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

B Consolidated banking statistics

C Debt securities statistics

D Derivatives statistics

E Global liquidity indicators

F Statistics on total credit to the non-financial sector

G Debt service ratios for the private non-financial sector

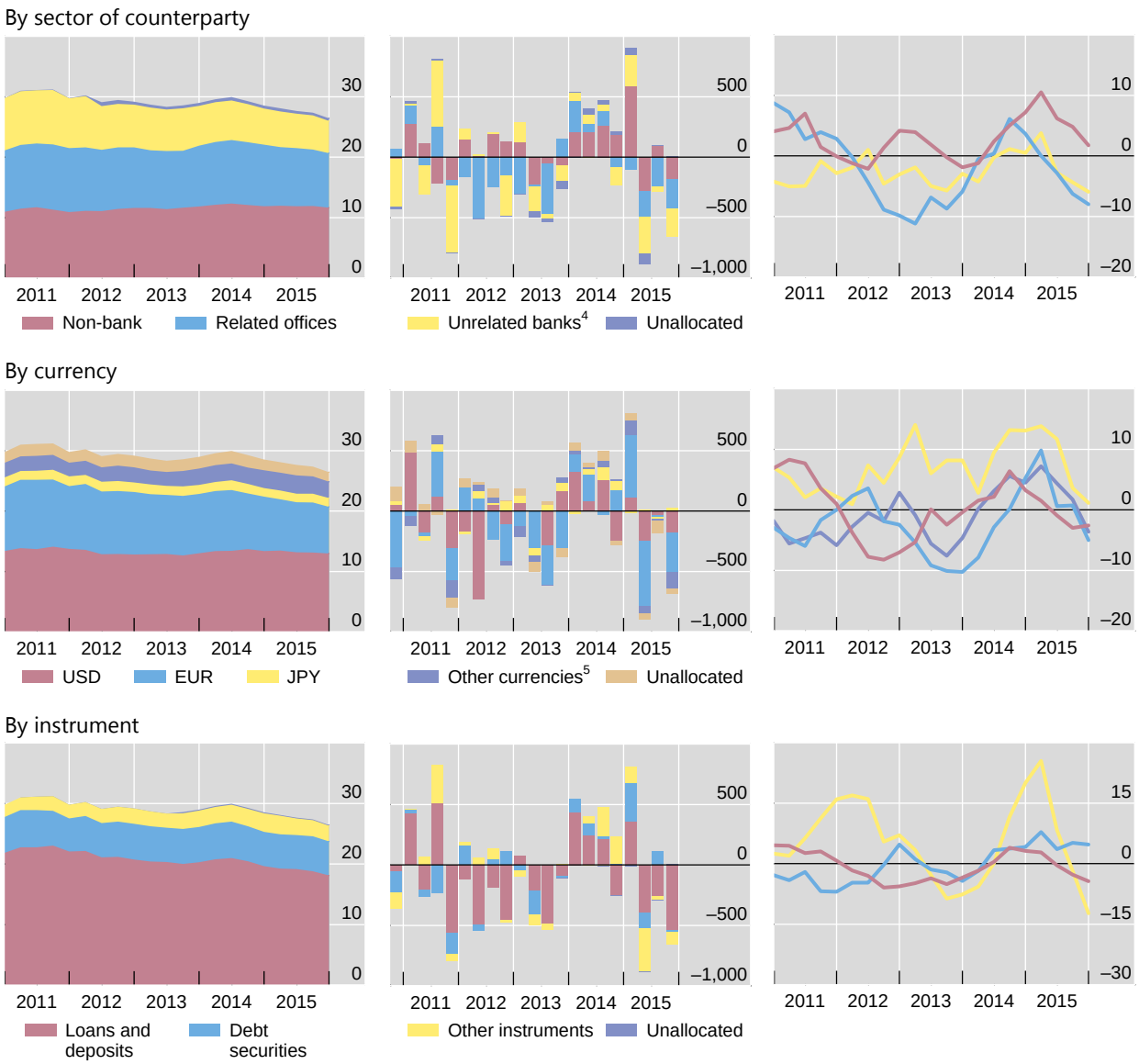
H Property price statistics

I Effective exchange rate statistics

A Locational banking statistics

Cross-border claims, by sector, currency and instrument

Graph A.1



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

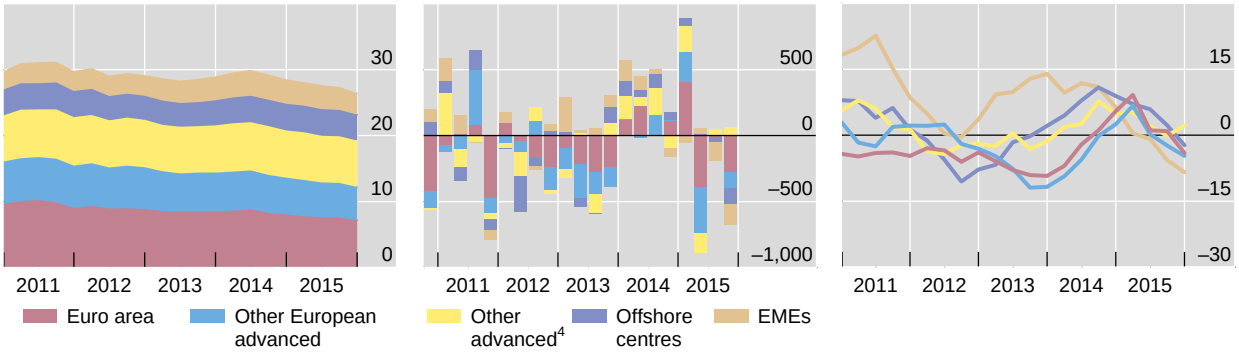
[1] At quarter-end. Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date. [2] Quarterly changes in amounts outstanding, adjusted for the impact of exchange rate movements between quarter-ends and methodological breaks 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 USD, EUR, JPY and unallocated currencies. The currency is known but reporting is incomplete.

Cross-border claims, by borrowing region

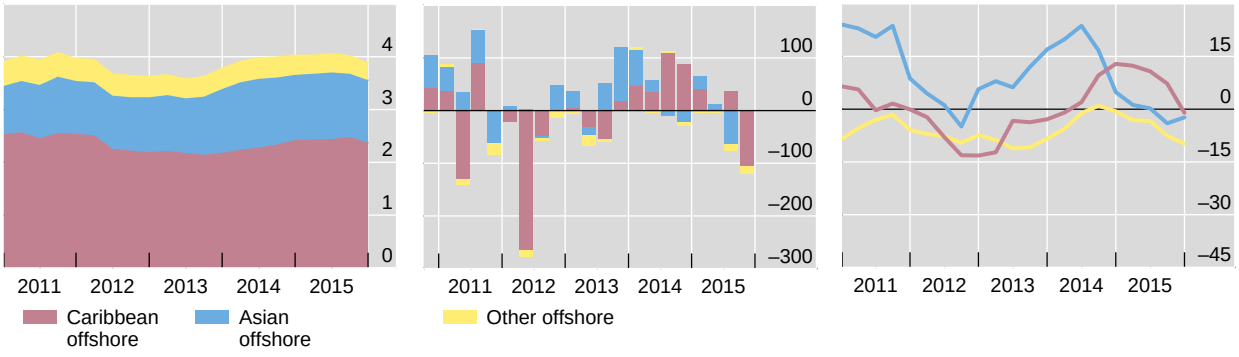
Graph A.2

Amounts outstanding[1] (USD trn) | Adjusted changes[2] (USD bn) | Annual change[3] (per cent)

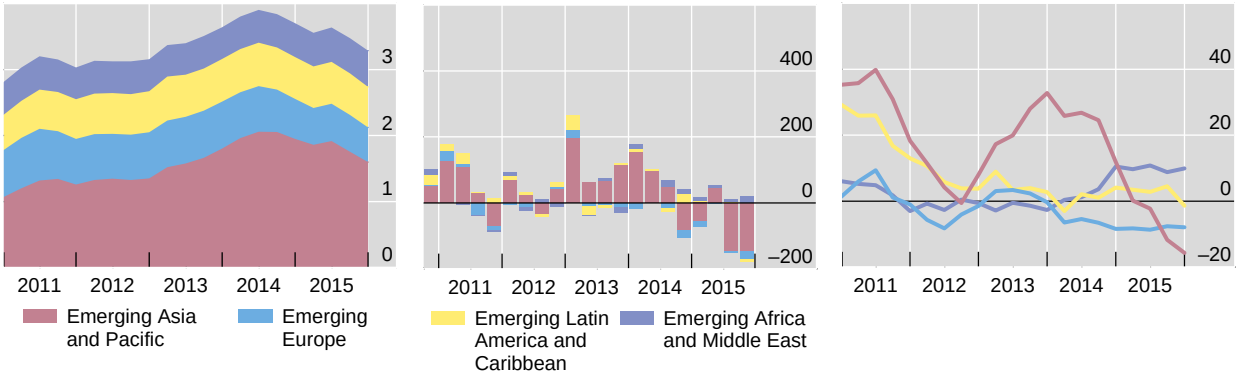
On all countries



On offshore centres



On emerging market economies



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

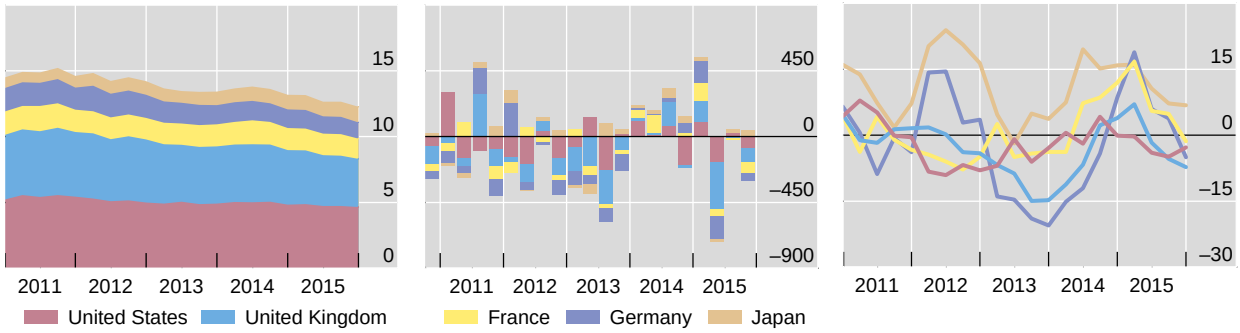
[1] At quarter-end. Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date. [2] Quarterly changes in amounts outstanding, adjusted for the impact of exchange rate movements between quarter-ends and methodological breaks in the data. [3] Geometric mean of quarterly percentage adjusted changes. [4] Includes international organisations and cross-border amounts unallocated by residence of counterparty.

Cross-border claims, by borrowing country

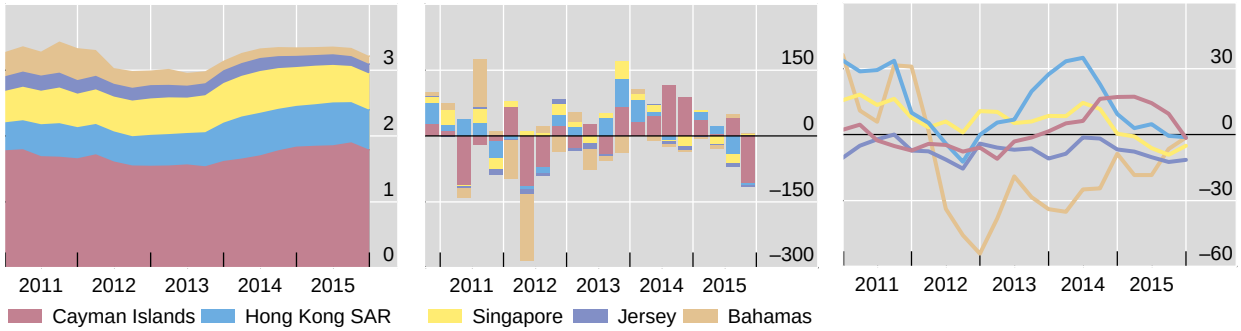
Graph A.3

Amounts outstanding[1] (USD trn) | Adjusted changes[2] (USD bn) | Annual change[3] (per cent)

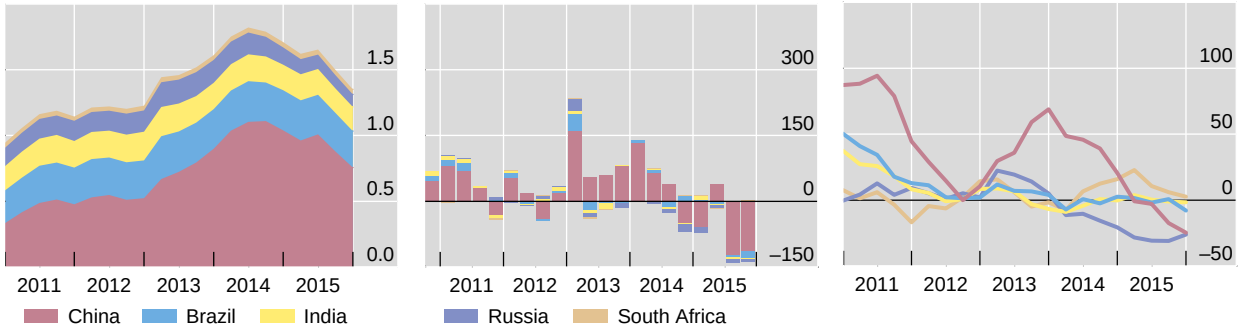
On selected advanced economies



On selected offshore centres



On selected emerging market economies

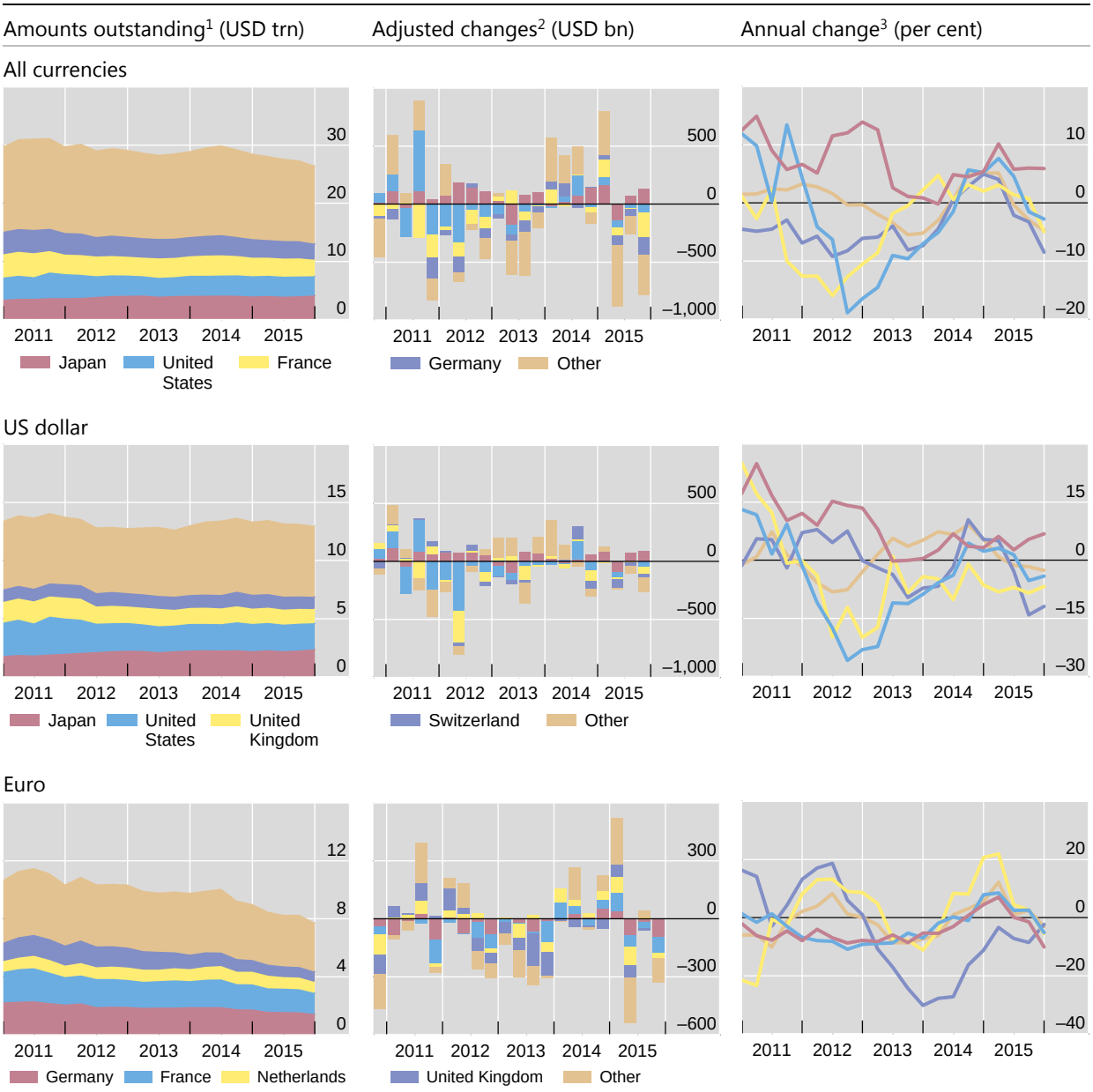


Further information on the BIS locational banking statistics is available at www.bis.org/statistics/bankstats.htm.

[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.

Cross-border claims, by nationality of reporting bank and currency of denomination

Graph A.4

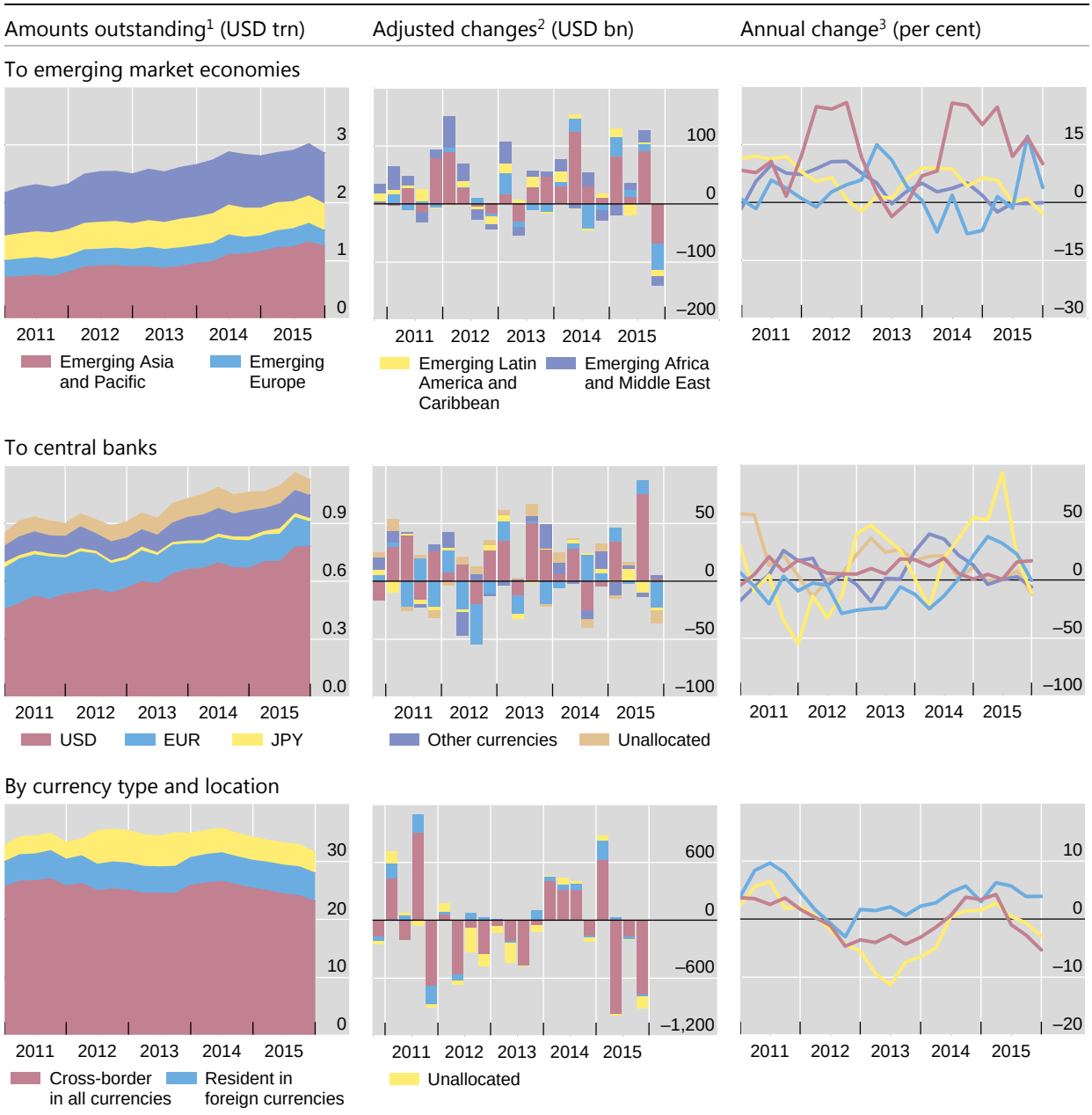


Further information on the BIS locational banking statistics is available at www.bis.org/statistics/bankstats.htm.

[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.

Cross-border liabilities of reporting banks

Graph A.5



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.

