

# Finding the right sequence

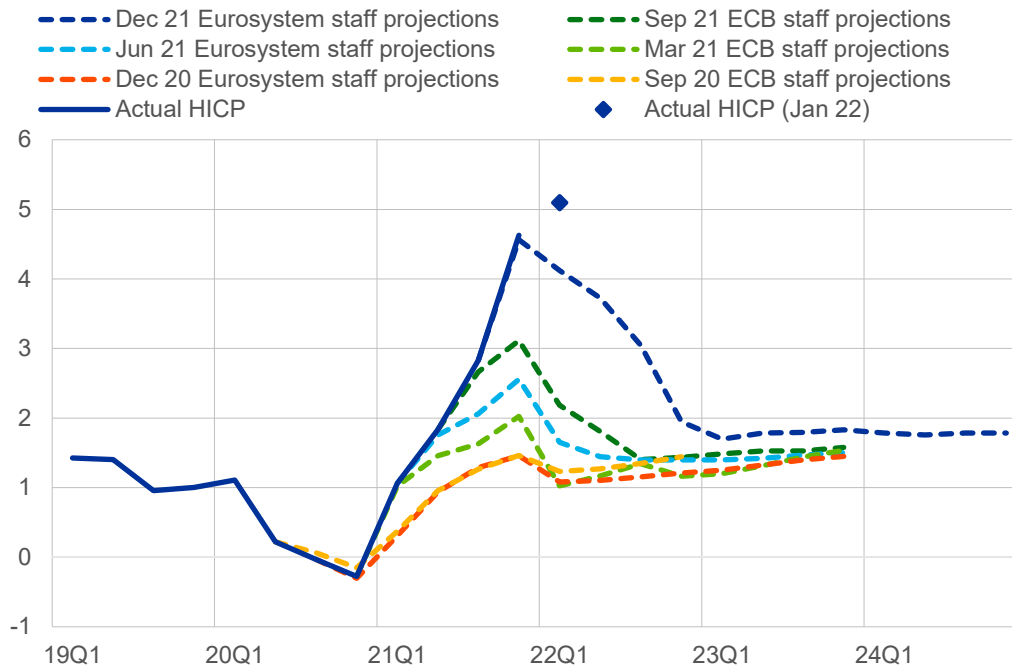
Isabel Schnabel, Member of the ECB's Executive Board

*Remarks at a virtual policy panel on “Unwinding QE”  
at the first annual Bank of England Agenda for Research (BEAR) conference,  
24 February 2022*

# Inflation has repeatedly surprised on the upside

## HICP inflation and ECB/Eurosystem staff HICP inflation projections

(annual percentage changes)



Source: Eurostat, ECB and Eurosystem.

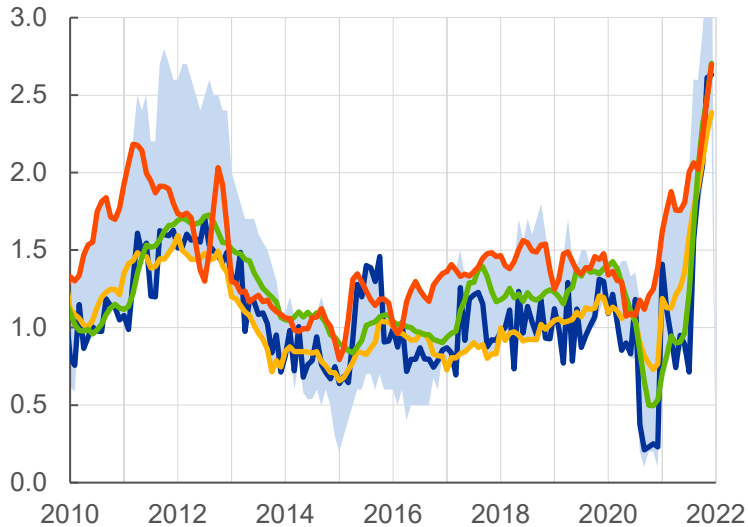
Latest observation: 2021Q4 for actual quarterly HICP data, January 2022 for actual monthly observation (diamond).

# Underlying inflation is rising measurably as price pressures are broadening

## Measures of underlying inflation

(annual percentage changes)

- HICP excluding energy and food
- HICP excluding energy, food, travel-related items and clothing
- Supercore
- PCCI (persistent and common component of inflation)

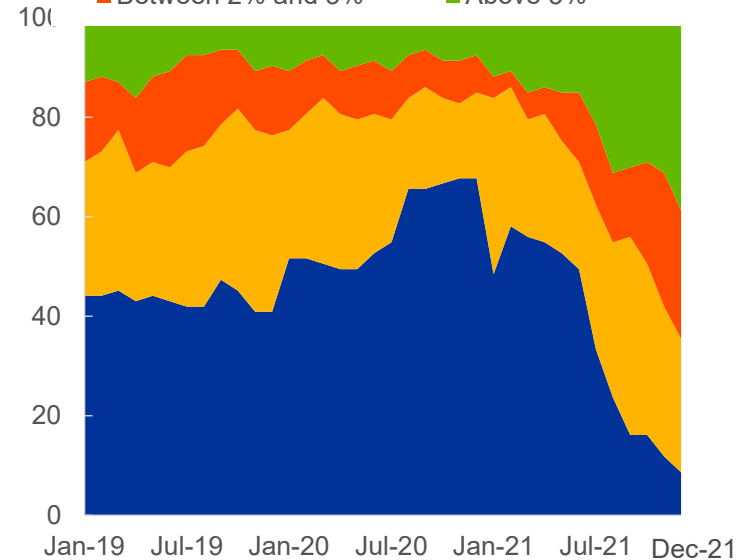


Source: ECB and ECB staff calculations.  
Latest observation: January 2022 for HICPX, December 2021 for the rest.

