

Small steps in a dark room: guiding policy on the path out of the pandemic

Fabio Panetta, Member of the ECB's Executive Board

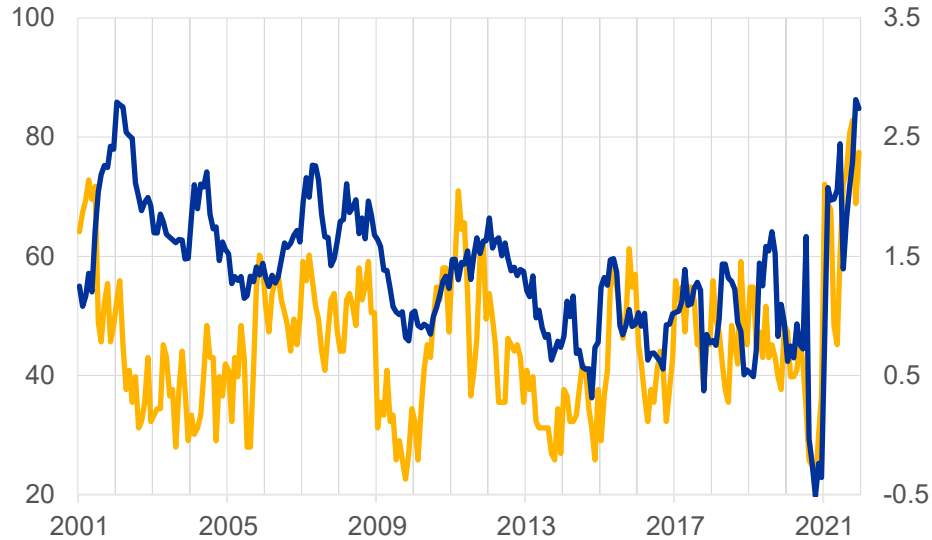
European University Institute, 28 February 2022

Chart 1

Broadening and accelerating inflation pressures

(left-hand scale: percentages; right-hand scale: annual percentage changes)

- Percentage of headline HICP items that increased compared with three months earlier
- Six-month annualised rate HICP excluding energy and food



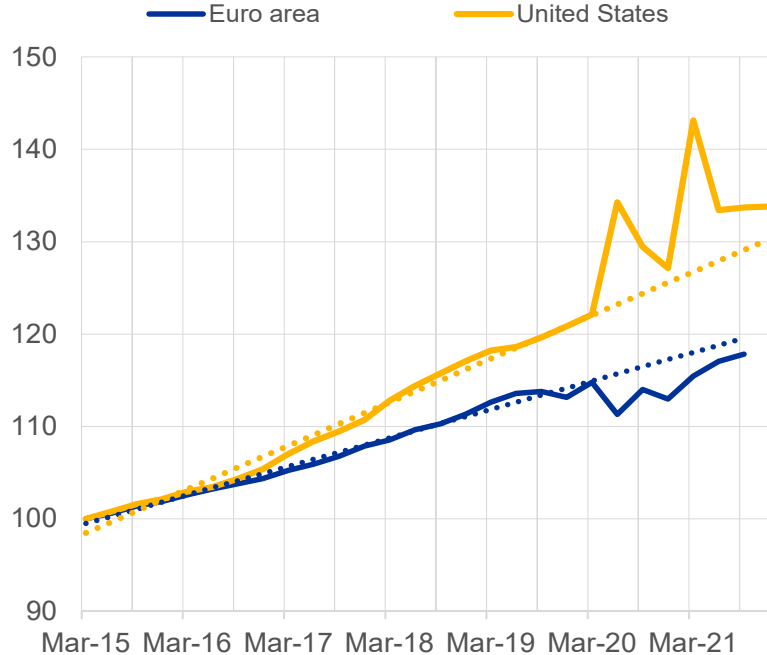
Sources: Eurostat and ECB calculations.
Note: The latest observations are for December 2021.

Income and savings in the United States and euro area

Chart 2

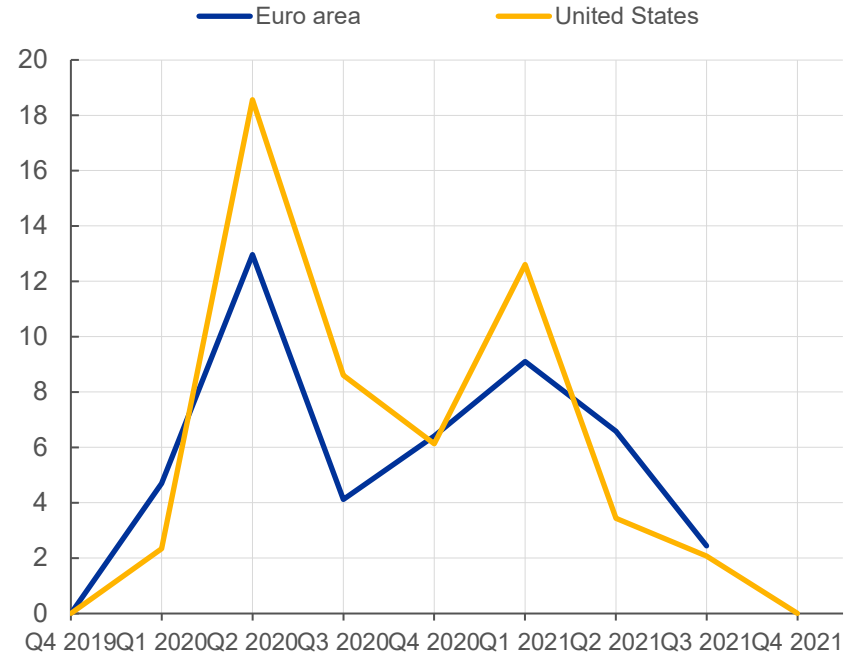
Household nominal income

(index: Q1 2015 = 100)



Savings rate

(percentage point differences compared with Q4 2019)



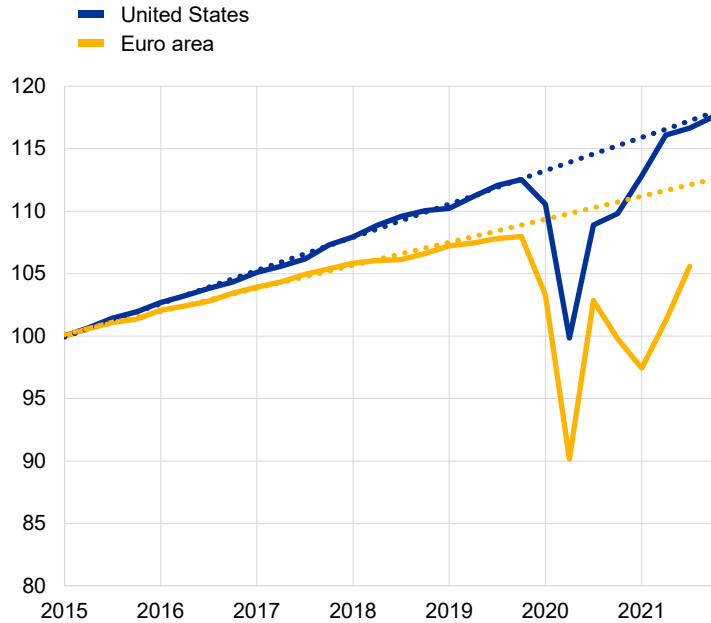
Sources: Left panel: Eurostat and Federal Reserve System; right panel: Eurostat, Bureau of Economic Analysis and ECB calculations.