B Consolidated banking statistics

Consolidated claims of reporting banks on advanced economies

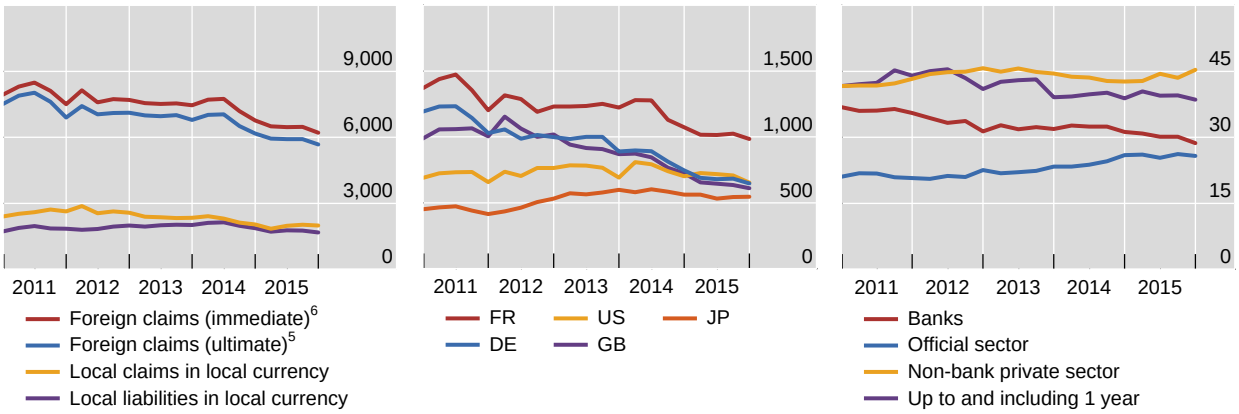
Graph B.1

Foreign claims and local positions[1, 2] (USD bn)

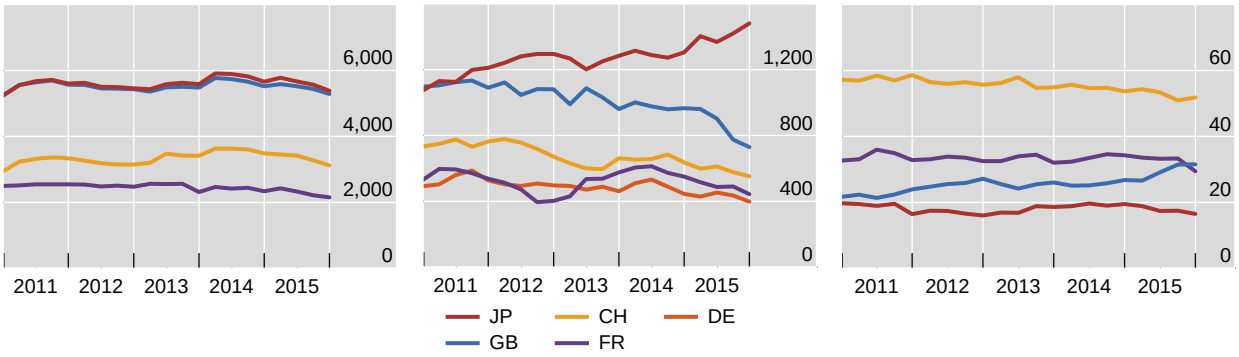
Foreign claims of selected creditors[1, 3] (USD bn)

International claims, by sector and maturity[4] (per cent)

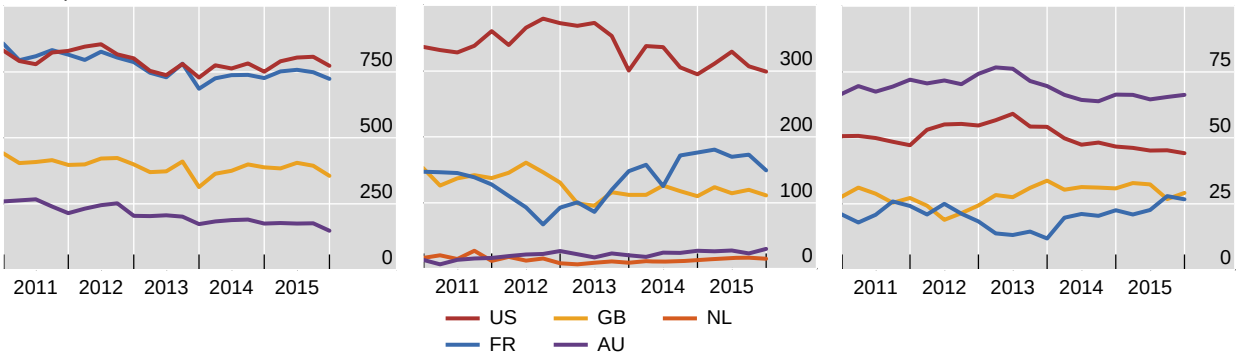
On the euro area



On the United States



On Japan



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

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

[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 ultimate risk basis. [6] On an immediate counterparty basis. Includes the unconsolidated claims of banks headquartered outside but located inside CBS-reporting countries.

Consolidated claims of reporting banks on emerging market economies

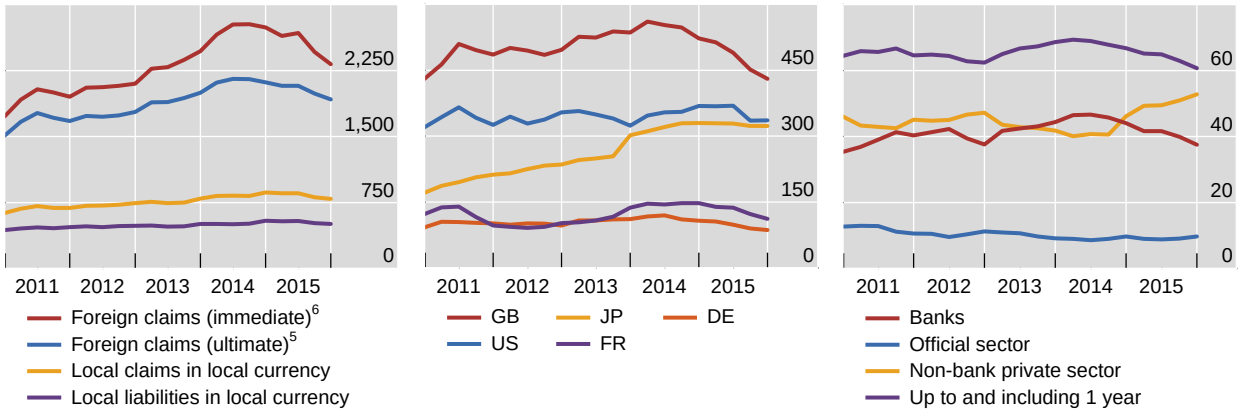
Graph B.2

Foreign claims and local positions[1, 2] (USD bn)

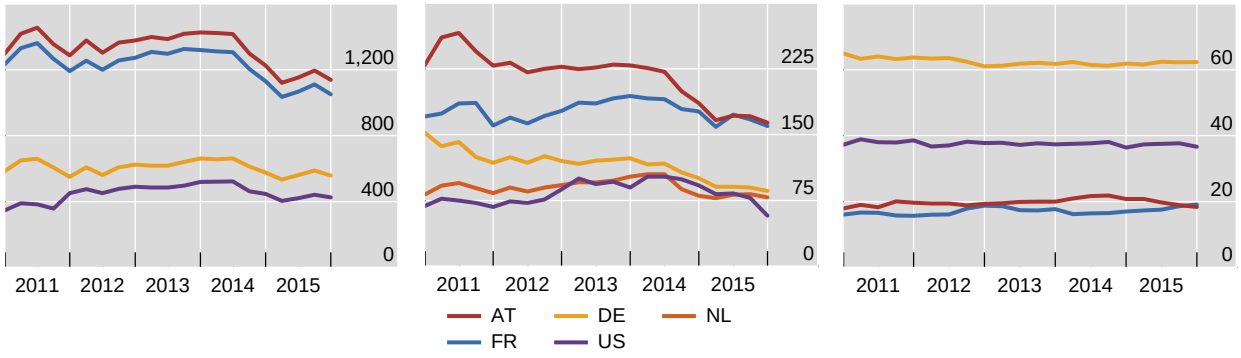
Foreign claims of selected creditors[1, 3] (USD bn)

International claims, by sector and maturity[4] (per cent)

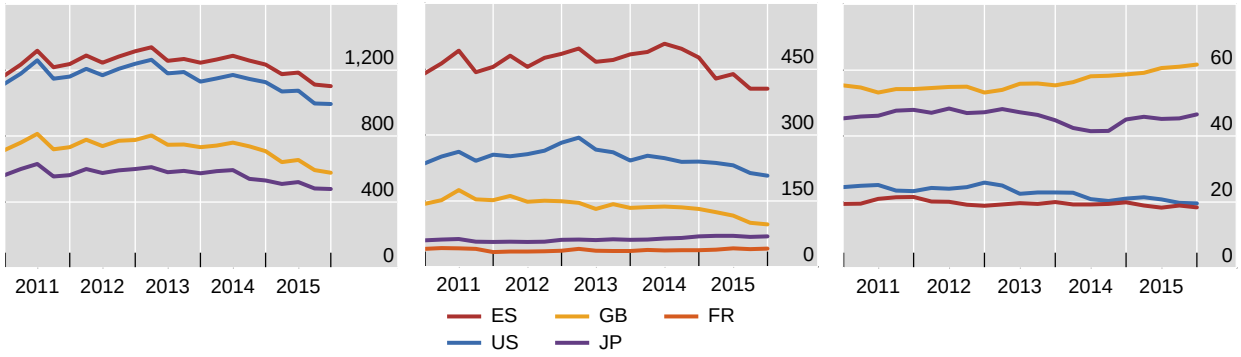
On developing Asia and the Pacific



On developing Europe



On developing Latin America and the Caribbean



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

AT = Austria; CA = Canada; DE = Germany; ES = Spain; FR = France; GB = United Kingdom; JP = Japan; NL = Netherlands; US = United States.

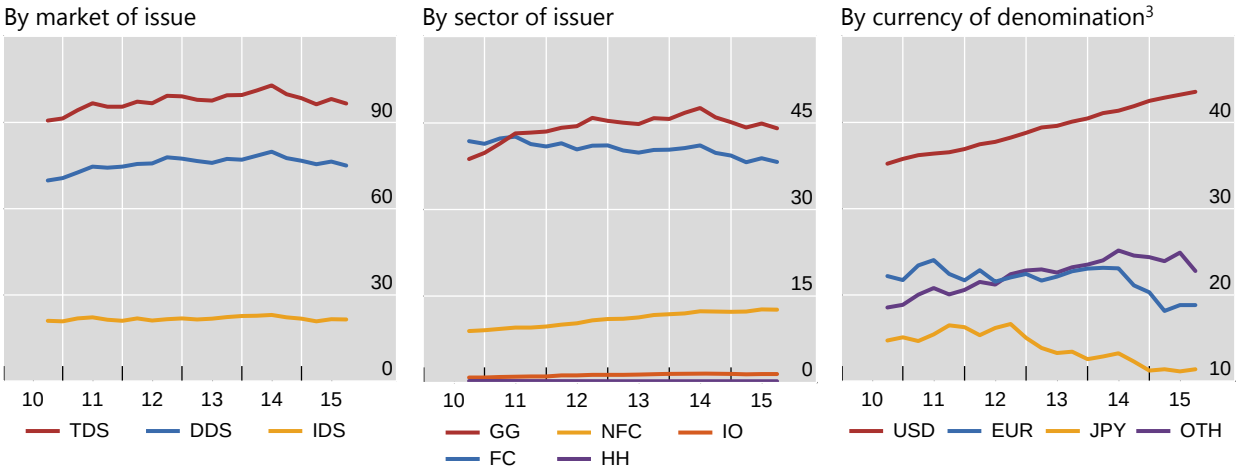
[1] Amounts outstanding at quarter-end. Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date. [2] Excludes domestic claims, ie claims on residents of a bank's home country. [3] Foreign claims on an ultimate risk basis, 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 ultimate risk basis. [6] On an immediate counterparty basis. Includes the unconsolidated claims of banks headquartered outside but located inside CBS-reporting countries.

C Debt securities statistics

Global debt securities markets[1]

Amounts outstanding, in trillions of US dollars[2]

Graph C.1



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

TDS = total debt securities; DDS = domestic debt securities; IDS = international debt securities; GG = general government; NFC = non-financial corporations; IO = international organisations; FC = financial corporations; HH = households and non-profit institutions serving households; USD = US dollar; EUR = euro; JPY = yen; OTH = other currencies.

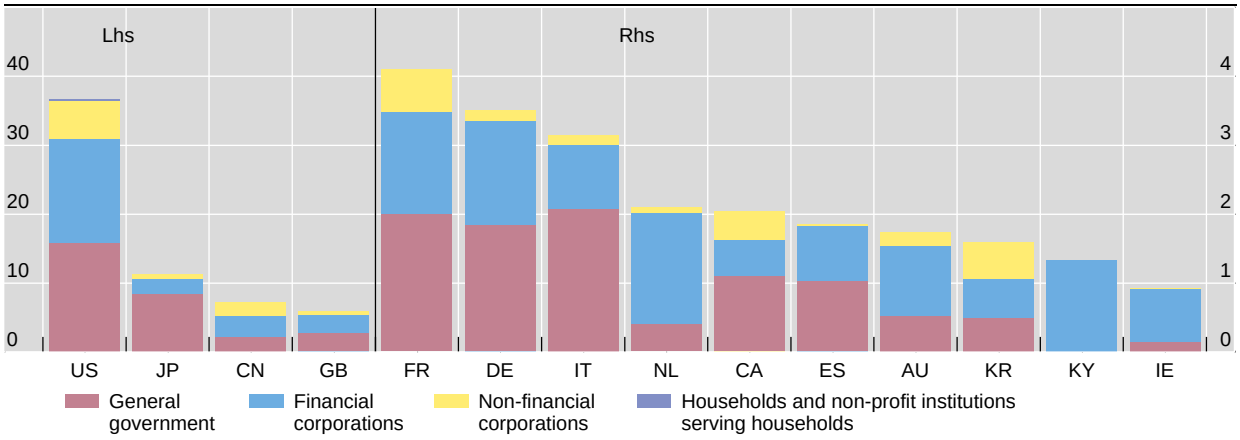
[1] Sample of countries varies across breakdowns shown. For countries that do not report TDS, data are estimated by the BIS as DDS plus IDS. For countries that do not report either TDS or DDS, data are estimated by the BIS as IDS. [2] At quarter-end. Amounts denominated in currencies other than the US 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 issuer[1]

Amounts outstanding at end-September 2015, in trillions of US dollars[2]

Graph C.2



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

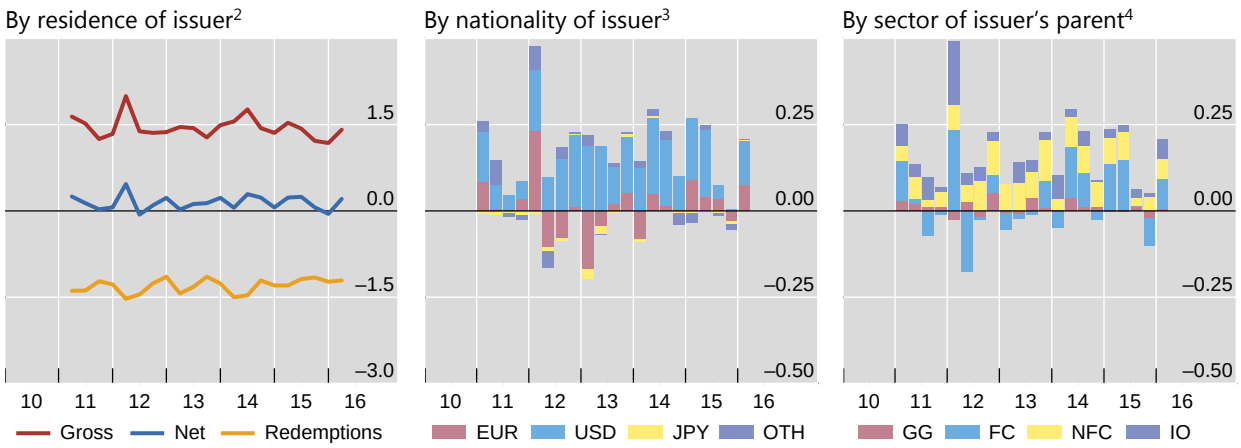
AU = Australia; CA = Canada, CN = China; DE = Germany; ES = Spain, FR= France; GB = United Kingdom; IE = Ireland, IT = Italy; JP = Japan; KR = Korea; KY = Cayman Islands; NL = Netherlands; US = United States.

[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



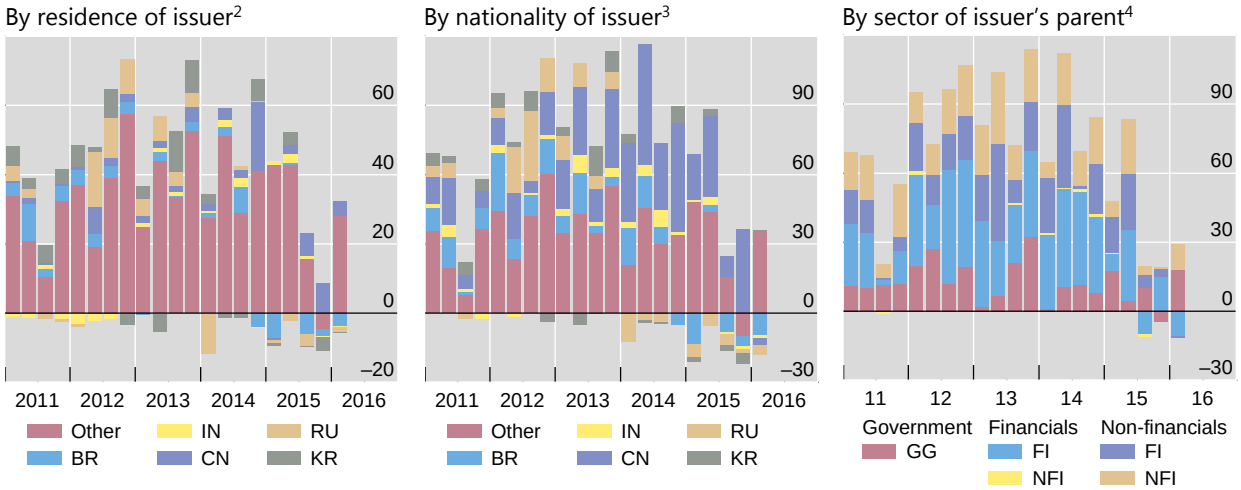
Further information on the BIS debt securities statistics is available at www.bis.org/statistics/secstats.htm.

EUR = euro; USD = US dollar; JPY = yen; OTH = other currencies; GG = general government; FC= financial corporations; NFC = non-financial corporations; IO = international organisations.

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

International debt securities issued by borrowers from emerging market economies[1]

Net issuance, in billions of US dollars — Graph C.4



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

BR = Brazil; CN = China; IN = India; KR = Korea; RU = Russia; GG = general government; FI = financial corporations; NFI = non-financial corporations.

[1] For the sample of countries comprising emerging market economies, see the glossary to the *BIS Statistical Supplement*. [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.