## Share of HICP items according to pace of change

(percentage point contributions)

- Below 1%
- Between 1% and 2%
- Between 2% and 3%
- Above 3%

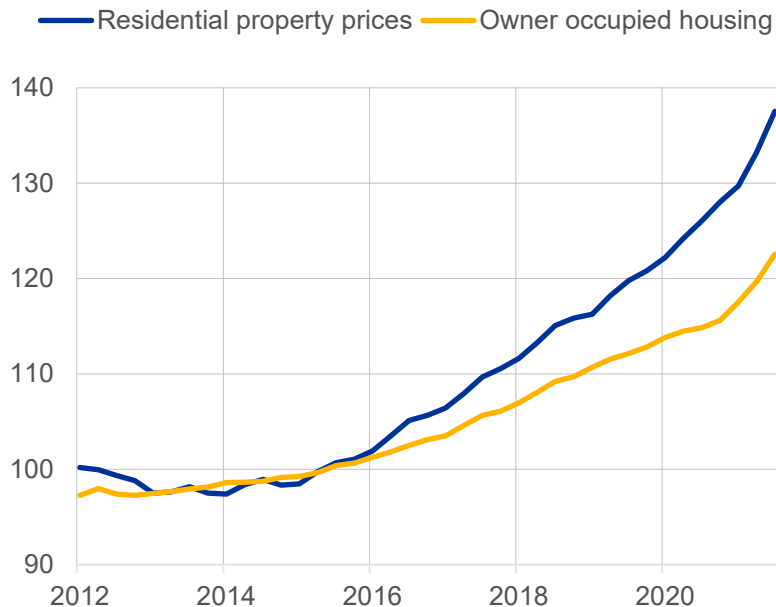


Source: ECB and ECB staff calculations.  
Latest observation: December 2021.

# Measured inflation would be higher if housing costs were included

## Residential property prices and owner-occupied housing

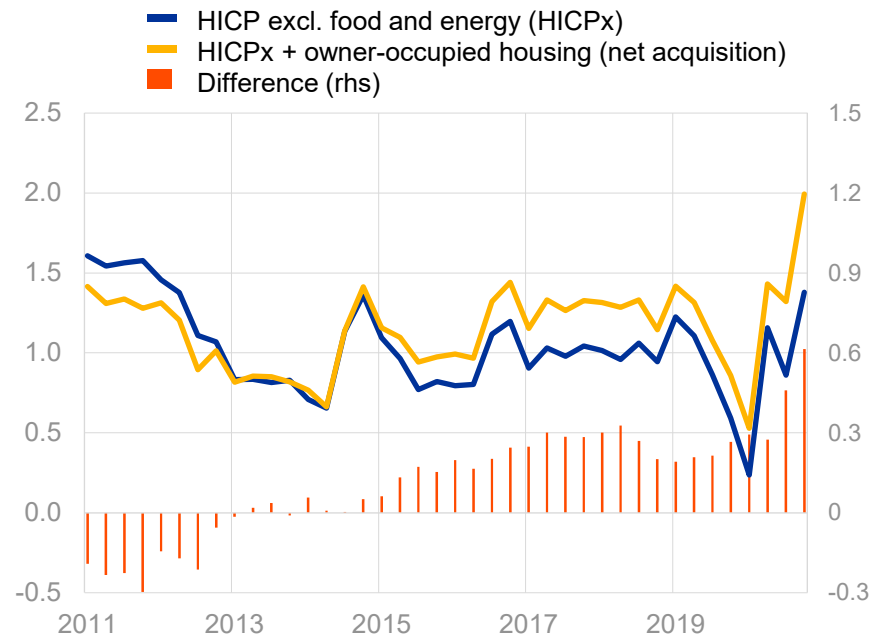
(Index, 2015=100)



Source: Eurostat and ECB calculations.  
Latest observation: 2021Q3.

