BIS total credit statistics.

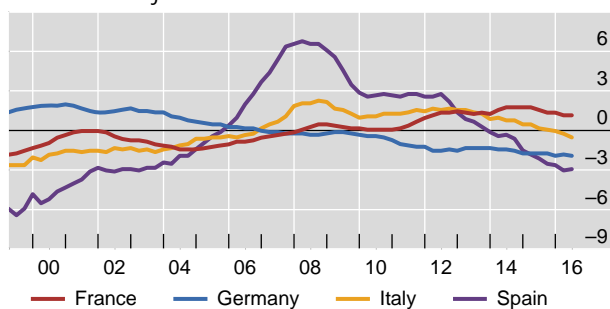
G Debt service ratios for the private non-financial sector

Debt service ratios of the private non-financial sector

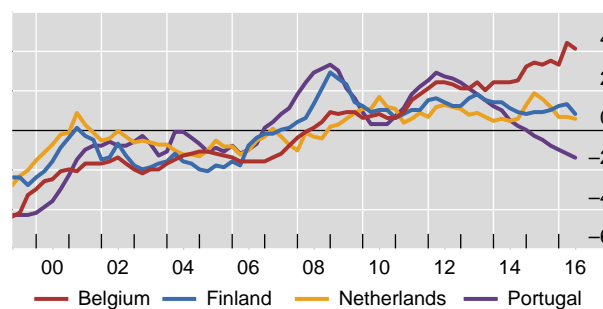
Deviation from country-specific mean, in percentage points¹

Graph G.1

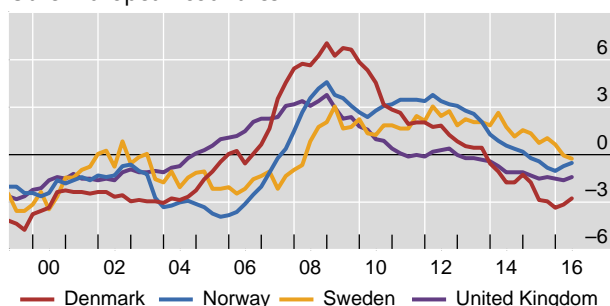
Euro area: major countries



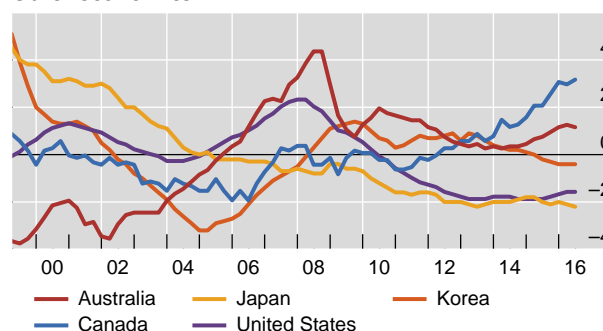
Euro area: other countries



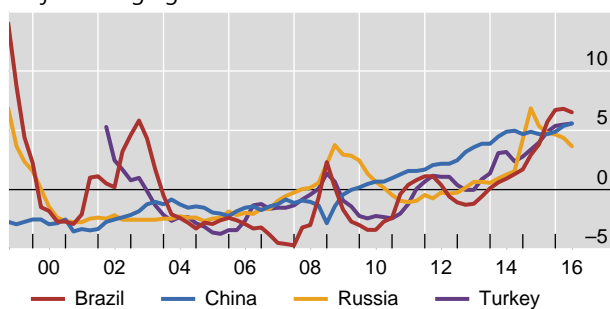
Other European countries



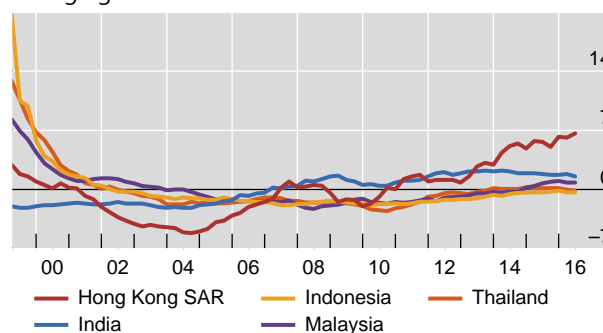
Other economies



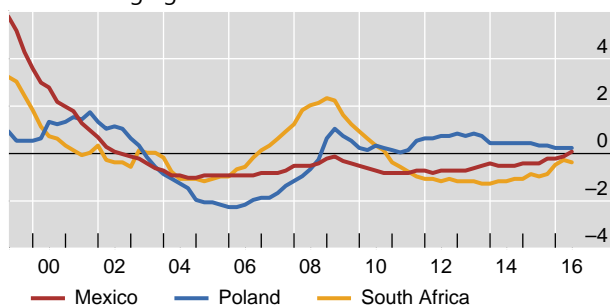
Major emerging markets²



Emerging Asia²



Other emerging markets²



Further information on the BIS debt service ratio statistics is available at www.bis.org/statistics/dsr.htm.

¹ Country-specific means are based on all available data from 1999 onwards. ² Countries which are using alternative measures of income and interest rates. Further information is available under "Methodology and data for DSR calculation" at www.bis.org/statistics/dsr.htm.

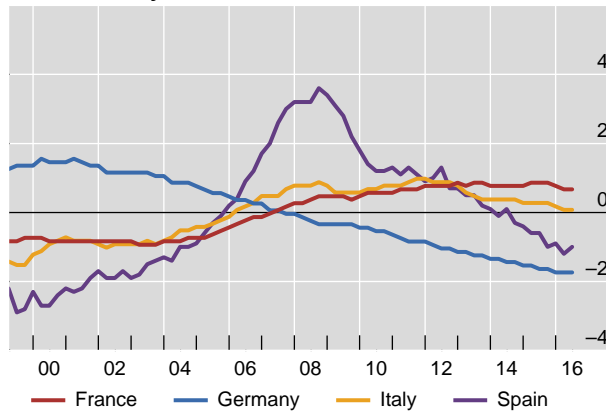
Source: BIS debt service ratios statistics.

Debt service ratios of households

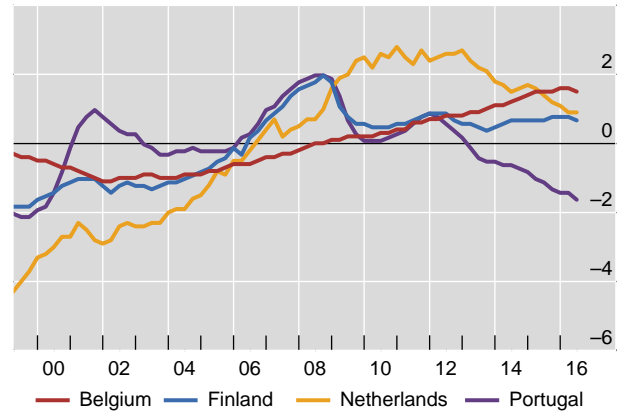
Deviation from country-specific mean, in percentage points¹

Graph G.2

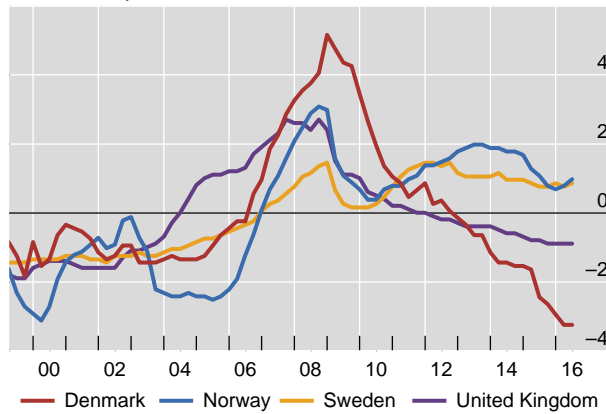
Euro area: major countries



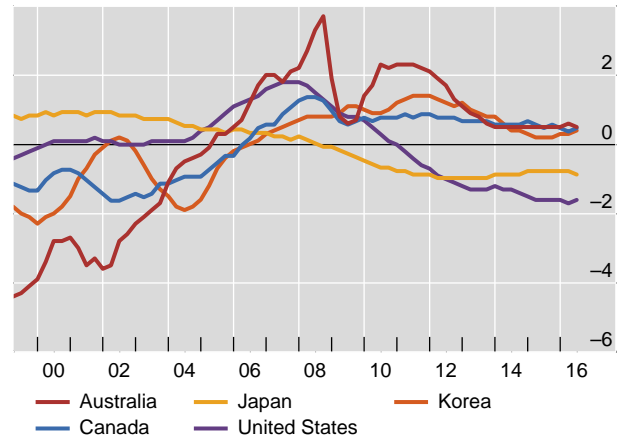
Euro area: other countries



Other European countries



Other economies



Further information on the BIS debt service ratio statistics is available at www.bis.org/statistics/dsr.htm.

¹ Country-specific means are based on all available data from 1999 onwards.

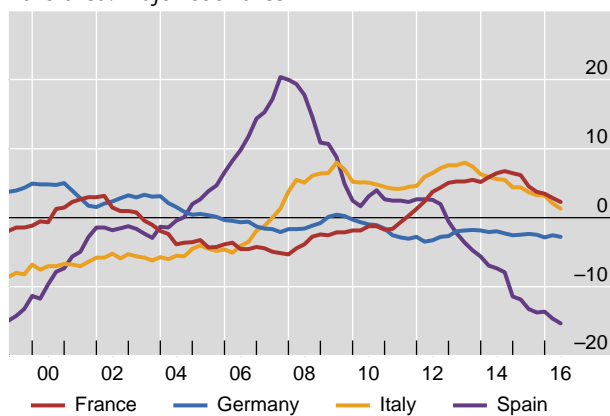
Source: BIS debt service ratios statistics.

