EUROPEAN CENTRAL BANK

EUROSYSTEM

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DG Monetary Policy
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Monetary and credit analysis

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Overview

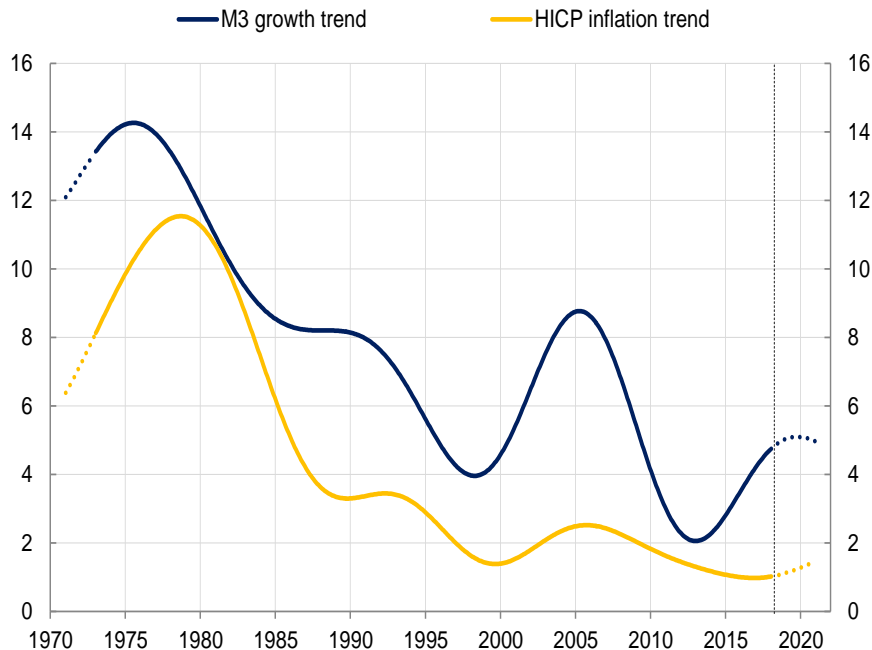| 1	**Why monetary analysis?**
2	Conceptual framework for monetary analysis
3	Monetary developments
4	Bank lending channel
5	Flow of funds analysis

Why monetary analysis?

1. Monetary aggregates have important leading indicator

    properties in the euro area

    - M3 for inflation

    - M1 for output

2. Monitoring loans and financing costs contributes to

    understanding the monetary policy transmission mechanism

3. Analysis of banks' balance sheets provides important

    information on the banking sector

4. Monitoring flow of funds contribute to robust assessment of

    risks to price stability

Close link between money and inflation in the euro area

Monetary trends are key for assessing risks to price stability over the medium to longer term

M3 and consumer price inflation
(annualised quarter-on-quarter percentage changes; deviation from mean)

— M3 growth trend   — HICP inflation trend

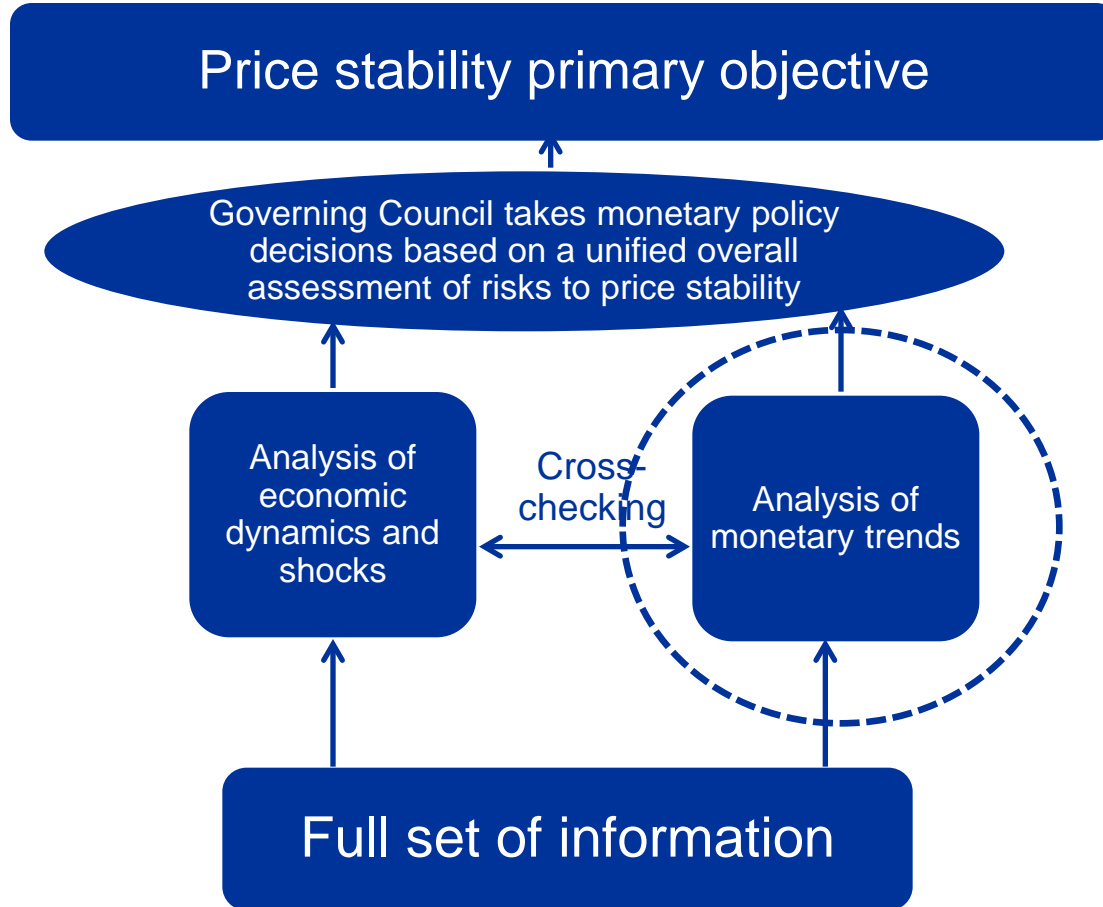*Sources: ECB, ECB calculations. Includes March 2018 ECB staff projections.*

Money good leading indicator to price inflation

There is a robust **long-run relationship** between money growth and inflation

Monetary analysis focuses on extracting the signal (the appropriate **underlying rate of monetary expansion**) that is relevant for **identifying risks to price stability**

The ECB's monetary policy strategy assigns a prominent role to monetary analysis

Price stability primary objective

Governing Council takes monetary policy decisions based on a unified overall assessment of risks to price stability

