

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).

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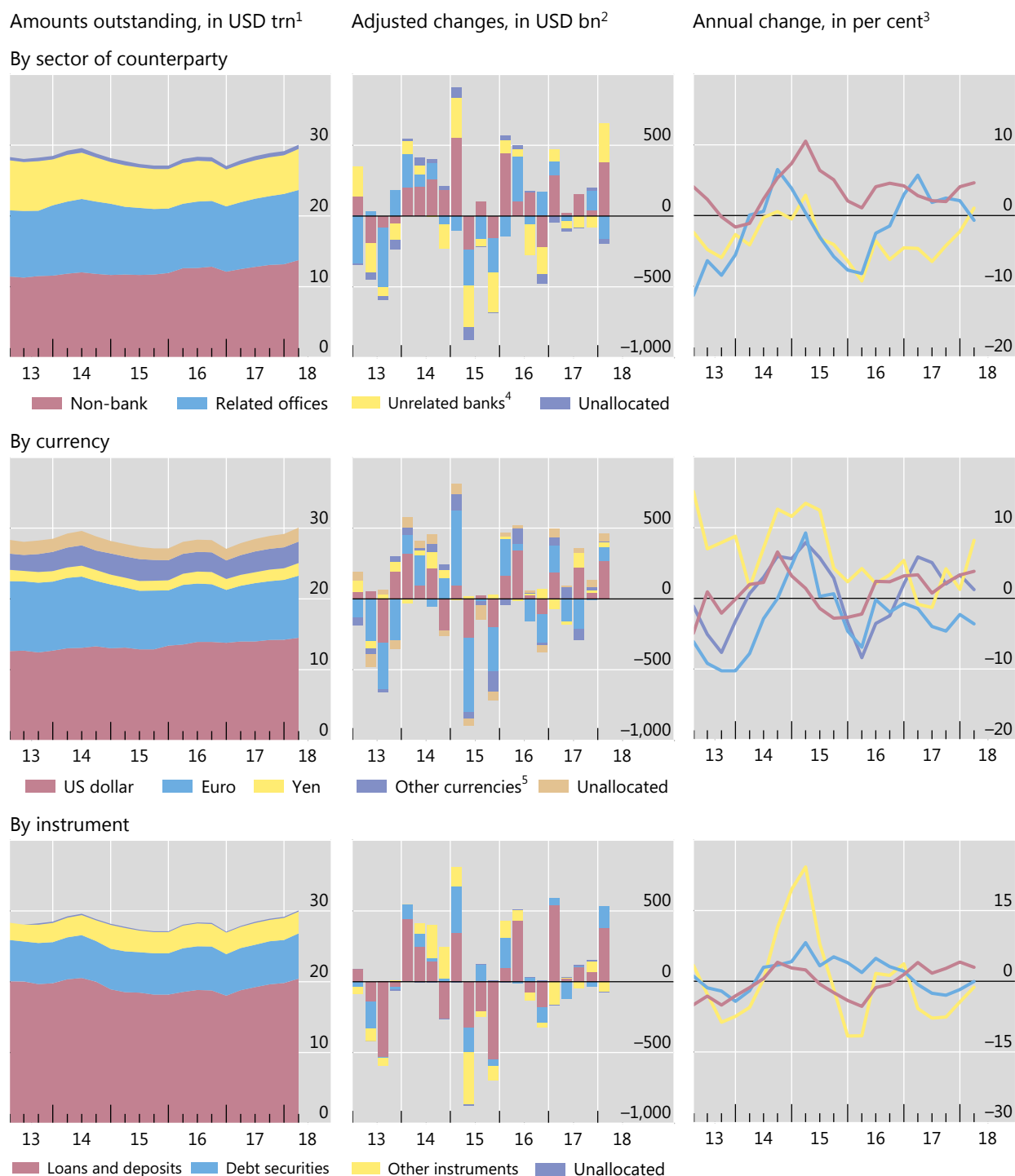
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A Locational banking statistics

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 US dollar, euro, yen and unallocated currencies. The currency is known but reporting is incomplete.

Source: BIS locational banking statistics.

Cross-border claims, by borrowing region

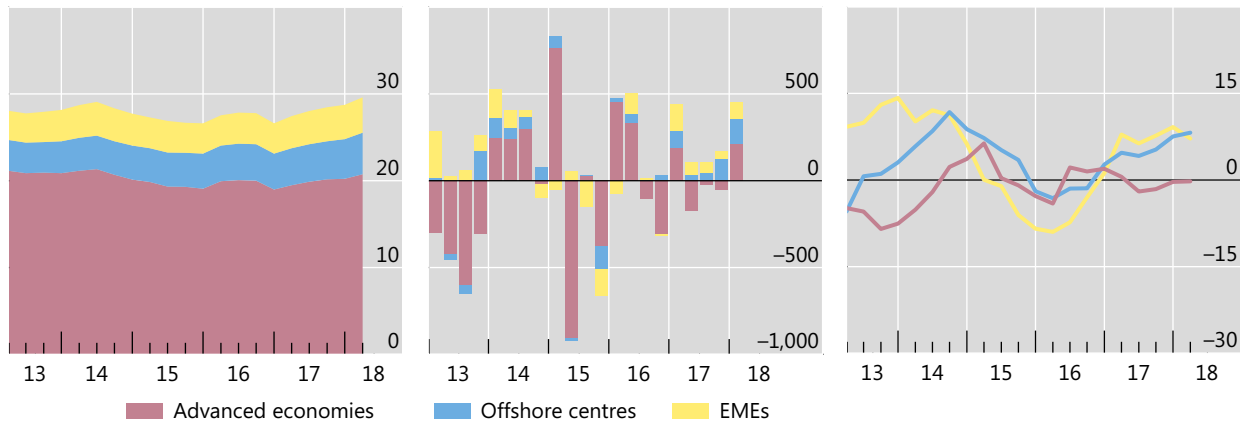
Graph A.2

Amounts outstanding, in USD trn¹

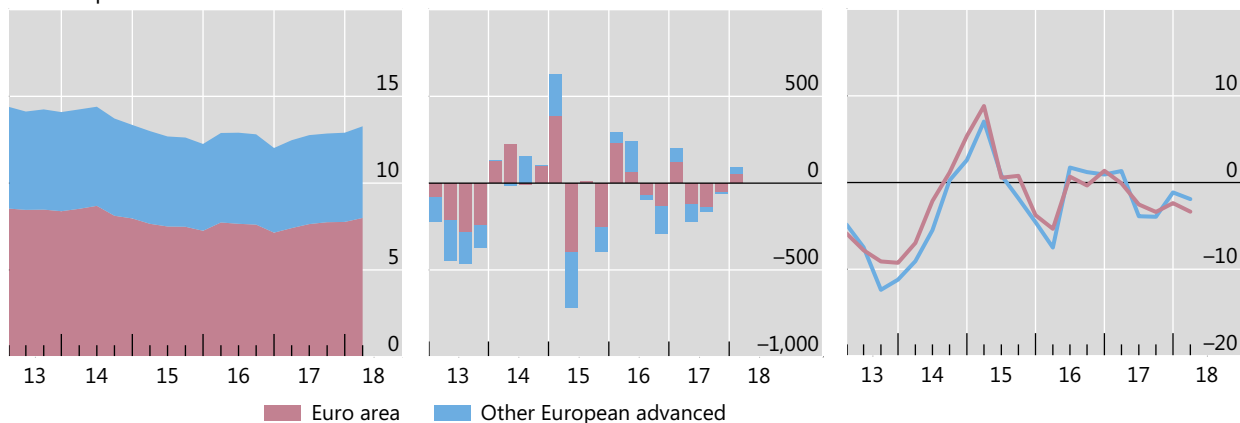
Adjusted changes, in USD bn²

Annual change, in per cent³

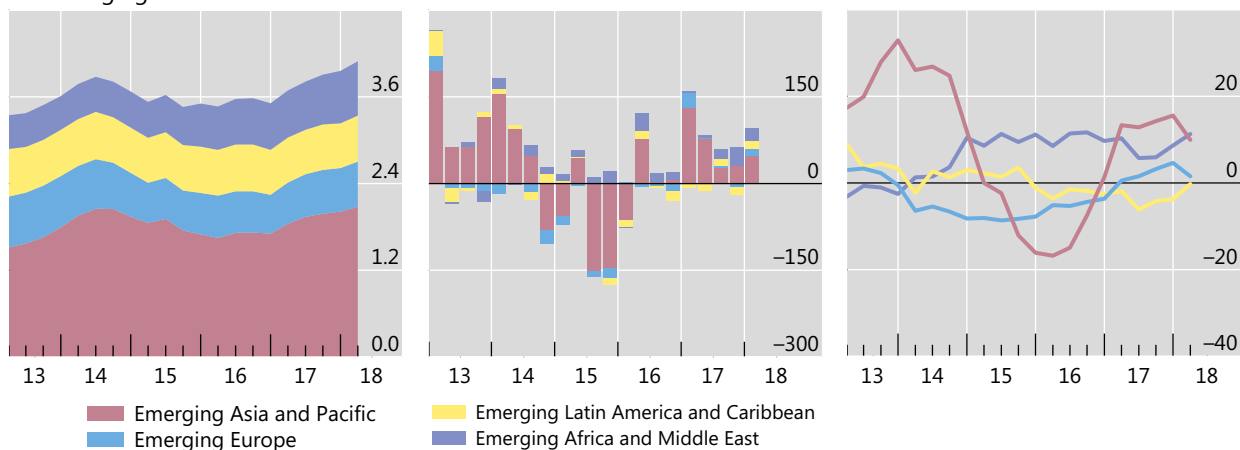
On all countries



On Europe



On emerging market economies



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

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

Source: BIS locational banking statistics.

Cross-border claims, by borrowing country

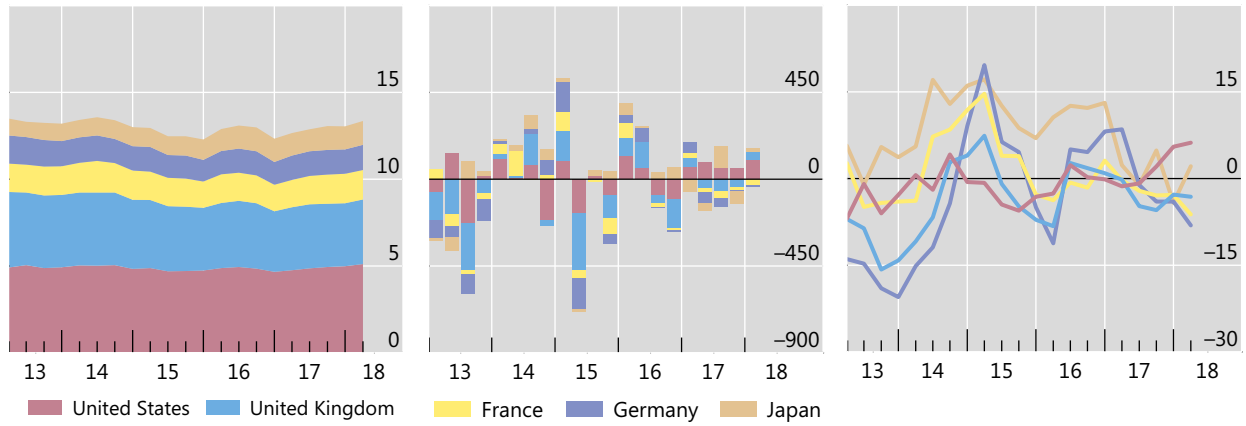
Graph A.3

Amounts outstanding, in USD trn¹

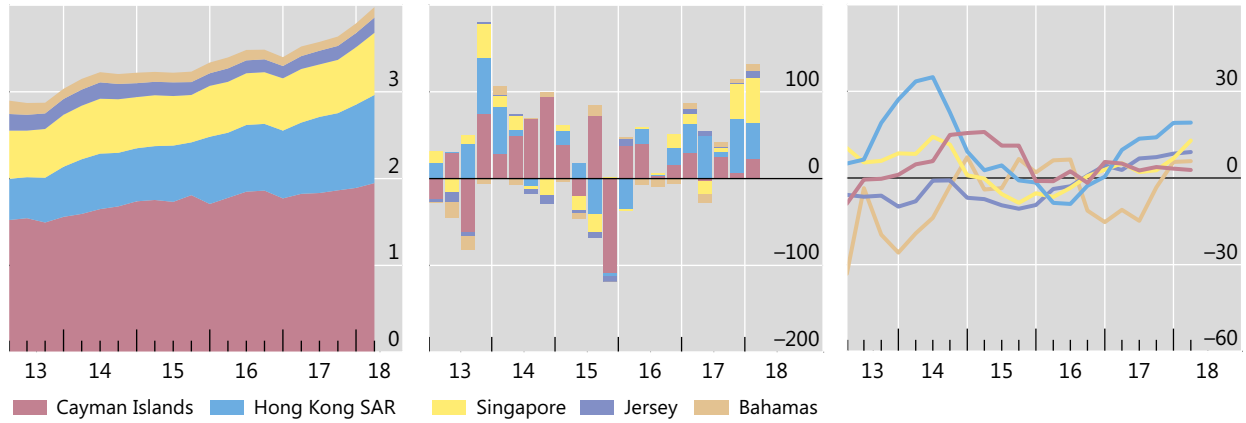
Adjusted changes, in USD bn²

Annual change, in per cent³

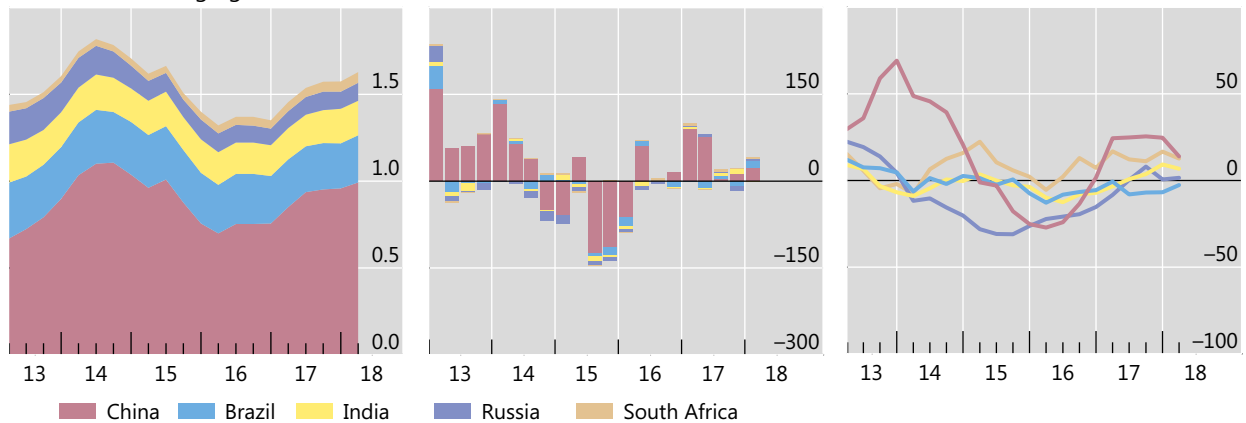
On selected advanced economies



On selected offshore centres



On selected emerging market economies

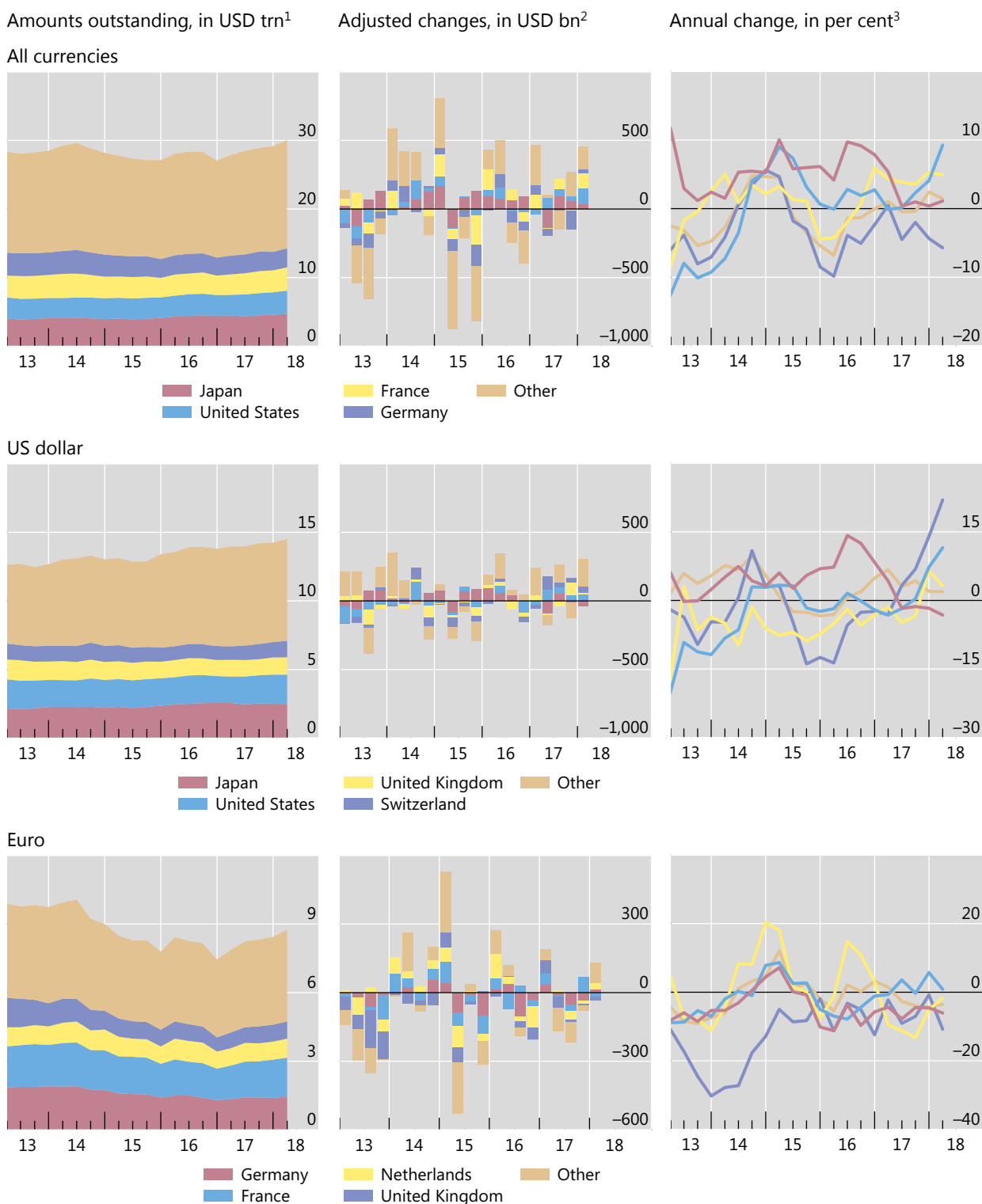


Further information on the BIS locational banking statistics is available at www.bis.org/statistics/bankstats.htm.

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

Source: BIS locational banking statistics.

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



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

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

Source: BIS locational banking statistics.

Cross-border liabilities of reporting banks

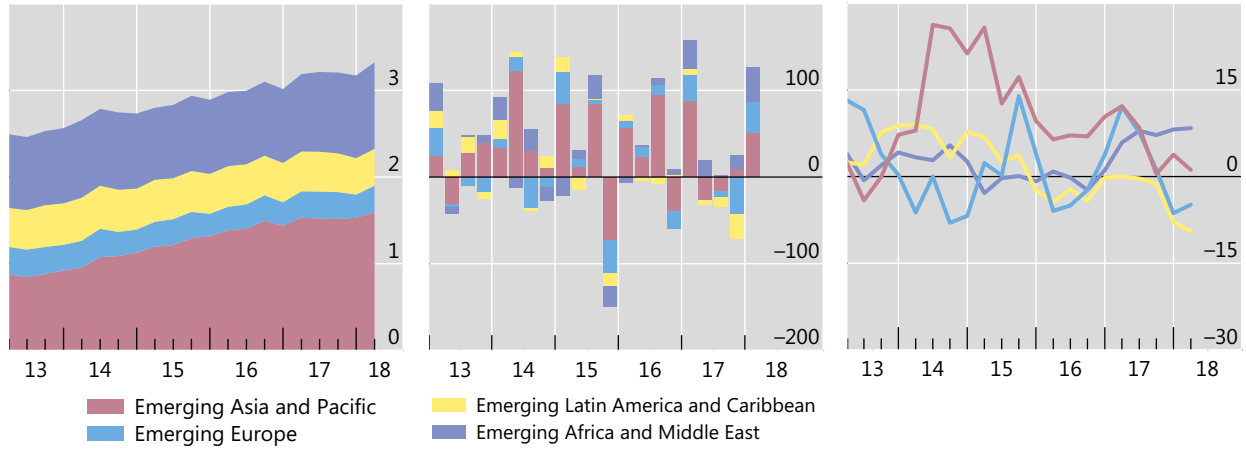
Graph A.5

Amounts outstanding, in USD trn¹

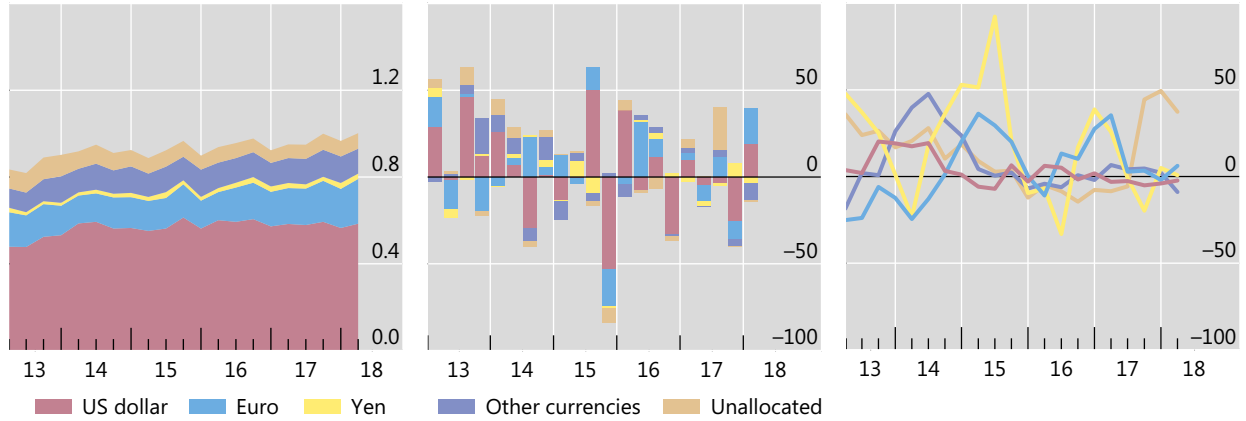
Adjusted changes, in USD bn²

Annual change, in per cent³

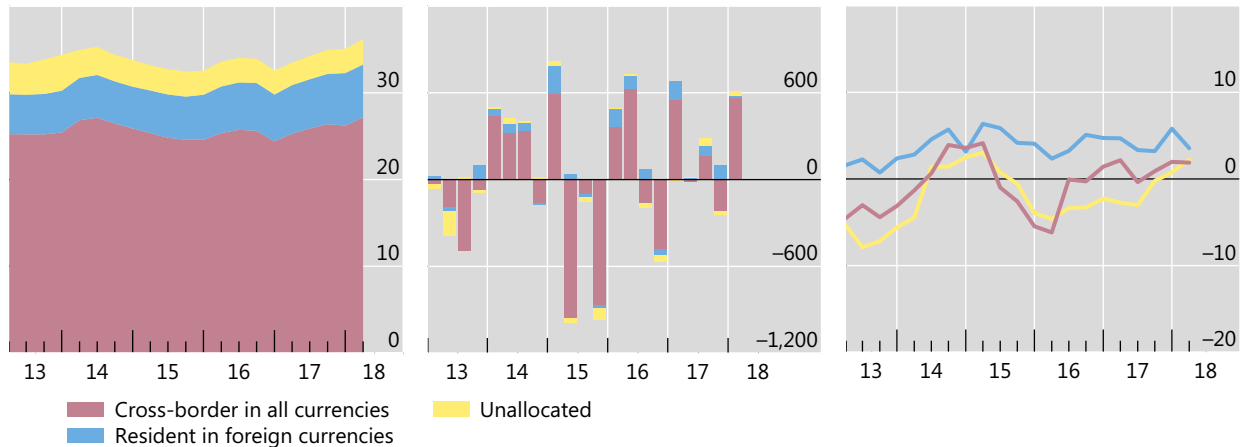
To emerging market economies



To central banks



By currency type and location



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

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

Source: BIS locational banking statistics.