## Core inflation with and without owner-occupied housing

(lhs: %; rhs: percentage points)

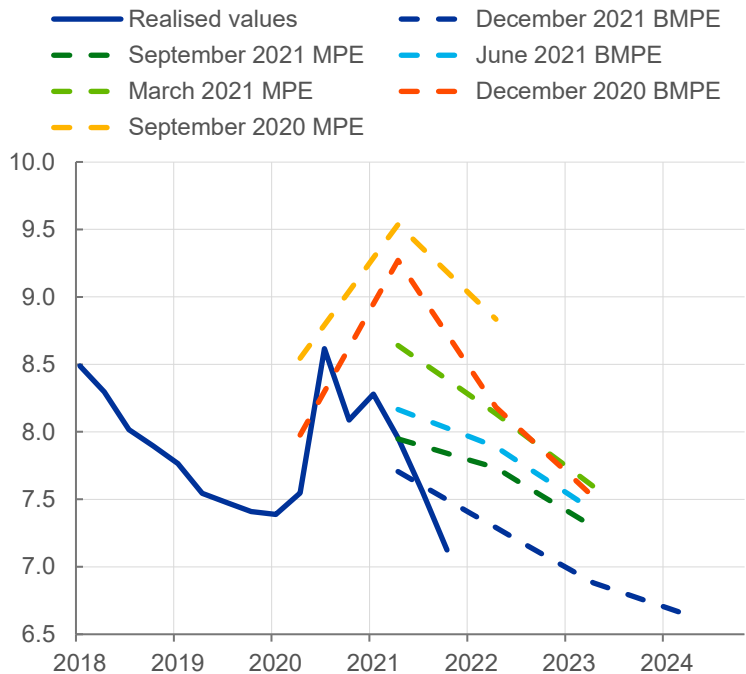


Source: Eurostat and ECB calculations.  
Latest observation: 2021Q3.

# Labour market slack is receding faster than expected

## Unemployment rate

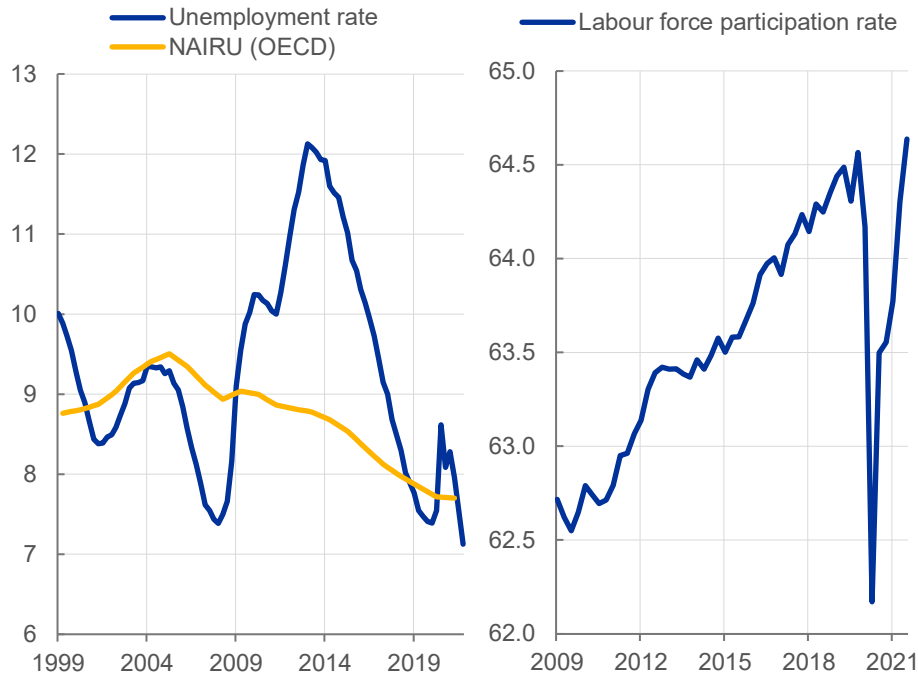
(percentage of the labour force)



Source: Eurostat and ECB projection database  
Latest observation: 2021Q4

## Unemployment and labour force participation rate

(percentage of the labour force; percentage of the working age population)

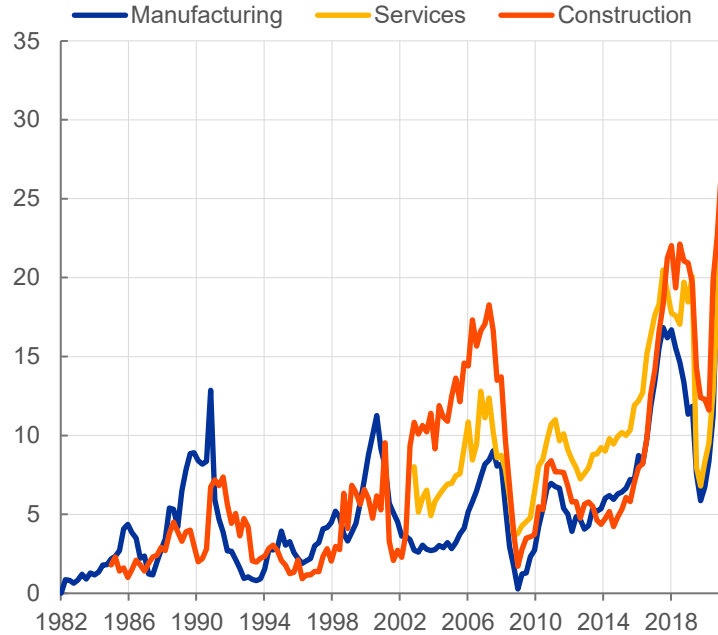


Source: Eurostat, ECB staff calculations and OECD  
Latest observation: 2021Q4 for the unemployment rate, 2021Q3 for the labour force participation rate and 2021 for the NAIURU.

