



EUROPEAN CENTRAL BANK

EUROSYSTEM

The dynamics of the financial system in the euro area

Background slides for dialogue with Matteo
Maggiore on the occasion of the award of the
Germán Bernácer Prize

Fundación Rafael del Pino, Madrid

19 June 2023

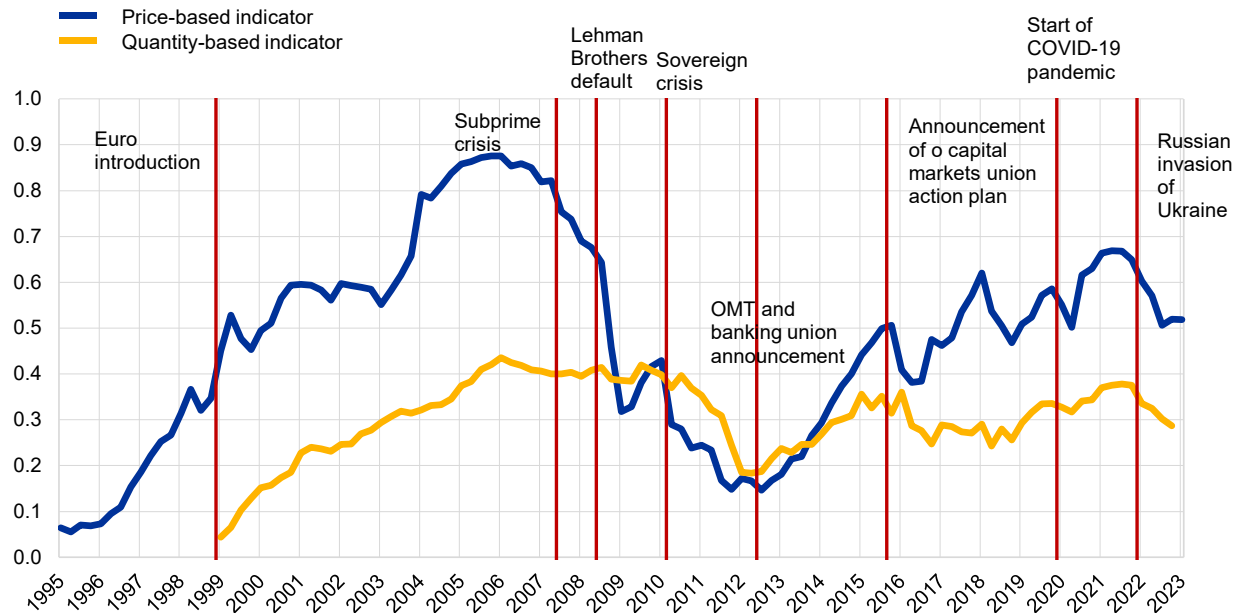


Philip R. Lane
Member of the Executive Board

Indicators of financial integration

Price-based and quantity-based composite indicators of financial integration

(quarterly data; price-based indicator: Q1 1995 – Q1 2023; quantity-based indicator: Q1 1999 – Q4 2022)

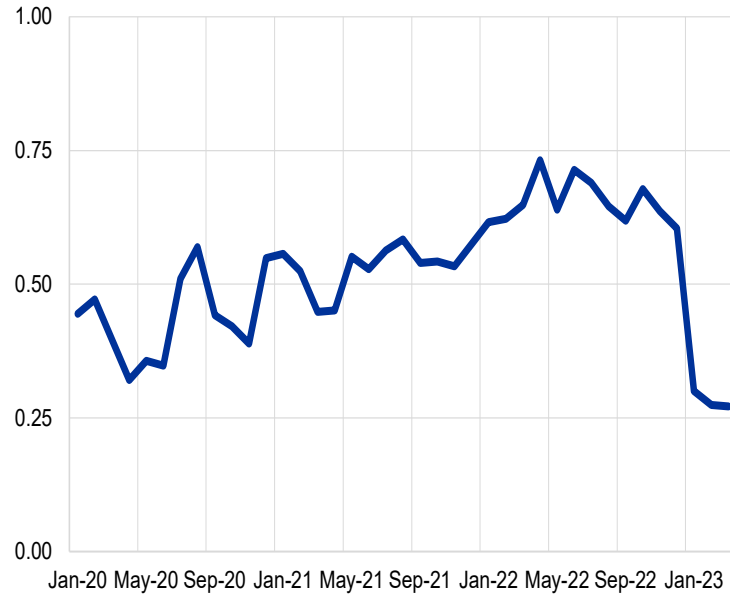


Sources: ECB and ECB calculations.

Notes: The price-based composite indicator aggregates ten indicators for money, bond, equity and retail banking markets; the quantity-based composite indicator aggregates five indicators for the same market segments except retail banking. The indicators are bounded between zero (full fragmentation) and one (full integration). Increases in the indicators signal greater financial integration. From January 2018 onwards the behaviour of the price-based indicator may have changed due to the transition from EONIA to €STR interest rates in the money market component. OMT stands for Outright Monetary Transactions. For a detailed description of the indicators and their input data, see the Statistical Web Annex to the report entitled [Financial Integration and Structure in the Euro Area](#), and Hoffmann, P., Kremer, M. and Zaharia, S. (2019), [Financial integration in Europe through the lens of composite indicators](#), Working Paper Series, No 2319, ECB, September.

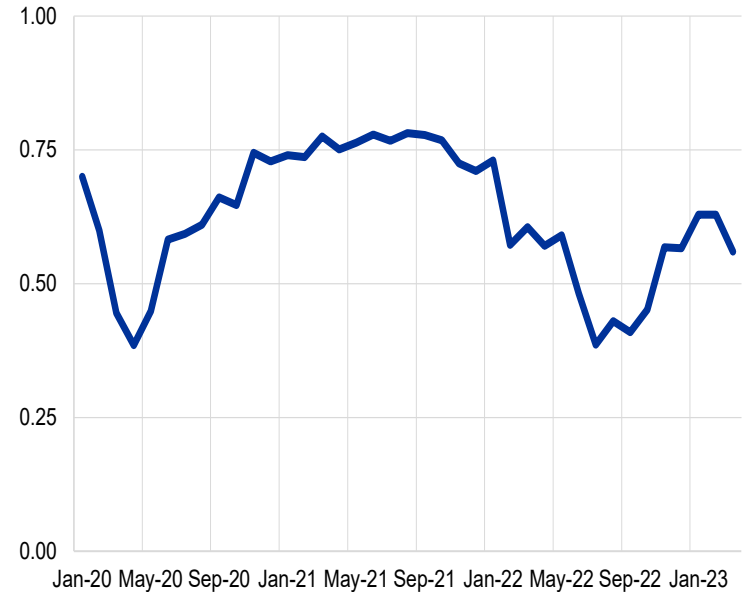
Price-based financial integration composite indicator - Money Market Subindex

(monthly data; Jan 2010 – Mar 2023)



Price-based financial integration composite indicator - Bond Market Subindex

(monthly data; Jan 2010 – Mar 2023)



Sources: ECB and ECB calculations.

Notes: The indicator aggregated into the sub-index used to be the cross-country standard deviation of unsecured interbank overnight lending rates based on EONIA rates. With the transition from EONIA to €STR interest rates, data for this indicator from January 2018 now tracks the dispersion in country-level average wholesale euro unsecured overnight borrowing costs of banks located in the euro area as reported for the purposes of calculating the €STR. Data for Greece are excluded to preserve the information content of the indicator.

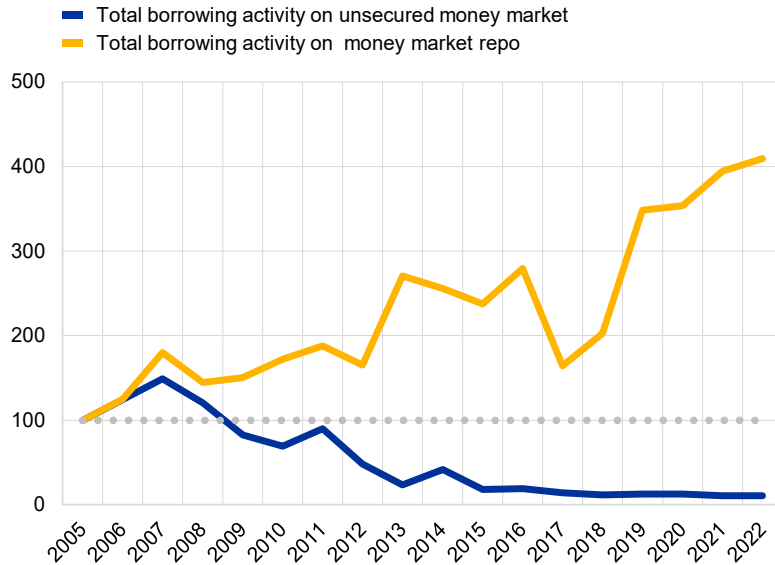
Sources: ECB and ECB calculations.

Notes: The indicators aggregated into the sub-index are the cross-country standard deviations of two- and ten-year sovereign bond yields (excluding Greece), and the cross-country standard deviation of the bond yields of uncovered corporate bonds issued by non-financial corporations (data are aggregated at country level).

Financial integration - Drivers of money market and bond market integration

Borrowing activity in euro area secured and unsecured markets

(average daily turnover; index: 2005 = 100; yearly data 2005-22)



Sources: ECB and ECB calculations.

Dispersion of euro area ten-year sovereign bond yields

(Percentages; Monthly data: Jan. 1999 – Apr. 2022)

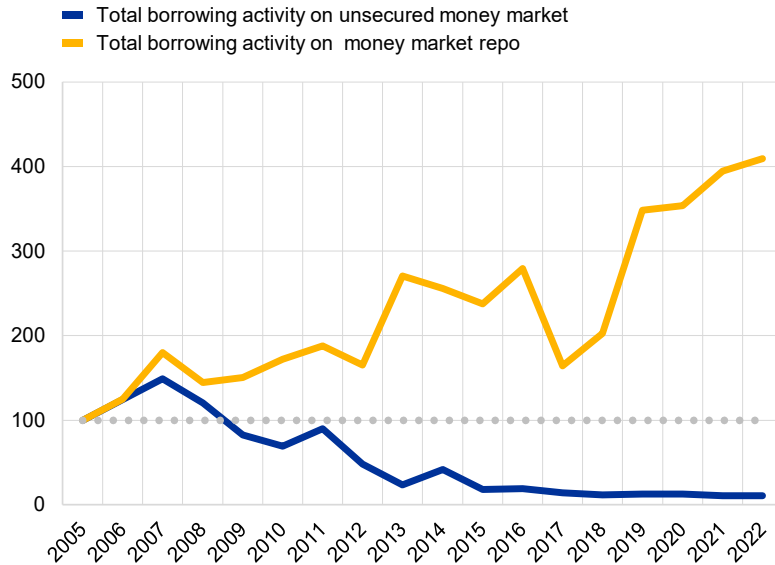


Sources: Refinitiv and ECB calculations.