Debt service ratios of non-financial corporations

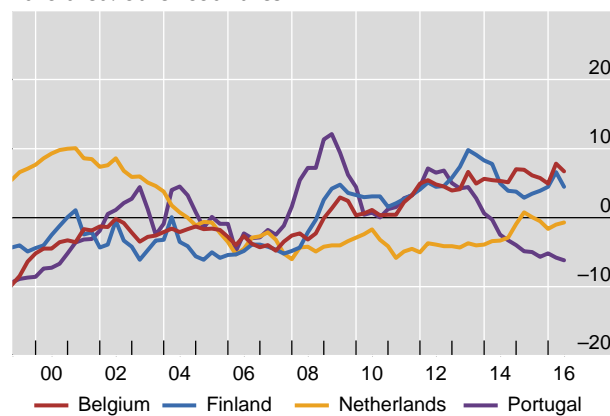
Deviation from country-specific mean, in percentage points¹

Graph G.3

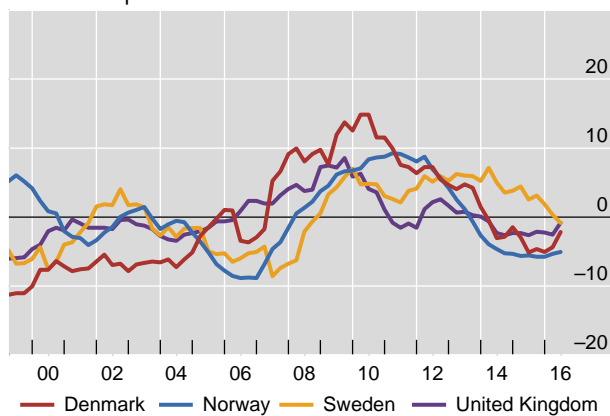
Euro area: major countries



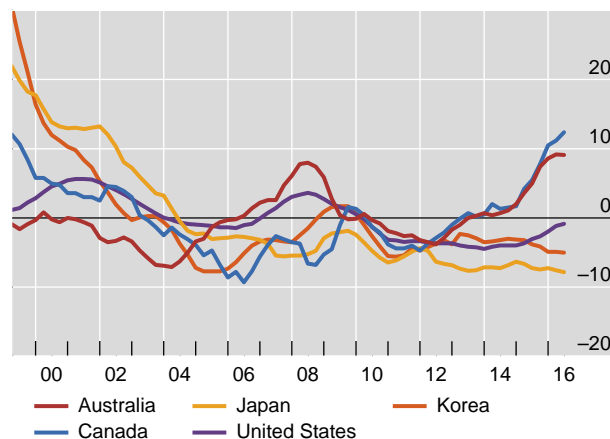
Euro area: other countries



Other European countries



Other economies



Further information on the BIS debt service ratio statistics is available at www.bis.org/statistics/dsr.htm.

¹ Country-specific means are based on all available data from 1999 onwards.

Source: BIS debt service ratios statistics.

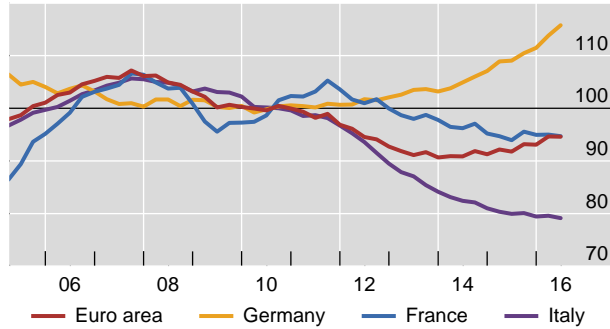
H Property price statistics

Real residential property prices

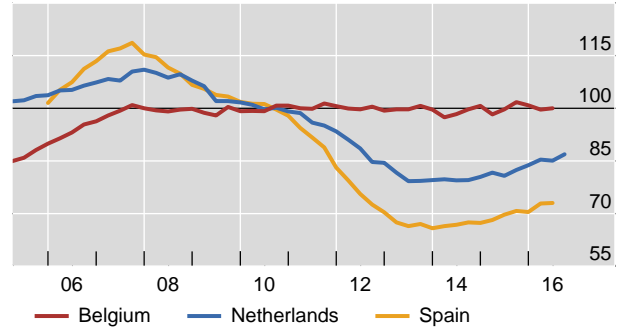
CPI-deflated, 2010 = 100

Graph H.1

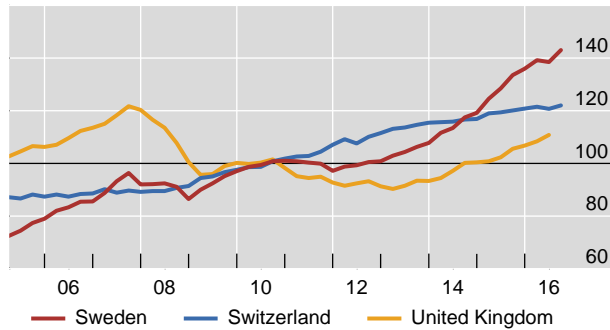
Euro area: aggregate and major countries



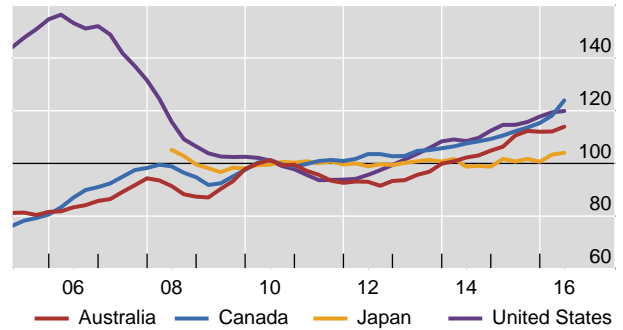
Euro area: other countries



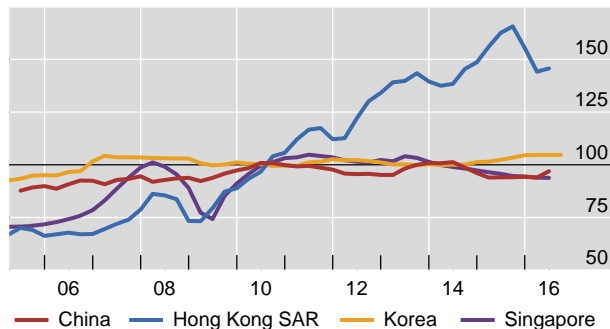
Other European countries



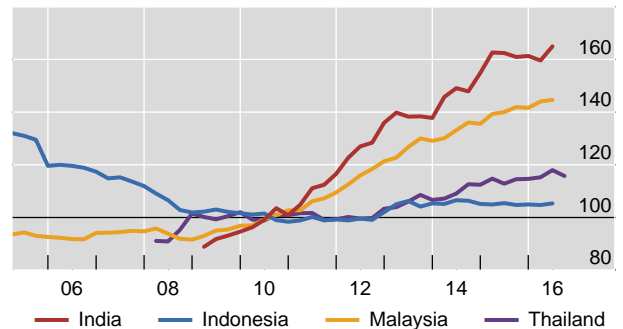
Major advanced economies



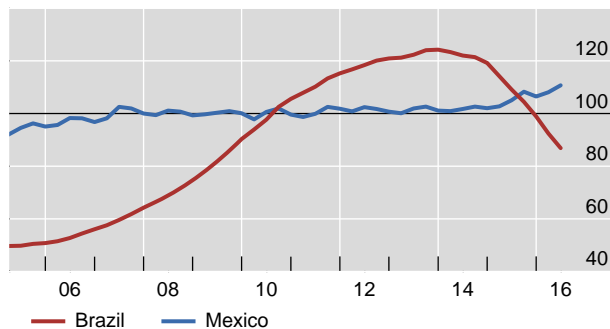
Emerging Asia



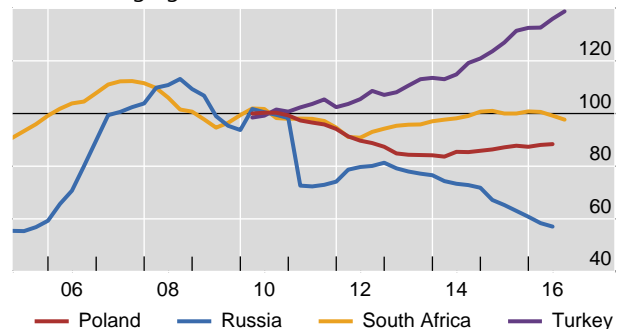
Other emerging Asia



Latin America



Other emerging market economies



Further information on the BIS property price statistics is available at www.bis.org/statistics/pp.htm.

Source: BIS property prices statistics.