Analysis of economic dynamics and shocks

Cross-checking

Analysis of monetary trends

Full set of information

Overview
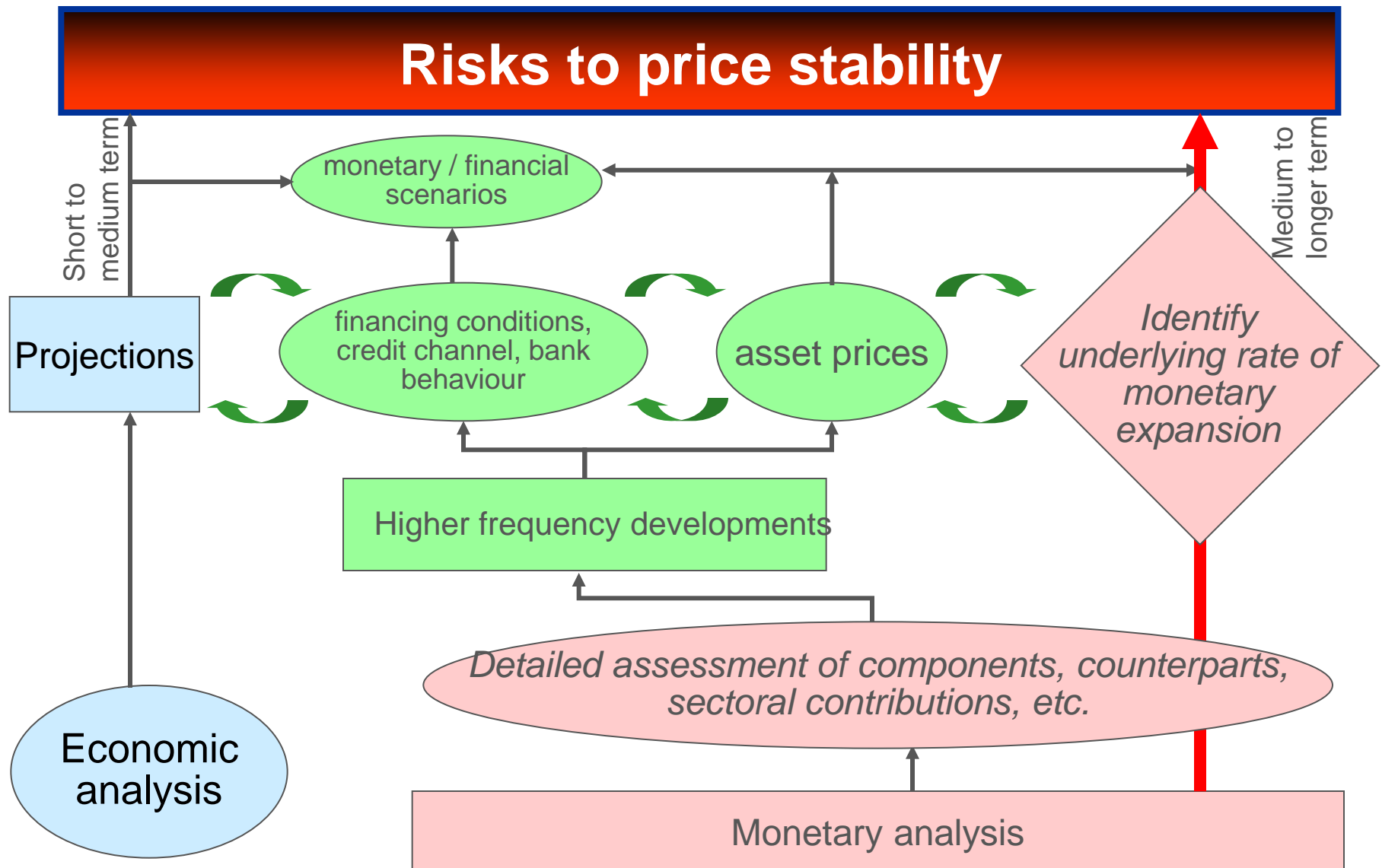
Money, credit and banks are central in transmission process
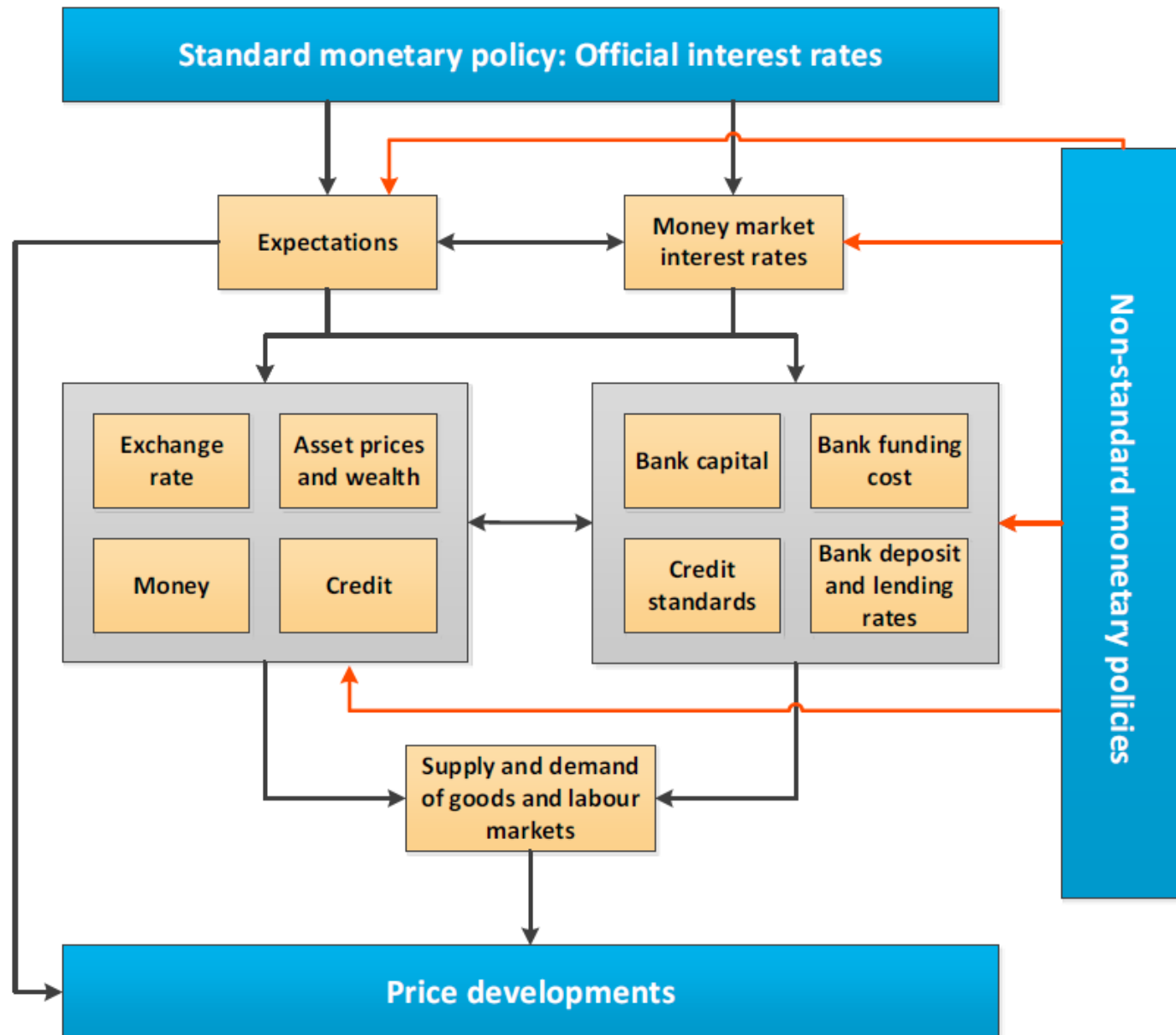
Overview

Broad and narrow money growth on a declining path

M3 and M1
(annual percentage changes)

Legend:
- M1
- M3
- M1 adjusted for cash pooling
- M3 adjusted for cash pooling
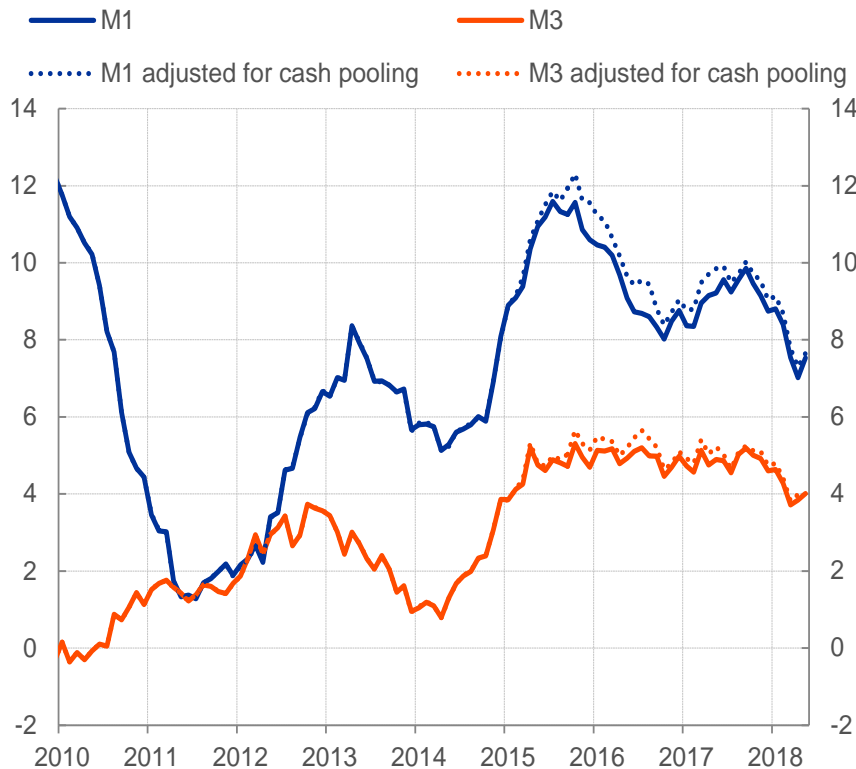
Source: ECB.
Latest observation: May 2018.

Real M1 annual growth and real GDP annual growth
(annual percentage changes)

Legend:
- recessions (CEPR dating)
- real GDP
- real M1 (shifted ahead one year)
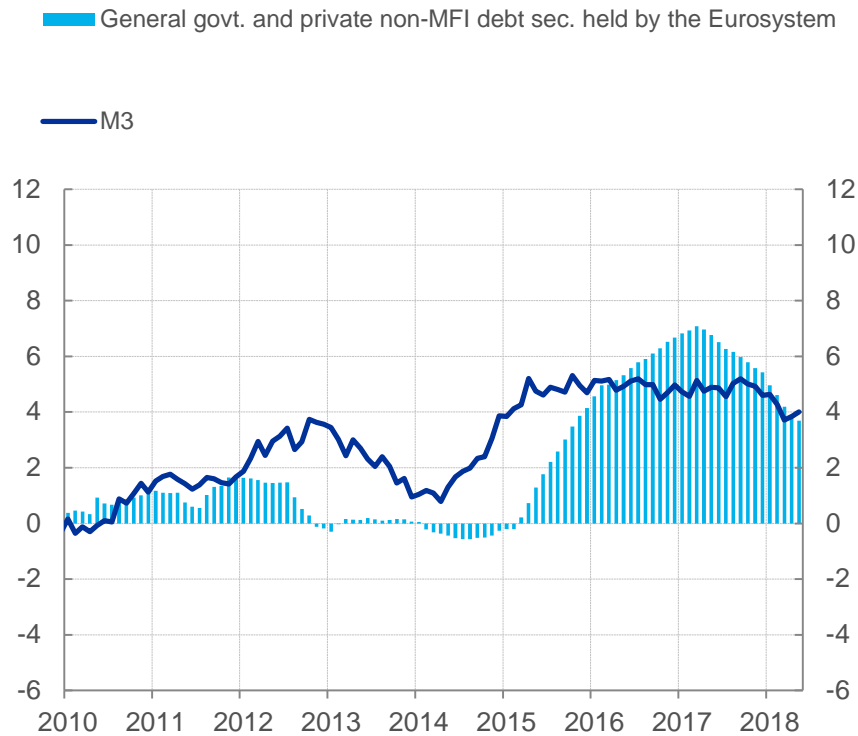- real overnight deposits held by households and NFCs (shifted ahead one year)
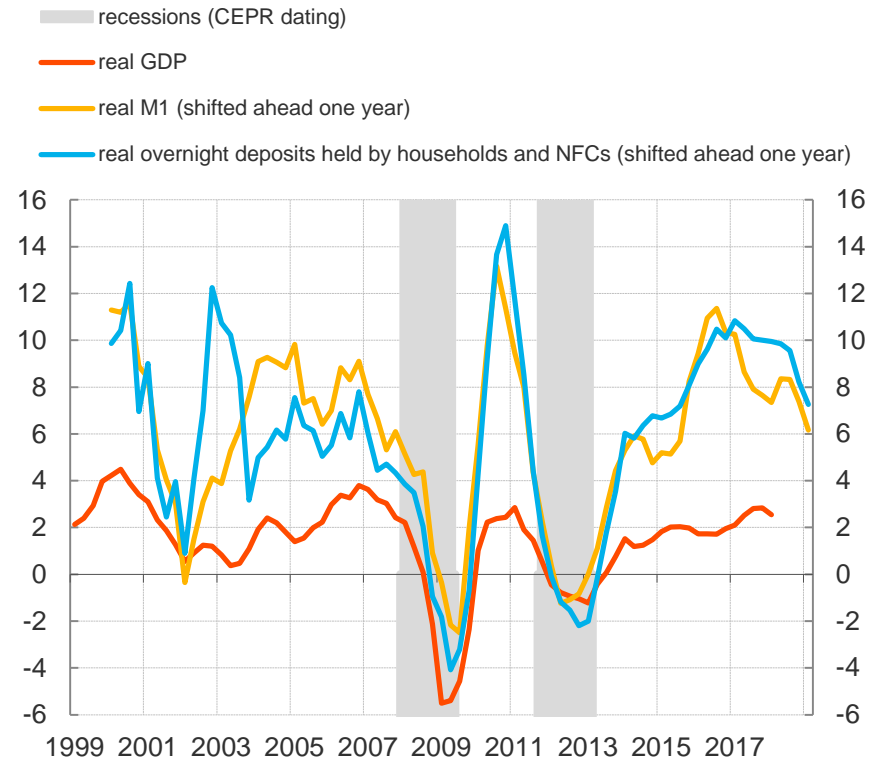
Source: ECB.
Latest observation: March 2018.