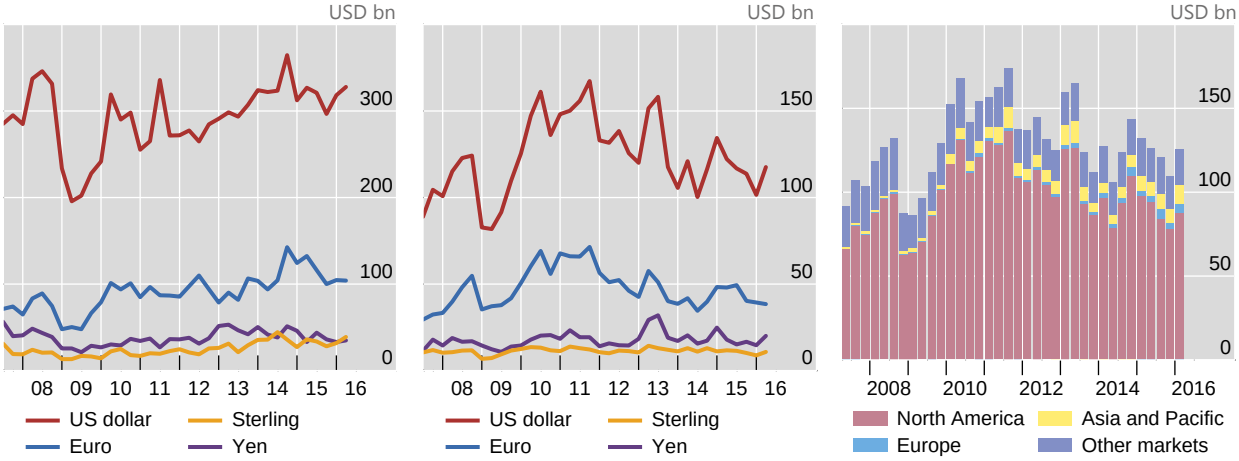
D Derivatives statistics

Exchange-traded derivatives

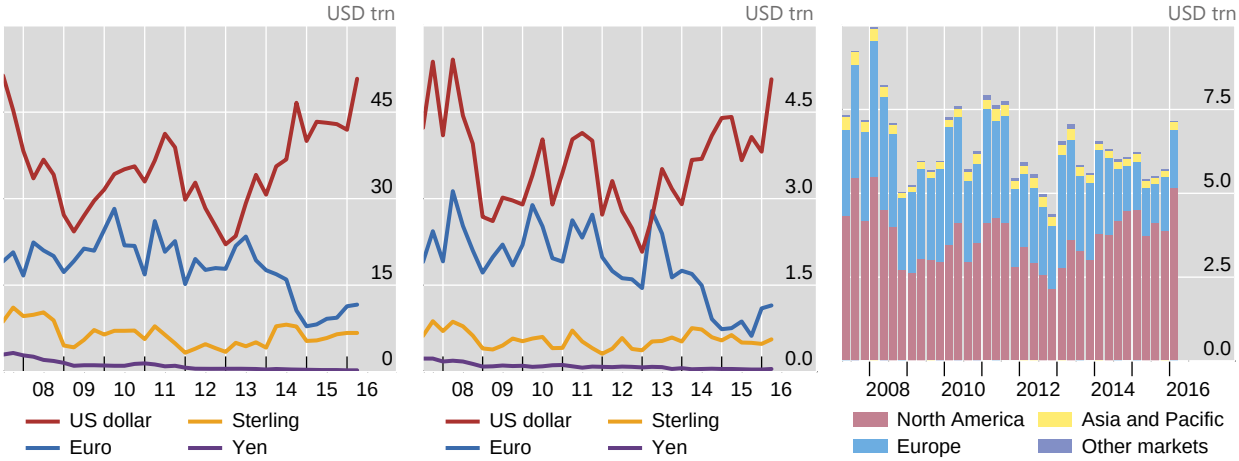
Graph D.1

Open interest, by currency[1] | Daily average turnover, by currency[2] | Daily average turnover, by location of exchange[2]

Foreign exchange derivatives[3]



Interest rate derivatives[3]



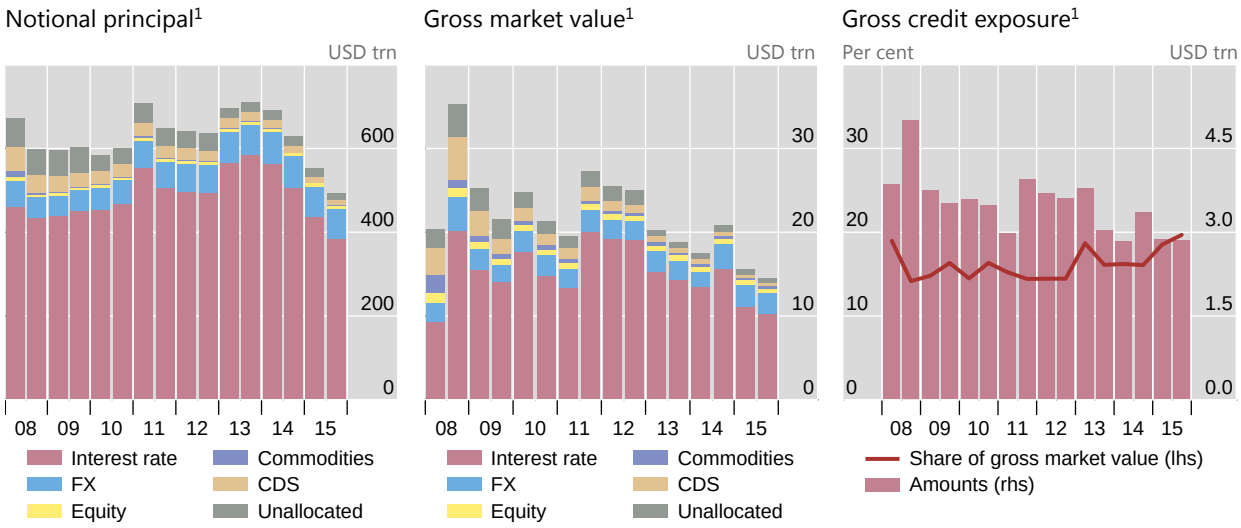
Further information on the BIS derivatives statistics is available at www.bis.org/statistics/extderiv.htm.

[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] Daily turnover averaged over the quarter. [3] Futures and options.

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

Global OTC derivatives markets

Graph D.2



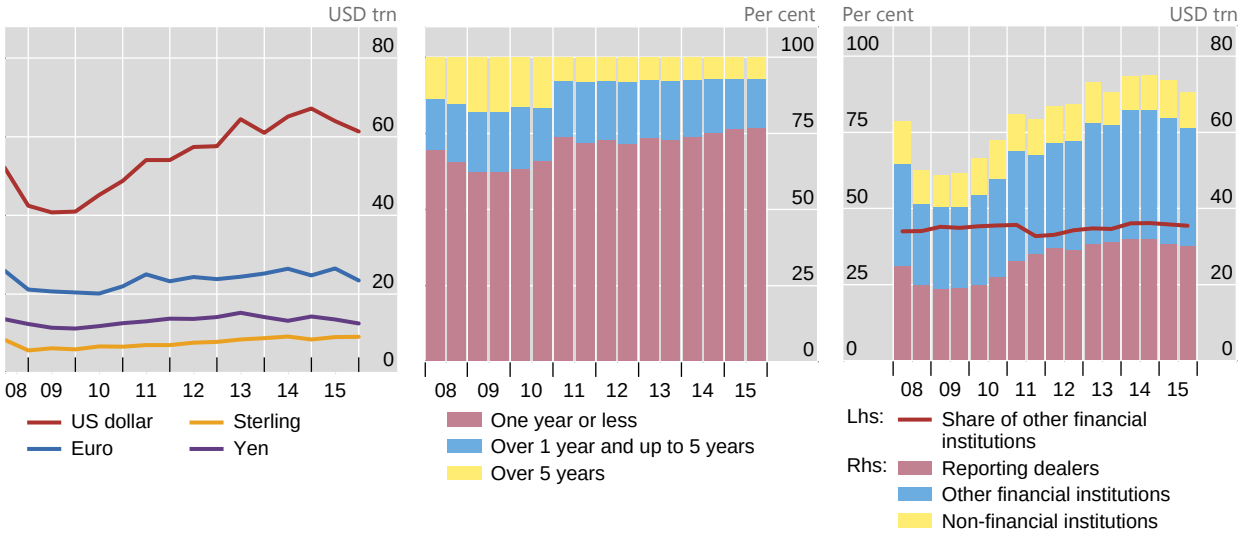
Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

[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.

OTC foreign exchange derivatives

Notional principal[1]

Graph D.3

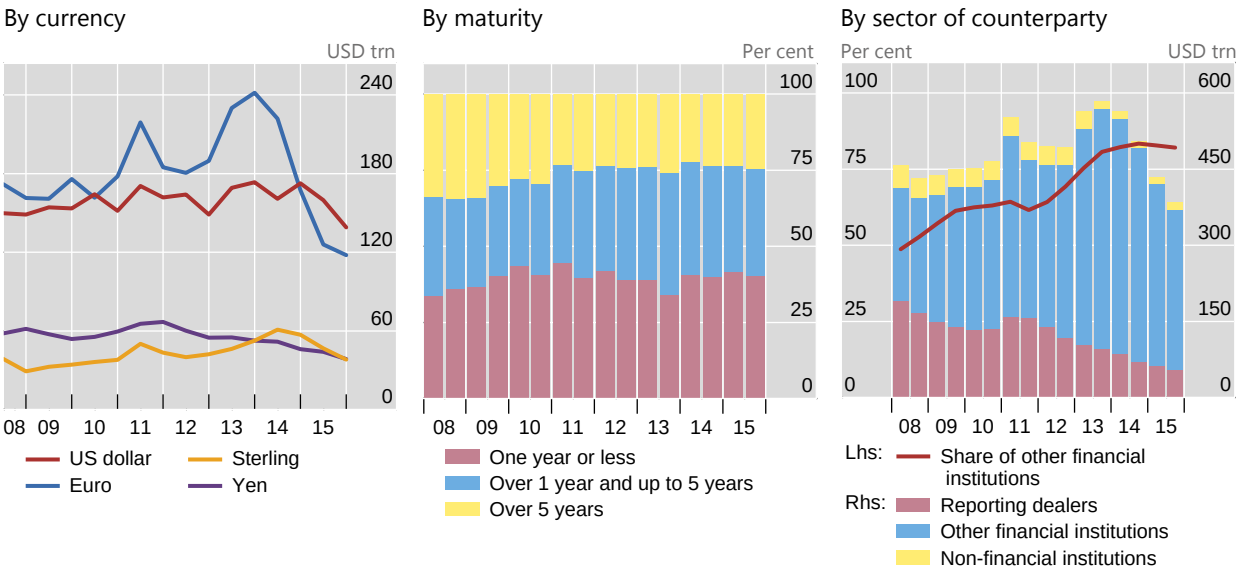


Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

[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.

OTC interest rate derivatives

Notional principal[1] Graph D.4

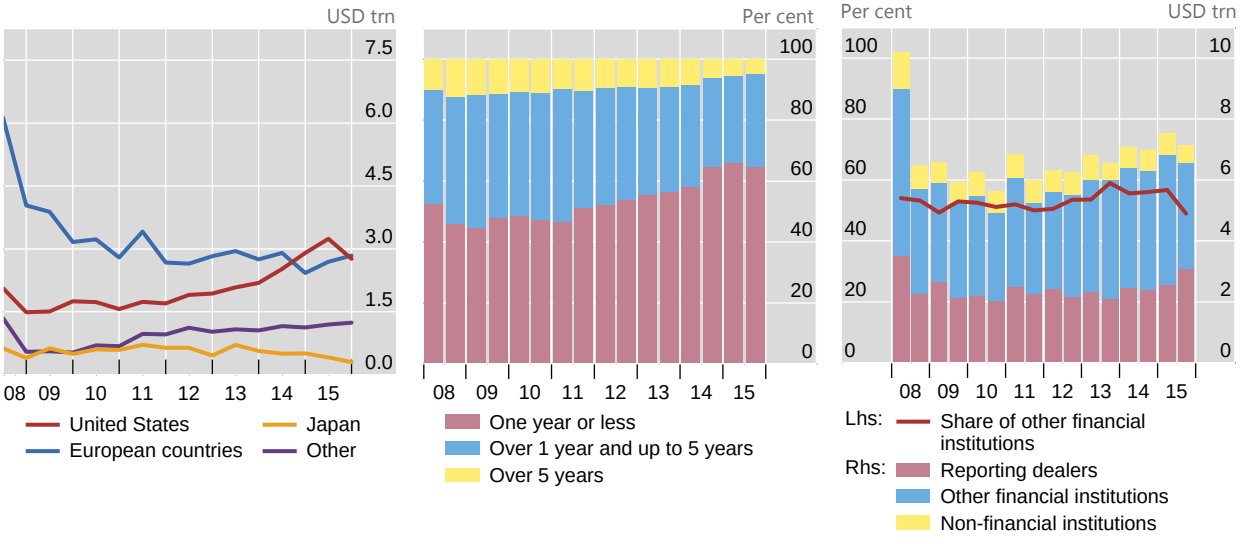


Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

[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.

OTC equity-linked derivatives

Notional principal[1] Graph D.5



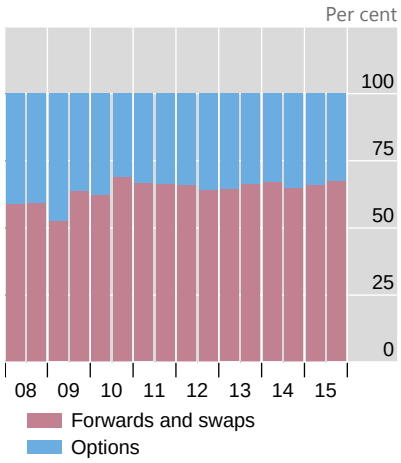
Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

[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.

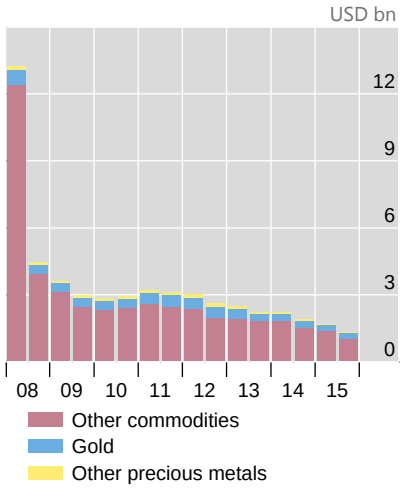
OTC commodity derivatives

Graph D.6

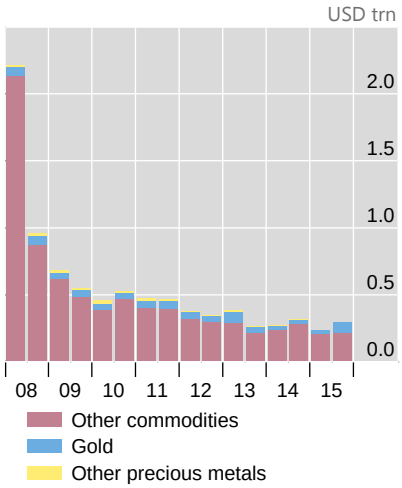
Notional principal, by instrument[1]



Notional principal, by commodity[1]



Gross market value, by commodity[1]



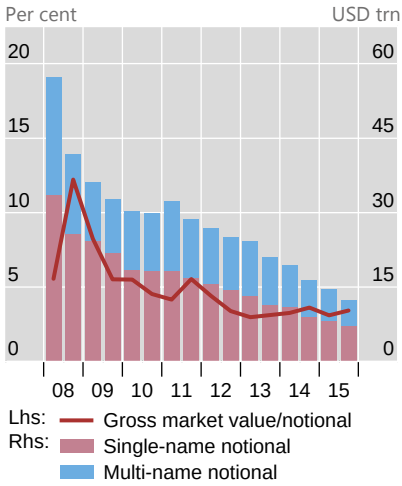
Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

[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.

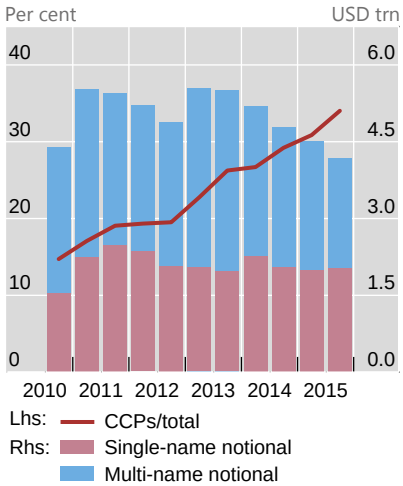
Credit default swaps[1]

Graph D.7

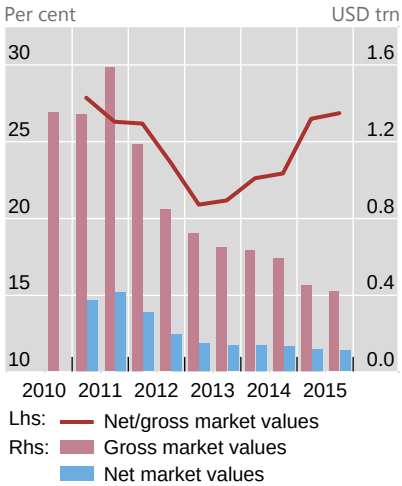
Notional principal



Notional principal with central counterparties (CCPs)



Impact of netting

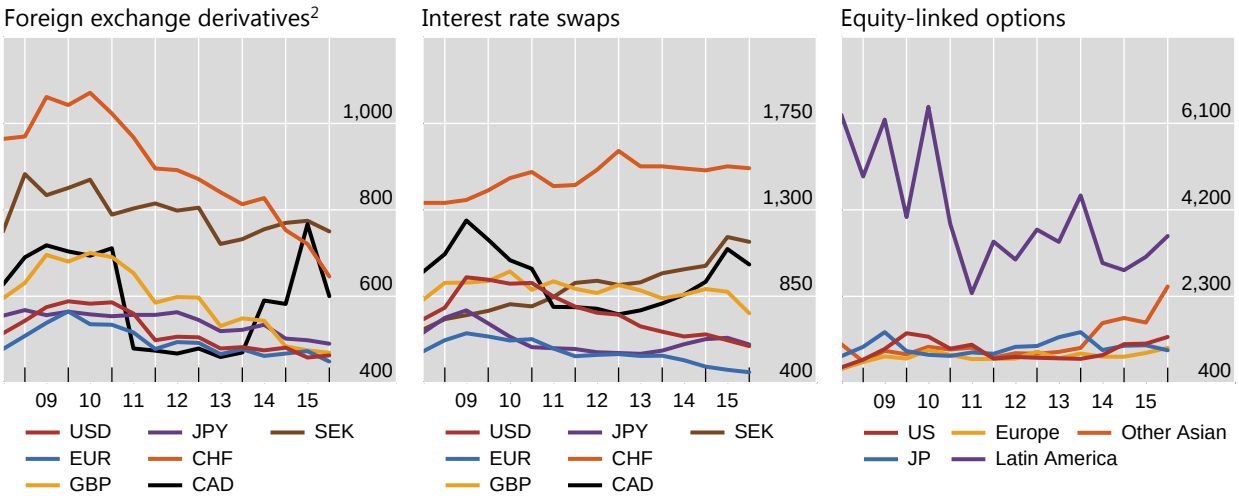


Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

[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.

Concentration in global OTC derivatives markets

Herfindahl index[1] Graph D.8



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

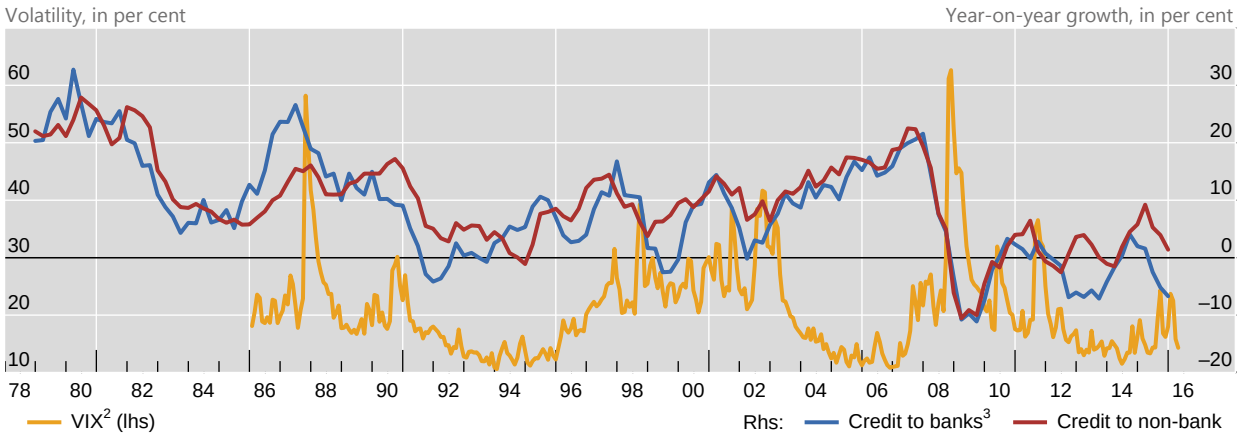
CAD = Canadian dollar; CHF = Swiss franc; EUR = euro; GBP = pound sterling; JPY = Japanese yen; SEK = Swedish krona; USD = US dollar. JP = Japan; US = United States.

[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.

E Global liquidity indicators

Growth of international bank credit[1]

Graph E.1



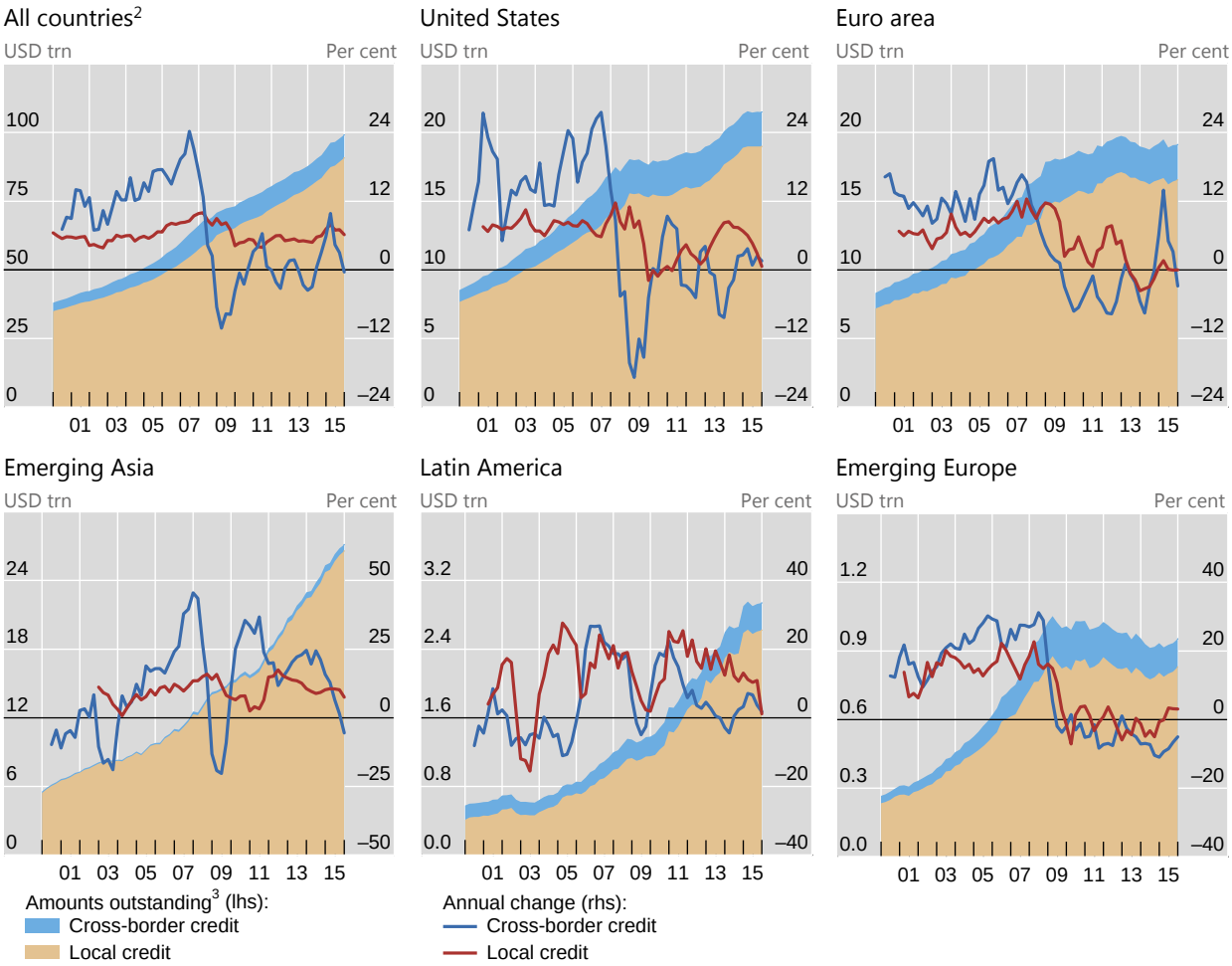
Further information on the BIS global liquidity indicators is available at www.bis.org/statistics/gli.htm. In June 2016, the presentation of data in this graph was revised to show the year-on-year change in credit, instead of the contribution to growth, and to exclude credit unallocated by sector, which was previously included in credit to banks.