# Strains in the labour market can be expected to put upward pressure on wages

## Labour as a factor limiting production

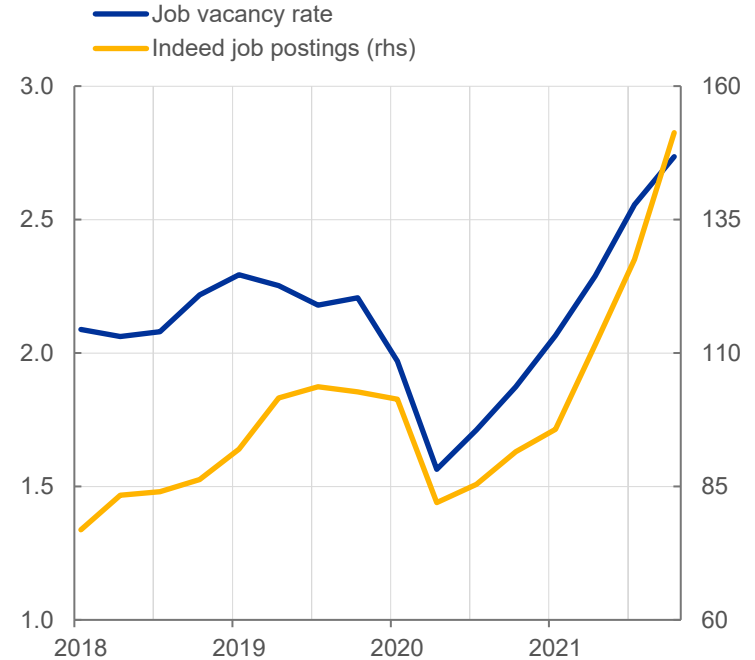
(percentage of firms)



Source: Eurostat  
Latest observation: 2022Q1 (collected at the beginning of 2022Q1).

## Job vacancy rate and “Indeed” job postings

(lhs: percentage of occupied posts and vacancies; rhs: index: 2019 = 100)



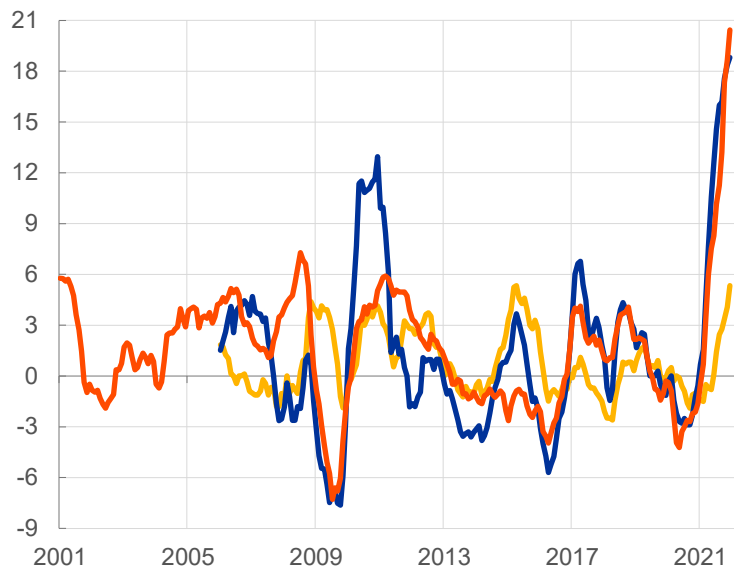
Source: Eurostat, Indeed and ECB staff calculations.  
Latest observation: 2021Q4.  
Note: Data are non-seasonally adjusted. Indeed job postings are a GDP-weighted sum of data from Austria, Belgium, Germany, Spain, France, Ireland, Italy and the Netherlands.

# Pipeline pressures continue to build up, while energy prices remain more elevated

## Producer price inflation and import prices

(annual percentage changes)

- Import prices - non-food consumer goods
- Import prices - intermediate goods
- PPI headline



Source: Eurostat and ECB calculations.  
Latest observation: December 2021.

## Oil prices and assumptions in ECB/Eurosystem staff projections

(USD per barrel)