Counterparts to M3
(annual percentage changes; percentage point contributions)

General govt. and private non-MFI debt sec. held by the Eurosystem

M3

Net purchases of private sector securities and sovereign bonds by the Eurosystem
(12-month cumulated flows in € bn)

MFI securities

Private sector (non-MFIs excluding general government) securities

EA government bonds

Securities portfolio total
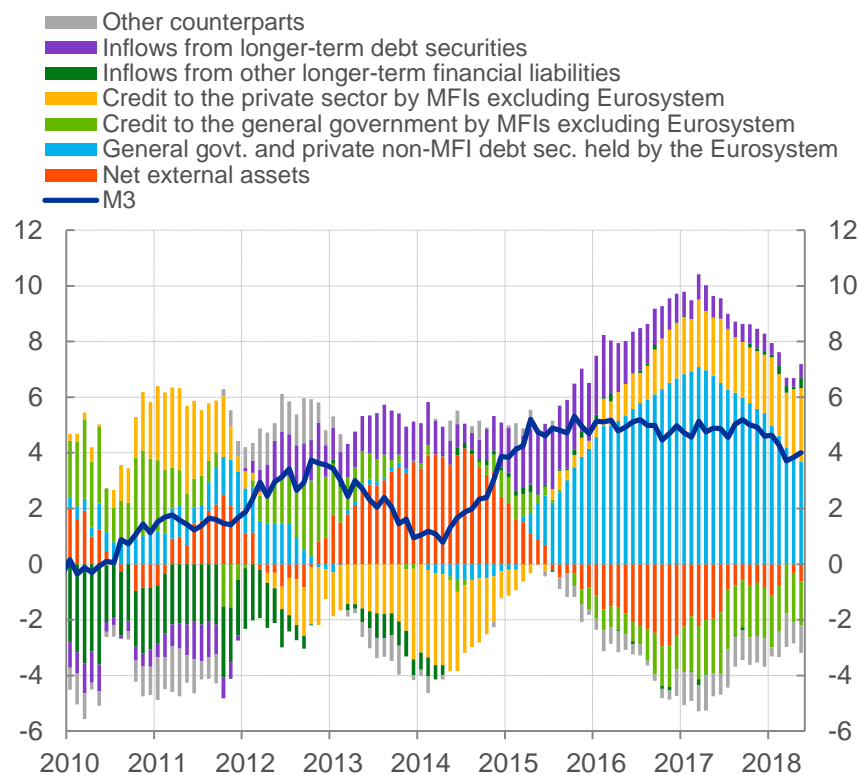
Source: ECB.
Latest observation: May 2018.
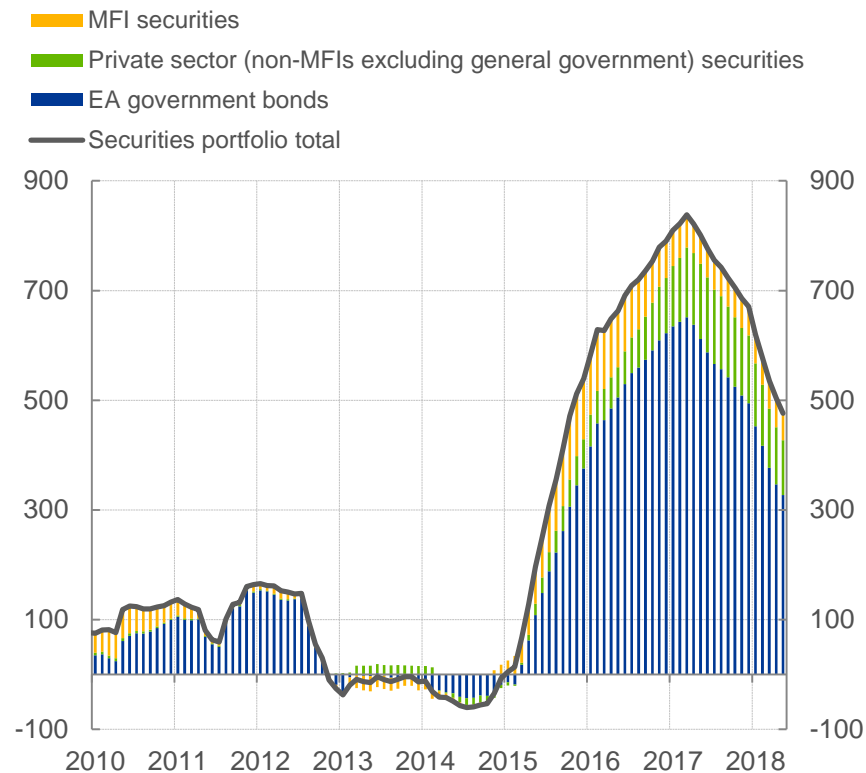
Source: ECB.
Latest observation: May 2018.

Improvement in net external assets has stalled

Counterparts to M3
(annual percentage changes; percentage point contributions)

Legend:
- Other counterparts
- Inflows from longer-term debt securities
- Inflows from other longer-term financial liabilities
- Credit to the private sector by MFIs excluding Eurosystem
- Credit to the general government by MFIs excluding Eurosystem
- General govt. and private non-MFI debt sec. held by the Eurosystem
- Net external assets
- M3

Source: ECB.
Latest observation: May 2018.

Allocation of PSPP purchases across sectors
(12-month impact)

Legend:
- MFIs (excl. Eurosystem)
- Non-residents
- Money-holding sector
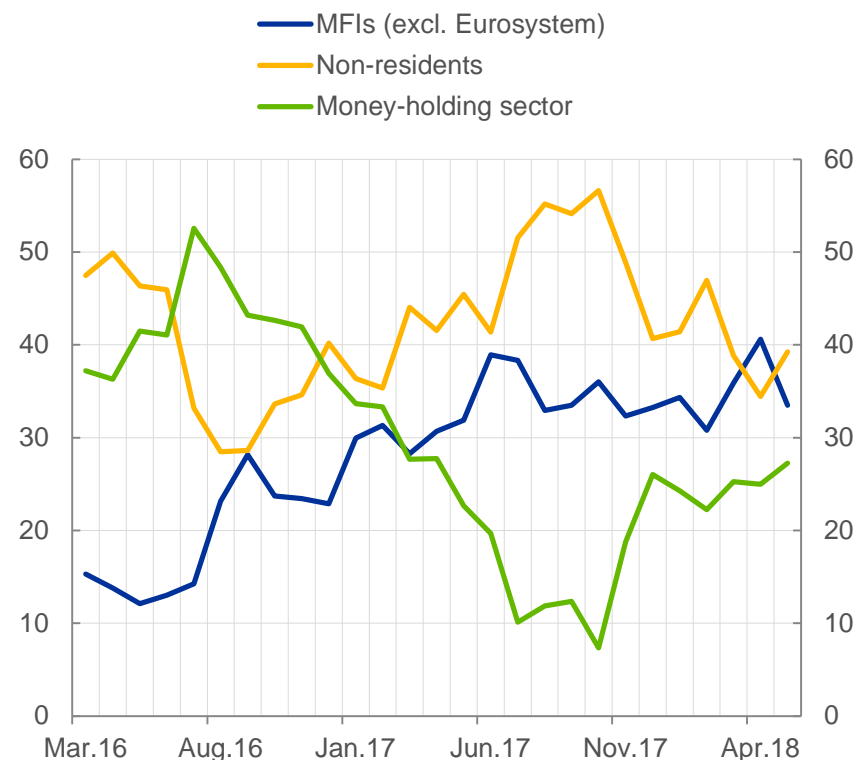
Sources: ECB macro data sources and ECB calculations.
Notes: Estimated impact as actual minus counterfactual net purchases, based on the estimated purchasing behaviour in the pre-PSPP period. For full details, see Adalid and Palligkinis (2016): Sectoral Sales of Government Securities During the ECB's Asset Purchase Programme, SSRN mimeo, https://ssrn.com/abstract=2887084; and also Joyce et al. (2014): "Institutional investor portfolio allocation, quantitative easing and the global financial crisis," Bank of England working paper 510.