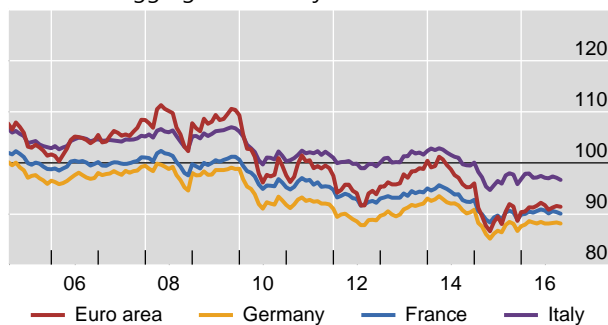
I Effective exchange rate statistics

Real effective exchange rates

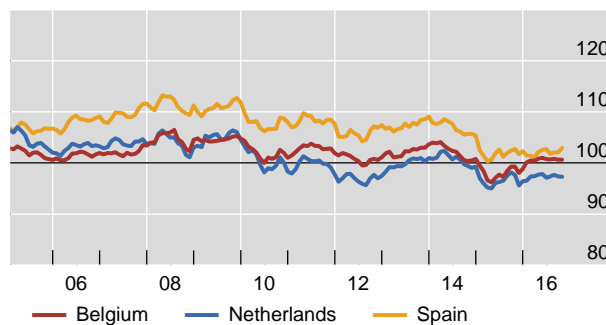
CPI-based, 1995–2005 = 100¹

Graph I.1

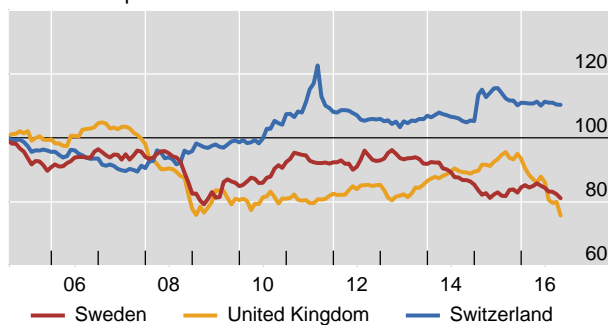
Euro area: aggregate and major countries



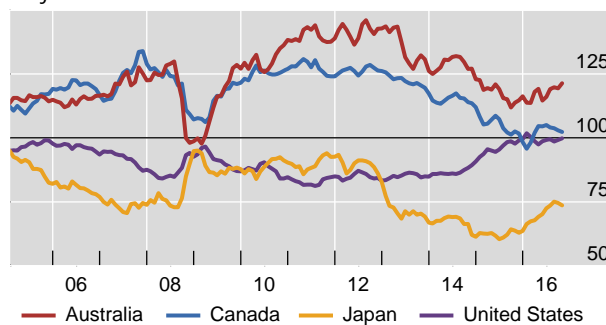
Euro area: other countries



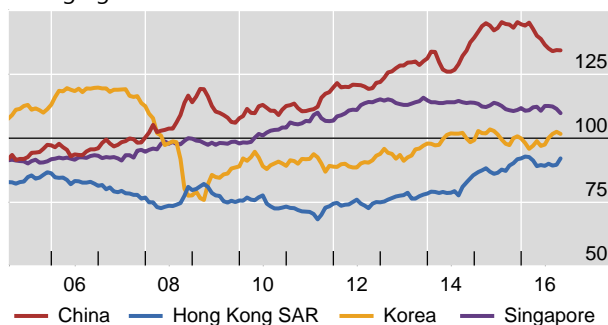
Other European countries



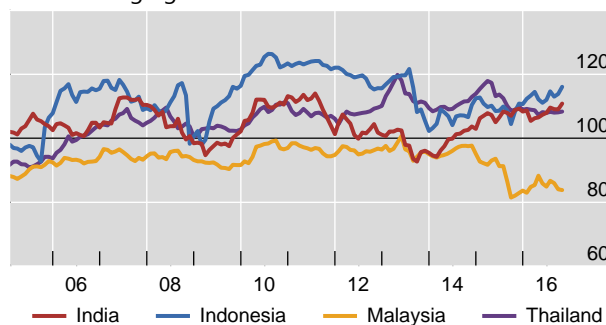
Major advanced economies



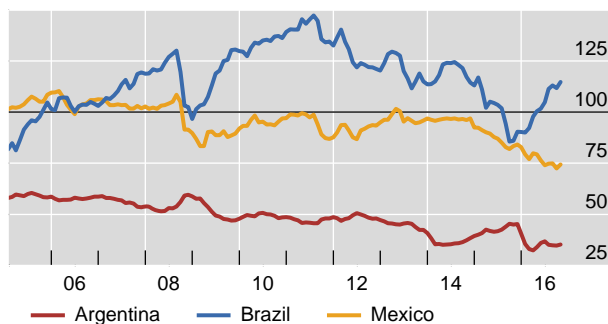
Emerging Asia



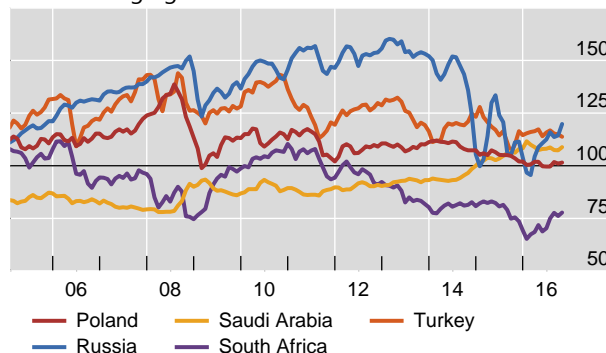
Other emerging Asia



Latin America



Other emerging market economies



Further information on the BIS effective exchange rate statistics is available at www.bis.org/statistics/eer.htm.

¹ An increase indicates a real-term appreciation of the local currency against a broad basket of currencies.

Source: BIS effective exchange rates statistics.

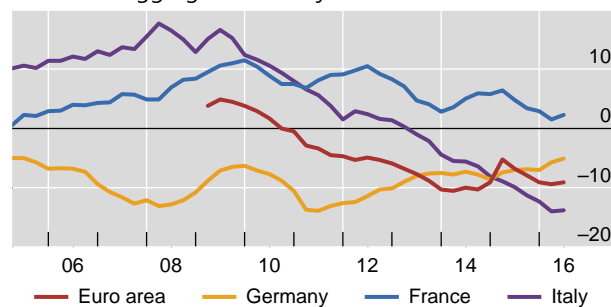
J Credit-to-GDP gaps

Credit-to-GDP gaps

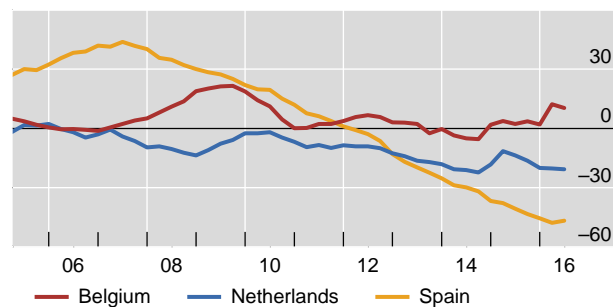
In percentage points of GDP

Graph J.1

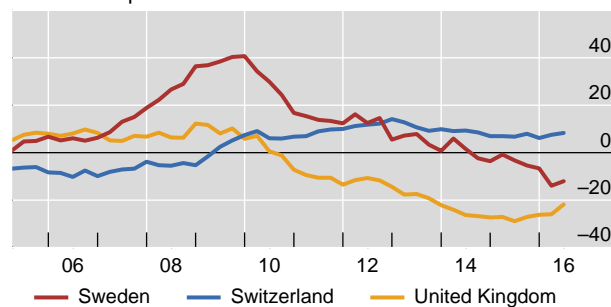
Euro area: aggregate and major countries



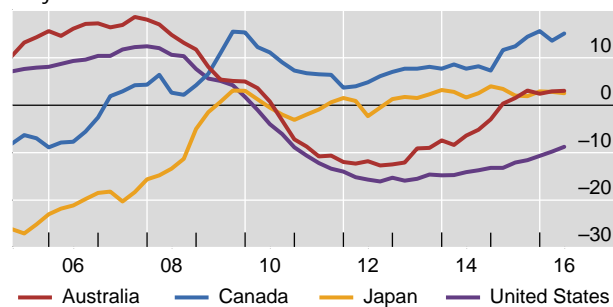
Euro area: other countries



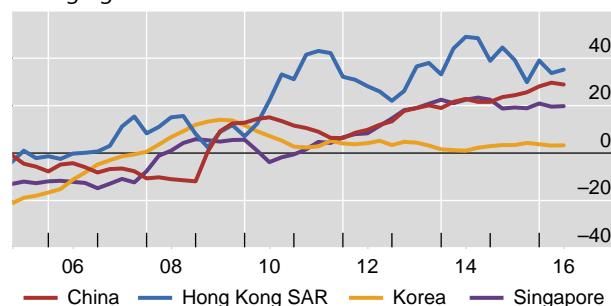
Other European countries



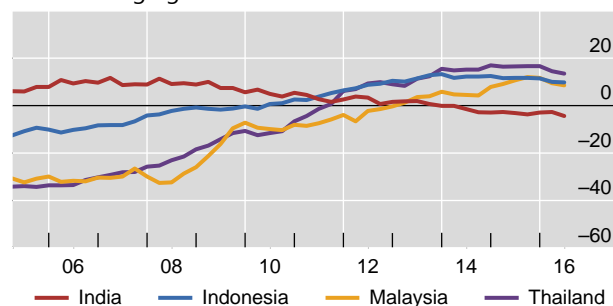
Major advanced economies



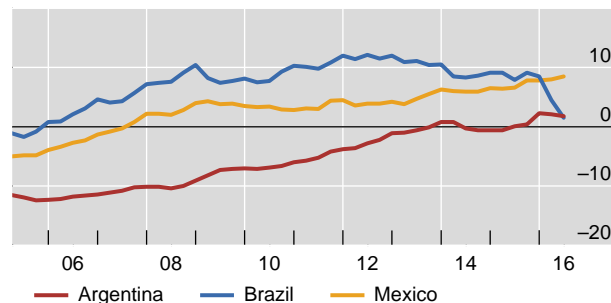
Emerging Asia



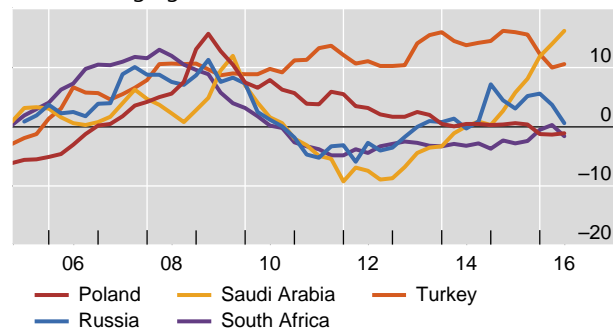
Other emerging Asia



Latin America



Other emerging market economies



¹ Estimates based on series on total credit to the private non-financial sector. The credit-to-GDP gap is defined as the difference between the credit-to-GDP ratio and its long-term trend; the long-term trend is calculated using a one-sided Hodrick-Prescott filter with a smoothing parameter of 400,000. Further information on the BIS credit-to-GDP gaps is available at www.bis.org/statistics/c_gaps.htm.