Financial integration - Drivers of money market and bond market integration

Borrowing activity in euro area secured and unsecured markets

(average daily turnover; index: 2005 = 100; yearly data 2005-22)



Sources: ECB and ECB calculations.

Standard deviation of national 10-year spreads over EA GDP-weighted rate

(basis points)



Sources: Refinitiv, Bloomberg and ECB calculations.

Notes: Standard deviation of national 10-year spreads over EA GDP-weighted rate. Countries included: AT, BE, CY, DE, ES, FR, GR, IE, IT, LT, LU, LV, MT, NL, PT, SL.
Latest observation: 16 June 2023.

Price-based financial integration composite indicator - Equity Market Subindex

(monthly data; Jan 2010 – Mar 2023)



Sources: ECB and ECB calculations.

Notes: The indicators aggregated into the sub-index are the segmentation index and the absolute value of the difference between the cross-sectional dispersions in sector and country index returns. Data for Greece are included.

Price-based financial integration composite indicator - Banking Market Subindex

(monthly data; Jan 2010 – Mar 2023)



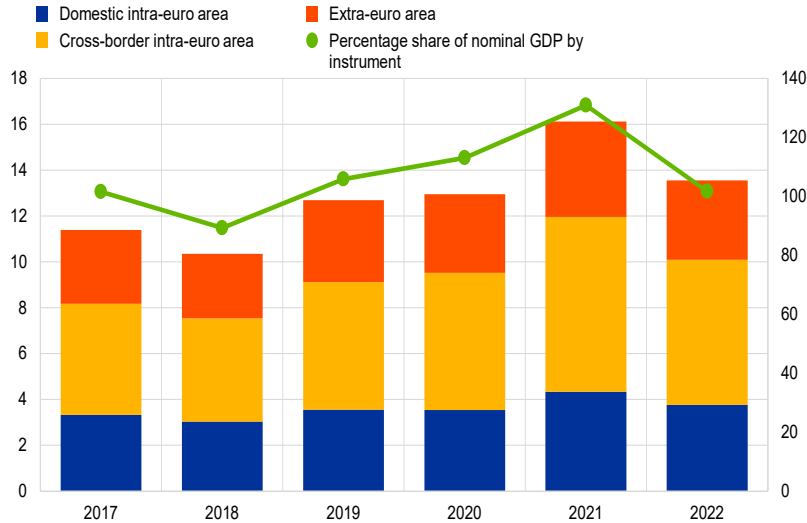
Sources: ECB and ECB calculations.

Notes: The indicators aggregated into the sub-index are the cross-country dispersions of interest rates on new loans to households (for consumer credit and total loans) and non-financial corporations, and the cross-country dispersions of deposit rates for households and non-financial corporations on deposits with agreed maturity. Data for Greece are included.

Financial integration - Drivers of equity and banking market integration

Euro area issued listed shares by domicile of financing provider

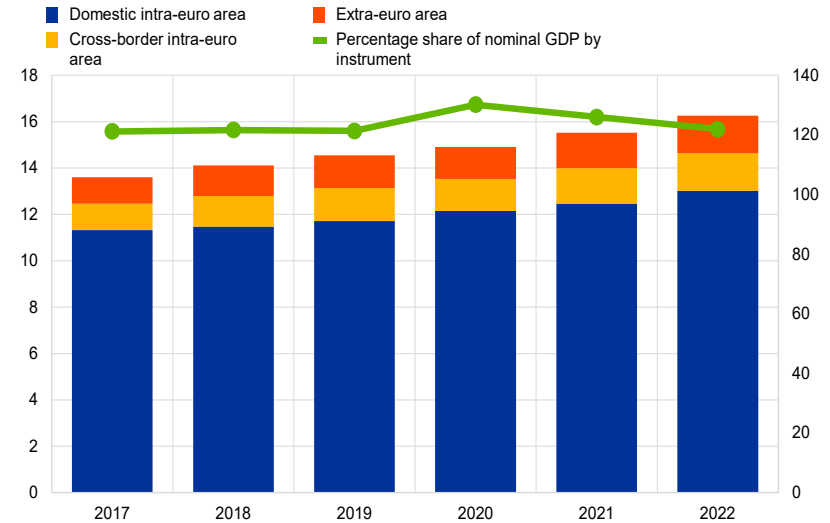
(EUR trillions (left-hand scale); percent (right-hand scale); end-of-year data; 2017 – 2022)



Sources: ECB and ECB calculations.

Euro area issued retail bank lending by domicile of financing provider

(EUR trillions (left-hand scale); percent (right-hand scale); end-of-year data; 2017 – 2022)

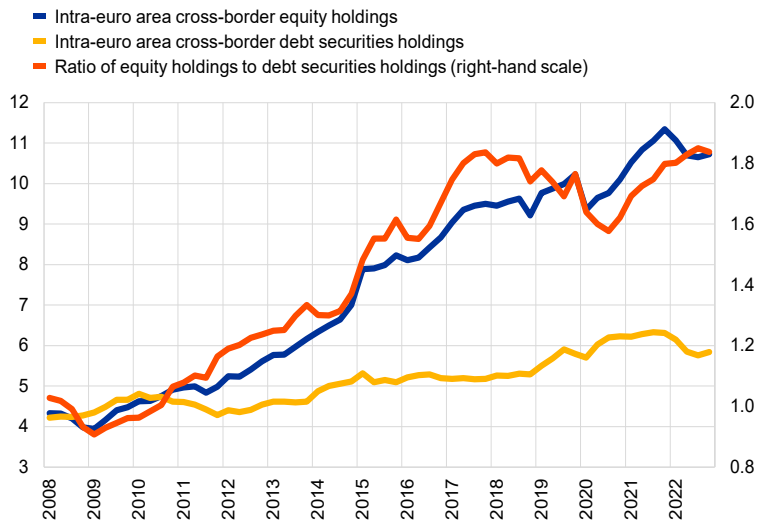


Source: ECB and ECB calculations.

Notes: Retail bank lending includes loans to households and non-financial corporations.

Intra-euro area foreign equity investments relative to intra-euro area foreign debt investments

(left-hand scale: EUR trillions; right-hand scale: ratio; Q1 2008-Q4 2022)

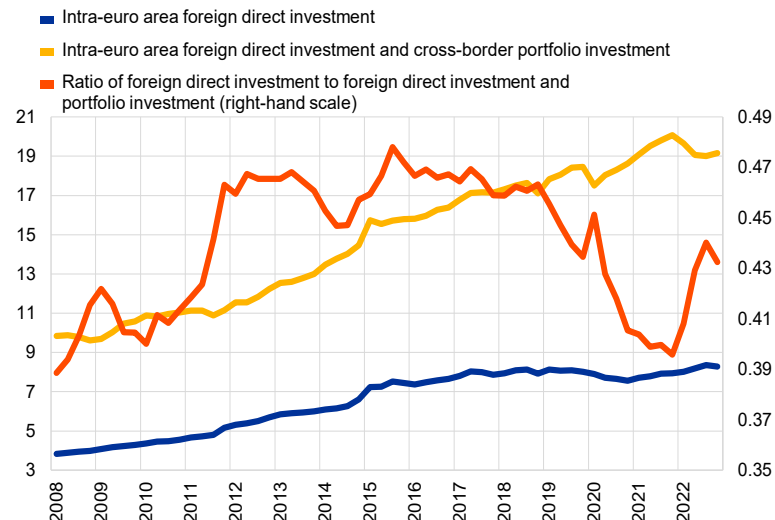


Sources: ECB and ECB calculations.

Notes: Under equity holdings, both portfolio and direct investment holdings are considered. For debt securities, only portfolio investment is considered, since debt securities are not available for FDI (only total "debt instruments"). Even restricting the analysis to portfolio investment only, we still see the rising importance of equities in intra-euro area cross-border holdings. Looking at the sector contribution, we see a general increase in equity holdings for all sectors except money market funds.

Intra-euro area foreign direct investment

(left hand scale: EUR trillions; right-hand scale: ratio; Q1 2008-Q4 2022)

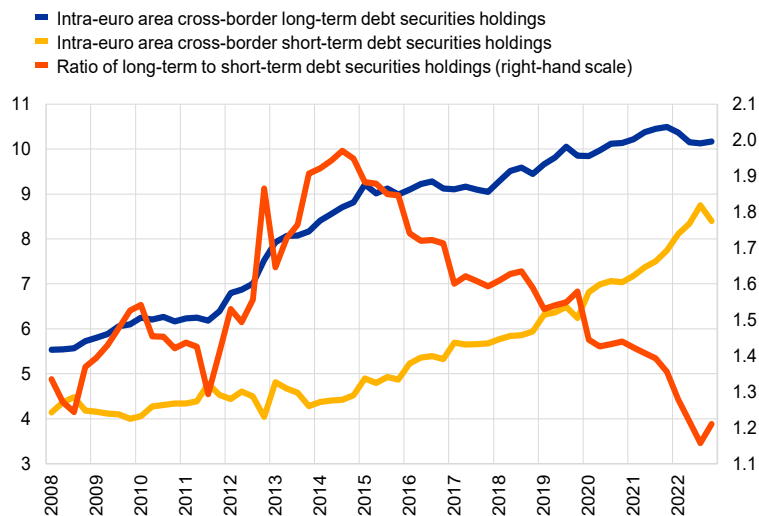


Source: ECB and ECB calculations.

Notes: Intra-euro area FDI is calculated as the average of asset and liability positions to account for possible asymmetries. For portfolio investment, only the asset side is used since liabilities are not reported due to the custodial bias.

Intra-euro area foreign long-term debt investments relative to intra-euro area foreign short-term debt investments

(left-hand scale: EUR trillions; right-hand scale: ratio;
Q1 2008-Q4 2022)

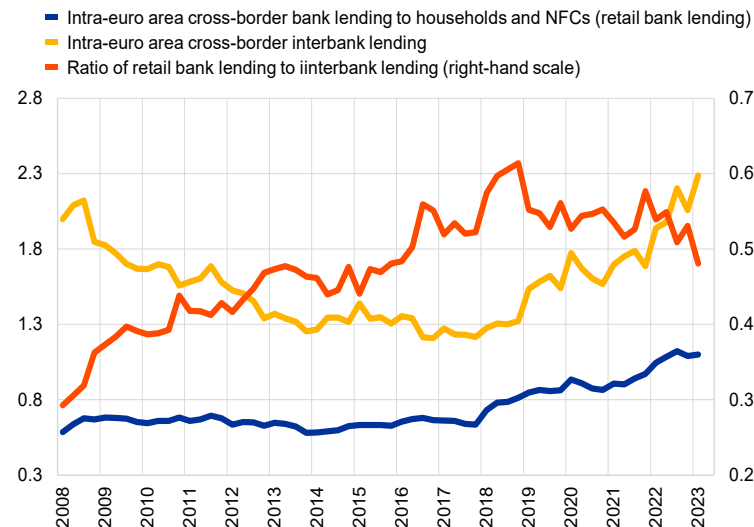


Source: ECB and ECB calculations.

Notes: The figures cover not only debt securities liabilities, but also other instruments such as currency deposits and loans, trade advances and account payables, insurance and pensions and FDI debt instruments. As a convention, insurance and pensions and FDI debt instruments are classified entirely as long-term liabilities.