B Consolidated banking statistics

Consolidated claims of reporting banks on advanced economies

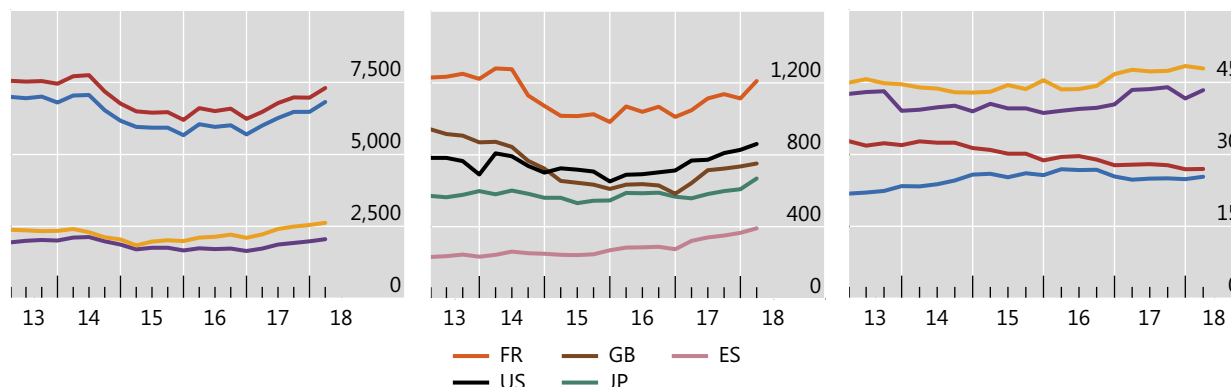
Graph B.1

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

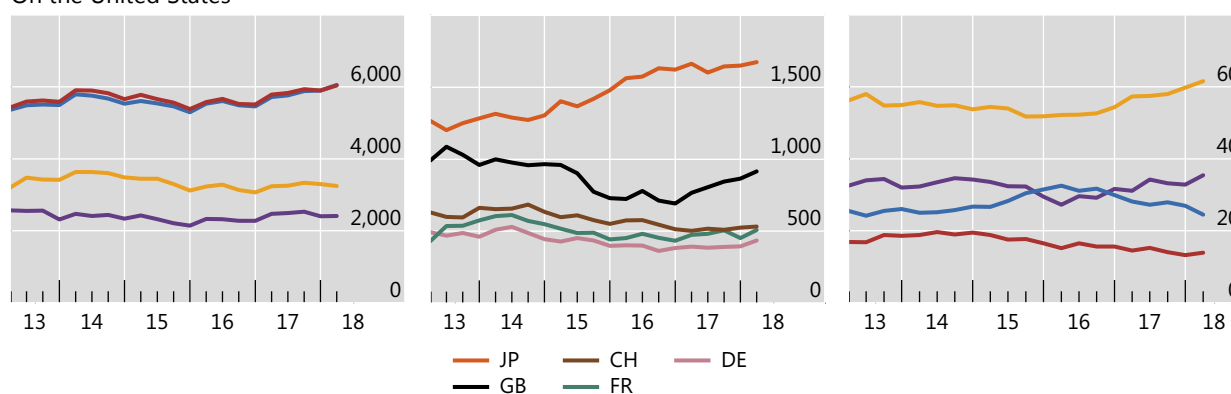
Foreign claims of selected creditors, in USD bn^{1,3}

International claims, by sector and maturity, in per cent⁴

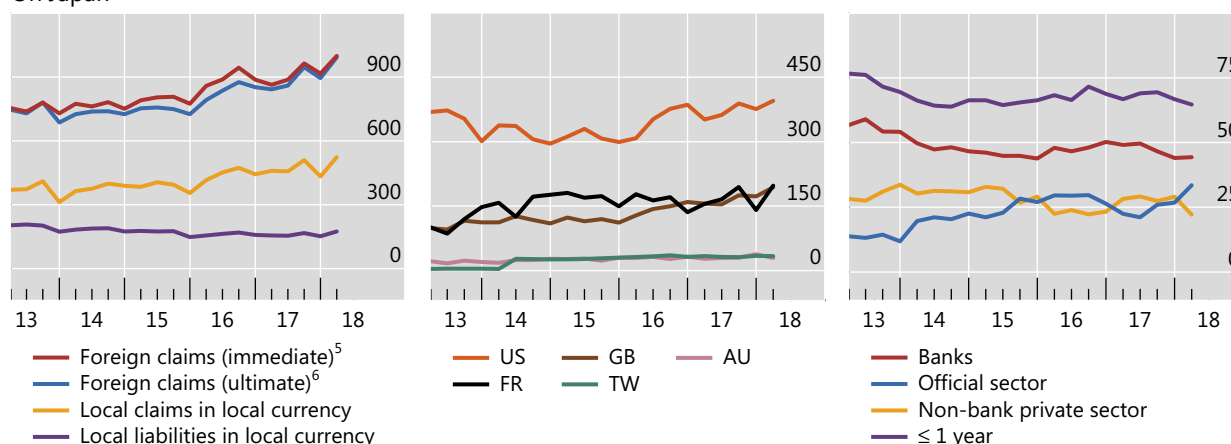
On the euro area



On the United States



On Japan



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

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

Source: BIS consolidated banking statistics (CBS).

Consolidated claims of reporting banks on emerging market economies

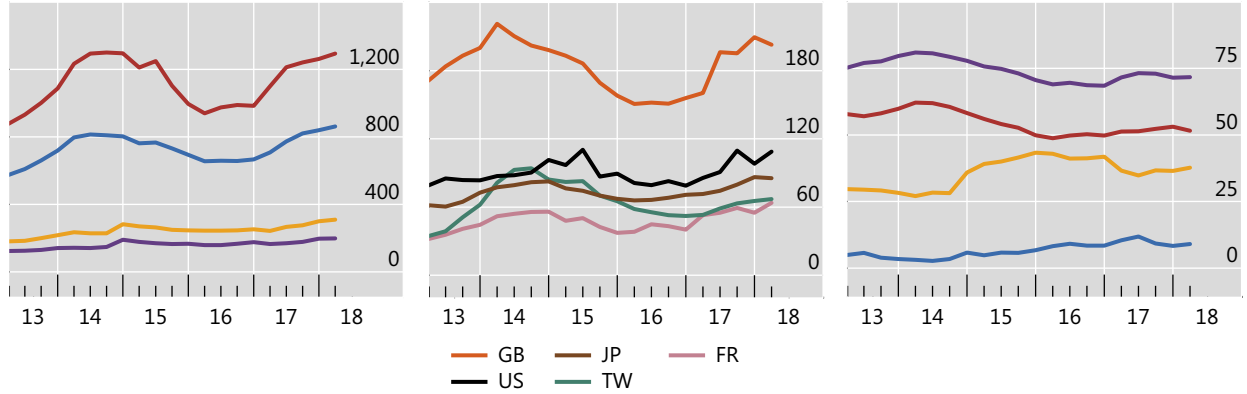
Graph B.2

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

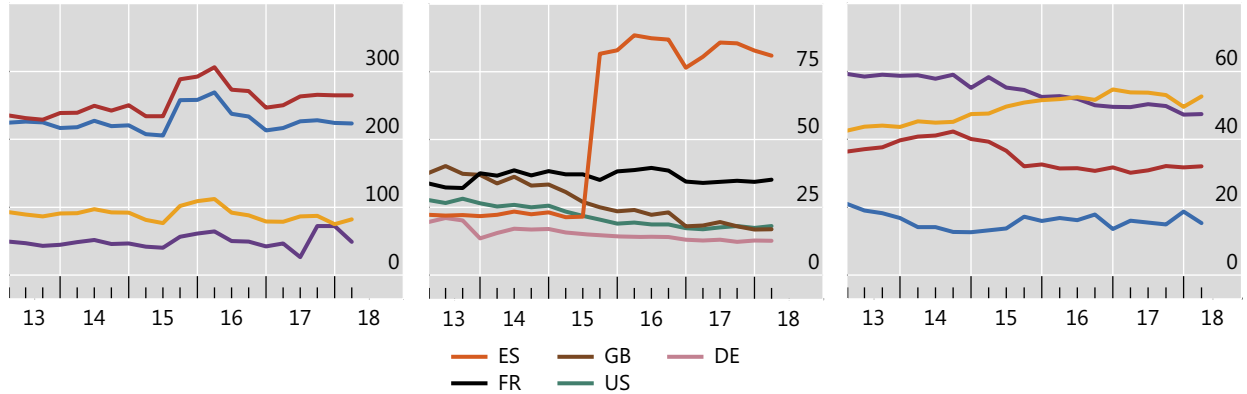
Foreign claims of selected creditors, in USD bn^{1,3}

International claims, by sector and maturity, in per cent⁴

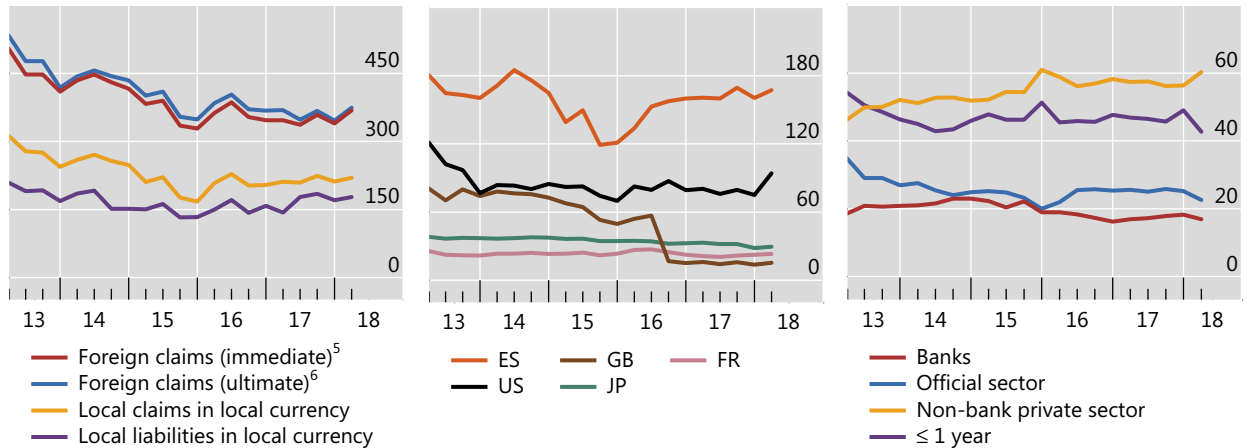
On China



On Turkey



On Brazil



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

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

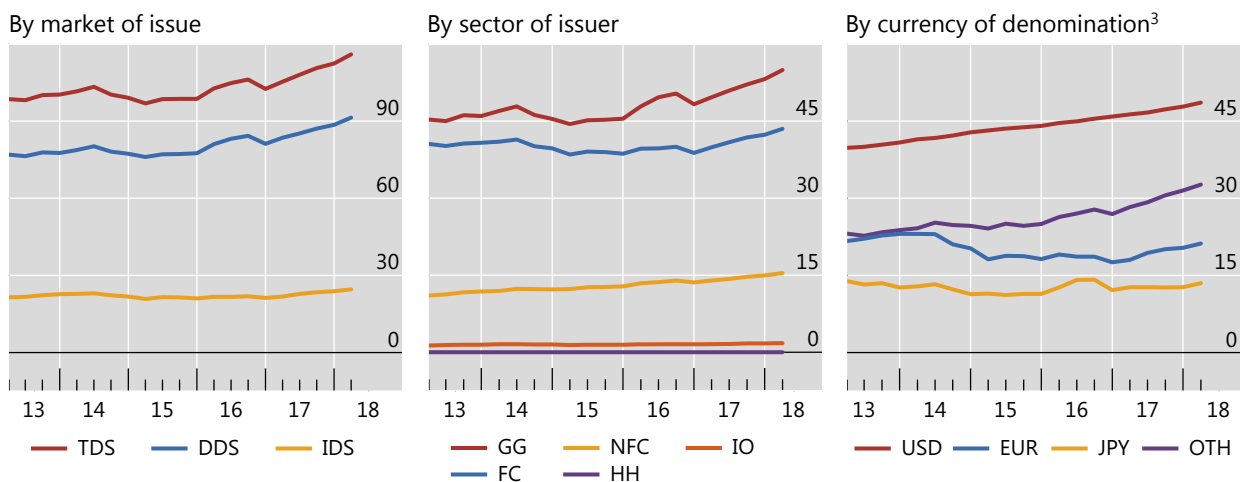
Source: BIS consolidated banking statistics (CBS).

C Debt securities statistics

Global debt securities markets¹

Amounts outstanding, in trillions of US dollars²

Graph C.1



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

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

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

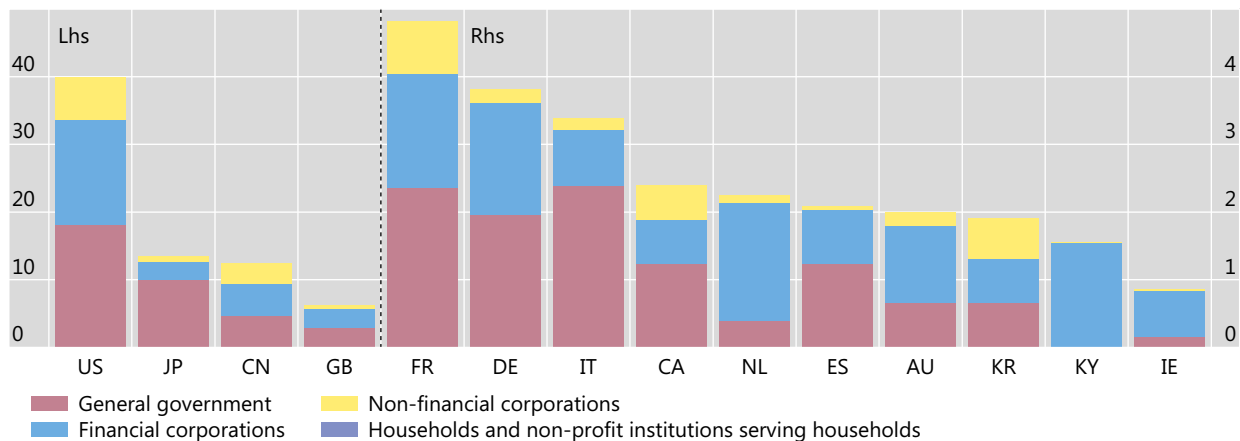
¹ Sample of countries varies across breakdowns shown. For countries that do not report TDS, data are estimated by the BIS as DDS plus IDS. For countries that do not report either TDS or DDS, data are estimated by the BIS as IDS. ² At quarter-end. Amounts denominated in currencies other than the US dollar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

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

Total debt securities, by residence and sector of issuer¹

Amounts outstanding for the latest available data, in trillions of US dollars²

Graph C.2



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

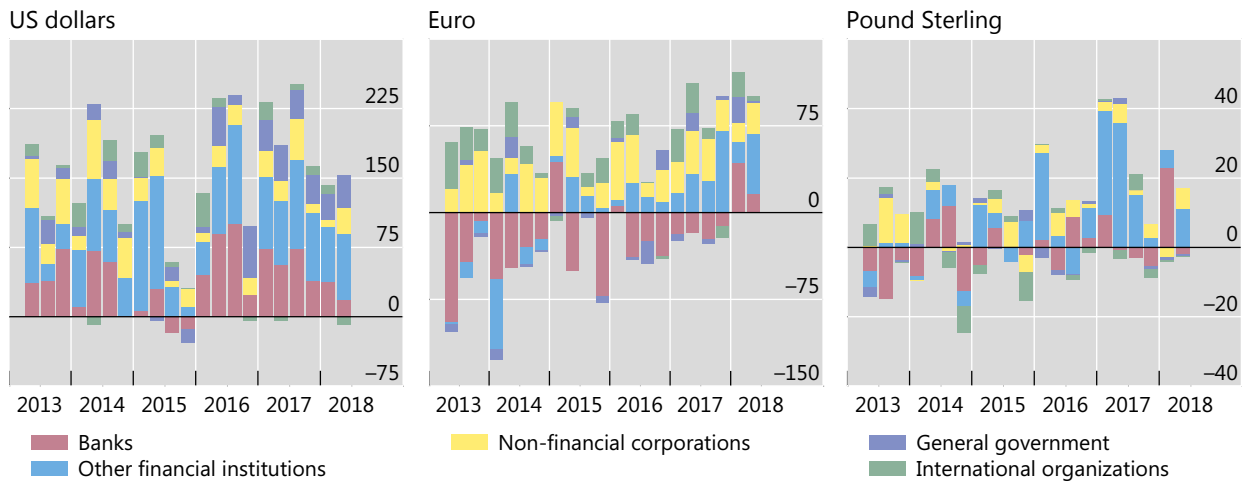
¹ For countries that do not report TDS, data are estimated by the BIS as DDS plus IDS. ² Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Sources: National data; BIS debt securities statistics.

Net issuance of international debt securities

By issuer sector and currency of denomination, in billions of US dollars

Graph C.3



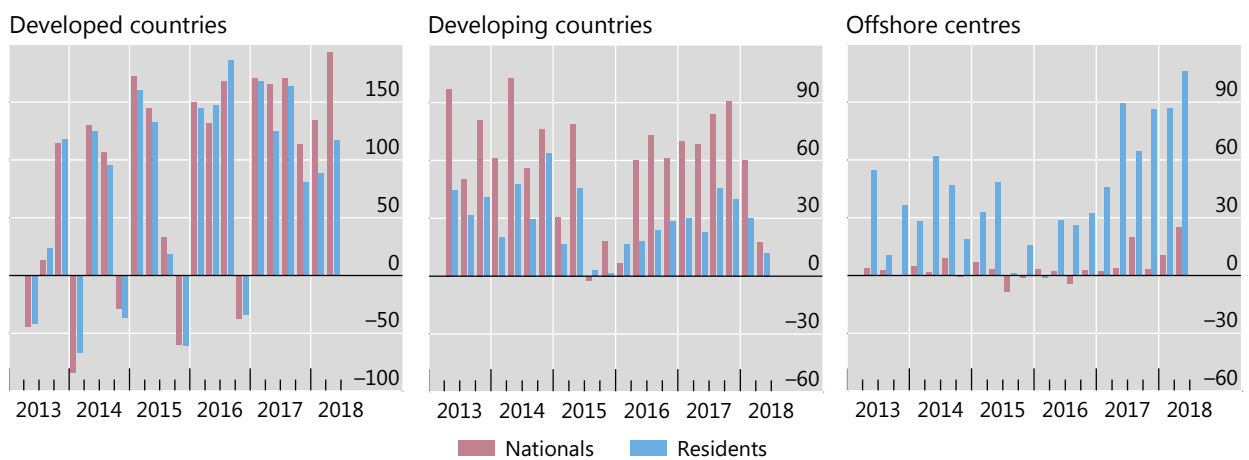
Further information is available at www.bis.org/statistics/secstats.htm.

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

International debt securities issued by financial and non-financial corporations¹

Net issuance by region, in billions of US dollars²

Graph C.4



Further information is available at www.bis.org/statistics/secstats.htm.

¹ Excluding general government. ² For a list of countries in each region, see Table C1 (<http://stats.bis.org/statx/srs/table/c1>).

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

D Derivatives statistics

Exchange-traded derivatives

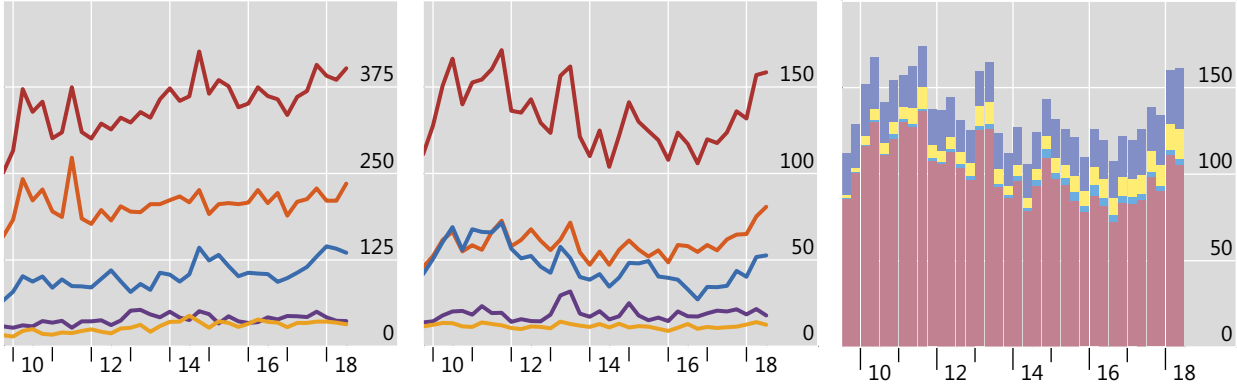
Graph D.1

Open interest, by currency¹

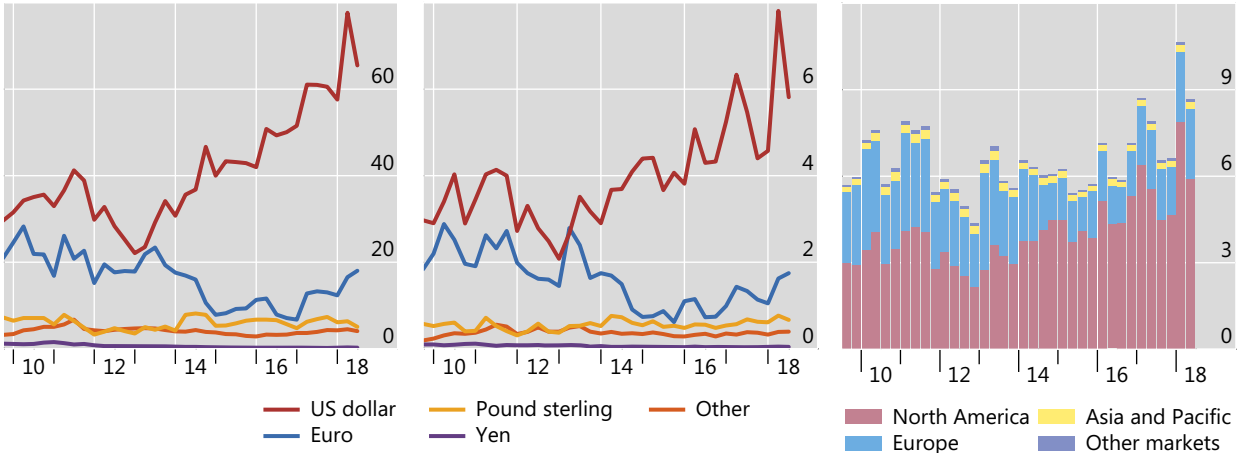
Daily average turnover, by currency²

Daily average turnover, by location of exchange²

Foreign exchange derivatives, USD bn³



Interest rate derivatives, USD trn³



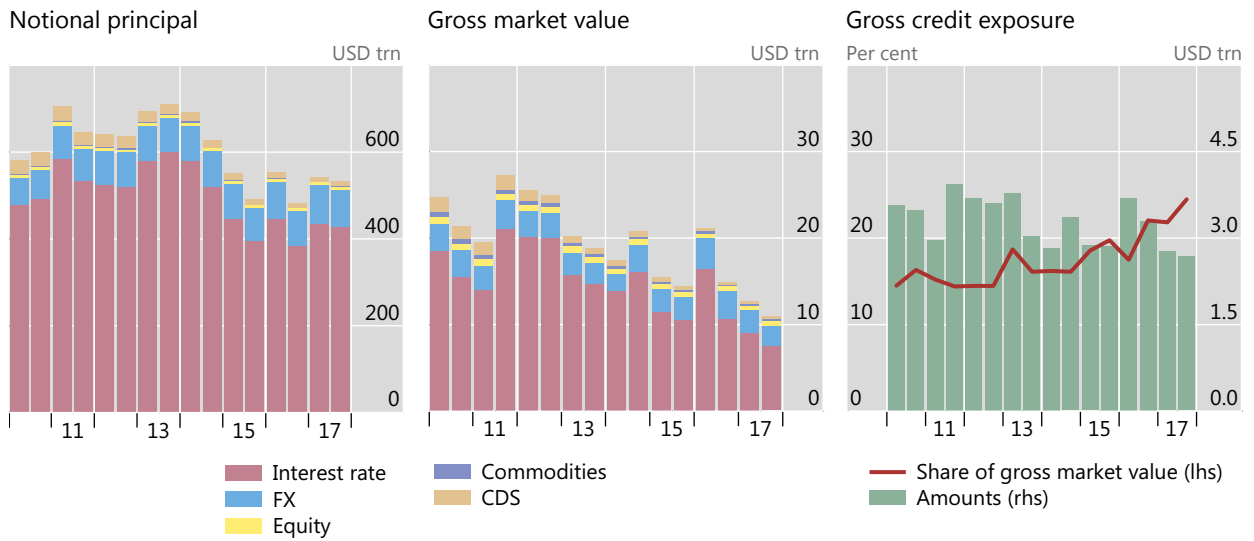
Further information on the BIS derivatives statistics is available at www.bis.org/statistics/extderiv.htm.