[1] LBS reporting banks' cross-border claims plus local claims in foreign currencies. [2] VIX refers to the Chicago Board Options Exchange Market Volatility Index. It measures the implied volatility of S&P 500 index options. [3] Including intragroup transactions.

Sources: Bloomberg; BIS locational banking statistics.

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

Banks' cross-border credit plus local credit in all currencies[1] Graph E.2



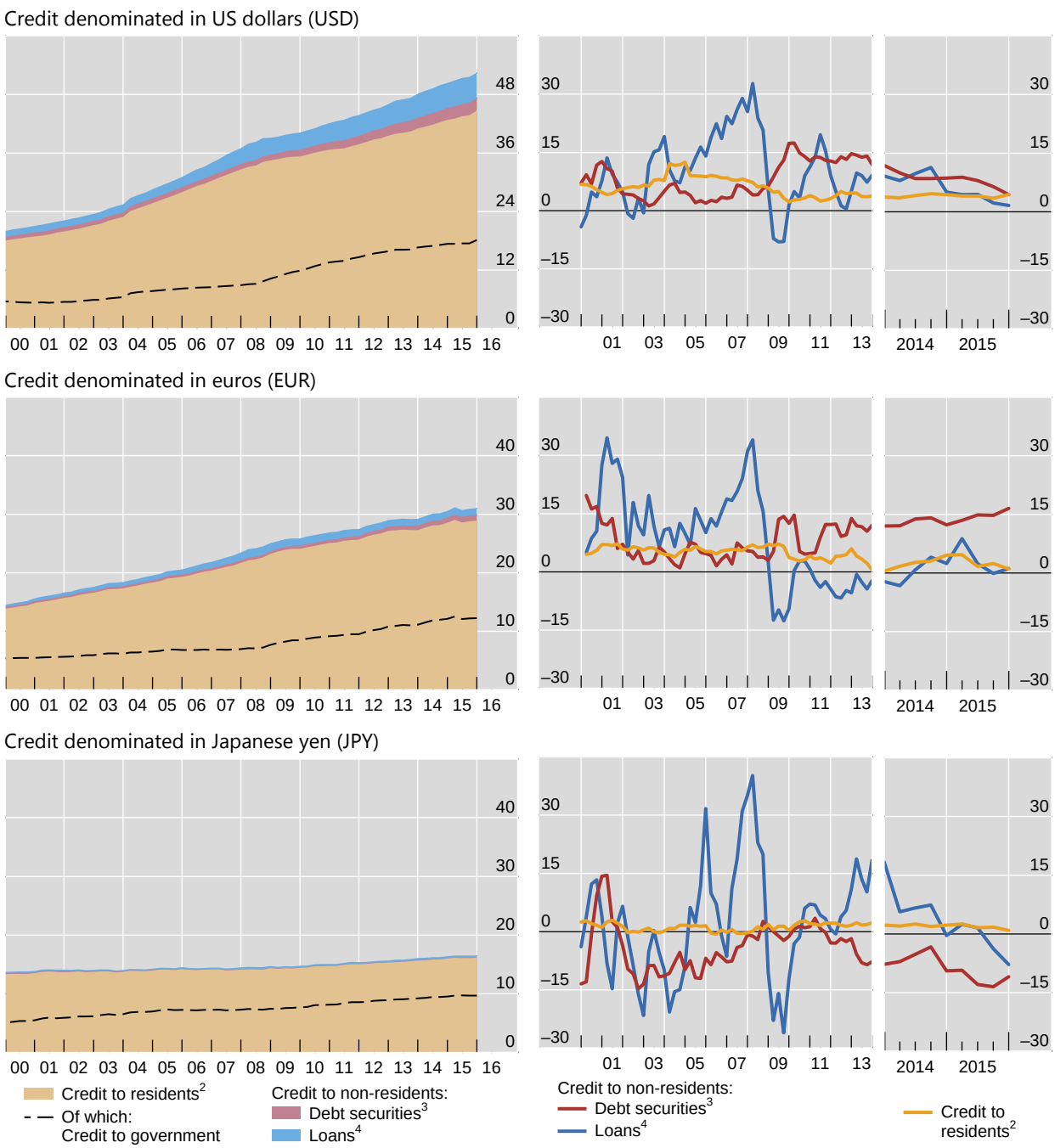
Further information on the BIS global liquidity indicators is available at www.bis.org/statistics/gli.htm.

[1] Cross-border claims of LBS reporting banks plus local claims of all banks. Local claims are from national financial accounts and include credit extended by the central bank to the government. [2] Sample of 52 countries. [3] Amounts outstanding at quarter-end. Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing at end-September 2015.

Sources: IMF, *International Financial Statistics*; BIS locational banking statistics; BIS calculations.

Global credit to the non-financial sector, by currency

Graph E.3



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

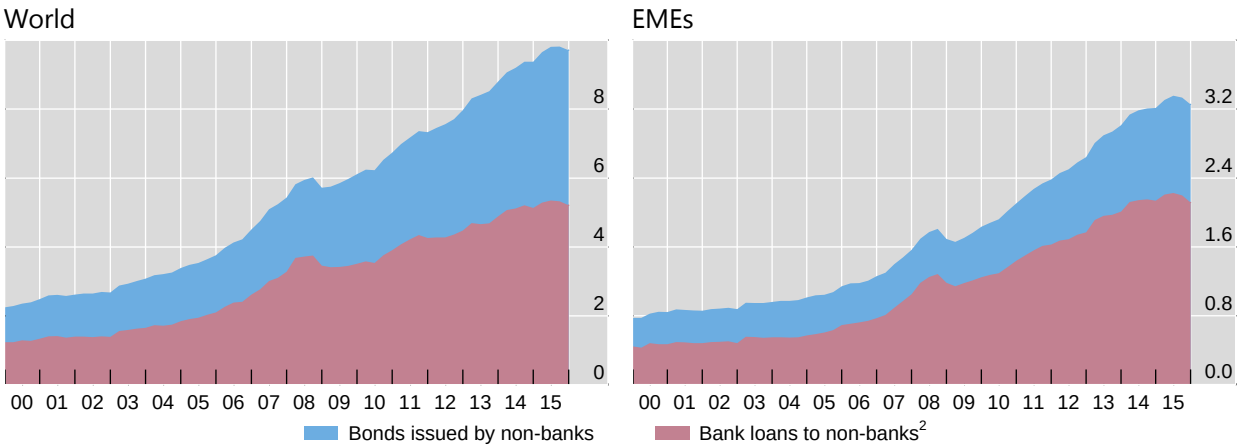
[1] Amounts outstanding at quarter-end. Amounts denominated in currencies other than USD are converted to USD at the exchange rate prevailing at end-September 2015. [2] Credit to non-financial borrowers residing in the United States/euro area/Japan. National financial accounts are adjusted using BIS 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 borrowers, including non-bank financial entities, comprises 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 on-lent to non-banks.

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

US dollar-denominated credit to non-banks outside the United States[1]

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.

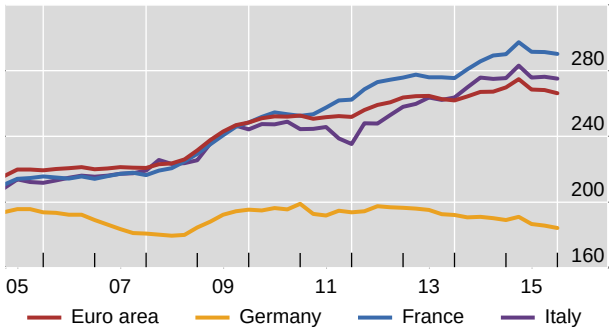
Sources: Datastream; BIS debt securities statistics; BIS locational banking statistics.

F Statistics on total credit to the non-financial sector

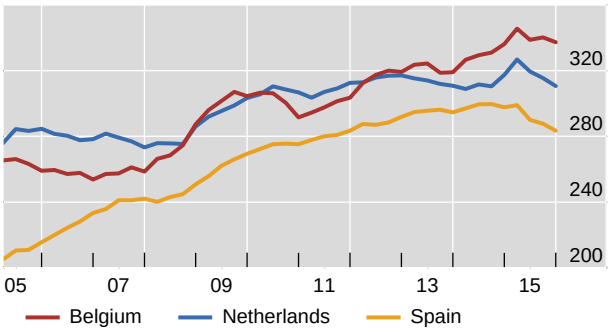
Total credit to the non-financial sector (core debt)

As a percentage of GDP — Graph F.1

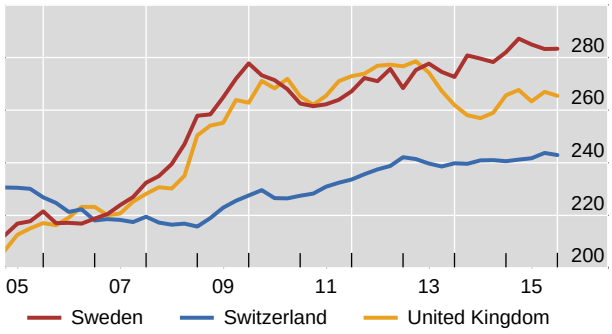
Euro area: aggregate and major countries



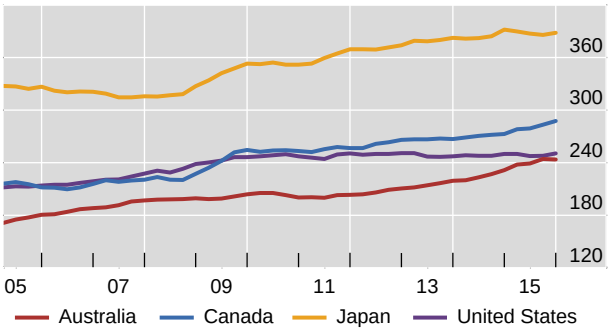
Euro area: other countries



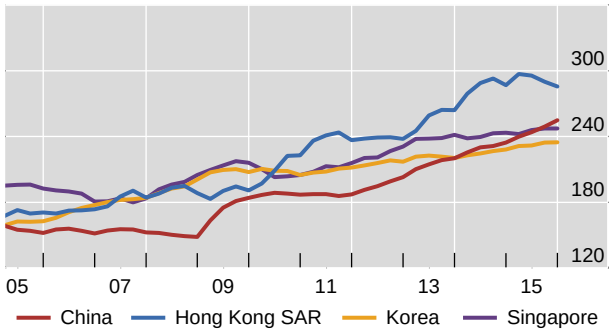
Other European countries



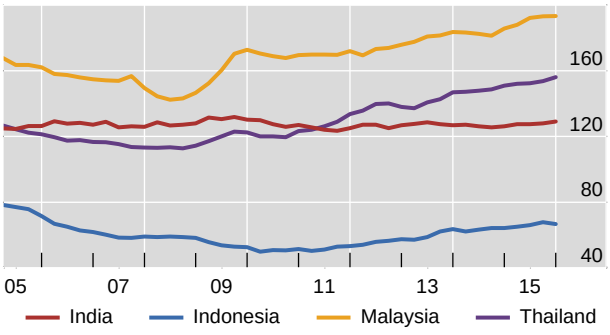
Major advanced economies



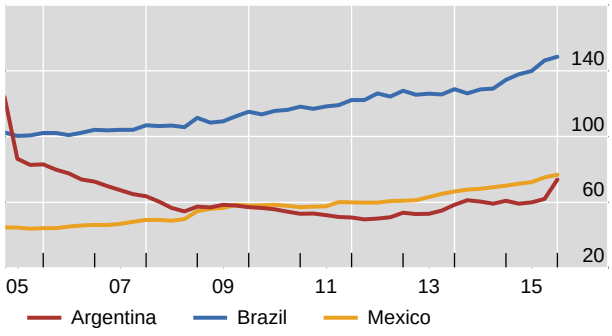
Emerging Asia



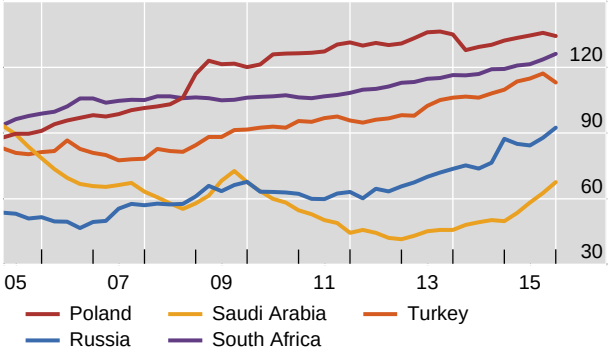
Other emerging Asia



Latin America



Other emerging market economies

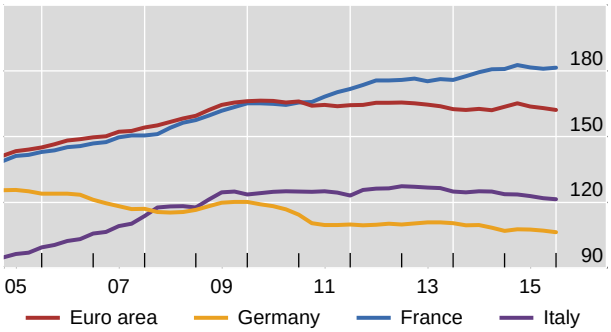


Further information on the BIS credit statistics is available at www.bis.org/statistics/totcredit.htm.

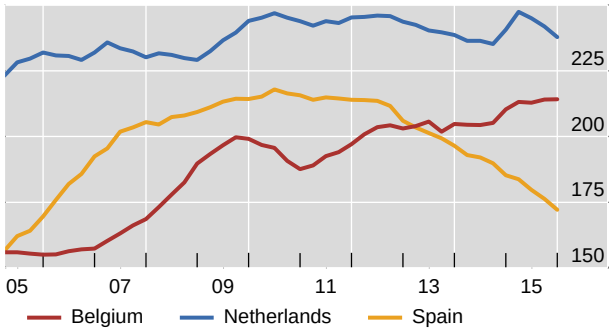
Total credit to the private non-financial sector (core debt)

As a percentage of GDP — Graph F.2

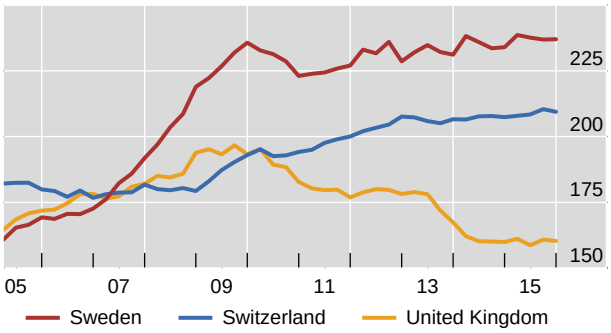
Euro area: aggregate and major countries



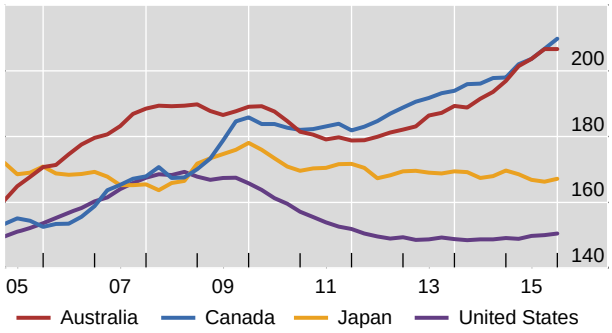
Euro area: other countries



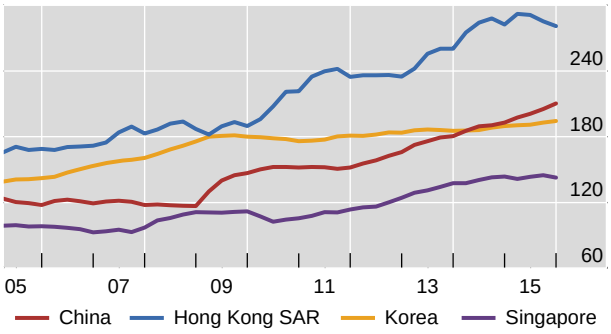
Other European countries



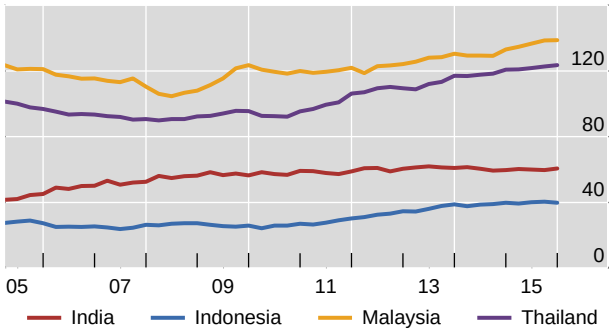
Major advanced economies



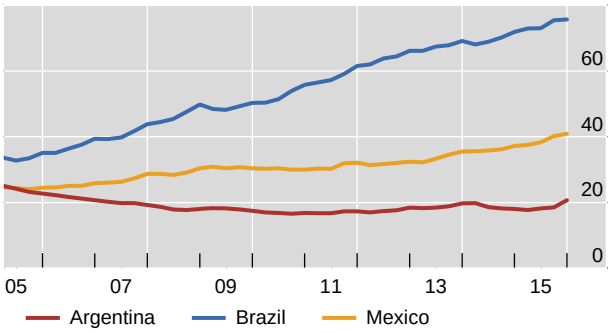
Emerging Asia



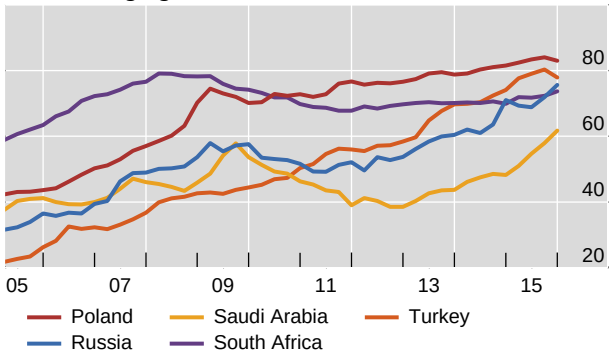
Other emerging Asia



Latin America



Other emerging market economies

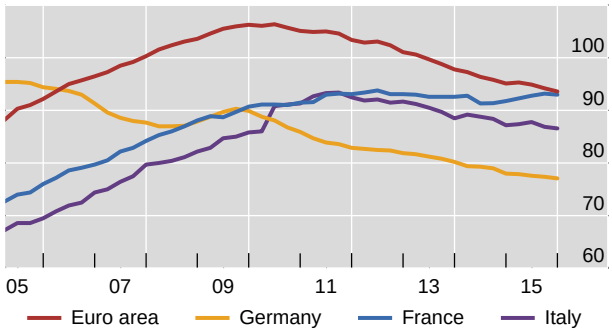


Further information on the BIS credit statistics is available at www.bis.org/statistics/totcredit.htm.