Notes: US quarterly data are computed as averages of monthly data. The latest observations are for the fourth quarter of 2021 for the United States and the third quarter of 2021 for the euro area.

Chart 3

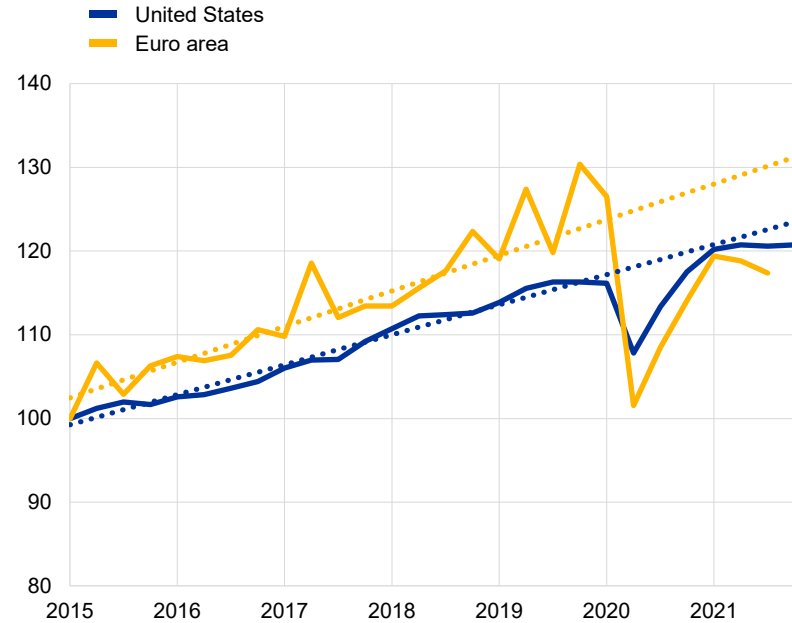
Real private consumption

(index: Q1 2015=100)



Real private investment

(index: Q1 2015=100)



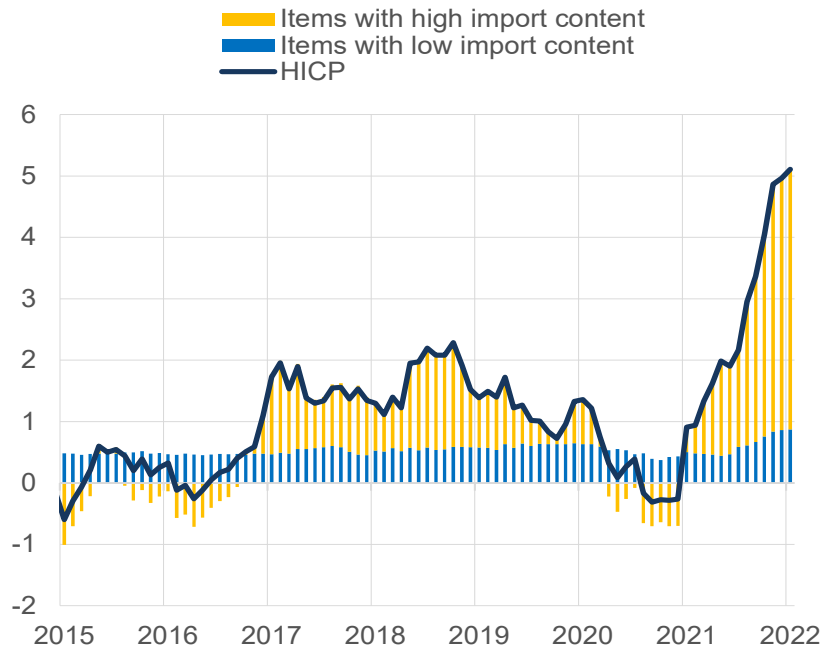
Sources: ECB and Federal Reserve System.

Notes: The latest observations are for the fourth quarter of 2021 for the United States and the third quarter of 2021 for the euro area. For the right panel, Ireland is excluded from the euro area aggregate due to the volatility it would impose on the data series, as large multinational firms use Ireland as their base of operations, which leads to large swings in investment in intellectual property products.

Chart 4

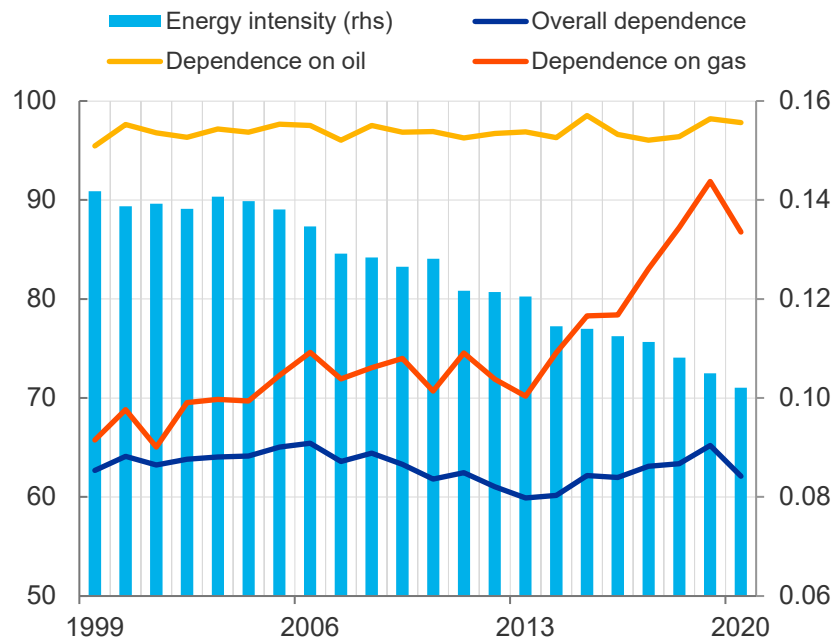
Contribution to HICP by import content

(annual percentage changes and percentage points)



Energy dependence

(left-hand scale: net energy imports as a percentage of gross available energy; right-hand scale: tonnes of oil equivalent/chained 2015 EUR thousands)