Source: BIS credit-to-GDP gaps statistics.

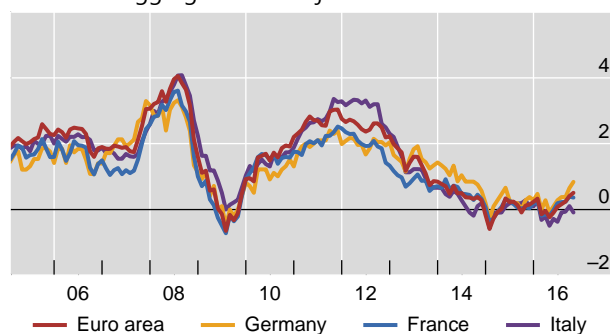
K Consumer prices

Consumer prices

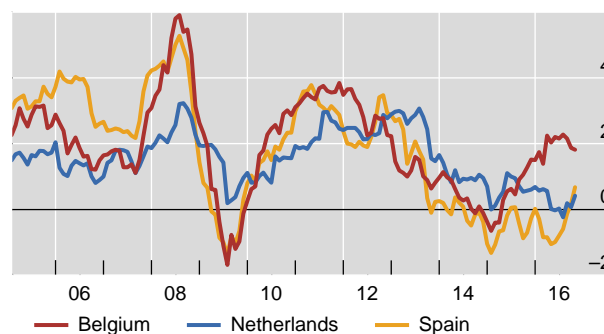
Year-on-year percentage changes

Graph K.1

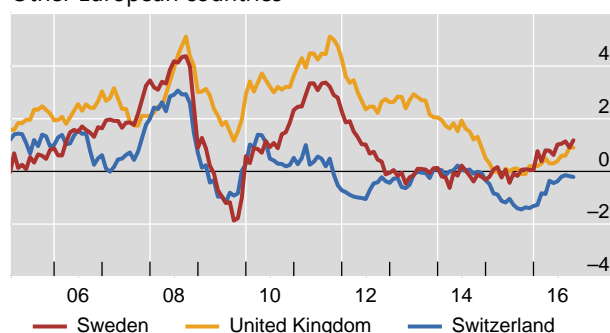
Euro area: aggregate and major countries



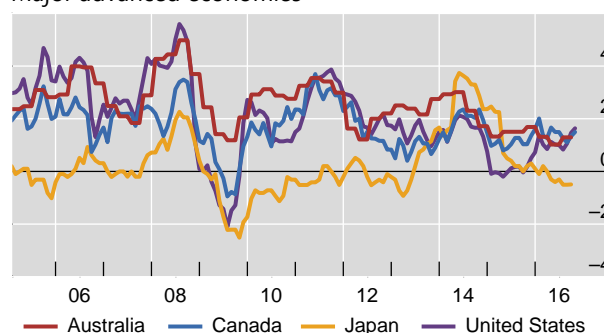
Euro area: other countries



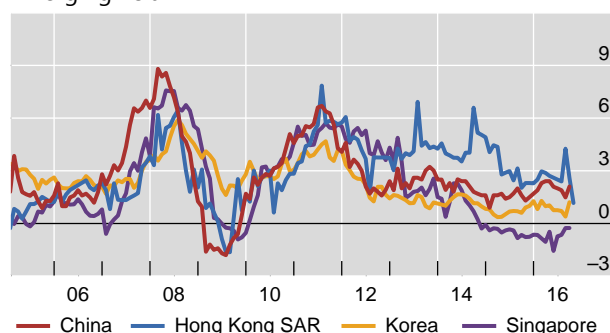
Other European countries



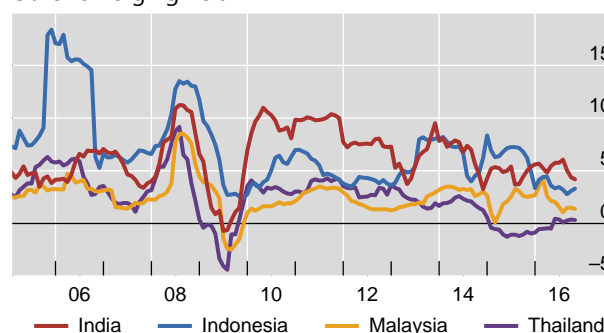
Major advanced economies



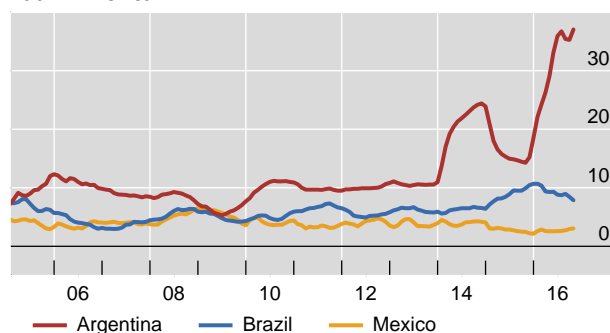
Emerging Asia



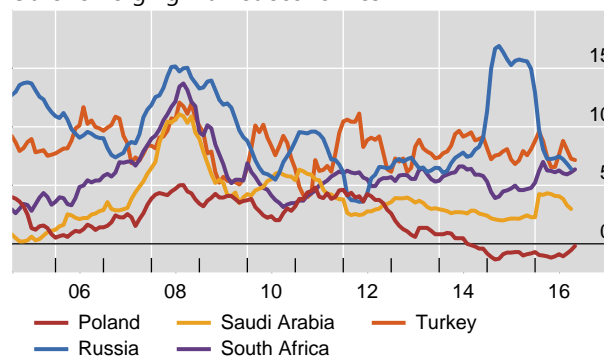
Other emerging Asia



Latin America



Other emerging market economies



Further information on the BIS consumer prices is available at www.bis.org/statistics/cp.htm.

Source: BIS consumer price statistics.

Special features in the BIS Quarterly Review

September 2016	Covered interest parity lost: understanding the cross-currency basis	Claudio Borio, Robert McCauley, Patrick McGuire & Vladyslav Sushko
September 2016	Foreign exchange market intervention in EMEs: what has changed?	Dietrich Domanski, Emanuel Kohlscheen & Ramon Moreno
September 2016	Domestic financial markets and offshore bond financing	Jose Maria Serena & Ramon Moreno
September 2016	The ECB's QE and euro cross-border bank lending	Stefan Avdjiev, Agne Subelyte & Elod Takats
March 2016	How have central banks implemented negative policy rates?	Morten Bech & Aytex Malkhozov
March 2016	Wealth inequality and monetary policy	Dietrich Domanski, Michela Scatigna & Anna Zabai
March 2016	The resilience of banks' international operations	Patrick McGuire & Goetz Von Peter
March 2016	Hanging up the phone – electronic trading in fixed income markets and its implications	Morten Bech, Anamaria Illes, Ulf Lewrick & Andreas Schrimpf
December 2015	Dollar credit to emerging market economies	Robert Neil McCauley, Patrick McGuire & Vladyslav Sushko
December 2015	Calibrating the leverage ratio	Ingo Fender & Ulf Lewrick
December 2015	Central clearing: trends and current issues	Dietrich Domanski, Leonardo Gambacorta & Cristina Picillo
December 2015	Sovereign ratings of advanced and emerging economies after the crisis	Marlene Amstad & Frank Packer

Recent BIS publications¹

BIS Papers

Inflation mechanisms, expectations and monetary policy

BIS Papers No 89, November 2016

Inflation has been off-target for some time in many economies, both advanced and emerging. Whereas advanced economies have mostly been experiencing inflation below target, the experience among emerging market economies has been more mixed. Inflation has been below target in several EMEs in Asia and Central and Eastern Europe, but above target in some Latin American economies as well as in Russia, South Africa and Turkey. This volume explores the reasons behind this diverse inflation performance in EMEs and analyses possible changes to the inflation mechanism

Expanding the boundaries of monetary policy in Asia and the Pacific

BIS Papers No 88, October 2016

The Bank Indonesia and the Bank for International Settlements (BIS) co-hosted a research conference on "Expanding the boundaries of monetary policy in Asia and the Pacific" on 20-21 August 2015 in Jakarta. The event was the wrap-up conference of a research programme of the BIS Representative Office for Asia and the Pacific that had been approved by the Asian Consultative Council of central bank Governors in February 2014.