Overview

Banks' funding costs remain very favourable

Composite bank funding costs
(percentages per annum)

Legend: DE | ES | FR | IT | EA

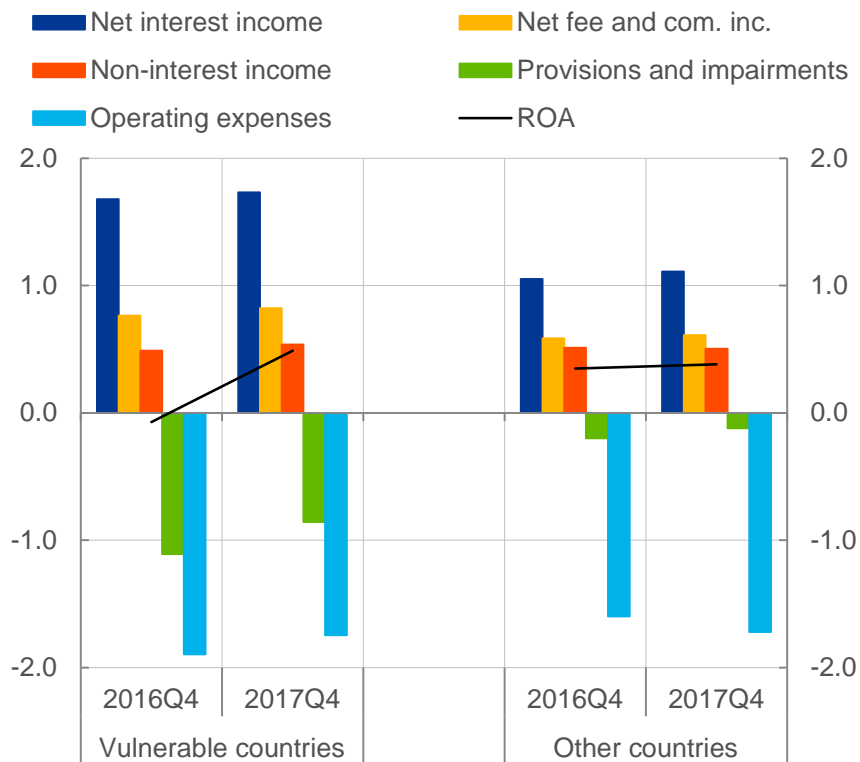Panels: Composite funding rates | Deposit rates | Bond yields
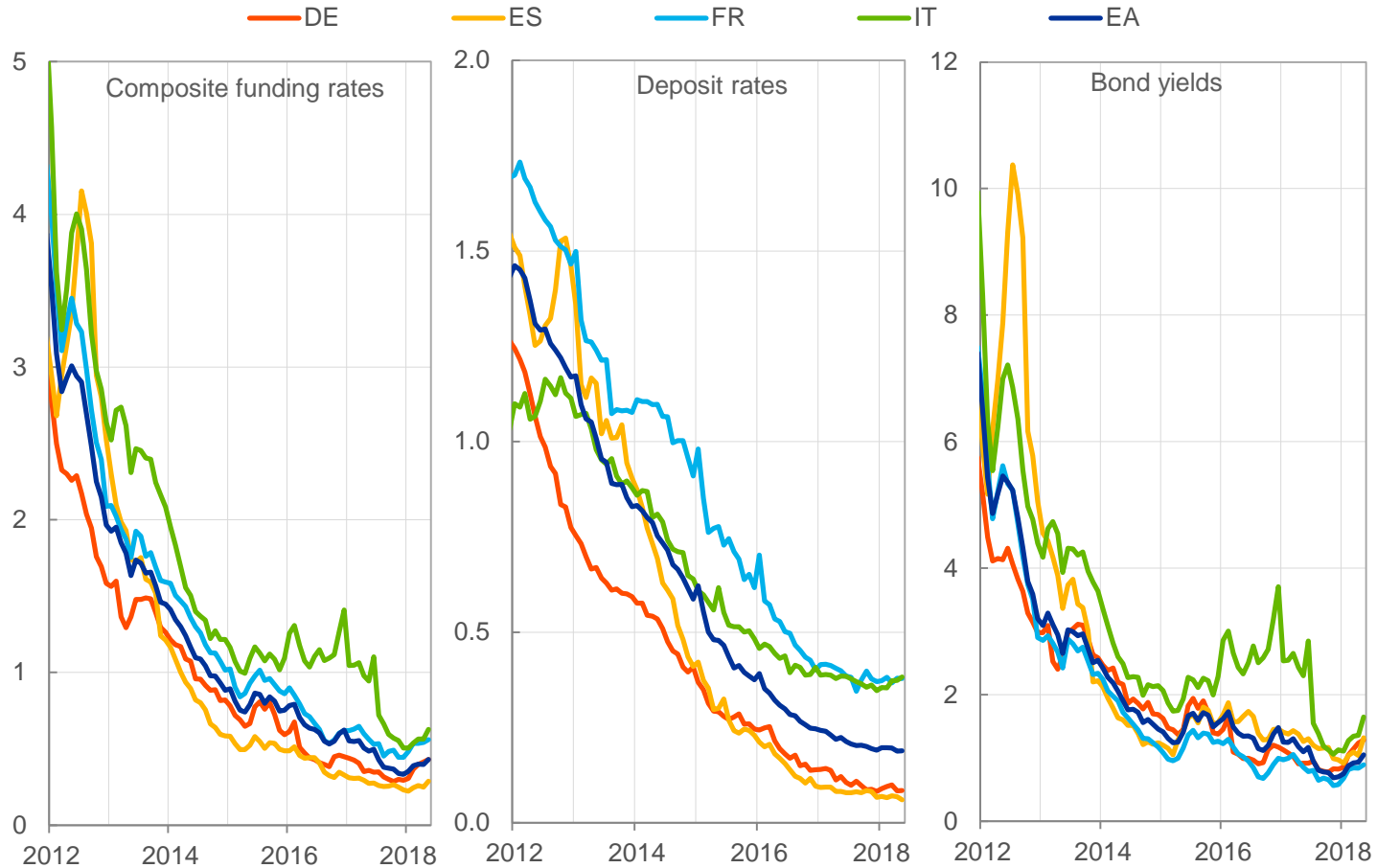
Source: Markit Iboxx, ECB MIR.
Notes: Composite funding rates are the weighted cost of deposits and market debt funding. Deposit rates are on new business and bond yields include both high yield and investment grade debt.
Latest observation: May 2018.

Bank profitability increases and margins stabilise

Bank profitability
(return on assets, percentage points)

Legend:
- Net interest income
- Net fee and com. inc.
- Non-interest income
- Provisions and impairments
- Operating expenses
- ROA

Loan and deposit interest rates and margins on new business
(percentages per annum)

Legend:
- Margins
- Lending rates
- Deposit rates

IT, ES, PT, GR, IE   Other countries

Source: ECB - Consolidated Banking Data.
Notes: Data for domestic banking groups and stand-alone banks reporting under FINREP (IFRS and GAAP). Operating expenses include all remaining items of the profit and loss account.
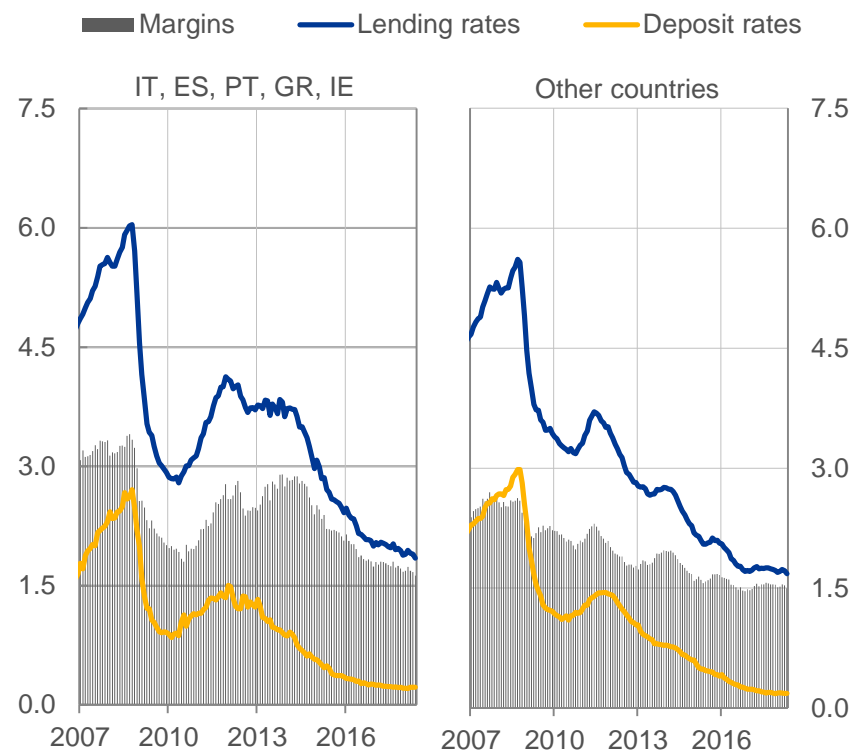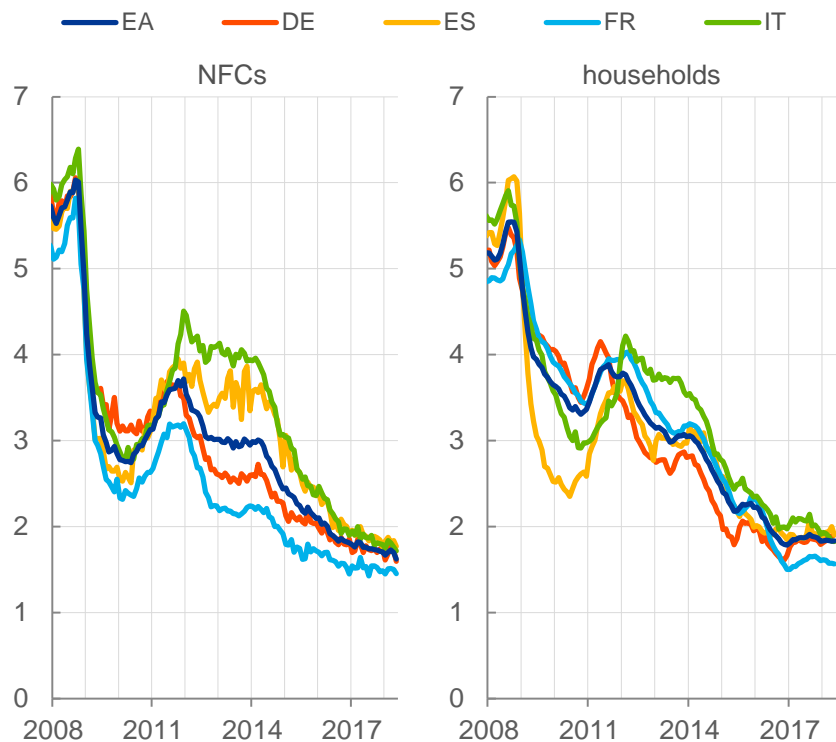
Sources: ECB and ECB calculations.
Notes: Loan and deposit composite interest rates are calculated using corresponding outstanding amount volumes as weights.
Latest observation: May 2018.

