



EUROPEAN CENTRAL BANK

EUROSYSTEM

# ECB monetary policy

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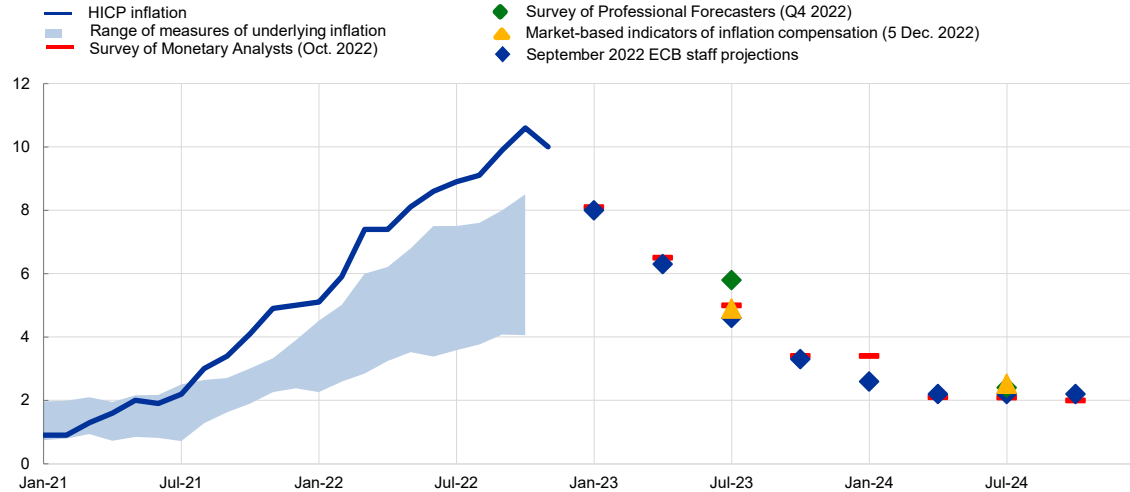
Chinese State Administration of  
Foreign Exchange (SAFE) annual  
conference on “Global Perspective  
2023”

7 December 2022



**Philip R. Lane**  
Member of the Executive Board

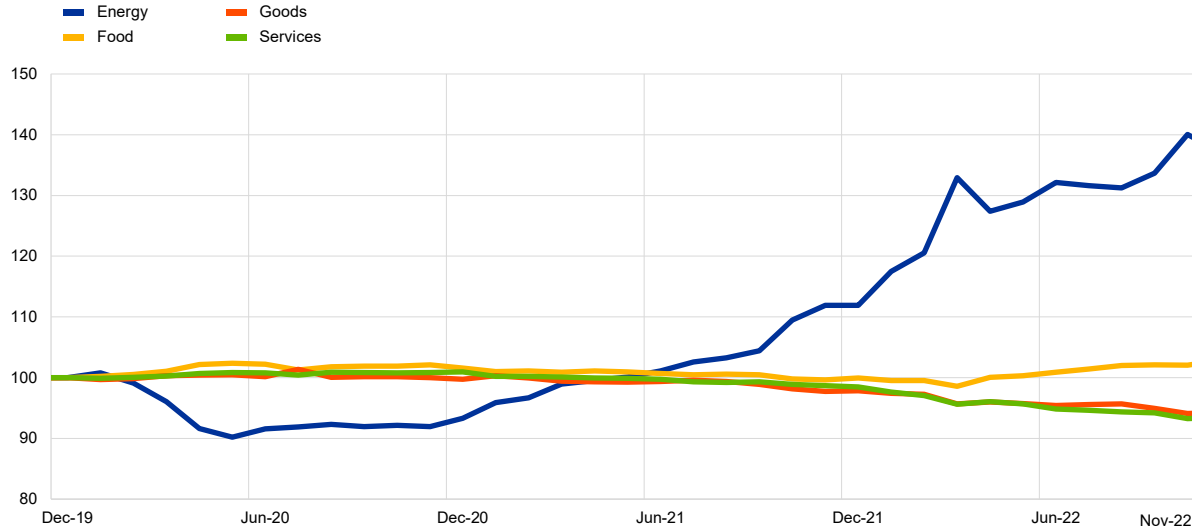
## Headline inflation, measures of underlying inflation, and inflation projections and expectations (annual percentage changes)



Sources: Eurostat and ECB calculations.

The latest observations are for November 2022 (flash) for HICP, October 2022 for the range of measures of underlying inflation. The latest observations for market-based indicators of inflation compensation are for 5 December 2022. The SPF data shows expected annual percentage changes for the year 2022, 2023 and 2024. The Survey of Monetary Analysts and the September 2022 ECB staff projections show quarterly forecasts. The cut-off date for data included in the ECB staff macroeconomic projections was 25 August 2022.

## Price developments relative to HICP for different subcomponents (index: December 2019 = 100)

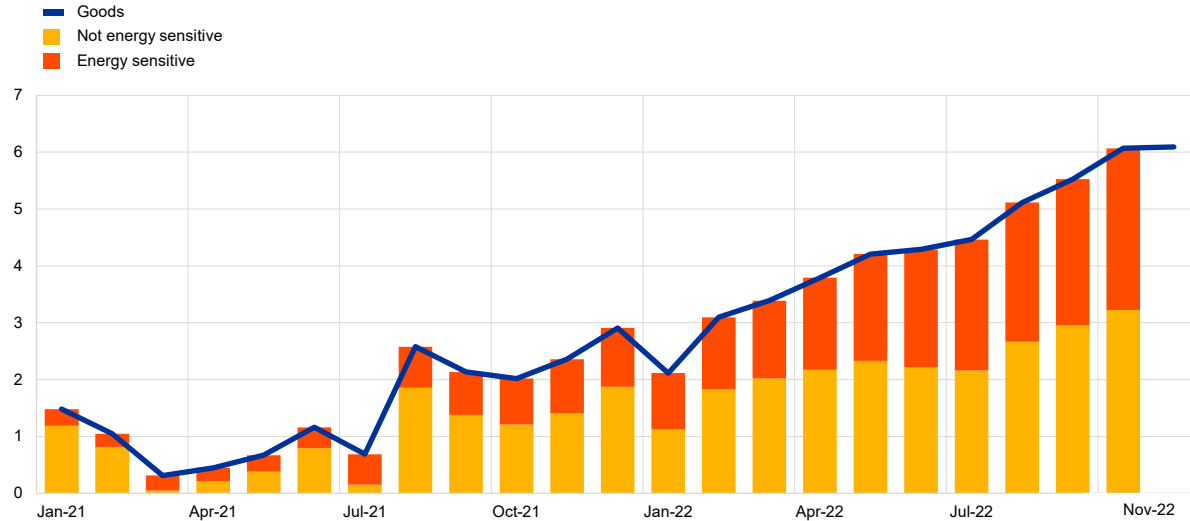


Source: Eurostat

Notes: Seasonally adjusted data for HICP, food, goods and services. Seasonally adjusted series for energy are not available. The goods category here only includes non-energy industrial goods (NEIG).

The latest observations are for November 2022 (flash).

