Philip R. Lane
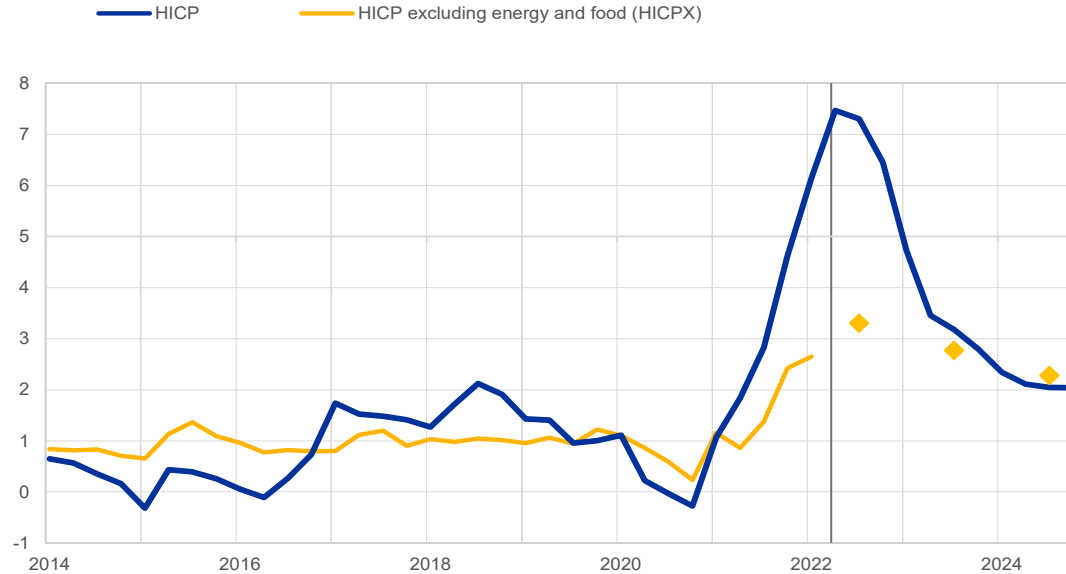Member of the Executive Board

Inflation and monetary policy in the euro area

Society of Professional Economists Annual Dinner

London, 20 June 2022

EUROPEAN CENTRAL BANK

EUROSYSTEM

Headline and core inflation in the euro area
(annual percentage changes)

Legend: HICP — HICP excluding energy and food (HICPX)

Sources: Eurostat, ECB calculations and June 2022 Eurosystem staff macroeconomic projections.
Notes: The vertical line indicates the start of the projection horizon. Historical data for HICP and HICPX are at quarterly frequency. Forecast data are at quarterly frequency for HICP and annual frequency for HICPX.

Energy, food, goods and services inflation
(annual percentage changes)
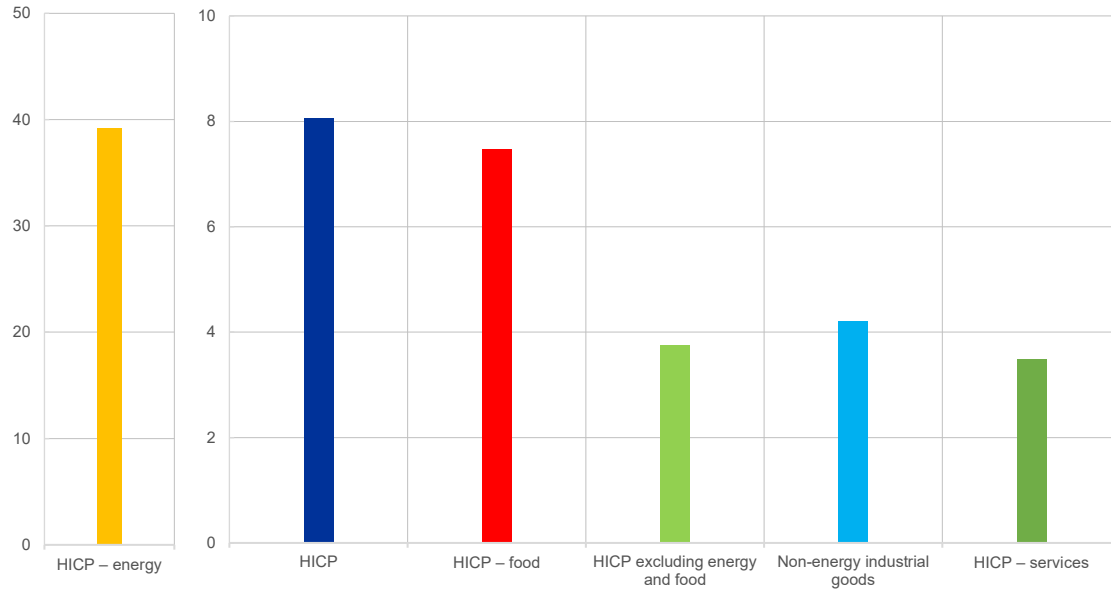
Sources: Eurostat and ECB calculations.
Note: The HICP – food series shown is HICP food including alcohol and tobacco. The latest observations are for May 2022.

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Three inflation shocks

1) Pandemic cycle: shutdowns; bottlenecks; reopening; balance sheets

2) Energy shock: supply disruptions; global transition; [terms of trade]

3) Russia-Ukraine war: energy; bottlenecks; uncertainty; [longer-term implications]