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

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

Global OTC derivatives markets¹

Graph D.2



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

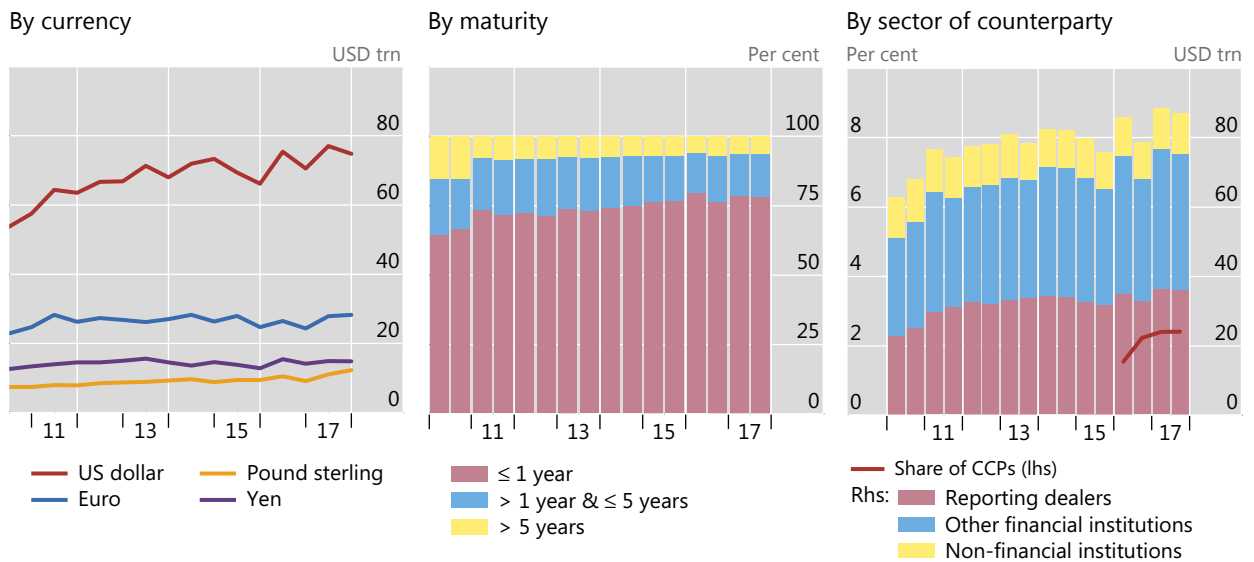
¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS derivatives statistics.

OTC foreign exchange derivatives

Notional principal¹

Graph D.3



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

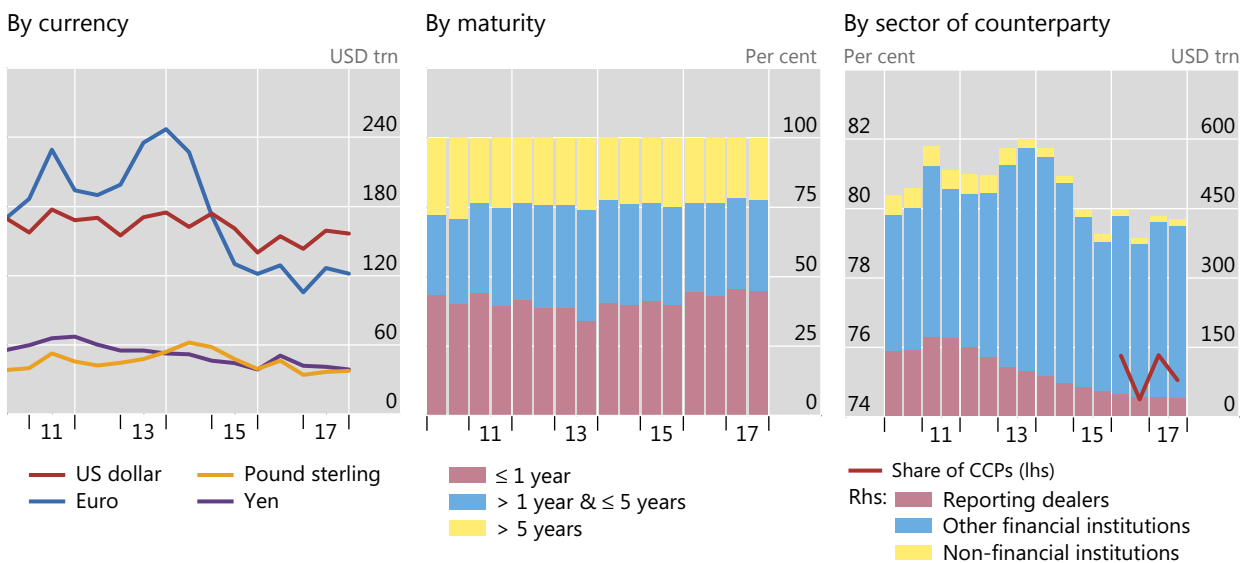
¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS derivatives statistics.

OTC interest rate derivatives

Notional principal¹

Graph D.4



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

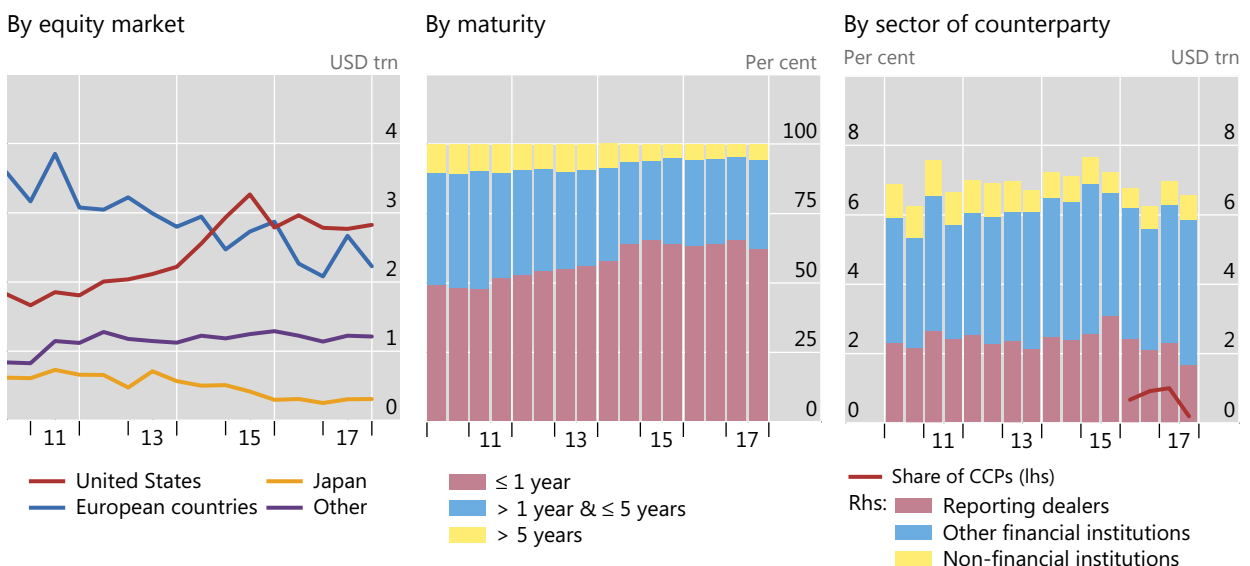
¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS derivatives statistics.

OTC equity-linked derivatives

Notional principal¹

Graph D.5



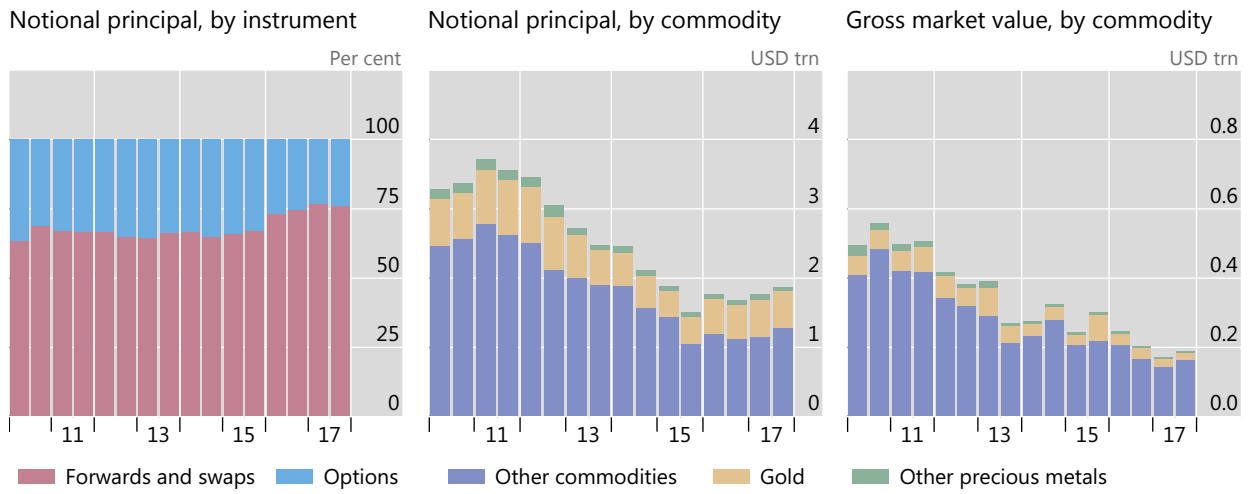
Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

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

Source: BIS derivatives statistics.

OTC commodity derivatives¹

Graph D.6



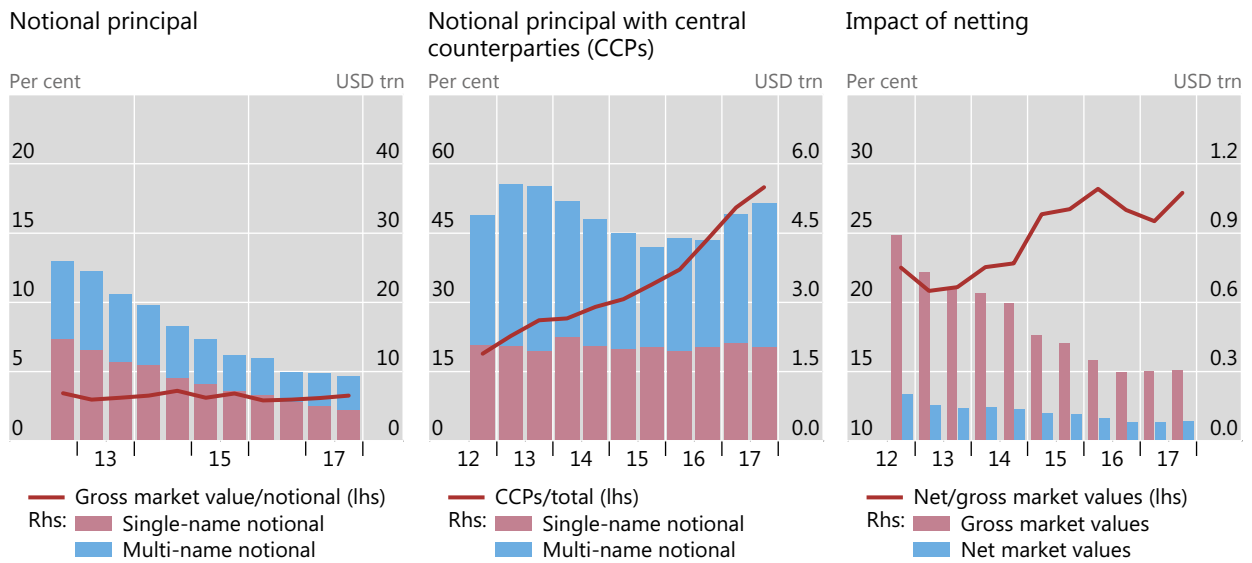
Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

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

Source: BIS derivatives statistics.

Credit default swaps¹

Graph D.7



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

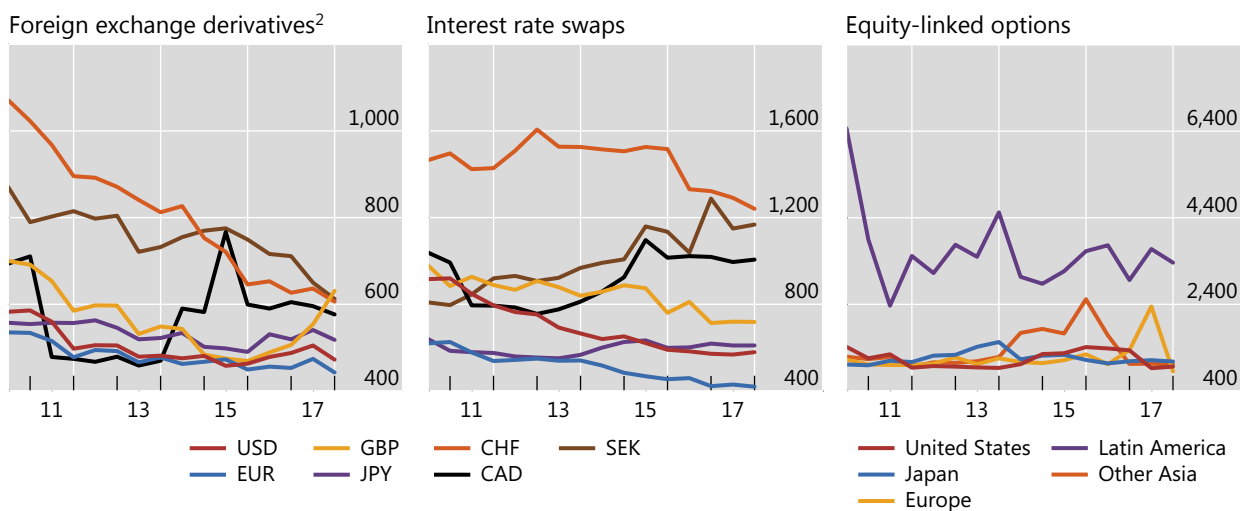
¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS derivatives statistics.

Concentration in global OTC derivatives markets

Herfindahl index¹

Graph D.8



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

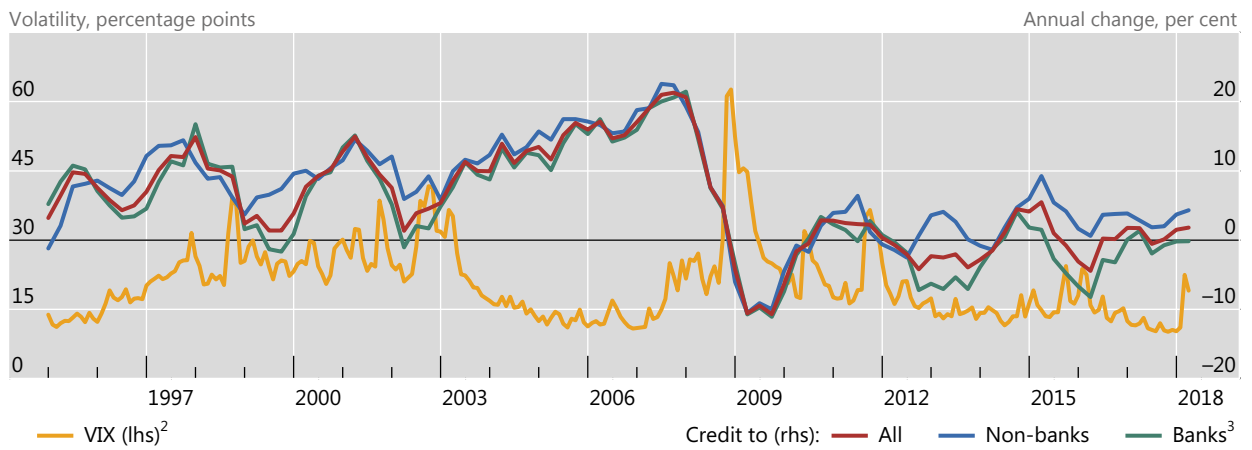
¹ The index ranges from 0 to 10,000, where a lower number indicates that there are many dealers with similar market shares (as measured by notional principal) and a higher number indicates that the market is dominated by a few reporting dealers. ² Foreign exchange forwards, foreign exchange swaps and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

Source: BIS derivatives statistics.

E Global liquidity indicators

Growth of international bank credit¹

Graph E.1



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

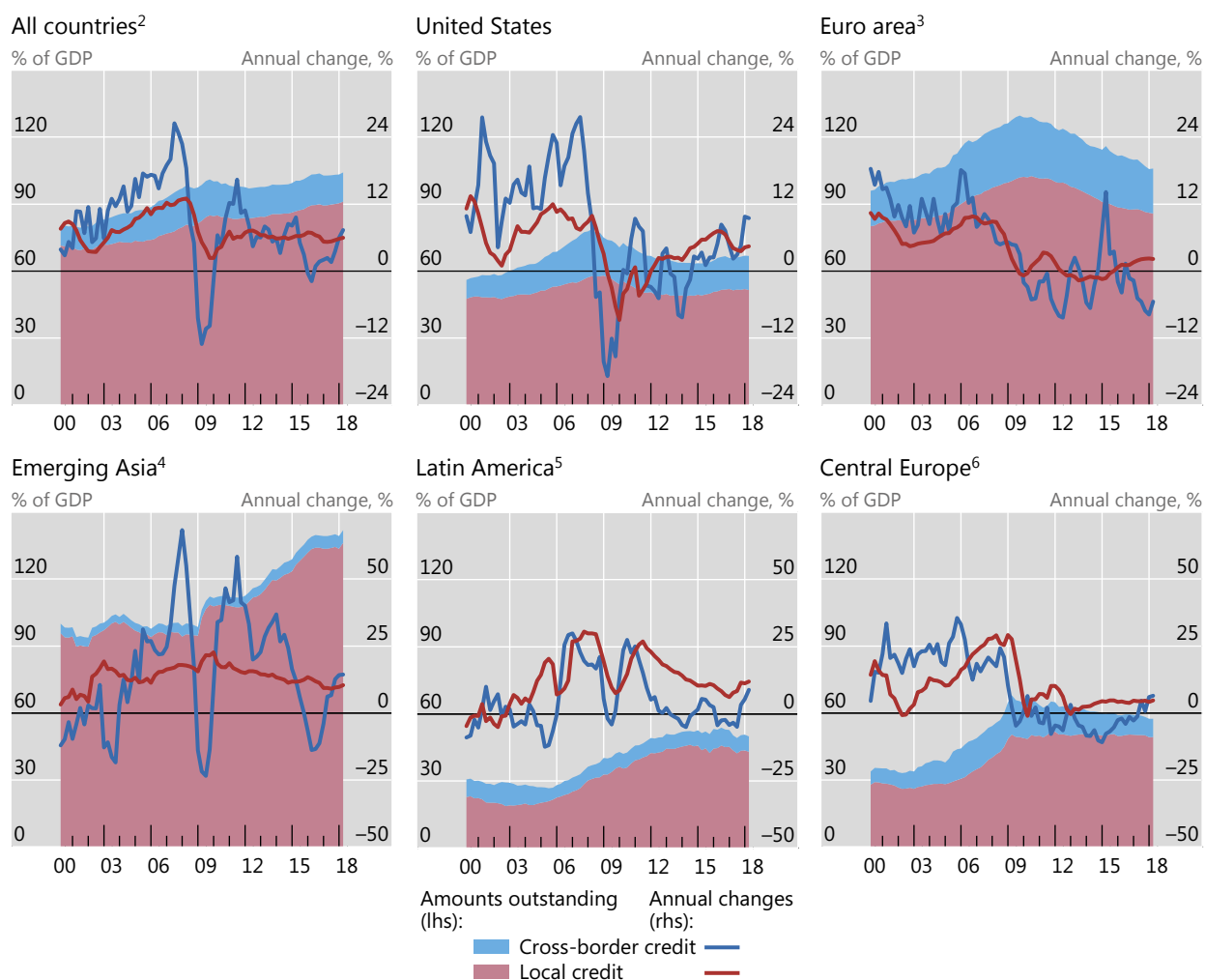
¹ LBS-reporting banks' cross-border claims plus local claims in foreign currencies. ² Chicago Board Options Exchange S&P 500 implied volatility index; standard deviation, in percentage points per annum. ³ Including intragroup transactions.

Sources: Bloomberg; BIS locational banking statistics.

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

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

Graph E.2



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

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

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

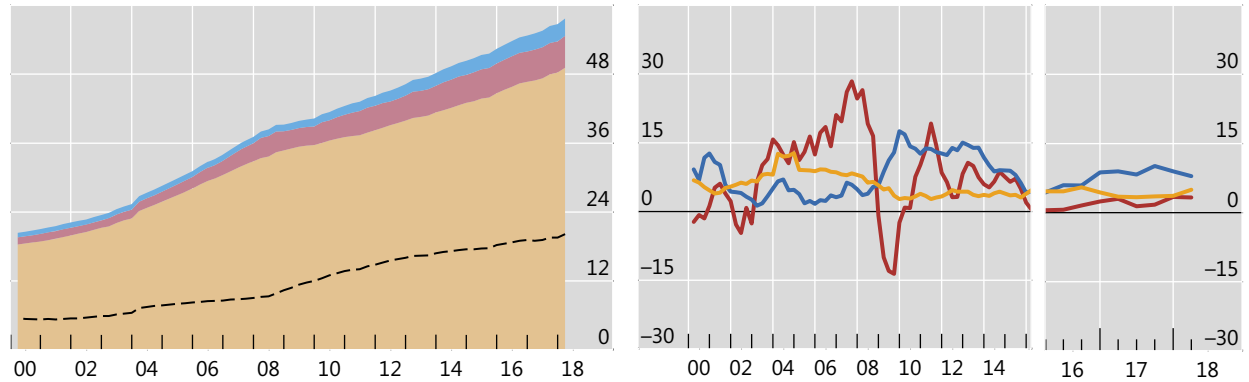
Global credit to the non-financial sector, by currency

Graph E.3

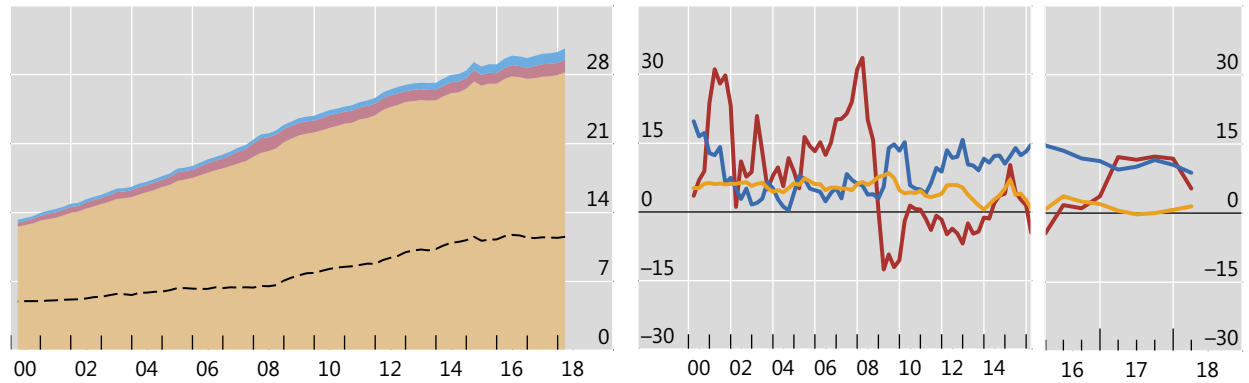
Amounts outstanding, in trillions of currency units¹

Annual change, in per cent²

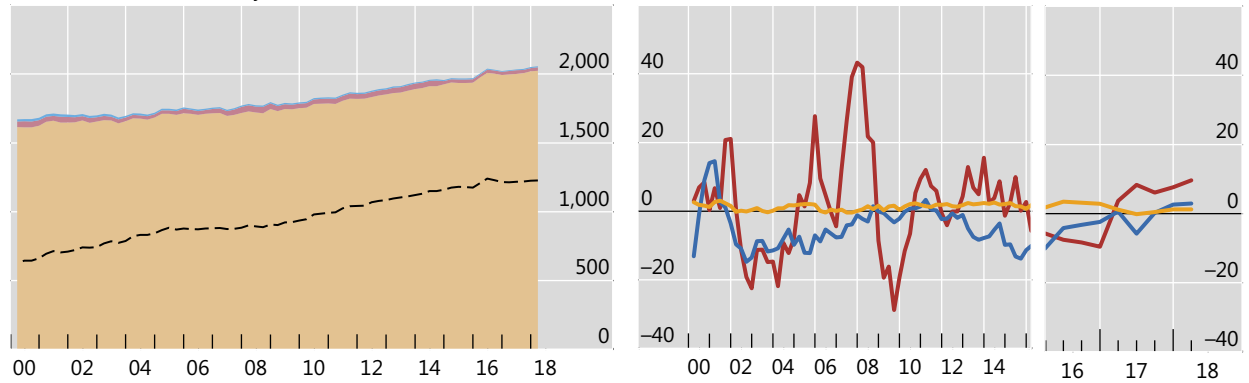
Credit denominated in US dollars (USD)



Credit denominated in euros (EUR)



Credit denominated in yen (JPY)



Credit to residents³
 Credit to non-residents:
 Of which:
 Debt securities⁴
 Loans⁵
 Credit to government

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

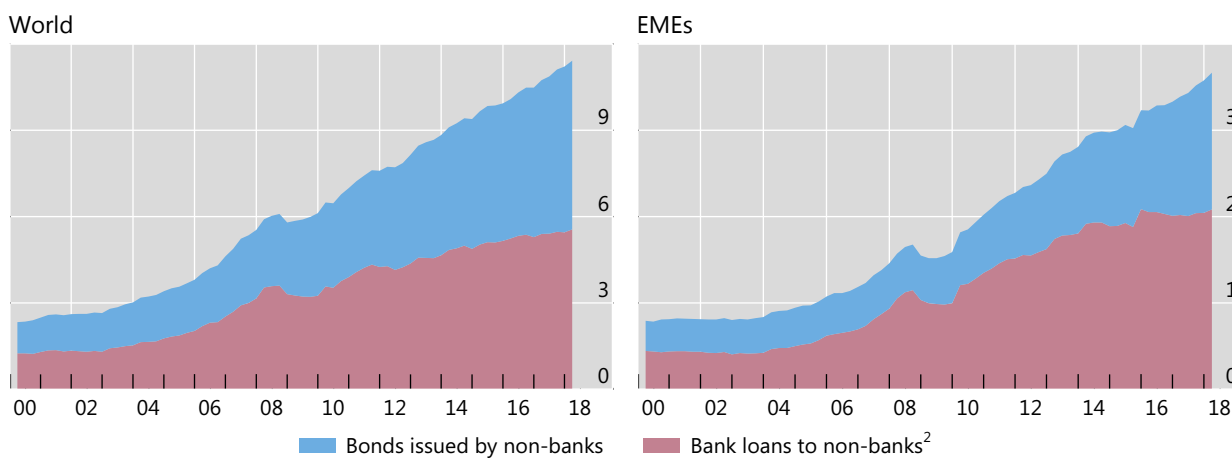
¹ Amounts outstanding at quarter-end. ² Based on quarterly break- and exchange rate-adjusted changes. ³ Credit to non-financial borrowers residing in the United States/euro area/Japan. National financial accounts are adjusted using BIS banking and securities statistics to exclude credit denominated in non-local currencies. ⁴ 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. ⁵ Loans by LBS-reporting banks to non-bank borrowers, including non-bank financial entities, comprise cross-border plus local loans.