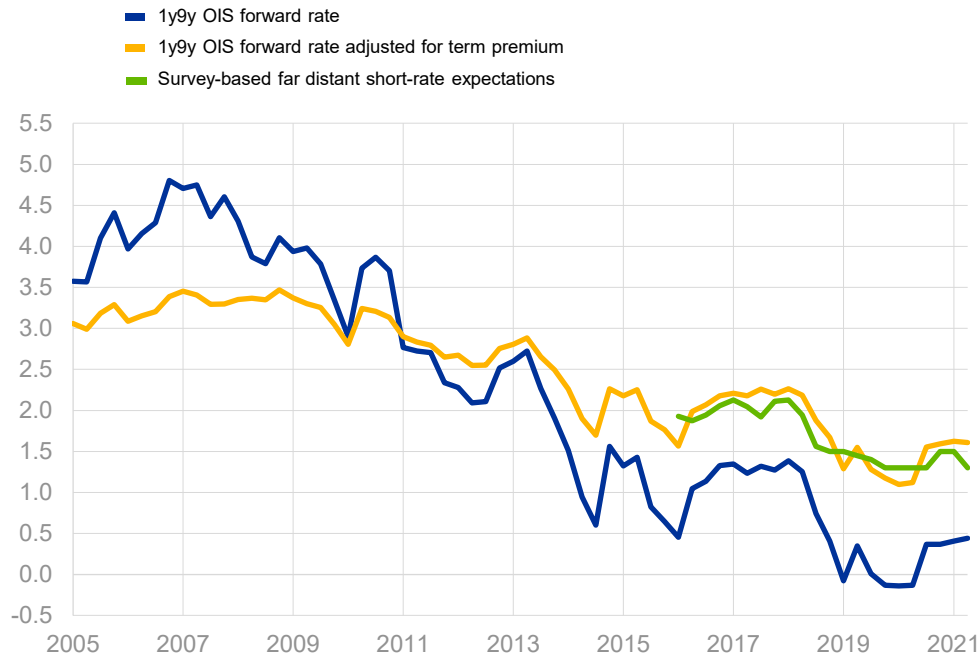
- Dec 21
- Jun 21
- Dec 20
- Actual oil price
- Oil price futures curve (18 Feb 22)
- Sep 21
- Mar 21
- Sep 20
- Actual oil price (Feb 22\*)



Sources: Refinitiv and ECB.

Notes: Dashed lines refer to oil price assumptions in respective ECB and Eurosystem staff projection exercises. Oil price futures curves are calculated using 10 business day averages. (\*) the blue diamond shows the average oil price level in February 2022 (1 Feb to 18 Feb 22). Latest observation: January 2022 for monthly data, 18/02/2022 for diamond and oil price futures (grey line).

## Proxies for the nominal terminal rate (%)



Source: Bloomberg, Consensus Economics, ECB SMA.

Notes: Model to adjust the 1y9y OIS for term premium: Geiger, F. and Schupp, F. (2018), "With a little help from my friend: survey-based derivation of euro area short rate expectations at the effective lower bound", Discussion Paper No 27/2018, Deutsche Bundesbank.

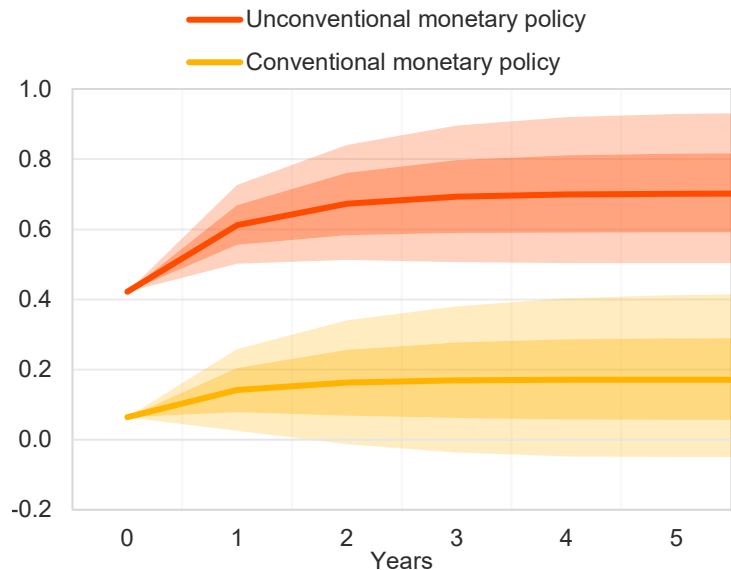
Survey-based far distant short-rate expectations are calculated on the basis of long-horizon short-rate expectations based on Consensus Economics and the ECB SMA.



# Balance sheet policies affect house prices more than changes in policy rates

## Effects of unconventional and conventional monetary policy easing on house prices

(impact on annual growth, pp)

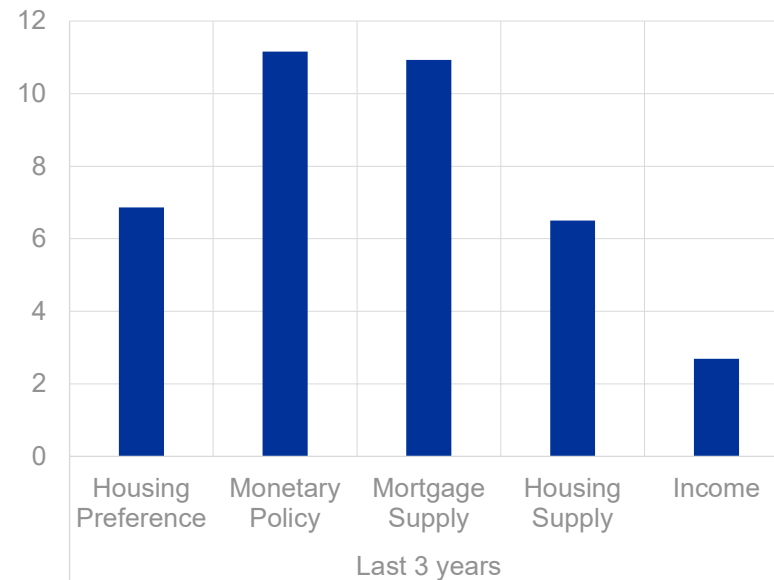


Source: Battistini, Falagiarda, Hackmann and Roma, 2021, "Navigating the housing channel of monetary policy across euro area regions".