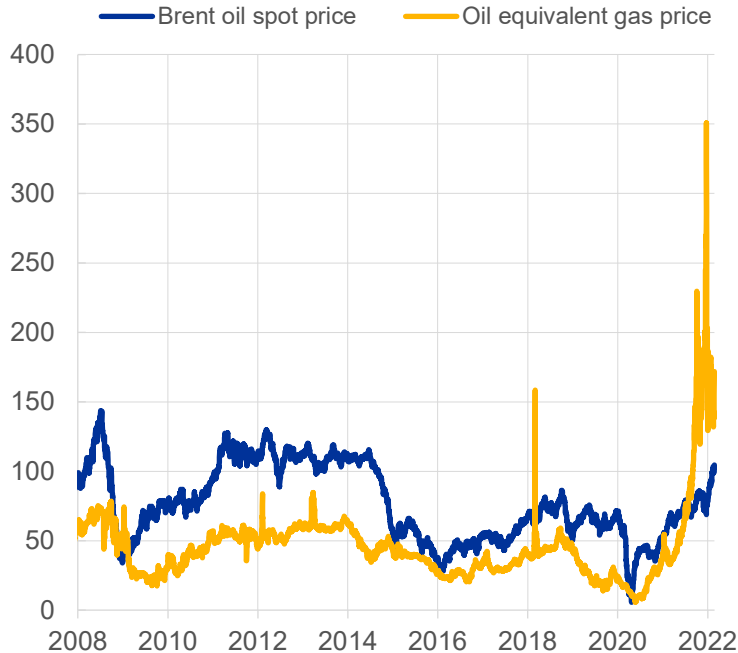
Sources: Left panel: World Input-Output Database, Eurostat and ECB staff calculations; right panel: Eurostat and ECB calculations.

Notes: Energy intensity is measured as the ratio between gross available energy and real GDP. The latest observations are for December 2021 for the left panel, and 2020 for the right panel.

Chart 5

European oil and gas prices in oil equivalent terms

(USD/barrel)

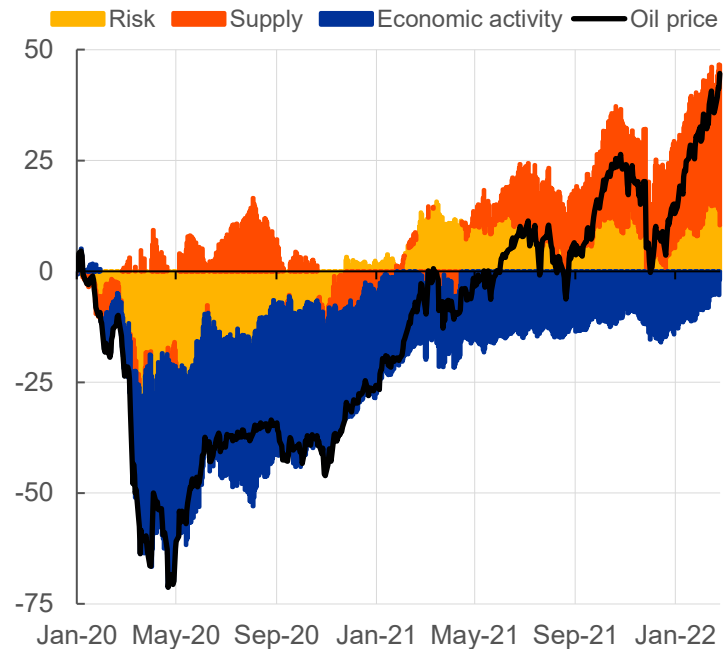


Sources: Refinitiv and ECB staff calculations.

Notes: An energy equivalent price compares the price of two energy sources for the same energy content. Structural shocks are estimated using the spot price, futures to spot spread, market expectations of oil price volatility and stock price index. The latest observations are for 24 February 2022.

Oil drivers decomposition

(daily cumulated percentage changes since January 2020)

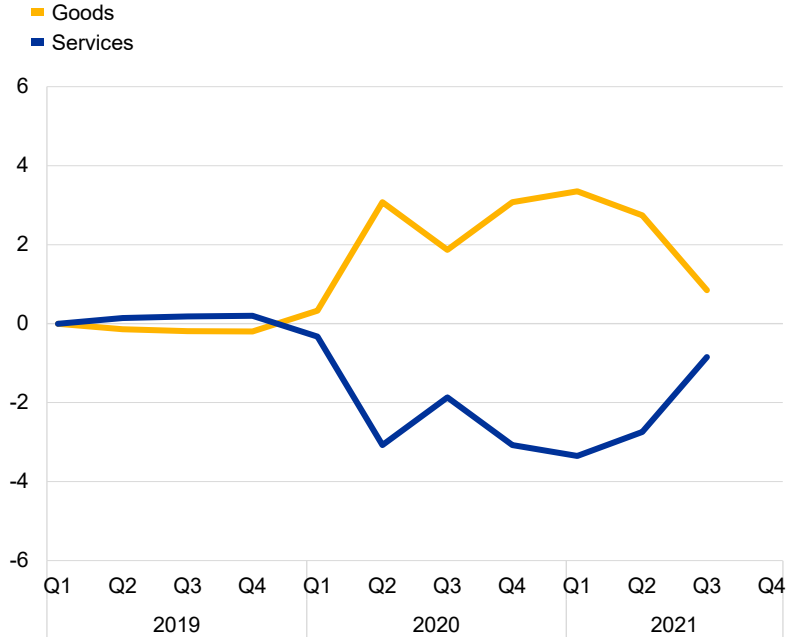


Shift in spending between goods and services

Chart 6

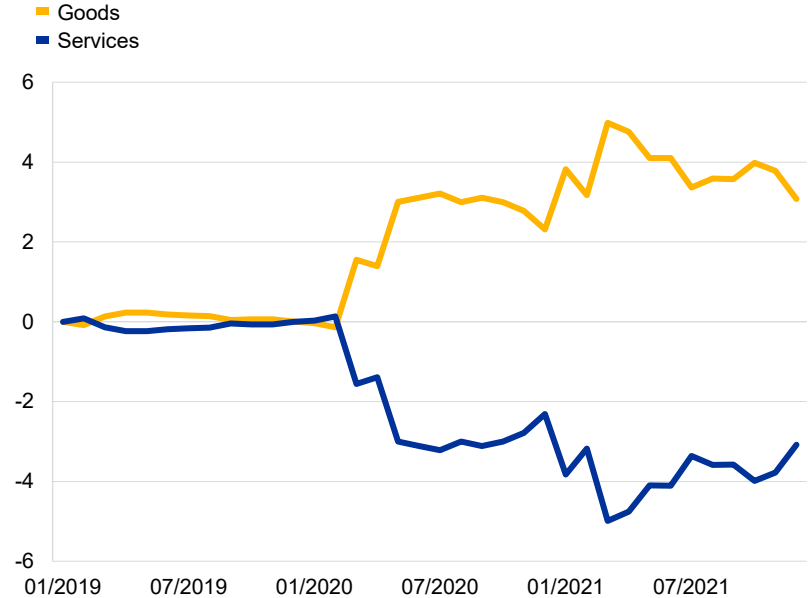
Euro area

(individual expenditures as percentages of private consumption, percentage point differences compared with January 2019)



United States

(individual expenditures as percentages of private consumption, percentage point differences compared with January 2019)



Sources: Bureau of Economic Analysis, Eurostat and ECB staff calculations.