The topic was motivated by the increased importance of financial stability in the conduct of monetary policy and the expanding set of monetary policy tools being employed. Within this overall theme, the following issues for the Asia-Pacific region were identified: (i) monetary policy objectives and strategies; (ii) instruments to manage monetary conditions; (iii) the assessment of monetary conditions; and (iv) transmission mechanisms.

The conference brought together senior officials and researchers from central banks, international organisations and academia. This volume is a collection of the speeches, papers and prepared discussant remarks from the conference. This foreword summarises the contents of the conference and provides a synopsis of the discussions for time-constrained readers.

Challenges of low commodity prices for Africa

BIS Papers No 87, September 2016

The impressive growth of many African economies during the past decade was highly dependent on booming commodity markets and strong capital inflows, often related to commodities. With commodity prices falling and market expectations pointing to little reversal in the foreseeable future, macroeconomic policies have been put to a serious test. Growth has already weakened substantially in commodity exporters. The fiscal space for pursuing countercyclical policies has largely been eroded since the onset of the Great Financial Crisis (GFC) - except in some commodity exporters that had managed to build up financial buffers. Even such precautionary policies provide only temporary insulation. Should the commodity price decline be of a long-term duration, as projected by most analysts, further measures would be needed. Moreover, access to external financing has become more difficult and costly, and African countries have drawn down their external deposits with international banks. Meanwhile aid flows from advanced countries have been constrained by

¹ Requests for publications should be addressed to Bank for International Settlements, Press & Communications, Centralbahnplatz 2, CH-4002 Basel. These publications are also available on the BIS website (<http://www.bis.org/>).

the currently weak economic situation. This suggests that African countries will have to rely primarily on domestic policies and financing in dealing with the slowdown in growth.

Macroprudential policy

BIS Papers No 86, September 2016

This volume contains 17 papers presented at the joint Central Bank of the Republic of Turkey (CBRT) - Bank for International Settlements (BIS) - International Monetary Fund (IMF) conference on "Macroprudential policy: effectiveness and implementation challenges" held in Istanbul, Turkey, during Turkey's presidency of the G20. They address the history, the theory and the practical implementation of macroprudential policies.

They analyse, inter alia: the nature of interactions with other policies (notably monetary policy and microprudential regulation); how macroprudential policies can cope with external shocks and what cross-border spillover effects arise; and the effectiveness of various macroprudential policy tools. Several country case studies are presented.

BIS Working Papers

The dollar, bank leverage and the deviation from covered interest parity

Chang Shu, Stefan Avdjiev, Wenxin Du, Catherine Koch and Hyun Song Shin

November 2016, No 592

We document the triangular relationship formed by the strength of the US dollar, cross-border bank lending in dollars and deviations from covered interest parity (CIP). A stronger dollar goes hand-in-hand with bigger deviations from CIP and contractions of cross-border bank lending in dollars. Differential sensitivity of CIP deviations to the strength of the dollar can explain cross-sectional variations in CIP arbitrage profits. Underpinning the triangle is the role of the dollar as proxy for the shadow price of bank leverage.

Adding it all up: the macroeconomic impact of Basel III and outstanding reform issues

Ingo Fender and Ulf Lewrick

November 2016, No 591

As the Basel III package nears completion, the emphasis is shifting to monitoring its implementation and assessing the impact of the reforms. This paper presents a simple conceptual framework to assess the macroeconomic impact of the core Basel III reforms, including the leverage ratio surcharge that is being considered for global systemically important banks (G-SIBs). We use historical data for a large sample of major banks to generate a conservative approximation of the additional amount of capital that banks would need to raise to meet the new regulatory requirements, taking the potential impact of current efforts to enhance G-SIBs' total loss-absorbing capacity into account. To provide a high-level proxy for the effect of changes in capital allocation and bank business models on the estimated net benefits of regulatory reform, we simulate the effect of banks converging towards the "critical" average risk weights (or "density ratios") implied by the combined risk-weighted and leverage ratio-based capital requirements. While keeping in mind that quantifying the regulatory impact remains subject to caveats, the results suggest that Basel III can be expected to generate sizeable macroeconomic net benefits even after the implied changes to bank business models have been taken into account.

The failure of covered interest parity: FX hedging demand and costly balance sheets

Vladyslav Sushko, Claudio Borio, Robert Neil McCauley and Patrick McGuire

October 2016, No 590

The failure of covered interest parity (CIP), or, equivalently, the persistence of the cross currency basis, in tranquil markets has presented a puzzle. Focusing on the basis against the US dollar (USD), we show that the CIP deviations that are not due to transaction costs or bank credit risk can be explained by the demand to hedge USD forward. Fluctuations in FX hedging demand matter because committing the balance sheet to arbitrage is costly. With limits to arbitrage, CIP arbitrageurs charge a premium in the forward markets for taking the

other side of FX hedgers' demand. We find that measures of FX hedging demand, combined with proxies for the risks associated with CIP arbitrage, improve the explanatory power of standard regressions.

International prudential policy spillovers: a global perspective

Stefan Avdjiev, Catherine Koch, Patrick McGuire and Goetz von Peter
October 2016, No 589

We combine the BIS international banking statistics with the IBRN prudential instruments database in a global study analyzing the effect of prudential measures on international lending. Our bilateral setting, which features multiple home and destination countries, allows us to simultaneously estimate both the international transmission and the local effects of such measures. We find that changes in macroprudential policy via loan-to-value limits and local currency reserve requirements have a significant impact on international bank lending. Balance sheet characteristics play an important role in determining the strength of these effects, with better capitalized banking systems and those with more liquid assets and less core deposits reacting more. Overall, our results suggest that the tightening of these macroprudential measures can be associated with international spillovers.

Macroprudential policies, the long-term interest rate and the exchange rate

Philip Turner
October 2016, No 588

The Bernanke-Blinder closed economy model suggests that macroprudential policies aimed at bank lending will affect the domestic long-term interest rate. In an open economy, domestic shocks to long-term rates are likely to influence capital flows and the exchange rate. Currency movements feed back into domestic credit through several channels, which will be influenced by balance sheet positions and not only by income flows. Macroprudential policies aimed at domestic credit and at foreign currency borrowing may be the best option open to small countries facing very low global interest rates and risky domestic credit expansion.

Globalisation and financial stability risks: is the residency-based approach of the national accounts old-fashioned?

Bruno Tissot
October 2016, No 587

The Great Financial Crisis of 2007-09 and its aftermath have emphasised the need for a global approach when assessing financial stability risks. One difficulty is that the traditional apparatus, especially the System of National Accounts (SNA), relies on the criterion of residency to capture statistical information within countries' boundaries. This paper analyses how to collect meaningful data to assess consolidated risk exposures. In particular, it argues that data collected along the residency-based SNA concept can be usefully complemented by a nationality-based, global approach. This requires the establishment of a framework for assessing financial positions on a so-called "nationality-basis", that is, at a globally consolidated level.

Leverage and risk weighted capital requirements

Leonardo Gambacorta and Sudipto Karmakar
September 2016, No 586

The global financial crisis has highlighted the limitations of risk-sensitive bank capital ratios. To tackle this problem, the Basel III regulatory framework has introduced a minimum leverage ratio, defined as a banks Tier 1 capital over an exposure measure, which is independent of risk assessment. Using a medium sized DSGE model that features a banking sector, financial frictions and various economic agents with differing degrees of creditworthiness, we seek to answer three questions: 1) How does the leverage ratio behave over the cycle compared with the risk-weighted asset ratio? 2) What are the costs and the benefits of introducing a leverage ratio, in terms of the levels and volatilities of some key macro variables of interest? 3) What can we learn about the interaction of the two regulatory ratios in the long run? The main answers are the following: 1) The leverage ratio acts as a backstop to the risk-sensitive capital requirement: it is a tight constraint during a boom and a soft constraint in a bust; 2) the net benefits of introducing the leverage ratio could be

substantial; 3) the steady state value of the regulatory minima for the two ratios strongly depends on the riskiness and the composition of bank lending portfolios.

The effects of a central bank's inflation forecasts on private sector forecasts: Recent evidence from Japan

Masazumi Hattori, Steven Kong, Frank Packer and Toshitaka Sekine
September 2016, No 585

How central banks can best communicate to the market is an increasingly important topic in the central banking literature. With ever greater frequency, central banks communicate to the market through the forecasts of prices and output with the purposes of reducing uncertainty; at the same time, central banks generally rely on a publicly stated medium-term inflation target to help anchor expectations. This paper aims to document how much the release of the forecasts of one major central bank, the Bank of Japan (BOJ), has influenced private sector expectations of inflation, and whether the degree of influence depends to any degree on the adoption of an inflation target (IT). Consistent with earlier studies, we find the central bank's forecasts to be quite influential on private sector forecasts. In the case of next year forecasts, their impact continues into the IT regime. Thus, the difficulties of aiming at an inflation target from below do not necessarily diminish the influence of the central bank's inflation forecasts.

Intuitive and reliable estimates of the output gap from a Beveridge-Nelson filter

Güneş Kamber, James Morley and Benjamin Wong
September 2016, No. 584

The Beveridge-Nelson (BN) trend-cycle decomposition based on autoregressive forecasting models of U.S. quarterly real GDP growth produces estimates of the output gap that are strongly at odds with widely-held beliefs about the amplitude, persistence, and even sign of transitory movements in economic activity. These antithetical attributes are related to the autoregressive coefficient estimates implying a very high signal-to-noise ratio in terms of the variance of trend shocks as a fraction of the overall quarterly forecast error variance. When we impose a lower signal-to-noise ratio, the resulting BN decomposition, which we label the "BN filter", produces a more intuitive estimate of the output gap that is large in amplitude, highly persistent, and typically positive in expansions and negative in recessions. Real-time estimates from the BN filter are also reliable in the sense that they are subject to smaller revisions and predict future output growth and inflation better than for other methods of trend-cycle decomposition that also impose a low signal-to-noise ratio, including deterministic detrending, the Hodrick-Prescott filter, and the bandpass filter.