- Dynamic adjustment to shocks: impulse-responses; longer-term impact

- Euro area: re-anchoring versus de-anchoring

Oil price decomposition

(daily cumulated percentage changes, since 1 January 2020)
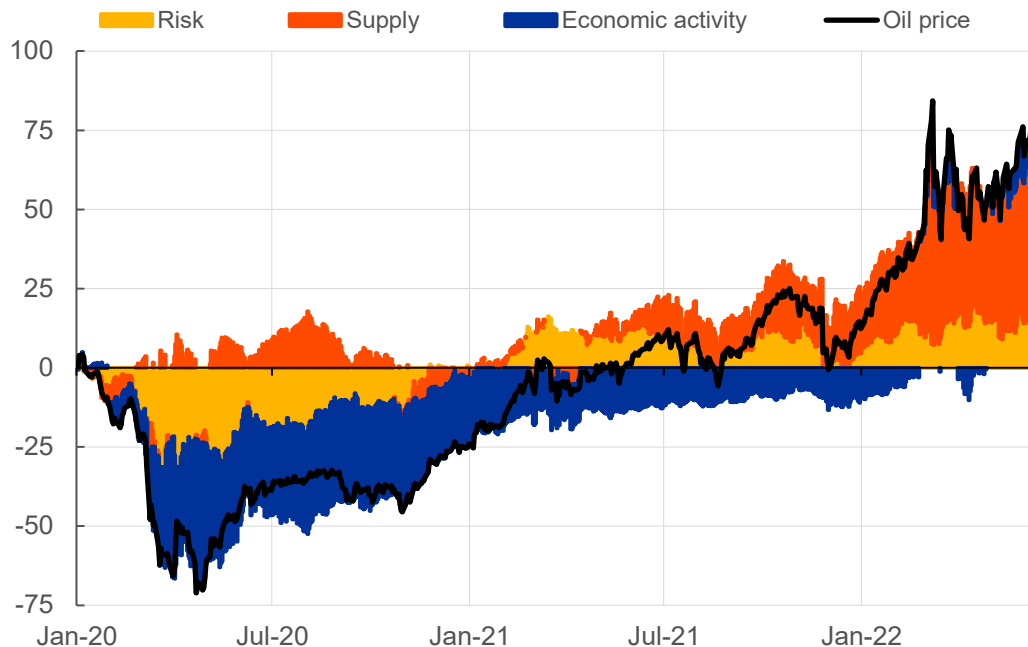

Sources: Refinitiv, Bloomberg, International Energy Agency (IEA) and ECB staff calculations.
Notes: Daily oil model from Venditti, F. and Veronese, G., "Global financial markets and oil price shocks in real time", Working Paper Series, No 2472, ECB, September 2020. Structural shocks are estimated using the spot price, the futures to spot spread, market expectations on oil price volatility and the stock price index. The risk component identifies shocks to risks to future oil demand, whereas the economic activity component identifies shocks to current demand from changes in economic activity.
Latest observations: 17 June 2022.

Goods trade balance and income effect of terms of trade

(left panel: in percentages of GDP; right panel: quarterly percentage point impact in terms of annual GDP growth)
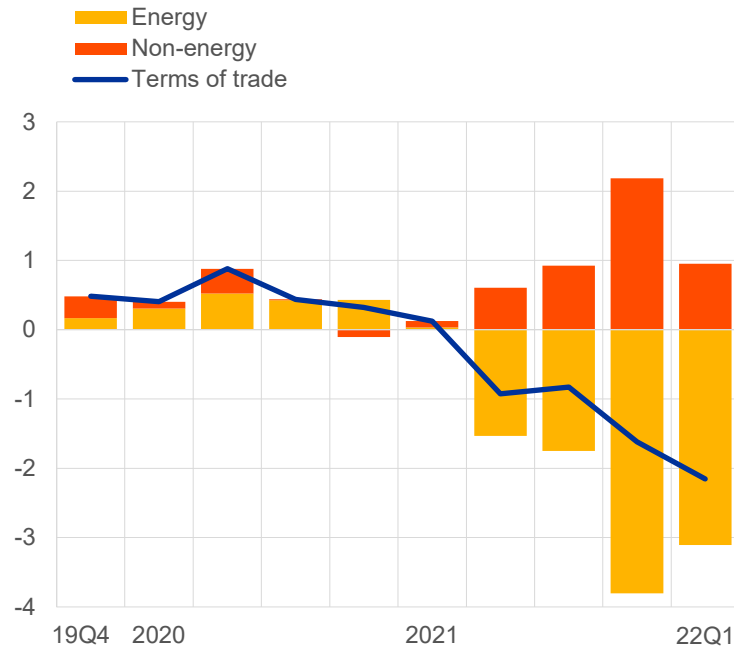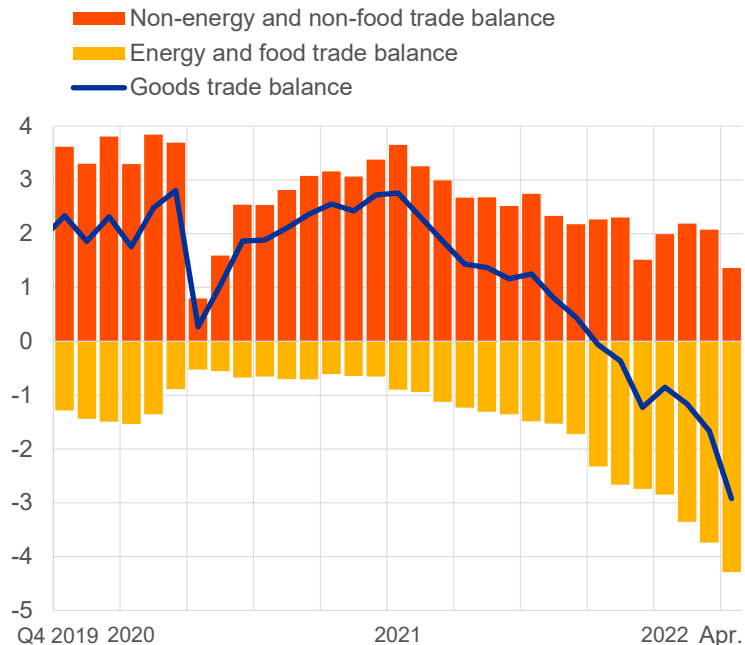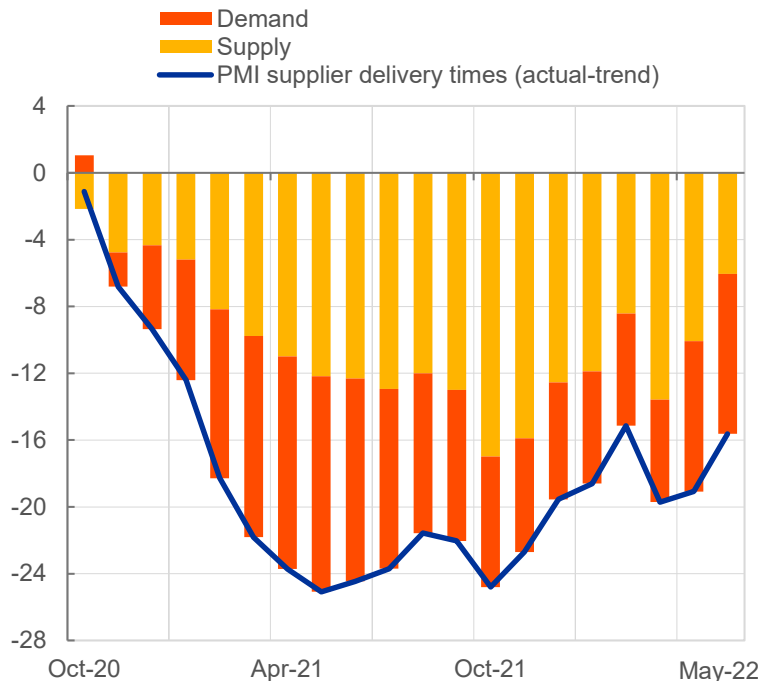