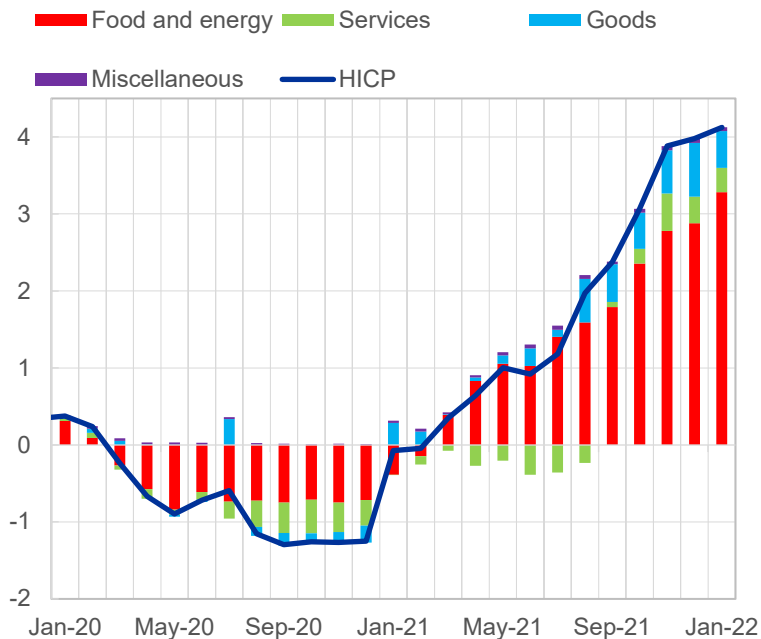
Notes: Aggregation of all euro area countries except Slovenia, Greece, Lithuania, Slovakia, Portugal and Belgium, and using estimated values for Spain. The latest observations are for December 2021 for the United States and the third quarter of 2021 for the euro area.

Uncertain domestic inflation

Chart 7

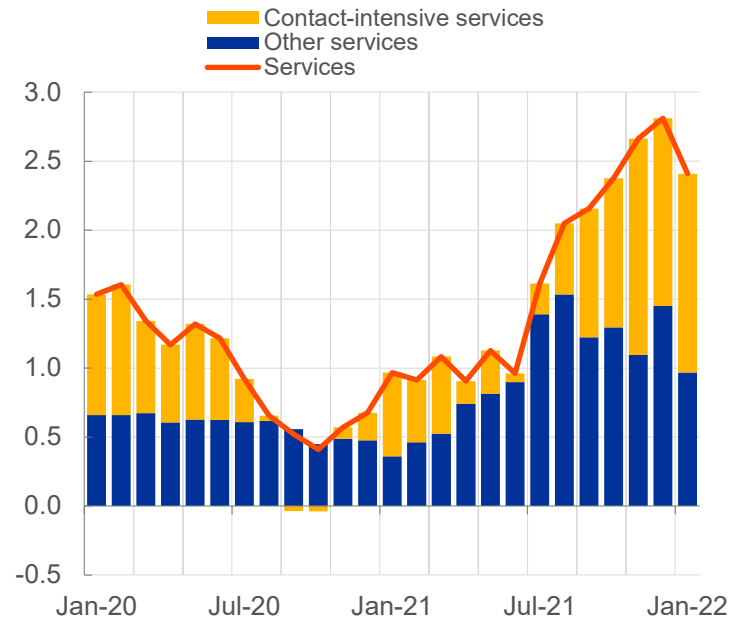
Euro area HICP: deviation from the 2015-19 trend and contributions

(percentage points)



Decomposition of services inflation

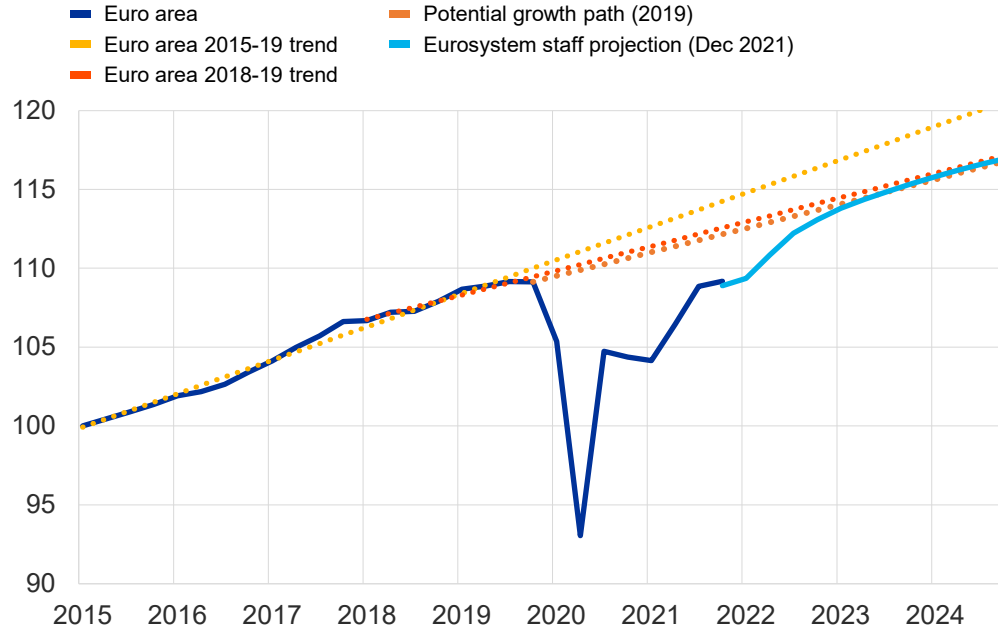
(annual percentage changes at constant 2021 weights; percentage point contributions)



Sources: Left panel: ECB and ECB staff calculations; right panel: Eurostat and ECB staff calculations.
Note: The latest observations are for December 2021.

Chart 8 Euro area GDP

(Index: Q1 2015 = 100)



Sources: Eurostat, European Commission, ECB and ECB staff calculations.

Note: Potential growth based on European Commission estimates.