Intra-euro area foreign retail bank lending relative to intra-euro area foreign interbank lending

(left-hand scale: EUR trillions; right-hand scale: ratio;
Q1 2008-Q1 2023)

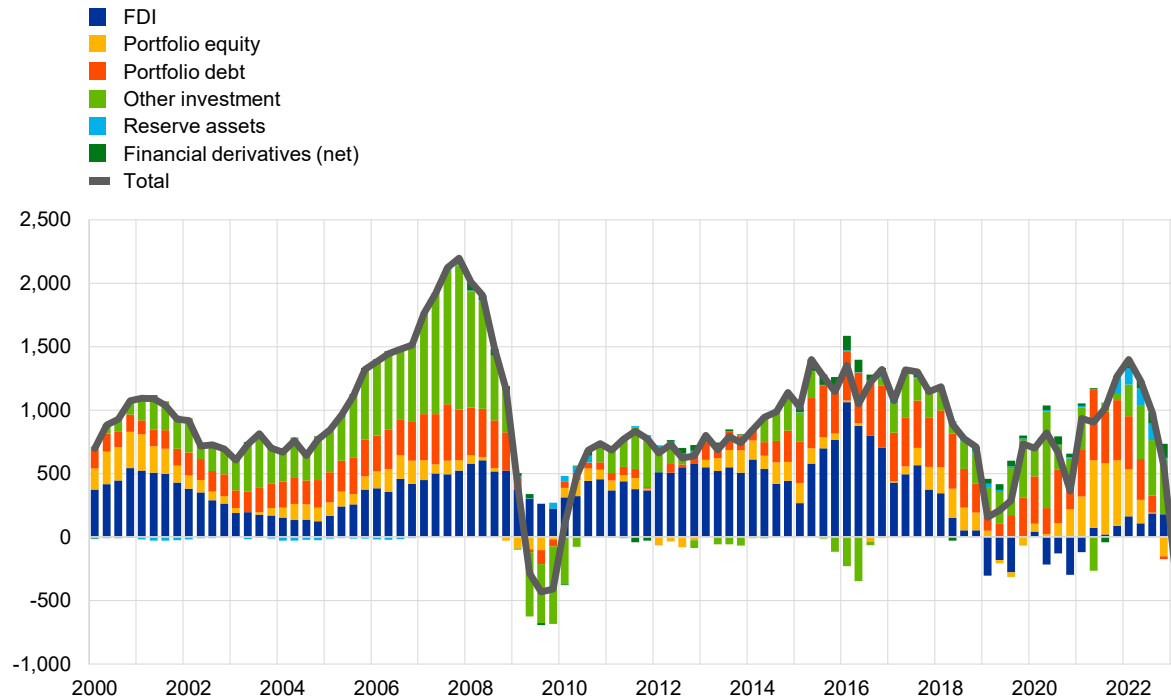


Source: ECB and ECB calculations.

Notes: The blue line shows the total amount of intra-euro area cross-border bank lending to households and NFCs, i.e. retail bank lending. The yellow line shows the total amount of intra-euro area cross-border lending between MFIs, i.e. interbank lending. The orange line shows the ratio of the two. For more discussion on the interpretation of these indicators, see Special Feature A "Financial integration and risk sharing in a monetary union" in European Central Bank (2016), Financial integration in Europe, Frankfurt, April.

Euro area financial account, assets

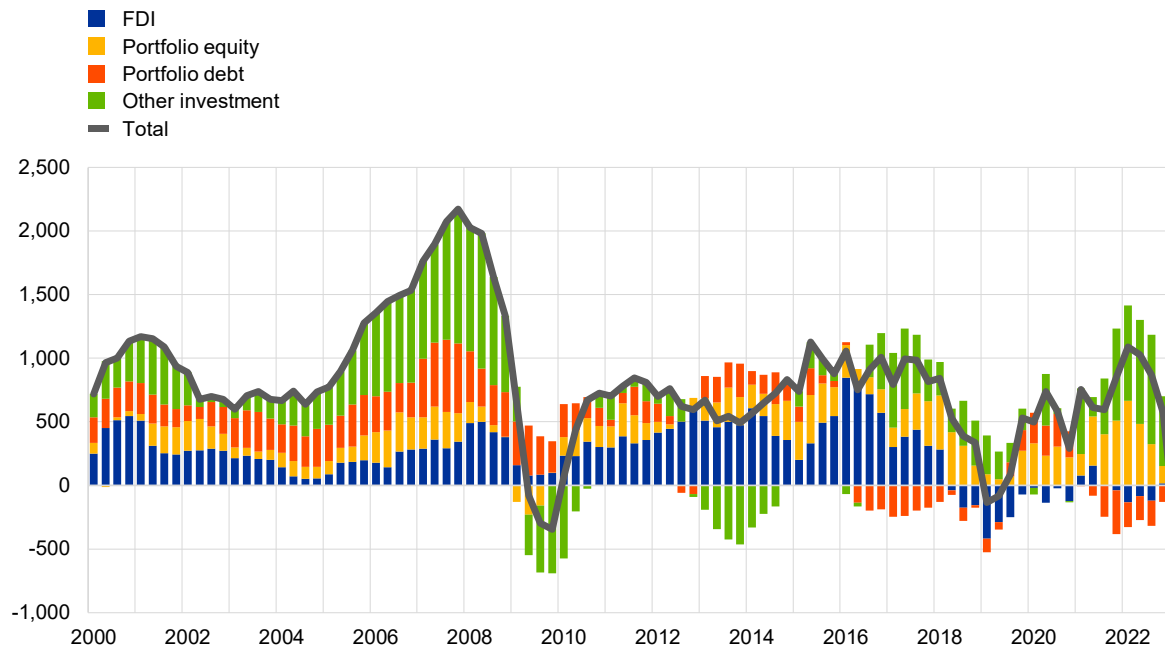
(four-quarter moving sums, EUR billions)



Source: Emter, L., Schiavone, M. and Schmitz, M. (2023), "The great retrenchment in euro area external financial flows in 2022 – insights from more granular balance of payments statistics", *Economic Bulletin*, Issue 4, ECB, Frankfurt am Main (forthcoming), based on ECB data.
Notes: A positive (negative) number indicates net purchases (sales) of non-euro area instruments by euro area investors. The latest observations are for the fourth quarter of 2022.

Euro area financial account, liabilities

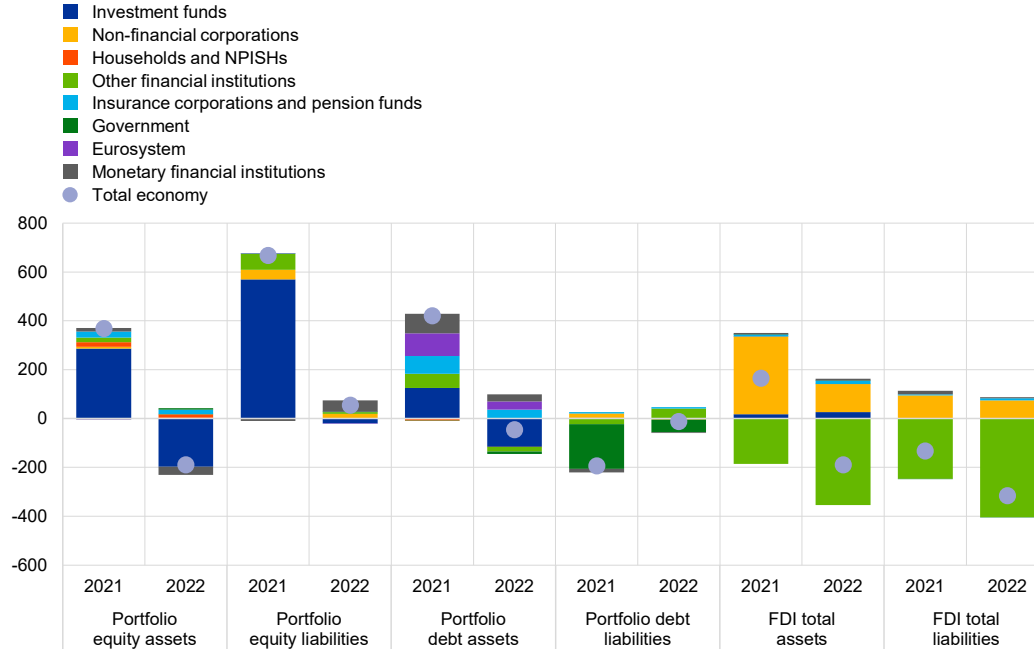
(four-quarter moving sums, EUR billions)



Source: Emter, L., Schiavone, M. and Schmitz, M. (2023), "The great retrenchment in euro area external financial flows in 2022 – insights from more granular balance of payments statistics", *Economic Bulletin*, Issue 4, ECB, Frankfurt am Main (forthcoming), based on ECB data.

Notes: A positive (negative) number indicates net purchases (sales) of euro area instruments by non-euro area investors. The latest observations are for the fourth quarter of 2022.

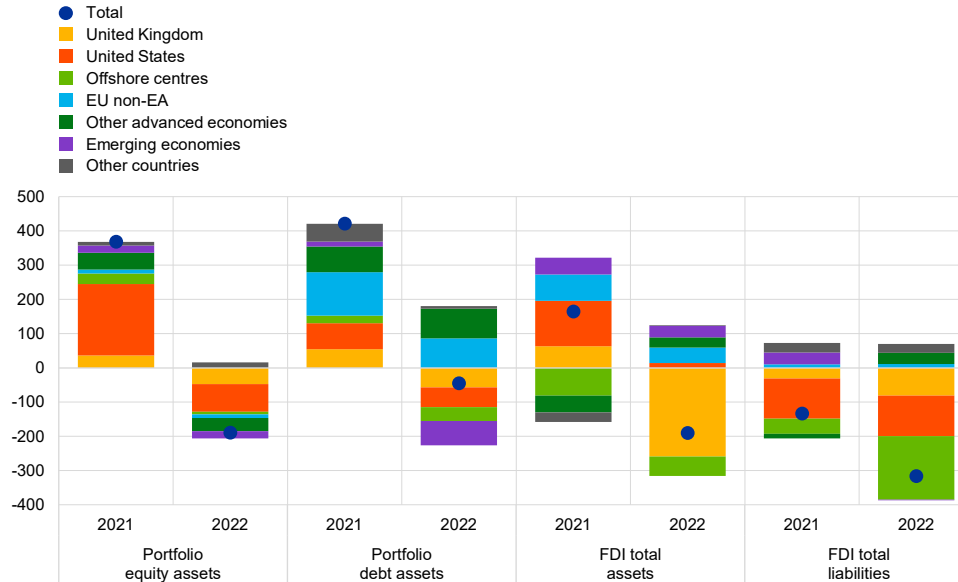
Euro area financial account: selected items by resident sector (four-quarter moving sums, EUR billions)



Source: Emter, L., Schiavone, M. and Schmitz, M. (2023), "The great retrenchment in euro area external financial flows in 2022 – insights from more granular balance of payments statistics", *Economic Bulletin*, Issue 4, ECB, Frankfurt am Main (forthcoming), based on ECB data.