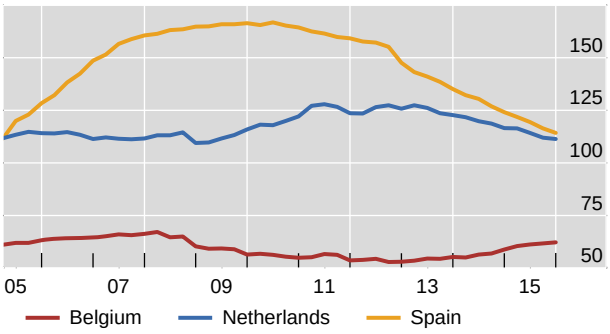
Bank credit to the private non-financial sector (core debt)

As a percentage of GDP — Graph F.3

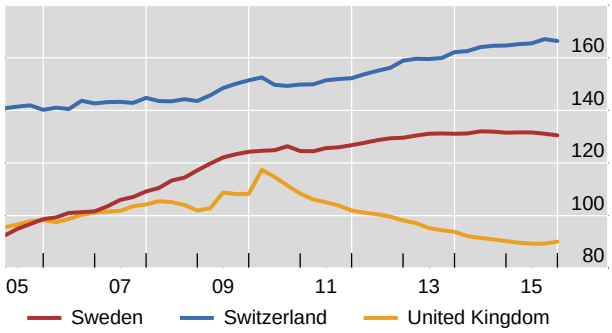
Euro area: aggregate and major countries



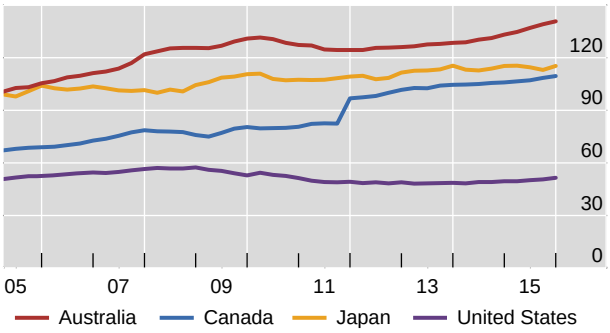
Euro area: other countries



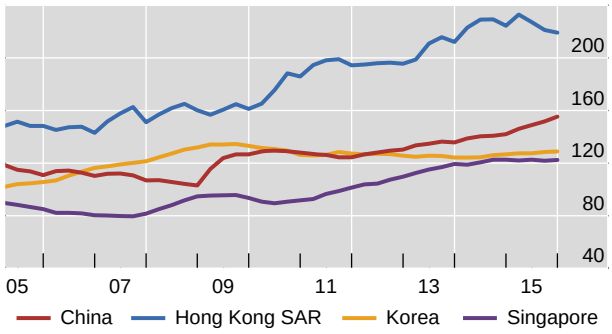
Other European countries



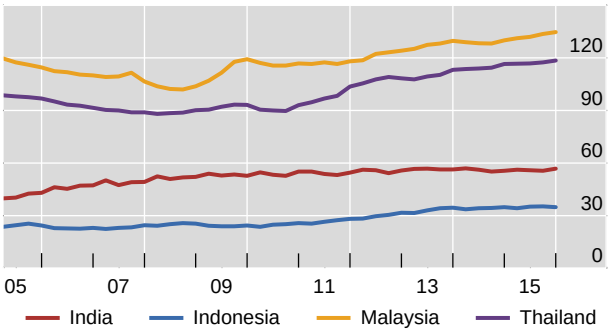
Major advanced economies



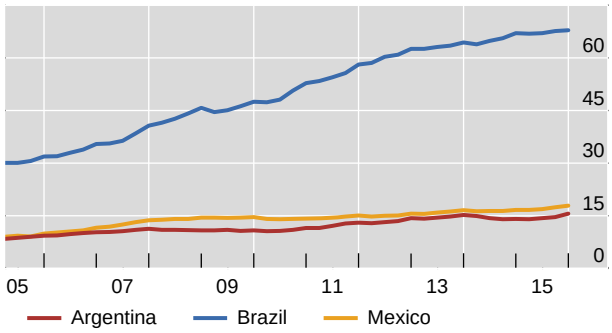
Emerging Asia



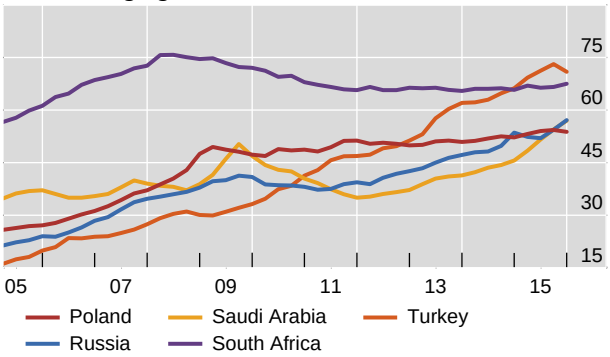
Other emerging Asia



Latin America



Other emerging market economies

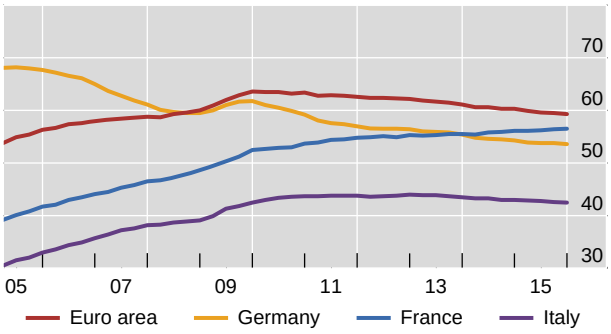


Further information on the BIS credit statistics is available at www.bis.org/statistics/totcredit.htm.

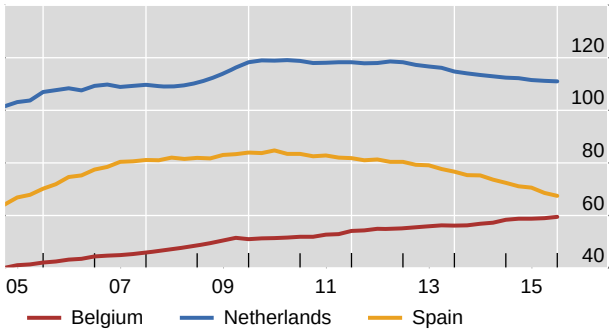
Total credit to households (core debt)

As a percentage of GDP — Graph F.4

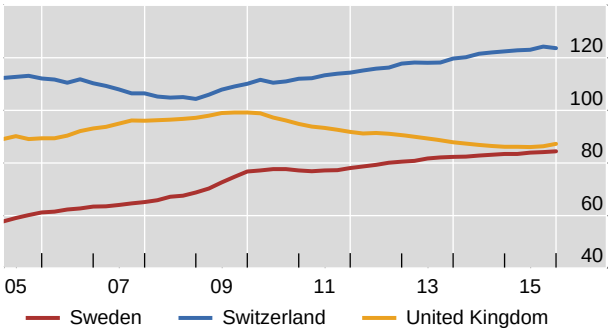
Euro area: aggregate and major countries



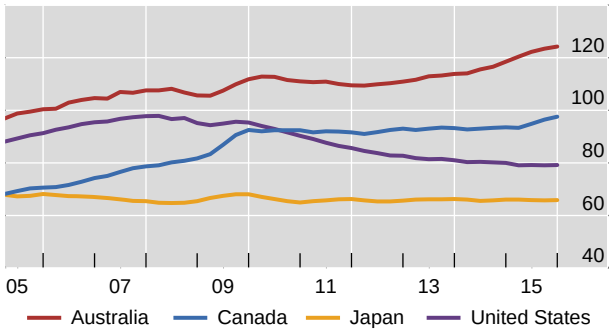
Euro area: other countries



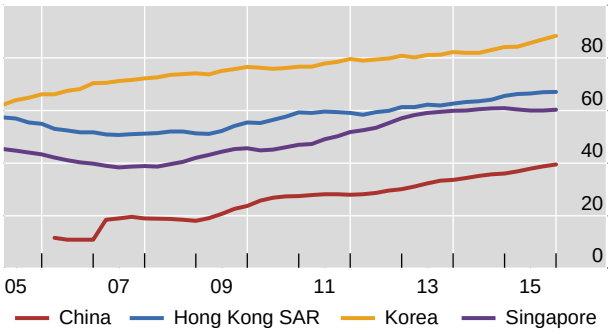
Other European countries



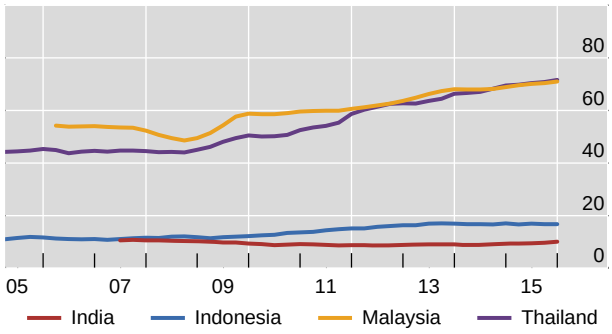
Major advanced economies



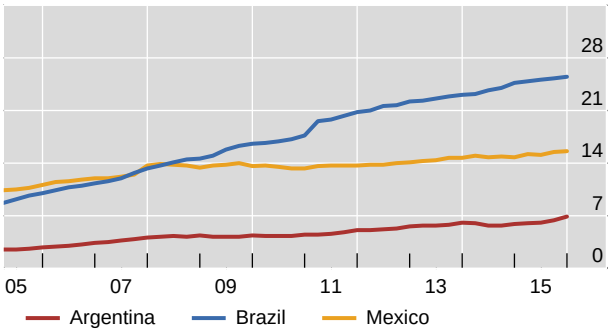
Emerging Asia



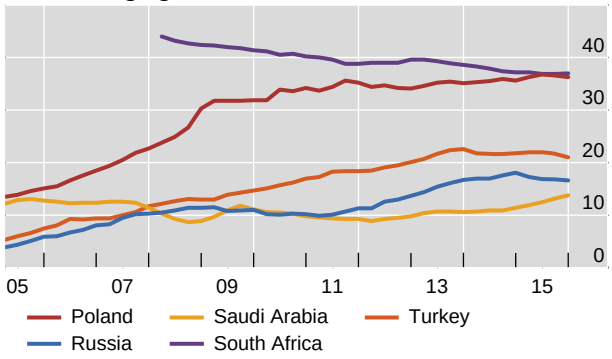
Other emerging Asia



Latin America



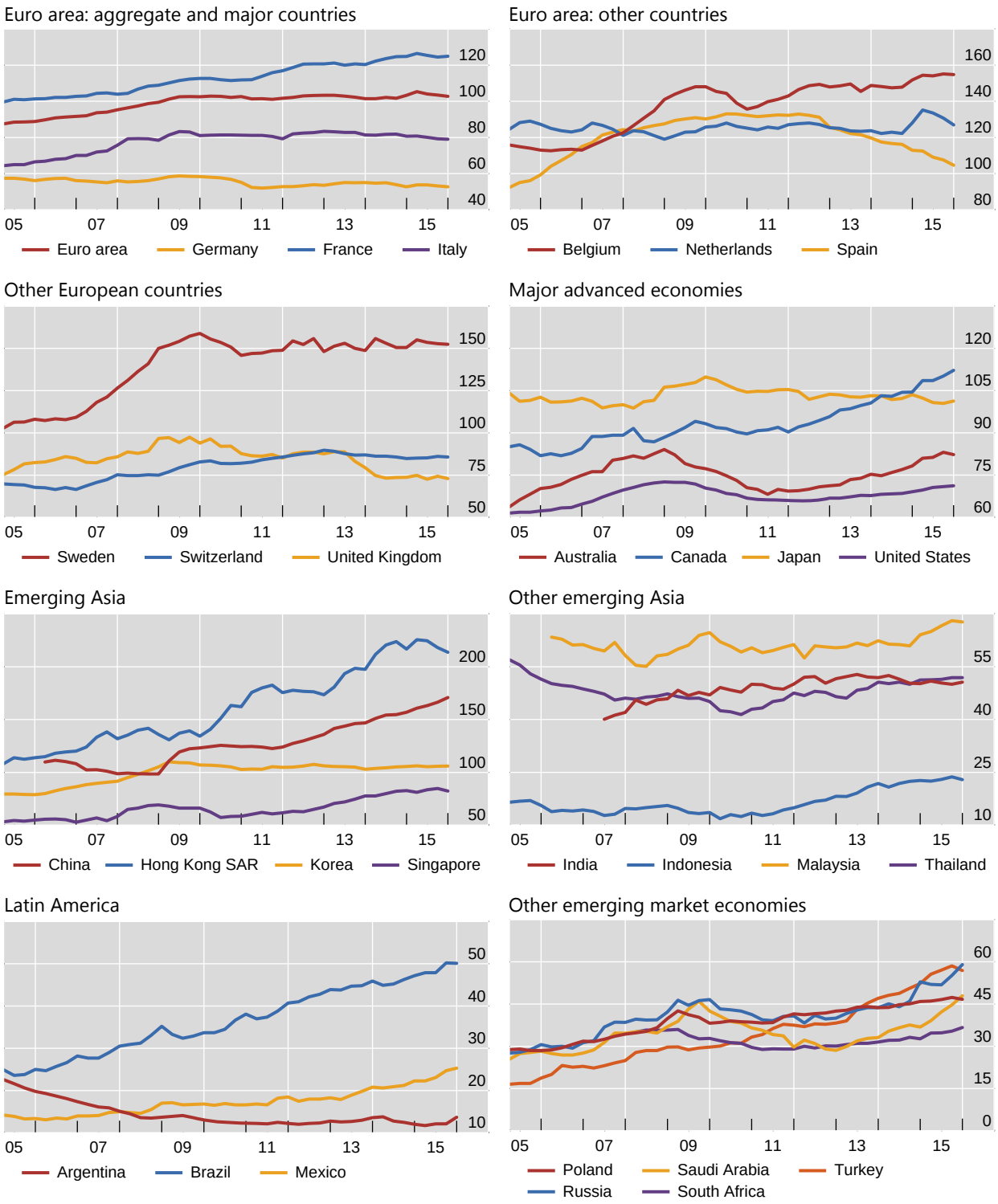
Other emerging market economies



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

Total credit to non-financial corporations (core debt)

As a percentage of GDP — Graph F.5

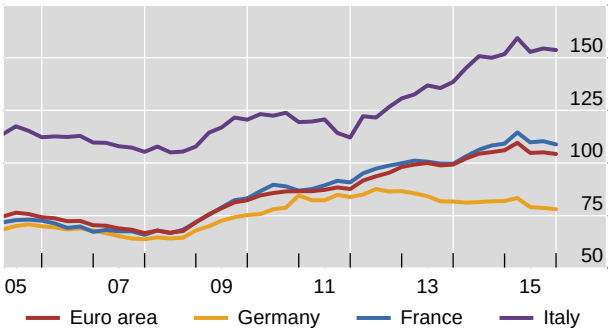


Further information on the BIS credit statistics is available at www.bis.org/statistics/totcredit.htm.

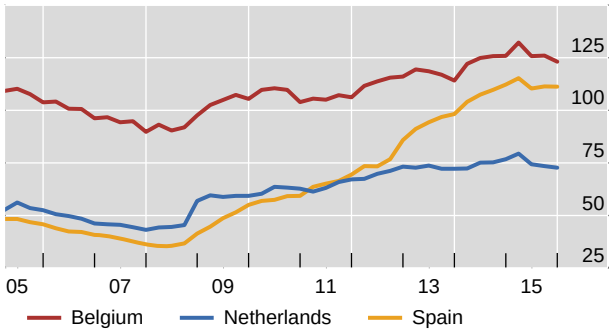
Total credit to the government sector at market value (core debt)[1]

As a percentage of GDP — Graph F.6

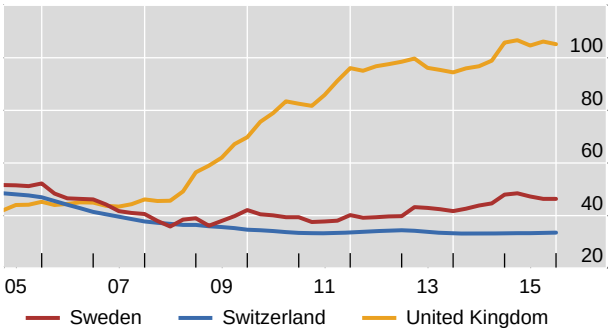
Euro area: aggregate and major countries



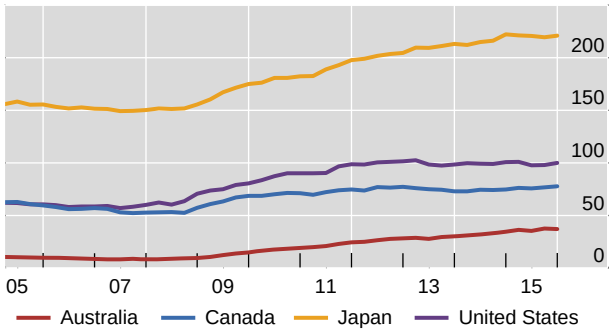
Euro area: other countries



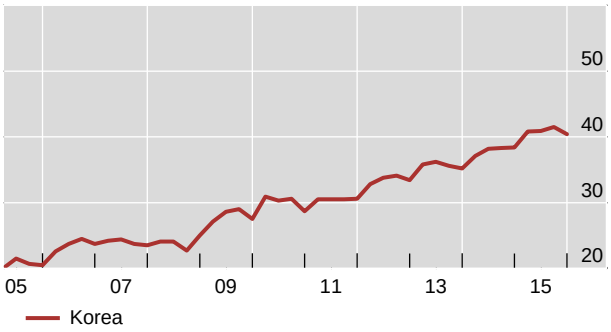
Other European countries



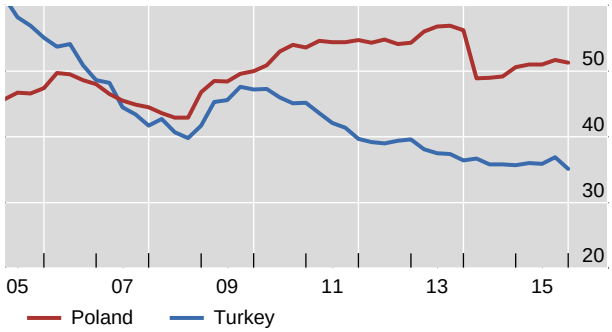
Major advanced economies



Emerging Asia



Other emerging market economies

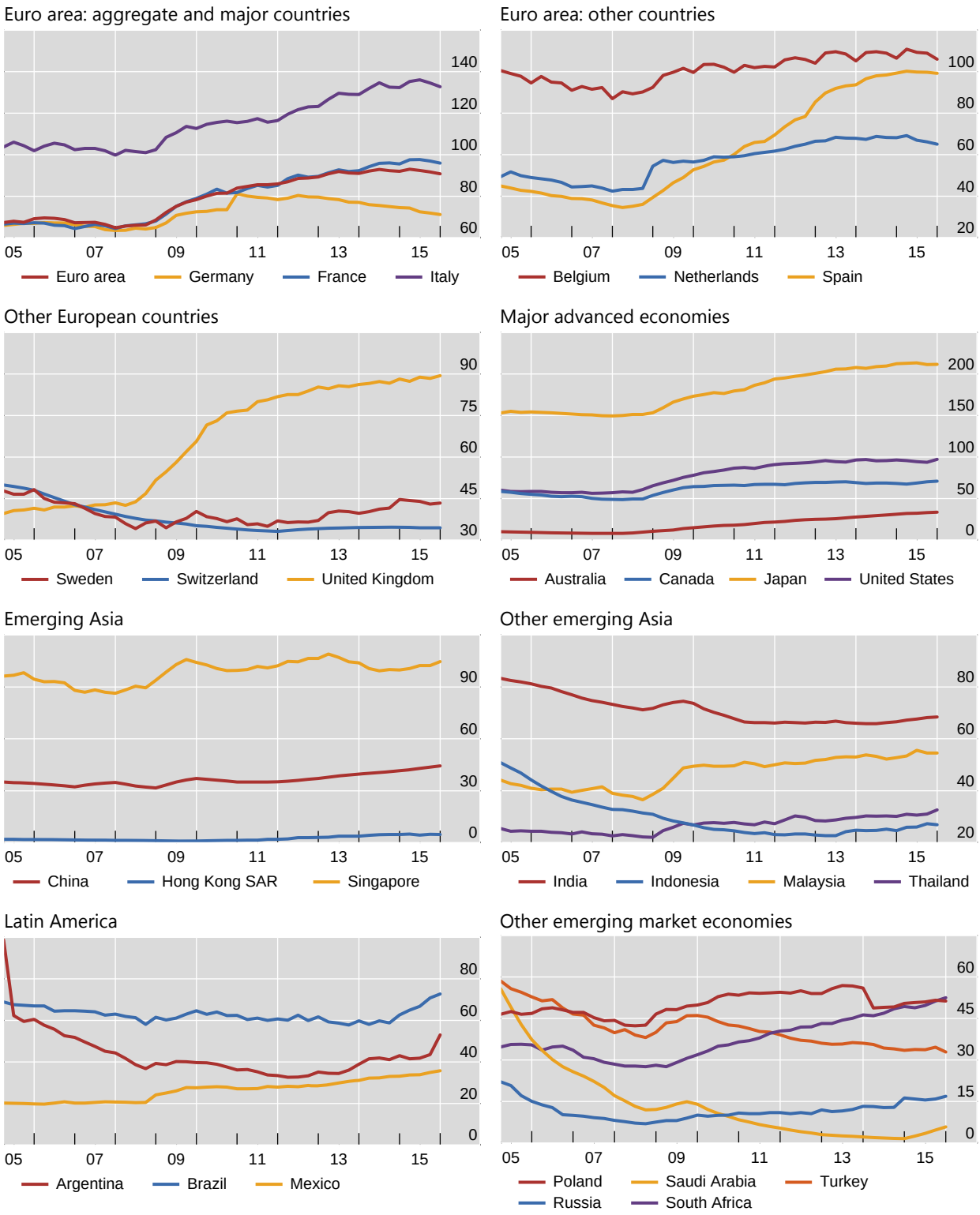


Further information on the BIS credit statistics is available at www.bis.org/statistics/totcredit.htm.

[1] Consolidated data for the general government sector.