## Goods inflation — decomposition into energy sensitive items *(annual percentage change and percentage point contributions)*

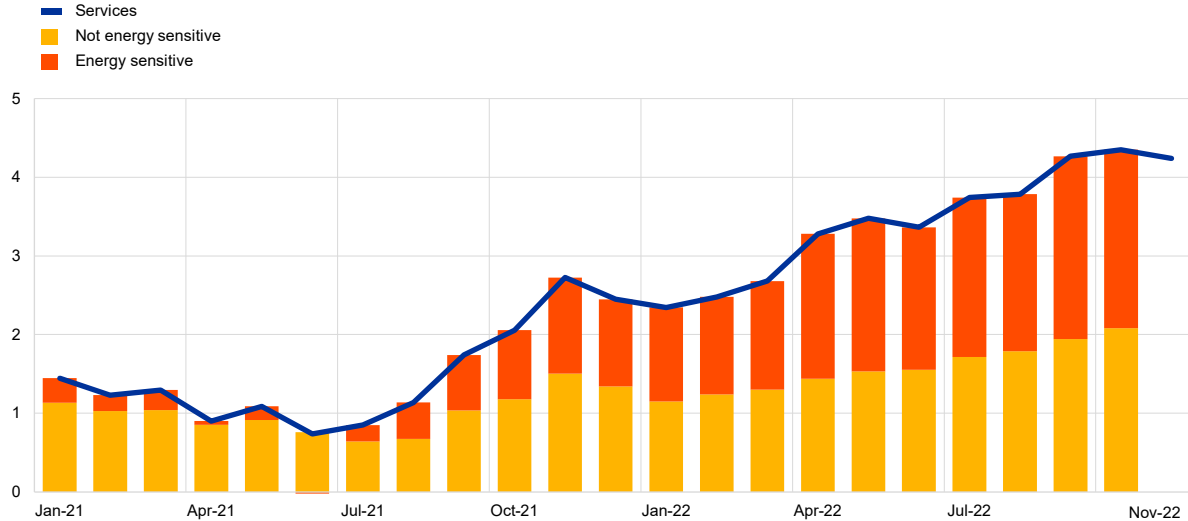


Sources: Eurostat and ECB staff calculations.

Notes: Goods here only includes non-energy industrial goods (NEIG). Energy sensitive component based on items with a share of energy in total (direct and indirect) costs above the average energy share across all NEIG items.

The latest observations are for November 2022 (flash) for goods and October 2022 for the rest.

## Services inflation — decomposition into energy sensitive items *(annual percentage change and percentage point contributions)*

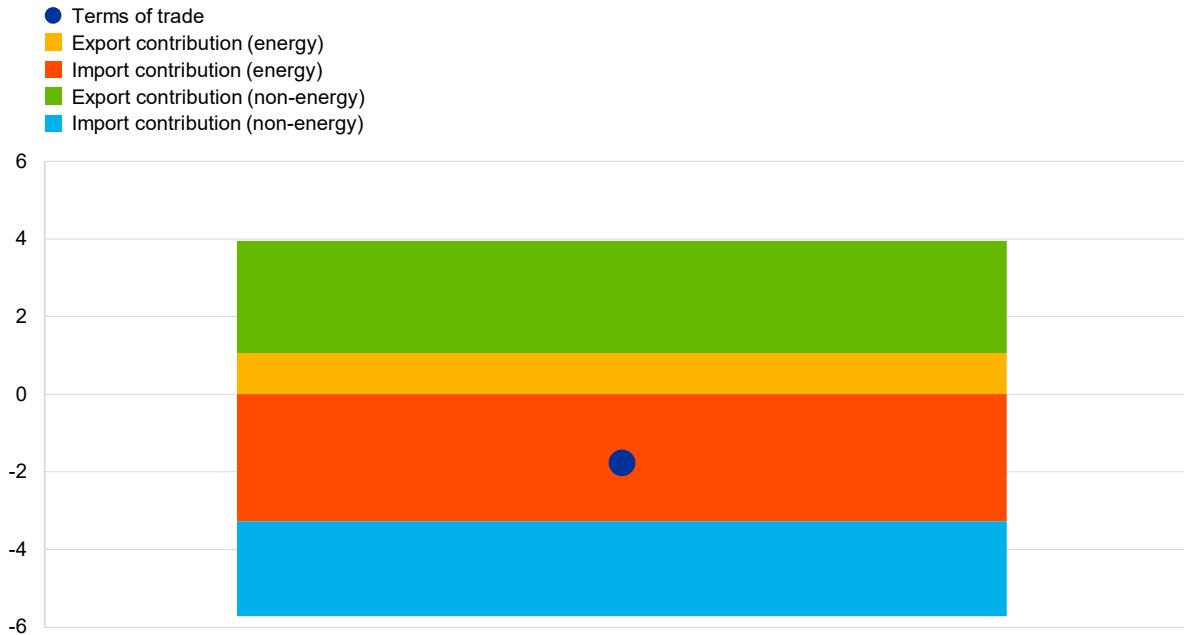


Sources: Eurostat and ECB staff calculations.

Notes: Energy sensitive component based on items with a share of energy in total (direct and indirect) costs above the average energy share across all services items.

The latest observations are for November 2022 (flash) for services and October 2022 for the rest.

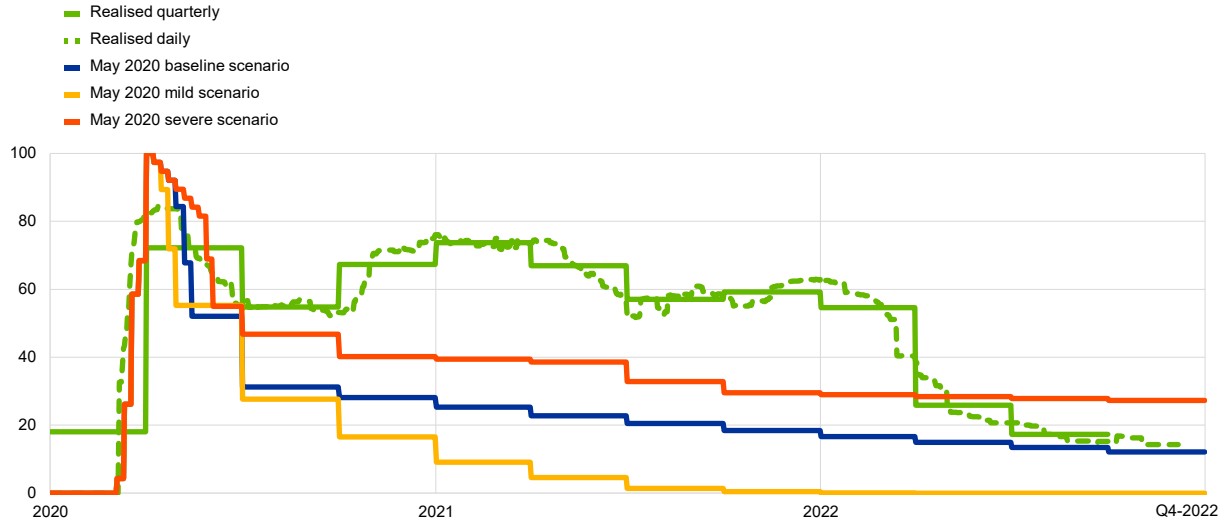
## Income effects of euro area terms of trade from Q4 2019 to Q2 (ratio)



Sources: ECB, Eurostat and ECB staff calculations.

Notes: The income effect of terms of trade is calculated by weighing export and import price changes by their respective value in the fourth quarter of 2019 and considered as a percentage share of GDP in the fourth quarter of 2019. The weights are computed based on extra-euro area trade flows and prices as obtained from the Eurostat national accounts. Due to data availability, Slovenia and Spain are not included in the euro area aggregate.