Sources: Datastream; Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; national data; BIS locational banking statistics (LBS); BIS calculations.

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

Amounts outstanding, in trillions of US dollars

Graph E.4



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

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.

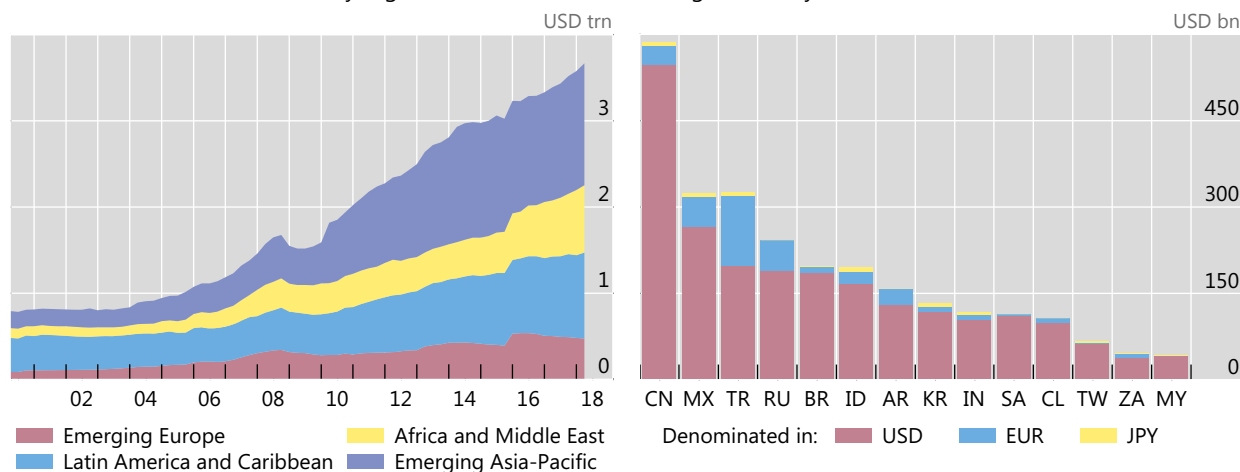
Sources: Datastream; Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; national data; BIS locational banking statistics (LBS); BIS calculations.

Foreign currency credit to non-banks in EMEs

Graph E.5

US dollar-denominated credit by region

Foreign currency credit to selected EMEs¹



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

¹ Amounts outstanding for the latest available data.

Sources: Datastream; Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; national data; BIS locational banking statistics (LBS); BIS calculations.

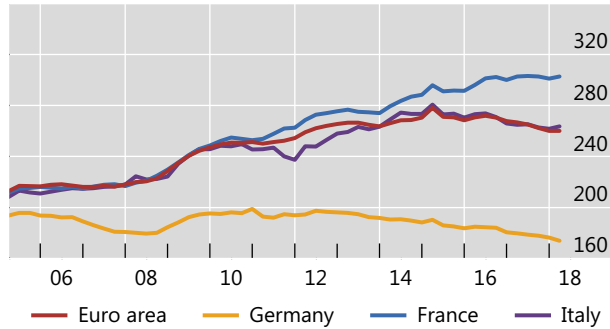
F Statistics on total credit to the non-financial sector

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

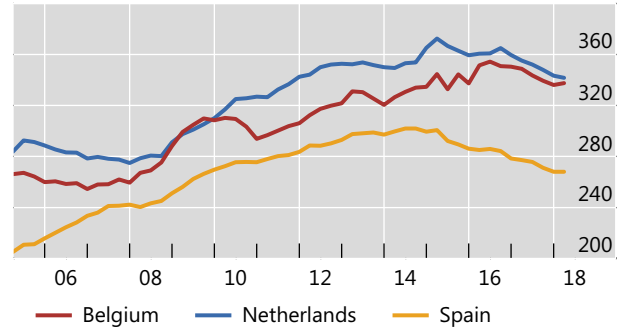
As a percentage of GDP

Graph F.1

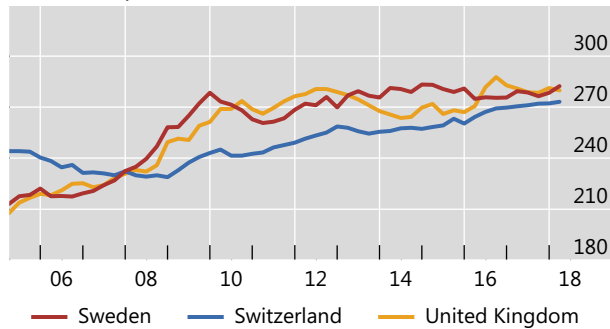
Euro area: aggregate and major countries



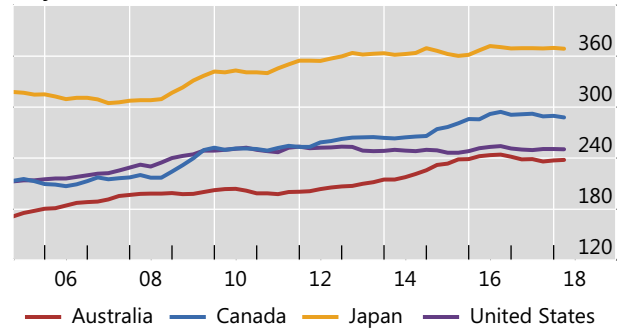
Euro area: other countries



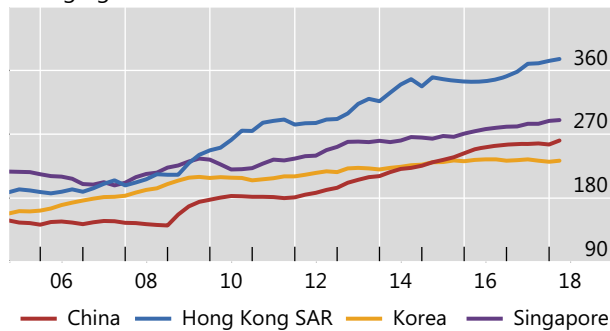
Other European countries



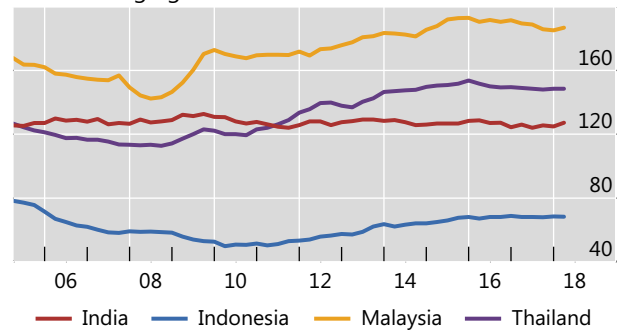
Major advanced economies



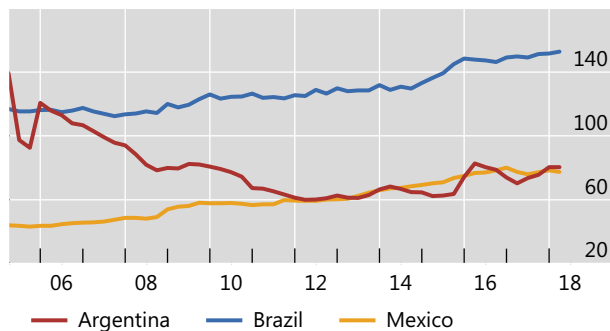
Emerging Asia



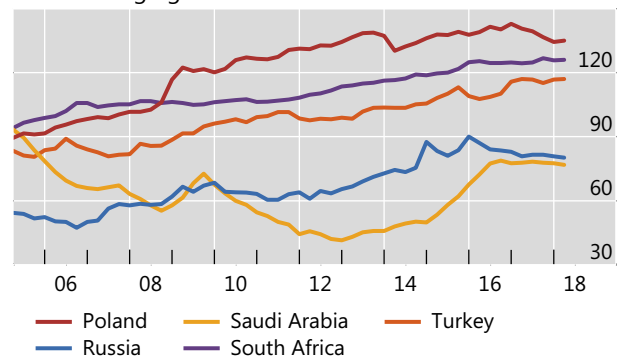
Other emerging Asia



Latin America



Other emerging market economies



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

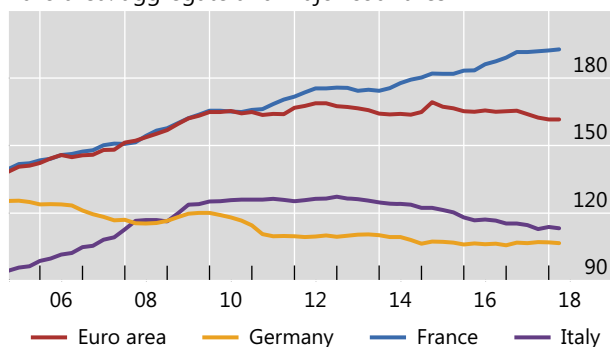
Source: BIS total credit statistics.

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

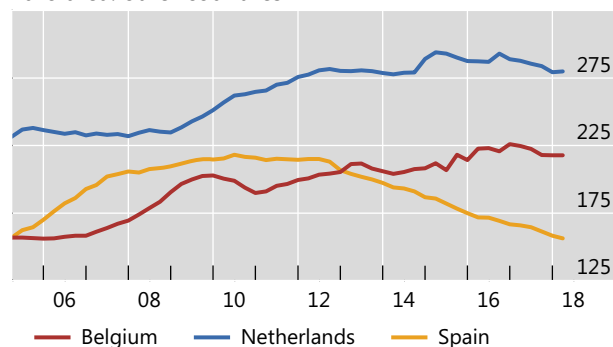
As a percentage of GDP

Graph F.2

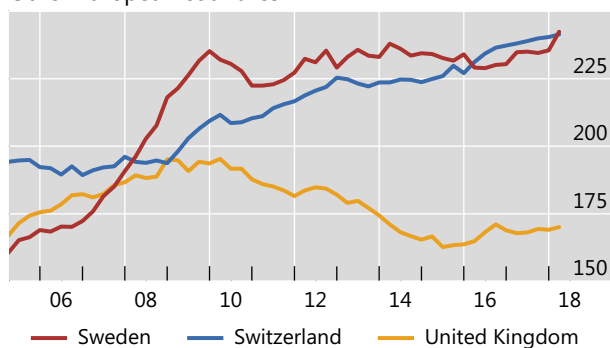
Euro area: aggregate and major countries



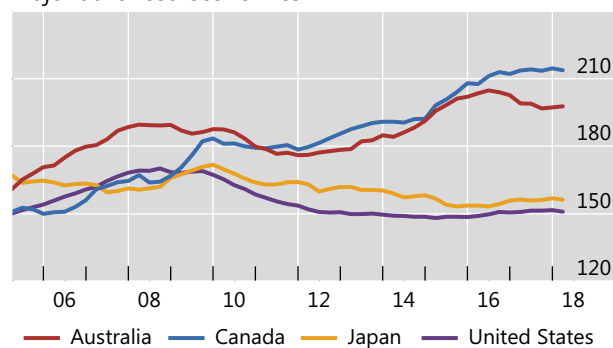
Euro area: other countries



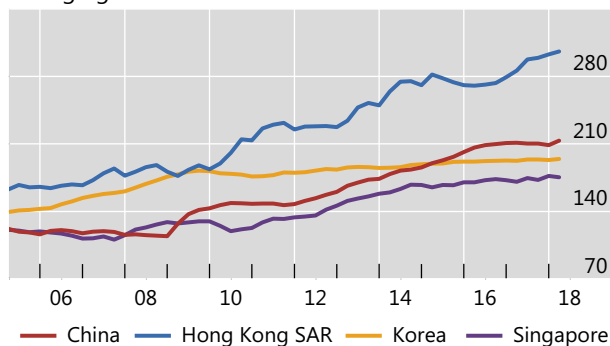
Other European countries



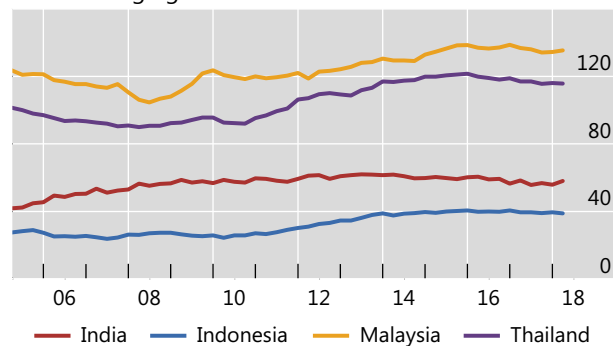
Major advanced economies



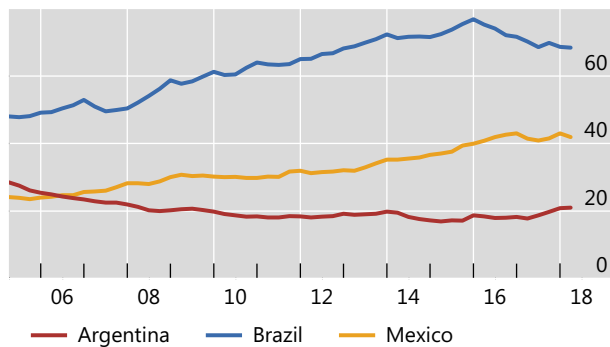
Emerging Asia



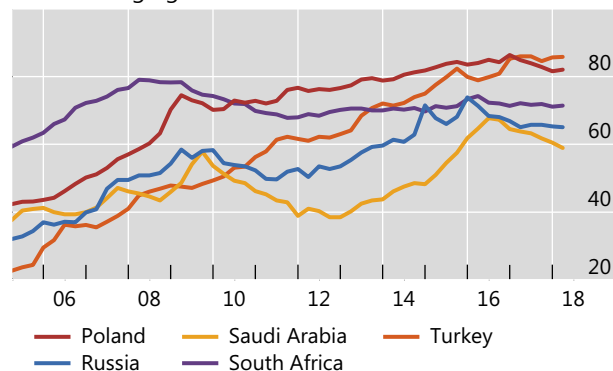
Other emerging Asia



Latin America



Other emerging market economies



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

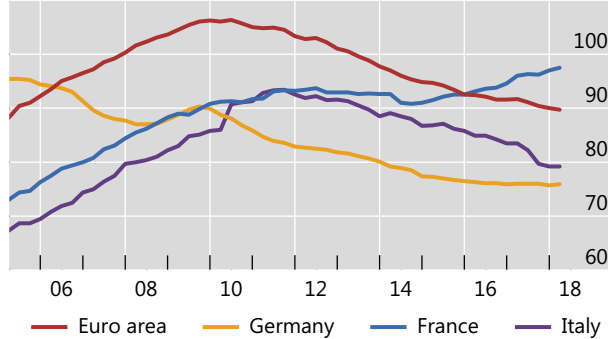
Source: BIS total credit statistics.

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

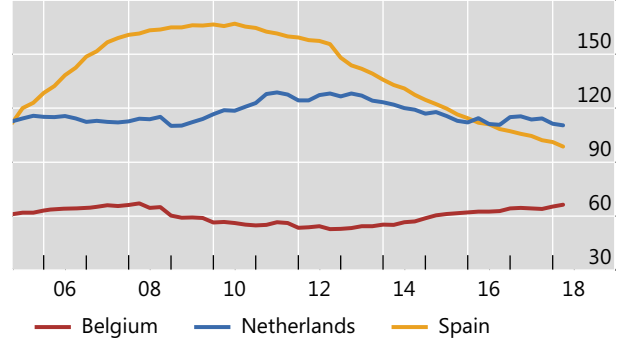
As a percentage of GDP

Graph F.3

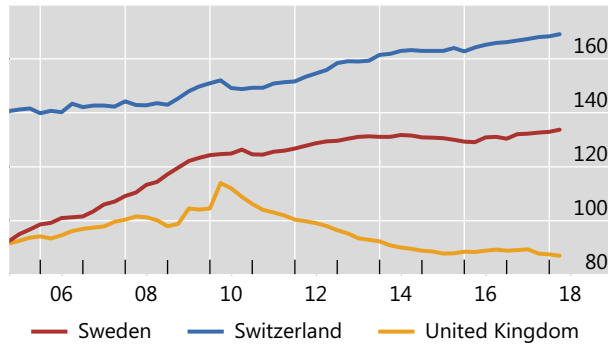
Euro area: aggregate and major countries



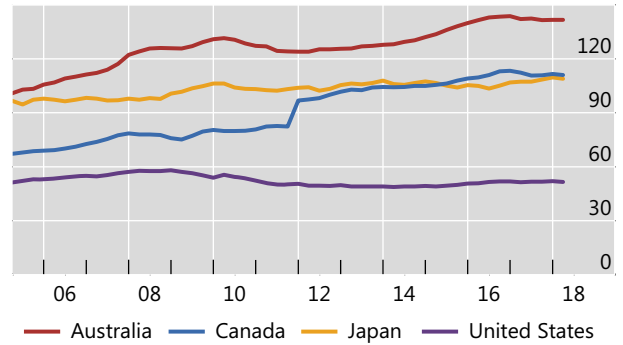
Euro area: other countries



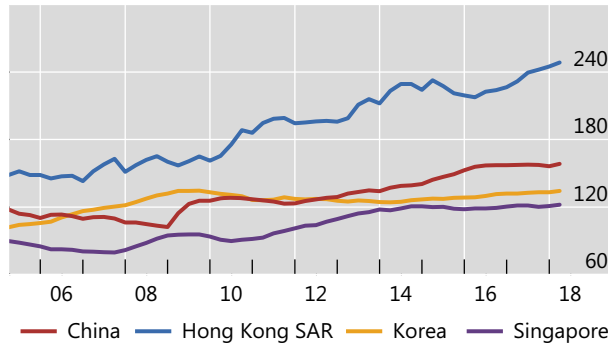
Other European countries



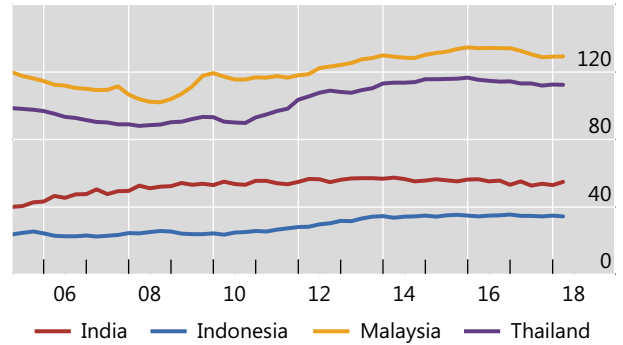
Major advanced economies



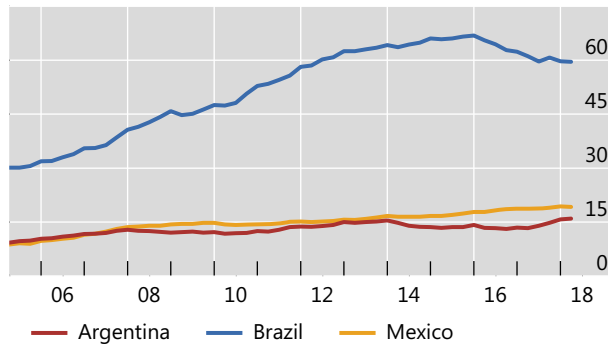
Emerging Asia



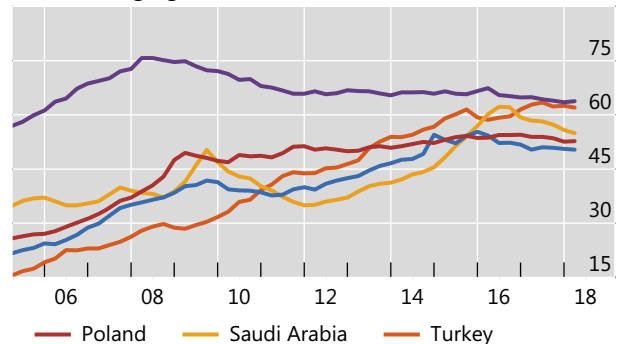
Other emerging Asia



Latin America



Other emerging market economies



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

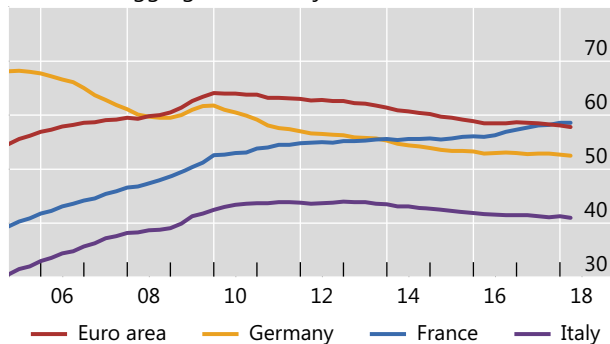
Source: BIS total credit statistics.