Notes: For assets, a positive (negative) number indicates net purchases (sales) of non-euro area instruments by euro area investors. For liabilities, a positive (negative) number indicates net purchases (sales) of euro area instruments by non-euro area investors. The abbreviation "NPISHs" stands for non-profit institutions serving households. The latest observations are for the fourth quarter of 2022.

Euro area financial account: selected items by counterparty location (four-quarter moving sums, EUR billions)



Source: Emter, L., Schiavone, M. and Schmitz, M. (2023), "The great retrenchment in euro area external financial flows in 2022 – insights from more granular balance of payments statistics", *Economic Bulletin*, Issue 4, ECB, Frankfurt am Main (forthcoming), based on ECB data.

Notes: For assets, a positive (negative) number indicates net purchases (sales) of non-euro area instruments by euro area investors. For liabilities, a positive (negative) number indicates net purchases (sales) of euro area instruments by non-euro area investors. "EU non-EA" comprises the non-euro area EU Member States and those EU institutions and bodies that are considered for statistical purposes as being outside the euro area, such as the European Commission and the European Investment Bank. "Other advanced economies" include Australia, Canada, Japan, Norway, South Korea and Switzerland. Emerging economies include Argentina, Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa and Türkiye. "Other countries" include all countries and country groups not shown in the chart, as well as unallocated transactions. The latest observations are for the fourth quarter of 2022.

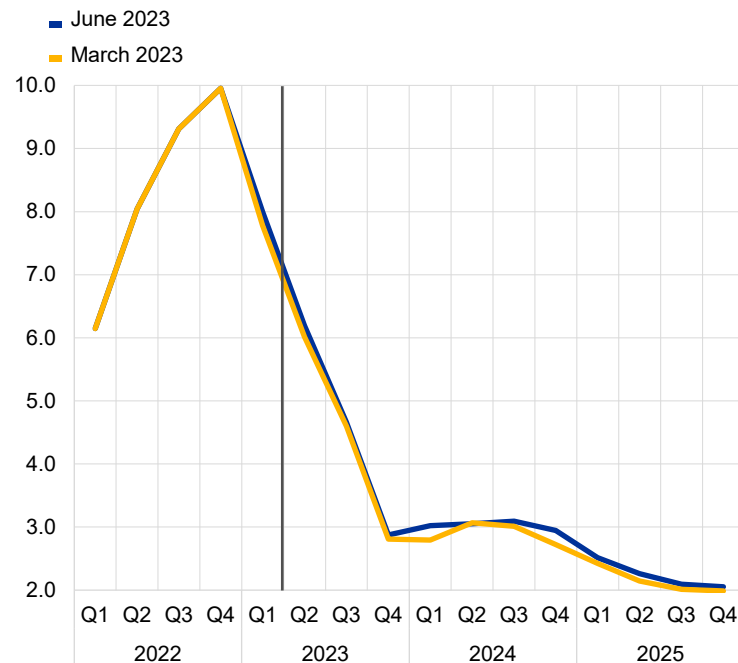
The economic outlook and monetary policy

Key macroeconomic variables

	June 2023 Eurosystem staff projections (annual % change)			
	2022	2023	2024	2025
HICP	8.4	5.4	3.0	2.2
HICP excl. energy and food	3.9	5.1	3.0	2.3
Compensation per employee	4.3	5.3	4.5	3.9
Real GDP	3.5	0.9	1.5	1.6
Private consumption	4.4	0.2	1.9	1.5
Government consumption	1.4	0.0	1.1	1.4
Total investment	3.8	1.5	1.1	2.1
Unemployment rate (% of labour force)	6.7	6.5	6.4	6.3
	(Q4 on Q4 % change)			
	22Q4	23Q4	24Q4	25Q4
HICP	10.0	2.9	2.9	2.1
HICP excl. energy and food	5.1	4.2	2.7	2.2

Source: June 2023 Eurosystem staff projections.

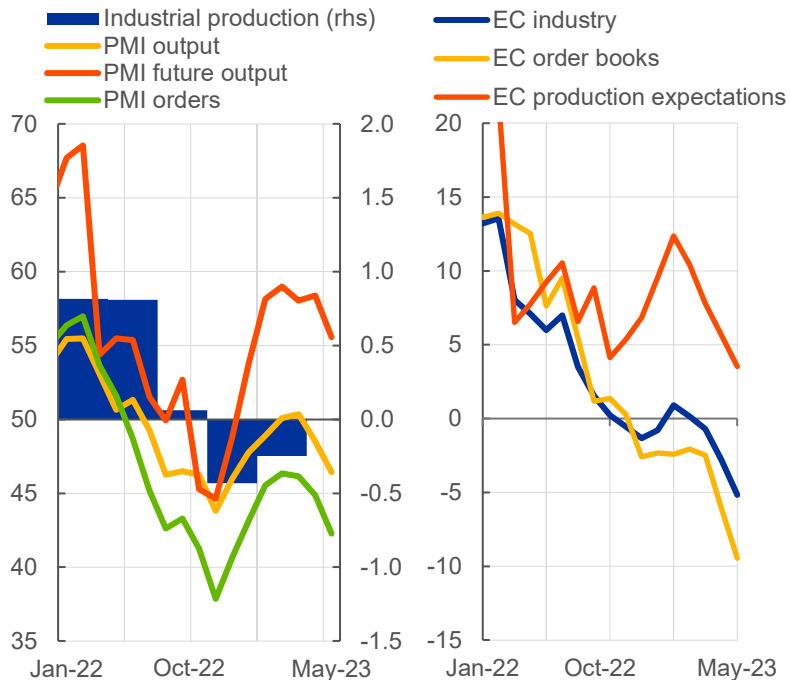
HICP projections (annual percentage changes)



Sources: June 2023 Eurosystem staff projections, March 2023 ECB staff projections.
Latest observation: Q4 2025.

Industrial production and survey data

(lhs panel: lhs: diffusion index; rhs: q-o-q percentage change;
rhs panel: net percentage balances)



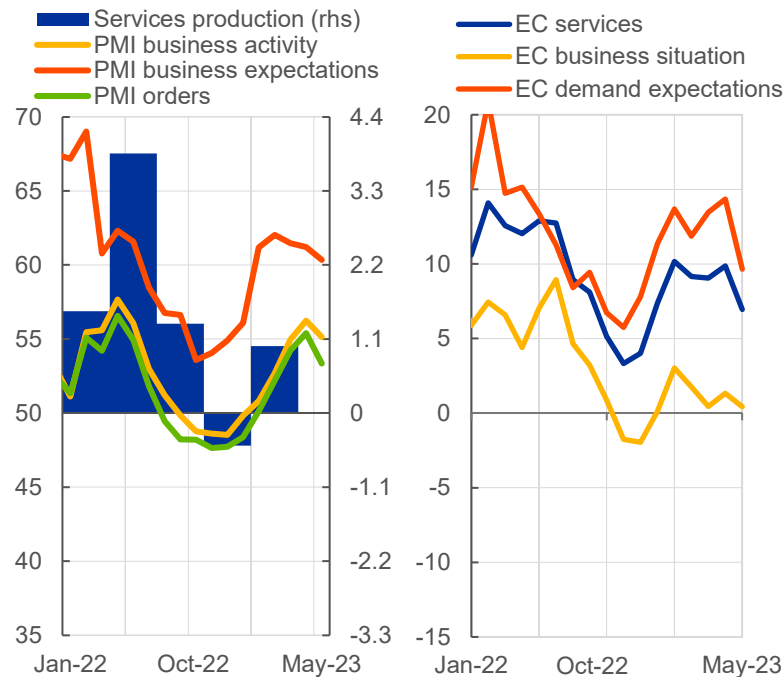
Sources: Eurostat, S&P Global, DG-ECFIN and ECB calculations.

Note: Production shows quarterly averages. PMI stands for Purchasing Managers' Index and EC stands for European Commission.

Latest observations: March 2023 for production; May 2023 for PMIs and EC.

Services production and survey data

(lhs panel: lhs: diffusion index; rhs: q-o-q percentage change;
rhs panel: net percentage balances)



Sources: Eurostat, S&P Global, DG-ECFIN and ECB calculations.

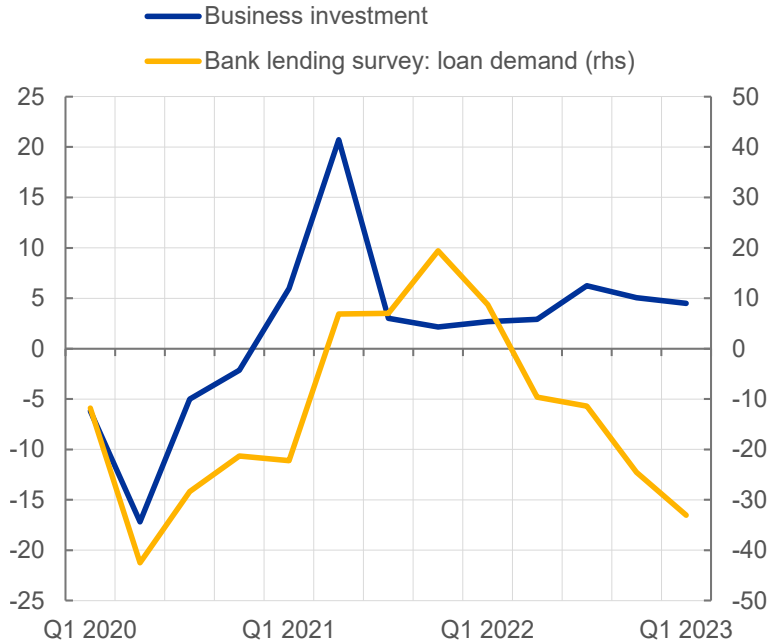
Note: Services production refers to the business economy except trade, financial and insurance activities and shows quarterly averages. PMI stands for Purchasing Managers' Index and EC stands for European Commission.

Latest observations: March 2023 for production; May 2023 for PMIs and EC.

Business and housing investment

Business investment and loan demand

(lhs: annual percentage change; rhs: net percentage balances)

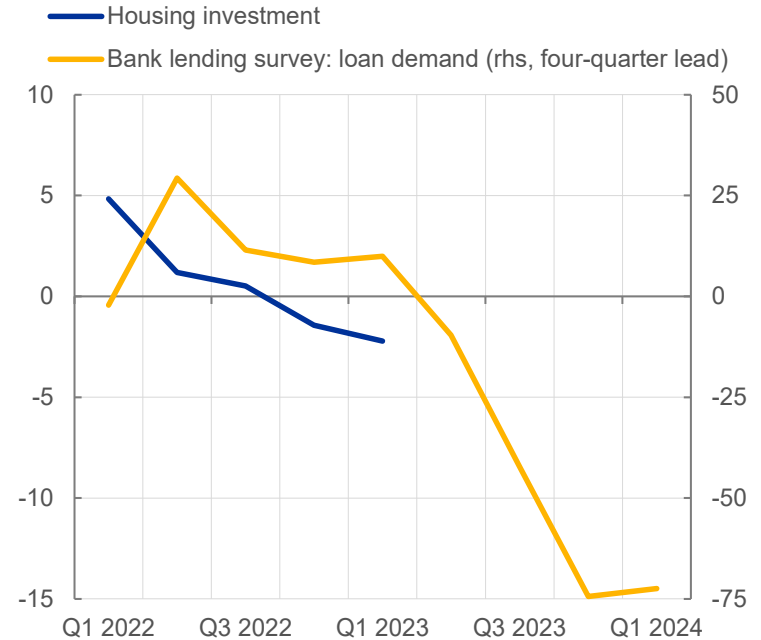


Sources: Eurostat, June 2023 Eurosystem staff projections for the euro area, euro area bank lending survey and ECB calculations. Notes: Business investment refers to non-construction investment for past data and excludes Irish intellectual property products. Loan demand is for fixed investment purposes.