## Oxford stringency index: realised and compared to May 2020 expectations (max stringency = 100)

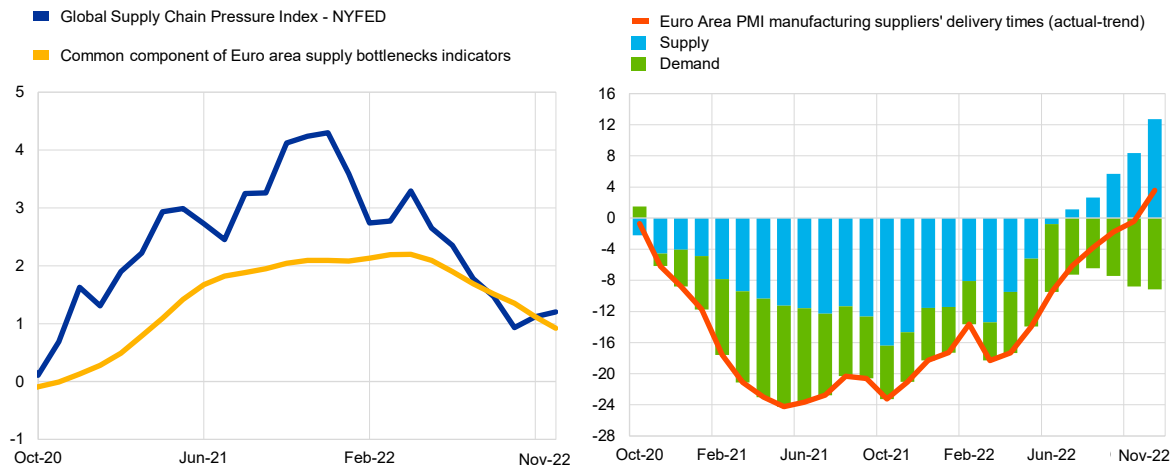


Sources: Oxford university, ECB calculations.

Notes: The euro area Oxford Stringency Index is a population-weighted average of the same index available for 18 euro area countries. See Battistini, N. and Stoevsky, G., "Alternative scenarios for the impact of the COVID-19 pandemic on economic activity in the euro area", ECB Economic Bulletin Issue 3, 2020. The latest observations are for Q4 2022. Realised daily stops on 6 December 2022, realised quarterly in Q3 2022.

## Supply bottlenecks indicators

(left: standard deviations; right: diffusion index in deviation from trend)



Sources: Federal Reserve Bank of New York (NYFED), S&P Global, Harper Petersen (HARPEX) shipping cost index, European Commission, Eurostat and ECB calculations.

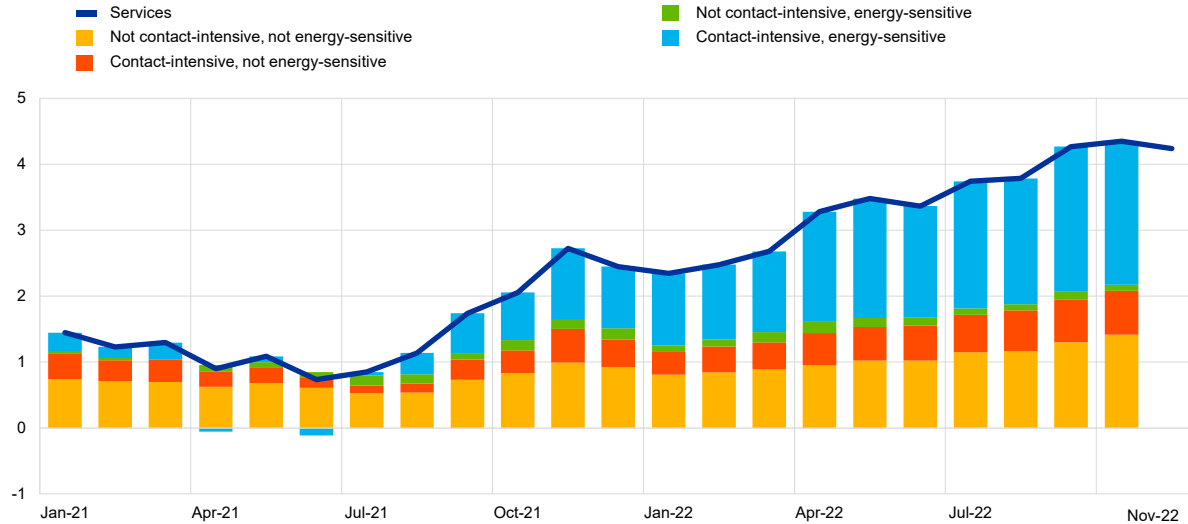
Notes: The common component in the left-hand side panel is computed using a dynamic factor model analysis on a range of supply bottlenecks indicators (see “Supply chain bottlenecks in the euro area and the United States: where do we stand?”, Economic Bulletin, Issue 2/2022). The SVAR model in the right-hand side panel shows the contribution of aggregate demand (due to demand and interest rate shocks) and aggregate supply (due to supply-chain disruption, energy and other cost-push shocks) forces (see also De Santis, Economic Bulletin, Issue 8/2021). The model is identified using sign and narrative restrictions as in Antolín Díaz, J. and Rubio-Ramírez, J.F., “Narrative Sign Restrictions for SVARs”, American Economic Review, Vol. 108, No 10, 2018, pp. 2802-2829.

Latest observations: November 2022.



## Services inflation — decomposition into contact intensive and energy sensitive items

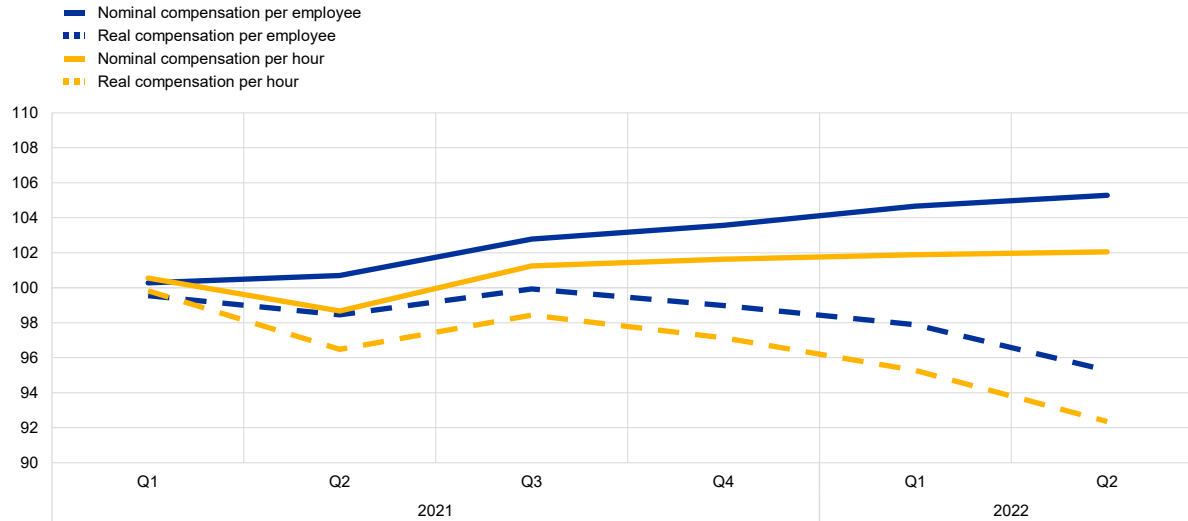
(annual percentage change and percentage point contributions)



Sources: Eurostat and ECB staff calculations.

Note: Energy sensitive component based on items with a share of energy in total (direct and indirect) costs above the average energy share across all services items. The latest observations are for November 2022 (flash) for services and October 2022 for the rest.