Source: Eurostat and ECB calculations.
Notes: left panel: The value for GDP in Q2 2022 is forecasted; right panel: The income effect of terms of trade is calculated by weighing export and import price changes by their respective values and considered as a percentage share of GDP.
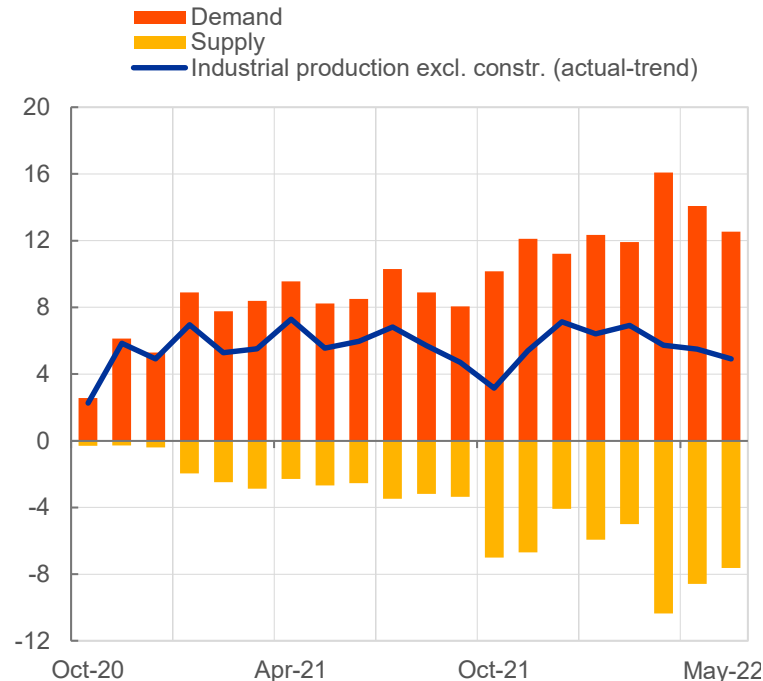Latest observations: left panel: April 2022; right panel: Q1 2022.

PMI suppliers' delivery times: Contributions of supply and demand forces
(diffusion index in deviation from trend)

Industrial production excl. construction: Contributions of supply and demand forces
(percentage in deviation from trend)

Sources: Eurostat, S&P Global and ECB staff calculations.
Notes: The SVAR model 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). May 2022 is computed using internal mechanical forecasts of industrial production. The variables incorporated in the model are HICP headline, HICP energy prices, industrial production (excl. construction), the ten-year OIS rate and the PMI suppliers' delivery times. 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 observation: May 2022.

Decomposition of inflation in non-energy industrial goods and services inflation

(annual percentage changes; percentage point contributions)
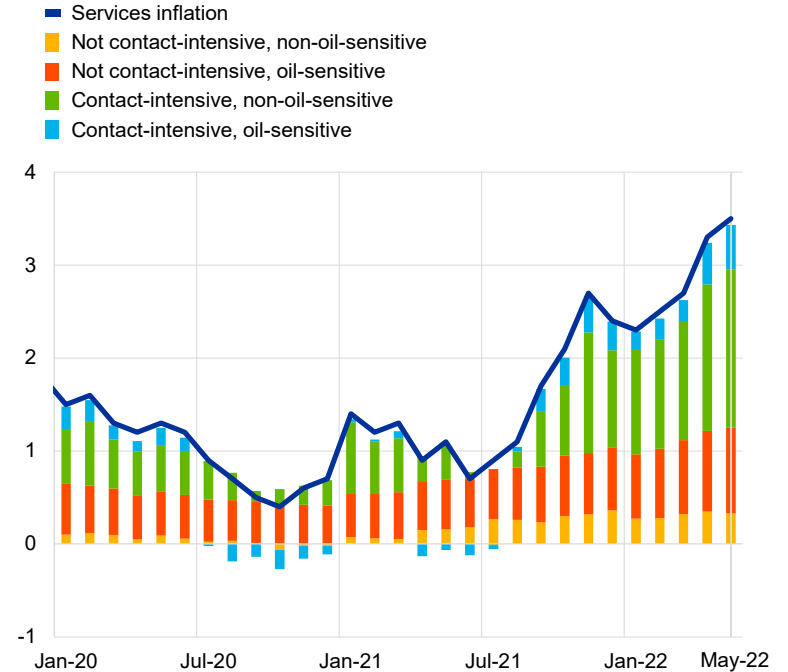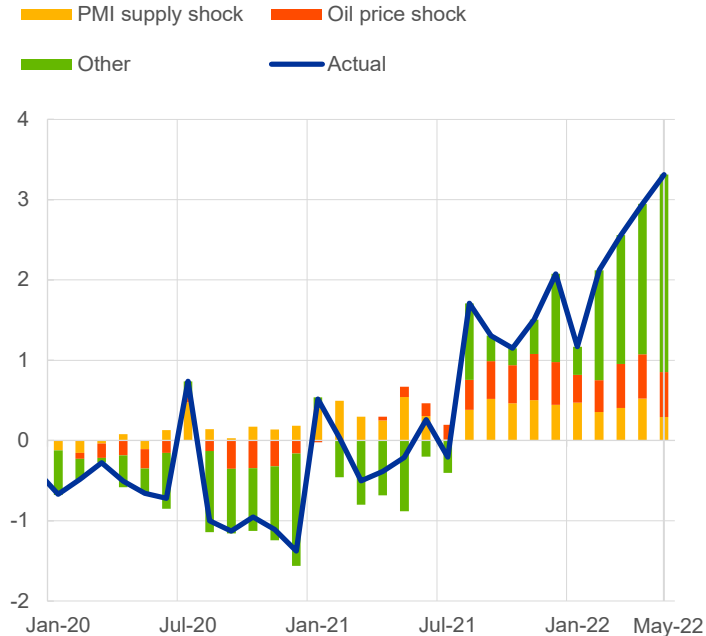
Sources: Eurostat, Narrow Inflation Projections Exercise and ECB calculations.
Notes: HICP non-energy industrial goods inflation is de-meaned by the model mean over the sample from July 2009 to February 2022. Services inflation is decomposed with non-constant weights. Latest observations: May 2022.