Bank lending rates at or close to historical lows

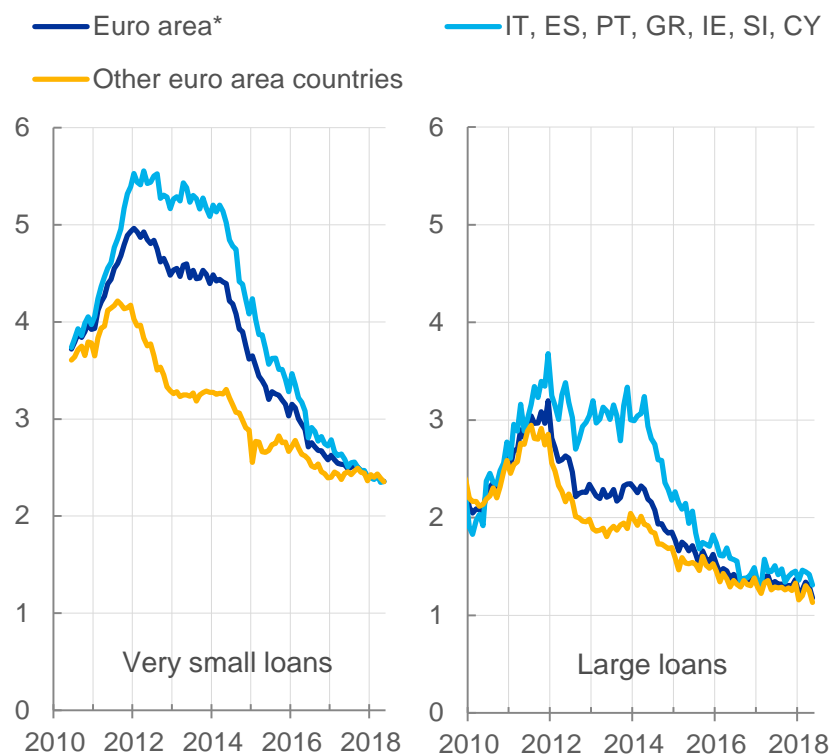## Lending rates to NFCs and households for house purchase
(percentages per annum)

Source: ECB.
Notes: The indicator for the cost of borrowing is calculated by aggregating short- and long-term rates using 24-months moving average of new business volumes.
Latest observation: May 2018.

Bank lending rates for very small and large loans to NFCs
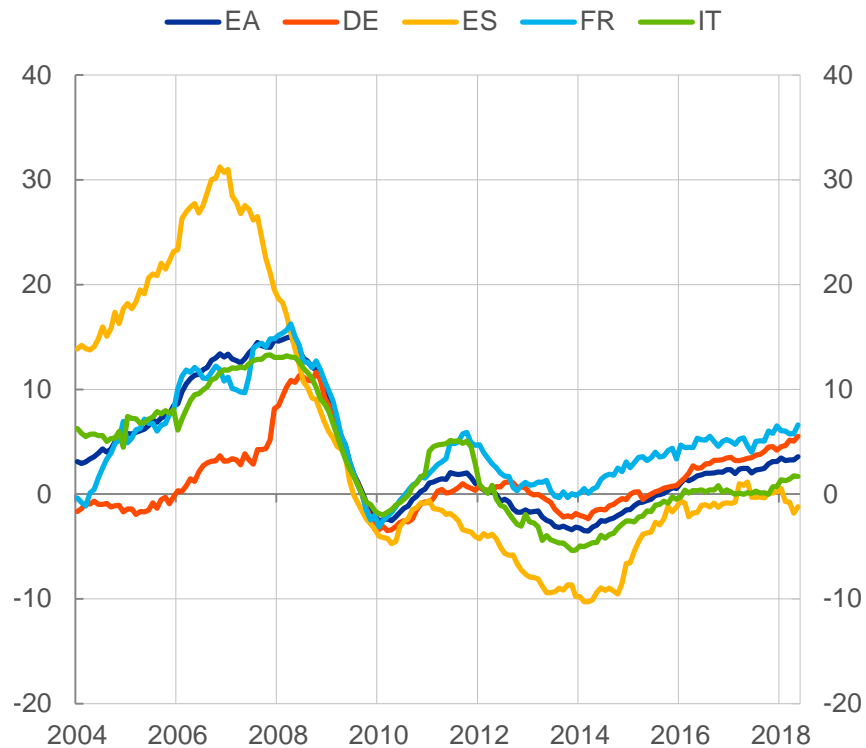*(percentages per annum)*

Source: ECB.
Notes: Very small loans are loans of up to €0.25 million, while large loans are those above €1 million. Aggregation is based on new business volumes. *The euro area series is calculated as weighted average of country spreads.
Latest observation: May 2018.

MFI loans to NFCs
(annual percentage changes)
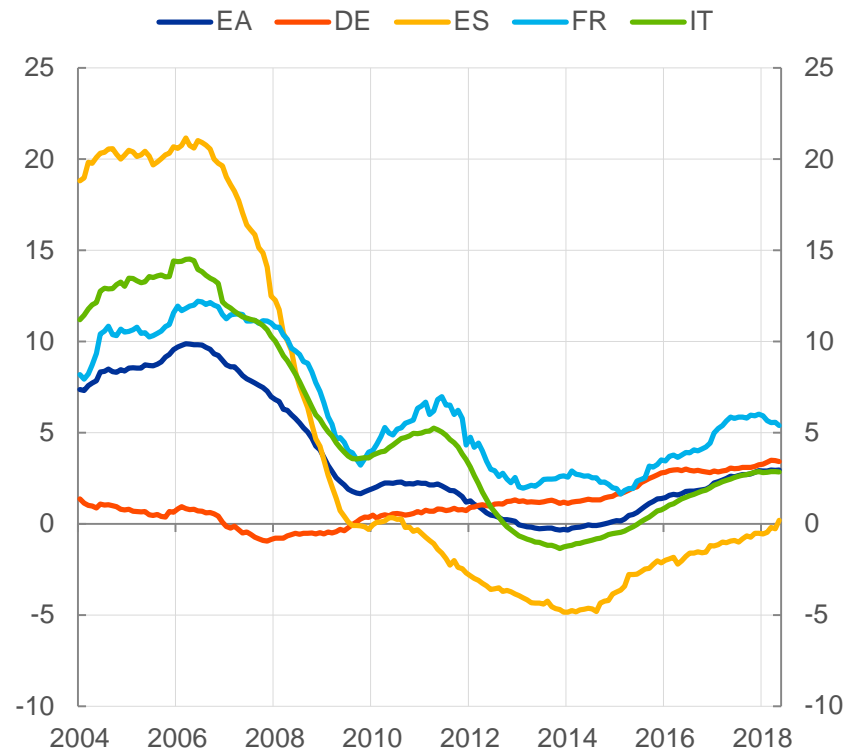
Legend: EA — DE — ES — FR — IT

Source: ECB.
Notes: Adjusted loans (i.e. adjusted for sales, securitisation and cash pooling activities). Data for Spain from Jan. 2004 to Dec. 2009 are non-seasonally adjusted.
Latest observation: May 2018.