Exchange rate pass-through: What has changed since the crisis?

Martina Jašová, Richhild Moessner and Előd Takáts
September 2016 No 583

We study how exchange rate pass-through to CPI inflation has changed since the global financial crisis. We have three main findings. First, exchange rate pass-through in emerging economies decreased after the financial crisis, while exchange rate pass-through in advanced economies has remained relatively low and stable over time. Second, we show that the declining pass-through in emerging markets is related to declining inflation. Third, we show that it is important to control for non-linearities when estimating exchange rate pass-through. These results hold for both short-run and long-run pass-through and remain robust to extensive changes in the specifications.

Global inflation forecasts

Jonathan Kearns
September 2016 No 582

Inflation co-moves across countries and several papers have shown that lags of this common inflation can help to forecast country inflation. This paper constructs forecasts of common (or 'global') inflation using survey forecasts of country inflation. These forecasts of global inflation have predictive power for global inflation at a medium horizon (12 months) but not at a longer horizon. Global inflation forecasts, and forecast errors, are correlated with survey forecasts and errors of oil and food prices, and global GDP growth, but not financial variables. For some countries, forecasts of global inflation improve the accuracy of

forecasting regressions that include survey forecasts of country inflation. In-sample fit and out-of-sample forecasting exercises suggest that forecasts of global inflation generally contain more information for forecasting country inflation than do lags of global inflation. However, for most countries, lagged or forecast global inflation does not improve the accuracy of survey forecasts of country inflation. Whatever information global inflation may include about country inflation, for most countries it seems that survey forecasts of country inflation have historically already incorporated that information.

Near-money premiums, monetary policy, and the integration of money markets: lessons from deregulation

Mark A Carlson and David C Wheelock

September 2016 No 581

The 1960s and 1970s witnessed rapid growth in the markets for new money market instruments, such as negotiable certificates of deposit (CDs) and Eurodollar deposits, as banks and investors sought ways around various regulations affecting funding markets. In this paper, we investigate the impacts of the deregulation and integration of the money markets. We find that the pricing and volume of negotiable CDs and Eurodollars issued were influenced by the availability of other short-term safe assets, especially Treasury bills. Banks appear to have issued these money market instruments as substitutes for other types of funding. The integration of money markets and ability of banks to raise funds using a greater variety of substitutable instruments has implications for monetary policy. We find that, when deregulation reduced money market segmentation, larger open market operations were required to produce a given change in the federal funds rate, but that the pass through of changes in the funds rate to other market rates was also greater.

Bank capital and dividend externalities

Viral Acharya, Hanh Le and Hyun Song Shin

September 2016 No 580

Dividend payouts affect the relative value of claims within a firm. When firms have contingent claims on each other, as in the banking sector, dividend payouts can shift the relative value of stakeholders' claims across firms. Through this channel, one bank's capital policy affects the equity value and risk of default of other banks. In a model where such externalities are strong, bank capital takes on the attribute of a public good, where the private equilibrium features excessive dividends and inefficient recapitalization relative to the efficient policy that maximizes banking sector equity. We compare the implications of the model with observed bank behavior during the crisis of 2007-09.

Basel Committee on Banking Supervision

Risk weight for the International Development Association (IDA)

November 2016

The Basel Committee on Banking Supervision has agreed that supervisors may allow banks to apply a 0% risk weight to claims on the International Development Association (IDA) in accordance with paragraph 59 of the document International Convergence of Capital Measurement and Capital Standards: a Revised Framework, June 2004 (Basel II Framework). IDA will be included in the list of multilateral development banks as set out in footnote 24 to paragraph 59 of the Basel II Framework.

Revisions to the annex on correspondent banking

November 2016

The Basel Committee is consulting on proposed Revisions to the annex on correspondent banking . The proposals are consistent with the Financial Action Task Force (FATF) guidance on Correspondent banking services issued in October 2016 and serve the same objective of clarifying rules applicable to banks conducting correspondent banking activities. They form part of a broader initiative of the international community to assess and address the decline in correspondent banking coordinated by the Financial Stability Board.

The text includes proposed revisions to annexes 2 (Correspondent banking) and 4 (General guide to account opening) of the Basel Committee's guidelines on the Sound management of risks related to money laundering and financing of terrorism. The proposed revisions guide the banks in the application of the risk-based approach for correspondent banking relationships, recognising that not all correspondent banking relationships bear the same level of risk. The proposed revisions also clarify supervisors' expectations regarding the quality of payment messages as well as conditions for using Know Your Customer (KYC) utilities.

Eleventh progress report on adoption of the Basel regulatory framework October 2016

This updated Progress report on adoption of the Basel regulatory framework provides a high-level view of Basel Committee members' progress in adopting Basel III standards as of end-September 2016.

The report focuses on the status of adoption of all Basel III standards (which will become effective by 2019) to ensure that the Basel standards are transformed into national law or regulation according to the internationally agreed timeframes. The report is based on information provided by individual members as part of the Committee's Regulatory Consistency Assessment Programme (RCAP). The report includes the status of adoption of the Basel III risk-based capital standards, the leverage ratio, the liquidity coverage ratio (LCR), the net stable funding ratio (NSFR), the standards for global and domestic systemically important banks (SIBs), Pillar 3 disclosure requirements, and the large exposure framework.

In addition to periodically reporting on the status of adoption, all Committee members undergo an assessment of the consistency of their domestic rules with the Basel standards.

TLAC holdings standard October 2016

This document is the final standard on the regulatory capital treatment of banks' investments in instruments that comprise total loss-absorbing capacity (TLAC) for global systemically important banks (G-SIBs).

The standard also reflects changes to Basel III to specify how G-SIBs must take account of the TLAC requirement when calculating their regulatory capital buffers.

The standard will take effect at the same time as the minimum TLAC requirements for each G-SIB. These requirements are set out in the Financial Stability Board's TLAC standard for G-SIBs. They take effect on 1 January 2019 for most G-SIBs, but later for those whose headquarters are in emerging market economies.

Regulatory treatment of accounting provisions - interim approach and transitional arrangements - consultative document & discussion document October 2016

The Basel Committee on Banking Supervision today released a consultative document and a discussion paper on the policy considerations related to the regulatory treatment of accounting provisions under the Basel III regulatory capital framework.

The International Accounting Standards Board (IASB) and the US Financial Accounting Standards Board (FASB) have adopted provisioning standards that require use of expected credit loss (ECL) models rather than incurred loss models.

The new accounting standards modify provisioning standards to incorporate forward-looking assessments in the estimation of credit losses. The consultative document released today sets out the Committee's proposal to retain, for an interim period, the current regulatory treatment of provisions under the standardised and the internal ratings-based approaches. In addition, the Committee is seeking comments on whether any transitional arrangement is warranted to allow banks time to adjust to the new ECL accounting standards.

Frequently asked questions on the supervisory framework for measuring and controlling large exposures
October 2016

The Basel Committee today issued frequently asked questions on the global supervisory framework for measuring and controlling large exposures. When the Committee published the revised Supervisory framework for measuring and controlling large exposures in April 2014, it noted that by 2016 it would review the appropriateness of setting a large exposure limit for exposures to qualifying central counterparties (QCCPs) related to clearing activities and the need for a specific treatment for interbank exposures. After completing the observation period, the Committee has decided not to modify the framework. As a result, the framework, which will take effect from 1 January 2019, will: (1) exempt from the large exposure limit exposures to QCCPs related to central clearing; and (2) apply the large exposure limit to interbank exposures (ie no exemption will apply).

The publication also includes clarifications on some paragraphs of the standard, pursuant to the Committee's objective of promoting consistent global implementation of the requirements.

Guidance on the application of the Core Principles for Effective Banking Supervision to the regulation and supervision of institutions relevant to financial inclusion
September 2016

This document reflects comments received during a consultation period and builds on past work by the Committee to elaborate additional guidance in the application of the Committee's Core principles for effective banking supervision to the supervision of financial institutions engaged in serving the financially unserved and underserved. This includes a report of the Range of practice in the regulation and supervision of institutions relevant to financial inclusion, and expands on Microfinance activities and the Core Principles for Effective Banking Supervision.

The Guidance identifies 19 of the total 29 Core Principles where additional guidance is needed, and both Essential Criteria and Additional Criteria which have specific relevance to the financial inclusion context. Many of the unserved and underserved customers reside in countries that are not BCBS members. In recognition of this, the Guidance is intended to be useful to both BCBS member and non-member jurisdictions, including those jurisdictions in which supervisors are striving to comply with the Core Principles and who may implement this Guidance gradually over time.

Regulatory Consistency Assessment Programme (RCAP) - Assessment of Basel III risk-based capital regulations – Argentina

This report presents the findings of the RCAP Assessment Team (the Assessment Team) on the domestic adoption of the Basel risk-based capital standards in Argentina and their consistency with the Basel Committee standards. The team was led by Édouard Fernandez-Bollo, Secretary General of the French Prudential Supervisory and Resolution Authority, and comprised five technical experts. The assessment was carried out in 2016 using information available as of 30 December 2015. The counterparty for the assessment was the Central Bank of Argentina (BCRA), which published Basel III risk-based capital regulations in November 2013 and brought them into force on 1 February 2013. The BCRA published additional regulations in November 2015 to implement the capital conservation and countercyclical buffers that came into force on 1 January 2016.