Total credit to households (core debt)

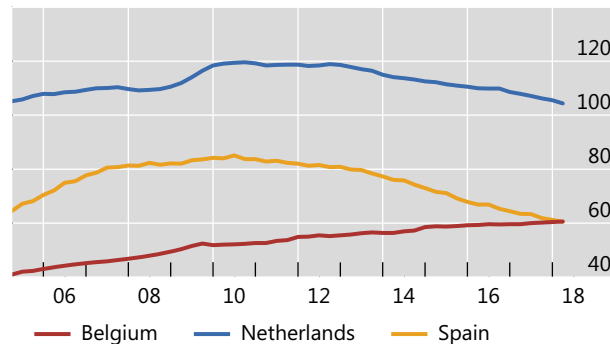
As a percentage of GDP

Graph F.4

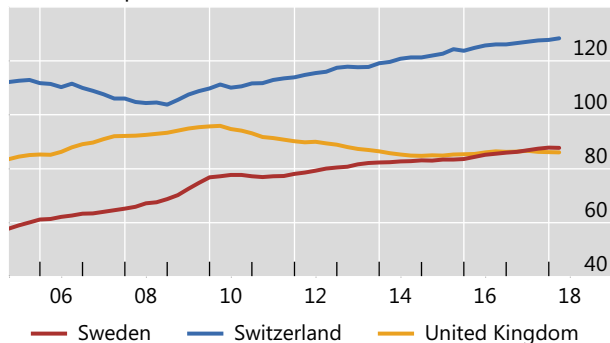
Euro area: aggregate and major countries



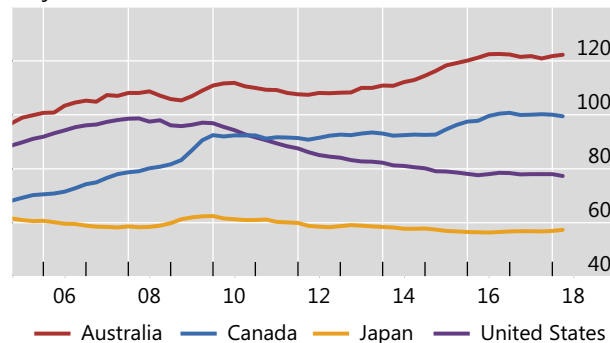
Euro area: other countries



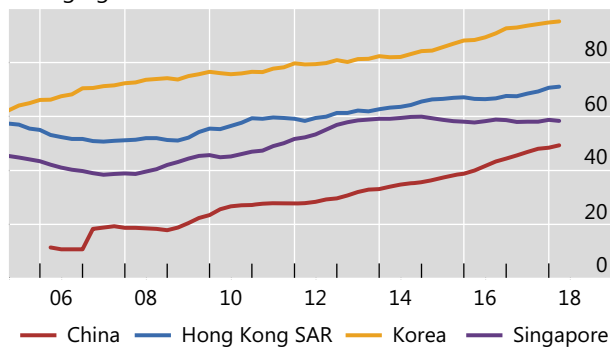
Other European countries



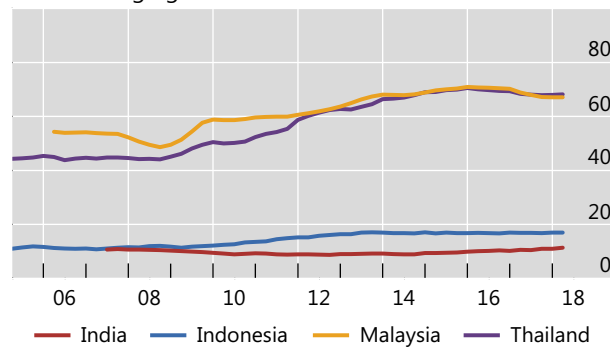
Major advanced economies



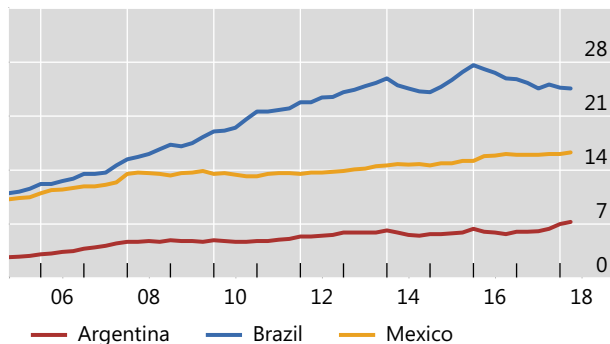
Emerging Asia



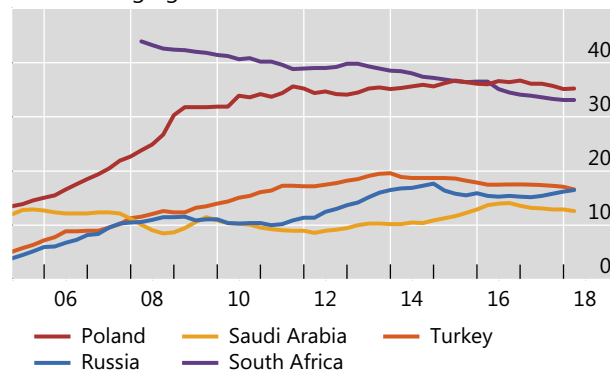
Other emerging Asia



Latin America



Other emerging market economies



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

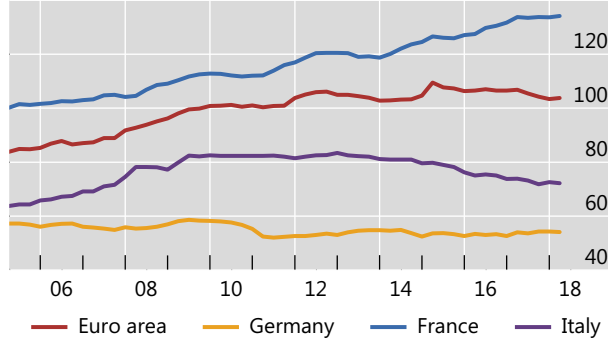
Source: BIS total credit statistics.

Total credit to non-financial corporations (core debt)

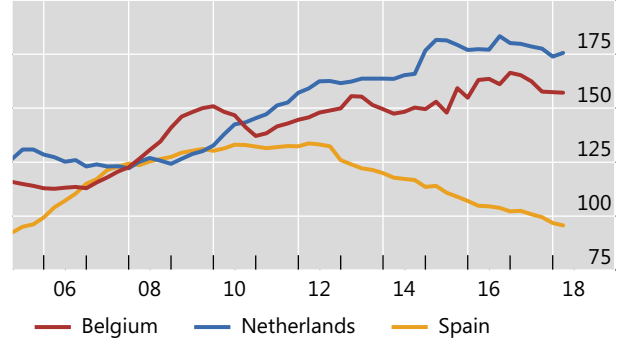
As a percentage of GDP

Graph F.5

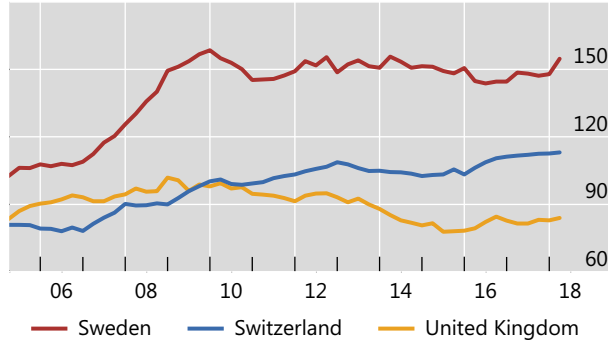
Euro area: aggregate and major countries



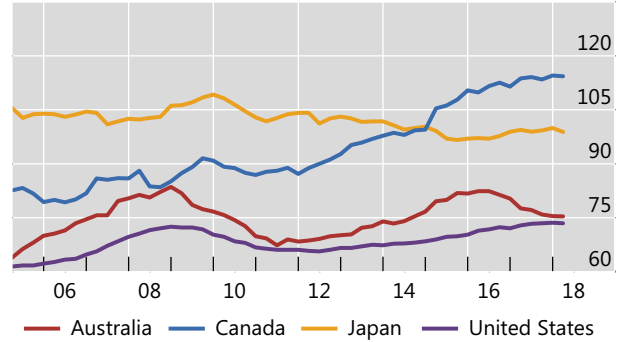
Euro area: other countries



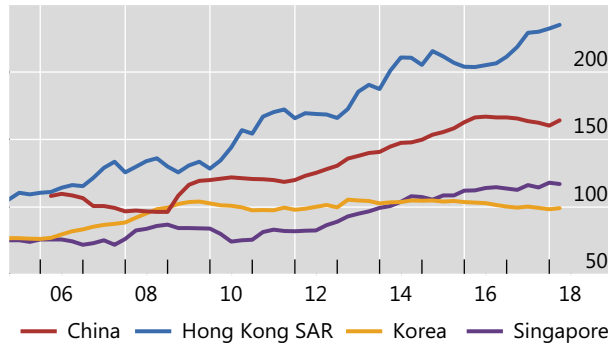
Other European countries



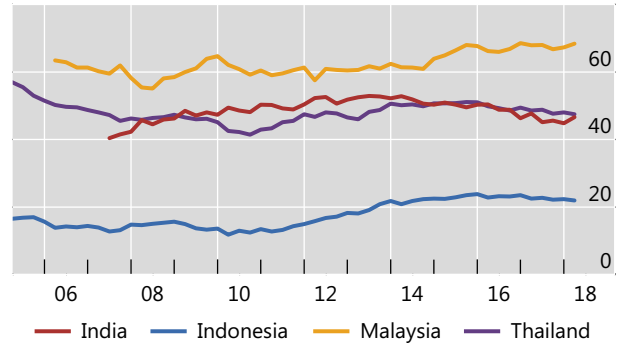
Major advanced economies



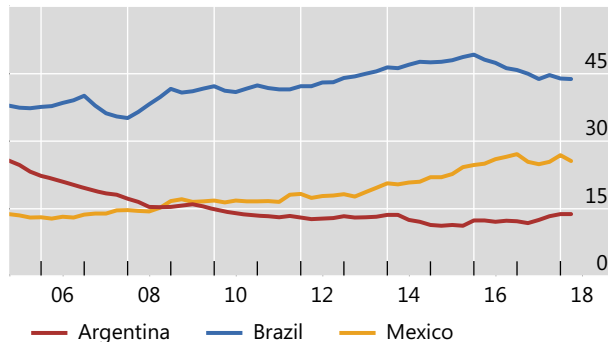
Emerging Asia



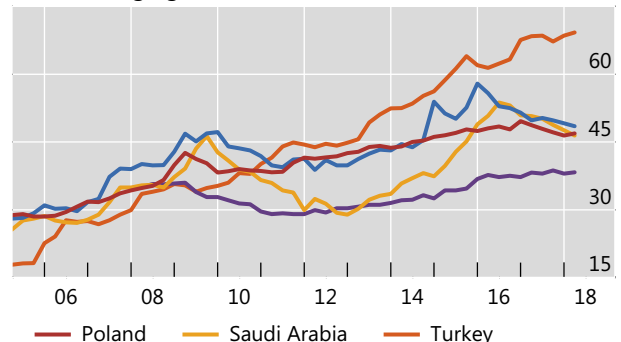
Other emerging Asia



Latin America



Other emerging market economies



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

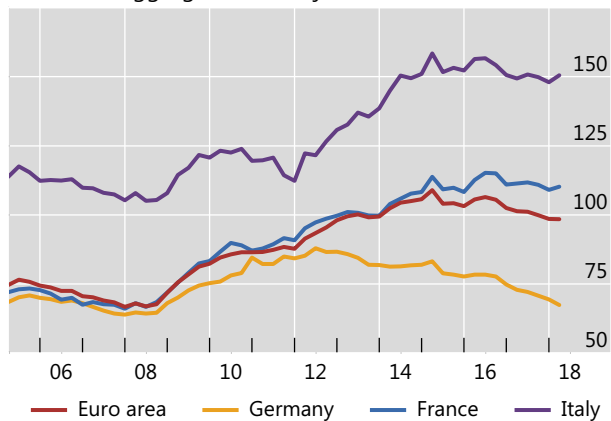
Source: BIS total credit statistics.

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

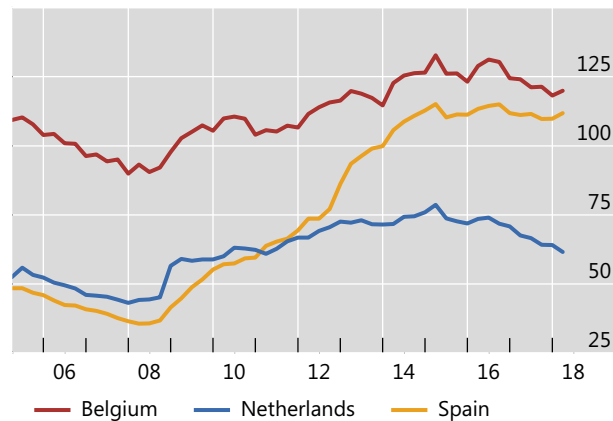
As a percentage of GDP

Graph F.6

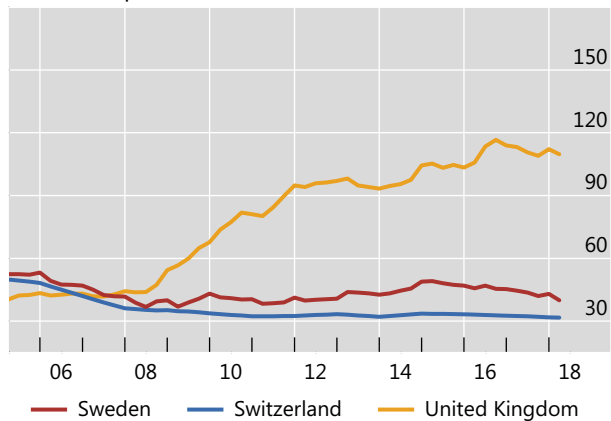
Euro area: aggregate and major countries



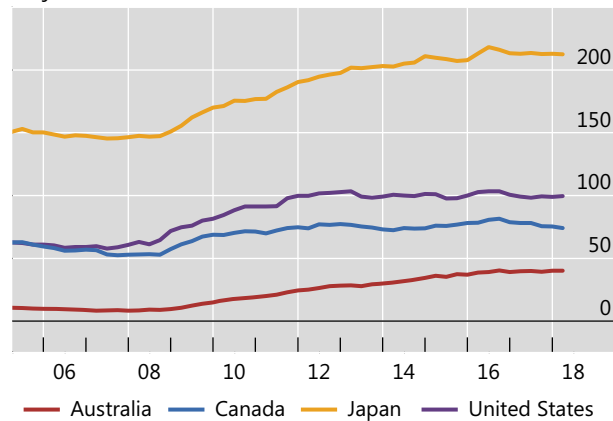
Euro area: other countries



Other European countries



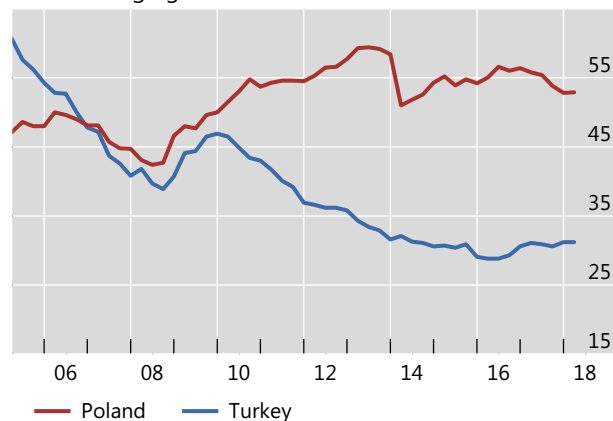
Major advanced economies



Emerging Asia



Other emerging market economies



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

¹ Consolidated data for the general government sector.

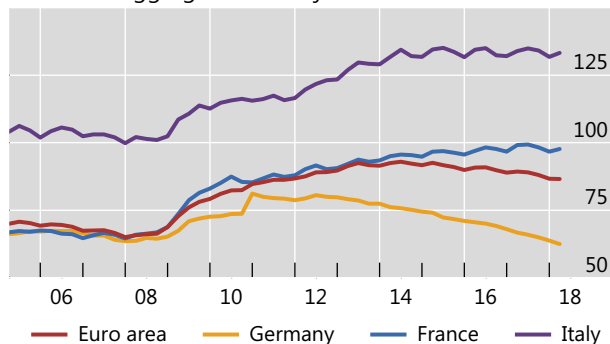
Source: BIS total credit statistics.

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

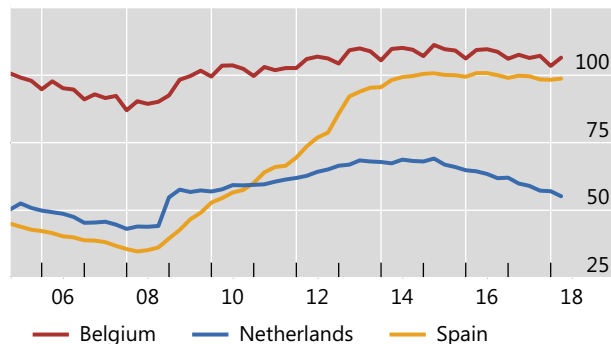
As a percentage of GDP

Graph F.7

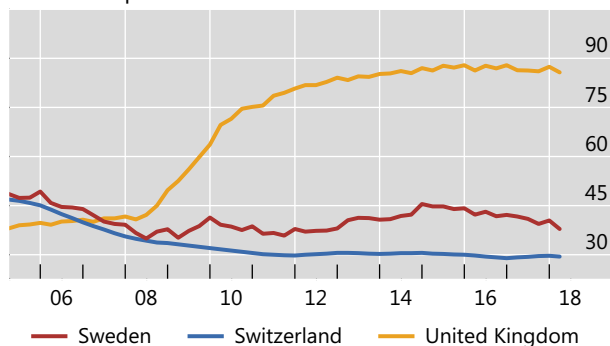
Euro area: aggregate and major countries



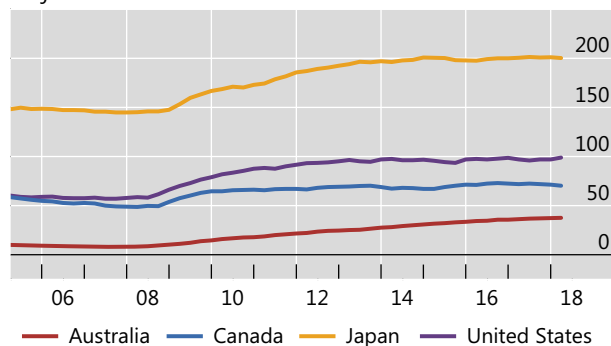
Euro area: other countries



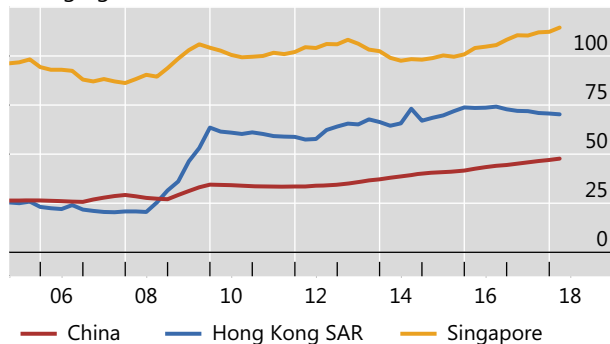
Other European countries



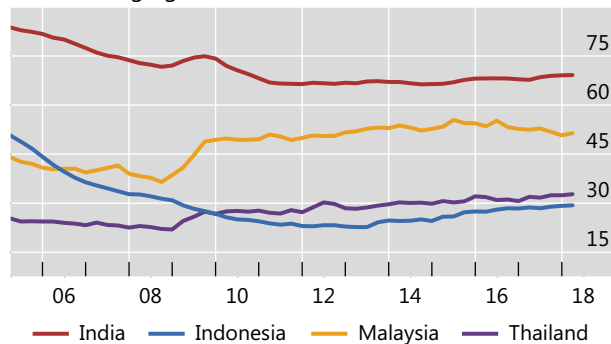
Major advanced economies



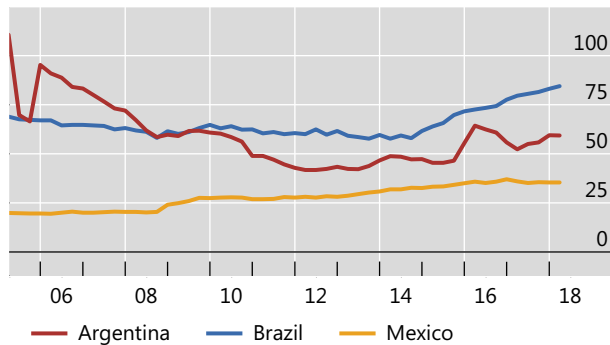
Emerging Asia



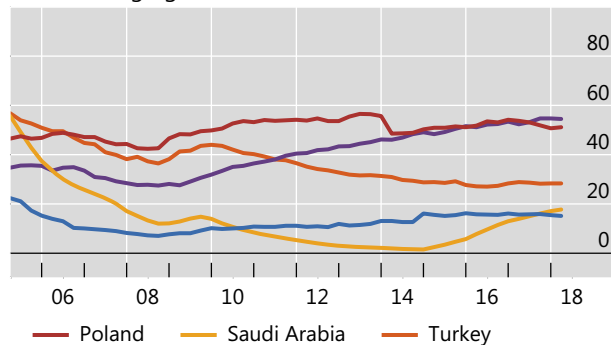
Other emerging Asia



Latin America



Other emerging market economies



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

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

Source: BIS total credit statistics.

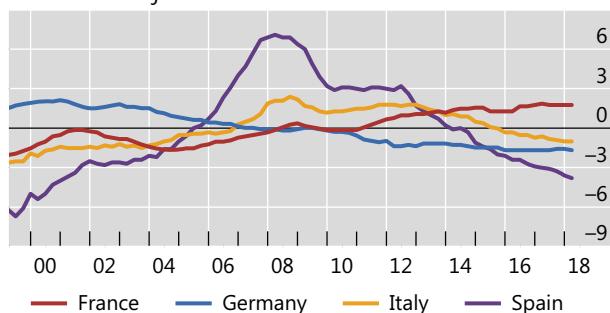
G Debt service ratios for the private non-financial sector

Debt service ratios of the private non-financial sector

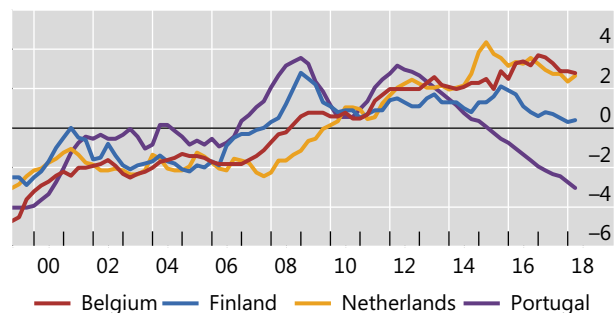
Deviation from country-specific mean, in percentage points¹

Graph G.1

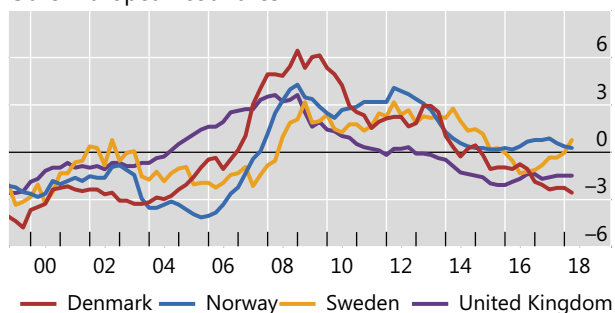
Euro area: major countries



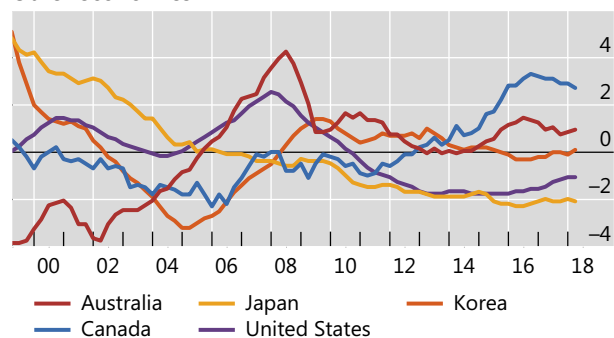
Euro area: other countries



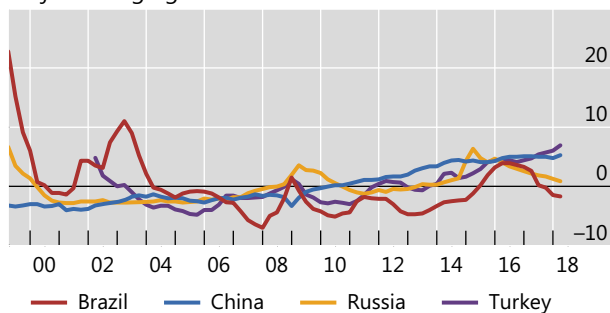
Other European countries



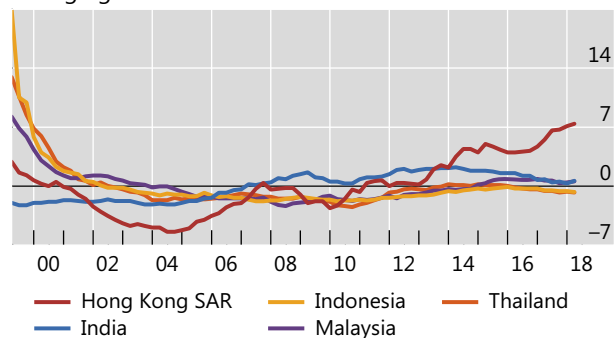
Other economies



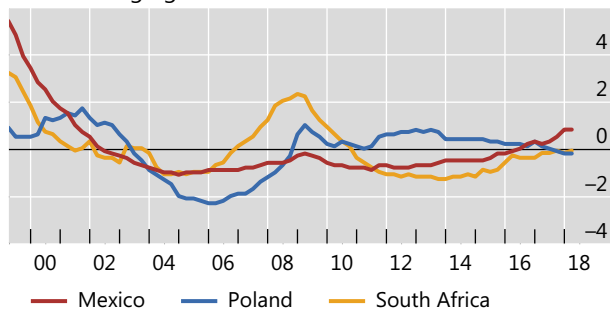
Major emerging markets²



Emerging Asia²



Other emerging markets²



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

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

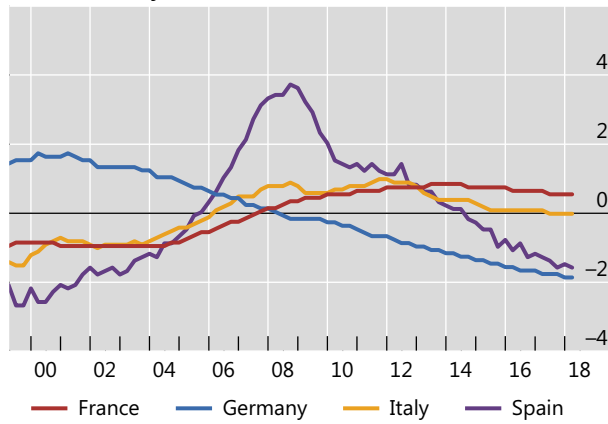
Source: BIS debt service ratios statistics.