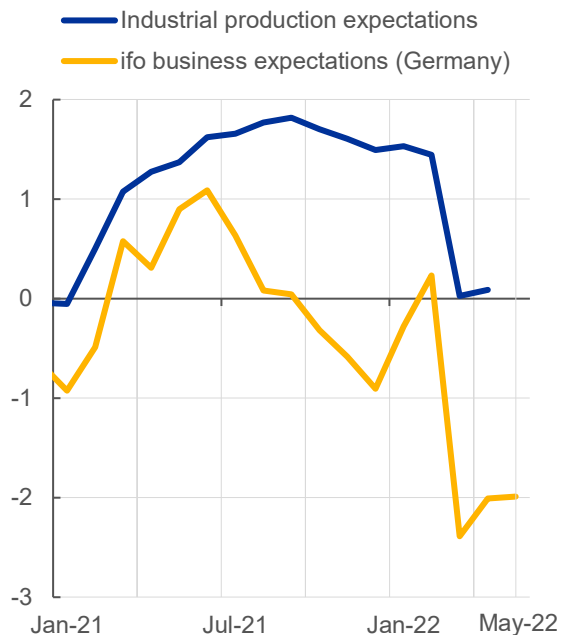# PMI confidence indicators
(diffusion index: 50 = no change)
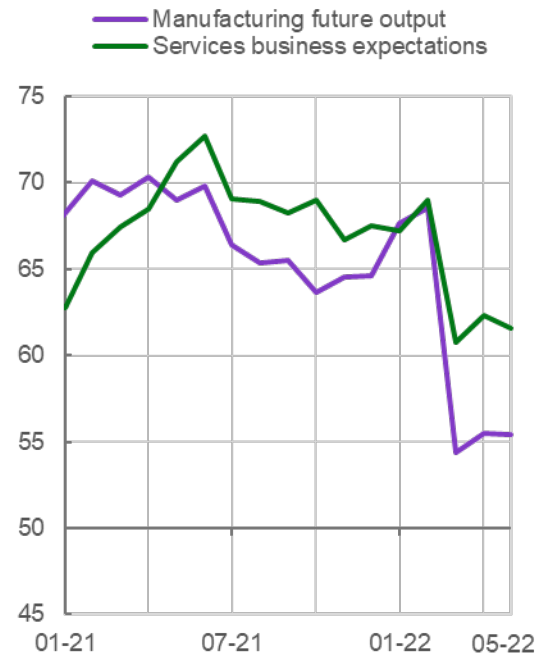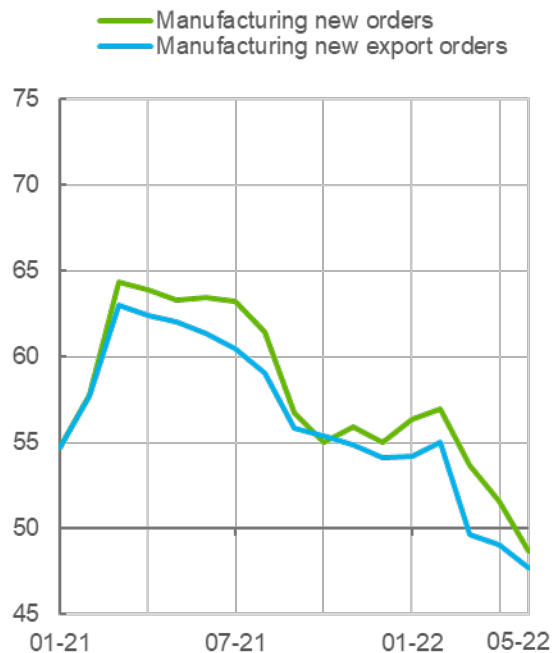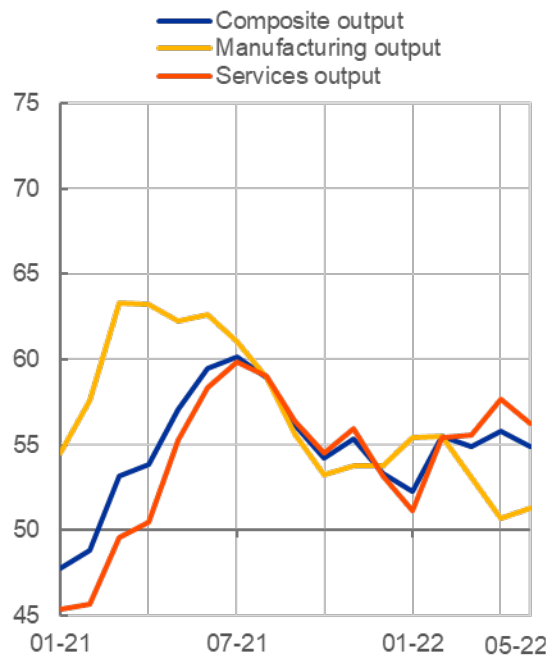
Source: S&P Global.
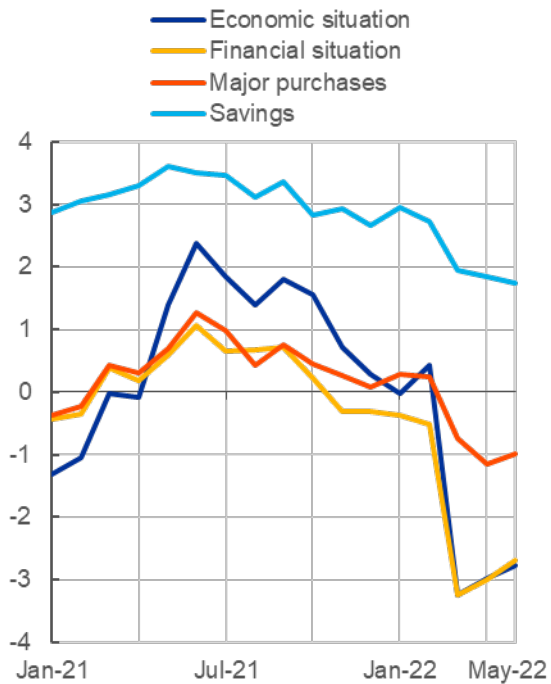Note: The latest observations are for May 2022.