Regulatory Consistency Assessment Programme (RCAP) - Assessment of Basel III LCR regulations – Argentina

This report presents the findings of the RCAP Assessment Team (the Assessment Team) on the domestic adoption of the Basel Liquidity Coverage Ratio (LCR) standards in Argentina.¹ The assessment focuses on the regulatory adoption of Basel LCR standards as applied to Argentinian banks that are internationally or regionally active and of significance to its domestic financial stability.

The RCAP LCR assessment was based primarily on the LCR rules that were issued by the Central Bank of Argentina (BCRA) in 2015. In the course of the assessment, the BCRA made a number of minor revisions to the rules based on issues identified by the Assessment Team. This report has been updated where relevant, to reflect the progress made by the BCRA to further align the regulations with the Basel LCR standards.

Regulatory Consistency Assessment Programme (RCAP) - Assessment of Basel III risk-based capital regulations – Korea

This report presents the findings of the RCAP Assessment Team on the domestic adoption of the Basel risk-based capital standards in Korea and its consistency with the minimum requirements of the Basel III framework.¹ The assessment focuses on the adoption of Basel standards applied to the Korean banks that are internationally or regionally active and of significance to Korea's domestic financial stability.

Regulatory Consistency Assessment Programme (RCAP) - Assessment of Basel III LCR regulations – Korea

This report presents the findings of the RCAP Assessment Team (the Assessment Team) on the domestic adoption of the Basel Liquidity Coverage Ratio (LCR) standards in Korea.¹ The assessment focuses on the regulatory adoption of Basel LCR standards applied to Korean banks that are internationally or regionally active and of significance to its domestic financial stability.

The RCAP LCR assessment was based primarily on the LCR rules that were issued by the Korean authorities² in December 2014. In the course of the assessment, the authorities made a number of revisions to the rules based on issues identified by the Assessment Team. This report has been updated where relevant, to reflect the progress made by Korean authorities to align the regulations with Basel LCR standards.

Basel III Monitoring Report

The Basel Committee today published the results of its latest Basel III monitoring exercise . . . The Committee established a rigorous reporting process to regularly review the implications of the Basel III standards for banks and it has published the results of previous exercises since 2012.

Data have been provided for a total of 228 banks, comprising 100 large internationally active banks ("Group 1 banks", defined as internationally active banks that have Tier 1 capital of more than €3 billion) and 128 "Group 2 banks" (ie representative of all other banks).

On a fully phased-in basis, data as of 31 December 2015 show that all large internationally active banks meet the Basel III risk-based capital minimum Common Equity Tier 1 (CET1) requirements as well as the target level of 7.0% (plus the surcharges on global systemically important banks - G-SIBs - as applicable). Between 30 June and 31 December 2015, Group 1 banks continued to reduce their capital shortfalls relative to the higher Tier 1 and Total capital target levels; in particular, the Tier 2 capital shortfall has decreased from €12.8 billion to €5.5 billion. As a point of reference, the sum of after-tax profits prior to distributions across the same sample of Group 1 banks for the six-month period ending 31 December 2015 was €206.8 billion.

Under the same assumptions, there is no capital shortfall for Group 2 banks included in the sample for the CET1 minimum of 4.5%. For a CET1 target level of 7.0%, the shortfall remained constant at €0.2 billion since the previous period.

The monitoring reports also collect bank data on Basel III's liquidity requirements. Basel III's Liquidity Coverage Ratio (LCR) was set at 60% in 2015, increased to 70% in 2016 and will continue to rise in equal annual steps to reach 100% in 2019. The weighted average LCR for the Group 1 bank sample was 125.2% on 31 December 2015, slightly up from 123.6% six months earlier. For Group 2 banks, the weighted average LCR was 148.1%, up from 140.1% six months earlier. Of the banks in the LCR sample, 85.6% of the Group 1 banks and 82.9% of the Group 2 banks reported an LCR that met or exceeded 100%, while all banks except for

one bank each in Group 1 and Group 2 reported an LCR at or above the 60% minimum requirement that was in place for 2015.

Basel III also includes a longer-term structural liquidity standard - the Net Stable Funding Ratio (NSFR). The weighted average NSFR for the Group 1 bank sample was 113.7%, while for Group 2 banks the average NSFR was 115.9%. As of December 2015, 79.6% of the Group 1 banks and 87.0% of the Group 2 banks in the NSFR sample reported a ratio that met or exceeded 100%, while 95.9% of the Group 1 banks and 97.2% of the Group 2 banks reported an NSFR at or above 90%.

The results of the monitoring exercise assume that the final Basel III package is fully in force, based on data as of 31 December 2015. That is, they do not take account of the transitional arrangements set out in the Basel III framework, such as the gradual phase-in of deductions from regulatory capital. No assumptions were made about bank profitability or behavioural responses, such as changes in bank capital or balance sheet composition. For that reason, the results of the study may not be comparable with industry estimates. The report presents the findings of the RCAP Assessment Team (the Assessment Team) on the domestic adoption of the Basel Liquidity Coverage Ratio (LCR) standards in Korea.¹ The assessment focuses on the regulatory adoption of Basel LCR standards applied to Korean banks that are internationally or regionally active and of significance to its domestic financial stability.

The RCAP LCR assessment was based primarily on the LCR rules that were issued by the Korean authorities² in December 2014. In the course of the assessment, the authorities made a number of revisions to the rules based on issues identified by the Assessment Team. This report has been updated where relevant, to reflect the progress made by Korean authorities to align the regulations with Basel LCR standards.

Committee on the Global Financial Systems

Objective-setting and communication of macroprudential policies November 2016 No 57

Macroprudential policy faces a range of challenges that stem from the difficulty to quantify its principal objective, financial stability, and from the absence of an established analytical paradigm to guide its conduct. These challenges are particularly relevant when appraising policy (see CGFS Publications, no 56) and, as discussed here, when setting objectives and communicating policy.

This report argues that adopting a systematic policy framework that channels policymaking through a set of predictable procedures can help address these challenges. A key element of an effective policy framework is a communication strategy that clearly explains how macroprudential actions can contribute to achieving financial stability. The report provides an overview of how objectives are set in macroprudential policy and how policy is communicated in practice. The main part of the report discusses the role that communication can play in macroprudential policy, both in terms of helping to anchor stakeholders' expectations but also in influencing stakeholders' behaviour. One of the report's messages is that perhaps more than in other policy areas, a greater effort is required to explain the macroprudential policy framework and to ensure that the goal of maintaining financial stability is valued by the wider public. Such an appreciation facilitates policy actions early on in the cycle, when instruments may be more effective and adjustment less costly.

Committee on Payments and Market Infrastructures

Fast payments - Enhancing the speed and availability of retail payments

November 2016 No 154

The Committee on Payments and Market Infrastructures has issued a report on Fast payments . So-called fast payment services make funds immediately available to the payee and can be used around-the-clock, on a 24/7 basis. As such, they overcome the limitations of traditional retail payment services, namely that usually the funds reach the beneficiary one or more days after the funds are debited in the payer's account, and that these can be initiated only in certain places at certain times.

The report sets out key characteristics of fast payments, takes stock of different initiatives in CPMI jurisdictions, analyses supply and demand factors that may foster or hinder their development, sets out the benefits and risks and, finally, examines the potential implications for different stakeholders, particularly central banks.

Harmonisation of critical OTC derivatives data elements (other than UTI and UPI) - second batch, consultative report

October 2016 No 153

The G20 Leaders agreed in 2009 that all over-the-counter (OTC) derivatives contracts should be reported to trade repositories (TRs) as part of their commitment to reforming OTC derivatives markets with the aim of improving transparency, mitigating systemic risk and preventing market abuse. Aggregation of the data reported across TRs will help ensure that authorities can obtain a comprehensive view of the OTC derivatives market and its activity.

Following the 2014 FSB Feasibility study on approaches to aggregate OTC derivatives data, the FSB asked the CPMI and IOSCO to develop global guidance on the harmonisation of data elements reported to TRs and important for the aggregation of data by authorities, including Unique Transaction Identifier (UTI) and Unique Product Identifier (UPI).

This consultative report is part of the Harmonisation Group's response to that mandate. It complements the consultative report on Harmonisation of key OTC derivatives data elements (other than UTI and UPI) - first batch as well as the consultative report on Harmonisation of the Unique Transaction Identifier and two consultative reports on Harmonisation of the Unique Product Identifier¹. The Harmonisation Group also plans to issue consultative reports on further batches of key data elements (other than UTI and UPI) in the coming months.

Statistics on payment, clearing and settlement systems in the CPMI countries - Figures for 2015 - preliminary release

September 2016 No 152

This is an annual publication that provides data on payments and payment, clearing and settlement systems in the CPMI countries.

This version of the statistical update contains data for 2015 and earlier years. There are detailed tables for each individual country as well as a number of comparative tables.

Speeches

Monetary policy for financial stability

Keynote speech by Mr Jaime Caruana, General Manager of the BIS, at the 52nd SEACEN Governors' Conference, Naypyidaw, 26 November 2016.

Some widely cited models find that tightening monetary policy to reduce the probability of financial crisis ("leaning against the wind") has near-term macro costs that appreciably exceed the long-term output gains. However, these models make assumptions that tend to underestimate the net benefits of such a policy. Relaxing some of these strict assumptions

suggests that leaning early as part of a systematic response from monetary policy over the whole financial cycle can yield significant economic benefits.