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

As a percentage of GDP — Graph F.7



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

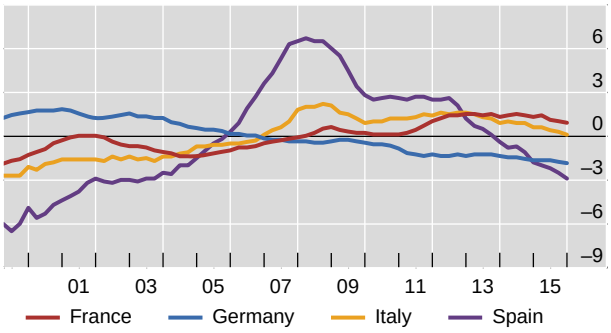
[1] Consolidated data for the general government sector; central government for Argentina, Indonesia, Malaysia, Mexico, Saudi Arabia and Thailand.

G Debt service ratios for the private non-financial sector

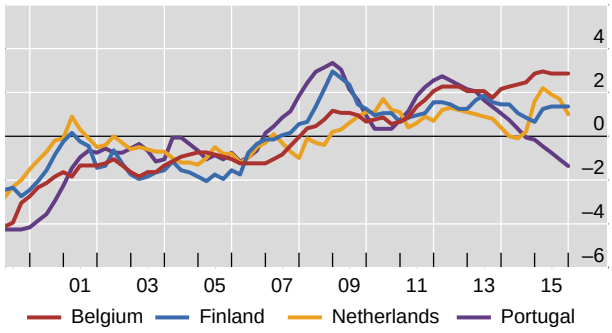
Debt service ratios of the private non-financial sector

Deviation from country-specific mean; in percentage points[1] Graph G.1

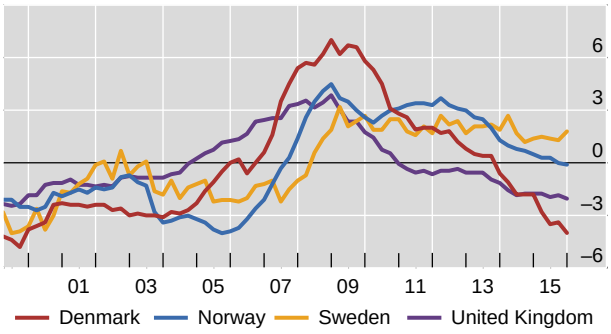
Euro area: major countries



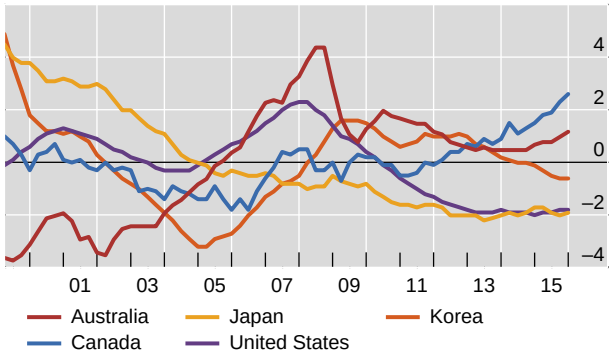
Euro area: other countries



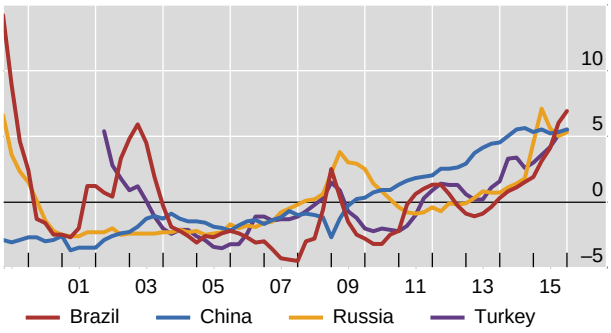
Other European countries



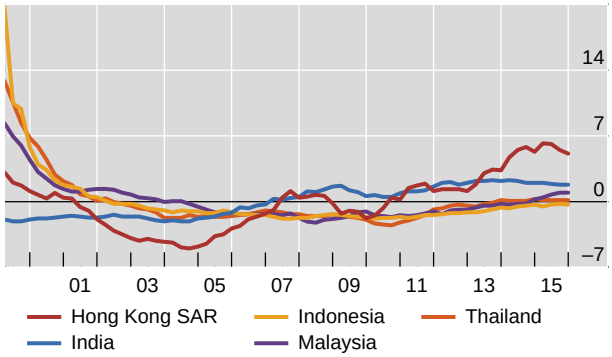
Other economies



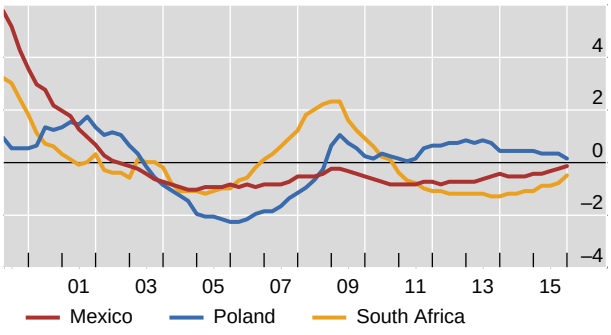
Major emerging markets[2]



Emerging Asia[2]



Other emerging markets[2]

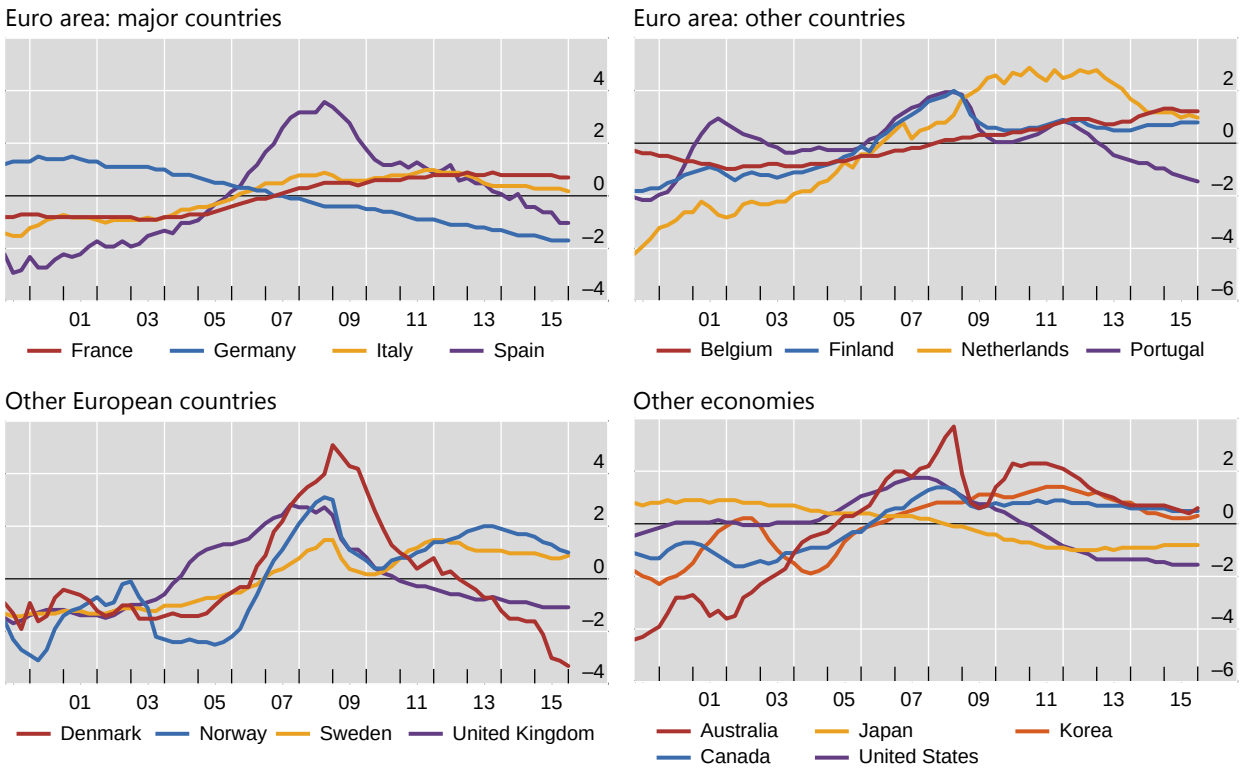


[1] Country-specific means are based on all available data from 1999 onwards. [2] Countries which are using alternative measures of income and interest rates. Further information is available under "Methodology and data for DSR calculation" at www.bis.org/statistics/dsr.htm.

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

Debt service ratios of households

Deviation from country-specific mean; in percentage points[1] Graph G.2

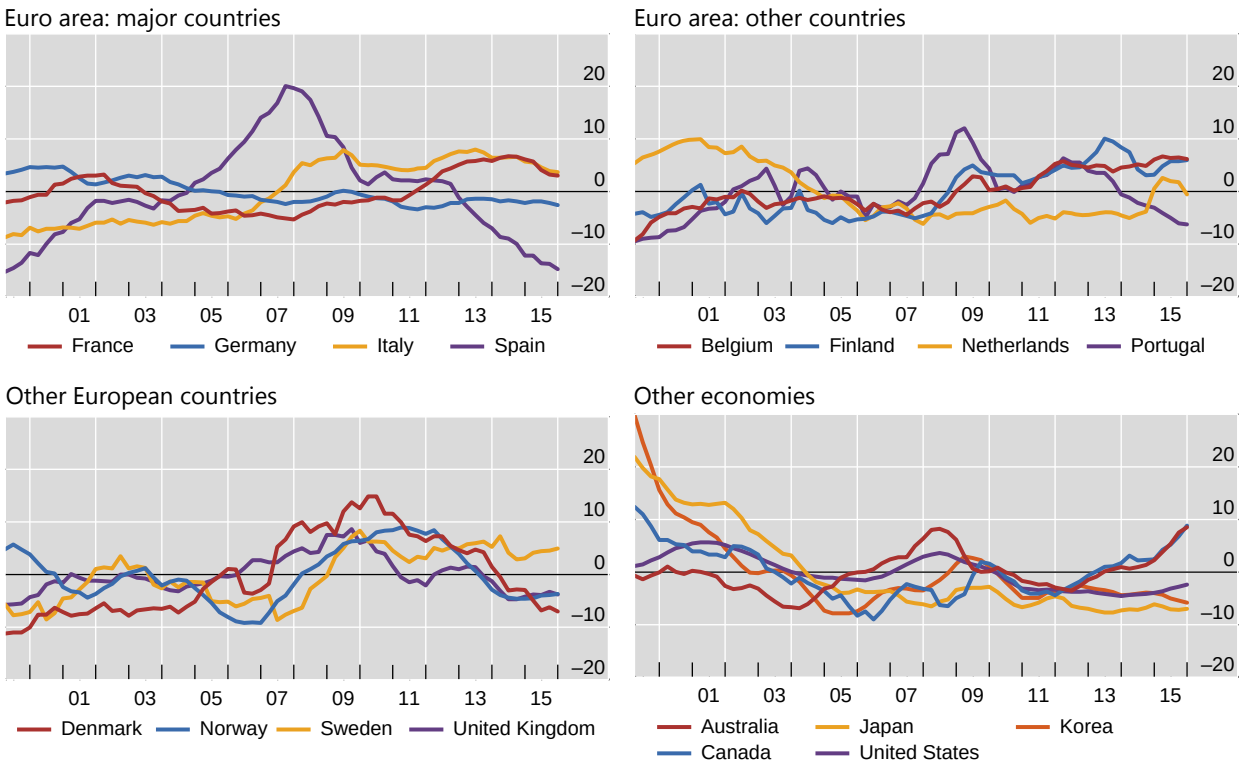


Further information on the BIS debt service ratio statistics is available at www.bis.org/statistics/dsr.htm.

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

Debt service ratios of non-financial corporations

Deviation from country-specific mean; in percentage points[1] Graph G.3



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

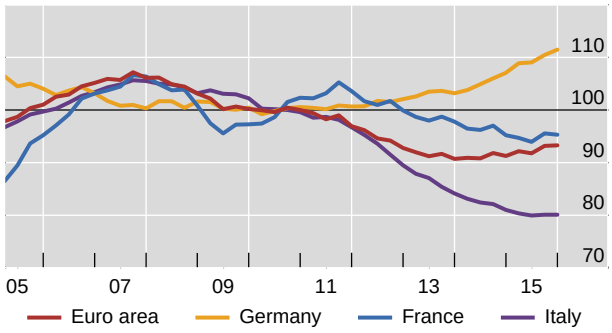
[1] Country-specific means are based on all available data from 1999 onwards.

H Property price statistics

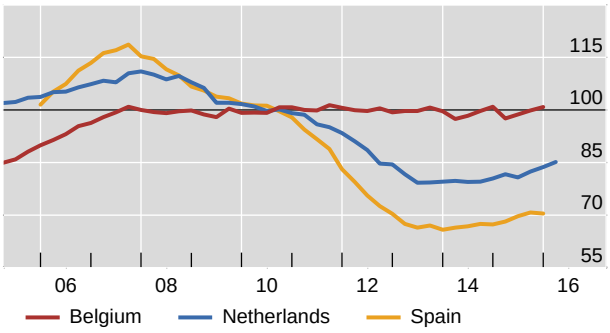
Real residential property prices

CPI-deflated; 2010 = 100 Graph H.1

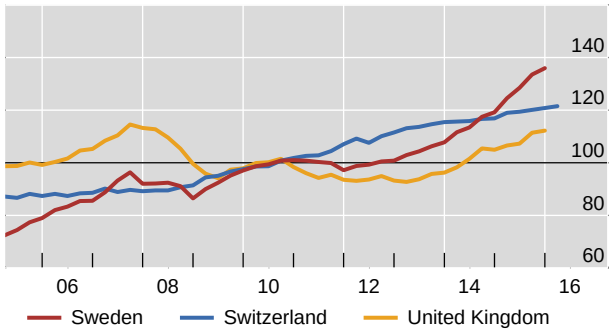
Euro area: aggregate and major countries



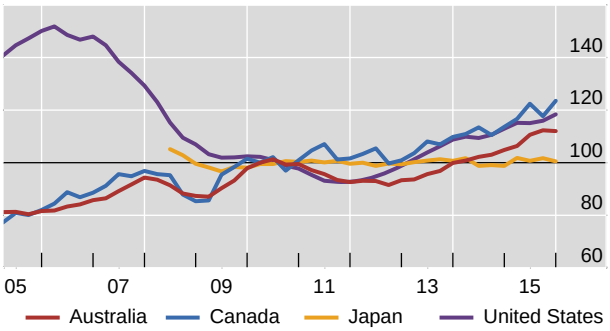
Euro area: other countries



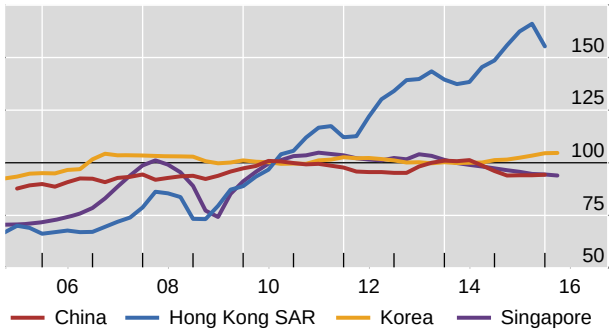
Other European countries



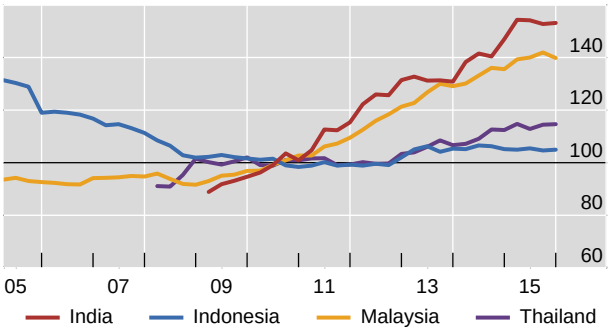
Major advanced economies



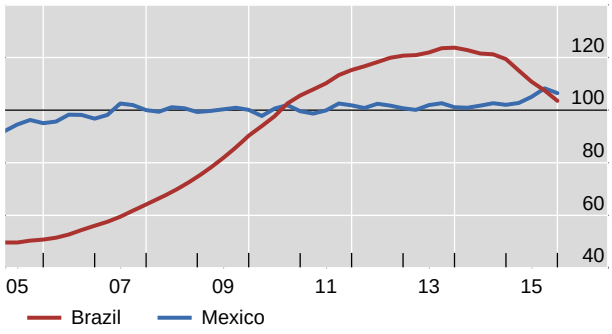
Emerging Asia



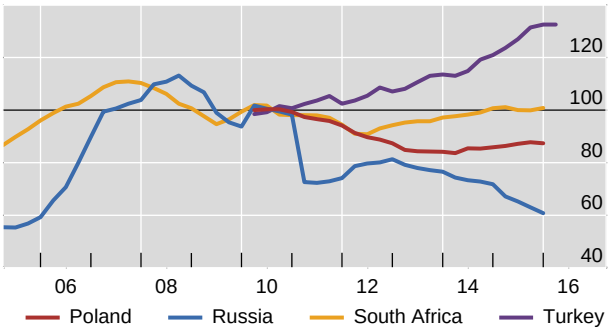
Other emerging Asia



Latin America



Other emerging market economies



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

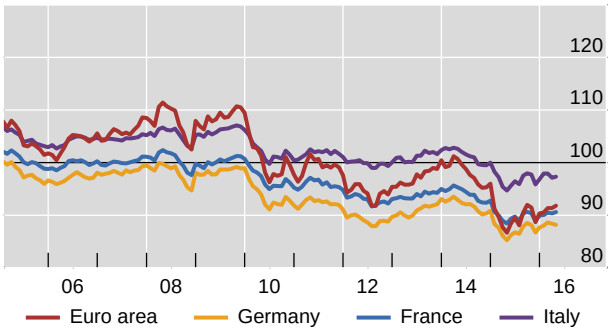
I Effective exchange rate statistics

Real effective exchange rates

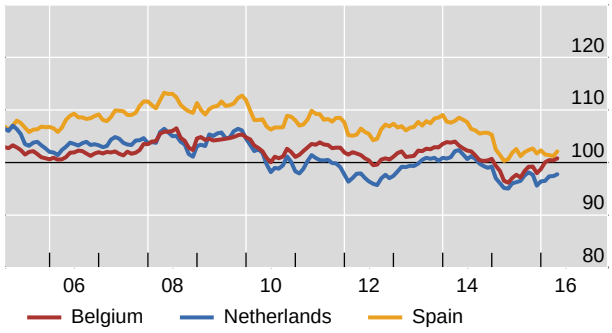
CPI-based; 1995–2005 = 100[1]

Graph I.1

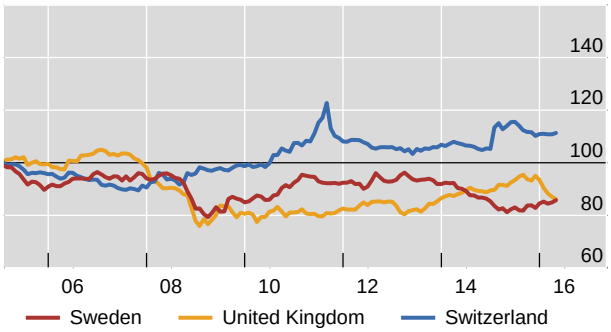
Euro area: aggregate and major countries



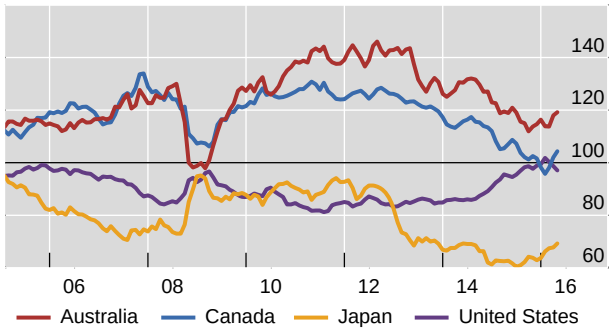
Euro area: other countries



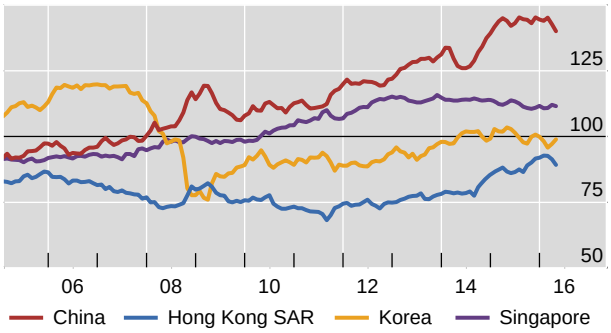
Other European countries



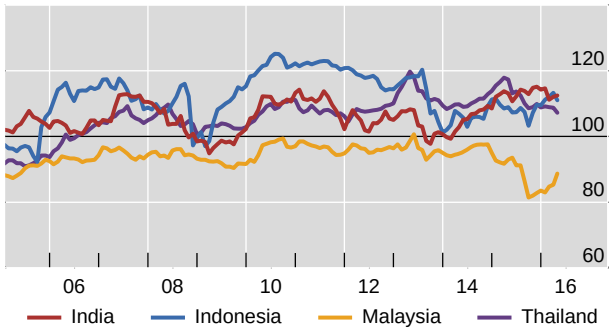
Major advanced economies



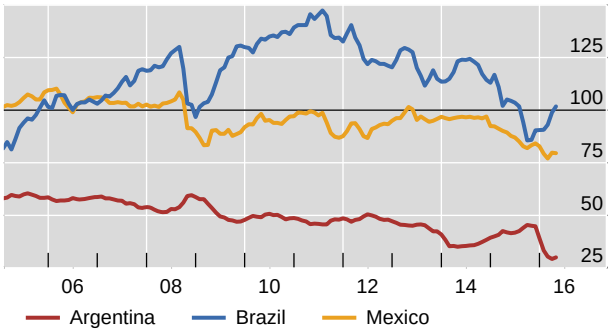
Emerging Asia



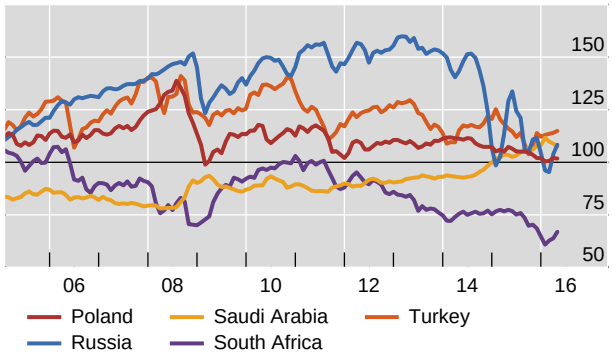
Other emerging Asia



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 an appreciation in the economy's currency in real terms against a broad basket of currencies.