Firm confidence indicators
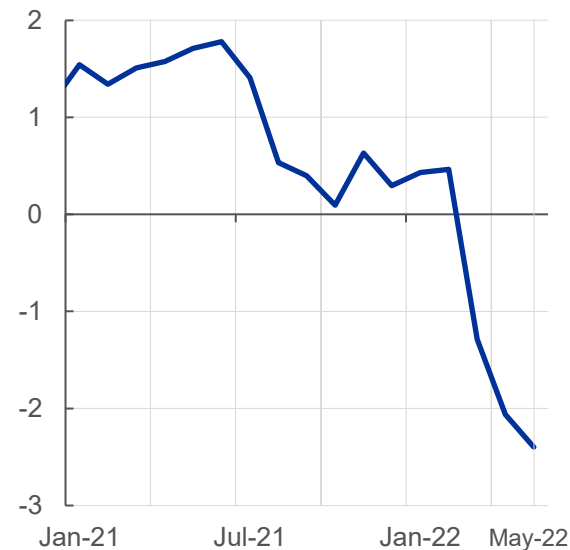(standardised percentage balances)

— Industrial production expectations
— ifo business expectations (Germany)

Household confidence indicators
(standardised percentage balances)

— Economic situation
— Financial situation
— Major purchases
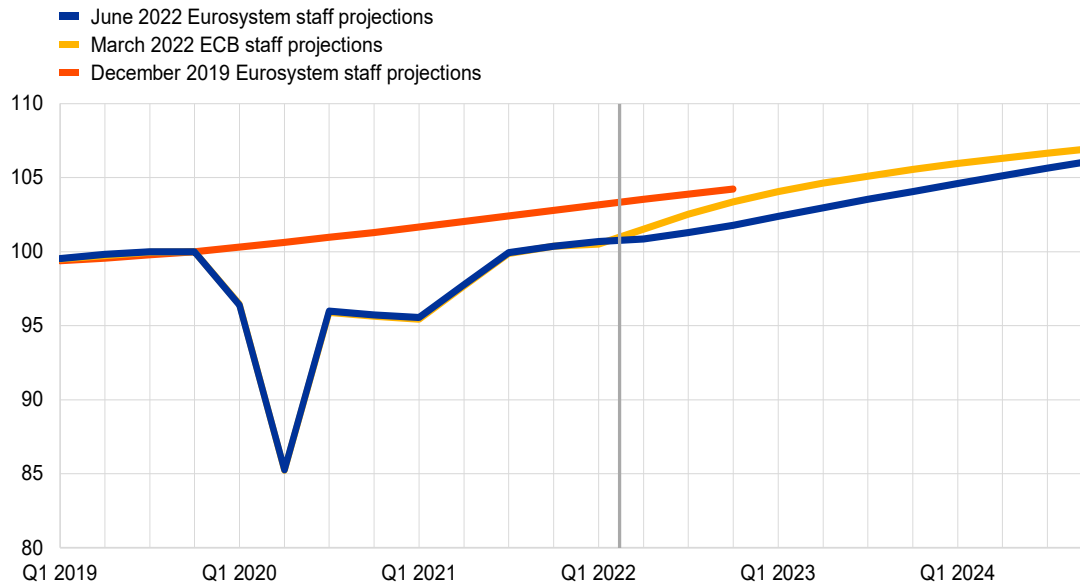— Savings

Sentix indicator for investors
(standardised percentage balances)

Sources: European Commission, ifo Institute, Sentix and ECB staff calculations.
Notes: The standardisation is based on the average and standard deviation of the series from 2000 to 2019. The latest observations are for May 2022.

Real GDP in the euro area
(chain-linked volumes, Q4 2019 = 100)

- June 2022 Eurosystem staff projections
- March 2022 ECB staff projections
- December 2019 Eurosystem staff projections

Source: ECB and Eurosystem staff macroeconomic projections.
Note: Data are seasonally and working-day adjusted. Historical data may differ from the latest publications due to data releases after the cut-off date for the projections. The vertical line indicates the start of the projection horizon.