## Nominal and real wage growth (consumer wages) (index: Q4 2020 = 100)

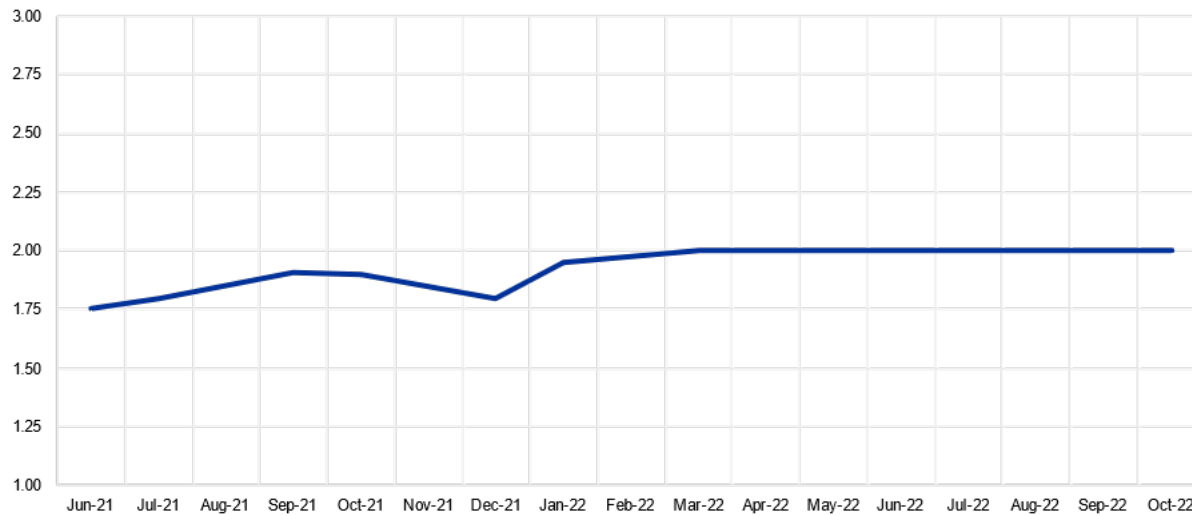


Sources: Eurostat and ECB staff calculations.

Notes: Real compensation per employee and per hour are calculated using HICP (consumer wages).  
The latest observations are for the second quarter of 2022.

## Survey of Monetary Analysts: long-term inflation expectations over survey rounds

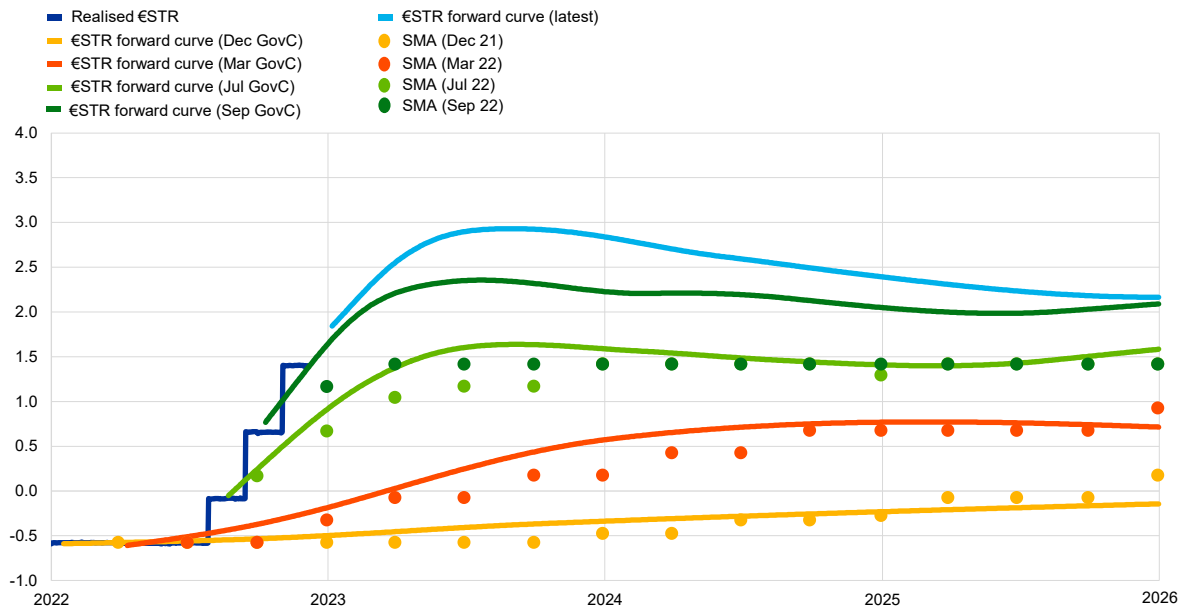
(percentage changes)



Source: ECB Survey of Monetary Analysts (SMA).

Note: Chart includes survey vintages from June 2021 until October 2022.

## €STR forward curve and survey expectations on the deposit facility rate (percentages per annum)

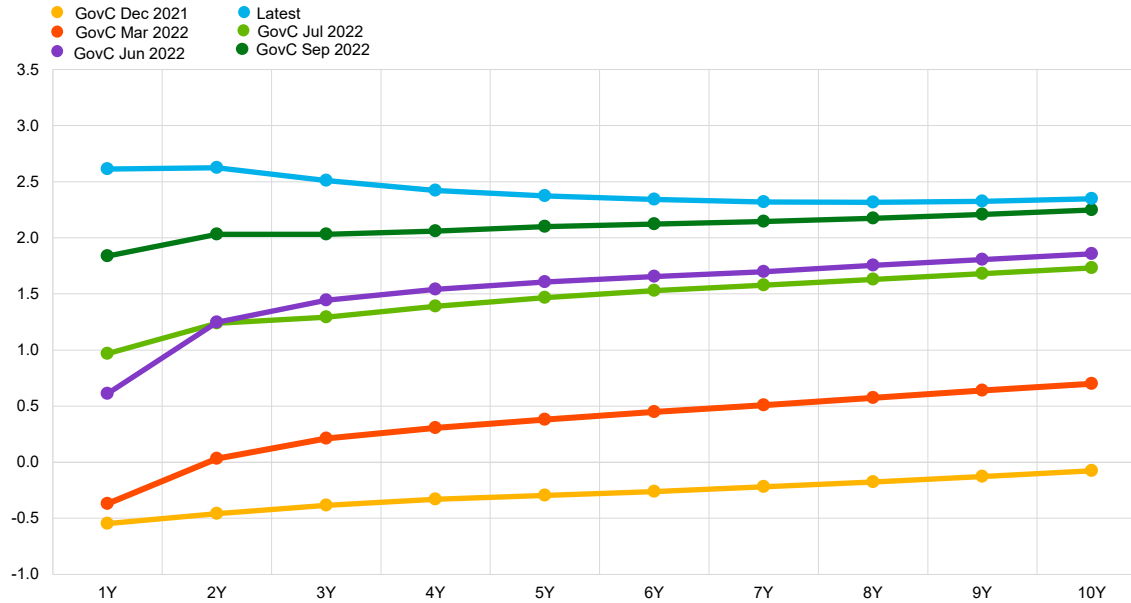


Sources: Bloomberg, Refinitiv, and ECB calculations.

Notes: The dots depict the median of responses to the SMA on most likely future deposit facility rates. Surveys are adjusted for the euro short-term rate (€STR) vs. deposit facility rate (DFR) spread.

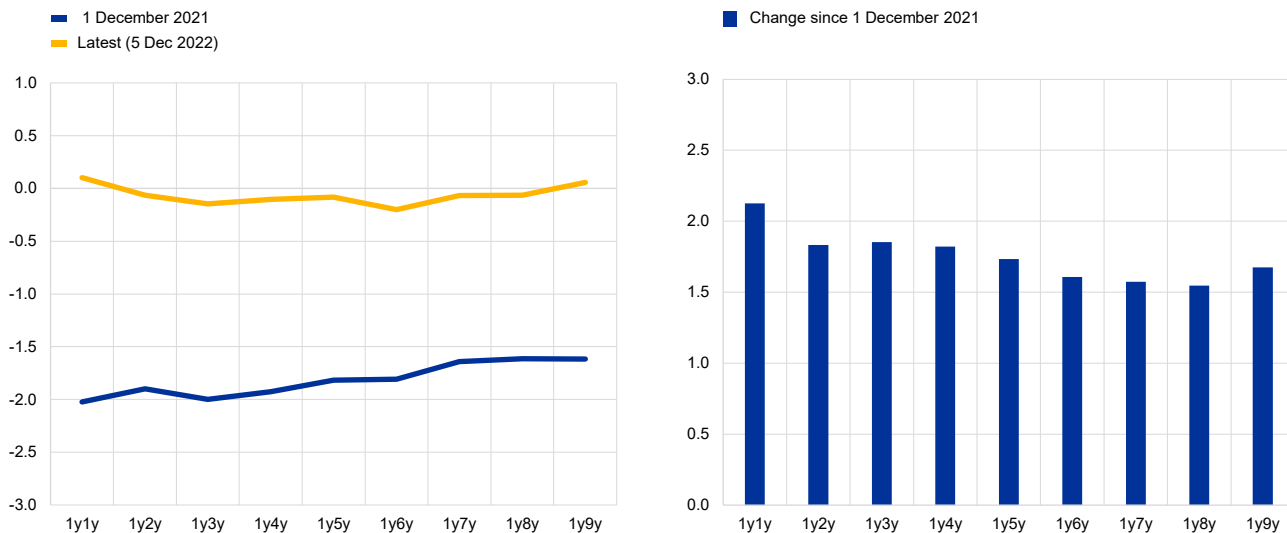
Latest observation: 5 December 2022 for realised €STR.