MFI loans to households
(annual percentage changes)
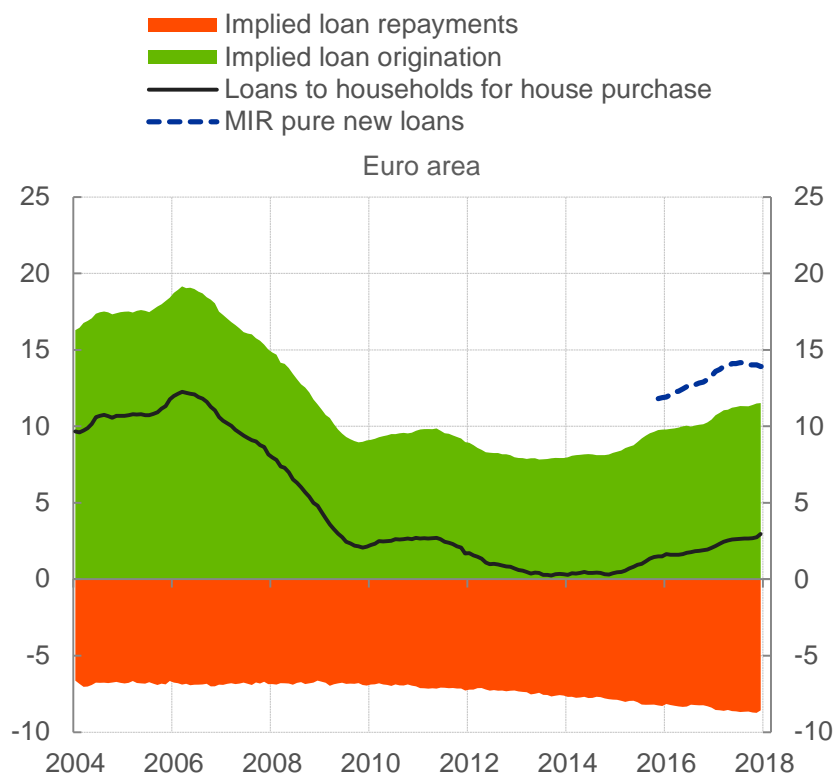
Legend: EA — DE — ES — FR — IT

Source: ECB.
Notes: Adjusted loans (i.e. adjusted for sales and securitisation). Data for Spain from Jan. 2004 to Dec. 2009 are non-seasonally adjusted.
Latest observation: May 2018.
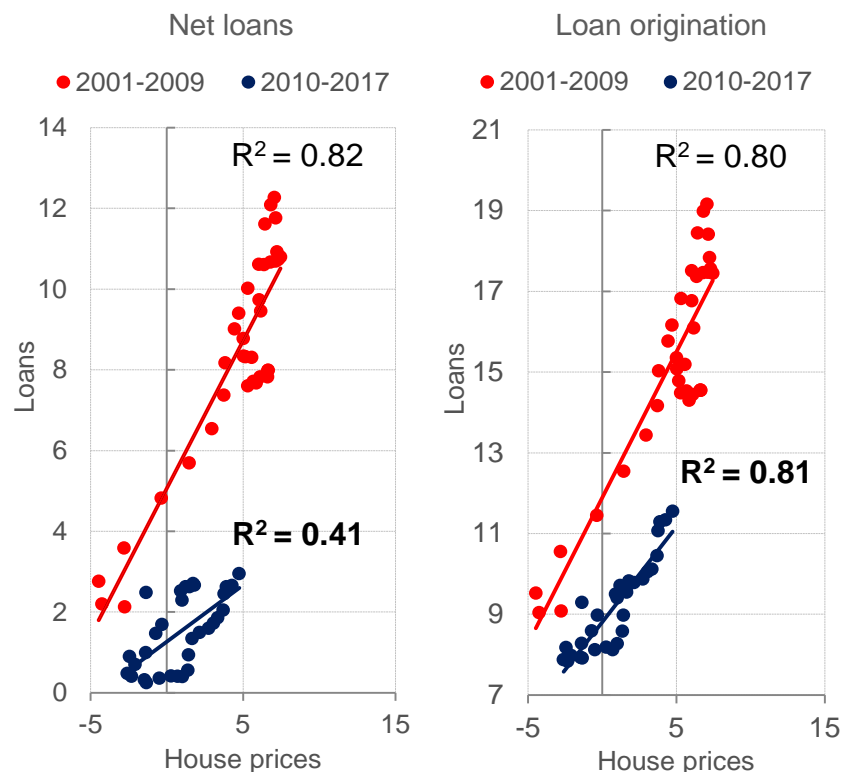
New loans for house purchase more dynamic

Loans to households for house purchase: net flow decomposition
(annual percentage changes; p.p. contributions)

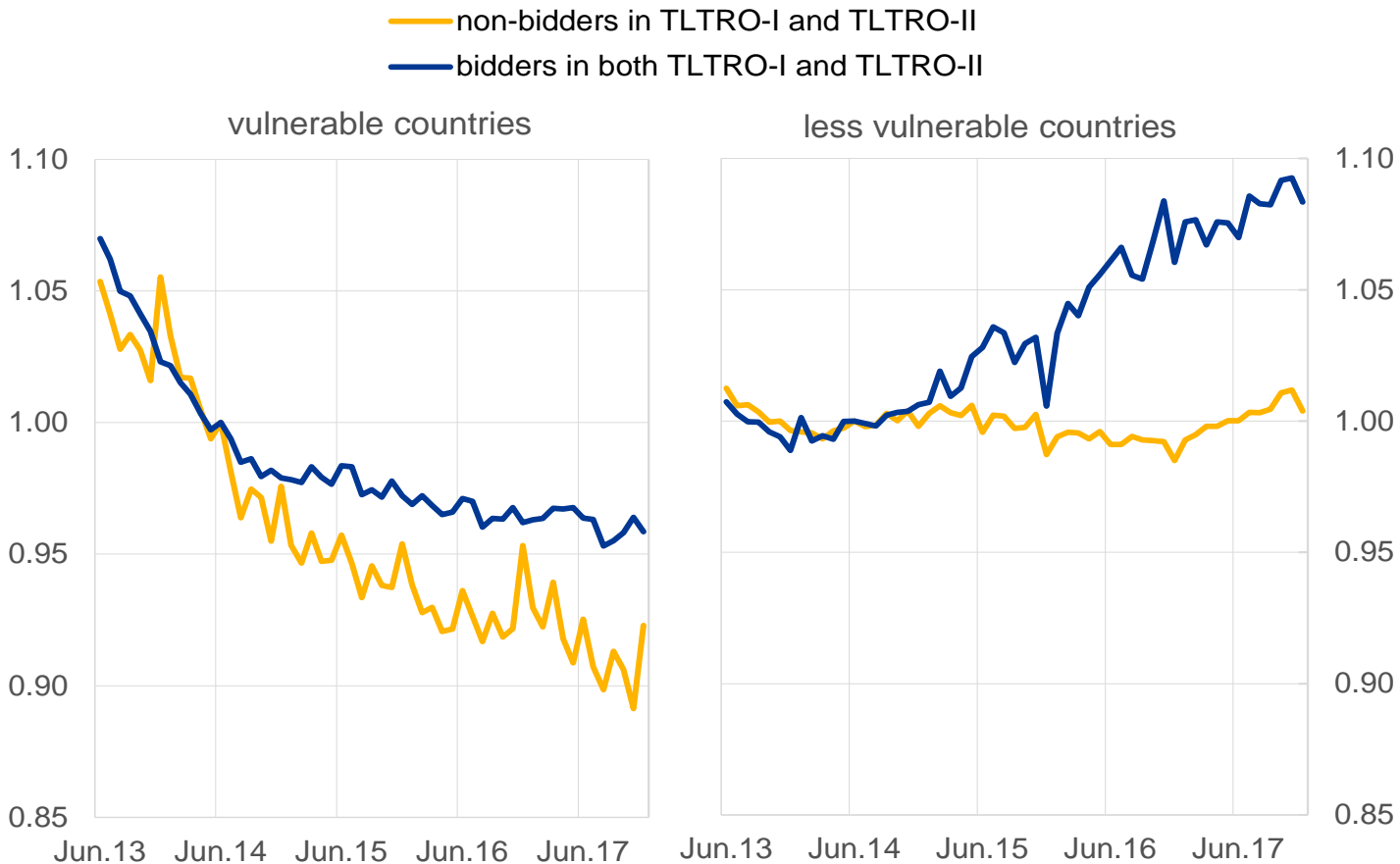## Correlation between loan and house price dynamics
(annual percentage changes)

Source: ECB and ECB calculations. Notes: Implied loan origination and repayments are based on a decomposition of monthly flows computed via a simulated portfolio that replicates the actual annual growth rate of loans to households for house purchase assuming that: (i) repayments evolve according to a standard formula of a fixed annuity, therefore progressively increasing over the life of a loan; (ii) loans are granted at the prevailing lending rate and average maturity (Adalid and Falagiarda, 2018: https://ssrn.com/abstract=3211345). Adjusted loans to households for house purchase before 2015 are constructed allocating to loans to households for house purchase all securitisation and loan sales adjustments of loans to households. Latest observation: February 2018 for the MIR pure new loans; December 2017 for all other indicators.

Lending to NFCs by TLTRO-bidders and non-bidders
(index=1 in June 2014)

─── non-bidders in TLTRO-I and TLTRO-II
─── bidders in both TLTRO-I and TLTRO-II

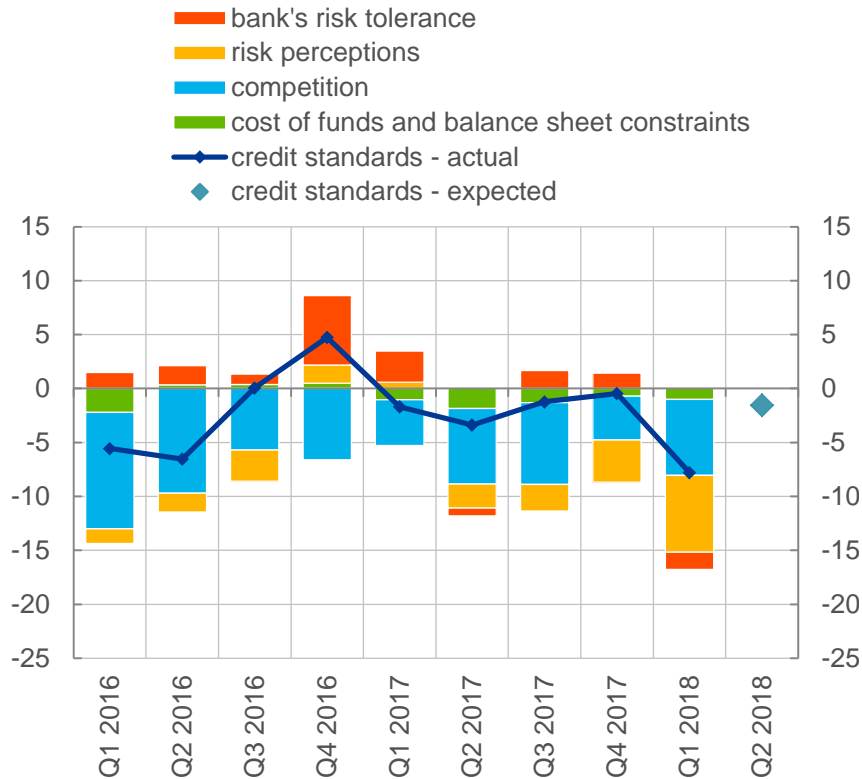vulnerable countries   less vulnerable countries

Source: ECB.
Notes: Notional stock of loans to non-financial corporations. It is constructed by adding the net flows of loans to NFCs to the stock of NFC loans as of June 2013. Depicted is the aggregate evolution for the group of banks that borrowed from both the TLTRO-I and II and the group of banks which did not access any of the two. Based on sample of euro area MFI for which individual balance sheet information is available. Vulnerable countries are Spain, Italy, Greece, Cyprus, Portugal and Slovenia. Less vulnerable countries are the remaining euro area countries. The series are not seasonally adjusted. Latest observation is December 2017.