Notes: Response to a 10 basis point accommodative monetary policy shock. A *conventional* monetary policy shock is defined as the average of the short-term (1 week to 1 year) OIS rate changes around a monetary policy event. An *unconventional* monetary policy shock is defined as the average of the long-term (4 to 20 years) OIS rate changes around a monetary policy event.

## Relative contributions of different shocks to euro area real house purchase price growth

(percentage)

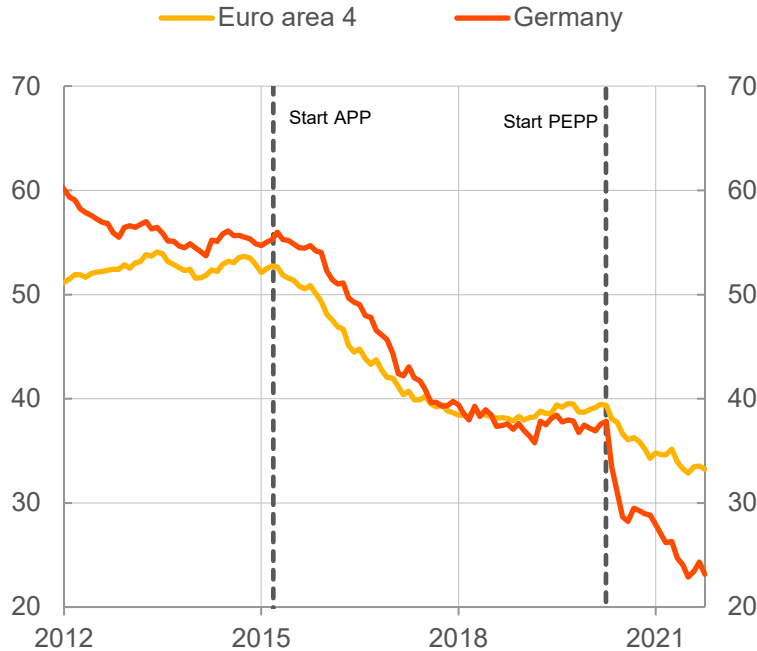


Source: ECB and ECB calculations.

Note: Historical decomposition based on a BVAR model estimated over the period 2003Q1-2021Q1 using 2 lags. The shocks are identified using a set of sign and zero restrictions. The model includes the following endogenous variables: 1) Real residential investment, 2) Real house prices, 3) Real stock of loans for house purchase, 4) Monetary policy rate (shadow rate), 5) Real lending rate on housing loans, 6) Real disposable income, 7) Household expectations (intention to purchase a house), 8) BLS credit standards on lending for house purchase.

# A rise in the bond free-float will help improve liquidity conditions

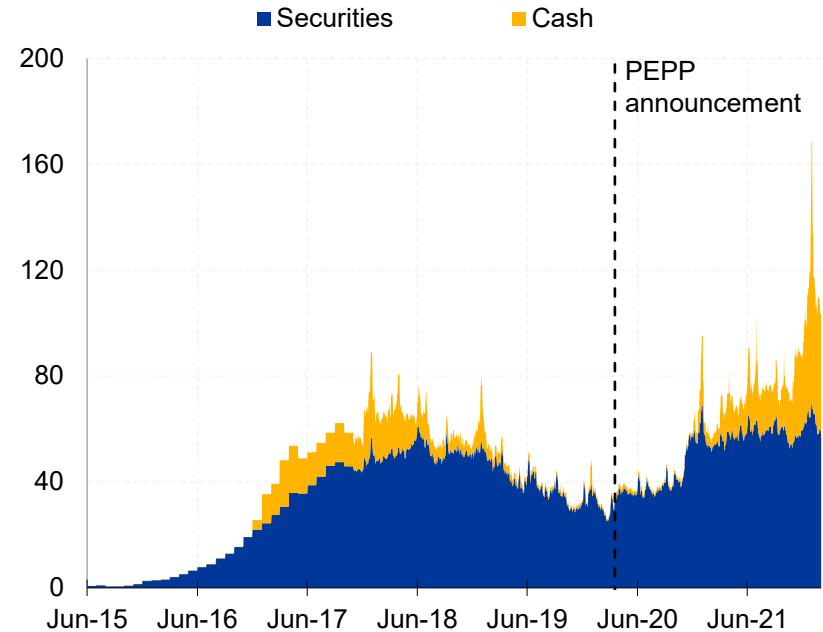
## 10-year bond free-float (percent)



Source: ECB calculations

Notes: The big-4 free float measure is defined as the ten-year equivalent holdings of general government bonds issued by the four largest euro area countries (Germany, France, Italy and Spain) by private price-sensitive investors as a share of total supply. The DE free float measure is defined the same way, but only considers general government bonds issued by Germany. Price sensitive investors are all investors other than the foreign official sector, insurance companies, pension funds and the Eurosystem. Latest observation: 30 September 2021.