Chart 9

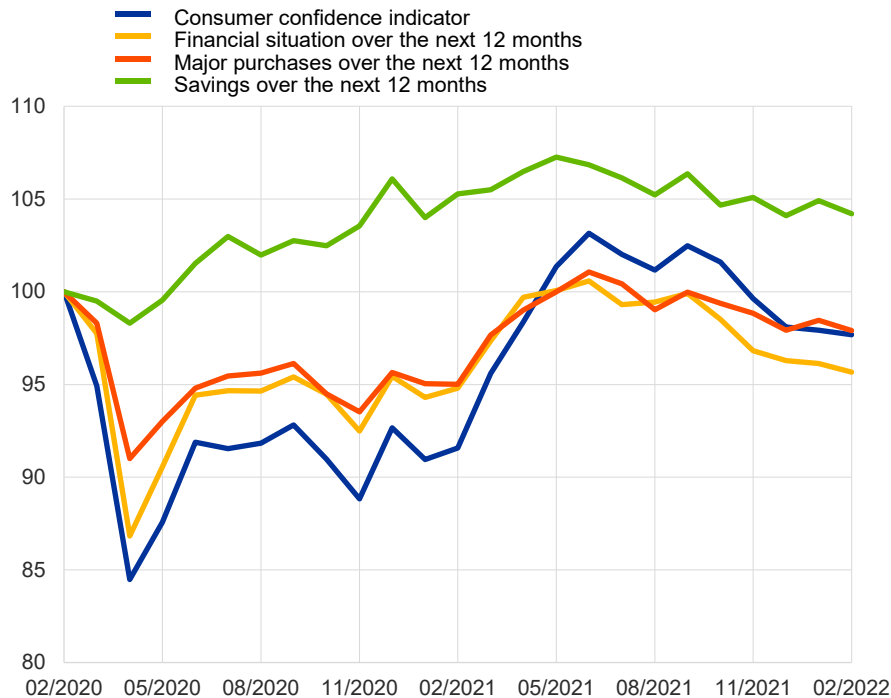
Change in purchasing power due to energy price fluctuations

(percentages)



Consumer confidence indicators

(index: February 2020 = 100)



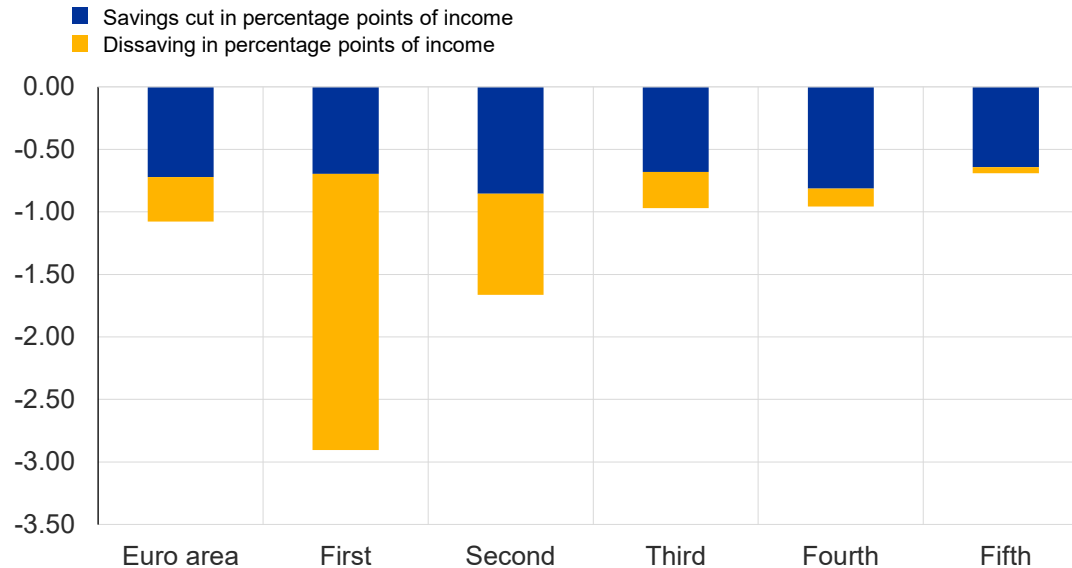
Sources: Left panel: ECB and ECB staff calculations; right panel: European Commission.

Notes: Changes in purchasing power due to energy price fluctuations are computed as the year-on-year percentage change in the real price of energy, weighted by the nominal energy expenditure share (see Edelstein, P. and Kilian, L. (2009), “How sensitive are consumer expenditures to retail energy prices?”, *Journal of Monetary Economics*, Vol. 56, No 6, pp. 766-779). A negative value indicates a loss in consumer purchasing power. The latest observations are for January 2022.

Erosion of household savings due to higher energy inflation in 2021

Chart 10 Euro area GDP

(percentage points of income; income quintile)



Sources: ECB Consumer Expectations Survey and ECB staff calculations.

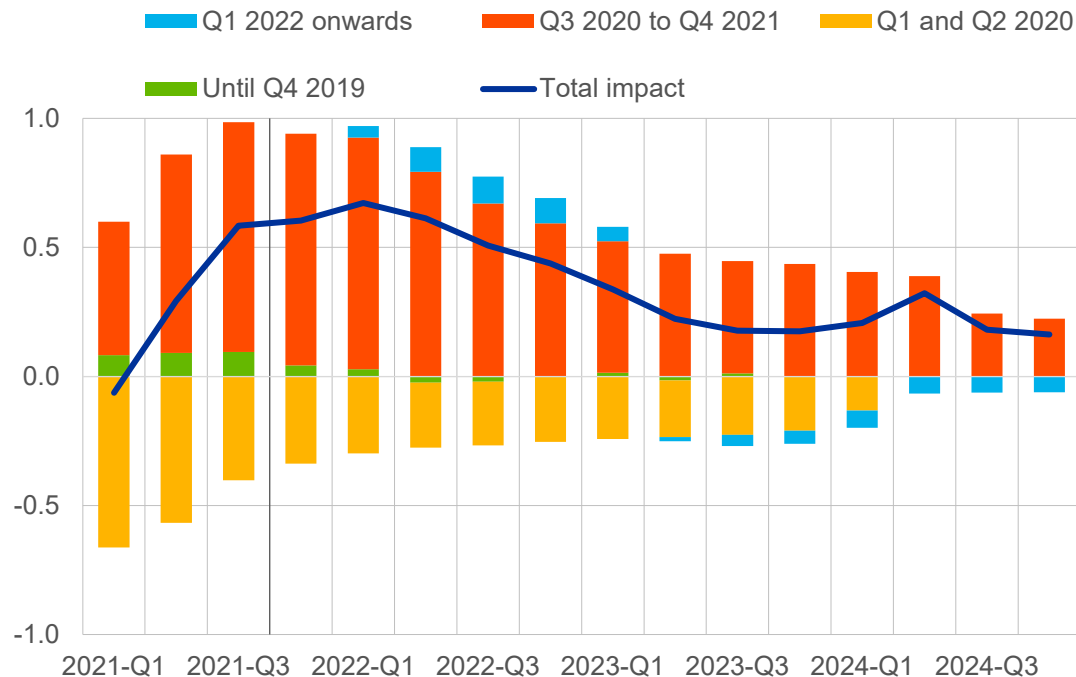
Notes: The chart refers to average aggregate effects across the income distribution, to savings cut for those households that have positive savings and rely on them to face the shock, and to dissaving for households that do not have positive savings and thus rely on alternative sources, like accumulated savings or payment deferrals, to face the shock. In 2021 the perceived average price change for utilities was 11%, and for transport services it was 9%. The actual inflation rates for energy items could suffer from an underestimation bias in cases of rising prices because domestic energy consumption is billed with a delay.