## OIS yield curves (percentages per annum)



Sources: Refinitiv, ECB calculations.  
Latest observation: 5 December 2022.

## Term structure of real forward rates (percentages per annum)



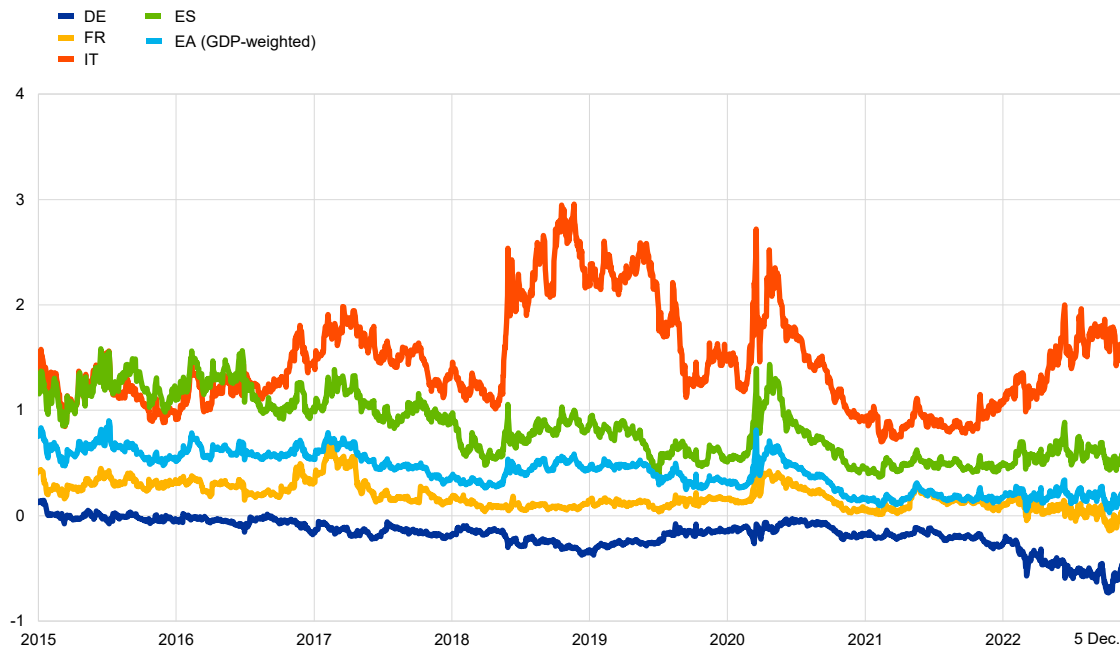
Sources: Refinitiv and ECB calculations.

Notes: Real forward rates are calculated by subtracting the inflation-linked swap forward rates from the nominal OIS forward rates for each maturity.

Latest observation: 5 December 2022.

## 10-year sovereign yield spreads over OIS rates

(percentages per annum)

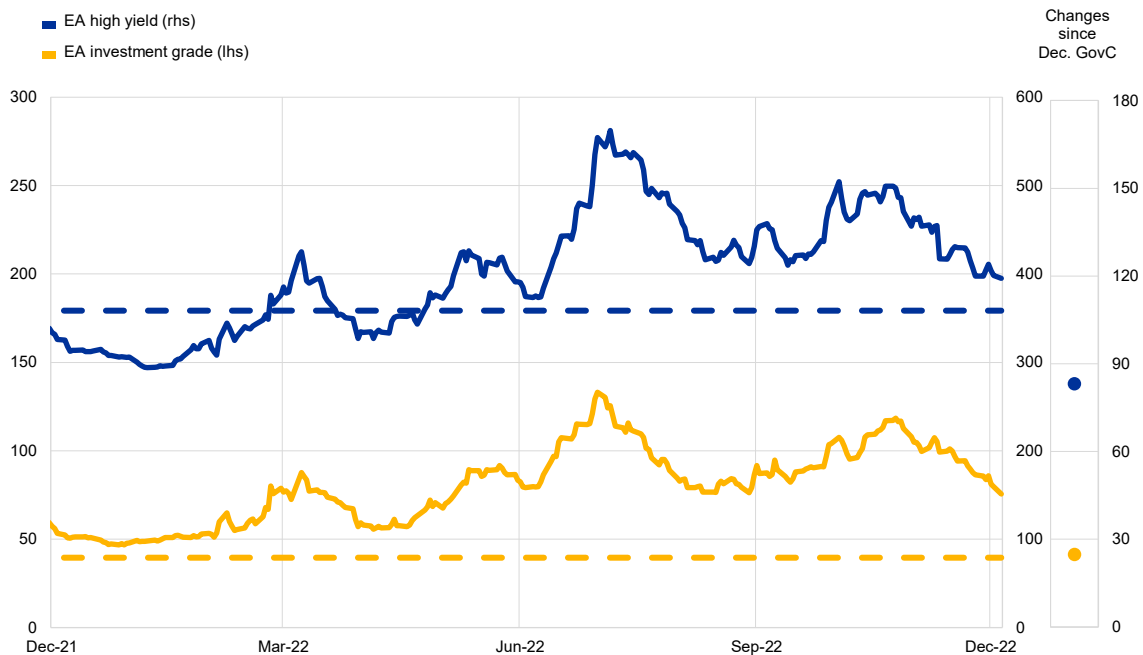


Sources: Refinitiv and ECB calculations.

Notes: The spread is the difference between individual countries' 10-year sovereign yields and the 10-year OIS rate.

Latest observation: 5 December 2022.

## Euro area and US corporate bond spreads (basis points)



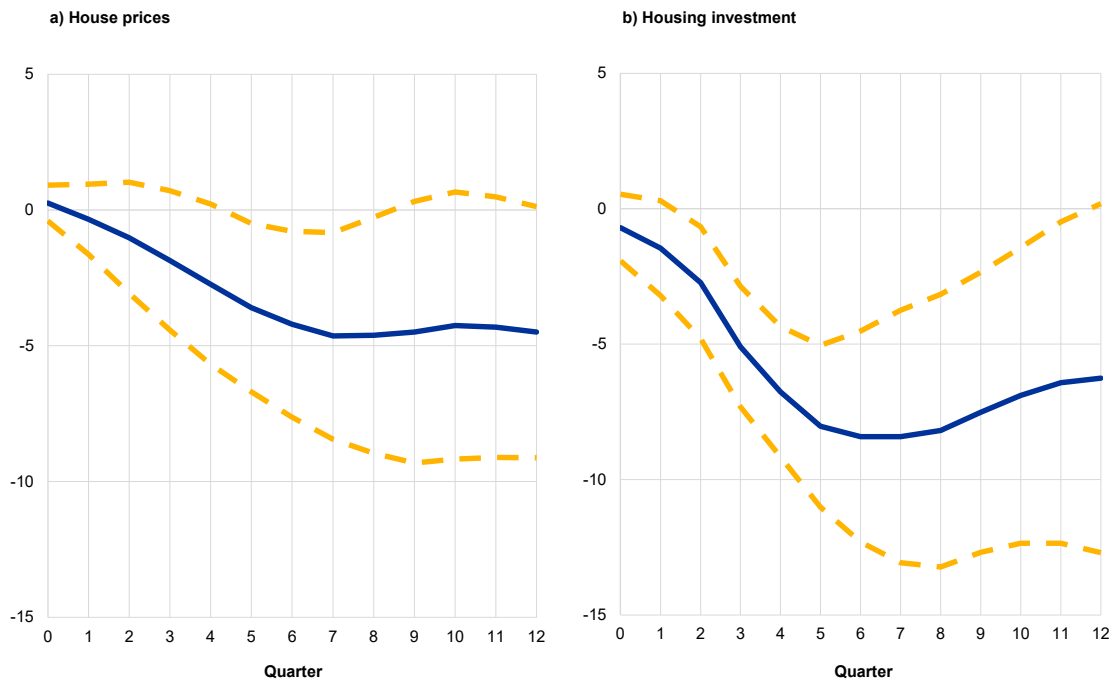
Sources: iBoxx, Refinitiv, and ECB calculations