## On-loan balance of securities lent by the Eurosystem (EUR bn)

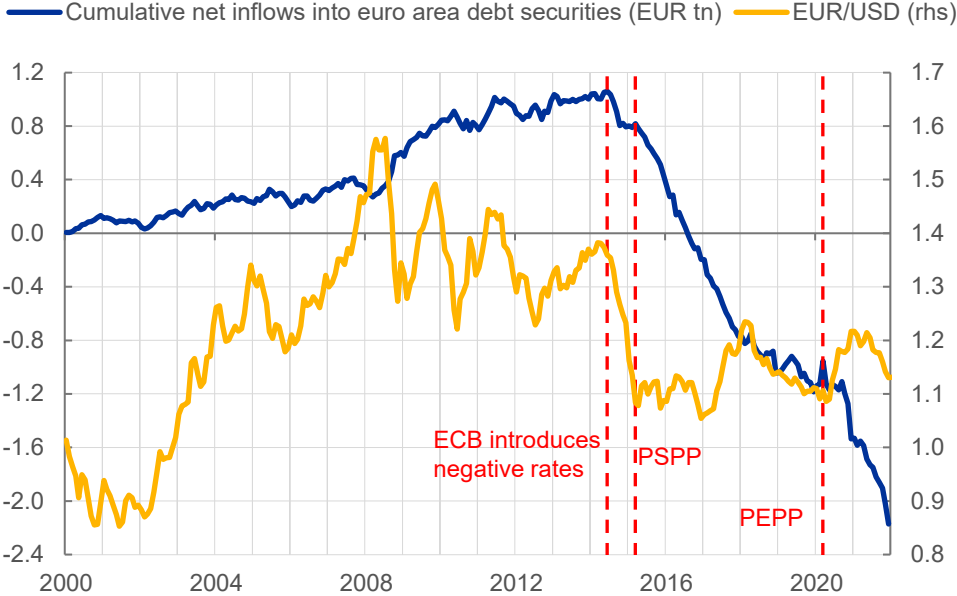


Source: Eurosystem.

Latest observation: 31 January 2022.

## Portfolio investment and EUR/USD exchange rate

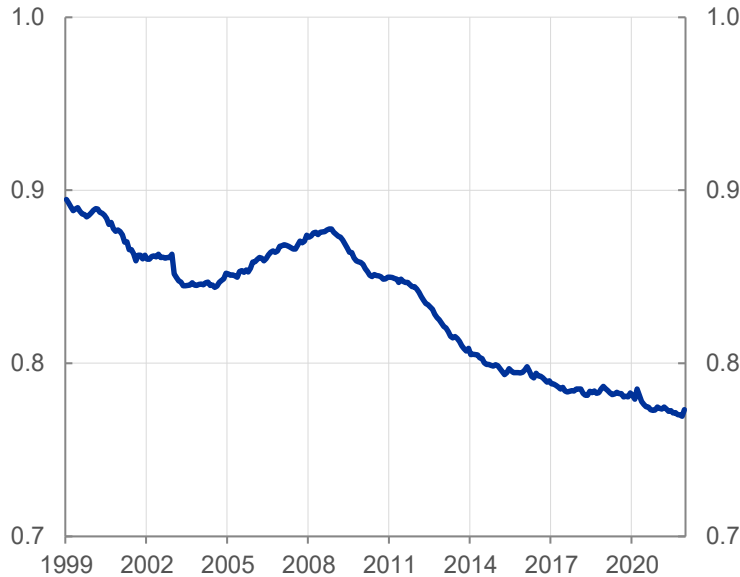
(EUR trillions; USD per EUR)



Source: ECB and ECB staff calculation.  
Last observation in December 2021.

# ECB's key policy rates are well-suited to control the policy stance going forward

## Share of loans in debt of non-financial corporations (euro area)

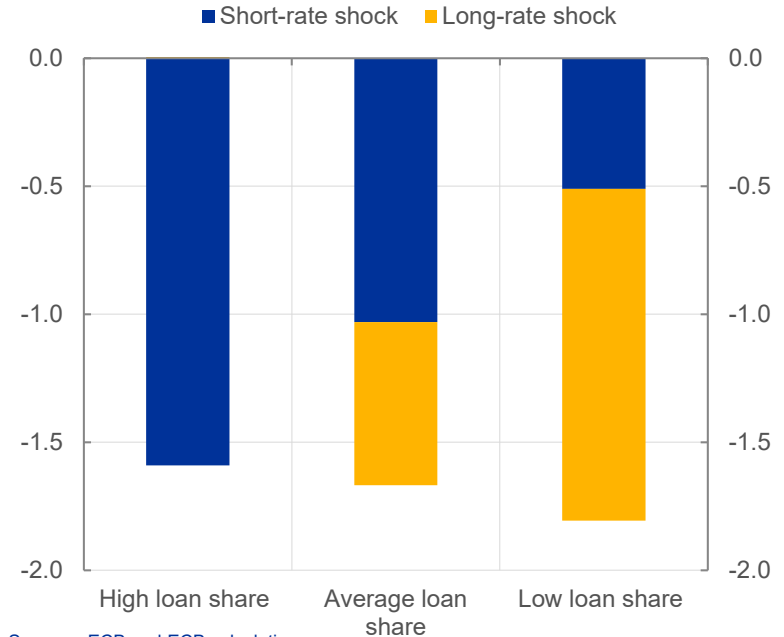


Sources: ECB (BSI, SEC).