Impact of oil price changes on HICP excluding energy and food

Chart 11

Impact of oil price changes on HICP excluding energy and food

(percentage points)



Sources: ECB and ECB staff calculations

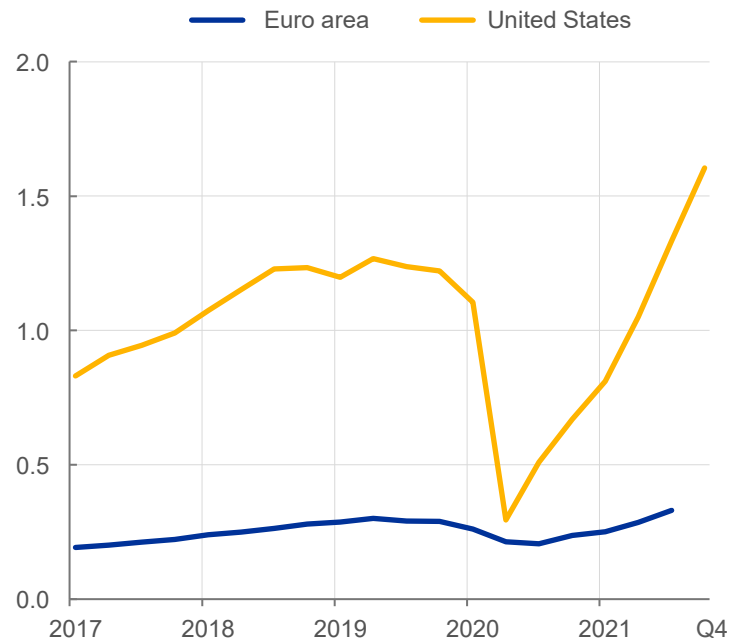
Notes: The impact of oil price changes on HICP excluding energy and food are computed using the September 2021 basic model elasticities (BMEs) of the forecasting models in use in the national central banks of the Eurosystem.

Wage pressures are not a cause for concern

Chart 12

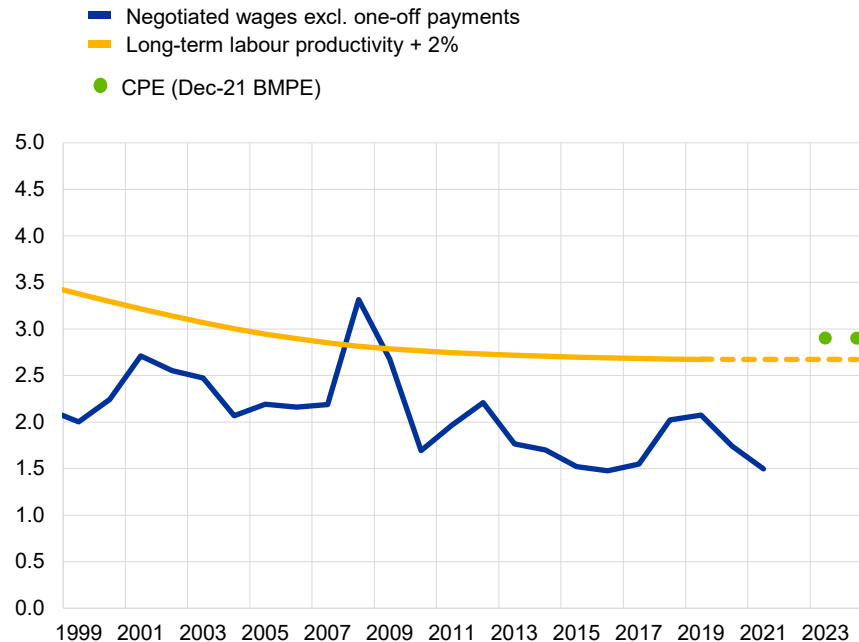
Job vacancy rate divided by unemployment rate

(percentages)



Wage growth and labour productivity growth

(annual percentage changes)



Sources: Left panel: Eurostat, Bureau of Labour Statistics and ECB staff calculations; right panel: Eurostat, ECB staff calculations and Bergaud, Cette and Lecat (2019).

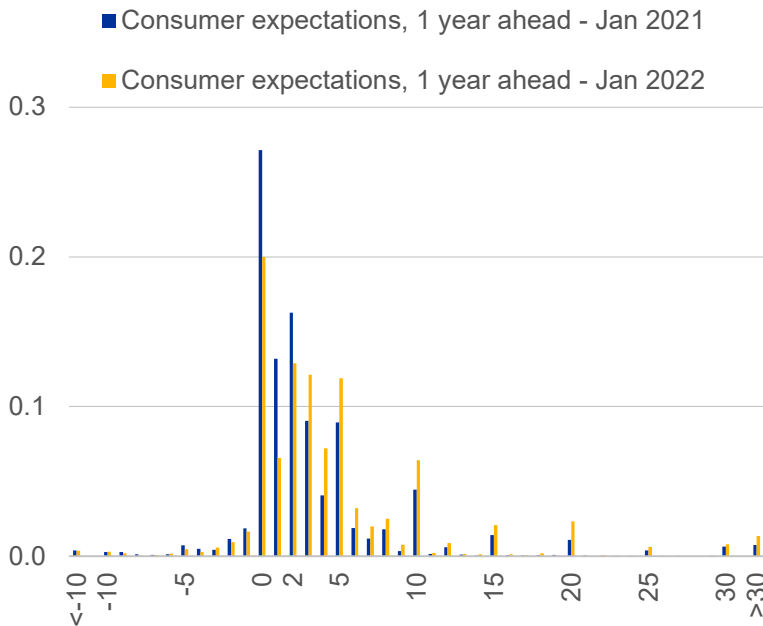
Notes: right panel: the underlying data are from the long-term productivity database of Bergaud, Cette and Lecat (2019); in that database only BE, DE, FI, FR, IT, NL, PT, ES and, absent specific information, we assume that the EA is the aggregate of those countries. Labour productivity is defined in hours. The smoothing is done with an HP filter with a lambda of 1,000, this produces a smoother series than the standard lambda of 100. Please note that the end-point uncertainty with a higher lambda is even larger – the aim was to illustrate the productivity slowdown that has been ongoing for decades, and not to provide an exact estimate of trend productivity in recent years. The database stops in 2019. Computing labour productivity through the pandemic is very uncertain given the distortions in the data, so we extended it as a constant.