Notes: The spreads are based on indices including companies that issue bonds in EUR, without strict restriction to their domicile and are calculated as weighted averages of bond spreads over Markit iBoxx swap curve (EA). The dashed lines show the long-term average between Jan 2015 and Nov 2021.

Latest observation: 5 December 2022.



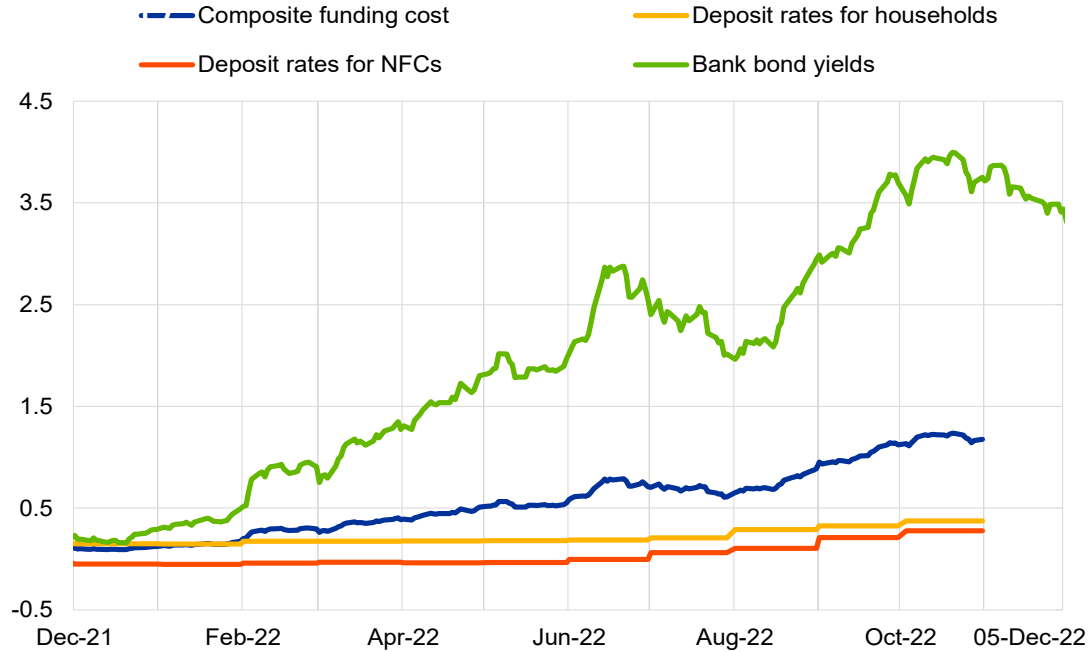
## Estimated semi-elasticities of house prices and housing investment to a 1 percentage point increase in the mortgage rate (percentages)



Sources: Eurostat, ECB and ECB staff calculations based on Battistini, Gareis and Roma (2022).

Notes: The charts show “smoothed” estimated semi-elasticities of house prices and housing investment to a 1 percentage point increase in the mortgage rate, using linear local projections. The projections include real GDP, the HICP, a short-term interest rate and housing loans as control variables and are estimated for the period running from the first quarter of 1995 to the last quarter of 2019 (i.e. excluding the period of the COVID-19 crisis). “Smoothed” refers to centred three-period moving averages of the estimated semi-elasticities, excluding the initial and final points. The dashed lines refer to the 90% confidence bands.

## Average bank funding costs of euro area banks (percentages per annum)

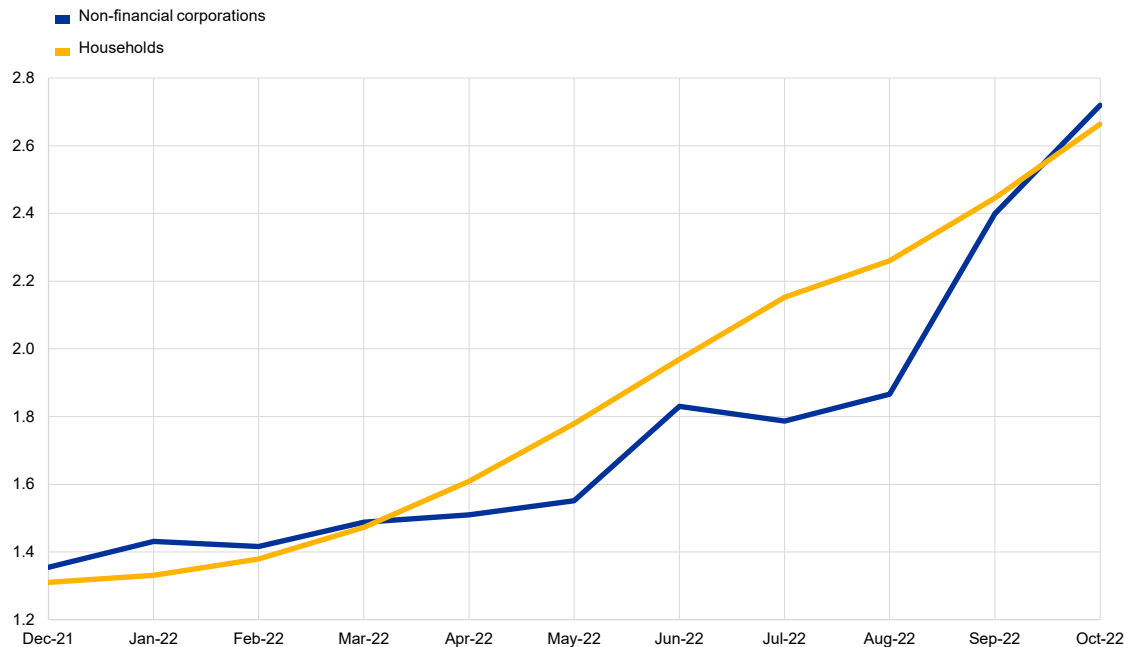


Sources: ECB (MIR, BSI), IHS Markit iBoxx and ECB calculations.

Notes: The composite funding cost is the weighted average of the cost of deposits and market debt funding, with the respective outstanding amounts on bank balance sheets used as weights. Deposit rates are on new business.

Latest observation: October 2022 for BSI and MIR; 05 December 2022 for iBoxx.