Notes: Loans and bonds are notional stocks.

Latest observation: December 2021.

## Response of GDP to long and short-rate monetary policy tightening shocks (percent)



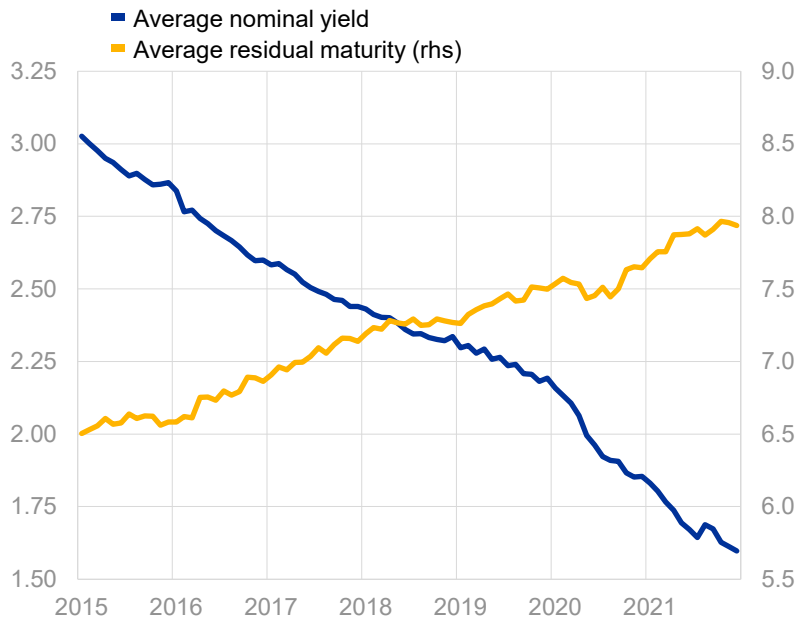
Sources: ECB and ECB calculations.

Notes: Estimates are significant at least at 10% level except for long-rate (short-rate) shock at high and average (low) loan shares, where their precision falls below conventional significance levels. Chart shows peak effects of MP tightening shock, identified via HFS in a panel local projections model using monthly data for euro area countries. Impacts are calibrated to a 25bps increase in rates. Short-rate (long-rate) shocks refer to surprises in the 1-month OIS rate (5-year Bund yield). Economic activity is measured as 100 times log(GDP).

# Public debt-to-GDP ratios are likely to decrease due to low average yields and growth

## Average yields and residual maturities for euro area government debt securities

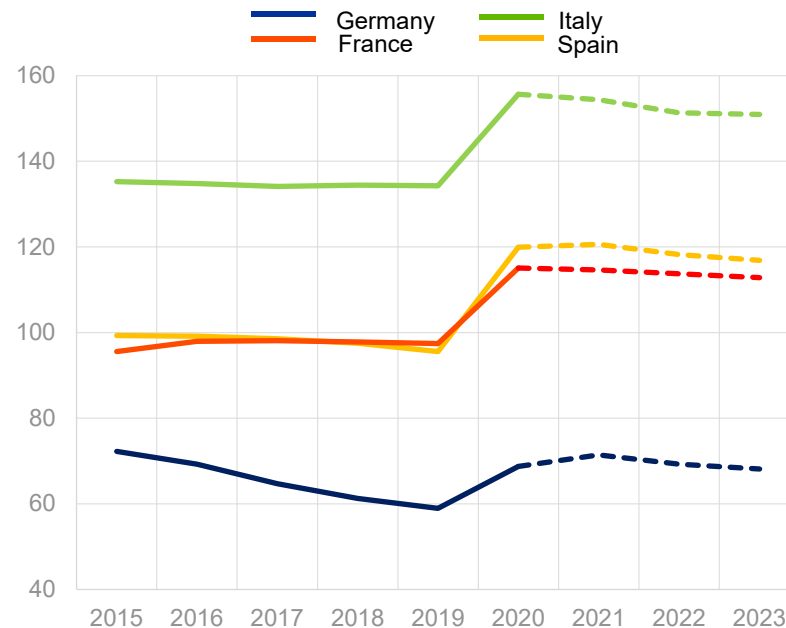
(lhs: %; rhs: years)



Source: ECB (Government Finance Statistics)  
Last observation: December 2021

## Government debt (percent of GDP)

(percent of GDP)



Source: AMECO Autumn 2021 Economic Forecast.  
Last observation: 2021 Q2  
Notes: Dashed lines are projections.

**Thank you for your attention!**