Baseline projections and downside scenario for euro area
(annual percentage changes, unless otherwise indicated)

|	June 2022 baseline projections			Downside scenario		
	2022	**2023**	**2024**	**2022**	**2023**	**2024**
Real GDP	2.8	2.1	2.1	1.3	-1.7	3.0
Unemployment rate (percentage of the labour force)	6.8	6.8	6.7	7.1	8.3	8.6
HICP	6.8	3.5	2.1	8.0	6.4	1.9
HICP excluding energy and food	3.3	2.8	2.3	3.3	3.2	2.0

Source: June 2022 Eurosystem staff macroeconomic projections.

Risks to inflation outlook

- Catch-up adjustment in wages: extent; speed (multi-year)

- Re-set longer-term inflation expectations: extrapolation versus forward-looking

- Inflation psychology: intensity; persistence

- Downward revision in potential output: labour force; "de-globalisation"; [digitalisation]

- Real interest rate channel: investment, consumption, [credit], [asset prices]

  ➢ Elasticity of activity to real interest rates

  ➢ Covariance with terms of trade; uncertainty; macro outlook

Long-term inflation expectations

(annual percentage changes; percentages of respondents)
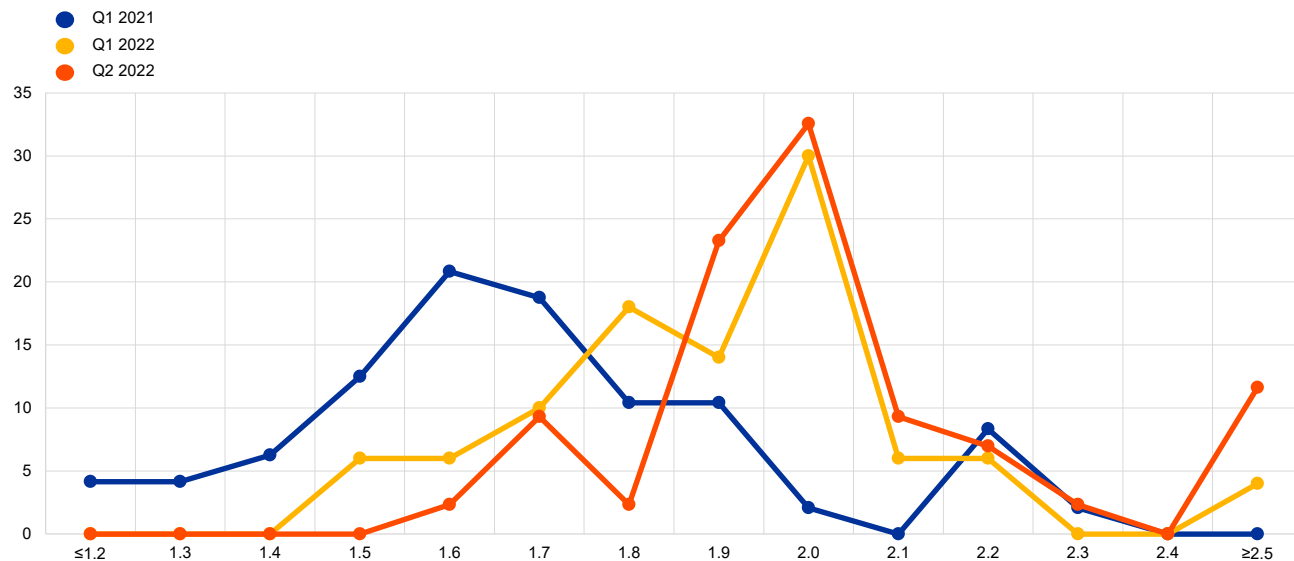
Source: ECB Survey of Professional Forecasters.
Notes: Respondents are asked to report their point forecasts and to separately assign probabilities to different ranges of outcomes. This chart shows the distribution of point forecast responses.

Inflation-linked swap rate
(percentages per annum)