## Developments in lending rates for new loans of euro area firms and households for house purchase (percentages per annum)



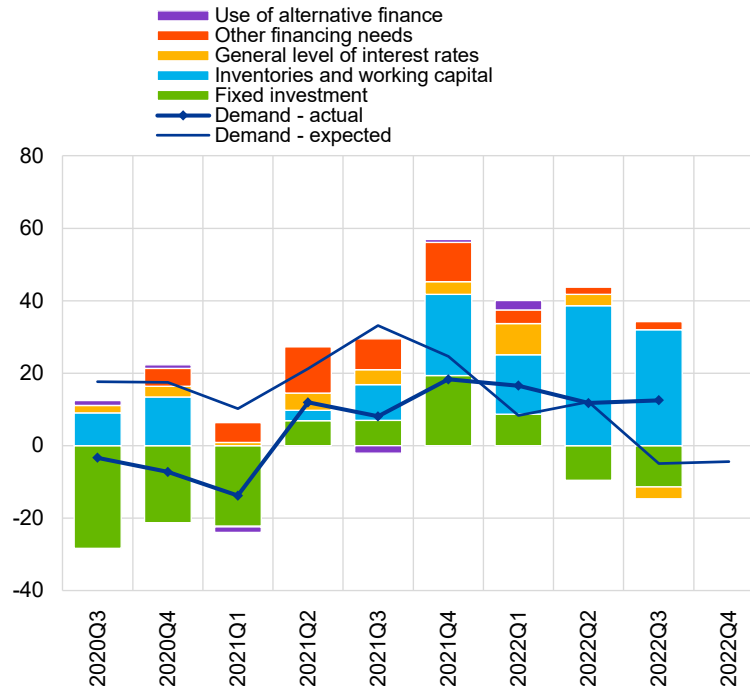
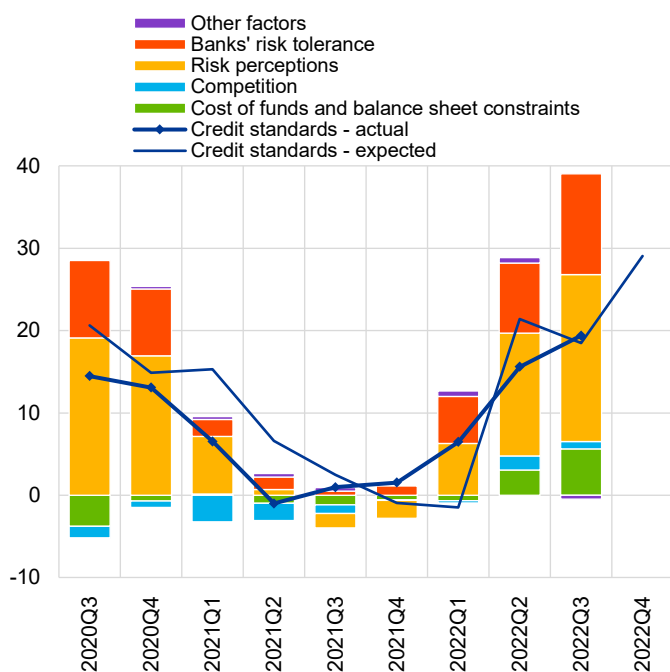
Sources: ECB (MIR).

Notes: The indicator for the total cost of borrowing for firms and 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: October 2022.

## Credit standards on loans to euro area firms (left panel) and demand for loans to firms (right panel) and contributing factors

(net percentages)

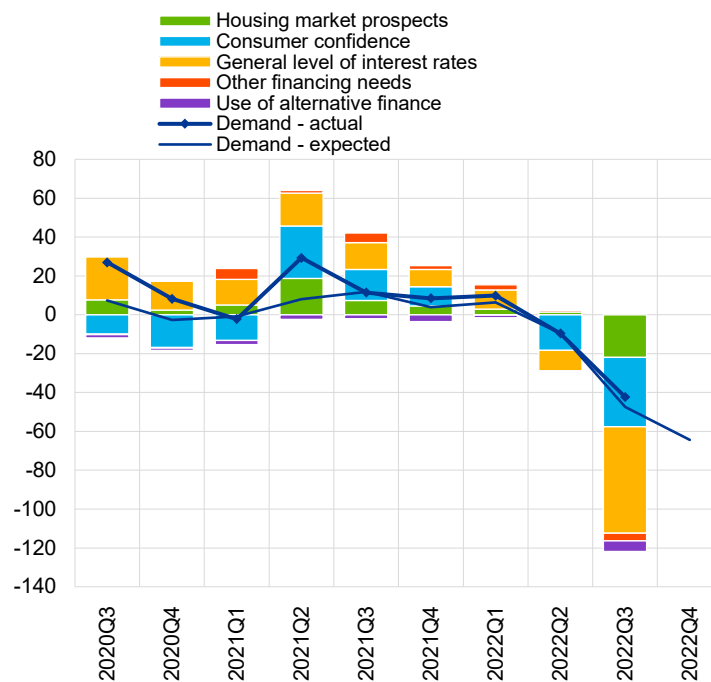
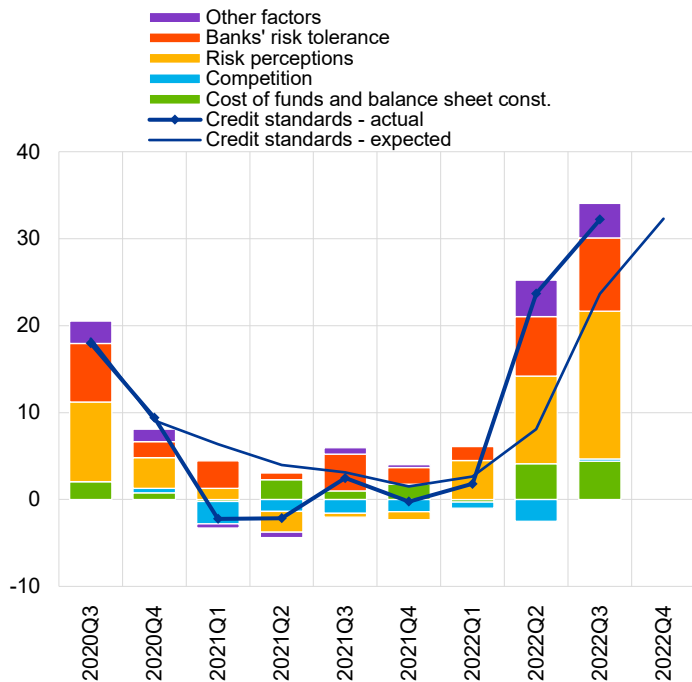


Source: ECB (BLS).

Notes: "Actual" values refer to changes reported by banks over the past three months, while "expected" values are changes anticipated by banks over the next three months. Net percentages for the questions on credit standards are defined as the difference between the sum of the percentages of banks responding "tightened considerably" and "tightened somewhat" and the sum of the percentages of banks responding "eased somewhat" and "eased considerably". Net percentages for the questions on demand for loans are defined as the difference between the sum of the percentages of banks responding "increased considerably" and "increased somewhat" and the sum of the percentages of banks responding "decreased somewhat" and "decreased considerably". The net percentages for "other factors" refer to further factors which were mentioned by banks as having contributed to changes in credit standards. Latest observation: October 2022 BLS.