Changes in credit standards for loans to NFCs and contributing factors
(average net percentages per category)

Changes in net demand for loans to NFCs and contributing factors
(average net percentages per category)

Legend (left chart):
- bank's risk tolerance
- risk perceptions
- competition
- cost of funds and balance sheet constraints
- credit standards - actual
- credit standards - expected

Legend (right chart):
- use of alternative finance
- other financing needs
- general level of interest rates
- inventories and working capital
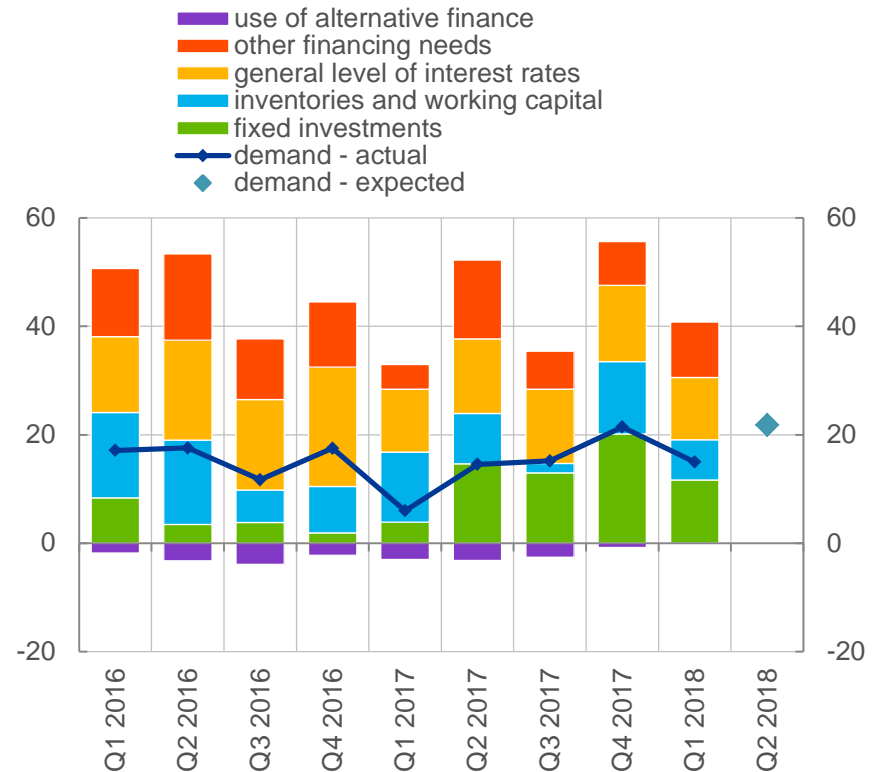- fixed investments
- demand - actual
- demand - expected

Source: ECB (BLS).
Notes: "Cost of funds and balance sheet constraints" as unweighted average of "cost related to capital position", "access to market financing" and "liquidity position"; "Risk perception" as unweighted average of "general economic situation and outlook", "industry or firm-specific situation and outlook/borrower's creditworthiness" and "risk on collateral demanded"; Competition as "bank competition", "non-bank competition" and "competition from market financing". Latest observation: 2018Q1 (April 2018 survey).

Source: ECB (BLS).
Notes: "Risk perceptions" as unweighted average of "general economic situation and outlook", "housing market prospects including expected house price developments" and "borrower's creditworthiness"; "Competition" as unweighted average of "competition from other banks" and "competition from non-banks".
Latest observation: 2018Q1 (April 2018 survey).

Overview

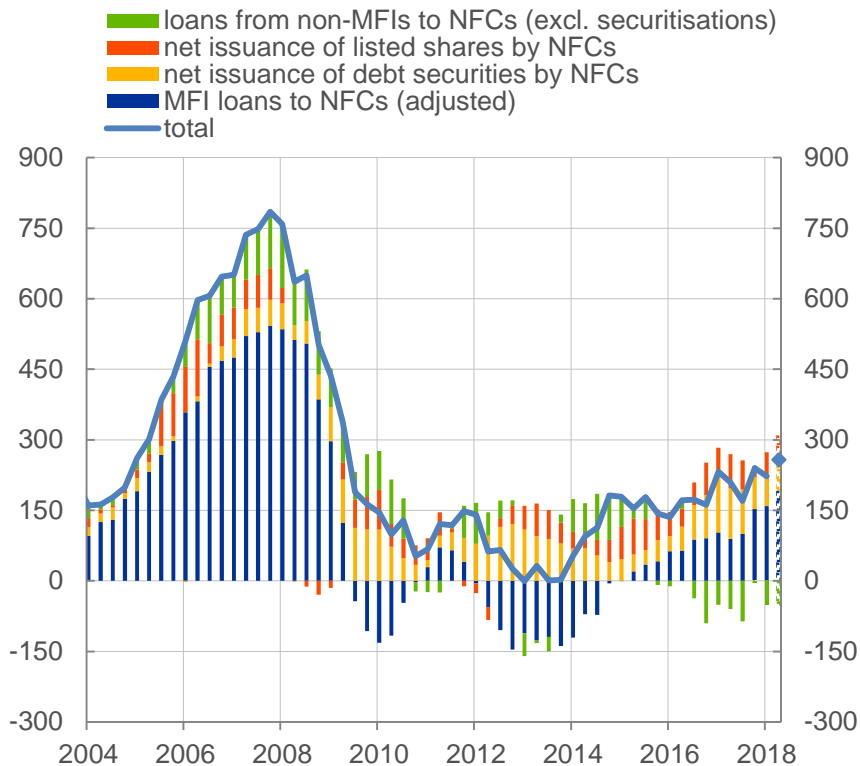|	
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Trends in the external financing structure of euro area NFCs

External financing of euro area NFCs based on selected instruments
(annual flows; EUR billions)

Legend:
- loans from non-MFIs to NFCs (excl. securitisations)
- net issuance of listed shares by NFCs
- net issuance of debt securities by NFCs
- MFI loans to NFCs (adjusted)
- total

Sources: Eurostat, Dealogic, ECB and ECB estimates. Notes: MFI loans adjusted for sales, securitisation and cash pooling activities. Loans from non-MFIs include loans from OFIs and ICPFs. Latest observation: 2018 Q1 for EAA data. Estimates for 2018 Q2 (the blue diamond) are based on the ECB BSI and SEC data and Dealogic.