Special features in the BIS Quarterly Review

March 2016	How have central banks implemented negative policy rates?	Morten Bech & Aytek 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
September 2015	Introduction to BIS statistics	
September 2015	Enhanced data to analyse international banking	Stefan Avdjiev, Patrick McGuire & Philip Wooldridge
September 2015	A new database on general government debt	Christian Dembiermont, Michela Scatigna, Robert Szemere & Bruno Tissot
September 2015	How much income is used for debt payments? A new database for debt service ratios	Mathias Drehmann, Anamaria Illes, Mikael Juselius & Marjorie Santos
September 2015	International monetary spillovers	Boris Hofmann & Előd Takáts
September 2015	The rise of regional banking in Asia and the Pacific	Eli M Remolona & Ilhyock Shim

Recent BIS publications[1]

BIS Working Papers

Has the pricing of stocks become more global?
Ivan Petzev, Andreas Schrimpf and Alexander F. Wagner
May 2016, No. 560

We show that in recent years global factor models have been catching up significantly with their local counterparts in terms of explanatory power (R2) for international stock returns. This catch-up is driven by a rise in global factor betas, not a rise in factor volatilities, suggesting that the effect is likely to be permanent. Yet, there is no conclusive evidence for a global factor model catch-up in terms of pricing errors (alpha) or a convergence in country-specific factor premia. These findings suggest that global financial markets have progressed surprisingly little towards fully integrated pricing, different from what should be expected under financial market integration. We discuss alternative explanations for these patterns and assess implications for practice.

A comparative analysis of developments in central bank balance sheet composition
Christian Pattipeilohy
April 2016, No. 559

In this paper we analyse developments in the composition of central bank balance sheets for a large set of central banks in a unified framework. Since 2007, central banks in advanced economies have experienced pronounced changes in balance sheet composition as a consequence of unconventional monetary policy measures. In addition, we document a convergence in balance sheet composition from 2007 until 2009, as the initial crisis response was fairly homogeneous across advanced economies, mostly driven by financial stability concerns. However, since 2009 design of balance sheet policies has been more diverse, reflecting diverging policy challenges across regions. By contrast, balance sheets of central banks in emerging market economies have remained broadly unchanged in terms of composition in the period under review.

Why bank capital matters for monetary policy
Leonardo Gambacorta and Hyun Song Shin
April 2016, No. 558

One aim of post-crisis monetary policy has been to ease credit conditions for borrowers by unlocking bank lending. We find that bank equity is an important determinant of both the bank's funding cost and its lending growth. In a cross-country bank-level study, we find that a 1 percentage point increase in the equity-to-total assets ratio is associated with a 4 basis point reduction in debt financing and with a 0.6 percentage point increase in annual loan growth.

How does bank capital affect the supply of mortgages? Evidence from a randomized experiment
Valentina Michelangeli and Enrico Sette
April 2016, No. 557

We study the effect of bank capital on the supply of mortgages. We fully control for endogenous matching between borrowers, loan contracts, and banks by submitting randomized mortgage applications to the major online mortgage broker in Italy. We find that

[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/).

higher bank capital is associated with a higher likelihood of application acceptance and lower offered interest rates; banks with lower capital reject applications by riskier borrowers and offer lower rates to safer ones. Finally, nonparametric estimates of the probability of acceptance and of the offered rate show that the effect of bank capital is stronger when capital is low.

Threat of entry and debt maturity: evidence from airlines
Gianpaolo Parise
April 2016 No. 556

I explore the effect of the threat posed by low-cost competitors on debt structure in the airline industry. I use the route network expansion of low-cost airlines to identify routes where the probability of future entry increases dramatically. I find that when strategic routes are threatened, incumbents significantly increase debt maturity before entry occurs. Overall, the main findings suggest that airlines respond to entry threats trading off financial flexibility for lower rollover risk. The results are consistent with models in which firms set their optimal debt structure in the presence of costly rollover failure.

The causal effect of house prices on mortgage demand and mortgage supply: evidence from Switzerland
Christoph Basten and Catherine Koch
March 2016 No. 555

We identify the causal effect of house prices on mortgage demand and supply in Switzerland by exploiting exogenous shocks to immigration and thereby to house prices. Detailed micro data on individual requests and offers allow to close down possible other channels. We find that within the same interest rate environment 1% higher house prices imply 0.52% higher mortgage amounts. The full partial correlation of 0.78% suggests also positive feedback from mortgage volumes to house prices. While we find higher house prices to increase mortgage demand, banks respond if anything with fewer offers and higher rates, especially later in the boom and for highly leveraged households.

Can a bank run be stopped? Government guarantees and the run on Continental Illinois
Mark A Carlson and Jonathan Rose
March 2016 No. 554

This paper analyses the run on Continental Illinois in 1984. We find that the run slowed but did not stop following an extraordinary government intervention, which included the guarantee of all liabilities of the bank and a commitment to provide ongoing liquidity support. Continental's outflows were driven by a broad set of US and foreign financial institutions. These were large, sophisticated creditors with holdings far in excess of the insurance limit. During the initial run, creditors with relatively liquid balance sheets nevertheless withdrew more than other creditors, likely reflecting low tolerance to hold illiquid assets. In addition, smaller and more distant creditors were more likely to withdraw. In the second and more drawn out phase of the run, institutions with relative large exposures to Continental were more likely to withdraw, reflecting a general unwillingness to have an outsized exposure to a troubled institution even in the absence of credit risk. Finally, we show that the concentration of holdings of Continental's liabilities was a key dynamic in the run and was importantly linked to Continental's systemic importance.

What drives the short-run costs of fiscal consolidation? Evidence from OECD countries
Ryan Niladri Banerjee and Fabrizio Zampolli
March 2016 No. 553

In a panel of OECD countries, we investigate the short-term effects of fiscal consolidation on output and employment, and how these vary with the state of the business cycle, monetary policy, the level of public debt, the current account, and the strength of the financial cycle. The estimation makes use of local projection methods and fiscal consolidation shocks identified through the narrative approach. Our main finding is that short-term fiscal multipliers remain for the most part below unity, even in bad states, suggesting that important offsetting factors were at play in past consolidation episodes. In particular, we do not find evidence that fiscal multipliers are above unity when the output gap is negative or monetary policy is tight. Instead, we find evidence of lower than average multipliers when the

current account is in deficit and public debt is high (although in the latter case employment costs tend to be larger). One factor found to raise the costs of fiscal consolidation is weak private credit growth. Even in this case, however, point estimates indicate that fiscal multipliers are not larger than one. Our results suggest that fiscal consolidation multipliers are not necessarily, or everywhere, larger than average in the aftermath of the global financial crisis.

Fiscal sustainability and the financial cycle
Claudio Borio, Marco Jacopo Lombardi and Fabrizio Zampolli
March 2016 No. 552

A frequently neglected aspect of financial booms and busts - financial cycles - is their impact on fiscal positions. And yet, the latest financial crisis and history show that these cycles can wreak havoc with public finances. After reviewing the impact of financial cycles on fiscal positions, we offer a new tool to estimate cyclically adjusted balances, illustrate its performance, explore its strengths and weaknesses, and sketch out a way forward to measuring sustainability in a more holistic way.

When the walk is not random: commodity prices and exchange rates
Emanuel Kohlscheen, Fernando Avalos and Andreas Schrimpf
March 2016 No. 551

We show that there is a distinct commodity-related driver of exchange rate movements, even at fairly high frequencies. Commodity prices predict exchange rate movements of 11 commodity-exporting countries in an in-sample panel setting for horizons up to two months. We also find evidence of systematic (pseudo) out-of-sample predictability, overturning the results of Meese and Rogoff (1983): information embedded in our country-specific commodity price indices clearly helps improving upon the predictive accuracy of the random walk in the majority of countries. We further show that the link between commodity prices and exchange rates is not driven by changes in global risk appetite or carry.

A new dimension to currency mismatches in the emerging markets - non-financial companies
Michael Chui, Emese Kuruc and Philip Turner
March 2016 No. 550

A new dimension to currency mismatches has been created by policies that have increased global liquidity. Lower policy rates and a huge expansion in central bank balance sheets - purchases of domestic bonds in the advanced economies and of foreign assets in the emerging market economies (EMEs) - have served to ease financing conditions facing EME companies. This has allowed these companies to increase their gearing, notably by greater foreign currency borrowing. Aggregate foreign currency mismatches of the non-government sector in the EMEs have therefore risen sharply since 2010. Microeconomic data show that it was not only companies providing tradable goods and services but also those producing non-tradable goods which have increased their foreign currency borrowing. The across-the-board decline in EME companies' profitability since mid-2014 has brought to light significant vulnerabilities that may aggravate market volatility. Weak corporate profitability is also likely to constrain business fixed investment, and therefore growth, in the near term. But the strong external asset positions of most emerging market economies will help the authorities cope with these challenges.

Monetary policy spillovers and currency networks in cross-border bank lending
Stefan Avdjiev and Előd Takáts
March 2016 No. 549

We demonstrate that currency networks in cross-border bank lending have a significant impact on the size, distribution and direction of international monetary policy spillovers. Using the recently enhanced BIS international banking statistics, which simultaneously provide information on the lender, borrower and currency composition of cross-border bank claims, we map the major currency networks in international banking. Next, we show that during the 2013 Fed taper tantrum, exposure to dollar lending was associated with safe haven flows to the United States, virtually unchanged flow dynamics vis-à-vis other advanced

economies, and strong outflows from emerging markets. Furthermore, this pattern was shaped by interbank lending rather than by lending to non-banks.

Moving in tandem: bank provisioning in emerging market economies
Andrés Murcia Pabón and Emanuel Kohlscheen
March 2016 No. 548

We study the determinants of loan loss provisions and delinquency ratios based on the balance sheets of 554 banks from emerging market economies (EMEs). We find that provisions in EME banks respond mostly to aggregate variables, and very little to idiosyncratic factors. In particular, the bank-specific credit growth rates - usually thought of as a measure of individual risk-taking - do not explain the level of loan loss provisions. There is some evidence that earnings and the size of the intermediaries have an effect on provisions. The predominant effect however is that provisions and actual losses are negatively related to past economic growth and positively related to past aggregate credit growth. We also estimate the forward and backward-looking component of provisions, finding that provisions respond mainly to past reported losses. These findings suggest that EME banks' provisioning decisions are highly correlated. Since provisions fall when output grows, macroprudential tools that counter this effect could dampen pro-cyclical behavior.

When pegging ties your hands
Nikola Tarashev and Anna Zabai
March 2016 No. 547

We show that there is a distinct commodity-related driver of exchange rate movements, even at fairly high frequencies. Commodity prices predict exchange rate movements of 11 commodity-exporting countries in an in-sample panel setting for horizons up to two months. We also find evidence of systematic (pseudo) out-of-sample predictability, overturning the results of Meese and Rogoff (1983): information embedded in our country-specific commodity price indices clearly helps improving upon the predictive accuracy of the random walk in the majority of countries. We further show that the link between commodity prices and exchange rates is not driven by changes in global risk appetite or carry.

Financial intermediation and monetary policy transmission in EMEs: What has changed post-2008 crisis?
Madhusudan Mohanty and Kumar Rishabh
March 2016 No. 546

In contrast to the benign neglect of the financial system in traditional monetary models, there has been growing evidence in recent years that the size and the structure of financial intermediation play a critical role in the transmission of monetary policy. This paper reviews the implications of three key post-2008 crisis developments in financial intermediation - the role of banks, the globalisation of debt markets and the sustained decline in global long-term interest rates - for various transmission channels of monetary policy in EMEs. The paper argues that the globalisation of debt markets means that monetary policy can no longer be conducted through the short-term interest rate alone. This raises questions about the appropriate instruments to be used for economic stabilisation in this new environment.

Basel Committee on Banking Supervision

Interest rate risk in the banking book
April 2016

The standards revise the Committee's 2004 Principles for the management and supervision of interest rate risk, which set out supervisory expectations for banks' identification, measurement, monitoring and control of IRRBB as well as its supervision. The key enhancements to the 2004 Principles include:

- More extensive guidance on the expectations for a bank's IRRBB management process in areas such as the development of interest rate shock scenarios, as well as key

behavioural and modelling assumptions to be considered by banks in their measurement of IRRBB;

- Enhanced disclosure requirements to promote greater consistency, transparency and comparability in the measurement and management of IRRBB. This includes quantitative disclosure requirements based on common interest rate shock scenarios;
- An updated standardised framework, which supervisors could mandate their banks to follow or banks could choose to adopt; and
- A stricter threshold for identifying outlier banks, which is has been reduced from 20% of a bank's total capital to 15% of a bank's Tier 1 capital.

The standards reflect changes in market and supervisory practices since the Principles were first published in 2004, which is particularly pertinent in light of the current exceptionally low interest rates in many jurisdictions. The revised standards, which were published for consultation in June 2015, are expected to be implemented by 2018.

The Basel Committee wishes to thank all those who contributed time and effort to express their views during the consultation process.

Prudential treatment of problem assets - definitions of non-performing exposures and forbearance - consultative document
April 2016

The Basel Committee on Banking Supervision has today issued for consultation Prudential treatment of problem assets - definitions of non-performing exposures and forbearance.

At present, banks categorise problem loans in a variety of ways and there are no consistent international standards for categorising problem loans. The definitions proposed by the Basel Committee aim to foster harmonisation in the measurement and application of two important measures of asset quality and thereby promote consistency in supervisory reporting and disclosures by banks.

(i) The definition of non-performing exposures introduces criteria for categorising loans and debt securities that are centred around delinquency status (90 days past due) or the unlikeliness of repayment. It also clarifies the consideration of collateral in categorising assets as non-performing. The definition also introduces clear rules regarding the upgrading of an exposure from "non-performing" to "performing" as well as for the interaction between non-performing status and forbearance.

(ii) Forbearance refers to concessions, such as a modification or refinancing of loans and debt securities, that are granted as a result of a counterparty's financial difficulty. The proposed definition sets out criteria for when a forborne exposure can cease being identified as such and emphasises the need to ensure a borrower's soundness before the discontinuation.

The proposed definitions complement the existing accounting and regulatory framework in relation to asset categorisation. They are intended to be used, for example, in the supervisory monitoring of a bank's asset quality as well as by banks in their credit risk management and as part of their internal credit categorisation systems.

The Committee welcomes comments from the public on all aspects of the proposals described in this document. Comments on the proposals should be uploaded here by Friday 15 July 2016. All comments will be published on the Bank for International Settlements website unless a respondent specifically requests confidential treatment.

Tenth progress report on adoption of the Basel regulatory framework
April 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-March 2016.

The report focuses on the status of adoption of all the 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.

Revisions to the Basel III leverage ratio framework - consultative document
April 2016

A revised version of this document was published on 25 April 2016 to address errors in select paragraphs of the proposed revisions to the framework text.

The Basel III framework introduced a simple, transparent, non-risk based leverage ratio to act as a credible supplementary measure to the risk-based capital requirements. The Basel Committee is of the view that a simple leverage ratio framework is critical and complementary to the risk-based capital framework and that a credible leverage ratio is one that ensures broad and adequate capture of both the on- and off-balance sheet sources of banks' leverage.

This document sets out the Committee's proposed revisions to the design and calibration of the Basel III leverage ratio framework. The proposed changes have been informed by the monitoring process in the parallel run period since 2013, by feedback from market participants and stakeholders and by the frequently asked questions process since the January 2014 release of the standard Basel III leverage ratio framework and disclosure requirements.

Among the areas subject to proposed revision in this consultative document are:

- measurement of derivative exposures;
- treatment of regular-way purchases and sales of financial assets;
- treatment of provisions;
- credit conversion factors for off-balance sheet items; and
- additional requirements for global systemically important banks.

The final design and calibration of the proposals will be informed by a comprehensive quantitative impact study.

The Committee welcomes comments on all aspects of this consultative document and the proposed standards text. Comments on the proposals should be uploaded here by Wednesday 6 July 2016. All comments will be published on the website of the Bank for International Settlements unless a respondent specifically requests confidential treatment.

Frequently asked questions on the Basel III leverage ratio framework
April 2016

In January 2014, the Basel Committee on Banking Supervision published the Basel III leverage ratio framework and disclosure requirements together with the public disclosure requirements applicable as of 1 January 2015. To promote consistent global implementation of those requirements, the Committee has agreed to periodically review frequently asked questions (FAQs) and publish answers along with any technical elaboration of the standards text and interpretative guidance that may be necessary.

The document published today sets out the third set of FAQs that relate to the Basel III leverage ratio framework. The questions and answers, combined with those published earlier in the first and second sets of FAQs, are grouped according to the following themes:

(i) on-balance sheet exposures;

(ii) derivative exposures;

(iii) specific treatment for written credit derivatives;

(iv) securities financing transaction (SFT) exposures;

(v) cross-product netting agreements for derivative exposures and SFTs;

(vi) treatment of long settlement transactions and failed trades;

(vii) off-balance sheet items; and

(viii) scope of consolidation and disclosure

Regulatory consistency assessment programme (RCAP) - Analysis of risk-weighted assets for credit risk in the banking book
April 2016

This report is the second by the Basel Committee to analyse variation in risk-weighted assets (RWA) in banks using internal ratings-based models to calculate credit risk capital requirements. The study evaluates two types of risk estimates. First, it considers those risk estimates used for exposures to retail customers and small and medium-sized enterprises. Second, it explores the way banks evaluate the likely exposure at default across all asset classes.

This report is part of the Committee's wider Regulatory Consistency Assessment Programme (RCAP), which is intended to ensure consistent implementation of the Basel III framework. Its analysis of regulatory outcomes complements other reports by the Committee on variation in RWA for market risk and counterparty credit risk, as well as an earlier report on RWA variation for credit risk published in July 2013.

During this study, the Committee observed different practices in the way that banks ensure independent evaluation of credit risk models used to calculate capital requirements. The report describes sound practices observed in banks' independent model validation functions, including the governance of the validation process, the methodology and scope of banks' validation functions and the role of the validation function across different phases of model development and implementation.

Reducing variation in credit risk-weighted assets - constraints on the use of internal model approaches - consultative document
March 2016

The consultative document Reducing variation in credit risk-weighted assets - constraints on the use of internal model approaches・ sets out the Committee's proposed changes to the advanced internal ratings-based approach and the foundation internal ratings-based approach.

The proposed changes include a number of complementary measures that aim to: (i) reduce the complexity of the regulatory framework and improve comparability; and (ii) address excessive variability in the capital requirements for credit risk. Specifically, the Basel Committee proposes to:

- remove the option to use the IRB approaches for certain exposures, where it is judged that the model parameters cannot be estimated sufficiently reliably for regulatory capital purposes;
- adopt exposure-level, model-parameter floors to ensure a minimum level of conservatism for portfolios where the IRB approaches remain available; and
- provide greater specification of parameter estimation practices to reduce variability in risk-weighted assets (RWA) for portfolios where the IRB approaches remain available.

The Committee has previously consulted on the design of aggregate capital floors based on standardised approaches and is still considering the design and calibration. This would complement the proposed constraints discussed in this consultation paper.

The final design and calibration of the proposals will be informed by a comprehensive quantitative impact study and by the Committee's aim to not significantly increase overall capital requirements.

The Committee welcomes comments from the public on all aspects of the proposals described in this document here by Friday 24 June 2016. All comments will be published on the Bank for International Settlements website unless a respondent specifically requests confidential treatment.

Basel III Regulatory Consistency Assessment Programme (RCAP) - Handbook for jurisdictional assessments
March 2016

Basel Committee's Regulatory Consistency Assessment Programme: Jurisdictional Assessments

Implementation of the Basel III framework is a key global regulatory reform priority. Full and consistent implementation within the internationally agreed timeframe is aimed at strengthening the resilience of the banking system, improving market confidence in regulatory ratios and promoting a level playing field.

To facilitate the implementation process, the Basel Committee adopted in 2012 a comprehensive Regulatory Consistency Assessment Program (RCAP). The RCAP consists of two distinct but complementary work streams to monitor the timely adoption of Basel III standards, and to assess the consistency and completeness of the adopted standards including the significance of any deviations in the regulatory framework. It also facilitates an effective dialogue among Basel Committee members and informs its broader standards-development work.