Legend:
- 5y5y inflation-linked swap rate
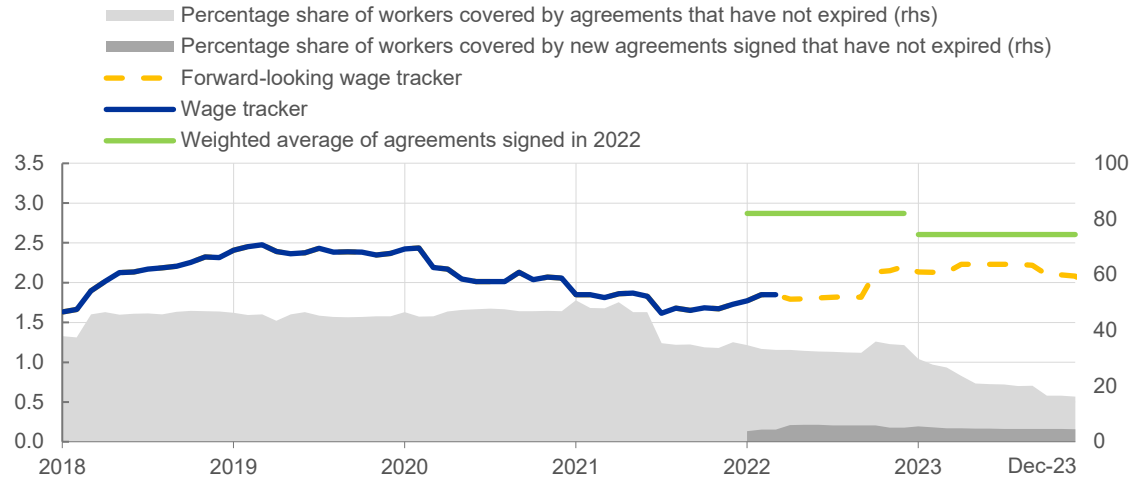- Premia-adjusted 5y5y inflation-linked swap rate
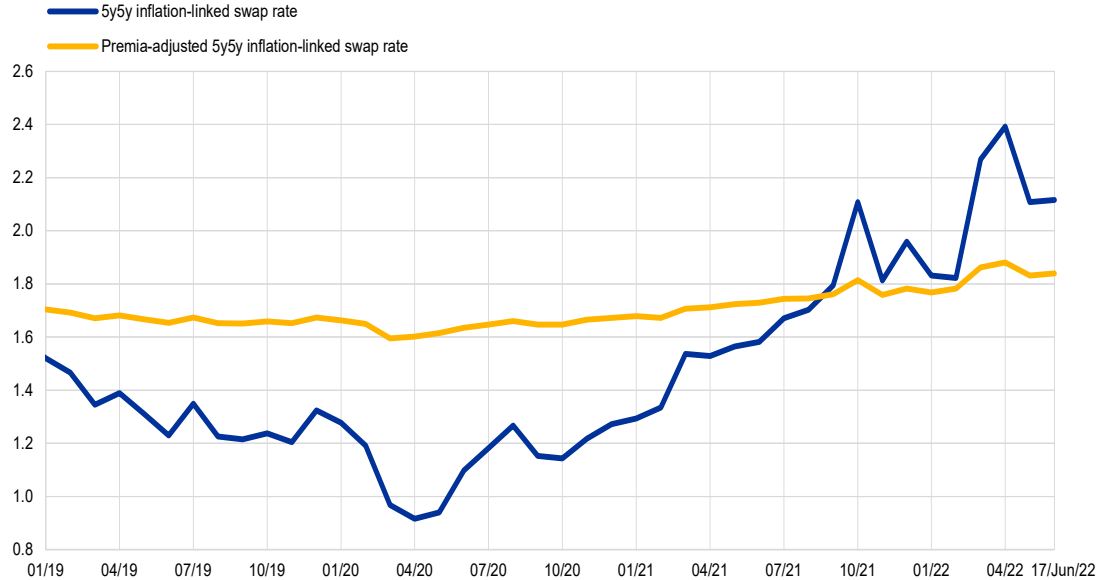
Sources: Refinitiv and ECB calculations.
Notes: Premia-adjusted average estimates based on two affine term structure models following Joslin, Singleton and Zhu (2011) applied to ILS rates adjusted for the indexation lag (monthly data), as in Camba-Mendez and Werner (2017); see Burban et al. (2021), "Decomposing market-based measures of inflation compensation into inflation expectations and risk premia", Economic Bulletin, Issue 8, ECB. The latest observations are for the 17 June 2022.

# Forward-looking euro area wage tracker

(annual percentage changes; percentage share)

Legend:
- Percentage share of workers covered by agreements that have not expired (rhs)
- Percentage share of workers covered by new agreements signed that have not expired (rhs)
- Forward-looking wage tracker
- Wage tracker
- Weighted average of agreements signed in 2022

Monthly flow of net purchases under APP and PEPP
(EUR billions)
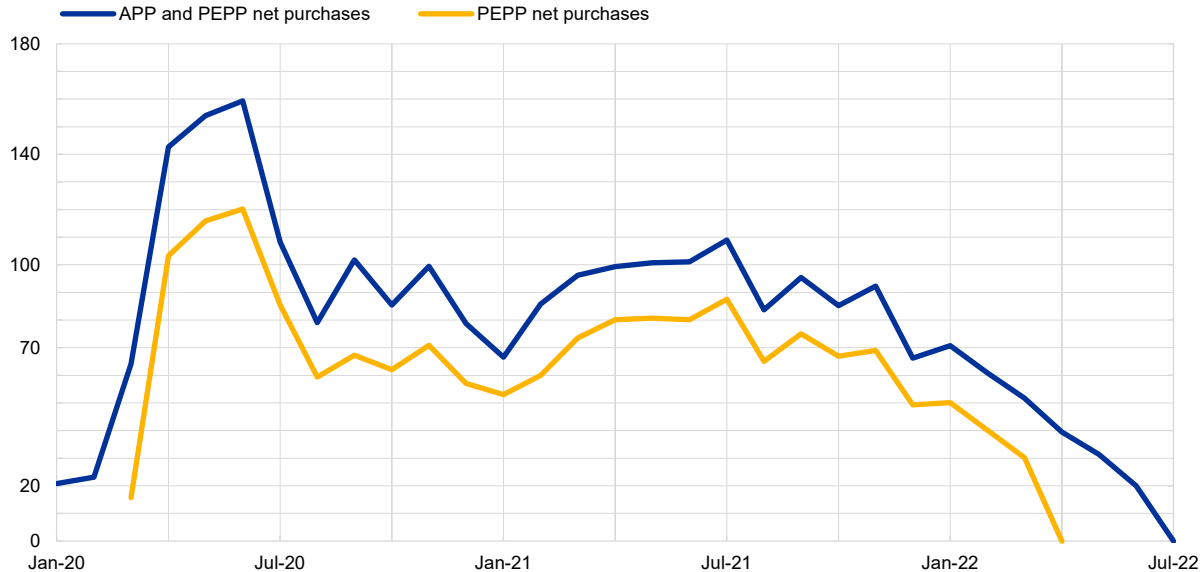
Source: ECB.
Notes: The chart shows aggregated net purchases under the asset purchase programme (APP) and the pandemic emergency purchase programme (PEPP) at month-end. The latest observations are for May 2022. The values for June and July 2022 reflect the ECB's most recent monetary policy announcement.