Latest observations: Q1 2023; projections for Q2 and Q3 2023.

Housing investment and loan demand

(lhs: annual percentage change; rhs: net percentage balances)

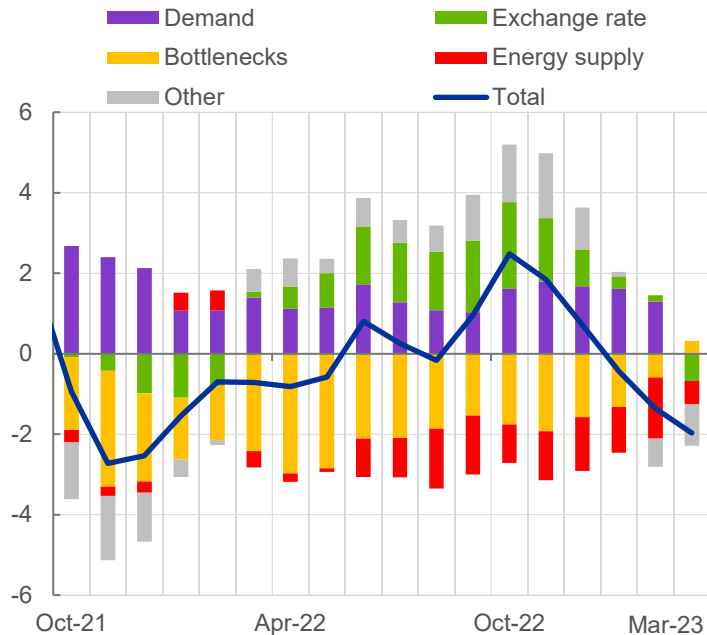


Sources: Eurostat, June 2023 Eurosystem staff projections, euro area bank lending survey and ECB calculations.

Note: Housing loan demand led housing investment by 4 quarters in the pre-pandemic period. Latest observations: Q1 2023; projections for Q2 and Q3 2023.

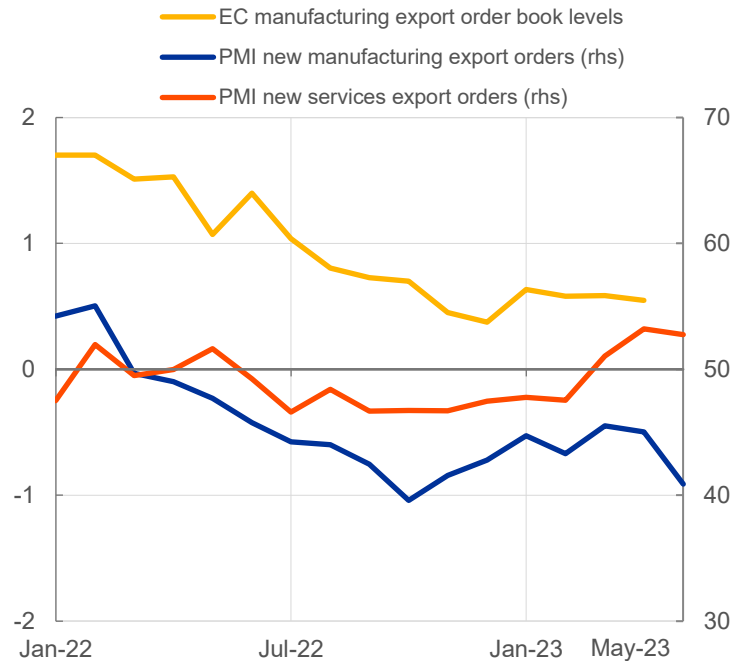
Drivers of extra-euro area goods export volumes

(annual percentage change, pp contributions)



Euro area exports, imports and terms of trade

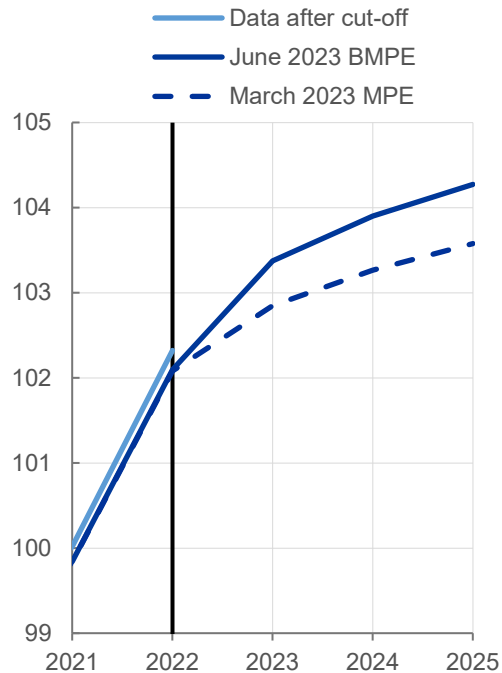
(index, 2021Q4 = 100)



Sources: Eurostat, CPB, New York FED, and ECB calculations. Notes: Historical decomposition based on a monthly SVAR model using data from 2003 to 2023. The following variables are included: synthetic energy price index, ratio of energy intensive to non-energy intensive industrial production, world imports, HICP, global supply chain pressure index, exports, nominal effective exchange rate. Structural shocks identified by sign restrictions. Deviations from the steady state.

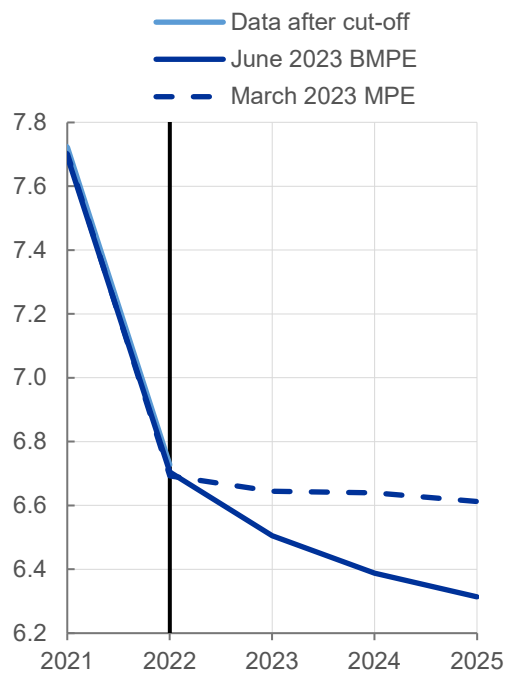
Sources: June 2023 Eurosystem staff projections, March 2023 ECB staff projections. Notes: Exports and imports refer to volumes of goods and services (including intra-euro area trade). Terms of trade computed as the ratio of export deflator over import deflator. Forecast starts in Q1 2023.

Employment (index 2019 =100)



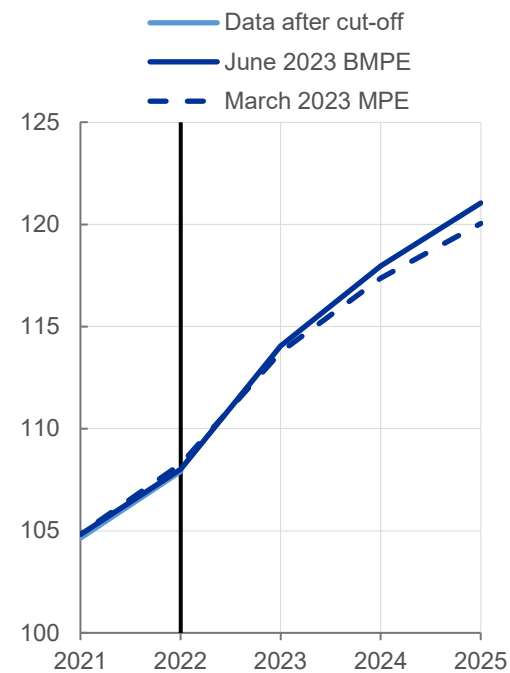
Sources: Eurostat, June 2023 Eurosystem staff projections, March 2023 ECB staff projections.
 Latest observation: 2022.

Unemployment rate (percent of the labour force)



Sources: Eurostat, June 2023 Eurosystem staff projections, March 2023 ECB staff projections.
 Latest observation: 2022.

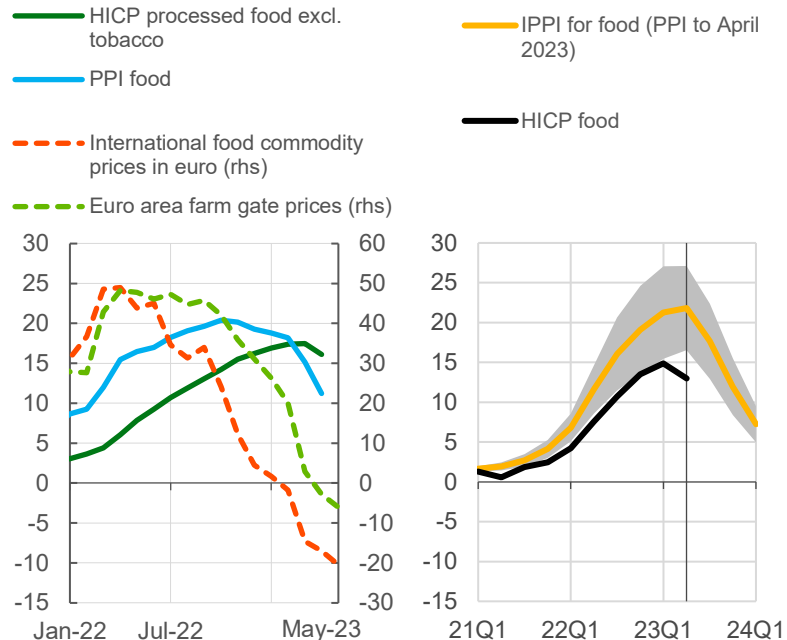
Unit labour costs (index 2019 = 100)



Sources: Eurostat, June 2023 Eurosystem staff projections, March 2023 ECB staff projections.
 Latest observation: 2022.