Debt service ratios of households

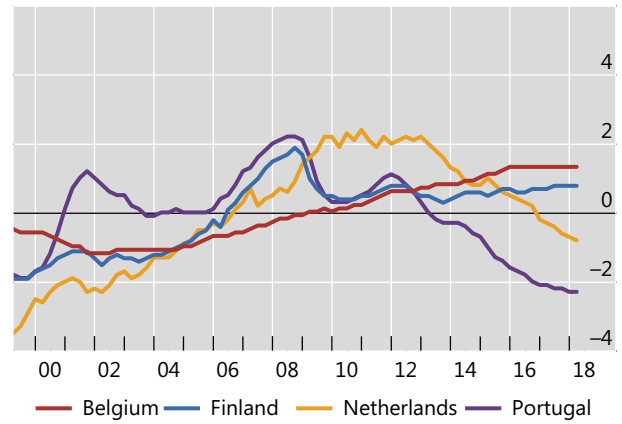
Deviation from country-specific mean, in percentage points¹

Graph G.2

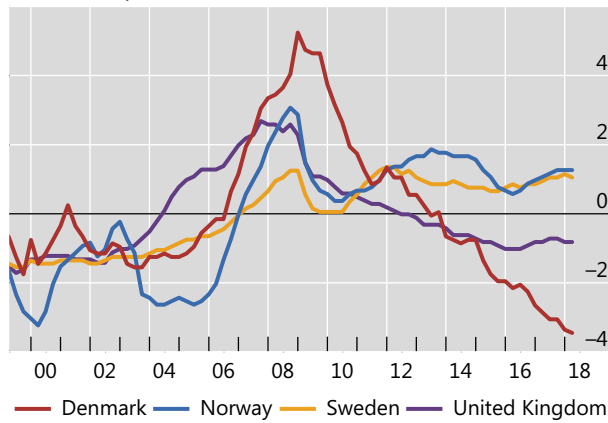
Euro area: major countries



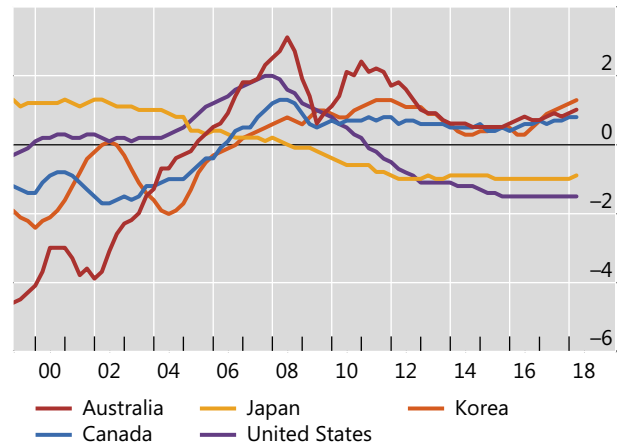
Euro area: other countries



Other European countries



Other economies



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

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

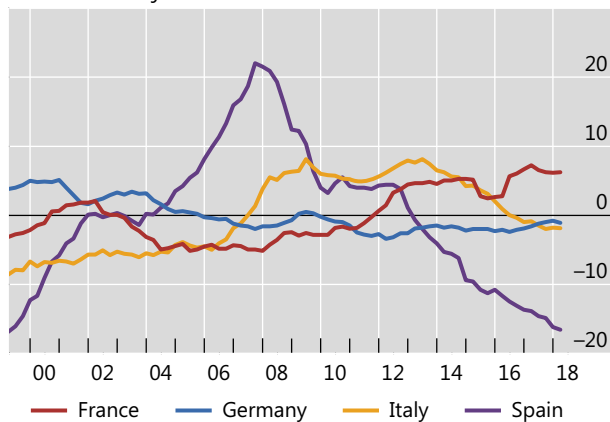
Source: BIS debt service ratios statistics.

Debt service ratios of non-financial corporations

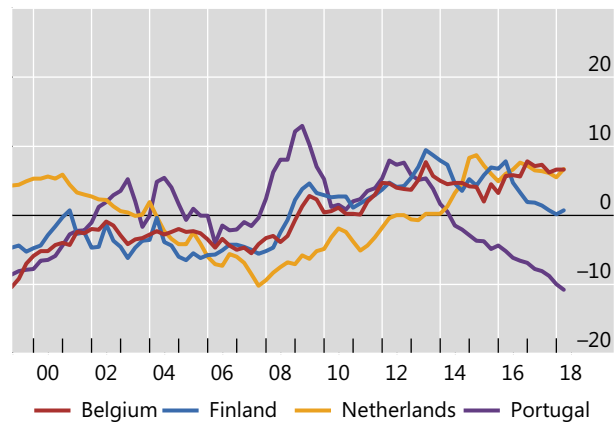
Deviation from country-specific mean, in percentage points¹

Graph G.3

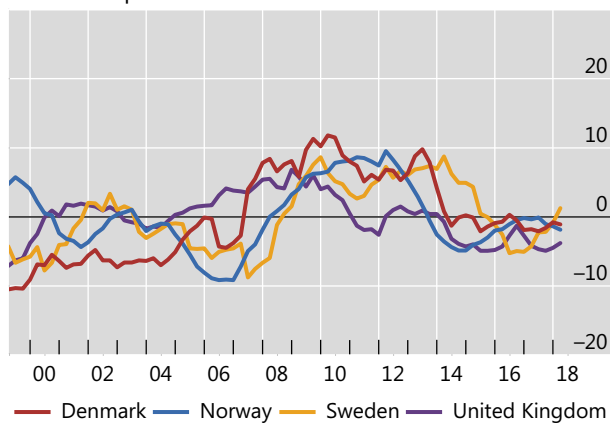
Euro area: major countries



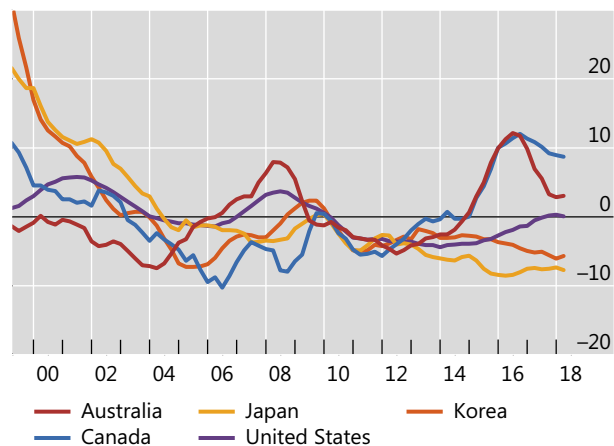
Euro area: other countries



Other European countries



Other economies



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

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

Source: BIS debt service ratios statistics.

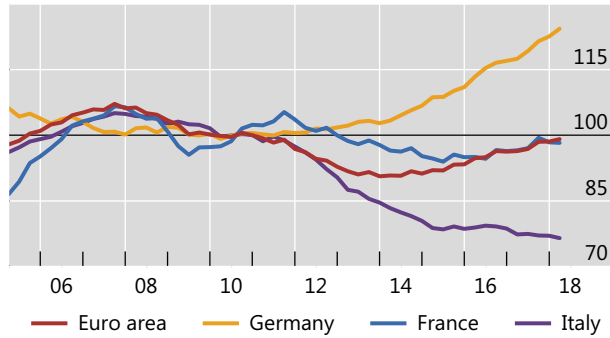
H Property price statistics

Real residential property prices

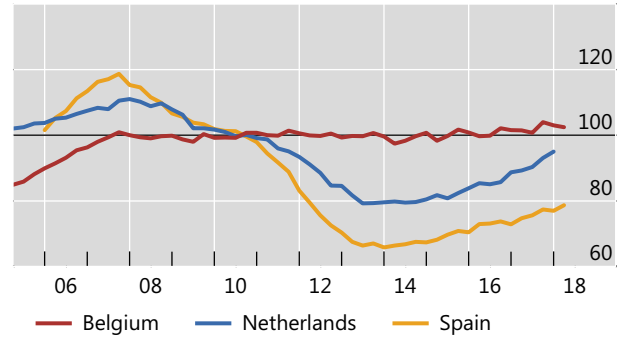
CPI-deflated, 2010 = 100

Graph H.1

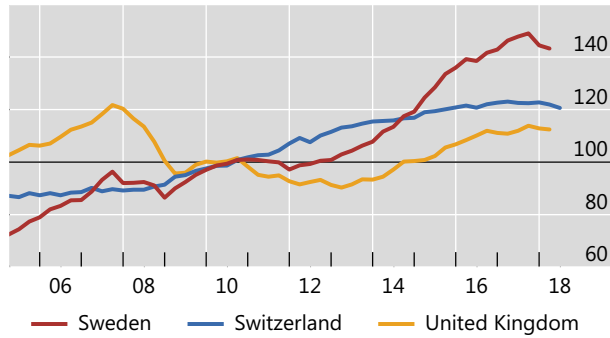
Euro area: aggregate and major countries



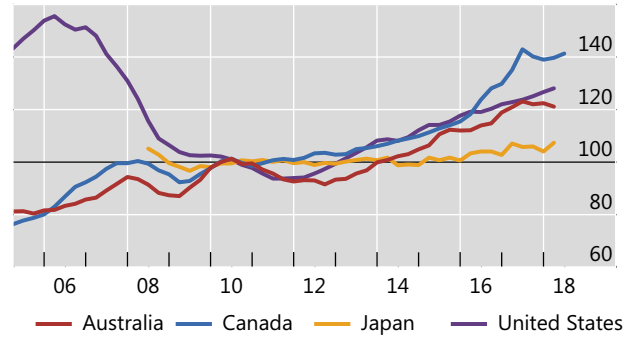
Euro area: other countries



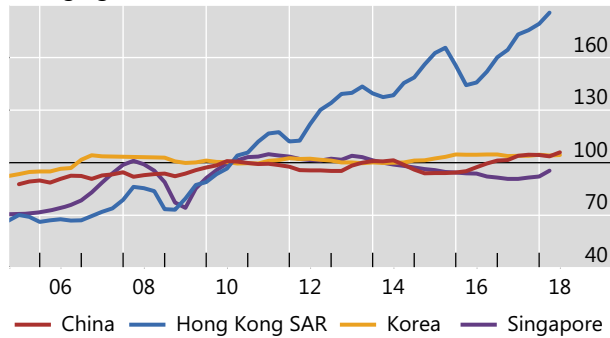
Other European countries



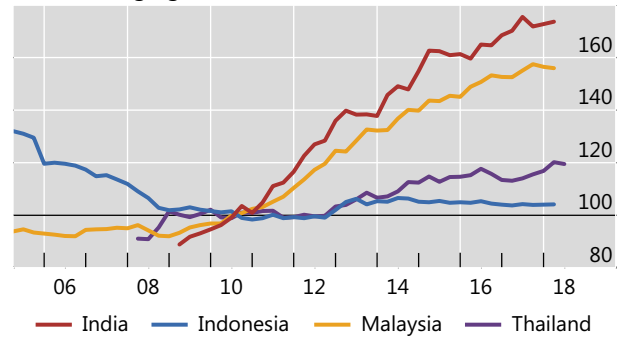
Major advanced economies



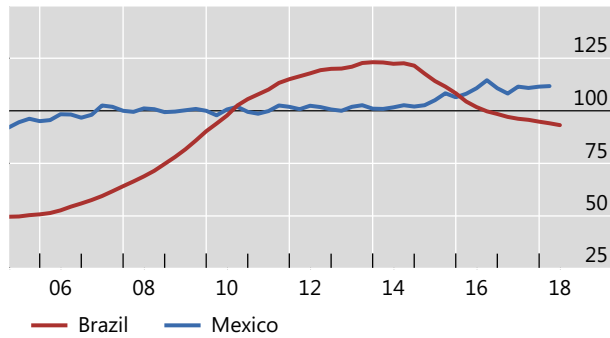
Emerging Asia



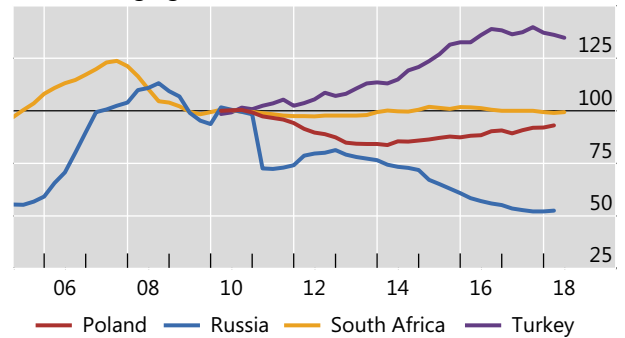
Other emerging Asia



Latin America



Other emerging market economies



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

Source: BIS property prices statistics.

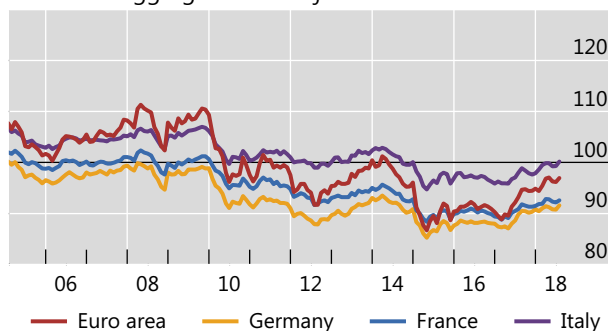
I Effective and US dollar exchange rate statistics

Real effective exchange rates

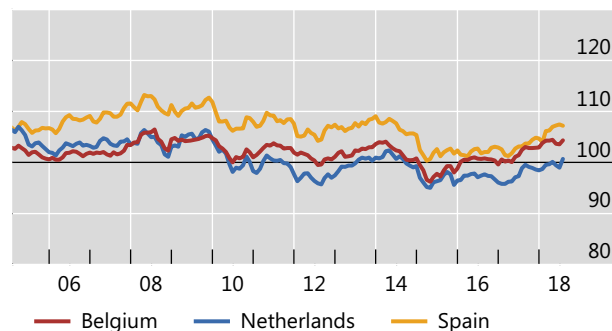
CPI-based, 1995–2005 = 100¹

Graph I.1

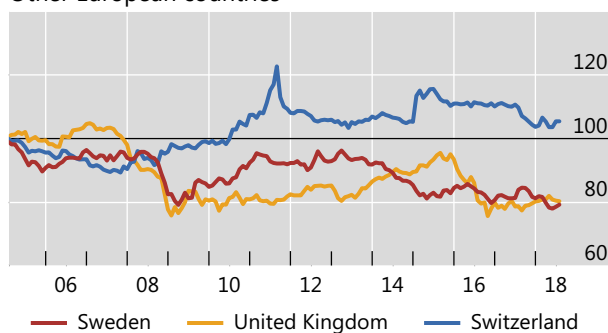
Euro area: aggregate and major countries



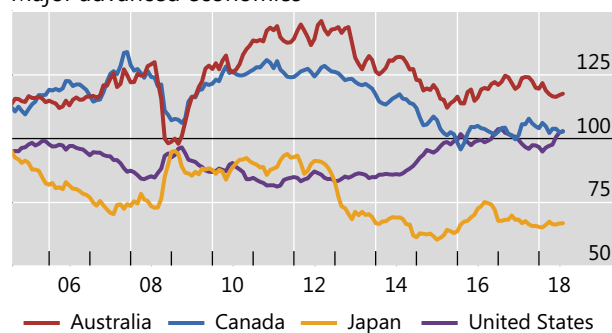
Euro area: other countries



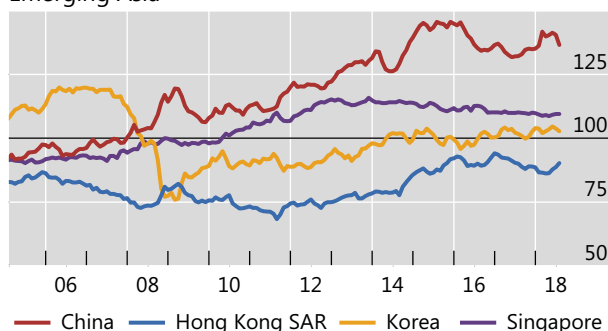
Other European countries



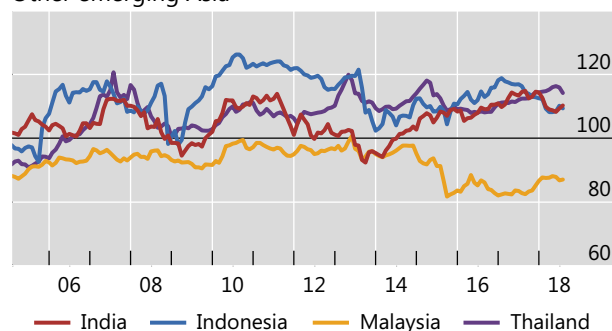
Major advanced economies



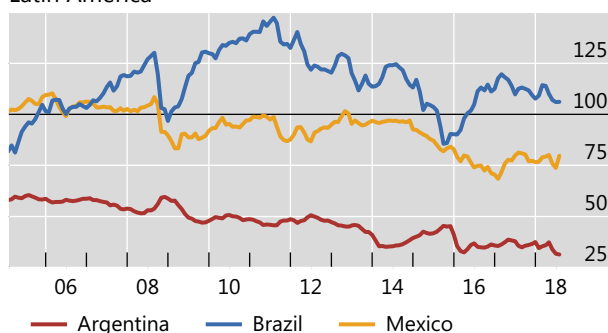
Emerging Asia



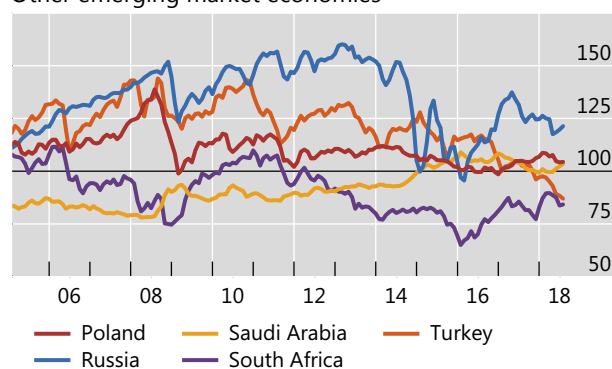
Other emerging Asia



Latin America



Other emerging market economies



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

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

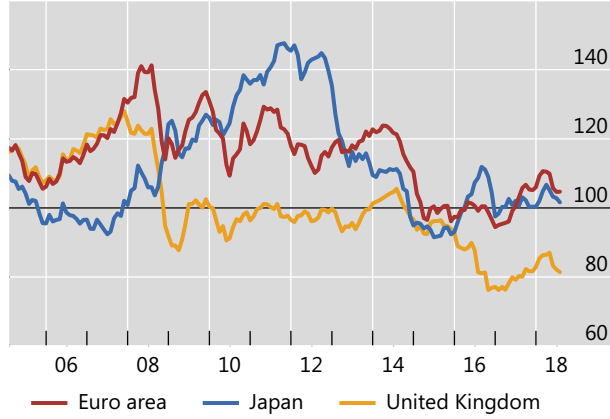
Source: BIS effective exchange rates statistics.

US dollar exchange rates

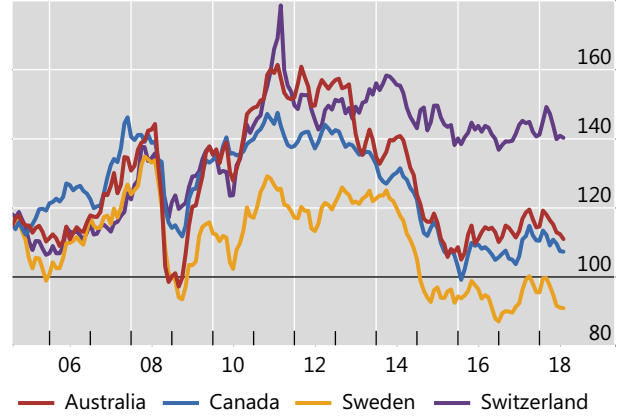
Indices, 1995–2005 = 100¹

Graph I.2

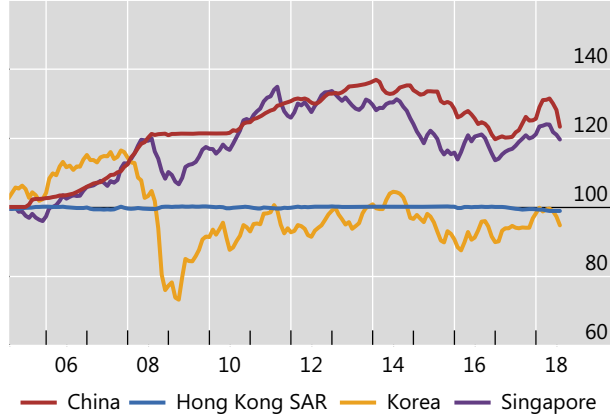
Major advanced economies



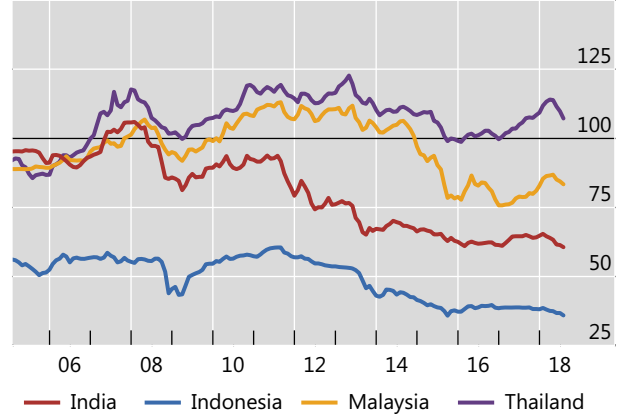
Other advanced economies



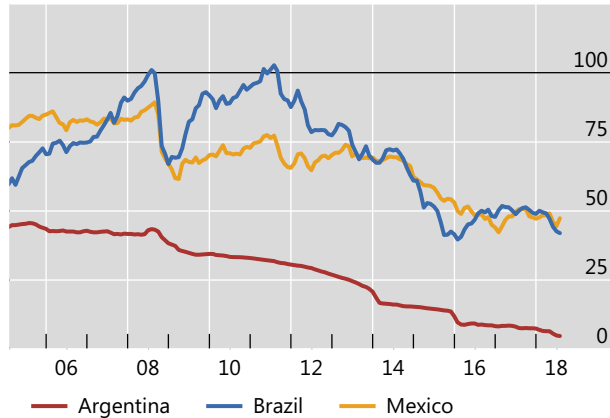
Emerging Asia



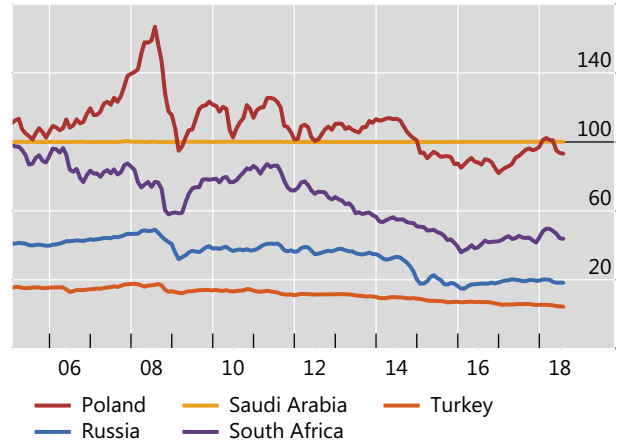
Other emerging Asia



Latin America



Other emerging market economies



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

¹ An increase indicates an appreciation of the local currency against the US dollar.