Overnight interest rate swap yield curve
(percentages per annum)

Latest — December 2021 — December 2020 — December 2019
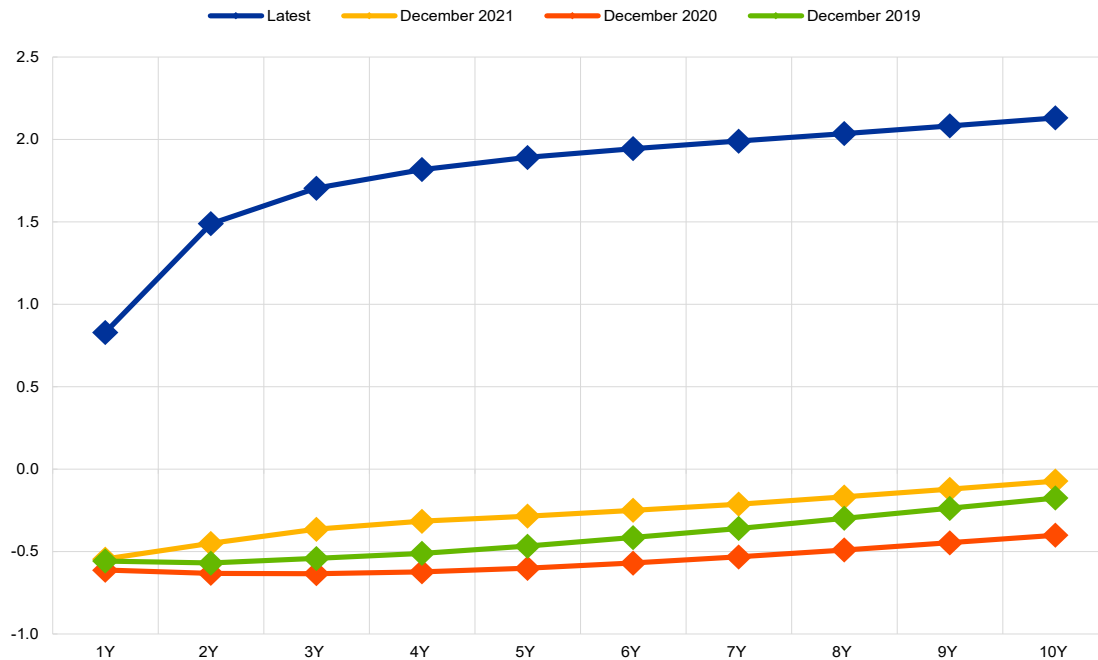
Sources: Bloomberg, Refinitiv and ECB calculations.
Note: The curves refer to the day before the respective Governing Council meetings (15 December 2021, 9 December 2020 and 11 December 2019). The latest observations are for 17 June 2022.

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

Change in real forward interest rates
(percentage points)
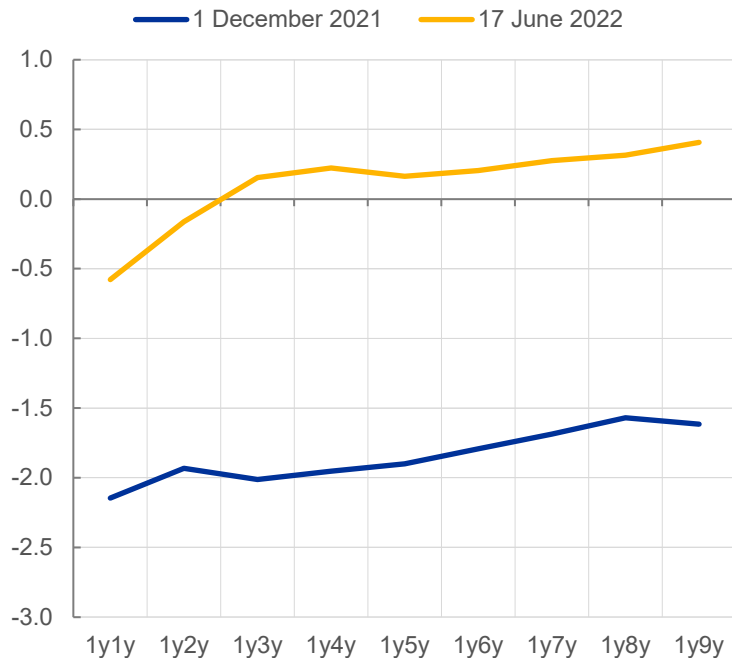
Sources: Bloomberg and Refinitiv.
Note: Real forward rates are calculated by subtracting the inflation-linked swap forward rates from the nominal OIS forward rates for each maturity.
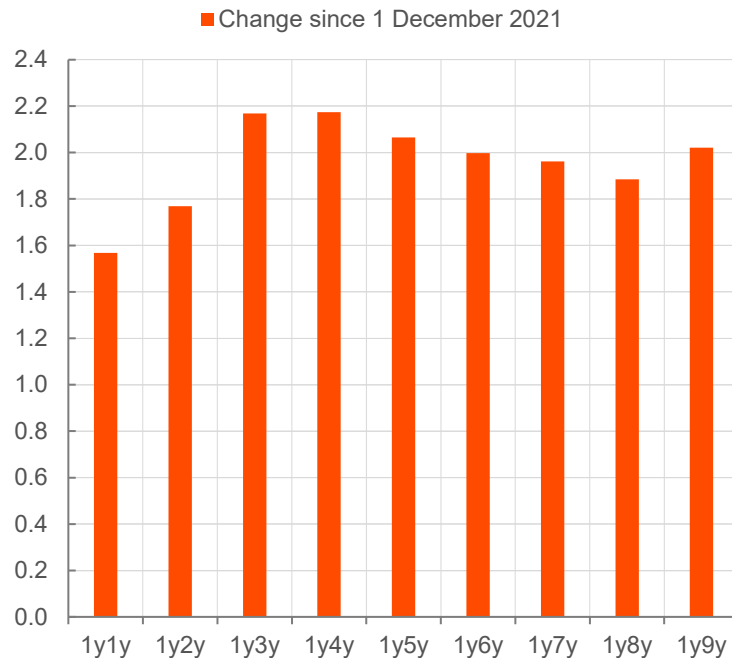
Sources: Bloomberg and Refinitiv.
Notes: Real forward rates are calculated by subtracting the inflation-linked swap forward rates from the nominal OIS forward rates for each maturity. The latest observation is for 17 June 2022.

Conclusions

- Monetary policy normalisation appropriate

- Initial steps: clear and robust

- Further steps: state-contingent (gradualism, optionality, flexibility, data-dependency)

- Overall commitment:

  "We stand ready to adjust all of our instruments within our mandate, incorporating flexibility if warranted, to ensure that inflation stabilises at our two per cent target over the medium term."