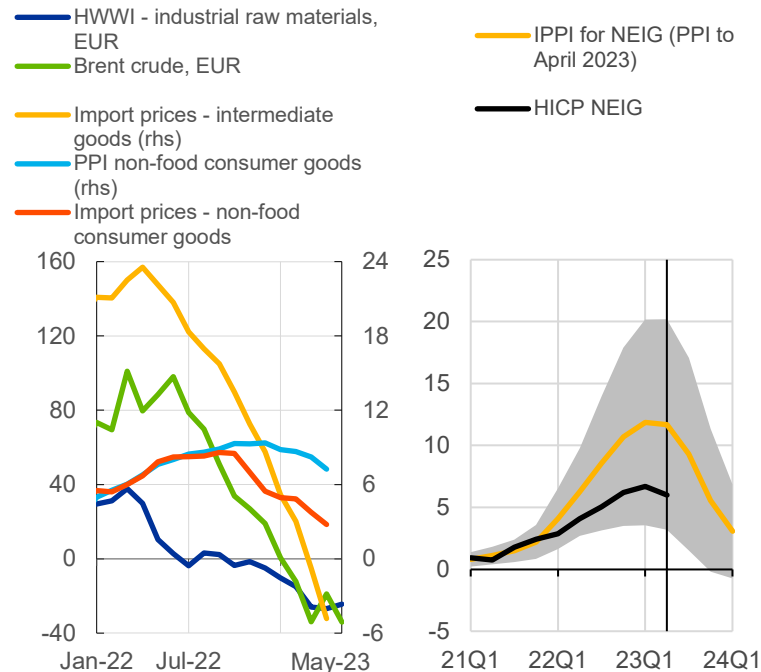
Pipeline pressures for food inflation

(annual percentage change)



Pipeline pressures for non-energy industrial goods (NEIG) inflation

(annual percentage change)



Sources: Eurostat and ECB calculations.

Notes: IPPI stands for indicators of producer price pressures. The shaded area shows the 95% confidence interval. See ECB Economic Bulletin, Issue 3/2023 "Indicators for producer price pressures in consumer goods inflation".

Latest observations: May 2023 for HICP food (flash), International food commodity prices and Euro area farm gate prices, April 2023 for the rest.

Sources: Eurostat and ECB calculations.

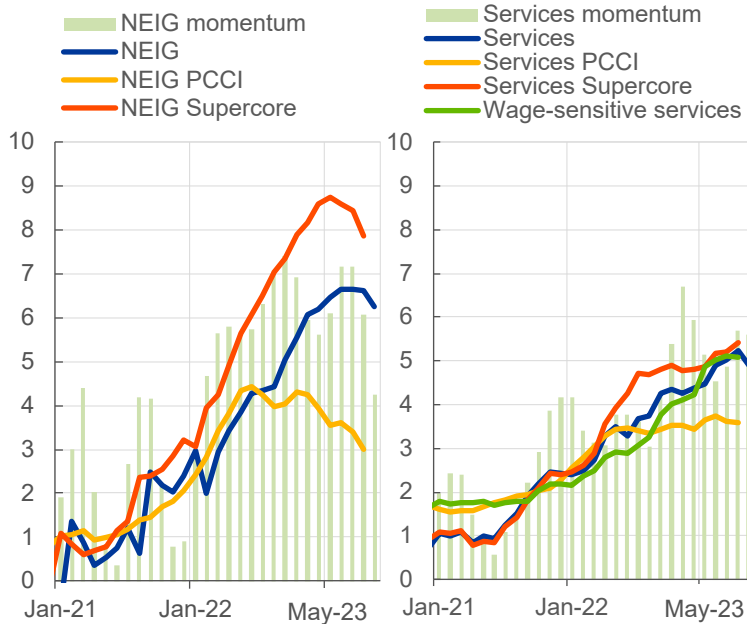
Notes: IPPI stands for indicators of producer price pressures. The shaded area shows the 95% confidence interval. See ECB Economic Bulletin, Issue 3/2023 "Indicators for producer price pressures in consumer goods inflation".

Latest observations: May 2023 for Brent crude in euro, HWWI in euro and HICP NEIG (flash), April 2023 for the rest.

Indicators of underlying inflation and the role of supply shocks

(Underlying) inflation for NEIG and services

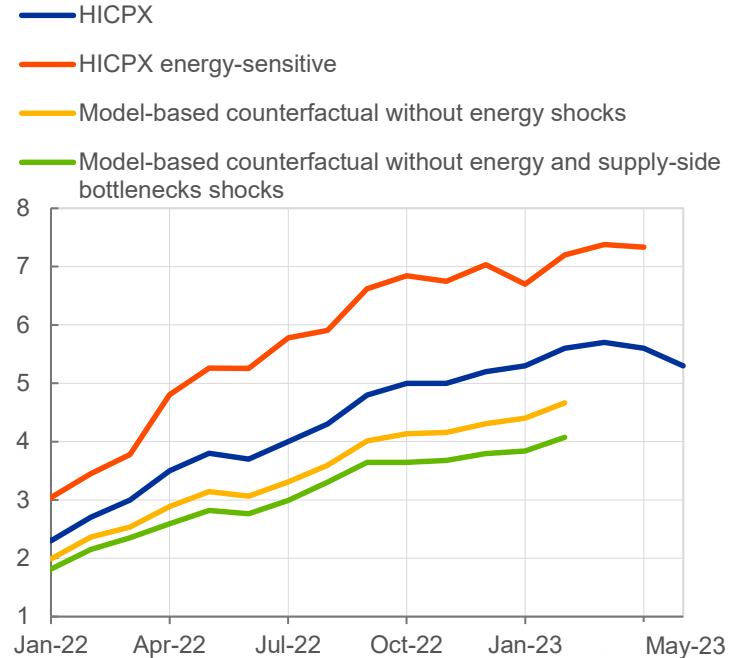
(annual percentage change)



Sources: Eurostat and ECB calculations.
 Latest observations: May 2023 (flash) for NEIG, NEIG momentum, services and services momentum, April 2023 for the rest.

HICPX and HICPX excluding energy and supply bottlenecks shocks

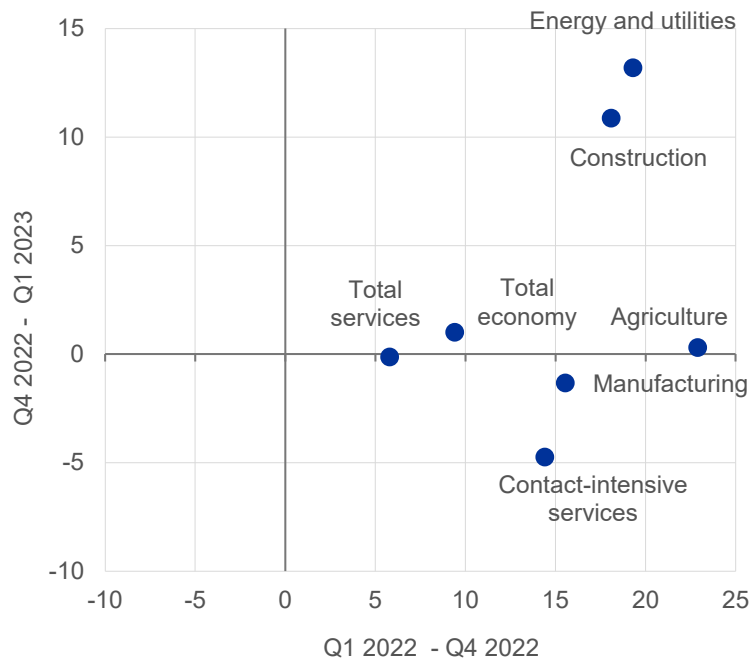
(annual percentage change)



Sources: Eurostat and ECB calculations.
 Notes: The model-based counterfactual series are only available until February 2023. This counterfactual takes out the contributions of oil supply, oil-specific demand, gas price and global supply chains shocks. The contribution of the shocks is derived from a large SVAR model identifying 8 shocks using 17 macro variables. Latest observations: May 2023 (flash) for HICPX, April 2023 for HICPX energy sensitive, February 2023 for the rest.

Sectoral unit profits

(percentage changes over the indicated period)



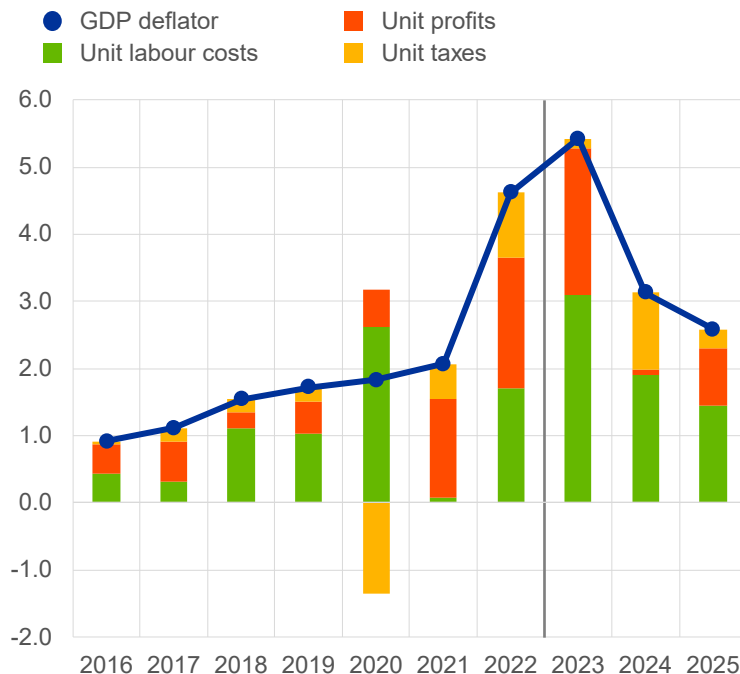
Sources: Eurostat and ECB calculations.

Notes: Unit profits correspond to gross operating surplus over real value added. Energy and utilities is calculated as the difference between industry excluding construction and manufacturing. Contact-intensive services include trade, transport, accommodation and food and arts, entertainment, recreation and other services.

Latest observation: Q1 2023.