Consumer inflation expectations rise but fall back

Chart 13

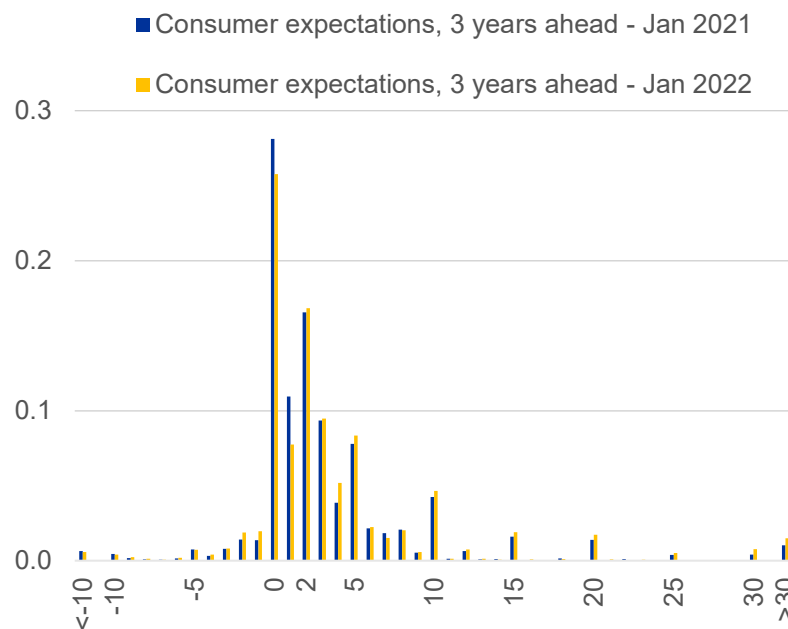
Consumer expectations one year ahead

(annual percentage changes)



Consumer expectations three years ahead

(annual percentage changes)



Sources: ECB Consumer Expectations Survey and ECB staff calculations.

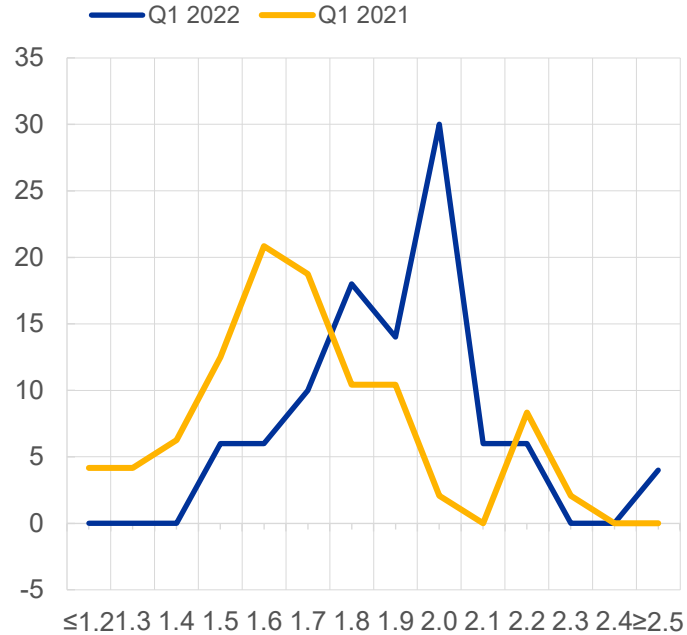
Note: These data are derived from responses to the quantitative question on inflation expectations in the ECB's Consumer Expectations Survey.

Inflation expectations are re-anchoring at 2%

Chart 14

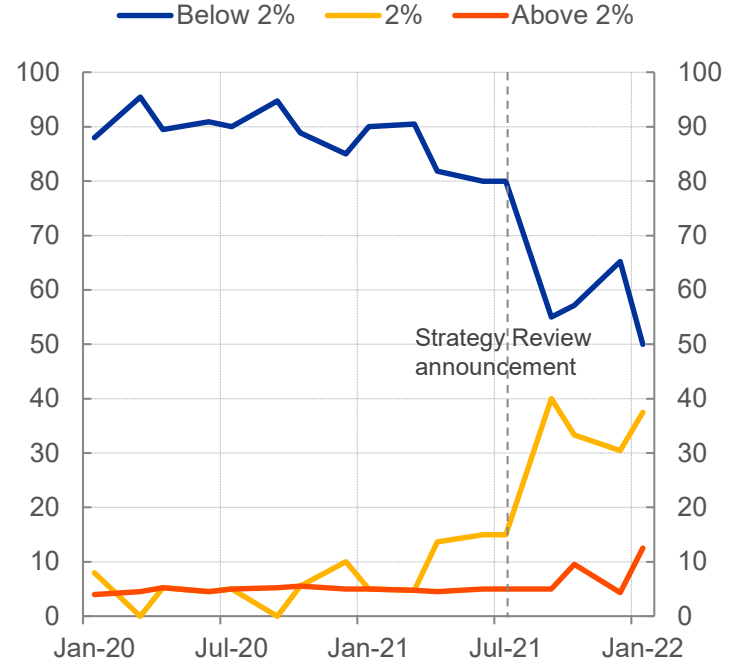
Long-term inflation point forecasts

(percentages)



Long-term inflation expectations

(percentages of respondents)



Sources: Left panel: ECB Survey of Professional Forecasters; right panel: ECB Survey of Monetary Analysts.

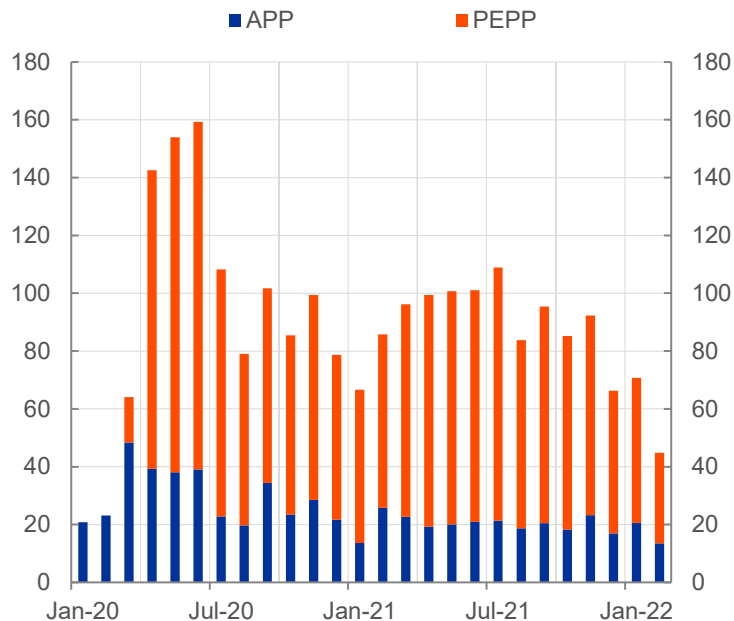
Note: Values were rounded to one decimal place prior to aggregation.