Share of bank and non-bank financing in total NFC financing in the euro area and the United States
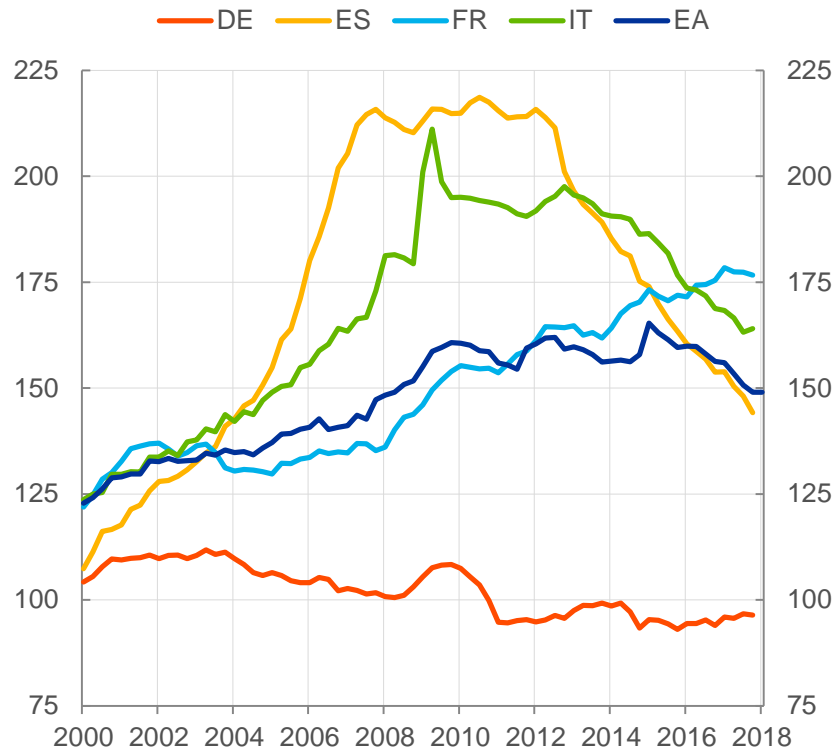*(cumulated net transactions, percentages)*
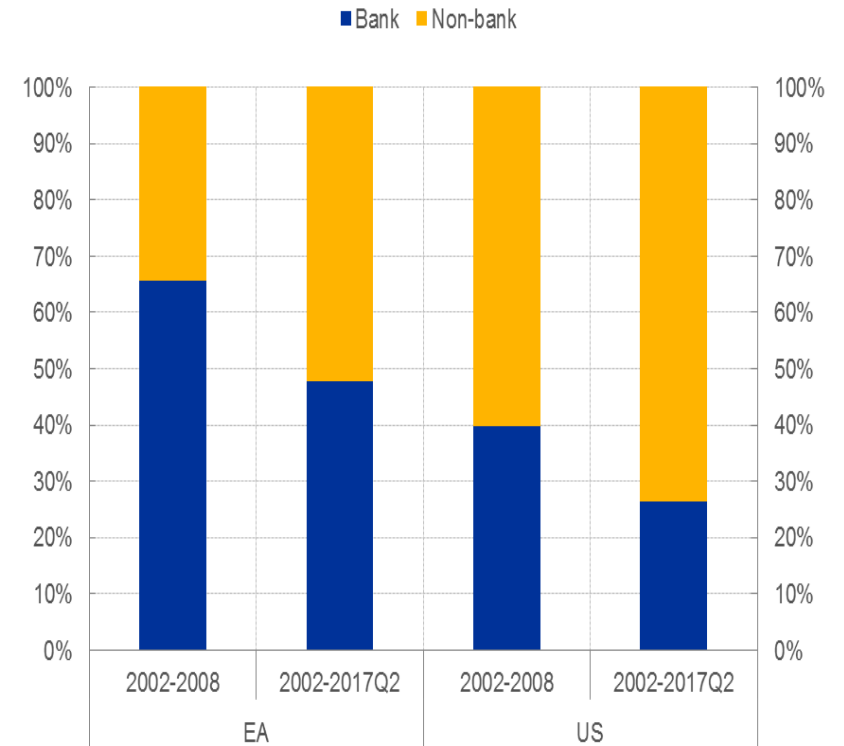
Sources: ECB, Federal Reserve System.
Note: Latest observation: 2017 Q2.

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Ongoing balance sheet adjustments for NFCs and households

NFC consolidated gross debt in selected EA countries
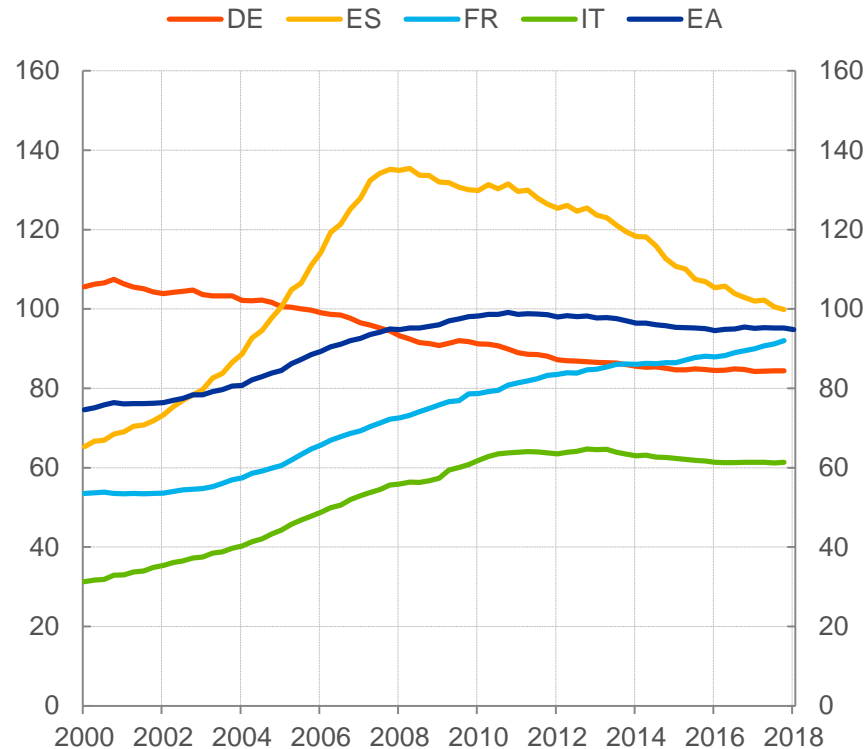*(percent of NFC gross value added)*

Household gross debt in selected EA countries
(percent of gross disposable income)

Sources: Eurostat, ECB and ECB calculations.
Notes: Consolidated gross debt includes total loans granted to NFCs net of intra-sectoral loans, debt securities issued and pension liabilities.
Latest observation: Q1 2018 for euro area; Q4 2017 for DE, ES, FR and IT.

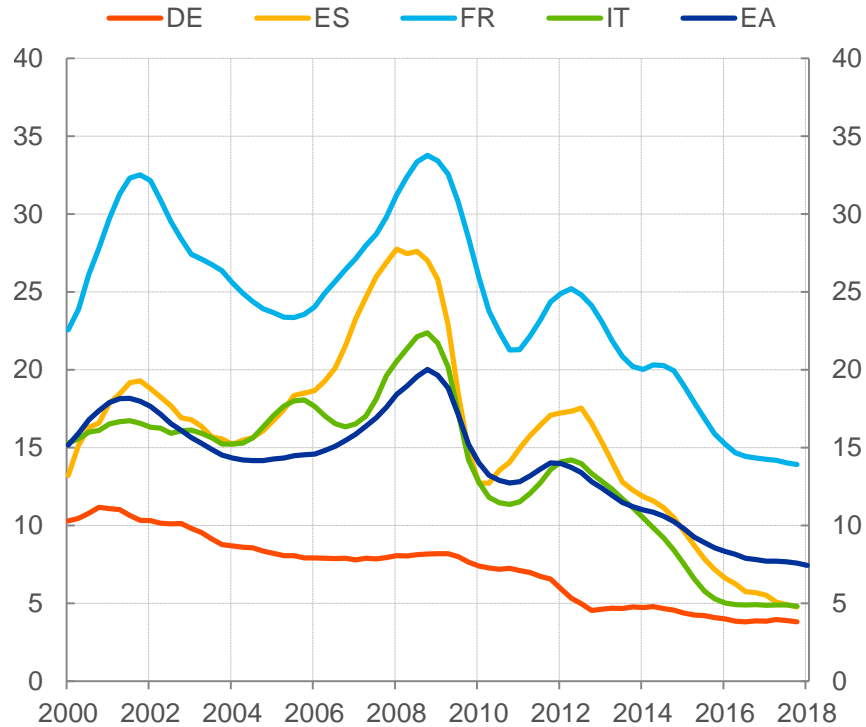*Sources: Eurostat, ECB, ECB calculations.*
Notes: Debt is total loans granted to households by all institutional sectors incl. also intra-sectoral loans.
Latest observation: Q1 2018 for euro area; Q4 2017 for DE, ES, FR and IT.

Debt servicing costs of NFCs and households at historical low

NFC gross interest payments in selected EA countries
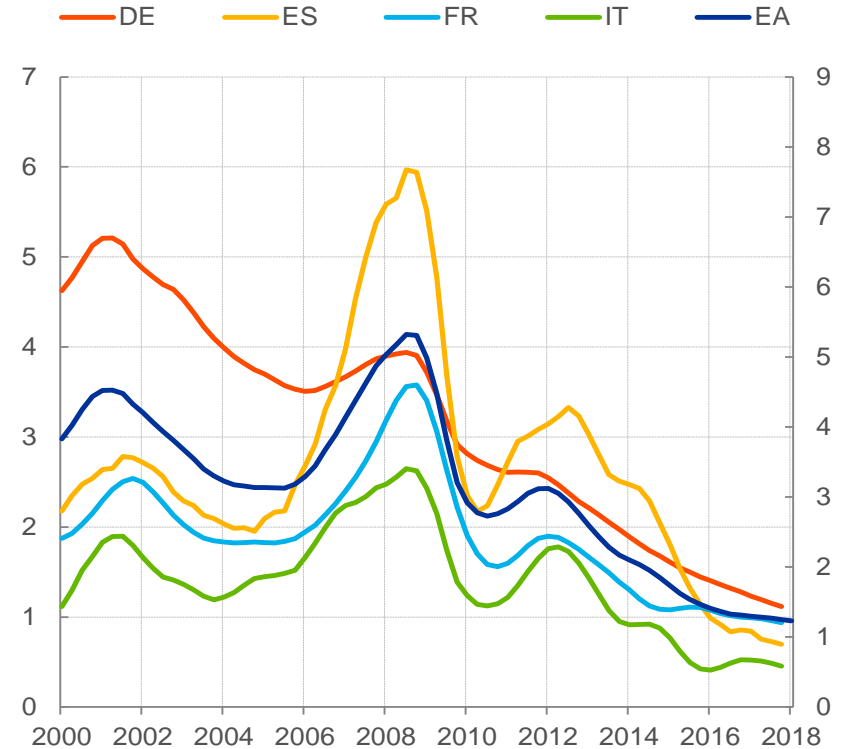*(percent of gross operating surplus)*

Sources: Eurostat, ECB, ECB calculations.
Notes: Gross interest payments after FISIM allocation.
Latest observation: Q1 2018 for euro area; Q4 2017 for DE, ES, FR and IT.

Household gross interest payments in selected EA countries
(percent of gross disposable income)

Sources: Eurostat, ECB, ECB calculations.
Notes: Gross interest payments after FISIM allocation.
Latest observation: Q1 2018 for euro area; Q4 2017 for DE, ES, FR and IT.