## Credit standards on loans to euro area households for house purchase (left panel) and demand for loans to households for house purchase (right panel) and contributing factors

(net percentages)

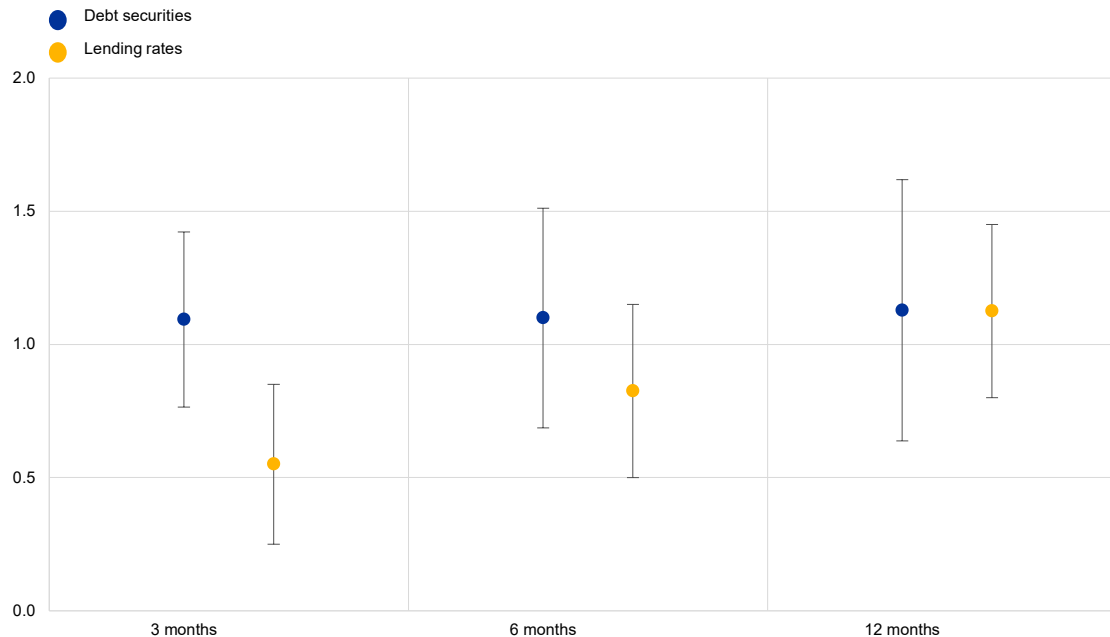


Source: ECB (BLS).

Notes: "Actual" values refer to changes reported by banks over the past three months, while "expected" values are changes anticipated by banks over the next three months. Net percentages for the questions on credit standards are defined as the difference between the sum of the percentages of banks responding "tightened considerably" and "tightened somewhat" and the sum of the percentages of banks responding "eased somewhat" and "eased considerably". Net percentages for the questions on demand for loans are defined as the difference between the sum of the percentages of banks responding "increased considerably" and "increased somewhat" and the sum of the percentages of banks responding "decreased somewhat" and "decreased considerably". The net percentages for "other factors" refer to further factors which were mentioned by banks as having contributed to changes in credit standards. Latest observation: October 2022 BLS.

## Pass-through of changes in market rates to lending and debt securities rates over time

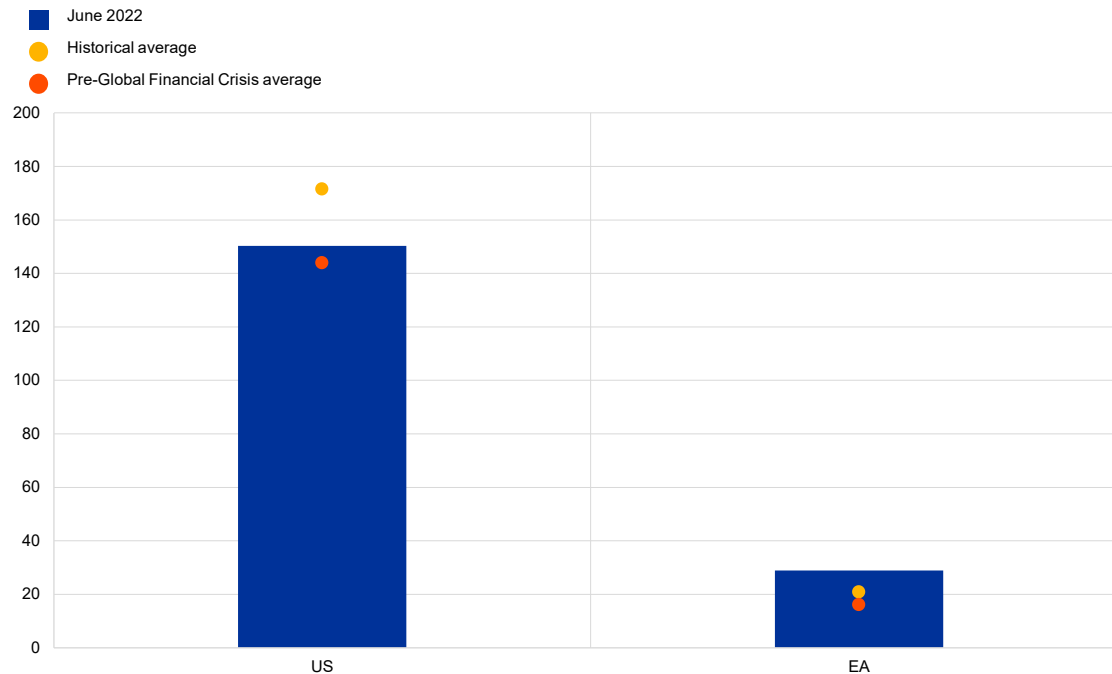
(x-axis: time horizon; y-axis: percentages)



Sources: ECB (MIR, BSI), IHS Markit iBoxx and ECB calculations.

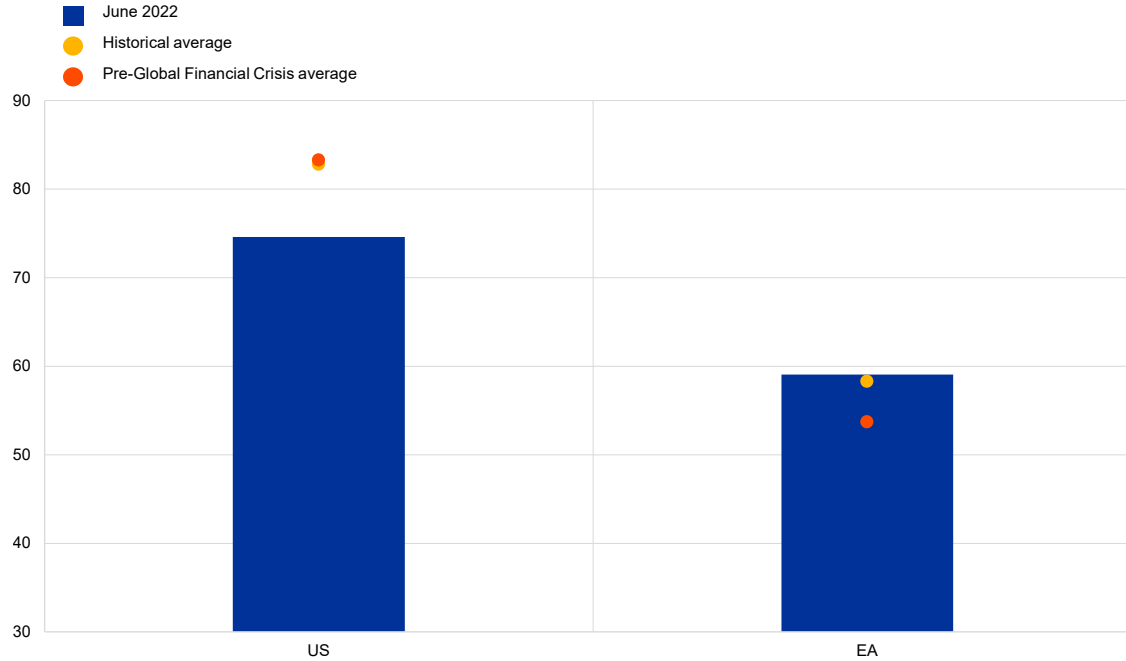
Notes: Estimates of lending rates pass-through are from Altavilla, C. F. Canova and Ciccarelli M., Mending the broken link: Heterogeneous bank lending rates and monetary policy pass-through, *Journal of Monetary Economics* 2020, Volume 110, 2020, Pages 81-98.

## Ratio between bonds and loans for firms in the euro area versus United States (ratio of outstanding amounts)



Sources: ECB and Federal Reserve Board.  
Latest observation: 2022 Q2.

## Household debt: Euro area versus United States (percentage over GDP)



Sources: ECB and Federal Reserve Board and Bureau of Economic Analysis.  
Latest observation: 2022 Q2.