The policy normalisation already achieved

Chart 15

Monthly net purchases under the APP and PEPP

(EUR billions)



Euro area and US real rates

(percentages per annum)



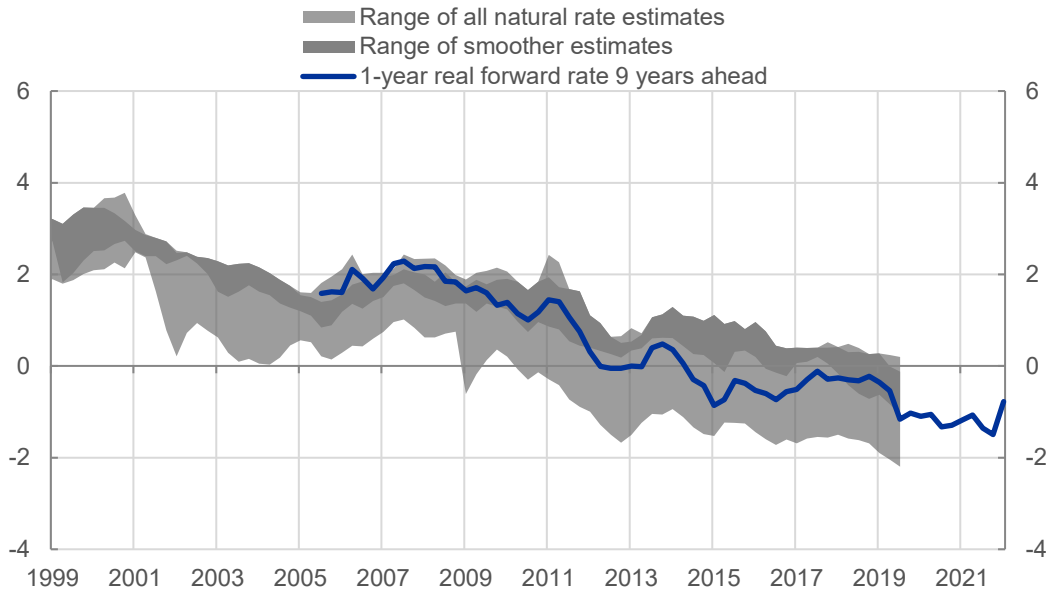
Sources: Left panel: ECB and ECB calculations; right panel: Refinitiv, Bloomberg and ECB calculations.

Notes: APP stands for asset purchase programme. PEPP stands for pandemic emergency purchase programme. The euro area real rate is the difference between the nominal overnight index swap rate and the inflation-linked swap (ILS) rate. The US real rate represents the difference between treasury yields and the US breakeven inflation rate. The latest observations are for 15 February 2022 for the left panel, and 24 February 2022 for the right panel.

Chart 16

Econometric estimates of the real equilibrium rate

(percentages)



Sources: Brand, C., Bielecki, M. and Penalver, A. (eds.) (2018), "[The natural rate of interest: estimates, drivers, and challenges to monetary policy](#)", *Occasional Paper Series*, No 217, ECB, December; Brand, C., Goy, G. and Lemke, W. (2020), "[Natural Rate Chimera and Bond Pricing Reality](#)", *DNB Working Papers*, No 666, De Nederlandsche Bank, January; Ajevskis (2018);; Brand, Mazelis (2019); Fiorentini, Galesi, Pérez-Quirós, Sentana (2018); Geiger and Schupp (2018); Holston, Laubach, Williams (2017); Jarocinski (2017); Johannsen, B.K. and Mertens, E. (forthcoming); ECB calculations.

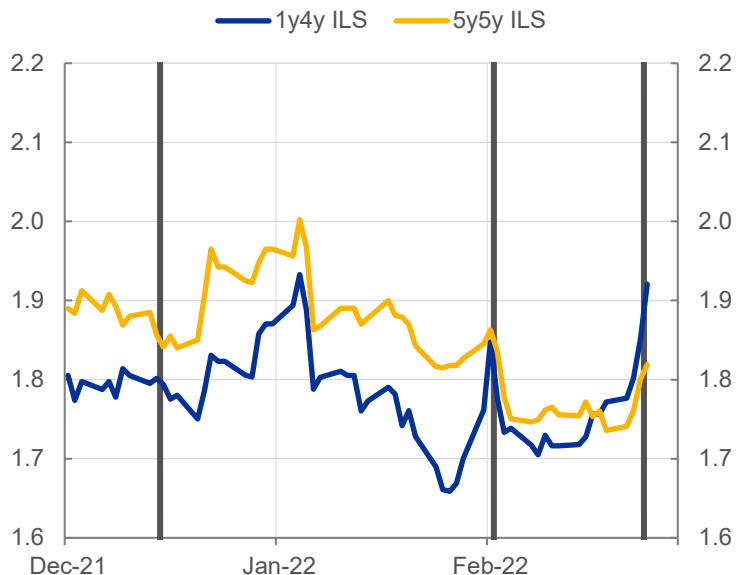
Notes: Ranges span point estimates across models to reflect model uncertainty and no other source of r^* uncertainty. The dark shaded area highlights smoother r^* estimates that are statistically less affected by cyclical movements in the real rate of interest. The latest observations are for 16 February 2022

Risks of a premature tightening

Chart 17

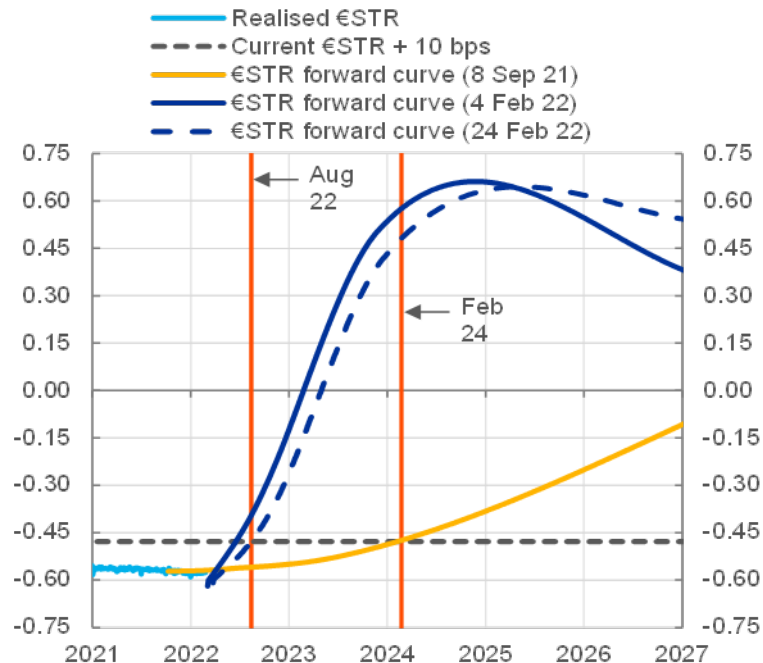
Measures of market-based inflation compensation

(percentages per annum)



Rate expectations

(percentages per annum)



Sources: Left panel: Refinitiv and ECB Calculation; right panel: Refinitiv, Bloomberg and ECB calculations.

Notes: Left panel: The chart shows the one-year inflation linked-swap (ILS) rate four years ahead and the five-year ILS rate five years ahead. The solid vertical line refers to the day before the December Governing Council meeting (15 Dec), the day before the February Governing Council meeting (2 Feb) and the day of the Russian's invasion of Ukraine (24 Feb). The solid vertical line refers to the day before the December Governing Council meeting (15 Dec). Latest observation: 24 February 2022. Right panel: The lift-off date is defined as the month during which the €STR forward rate exceeds by at least 10 bps the current €STR rate (respective red vertical lines). Latest observation: 24 February 2022 for realised €STR.

Thank you for your attention!