GDP deflator

(annual percentage changes, percentage points)



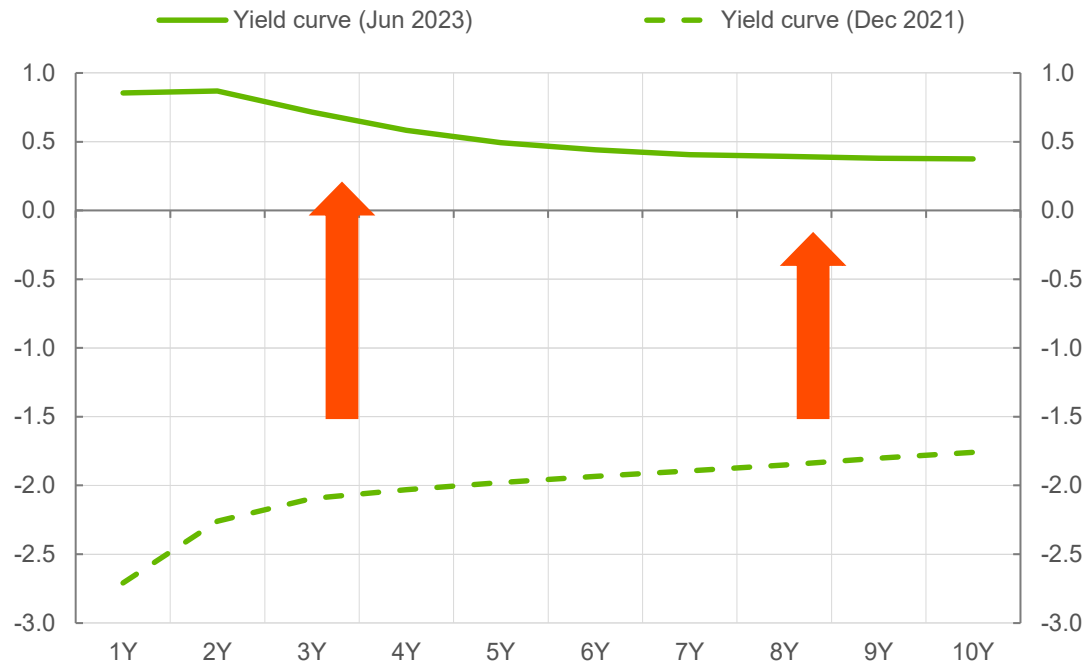
Sources: Eurostat, June 2023 Eurosystem staff projections and ECB calculations.

Note: The vertical line indicates the start of the current projection horizon.

Latest observations: Q1 2023.

Euro area real yield curve

(percentages per annum)

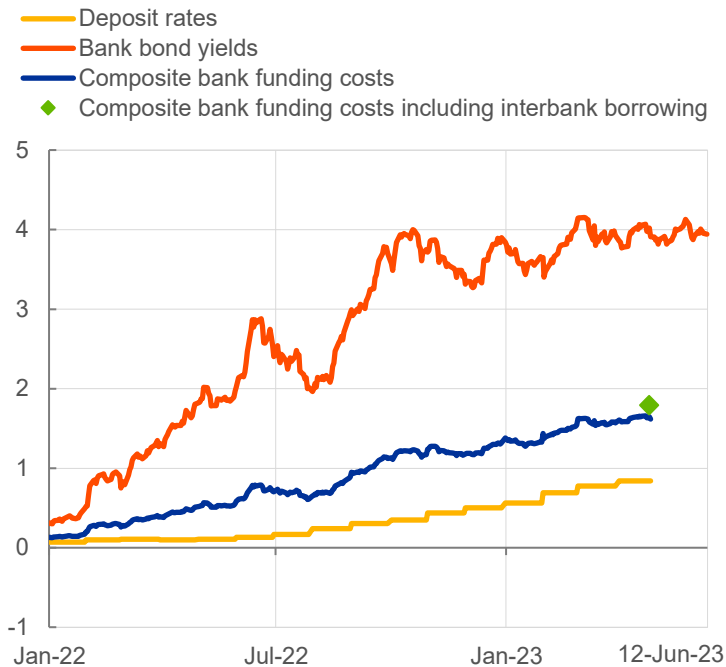


Sources: Sources: Bloomberg, Refinitiv and ECB calculations.

Notes: Real yield curve calculated as OIS minus ILS rates for maturities from 1-10 years.

Latest observation: 15 June 2023.

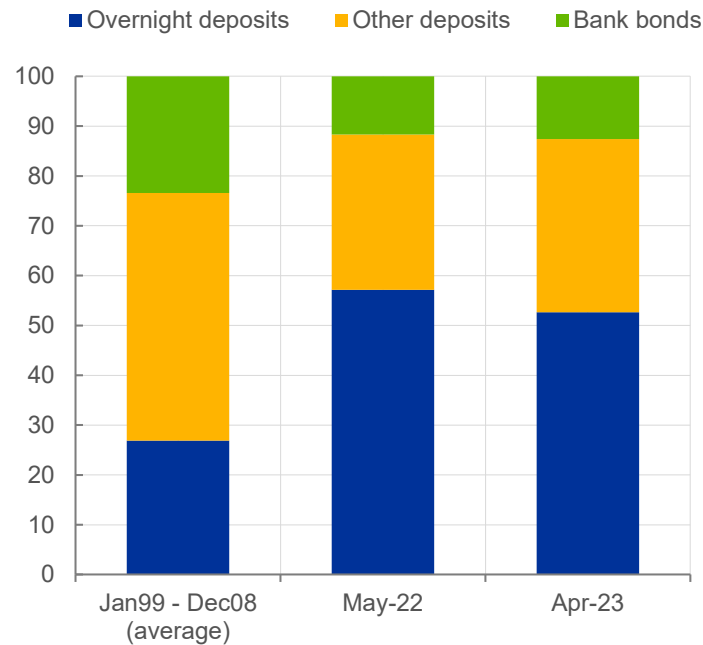
Bank funding cost (percentages per annum)



Sources: ECB (BSI, MIR, MMSR), IHS Markit iBoxx and ECB calculations.
 Notes: Rates on new business deposit rates. The interbank money market rate is weighted average of unsecured and secured transactions. The composite funding costs are the weighted average with the outstanding amounts as weights.
 Latest observations: 12 June 2023 daily data; April 2023 for BSI and MIR.

Bank funding from the euro area private sector

(outstanding amounts as percentage of the sum of the displayed items)

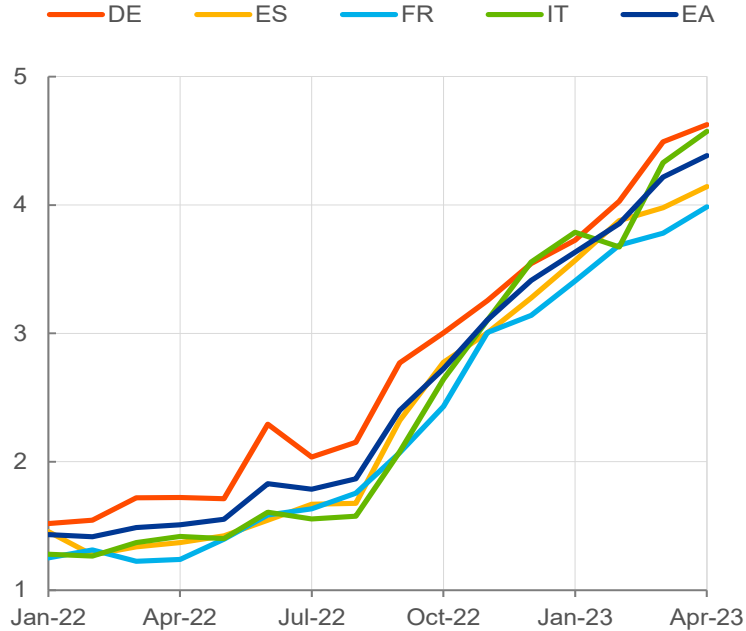


Sources: ECB (BSI) and ECB calculations.
 Notes: 'Overnight' and 'Other deposits' include deposits from the money holding sector. 'Bank bonds' include bonds issued by the MFI sector and held by the money holding sector. All components are expressed as percentage of the three funding items.

Cost of borrowing for firms and households

Firms

(percentages per annum)



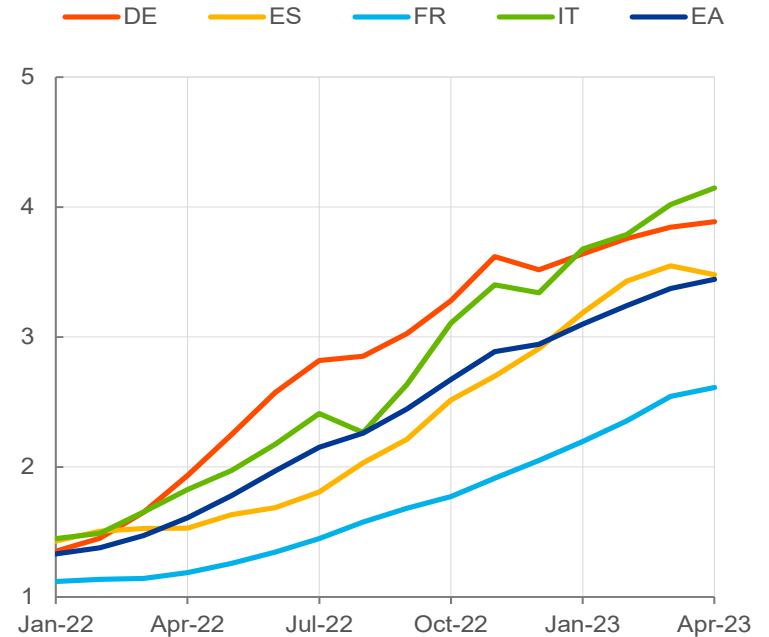
Source: ECB.

Note: The indicator for the total cost of borrowing for firms is calculated by aggregating short-term and long-term rates using a 24-month moving average of new business volumes.

Latest observation: April 2023.

Households for house purchase

(percentages per annum)



Source: ECB.

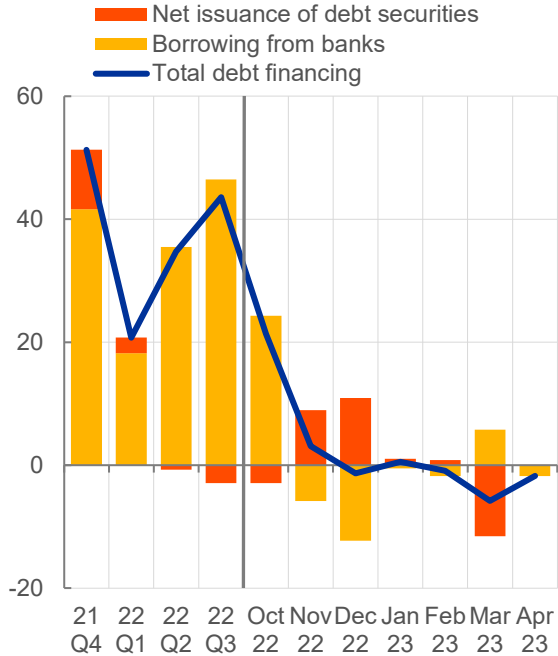
Note: The indicator for the total cost of borrowing for households for house purchase is calculated by aggregating short-term and long-term rates using a 24-month moving average of new business volumes.

Latest observation: April 2023.

Lending to firms

Net debt financing flows

(average monthly flows over the respective period in EUR bn)

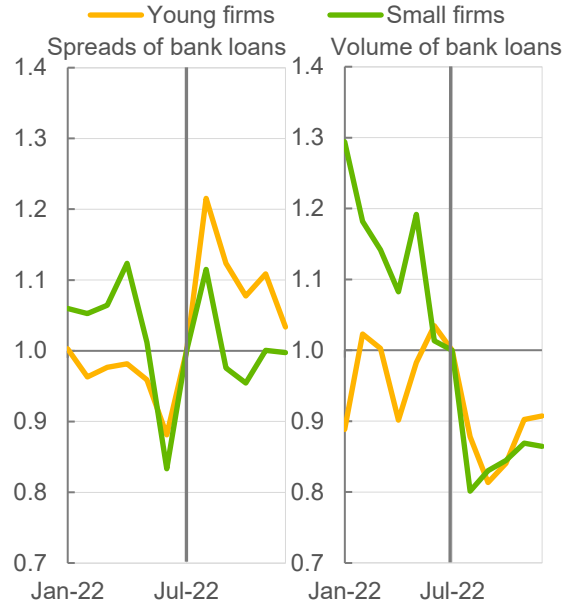


Source: ECB.