Source: BIS US dollar exchange rates statistics.

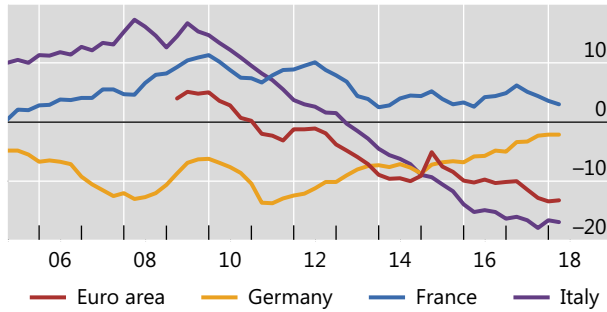
J Credit-to-GDP gaps

Credit-to-GDP gaps

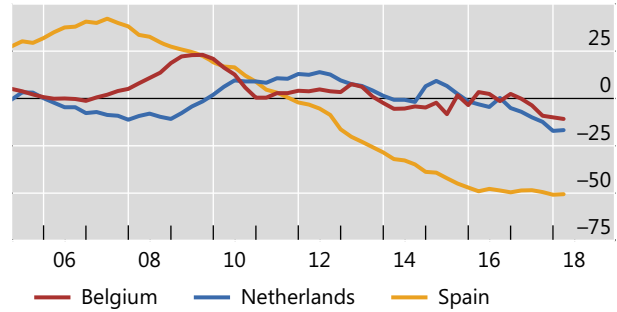
In percentage points of GDP

Graph J.1

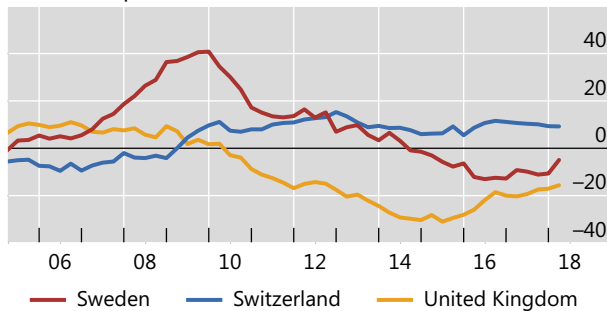
Euro area: aggregate and major countries



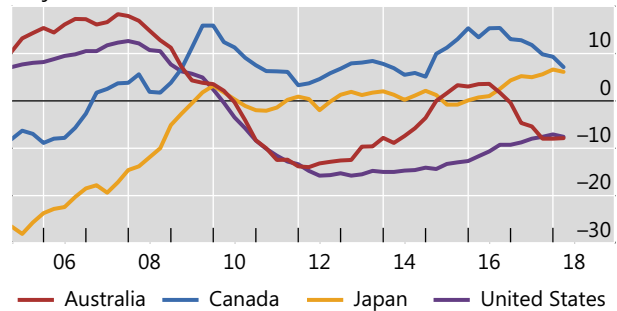
Euro area: other countries



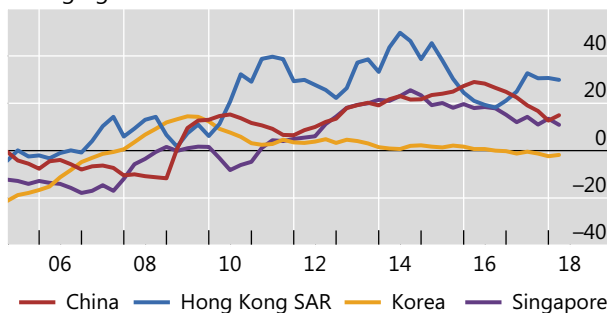
Other European countries



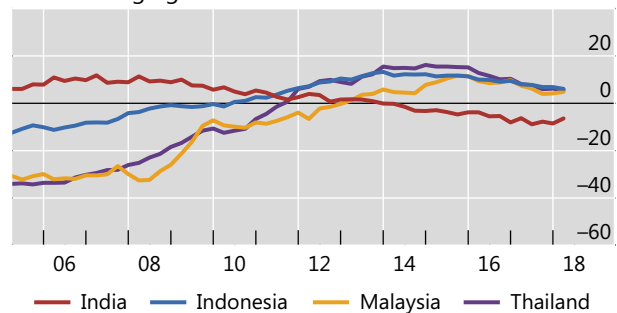
Major advanced economies



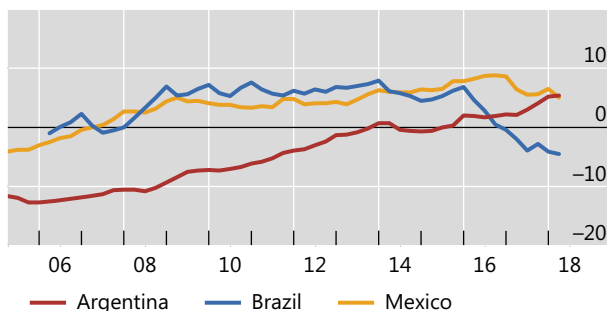
Emerging Asia



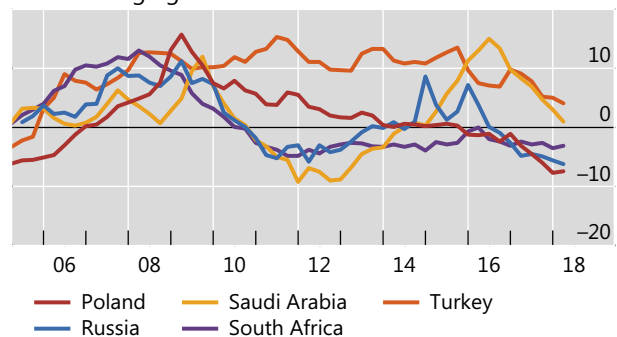
Other emerging Asia



Latin America



Other emerging market economies



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

Source: BIS credit-to-GDP gaps statistics.

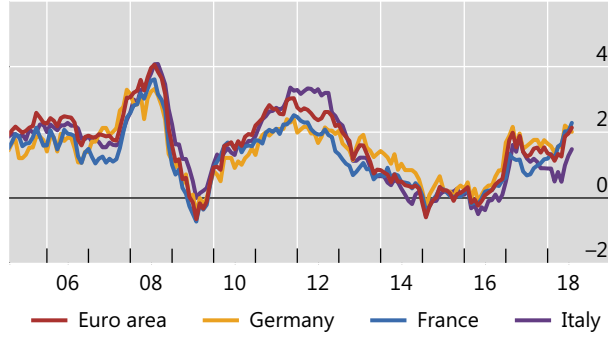
K Consumer prices

Consumer prices

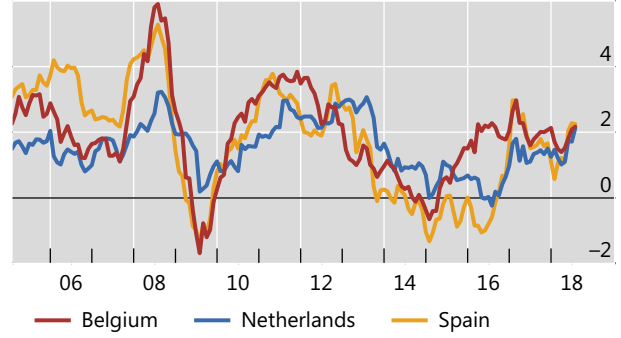
Year-on-year percentage changes

Graph K.1

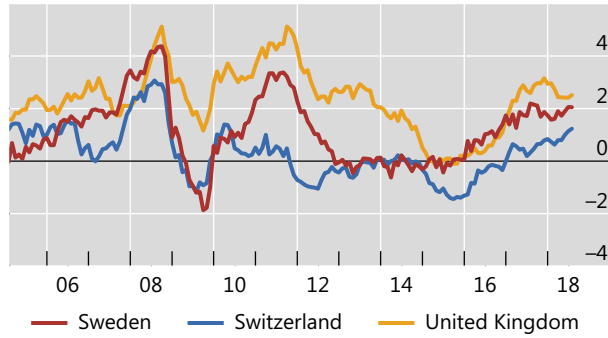
Euro area: aggregate and major countries



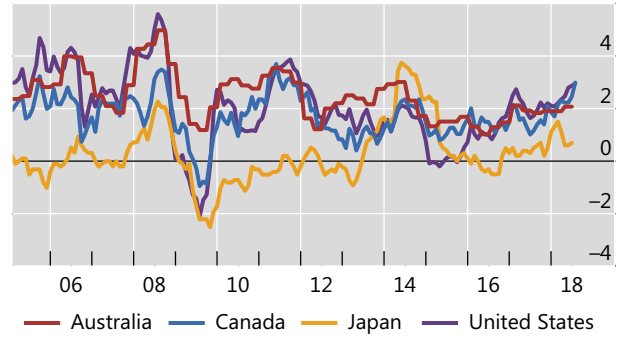
Euro area: other countries



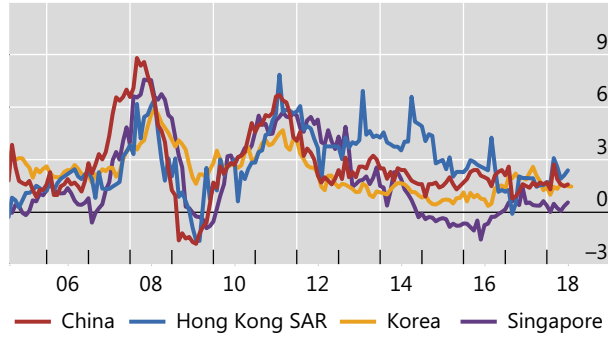
Other European countries



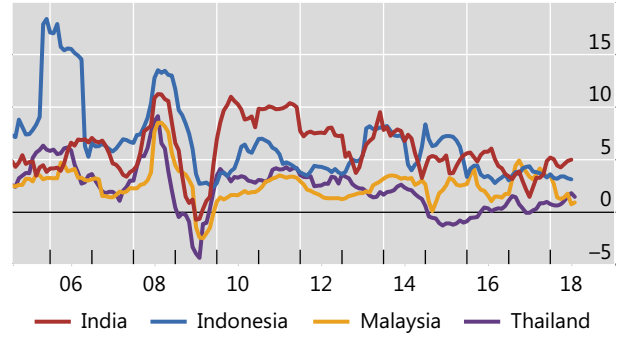
Major advanced economies



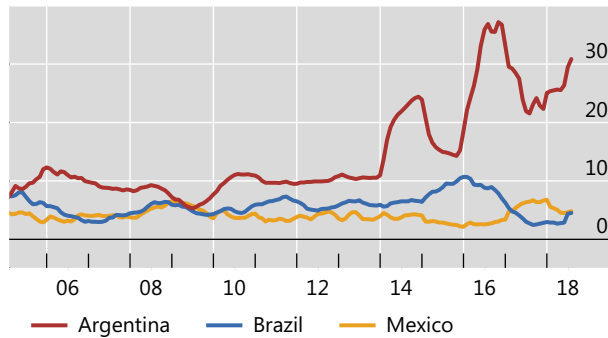
Emerging Asia



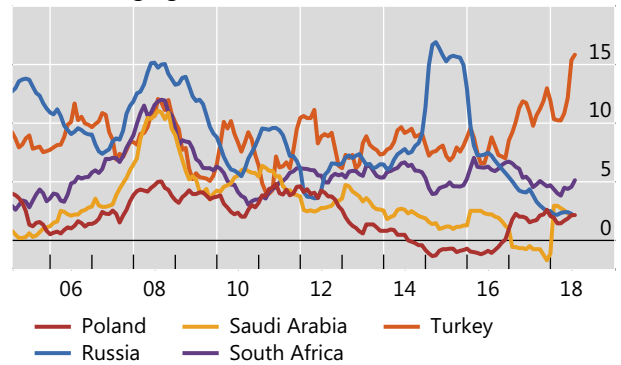
Other emerging Asia



Latin America



Other emerging market economies



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

Source: BIS consumer price statistics.

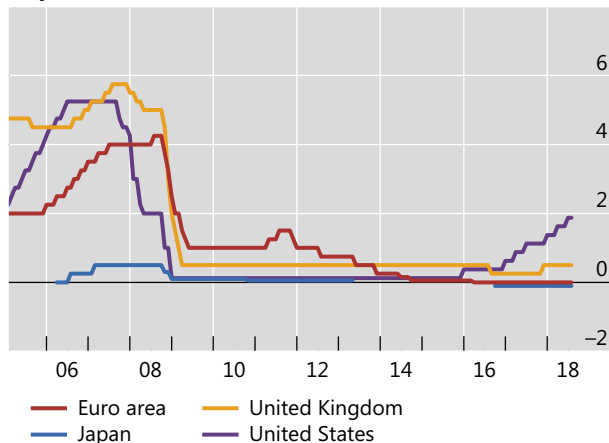
L Central bank policy rates

Central bank policy or representative rates

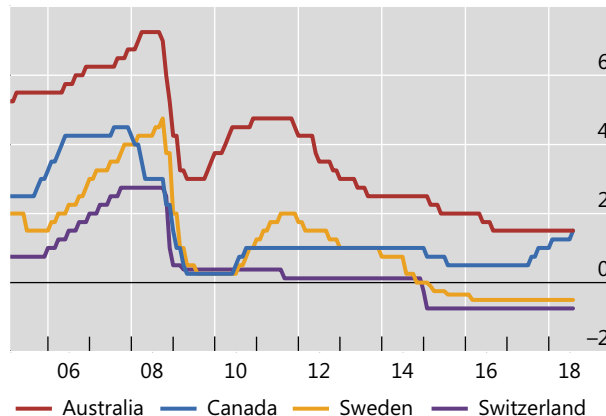
Month-end; in per cent

Graph L.1

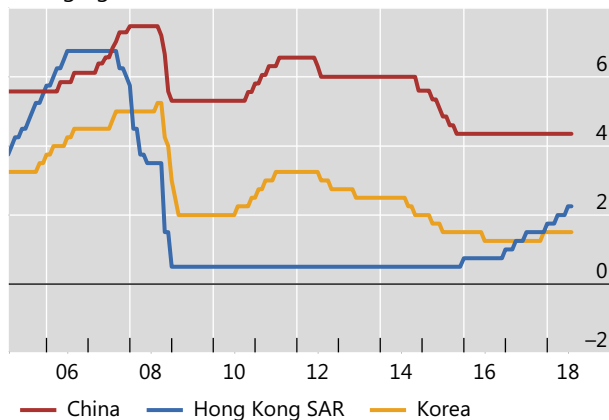
Major advanced economies



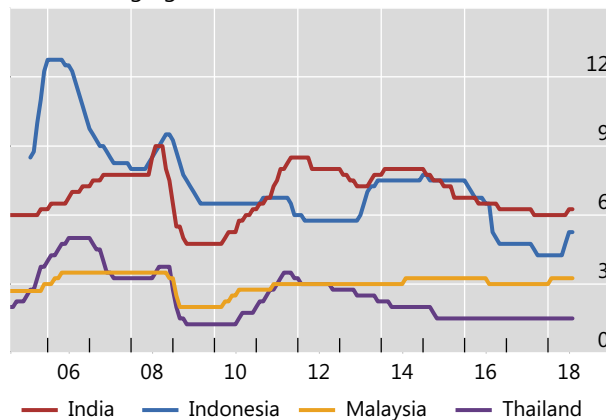
Other advanced economies



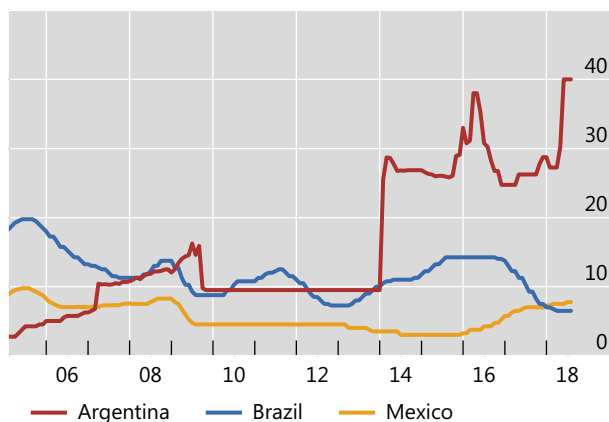
Emerging Asia



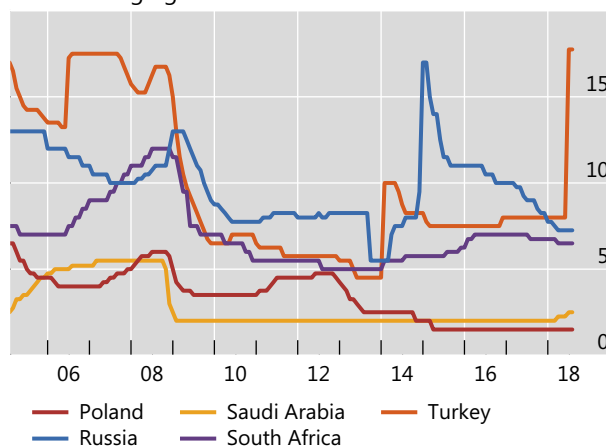
Other emerging Asia



Latin America



Other emerging market economies



Further information on the policy rates is available at www.bis.org/statistics/cbpol.htm.

Source: BIS policy rates statistics.

Special features in the BIS Quarterly Review

March 2018	Early warning indicators of banking crises: expanding the family	Iñaki Aldasoro, Claudio Borio & Mathias Drehmann
March 2018	Tracking the international footprints of global firms	Stefan Avdjiev, Mary Everett, Philip R Lane & Hyun Song Shin
March 2018	Payments are a-changin' but cash still rules	Morten Bech, Umar Faruqi, Frederik Ougaard & Cristina Picillo
March 2018	The ABCs of bank PBRs: What drives bank price-to-book ratios?	Bilyana Bogdanova, Ingo Fender & Előd Takáts
March 2018	Mortgages, developers and property prices	Michael Chui, Anamaria Illes & Christian Uppé
March 2018	The implications of passive investing for securities markets	Vladyslav Sushko & Grant Turner
December 2017	Is there a debt service channel of monetary transmission?	Boris Hofmann & Gert Peersman
December 2017	Household debt: recent developments and challenges	Anna Zabai
September 2017	FX swaps and forwards: missing global debt?	Claudio Borio, Robert McCauley & Patrick McGuire
September 2017	Central bank cryptocurrencies	Morten Bech & Rodney Garratt
September 2017	What are the effects of macroprudential policies on macroeconomic performance?	Codruta Boar, Leonardo Gambacorta, Giovanni Lombardo & Luiz Pereira da Silva
September 2017	Green bond finance and certification	Torsten Ehlert & Frank Packer

Recent BIS publications¹

BIS Papers

Low for long or turning point?

BIS Papers No 98, July 2018

The 16th BIS Annual Conference took place in Lucerne, Switzerland, on 23 June 2017. The event brought together a distinguished group of central bank Governors, leading academics and former public officials to exchange views on the topic “Low for long or turning point?”. The papers presented at the conference and the discussants’ comments are released as BIS Working Papers.

BIS Papers no 98 contains the opening address by Jaime Caruana (Former General Manager, BIS) and remarks by Alan Blinder (Princeton University) and Philip Lowe (Reserve Bank of Australia).

BIS Working Papers

Why you should use the Hodrick-Prescott filter - at least to generate credit gaps

Mathias Drehmann and James Yetman

September 2018, No 743

The credit gap, defined as the deviation of the credit-to-GDP ratio from a Hodrick-Prescott (HP) filtered trend, is a powerful early warning indicator for predicting crises. Basel III therefore suggests that policymakers should use it as part of their countercyclical capital buffer frameworks. Hamilton (2017), however, argues that you should never use an HP filter as it results in spurious dynamics, has end-point problems and its typical implementation is at odds with its statistical foundations. Instead he proposes the use of linear projections. Some have also criticised the normalisation by GDP, since gaps will be negatively correlated with output. We agree with these criticisms. Yet, in the absence of clear theoretical foundations, all proposed gaps are but indicators. It is therefore an empirical question which measure performs best as an early warning indicator for crises - the question we address in this paper. We run a horse race using quarterly data from 1970 to 2017 for 42 economies. We find that no other gap outperforms the baseline credit-to-GDP gap. By contrast, credit gaps based on linear projections in real time perform poorly.

An intermediation-based model of exchange rates

Semyon Malamud and Andreas Schrimpf

September 2018, No 743

We develop a general equilibrium model with intermediaries at the heart of international financial markets. In our model, intermediaries bargain with their customers and extract rents for providing access to foreign claims. The behavior of intermediaries, by tilting state prices, generates an explicit, non-linear risk structure in exchange rates. We show how this endogenous risk structure helps explain a number of anomalies in foreign exchange and

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/>).

international capital markets, including the safe haven properties of exchange rates and the breakdown of covered interest parity.

Quantitative or qualitative forward guidance: Does it matter?

Gunda-Alexandra Detmers, Özer Karagedikli and Richhild Moessner

August 2018, No 742

Every monetary policy decision by the Reserve Bank of New Zealand (RBNZ) is accompanied by a written statement about the state of the economy and the policy outlook, but only every second decision by a published interest rate forecast. We exploit this difference to study the relative influences of qualitative and quantitative forward guidance. We find that announcements that include an interest rate forecast lead to very similar market reactions across the yield curve as announcements that only include written statements. We interpret our results as implying that central bank communication is important, but that the exact form of that communication is less critical. Our results are also consistent with market participants understanding the conditional nature of the RBNZ interest rate forecasts.

Reserve requirements and capital flows in Latin America

Michael Brei and Ramon Moreno

August 2018, No 741

The experience of a number of central banks in emerging economies indicates that capital flows can pose a dilemma. For example, raising policy rates can attract more capital inflows by raising deposit rates. It has been suggested, however, that raising reserve requirements instead of the policy rate can address this dilemma, as deposit rates will not necessarily increase, even if lending rates rise. To investigate this possibility, this paper examines how banks adjust loan and deposit rates in response to changes in reserve requirements. We use data on 128 banks from seven Latin American countries over the period 2000-14. Our results indicate that higher reserve requirements are associated with higher loan rates, whereas deposit rates remain unchanged during normal times and decrease during periods of large capital inflows. Reserve requirements may therefore be a way to mitigate the dilemma posed by capital inflows in some Latin American economies.

The macroeconomic effects of macroprudential policy

Michael Brei and Ramon Moreno

August 2018, No 740

Central banks increasingly rely on macroprudential measures to manage the financial cycle, but the effects of such policies on the core objectives of monetary policy to stabilise output and inflation are largely unknown. In this paper, we quantify the effects of changes in maximum loan-to-value (LTV) ratios on output and inflation. We rely on a narrative identification approach based on detailed reading of policymakers' objectives when implementing the measures. We find that over a four-year horizon, a 10 percentage point decrease in the maximum LTV ratio leads to a 1.1% reduction in output. As a rule of thumb, the impact of a 10 percentage point LTV tightening can be viewed as roughly comparable to that of a 25 basis point increase in the policy rate. However, the effects are imprecisely estimated and the effect is only present in emerging market economies. We also find that tightening LTV limits has larger economic effects than loosening them. At the same time, we show that changes in maximum LTV ratios have substantial effects on credit and house price growth. Using inverse propensity weights to re-randomise LTV actions, we show that these effects are likely causal.

The economics of revoking NAFTA

Raphael Auer, Barthélémy Bonadio and Andrei A Levchenko

August 2018, No 739

In a world economy interconnected by global value chains (GVCs), domestic productivity depends on the availability of imported inputs and the vast majority of workers stands to lose from protectionism. To exemplify this, we provide a quantitative assessment of the aggregate and distributional effects of one hypothetical protectionist measure - the case of revoking the North American Free Trade Agreement (NAFTA). Using a multi-country, multi-sector, quantitative model of global production, we show that a full revocation extending to both tariffs and non-tariff trade barriers would result in a real annual GDP loss of US\$ 37 billion in

Canada, US\$ 22 billion in Mexico, and US\$ 40 billion in the USA. In contrast, annual combined losses would amount to less than US\$ 5 billion if only tariff rates were to be increased. For both counterfactuals, the distributional impacts across sectors would be an order of magnitude larger than the aggregate effects. Combining these results with information on the geographic distribution of sectoral employment, we show that almost all regions in North America would record reductions in their average real wage.