The assessment work is carried out on a jurisdictional as well as on a thematic basis. Currently, the focus of the RCAP is on risk-based capital standards, Liquidity Coverage Ratio (LCR) and Systemically Important Banks' (SIBs) framework. This will further expand from 2017 to cover Basel III standards on Net Stable Funding Ratio (NSFR) and Leverage Ratio.

Based on the experience with the RCAP to date, the Basel Committee has updated the procedures and process for conducting jurisdictional assessments under the RCAP in one document, the Handbook for Jurisdictional Assessments (the Handbook). The Handbook describes the complete assessment programme and also introduces the RCAP questionnaires, which member jurisdictions complete ahead of the assessment and update it regularly. Both the Handbook and the RCAP questionnaires will help all regulators, supervisors and financial stability authorities to evaluate their own progress with implementation of Basel III framework and identify areas for improvement. These documents will be kept under review and updated as the scope of the RCAP expands to include other aspects of the Basel III framework.

Regulatory Consistency Assessment Programme (RCAP) - Assessment of Basel III risk-based capital regulations - Turkey
March 2016

The Turkish risk-based capital framework came into force in 2006 (Annex 2). The prudential framework applies to all credit institutions, including commercial banking institutions and state-owned institutions. Over time, the framework has been periodically updated to include Basel 2.5 and Basel III standards and was further amended in August 2015 and January 2016.

In early 2015, in preparation for the RCAP assessment, the BRSA made a comprehensive self-assessment of the consistency of its domestic regulations with the Basel standard. Based on this self-assessment, the BRSA issued a set of amendments in August 2015 to align its domestic regulations. In September 2015, the BRSA submitted the updated self-assessment and amended regulations to the Assessment Team for review. The RCAP Assessment Team identified a number of additional variations from the Basel framework, which the BRSA subsequently resolved to rectify. The amendments were passed in January 2016, in coordination with the Central Bank of Turkey (CBRT) and the Turkish Ministry of Development.

Based on the amended regulations issued in August and January 2016, the Assessment Team assessed Turkey as compliant with the Basel risk-based capital standards. Also, all underlying components of the risk-based capital framework are assessed as compliant. The regulatory reforms undertaken by the BRSA throughout 2015 and early 2016 have significantly strengthened the Turkish prudential framework and substantially improved its level of compliance with the Basel minimum standards. In the absence of these reforms, the RCAP assessment would have generated a less positive result.

The Assessment Team compliments the BRSA for its efforts to align the domestic prudential regulations with the Basel capital framework. The implementation work on many reforms, however, has only just begun. Whereas the RCAP assessment focused on the consistency and completeness of prudential regulations, the intended prudential outcomes in Turkey will critically depend on how effectively the regulations are put into practice, monitored, and supervised. In this regard, the Internal Ratings-Based (IRB) approach for credit risk, has, at this point, either minimal or no current participation by Turkish banks. Whilst the RCAP team is confident that Turkish rules in these areas comply with the Basel framework, these regulations have yet to be applied in practice to a Turkish bank. In addition, some elements in the BRSA's toolbox, notably the Pillar 2 framework, are still in early stages of implementation and their effectiveness will require the BRSA and the banks to gain further experience with these tools. The Assessment Team further recommends keeping under review the regulatory framework for securitisations, of which the IRB approach has not been implemented yet (Annex 12). The team also identified a few items that would benefit from further clarification by the Basel Committee (Annex 11).

Regulatory Consistency Assessment Programme (RCAP) - Assessment of Basel III LCR regulations -Turkey
March 2016

The Turkish framework for LCR requirements was issued in March 2014 through the publication of the Regulation on Calculation of the Liquidity Coverage Ratio of Banks and a set of supplementary Guidelines (see Annex 2). The requirements were amended and updated in August 2015 and in January 2016. The LCR applies to all commercial banking institutions and state-owned institutions in Turkey.

In September 2015, the BRSA submitted an extensive self-assessment of the domestic LCR rules. Based on the self-assessment, the RCAP Assessment Team identified a number of variations in the LCR rules from the Basel framework. The BRSA used the RCAP findings to amend the rule to the extent feasible and consistent with Turkish national interests. This resulted in a further strengthening of the Turkish liquidity regime.

Overall, as on 20 January 2016, the cut-off date of the assessment, the final LCR regulations in Turkey are assessed as compliant with the minimum Basel LCR standard. All graded components of the LCR framework, including the high-quality liquid assets, the liquidity inflows and outflows and disclosure requirements, are assessed as compliant. The amendments issued by the BRSA in January 2016 improved the level of compliance with the Basel minimum standards.

The Assessment Team compliments the BRSA for their implementation of and alignment with the Basel LCR framework. The BRSA and Turkish banks now face the challenge of implementing the LCR standard in practice (see Annex 7 for the key liquidity indicators of the Turkish banking system). The BRSA has developed and implemented the necessary reporting templates and systems. However, the achievement of the intended prudential outcomes and effective implementation, monitoring and supervision of these requirements was not in the scope of the assessment.

In addition to the formal assessment of the LCR standard and disclosure requirements, this report contains annexes that summarise the BRSA's implementation of the LCR monitoring tools and the Basel Principles for sound liquidity risk management (see Annexes 9 and 10). Further, a summary is provided of the key national discretions and approaches that the BRSA has adopted in its implementation of the LCR standard (Annex 14). These annexes help to clarify how national authorities implement certain aspects of the Basel standards that are not in scope of the formal RCAP-LCR assessment at this point of time. Over time, the information

detailed in these annexes will provide a basis for designing best practice and additional supervisory guidance that will benefit the regulatory community and the banking industry to raise consistency of the implementation of the LCR and to improve its effectiveness in practice.

Regulatory Consistency Assessment Programme (RCAP) - Assessment of Basel III risk-based capital regulations - Russia
March 2016

The Russian framework for risk-based capital requirements is implemented through various regulatory documents, including Regulations, Ordinances and Instructions (Annex 2). The prudential framework applies to all credit institutions, including commercial banking institutions and state-owned institutions. The framework has since been periodically updated to include Basel 2.5 and Basel III standards and was further amended in December 2015.

In July 2015, the CBR completed an extensive self-assessment of the capital regime as part of their preparation for the RCAP exercise. This self-assessment identified several material elements where the Russian framework was inconsistent with the Basel requirements. The RCAP Assessment Team identified additional variations from the Basel framework, which the Russian authorities resolved to rectify. The CBR used the discipline of the RCAP exercise to undertake reform and upgrade their prudential capital framework – to the extent feasible and consistent with Russian national interests.

As of the cut-off date for the RCAP assessment, and based on the amended risk-based capital requirements issued in December 2015, Russia is considered compliant with the minimum Basel capital standards. All components of the Basel framework were assessed as being compliant. The Russian capital framework benefited from a number of amendments during the course of the RCAP assessment, most of which became effective in January 2016 (see Annex 5). The additional regulatory initiatives undertaken by the CBR significantly improved the level of compliance with the Basel minimum standards. In the absence of these reforms, the RCAP assessment would have generated a considerably less positive result.

Several elements of the Basel capital framework, notably the Internal Ratings-Based (IRB) Approach for credit risk, at this point have little or no current participation by Russian banks. The RCAP team is confident that Russian rules in these areas comply with the Basel framework, but notes that these regulations have yet to be applied in substantial practice to a Russian bank.

The Russian capital framework, while upgraded and compliant with the Basel capital framework, faces several challenges. Given the nature of some of the recent amendments, effective and ongoing implementation will continue to pose a material challenge for both the CBR and the Russian banking industry. Although the RCAP exercise focused mainly on the consistency and completeness of prudential regulations, the intended prudential outcomes in Russia will critically depend on how the regulations are effectively put into practice, monitored and supervised.

The Assessment Team compliments the CBR for its substantial reforms and alignment with the Basel capital framework. However, the implementation work on many reforms has only just begun. Several important elements in the CBR's toolbox, notably the Pillar 2 capital framework, are still in early stages of implementation and their effectiveness will require the CBR and the banks to build up further experience with these elements. Further, the Assessment Team recommends keeping under review the Russian securitisation framework, of which the internal ratings-based approach has not been implemented yet (Annex 12). The team also identified a few items that would benefit from further clarification by the Basel Committee (Annex 11).

Regulatory Consistency Assessment Programme (RCAP) - Assessment of Basel III risk-based capital regulations - Russia
March 2016

In May 2014 the Central Bank of Russia (CBR) issued the reporting requirement of the Liquidity Coverage Ratio (LCR) on a solo basis through the publication of Regulation no 421-P "On the Calculation of the Liquidity Coverage Ratio (Basel III)" (see Annex 3). This regulation

was amended and updated in December 2015. Additionally, Regulation no 510-P "On the Calculation of the Liquidity Coverage Ratio ("Basel III") by Systemically Important Credit Institutions" was published in December 2015, which sets out the minimum LCR requirements on a consolidated basis. This regulation includes references to the calculation methodologies specified in Regulation no 421-P. The accompanying reporting and disclosure requirements were issued in May 2014 and December 2015. All internationally active systemically important banks, determined in accordance with Ordinance no 3737-U "On the Methodology of Defining Systematically Important Credit Institutions" are subject to the LCR prudential requirements.

In May 2015 the CBR completed an extensive self-assessment of their LCR rules as part of their preparation for the RCAP exercise against the Regulation no 421-P. Based on the self-assessment and the published draft rules, the RCAP Assessment Team identified a number of material variations in the LCR rules from the Basel framework. The CBR used the RCAP findings to amend the rule to the extent feasible and consistent with Russian national interests. This resulted in a significant strengthening of the Russian liquidity regime.

Overall, as on the cut-off date for the RCAP assessment, the final LCR regulations in Russia are assessed as compliant with the minimum Basel LCR standard. All graded components of the LCR framework, including the high-quality liquid assets, the liquidity inflows and outflows and disclosure requirements, are assessed as compliant. The amendments made by the CBR and issued in December 2015 considerably improved the level of compliance with the Basel minimum standards. In the absence of these reforms, the RCAP assessment would have generated a considerably less positive result.

A notable feature of the CBR's LCR implementation is the adoption of alternative liquidity approaches (ALA). In particular, the CBR created a committed liquidity facility (CLF) to ensure that sufficient liquid assets are available for Russian banks to comply with the minimum LCR requirements. The CBR also allows banks to use additional foreign currency HQLA to cover domestic liquidity needs. While the team considered the regulations implementing the ALA options to be in line with the Basel standard, the Assessment Team did not undertake a formal assessment or form a view on Russia's eligibility for adopting the ALA approach. As the use of ALA is permissible only in the case of a structural HQLA shortage, the eligibility of Russian banks to use ALA will be part of a separate peer review process by the Basel Committee (see Annex 15).

Pillar 3 disclosure requirements - consolidated and enhanced framework - consultative document
March 2016

Pillar 3 of the Basel framework seeks to promote market discipline through regulatory disclosure requirements. The proposed enhancements issued in this consultative document build on revisions to the Pillar 3 disclosure requirements that the Committee finalised in January 2015. Taken together, they form the consolidated and enhanced Pillar 3 framework. The proposals in this consultative document include:

- the addition of a "dashboard" of key metrics,
- disclosure of hypothetical risk-weighted assets calculated based on the Basel framework's standardised approaches, and
- enhanced granularity for disclosure of prudent valuation adjustments.

The proposals also incorporate additions to the Pillar 3 framework to reflect ongoing reforms to the regulatory framework. These include, disclosure requirements for:

- the total loss-absorbing capacity (TLAC) regime for global systemically important banks,
- the proposed operational risk framework, and
- the final standard for market risk.

The Committee welcomes comments from both Pillar 3 users and preparers on the proposals described in this consultative document here by Friday 10 June 2016. All comments will be

published on the website of the Bank for International Settlements unless a respondent specifically requests confidential treatment.

Literature review on integration of regulatory capital and liquidity instruments
BCBS Working Papers No 30
March 2016

This working paper aims at reviewing the literature's assessment of recent reforms. It consists of "three essays" on capital, on liquidity and its interaction with capital and on other supervisory requirements. Although there are many studies on the effects of capital requirements, there are relatively few on the effects of liquidity requirements and other supervisory tools. In part, this is because capital requirements have been in place for a considerable time and over more than one business cycle, while liquidity requirements and other supervisory tools, such as buffers, macroprudential policies and stress tests, have only been implemented since the recent financial crisis.

The essay on capital reviews a large number of papers that assess the impact of higher capital requirements in terms of the costs and benefits to economic activity and welfare. The essay on liquidity and its interaction with capital identifies a number of potential channels through which liquidity requirements can affect bank behaviour, balance sheets and profitability. Finally, the essay on other supervisory requirements discusses (1) whether measures other than capital and liquidity requirements adequately complement these regulations in making the banking system more resilient; and (2) whether simpler regulatory rules may be more robust to extreme stress events than the ones in place and whether stress testing can enhance robustness.

Standardised Measurement Approach for operational risk - consultative document
March 2016

In October 2014, the Committee proposed revisions to the standardised approaches for calculating operational risk capital. This updated consultative document proposes further revisions to the framework, which emerged from the Committee's broad review of the capital framework.

The Committee's review of banks' operational risk modelling practices and capital outcomes revealed that the Advanced Measurement Approach's (AMA) inherent complexity, and the lack of comparability arising from a wide range of internal modelling practices, have exacerbated variability in risk-weighted asset calculations, and eroded confidence in risk-weighted capital ratios. The Committee is therefore proposing to remove the AMA from the regulatory framework.

The revised operational risk capital framework will be based on a single non-model-based method for the estimation of operational risk capital, which is termed the Standardised Measurement Approach (SMA). The SMA builds on the simplicity and comparability of a standardised approach, and embodies the risk sensitivity of an advanced approach. The combination, in a standardised way, of financial statement information and banks' internal loss experience promotes consistency and comparability in operational risk capital measurement.

The Committee welcomes comments on all aspects of this consultative document and the proposed standards text. Comments on the proposals should be uploaded here by Friday 3 June 2016. All comments will be published on the website of the Bank for International Settlements unless a respondent specifically requests confidential treatment.

Basel III Monitoring Report March 2016
March 2016

This report presents 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 230 banks, comprising 101 large internationally active

banks ("Group 1 banks", defined as internationally active banks that have Tier 1 capital of more than €3 billion) and 129 "Group 2 banks" (ie representative of all other banks).

On a fully phased-in basis, data as of 30 June 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 31 December 2014 and 30 June 2015, Group 1 banks continued to reduce their capital shortfalls relative to the higher Tier 1 and total capital target levels; the additional Tier 1 (AT1) capital shortfall has decreased from €6.5 billion to €3.4 billion and the Tier 2 capital shortfall from €40.6 billion to €12.8 billion. Most of this Tier 2 capital shortfall is attributable to the G-SIBs in the sample, while the AT1 capital shortfall is fully attributable to the non-G-SIB Group 1 banks. 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 30 June 2015 was €307.2 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 has narrowed from €1.5 billion to €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, increases 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 123.6% on 31 December 2015, slightly down from 125.3% six months earlier. For Group 2 banks, the weighted average LCR was 140.1%, down from 144.3% six months earlier. Of the 160 banks in the LCR sample, 84% reported an LCR that met or exceeded 100%, while all banks 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 111.9%, while for Group 2 banks the average NSFR was 114.0%. As of June 2015, 79% of the Group 1 banks and 83% of the Group 2 banks in the NSFR sample reported a ratio that met or exceeded 100%, while 92% of the Group 1 banks and 94% 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 30 June 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.

Committee on Payments and Market Infrastructures

Payment aspects of financial inclusion
April 2016

The Committee on Payments and Market Infrastructures and the World Bank Group have issued the final report on Payment aspects of financial inclusion. This builds on an earlier version of the report that underwent public consultation in late 2015 and seeks to tackle barriers to the adoption and usage of transaction accounts, which sit at the heart of retail payment services.

In addition to outlining guiding principles to help countries advance financial inclusion, the report suggests possible key actions, including providing basic accounts at little or no cost, stepping up efforts to increase financial literacy, and leveraging large-volume payment programmes, such as government payments, by adopting electronic payment services. Financial inclusion efforts are beneficial not only for those who will become financially included, but also for the national payments infrastructure and, ultimately, the economy.

Speeches

Financial regulation: cementing the gains of post-crisis reforms

Speech by Mr Jaime Caruana, General Manager of the BIS, at the CI Meeting of Central Bank Governors of the Centre for Latin American Monetary Studies (CEMLA), Lisbon, 10 May 2016.

Abstract

It is time to cement the gains of the post-crisis regulatory reform. The immediate task is to complete the regulatory agenda. The overall calibration of capital regulation will need to recognise the fundamental importance of equity capital for financial intermediation. Regulatory risk weights will need to be rid of excess variability while maintaining risk sensitivity. In performing this task and in looking forward, policymakers should adopt a holistic view that takes account of the constant evolution of the financial system and the morphing of attendant risks. Such a view also demands that proactive supervision play a more prominent role, complementing regulation and corporate governance, in order to sustain the gains of the post-crisis reforms in the long run.

More pluralism, more stability?

Presentation by Mr Claudio Borio, Head of the Monetary and Economic Department of the BIS, at the Seventh high-level SNB-IMF conference on the international monetary system, Zurich, 10 May 2016.

Abstract

Would a more pluralistic international monetary system - one with more international currencies on a more equal footing - enhance global monetary, financial and macroeconomic stability? There is no doubt that the dominance of one currency creates challenges for the international monetary and financial system (IMFS), since the domestic interests of the issuing country need not coincide with those of the system as a whole. But it is less clear whether a more pluralist approach could help address the system's main weakness or "excess (financial) elasticity" - that is, its inability to prevent the build-up and unwinding of hugely damaging financial imbalances, or outsize financial cycles, thereby amplifying weaknesses in national arrangements. Addressing this weakness would require stronger anchors at national and international level. Some progress has been made, especially at national level, but much more needs to be done.

Market liquidity and bank capital

Speech by Mr Hyun Song Shin, Economic Adviser and Head of Research of the BIS, at the "Perspectives 2016: Liquidity Policy and Practice" conference, AQR Asset Management Institute, London Business School, 27 April 2016.

Market liquidity and its connection with dealer funding liquidity was at the centre of the policy discussions in the aftermath of the global financial crisis, and is back on the policy agenda on the back of perceptions that market liquidity has been impaired due to the diminished risk-taking capacity of dealer banks. The lesson from the global financial crisis was that resilient market liquidity differs from fickle, fair weather liquidity. Financial markets will always be subject to shocks, but more resilient market liquidity built on broader foundations of dealer capital will mitigate the endogenous, second-round effects that amplify financial shocks.

A possible way out from the "New Normal": Rebalancing fiscal-monetary policies by picking "Low-Hanging Fruits" to engineer more confidence

Remarks by Mr Luiz Awazu Pereira da Silva, Deputy General Manager of the BIS, at the Eurofi High Level Seminar 2016, Amsterdam, 20-22 April 2016.

There is a broad agreement that monetary policy (MP) is not sufficient to fundamentally change growth prospects under the "New Normal" in most advanced economies (AEs). Conversely there is a heated debate as to whether unconventional monetary policy (UMP) is

still effective using Negative Interest Rate Policy (NIRP), especially in Europe and Japan. Moreover, without fully endorsing any of the explanations, many economists are wondering: why has the response to policies been so muted? Is it because of "debt deleveraging"? Or is it because of a fundamental shift such as the "secular stagnation" hypothesis? The answer is not easy, but perhaps one can try to propose an explanation and a possible alternative policy framework.

In these personal remarks, I will discuss one such possible alternative, a "way out" with all due respect to all. My main assumption is that the process of triggering the real sector "animal spirits" or "confidence" has been much more complex than we thought it would be. On the one hand, price incentives might not be enough to fully restore credit multipliers and might have created distortions. Hence, going further into NIRP with unknown results might produce more uncertainty that could itself undermine policy effectiveness. But on the other hand, "productivity-enhancing" stimulus directed to the real sector is needed in conjunction with structural reforms. The issue is how to achieve that with a rebalancing of policies that removes the excessive burden placed on MP. This rebalancing should be pro-growth without creating complacency and "free-riding".

So, here I will try to: (i) explain the muted response to policy, looking at the uncertainty and market scepticism, including doubts about NIRP; (ii) acknowledge that, despite the analytical reasons that might justify continuing UMP, there are also risks to financial stability that call for complementary policies; and hence (iii) propose a possible gradual "way out" with a rebalancing of our fiscal-monetary policy mix. My hope is that more confidence could be engineered and market expectations re-anchored if we use a pragmatic and more balanced policy framework.

Bank capital and monetary policy transmission

Panel remarks by Mr Hyun Song Shin, Economic Adviser and Head of Research of the BIS, at The ECB and its Watchers XVII conference, Frankfurt, 7 April 2016.

Standard macroeconomic models make little explicit mention of banks. While this is an acceptable simplification normally, it may neglect important details in the current economic environment, especially with respect to negative interest rates. How banks manage their balance sheets has implications for monetary policy as well as for financial stability. Recent BIS research supports the notion that soundly capitalised banks enjoy lower funding costs and lend more. But a sample of 90 euro area banks reveals that retained earnings, a key source of bank capital, would have been 75% higher had profits been ploughed back into the banks. Negative interest rates may weaken bank profitability, given that deposit rates rarely follow policy rates below zero. Thus, bank funding costs may not fall much, if at all, below zero. The usual relationship that lower interest rates engender more lending may break down when market rates turn negative. A better understanding of banks' funding methods - which vary greatly worldwide - is therefore important when assessing the likely macroeconomic outcomes of monetary policy initiatives.