The banking industry: struggling to move on

Keynote speech by Claudio Borio, Head of the Monetary and Economic Department of the BIS, at the Fifth EBA Research Workshop on "Competition in banking: implications for financial regulation and supervision", London, 28-29 November 2016.

Almost one decade on since the Great Financial Crisis, pressing questions linger about the banking industry's state and prospects. In some important respects, notably capitalisation, banks are stronger than they were pre-crisis. Even so, there is widespread market scepticism about their strength and profit outlook. This reflects a poisonous mix of legacy problems and a hostile economic environment, notably persistently ultra-low interest rates. What can be done? Banks need to pursue sustainable profits, avoiding pre-crisis mistakes, by choosing the right business models; cost cutting and reductions of excess capacity are an inevitable part of the solution. Prudential authorities need to complete the financial reforms without delay, notably Basel III, to resist the pressure to dilute standards and to redouble efforts to repair balance sheets. Policymakers more generally need to work in concert with prudential supervisors to facilitate the necessary adjustment, not least by addressing the "exit problem" that characterises the industry and entrenches excess capacity.

What are capital markets telling us about the banking sector?

Speech by Mr Jaime Caruana, General Manager of the BIS, at the IESE Business School conference on "Challenges for the future of banking: regulation, governance and stability", London, 17 November 2016.

Many banks already hold better-quality capital that significantly exceeds the new regulatory requirements. Yet the sector is still some way from recovering trust. Market pressures - not just regulations - have prompted banks to be more conservative with their balance sheets. Low price-to-book ratios of banks, a persistently wide cross-currency basis and continued deleveraging are signs that creditors and investors are now much more ready to sanction banks that are deemed not well capitalised. Therefore, dialling back the post-crisis regulatory reforms is not a convincing strategy to help banks overcome these pressures. Rather, banks can help themselves regain market participants' trust - and better serve the real economy - by cleaning up balance sheets and strengthening capital.

The bank/capital markets nexus goes global

Speech by Mr Hyun Song Shin, Economic Adviser and Head of Research of the BIS, at the London School of Economics and Political Science, 15 November 2016.

Banks borrow in order to lend, and so their lending capacity depends on their ability to borrow. When wholesale funding is the margin of adjustment for bank leverage, capital market conditions exert a large impact on bank lending capacity. The VIX index had previously served as the barometer of the appetite for leverage, but this is no longer true. Instead, the dollar has emerged as a barometer of that appetite for leverage. When the dollar is strong, banks' risk appetite is subdued and market anomalies, such as the breakdown in covered interest parity, become more pronounced. This phenomenon has implications both for financial stability and for the real economy. If banks are reluctant to lend during largely tranquil times, what will happen when volatility picks up? The effects of the strong dollar on funding costs may also shed light on aspects of the real economy, such as the slowdown in international trade.

Low global bond yields: low growth, monetary policy, market dynamics

Keynote speech by Mr Jaime Caruana, General Manager of the BIS, at the Crédit Agricole CIB Asset Managers Summit, London, 14 November 2016.

For asset managers, the appropriate interpretation of the signals coming from the bond market is a key call. In understanding low global bond yields, it is easy to overstate the influence of slow growth fundamentals and to understate the role of central bank actions and internal market dynamics.

How should prudential and monetary policies in open economies react to "current global conditions"?

Intervention by Mr Luiz Awazu Pereira da Silva, Deputy General Manager of the BIS, at the BoE-HKMA-IMF Joint Conference on "Monetary, Financial and Prudential Policy Interaction in the Post-Crisis World", Hong Kong, 24-25 October 2016.

In a global environment characterised by the implementation and the consequences of unconventional monetary policies (ultra-low rates, exchange rate volatility, large capital flows, etc), how should policy frameworks of small open and emerging market economies react? How should those economies lean against the wind and with what instruments? Apart from monetary policy, what combination of macroprudential tools should this include? We illustrate the results of leaning against the wind with a combination of macroprudential and monetary policies that complement each other and help to achieve both price and financial stability. More specifically, calling this an integrated inflation targeting (IIT) framework, we show the need to coordinate and jointly calibrate both instruments. Nevertheless, we acknowledge that there is a need to continue to explore a research agenda on how, when and with what combination of complementary tools we can best lean against the wind.

Financial inclusion and the fintech revolution: implications for supervision and oversight

Welcoming remarks by Mr Jaime Caruana, General Manager of the BIS, at the Third GPMI-FSI Conference on Standard-Setting Bodies and Innovative Financial Inclusion - "New frontiers in the supervision and oversight of digital financial services", Basel, 26 October 2016.

Ladies and gentlemen, it is my great pleasure to welcome you to this Third GPMI-FSI Conference on Global Standard-Setting and Innovative Financial Inclusion. I would like to thank the Global Partnership for Financial Inclusion (GPMI) and our Financial Stability Institute (FSI) for once again bringing together representatives from standard-setting bodies, multilateral organisations and national authorities for this biennial event. The theme this year is "New frontiers in the supervision and oversight of digital financial services".

When I opened our previous gathering in October 2014, I expressed amazement at the pace of change. I cited, as an example, the growth of digital financial services resulting from the wider availability of mobile phones. Looking back, the 2014 conference marked the first time we used the term "digital financial inclusion". It was also the first time most of the organisations present in this room came together to consider the shifting risks posed by the spread of digital transactional platforms designed to bring much needed services to the world's financially under-served - then estimated at 2.5 billion.¹

Now, just two years later, the pace of change seems only to be increasing - as does the urgent need for collective action, a theme to which I shall come back. The forces shaping and accelerating this change challenge us to revisit fundamental questions about the role of finance, the responsibilities of public authorities, and the power of private actors - including outsiders to traditional finance.

Towards an integrated inflation targeting framework in middle-income countries: a research agenda

Keynote speech by Mr Luiz Awazu Pereira da Silva, Deputy General Manager of the BIS, at the 2nd ECBN Policy Research Conference on "Macroprudential Instruments and Financial Cycles", Ljubljana, 29 September 2016.

The damage inflicted by the recent Global Financial Crisis (GFC) changed the terms of the old debate about "leaning before" versus "cleaning up after" a financial crisis. Easy monetary conditions in advanced economies and large capital flows to middle income countries add to the complexity of the discussion. A proposed integrated inflation targeting framework (IIT regime) that comprises monetary, fiscal and macroprudential policies would be best suited to achieve price and financial stability in this context. But the complexity and interconnectedness of these policies means that the development of this framework will require substantial research effort by all interested parties in academia and policymaking.

Issues faced by emerging market economies in the evolving international monetary and financial system: what has the global financial crisis revealed?

Speech by Mr Luiz Awazu Pereira da Silva, Deputy General Manager of the BIS, at the City Lectures, Official Monetary and Financial Institutions Forum, London, 19 September 2016.

The Global Financial Crisis (GFC) revealed larger than anticipated interconnected weaknesses in our international monetary and financial system (IMFS), in our regulatory framework and in the local macro framework used by emerging market economies (EMEs). Thus advanced economies (AEs) and EMEs need to work on strengthening their domestic macro framework and putting their "house in order" from a macro-financial perspective; and the global regulatory framework needs to be strengthened to contribute to reinforcing the disciplinary dimension of the IMFS, especially given the current potential volatility that monetary policy divergence and unconventional monetary policy have created. The coordination of macroprudential policy across AEs and EMEs could be a potential win-win for the IMFS. This could offer a progressive way out of the policy stance prevailing in this phase of the GFC.

The OeNB at 200: continuity and change in central banking

Opening remarks by Mr Jaime Caruana, General Manager of the BIS, at the conference on the occasion of the 200th anniversary of the Oesterreichische Nationalbank (OeNB): "Central banking in times of change", Vienna, 13 September 2016.

Ladies and gentlemen, it is a great pleasure and privilege for the BIS to co-organise this conference celebrating the 200th anniversary of the Oesterreichische Nationalbank. We congratulate our host on being one of the oldest central banks in the world. It is both amazing and humbling to see how the Austrian central bank has been able to navigate through some extremely changing circumstances - including times of war and peace, of wealth and poverty, of inflation and deflation, as well as currency reforms.

At a mere 86 years of age, the BIS is much younger. But our two institutions have worked closely ever since the BIS was established in 1930. Today, we continue to cooperate on many of the same issues of monetary and financial stability as in the early 1930s - which was also a challenging time.

The theme of our conference is precisely that of continuity and change. To set the scene, let me highlight two aspects of continuity and two aspects of change that have shaped our thinking about central banking over time.

Towards a financial stability-oriented monetary policy framework? OeNB at 200: continuity and change in central banking

Presentation by Mr Claudio Borio, Head of the Monetary and Economic Department of the BIS, at the "Central banking in times of change" - conference on the occasion of the 200th anniversary of the Central Bank of the Republic of Austria, Vienna, 13-14 September 2016.

There has been intense debate during the last decade or so over whether monetary policy should take financial stability into account rather than focus exclusively on price stability. Drawing on recent BIS research, this presentation argues that a shift towards a financial stability-oriented monetary policy framework could yield benefits. For this to be the case, the framework would need to allow for a systematic response of monetary policy to the financial cycle in addition to output and inflation. It would be imprudent to follow a policy of selective attention, whereby monetary policy leaned against financial imbalances only when signs of their emergence became evident. Such a framework would call for refinements designed to allow sufficient flexibility in the pursuit of inflation targets.