Bank solvency risk and funding cost interactions in a small open economy: evidence from Korea

Iñaki Aldasoro and Kyoungsoon Park

August 2018, No 738

Using proprietary balance sheet data for Korean banks and a simultaneous equation model, we document that increased marginal funding costs lead to larger solvency risk (as measured by the Tier 1 regulatory capital ratio), which, in turn, leads to larger marginal funding costs. A 100 bp increase in marginal funding costs (solvency risk) is associated with a 155 (77) bp increase in solvency risk (marginal funding costs). The findings of an economically and statistically significant relationship are robust to considering different proxies for solvency risk, types of banks, interest rate regimes, and interest margin management strategies. They also hold irrespective of the funding profile considered. FX-related macroprudential policies can affect the negative feedback loop by muting the effect of marginal funding costs on solvency risk. Our findings can inform the calibration of macroprudential stress tests.

Transmission of monetary policy through global banks: whose policy matters?

Stefan Avdjiev, Catherine Koch, Patrick McGuire and Goetz von Peter

August 2018, No 737

This paper explores the basic question of whose monetary policy matters for banks' international lending. In the international context, monetary policies from several countries could come into play: the lender's, the borrower's, and that of a third country, the issuer of the currency in which cross-border lending is denominated. Using the rich dimensionality of the BIS international banking statistics, we find significant effects for all three policies. US monetary easing fuels cross-border lending in US dollars, as befits a global funding currency. At the same time, a tightening in the lender or the borrower country reinforces international dollar lending as global banks turn to the greenback for cheaper funding and toward borrowers abroad. Our results also show that stronger capitalization and better access to funding sources mitigate the frictions underpinning the transmission channels. Analogous results for euro-denominated lending confirm that global funding currencies play a key role in international monetary policy transmission.

The role of household debt heterogeneity on consumption: Evidence from Japanese household data

Jouchi Nakajima

July 2018, No 736

This paper estimates the impact of household debt on consumption behaviour using data from the Japanese Preference Parameters Study. Covering the 2005–13 period, the survey is the first of its kind for Japan. It features responses to forward-looking questions about key risks to income, shedding light on the motives for household savings behaviour. The analysis finds that household marginal propensities to consume (MPCs) were significantly higher for highly-indebted Japanese households than for those with little-to-no debt - a type of variation that is consistent with findings for other countries. The evidence points to a significant precautionary saving motive by Japanese households, with savers particularly concerned about (unlikely) future unemployment spells and longevity risks.

Gauging procyclicality and financial vulnerability in Asia through the BIS banking and financial statistics

Stefan Avdjiev, Bat-el Berger and Hyun Song Shin

July 2018, No 735

We look back at past episodes of financial stress in Asia with a forward-looking perspective. We put ourselves in the shoes of a contemporary observer with the data at hand and ask what evidence was available on the systematic build-up of vulnerabilities. We reconstruct a

graphical narrative of banking and financial developments at the time. Our exercise showcases the usefulness of the BIS international banking and financial statistics as a window on the financial system's procyclicality. We conclude with a real-time forward-looking survey of current financial vulnerabilities, focusing on the implications of the shift in the pattern of credit intermediation from banks to bond markets.

Payments, credit and asset prices

Monika Piazzesi and Martin Schneider

July 2018, No 734

This paper studies a modern monetary economy: trade in both goods and securities relies on money provided by intermediaries. While money is valued for its liquidity, its creation requires costly leverage. In addition, security prices and the transmission of monetary policy then depend on the institutional details of the payment system. The price of a security is higher if it helps back inside money, and lower if more inside money is used to trade it. In addition, it can be low in security market busts if bank portfolios suffer, but also in booms if trading absorbs more money. The government has multiple policy tools: in addition to the return on outside money, it affects the mix of securities used to back inside money.

A risk-centric model of demand recessions and macroprudential policy

Ricardo Caballero and Alp Simsek

July 2018, No 733

When investors are unwilling to hold the economy's risk, a decline in the interest rate increases the Sharpe ratio of the market and equilibrates the risk markets. If the interest rate is constrained from below, risk markets are instead equilibrated via a decline in asset prices. However, the latter drags down aggregate demand, which further drags prices down, and so on. If investors are pessimistic about the recovery, the economy becomes highly susceptible to downward spirals due to dynamic feedbacks between asset prices, aggregate demand, and potential growth. In this context, belief disagreements generate highly destabilizing speculation that motivates macroprudential policy.

The global factor in neutral policy rates: Some implications for exchange rates, monetary policy, and policy coordination

Richard Clarida

July 2018, No 732

This paper highlights some of the theoretical and practical implications for monetary policy and exchange rates that derive specifically from the presence of a global general equilibrium factor embedded in neutral real policy rates in open economies. Using a standard two country DSGE model, we derive a structural decomposition in which the nominal exchange rate is a function of the expected present value of future neutral real interest rate differentials plus a business cycle factor and a PPP factor. Country specific "r*" shocks in general require optimal monetary policy to pass these through to the policy rate, but such shocks will also have exchange rate implications, with an expected decline in the path of the real neutral policy rate reflected in a depreciation of the nominal exchange rate. We document a novel empirical regularity between the equilibrium error in the VECM representation of the empirical Holston Laubach Williams (2017) four country r* model and the value of the nominal trade weighted dollar. In fact, the correlation between the dollar and the 12 quarter lag of the HLW equilibrium error is estimated to be 0.7. Global shocks to r* under optimal policy require no exchange rate adjustment because passing through r* shocks to policy rates 'does all the work' of maintaining global equilibrium. We also study a richer model with international spillovers so that in theory there can be gains to international policy cooperation. In this richer model we obtain a similar decomposition for the nominal exchange rate, but with the added feature that r* in each country is a function of global productivity and business cycle factors even if these factors are themselves independent across countries. We argue that in practice, there could well be significant costs to central bank communication and credibility under a regime of formal policy cooperation, but that gains to policy coordination could be substantial given that r*'s are unobserved but are correlated across countries.

The likelihood of effective lower bound events

Michal Franta

June 2018, No 731

This paper provides estimates of the probability of an economy hitting its effective lower bound (ELB) on the nominal interest rate and of the expected duration of such an event for eight advanced economies. To that end, a mean-adjusted panel vector autoregression with static interdependencies and the possibility of regime change is estimated. The simulation procedure produces ELB risk estimates for both the short term, where the current phase of the business cycle plays an important role, and the medium term, where the occurrence of an ELB situation is determined mainly by the equilibrium values of macroeconomic variables. The paper also discusses the ELB event probability estimates with respect to previous approaches used in the literature.

US monetary policy and fluctuations of international bank lending

Stefan Avdjiev and Galina Hale

June 2018, No 730

There is no consensus in the empirical literature on the direction in which U.S. monetary policy affects cross-border bank lending. We find robust evidence that the impact of the U.S. federal funds rate on cross-border bank lending in a given period depends on the prevailing international capital flows regime and on the level of the two main components of the federal funds rate: macroeconomic fundamentals and the monetary policy stance. During episodes in which bank lending from advanced to emerging economies is booming, the relationship between the federal funds rate and cross-border bank lending is positive and mostly driven by the macroeconomic fundamentals component, which is consistent with a search-for-yield behavior on the part of internationally-active banks. In contrast, during episodes of stagnant growth in bank lending from advanced to emerging economies, the relationship between the federal funds rate and bank lending is negative, mainly due to the monetary policy stance component of the federal funds rate. The latter set of results is most pronounced for lending to emerging markets, which is consistent with the international bank-lending channel and flight-to-quality behavior of internationally-active banks.

Has inflation targeting become less credible?

Nathan Sussman and Osnat Zohar

June 2018, No 729

Beginning with the global financial crisis (2008) the correlation between crude oil prices and medium-term and forward inflation expectations increased leading to fears of their unanchoring. Using the first principal component of commodity prices as a measure for global aggregate demand, we decompose nominal oil prices to a global demand factor and remaining factors. Using a Phillips Curve framework we find a structural change after the collapse of Lehman Brothers when inflation expectations reacted more strongly to global aggregate demand conditions embedded in oil prices. Within this framework we cannot reject the hypothesis that expectations remained anchored.

Accumulation of foreign currency reserves and risk-taking

Rasmus Fatum and James Yetman

June 2018, No 728

We assess whether the accumulation of foreign currency reserves in the Asia-Pacific region may have unintended consequences in the form of increased private sector risk-taking. To do so we carry out a country-specific daily data event study analysis of the relationship between official announcements of reserves stocks and various proxy measures of risk-taking. Overall, our results suggest that reserves accumulation exerts no significant influence on risk-taking.

Recent RMB policy and currency co-movements

Robert N McCauley and Chang Shu

June 2018, No 727

This study investigates how variation in the determinants of the renminbi's daily fixing since the August 2015 exchange rate reform maps on to variation in the co-movement of the renminbi with regional and other emerging market currencies. We first identify three post-reform periods of RMB management: transition, basket management and countercyclical

management. The co-movement with regional and Latin American currencies peaked in the basket period, when the daily fixing was most predictable and multilateral. By contrast, the decline in co-movement in the countercyclical management period between May and July 2017 leaves it premature to speak of a renminbi zone. The dependence of the co-movements on renminbi management has important implications for renminbi internationalisation.

Residential investment and economic activity: evidence from the past five decades

Emanuel Kohlscheen, Aaron Mehrotra and Dubravko Mihaljek

June 2018, No 726

We analyse the evolution and main drivers of residential investment, using a panel with quarterly data for 15 advanced economies since the 1970s. Residential investment is a notably volatile component of real GDP in all countries in the sample. We find real house price growth, net migration inflows and the size of the existing housing stock to be significant drivers of residential investment across various model specifications. We also detect important asymmetries: interest rate increases affect residential investment more than interest rate cuts, and interest rate changes have larger effects on residential investment when its share in overall GDP is rising. Finally, we show that adding information on residential investment significantly improves the performance of standard recession prediction models.

Basel Committee on Banking Supervision

Pillar 3 disclosure requirements - regulatory treatment of accounting provisions

August 2018

The Committee today released a technical amendment on additional Pillar 3 disclosure requirements for those jurisdictions implementing an expected credit loss (ECL) accounting model as well as for those adopting transitional arrangements for the regulatory treatment of accounting provisions. The amendment is intended to provide users with disclosures that fully reflect any transitional effects for the impact of expected credit loss accounting on regulatory capital, as well as to provide further information on the allocation of accounting provisions in the regulatory categories of general and specific provisions for standardised exposures during the interim period.

Technical amendments are defined as changes in standards that are not substantial in nature but that cannot be unambiguously resolved based on the current text.

Incentives to centrally clear over-the-counter (OTC) derivatives - A post-implementation evaluation of the effects of the G20 financial regulatory reforms

August 2018

The report concludes that the reforms - particularly capital requirements, clearing mandates and margin requirements for non-centrally cleared derivatives - are achieving their goals of promoting central clearing, especially for the most systemic market participants. This is consistent with the goal of reducing complexity and improving transparency and standardisation in the OTC derivatives markets. Beyond the systemic core of the derivatives network of CCPs, dealers/clearing service providers and larger, more active clients, the incentives are less strong.

The report identifies reform areas that may merit consideration by the relevant standard-setting bodies (SSBs). The findings from the report will inform relevant SSBs regarding any subsequent policy efforts and potential adjustments, bearing in mind the original objectives of the reforms. This does not imply a scaling back of those reforms or an undermining of members' commitment to implement them.

Survey on the interaction of regulatory instruments: results and analysis

July 2018

This report aims to summarise and analyse the results of the second-wave of the survey conducted by the Basel Committee's Research Task Force on the role of multiple regulatory constraints in the Basel III framework. The results of the first wave (reporting date 30 June

2016) were published in February 2017 and invited additional survey questions as well as more in-depth interpretations of banks' answers.

Some aggregate results are broken down by bank groups and geography. To provide additional insights (and check data quality), banks' answers from this survey are merged to banks' information on the other topics collected through the Basel III monitoring exercise. We find that there is a great degree of consistency across topics and, also, between the two survey waves.

Global systemically important banks: revised assessment methodology and the higher loss absorbency requirement July 2018

The Basel Committee on Banking Supervision published today the Global systemically important banks: revised assessment methodology and the higher loss absorbency requirement. The revised methodology is expected to be implemented in member jurisdictions by 2021. Building on member jurisdictions' experience and the feedback received during the public consultation concluded in June 2017, the Committee has reconfirmed the fundamental structure of the global systemically important bank (G-SIB) framework. There is general recognition that the framework is meeting its primary objective of requiring G-SIBs to hold higher capital buffers and providing incentives for such firms to reduce their systemic importance.

The decision to maintain the core elements of the G-SIB framework will further contribute to the stability of the regulatory environment after the recent finalisation of the Basel III post-crisis reforms.

The Committee agreed to the following enhancements to the G-SIB framework:

- Amending the definition of cross-jurisdictional indicators consistent with the definition of BIS consolidated statistics;
- Introducing a trading volume indicator and modifying the weights in the substitutability category;
- Extending the scope of consolidation to insurance subsidiaries;
- Revising the disclosure requirements;
- Providing further guidance on bucket migration and associated higher loss absorbency (HLA) surcharge when a G-SIB moves to a lower bucket; and
- Adopting a transitional schedule for the implementation of these enhancements to the G-SIB framework.

When the G-SIB framework was first published, the Committee agreed to review the framework every three years to allow for the opportunity to enhance the framework, as needed. The Committee also reconfirmed the importance of the three-year review cycle. In particular, the Committee will pay attention to alternative methodologies for the substitutability category, so as to allow the cap to be removed at that time.

Treatment of extraordinary monetary policy operations in the Net Stable Funding Ratio June 2018

The Basel Committee on Banking Supervision has approved a □ technical amendment which is related to the treatment of extraordinary monetary policy operations in the Net Stable Funding Ratio (NSFR).

Effective immediately, this amendment to the NSFR standard allows reduced required stable funding factors for central bank claims with a maturity of more than six months, subject to a floor of 5%. This amendment aims to provide greater flexibility in the treatment of extraordinary central bank liquidity-absorbing monetary policy operations.

The Basel Committee wishes to thank all those who contributed time and effort to express their views during the December 2017 consultation process.

Progress in adopting the "Principles for effective risk data aggregation and risk reporting"

June 2018

The Basel Committee on Banking Supervision today published its latest progress report on banks' implementation of the Principles for effective risk data aggregation and reporting. The Principles, issued in January 2013, aim to strengthen banks' risk data aggregation and risk reporting with a view to improving their risk management, decision-making processes and resolvability.

The progress report is based on the results of a self-assessment survey completed by authorities with supervisory responsibility for global systemically important banks (G-SIBs). The report reviews G-SIBs' progress in implementing the Principles in 2017. A previous progress report, published in March 2017, assessed implementation during 2016.

The assessment covered 30 G-SIBs designated in 2011-12 that were required to adopt the Principles by January 2016. It notes that in 2017 most G-SIBs made, at best, marginal progress in implementing the Principles. G-SIBs have found it challenging to comply with the Principles, due mainly to the complexity and interdependence of IT improvement projects. As a result, the expected date of compliance has slipped back for many banks.

In view of this outcome, and to promote further adoption of the Principles, the Basel Committee has made the following recommendations:

- Banks should continue to implement the Principles according to the roadmaps agreed with their supervisors and consider how implementation would benefit other data-related initiatives and requirements; and

- Supervisors should maintain their emphasis on ensuring that banks fully implement the Principles. This includes meeting with banks' boards of directors and/or senior management in 2018 to receive updates on implementation progress. Supervisors should also continue to promote home-host cooperation in relation to the implementation of the Principles by global banking groups.

The Committee will continue to monitor G-SIBs' progress in adopting the Principles and plans to conduct the next assessment in 2019.

Committee on the Global Financial System

Financial stability implications of a prolonged period of low interest rates

July 2018 No 61

The decade following the Great Financial Crisis (GFC) has been marked by historically low interest rates. An environment characterised by "low-for-long" interest rates may dampen the profitability and strength of financial firms and thus become a source of vulnerability for the financial system. In addition, low rates could change firms' incentives to take risks, which could engender additional financial sector vulnerabilities.

This report identifies and provides evidence for the channels through which a "low-for-long" scenario might affect financial stability, focusing on the impact of low rates on banks and on insurance companies and private pension funds (ICPFs). For banks, low rates might reduce resilience by lowering profitability, and thus the ability of banks to replenish capital after a negative shock, and by encouraging risk-taking. For ICPFs, falling interest rates cause the present value of liabilities to rise more than that of assets, affecting solvency. In addition, the scope for claimholders to terminate life insurance contracts early can become a source of liquidity vulnerability for insurance companies if a period of low interest rates ends with a sudden snapback in rates.

The report finds that while banks should generally be able to cope with solvency challenges in a low-for-long scenario, ICPFs would do less well. Even though the Working Group identified only a relatively limited amount of additional risk-taking by banks and ICPFs in response to low rates, a low-for-long scenario could still engender material risks to financial

stability. For example, even in the absence of greater risk-taking, a future snapback in interest rates could be challenging for financial institutions. Banks without sufficient capital buffers could face solvency issues, driven by both valuation and credit losses. ICPFs, instead, could face liquidity problems, driven either by additional collateral demands linked to losses on derivative positions or by spikes in early liquidations.

Committee on Payments and Market Infrastructure

Governance arrangements for critical OTC derivatives data elements (other than UTI and UPI) - consultative report **August 2018 No 182**

The CPMI and IOSCO seek public comment on possible governance arrangements for critical OTC derivatives data elements other than the Unique Transaction Identifier (UTI), and the Unique Product Identifier (UPI) (CDE). CDE are the key data elements for reporting over-the-counter (OTC) derivatives transactions, in addition to the UTI and the UPI.

Analysis of Central Clearing Interdependencies **August 2018 No 181**

This report by the Financial Stability Board, the Committee on Payments and Market Infrastructures, the International Organization of Securities Commissions and the Basel Committee on Banking Supervision maps interdependencies between central counterparties (CCPs) and clearing members and other financial service providers. The international standard-setters published a first report on central clearing interdependencies in July 2017.

To assess whether the findings of the July 2017 report were stable over time, the international standard-setters conducted another more streamlined data collection (as of October 2017) from the same 26 CCPs. The results are broadly consistent with the previous analysis with the data as of September 2016 and show that:

- Prefunded financial resources are concentrated at a small number of CCPs.
- Exposures to CCPs are concentrated among a small number of entities.
- The relationships mapped are characterised, to varying degrees, by a core of highly connected CCPs and entities and a periphery of less highly connected CCPs and entities.
- A small number of entities tend to dominate the provision of each of the critical services required by CCPs.
- Clearing members and clearing member affiliates are also important providers of other critical services required by CCPs and can maintain several types of relationships with multiple CCPs simultaneously.

There are, however, some changes to highlight in the interdependencies in central clearing. For instance, the concentration of client clearing activity has decreased. Compared with the last report, initial margins from clients are now concentrated in two CCPs, compared to only one with the data as of September 2016.

The analysis of interdependencies in central clearing is intended to provide useful inputs for designing supervisory stress tests and has informed the policy work as set out in the joint CCP workplan to promote CCP resilience, recovery and resolvability. The standard-setters published a □ report on the implementation of the workplan in July 2017.

Implementation monitoring of PFMI: Level 2 assessment report for Canada **August 2018 No 180**

This report presents the CPMI's and IOSCO's conclusions on the Level 2 assessment of the Principles across all FMI types in Canada. The assessment reflects the status of Canada's legal, regulatory and oversight framework as of 30 June 2017. This assessment was conducted as a

peer review from August 2017 to April 2018.¹² Accordingly, the assessment ratings reflect the implementation measures in place as of 30 June 2017.

This assessment is part of the IMSG's effort to conduct Level 2 assessments of the legal, regulatory and oversight frameworks implementing the Principles for all FMI types in the 28 jurisdictions participating in the PFMI implementation monitoring exercise. For practical reasons, the Level 2 assessments are being carried out sequentially for groups of jurisdictions that have reported that final implementation measures for the Principles are in force, corresponding to the highest rating in the Level 1 assessments.¹³

The counterparts for this assessment were the BoC, the federal Department of Finance, and certain provincial securities regulators that are members of the CSA, as these are the authorities responsible for the regulation, supervision and oversight of FMIs in Canada.

Implementation monitoring of PFMI: Fifth update to Level 1 assessment report July 2018 No 179

The Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO) continue to closely monitor the implementation of the Principles for financial market infrastructures (PFMI). The PFMI are international standards for payment, clearing and settlement systems, and trade repositories. They are designed to ensure that the infrastructure supporting global financial markets is robust and well placed to withstand financial shocks.

This report provides jurisdictions' self-assessments of their progress, as of 1 January 2018, towards adopting the legislation, regulations and other policies that will enable them to implement the 24 Principles for FMIs and four of the five Responsibilities for authorities included in the PFMI. It shows that progress continues to be made by the 28 participating jurisdictions since the previous update in July 2017. This report is the last published L1 report.

Speeches

Rising to the occasion: central banking in a financially integrated world

Opening remarks by Mr Agustín Carstens, General Manager of the BIS, at the joint Danmarks Nationalbank-BIS conference on "Monetary policy spillovers in a financially integrated world" to mark the 200th anniversary of Danmarks Nationalbank, Copenhagen, 7 September 2018.

Are post-crisis statistical initiatives completed? Taking stock

Opening remarks by Mr Agustín Carstens, General Manager of the BIS, at the Ninth Irving Fisher Committee (IFC) Conference, Basel, 30 August 2018.

Global market structures and the high price of protectionism

Overview panel remarks by Mr Agustín Carstens, General Manager of the BIS, at the [Federal Reserve Bank of Kansas City's 42nd Economic Policy Symposium](#), Jackson Hole, Wyoming, 25 August 2018.

The level of global debt concerns me

Translation of an interview with Mr Claudio Borio, Head of the Monetary and Economic Department of the BIS, with [Portafolio](#), conducted by Mr Ricardo Ávila on 9 July 2018.

Keeping a close watch

*Interview with Mr Agustín Carstens, General Manager of the BIS, in *LatinFinance*, conducted by Mr Kevin Gray and published online and in print format on 2 August 2018.*

Low inflation and rising global debt: just a coincidence?

*Article by Mr Claudio Borio, Head of the Monetary and Economic Department of the BIS, for the 70th anniversary of *Zeitschrift für das gesamte Kreditwesen*, published on 1 August 2018.*

Proportionality in banking regulation

Speech by Mr Fernando Restoy, Chairman, Financial Stability Institute, Bank for International Settlements, at the Westminster Business Forum Keynote Seminar: [□Building a resilient UK financial sector - next steps for prudential regulation, structural reform and mitigating risks](#), London, United Kingdom, 4 July 2018.*

"My message to young people: stop trying to create money"

Translation of an interview with Mr Agustín Carstens, General Manager of the BIS, in the Basler Zeitung, 25 June 2018.

The banks' bank is looking to open up

Translation of an interview with Mr Agustín Carstens, General Manager of the BIS, in the Basler Zeitung, 25 June 2018.

It's when markets are running hot that flags need raising

Overview Column by Mr Agustín Carstens, General Manager of the BIS, in the Financial Times, 25 June 2018. Read the original on the Financial Times website.

The Per Jacobsson Foundation Lecture, 2018

Per Jacobsson Lecture and panel discussion on the occasion of the Bank's Annual General Meeting, Basel, 24 June 2018.

Sustaining the momentum

Speech by Mr Agustín Carstens, General Manager of the BIS, on the occasion of the Bank's Annual General Meeting, Basel, 24 June 2018.

Macroprudential frameworks: experience, prospects and a way forward

Speech by Mr Claudio Borio, Head of the Monetary and Economic Department of the BIS, on the occasion of the Bank's Annual General Meeting, Basel, 24 June 2018.

Cryptocurrencies and the economics of money

Speech by Mr Hyun Song Shin, Economic Adviser and Head of Research of the BIS, on the occasion of the Bank's Annual General Meeting, Basel, 24 June 2018.

Fintech in EMEs: blessing or curse?

Panel remarks by Mr Luiz Awazu Pereira da Silva, Deputy General Manager of the BIS, at the CV Meeting of Central Bank Governors of CEMLA - Asuncion, Paraguay, 5 June 2018.*

Central banks and financial oversight

Speech by Mr Fernando Restoy, Chairman, Financial Stability Institute, Bank for International Settlements, at the Fundación Ramón Areces, Madrid, Spain, 4 June 2018.*