Notes: The seasonal adjustment for the net issuance of debt securities is not official. Bank loans are adjusted for sales and securitisation. Latest observation: April 2023.

Spreads and volumes of fringe firms relative to the total market since the policy hike

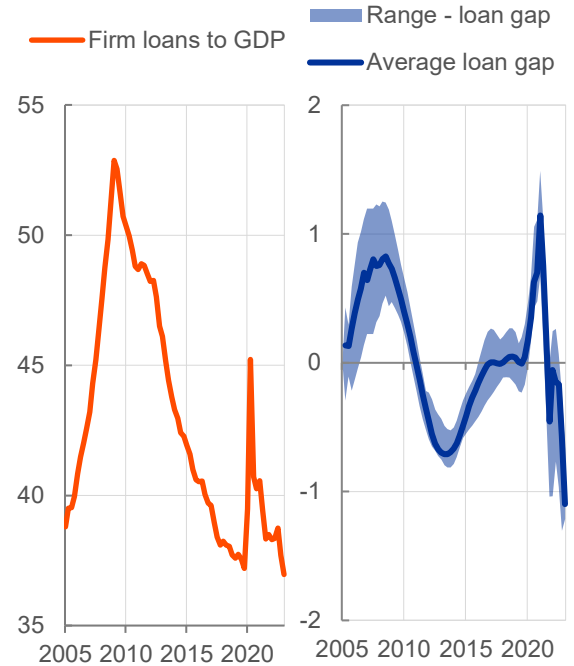
(ratios to overall market developments)



Sources: ECB, Orbis and ECB calculations. Notes: The chart compares loan rate and volume dynamics of small and young firms relative to general market movements around the start of the hiking cycle in July 2022 (grey vertical line) based on merged AnaCredit-Orbis data. The series are standardised by overall market developments in rates and volumes, and subsequently to unity at the start of the hiking cycle. Latest observation: December 2022.

Firm loan-GDP ratio and loan gap

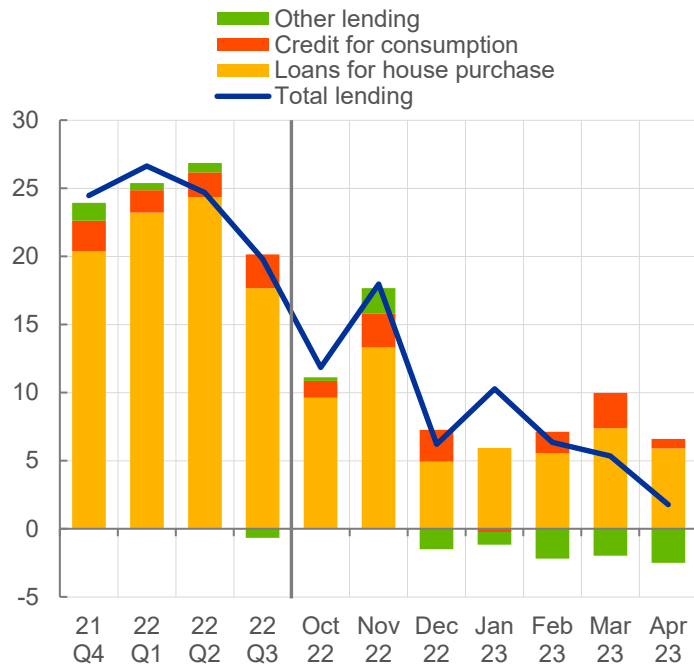
(lhs panel: percent, rhs panel: percentage deviations)



Sources: ECB and ECB calculations. Notes: The NFC loan gap indicators are estimated as weighted averages of deviations of actual loans from conditional forecasts based on Bayesian VAR models estimated in levels from 1999 onwards at quarterly frequency for the euro area. The red line depicts NFC loans relative to nominal GDP. MFI loans to firms are adjusted for sales and securitisation. The figure of GDP for 2023 Q1 is based on the June 2023 Eurosystem staff macroeconomic projections for the euro area. Latest observations: 2023 Q1 for loans and 2022 Q4 for GDP.

Bank loans by purpose

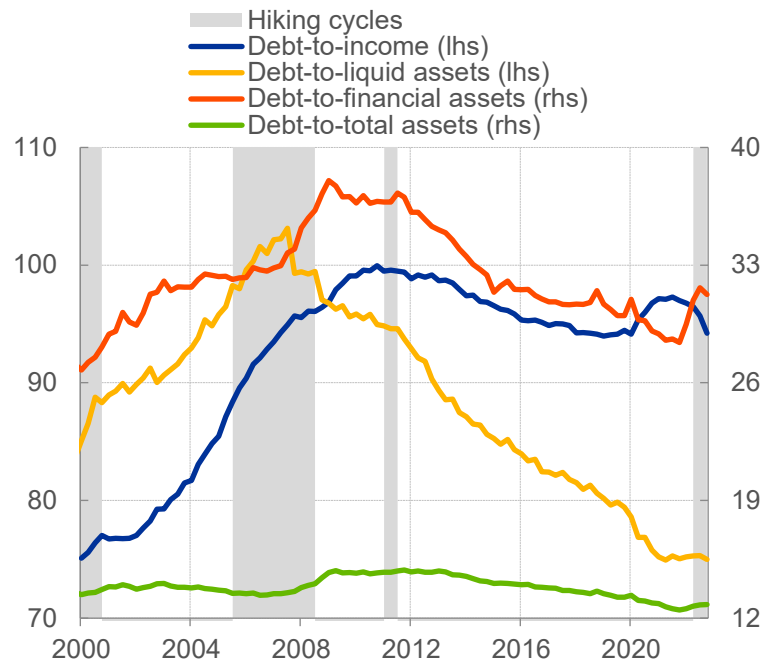
(average monthly flows over the respective period in EUR bn)



Source: ECB. Notes: Bank loans are adjusted for sales and securitisation. For the breakdown items, this adjustment has not been treated for seasonality. Up to January 2022, this adjustment is not fully harmonised across countries. Since February 2022, it is based on data collected under the current BSI Regulation but not yet published on the ECB website. As a result, there might be discrepancies between the sum of the breakdowns and the total. Latest observation: April 2023.

Household balance sheet indicators

(percentages)



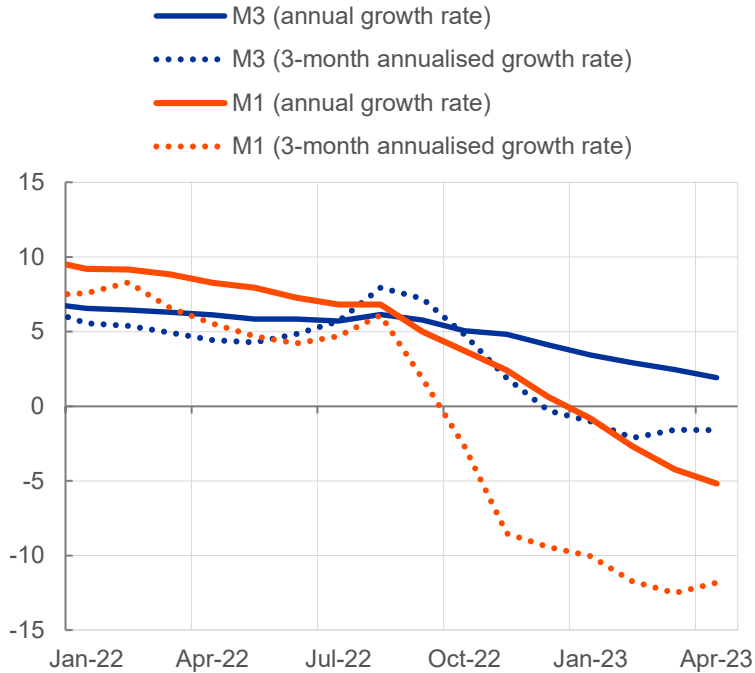
Sources: Eurostat, ECB and ECB calculations.

Notes: Debt is defined as loans granted to households by all institutional sectors. Liquid assets include currency and deposits. Total assets is the sum of financial and non-financial assets. Ratios are reported at market values.

Latest observation: Q4 2022.

M3 and M1 dynamics

(annual percentage changes)



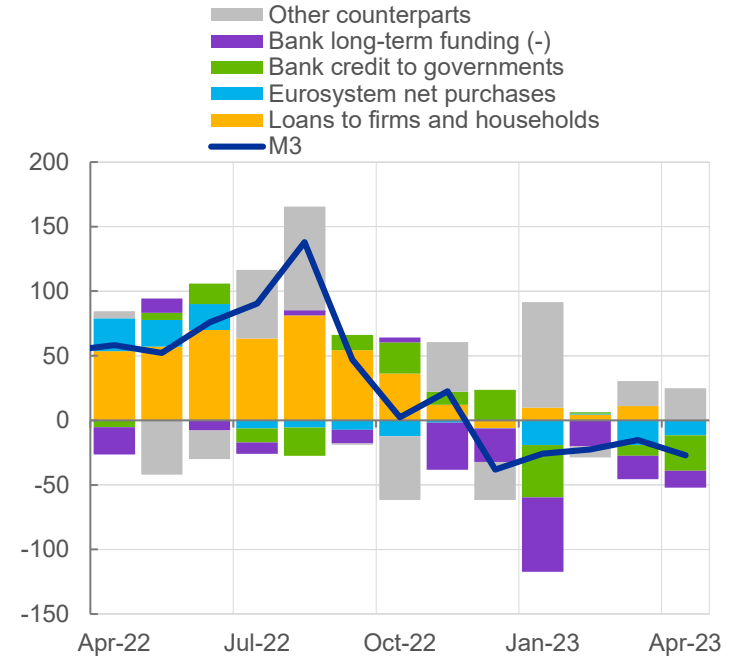
Source: ECB.

Note: Figures for M3 and M1 are adjusted on operational incident in TARGET2 which inflated the September 2022 figures for OFI deposits and loans, reversing them in October and November 2022.

Latest observation: April 2023.

Sources of money creation

(monthly flows in EUR bn)



Source: ECB.

Note: Figures for M3 are adjusted for the operational incident in TARGET2 which inflated the September 2022 figures for OFI deposits and loans, reversing them in October and November 2022.

Latest observation: April 2023.

Some incoming data before July meeting

- June inflation data (including analytics of underlying inflation)
- May industrial producer prices / import prices; Q1 services producer prices
- PMIs / [sentiment indicators]
- May industrial production, construction and retail sales data
- Q1 house prices
- Corporate Telephone Survey
- May money and credit data, MFI interest rate statistics
- Bank Lending Survey
- Survey of Professional Forecasters
- Survey of Monetary Analysts
- Consumer Expectations Survey