Inflation in the euro area – causes and outlook

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Economic growth and inflation in the euro area since the start of the pandemic

Real GDP growth
(index: Q4 2019 = 100)

- Sep. 22 ECB staff projections
- Realised GDP
- March 2020 ECB staff projections

Inflation
(annual percentage changes, quarterly data)

- Sep. 22 ECB staff projections
- Realised HICP
- Realised HICP (Aug. 22)
- March 2020 ECB staff projections

Sources: Eurostat, ECB and Eurosystem.
Latest observation: Q2 2022.
The war is having a marked negative impact on economic activity

**Real GDP growth projections**
(annual percentage changes)

- September 2022 ECB staff projections
- Downside scenario
- December 2021 Eurosystem staff projections
- Consensus Economics forecast

**Euro area PMIs**
(diffusion index)

**Manufacturing**
- PMI output
- PMI activity
- PMI accommodation and food
- PMI orders

**Services**
- PMI activity
- PMI accommodation and food
- PMI orders

Sources: Eurosystem and Consensus Economics.
Note: Consensus Economics survey date 12 September 2022.

Source: S&P Global.
Latest observation: August 2022.
Faltering gas supply raises recession concerns amid hit to energy and utilities sector

**EU natural gas prices and pipeline flows from Russia to Europe**

- Russian natural gas flows to Europe
- EU Natural Gas (rhs)

**Initial margins posted by energy and utilities sector and initial margin requirements for natural gas and power futures**

EUR bln (LHS), EUR/MWh (RHS)

- IM posted - EA energy and utilities sector
- IM requirement - Natural gas (NL, RHS)
- IM requirement - Power (DE, RHS)

**Notes:**
- Initial margin requirements calculated as average for 1-6M Dutch TTF natural gas futures and 1-6M German power base futures. Last update includes 6 September 2022.
- Sources: EEX, EMIR, ECB calculations.

**Sources:**
- Bloomberg and ECB calculations.
- The chart shows natural gas prices in Europe (Dutch TTF futures) in addition to natural gas pipeline flows from Russia to Europe (via Nord Stream to Germany, Yamal to Poland, Ukraine and Bulgaria).
- Latest observation: 19 September 2022.
Euro area unemployment rate at record low amid a tight labour market

Unemployment and vacancies
(left-hand scale: percentages; right-hand scale: ratio)

Sources: Eurostat, Haver Analytics and ECB staff calculations.
Notes: Eurostat vacancies are reported only in firms with 10 or more employees in France.
Latest observations: 2022 Q2.

Limits to production – shortage of labour
(percentage balances)

Source: European Commission.
Notes: Survey in industry and the services sector: percentage of firms who indicate labour shortages as limits on production and business.
Latest observation: 2022 Q3 (August 2022).
Sharp increase in inflation since 2021 after a prolonged period of subdued inflation

**Euro area inflation**
(annual percentage changes)

Source: ECB.
Latest observation: August 2022.
Energy is a key contributor to headline inflation in the euro area

Energy contribution to HICP
(annual percentage changes; percentage point contributions)

Commodity prices
(index: 1 January 2021 = 100)

Sources: Eurostat and ECB staff calculations.
Latest observation: August 2022.

Sources: Bloomberg, Refinitiv and ECB calculations.
Latest observation: 19 September 2022.
Inflation pressures have become broad-based

Measures of underlying inflation (annual percentage changes)

- HICP excluding energy and food
- PCCI (persistent and common component of inflation)
- Supercore
- Trimmed mean (10%)
- Trimmed mean (30%)

Sources: ECB and ECB staff calculations.
Latest observation: August 2022.

Share of HICP components according to pace of change (percentage point contributions)

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

Sources: ECB and ECB staff calculations.
Latest observation: August 2022.
Projections are pointing to a decline in inflation, but history of projection errors

Inflation projections – HICP
(annual percentage changes)

Inflation projections – HICP-X
(annual percentage changes)

Oil prices and assumptions
(USD per barrel)

Sources: Eurostat, ECB and Eurosystem.
Latest observation: 2021 for HICP and HICP-X (annual data).

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 September 2022 (1 to 19 September 2022).
Latest observations: August 2022 for monthly data; 19 September 2022 for Sep 2022 (blue diamond) and 19 Sep 2022 for oil price futures (grey line).
No signs of wage-price spiral yet but careful monitoring of wage dynamics

**Negotiated wages**

(annual percentage changes)

Source: Bundesbank and ECB.
Last observation: Q2 2022.
Rising risks of de-anchoring of inflation expectations

Long-term inflation expectations in Survey of Professional Forecasters

(annual percentage changes)

Sources: ECB SPF. Latest observations: 2022 Q3 (July).

Inflation expectations in Consumer Expectations Survey

(left panel: annual percentage changes; right panel: x-axis: annual percentage changes; y-axis: percentages of respondents)

Sources: ECB Consumer Expectations Survey and ECB staff calculations. Notes: “Median” refers to the median across individual respondents. The data are winsorised at the 2nd and 98th percentile. Mean values are 4.3%, 4.6% and 4.7% for May, June and July respectively. Median values are 2.5%, 2.8% and 3.0% for May, June and July respectively. Latest observations: July 2022.
Euro depreciated to parity due to divergent policy expectations and growth outlook

**EUR/USD and short rate expectations**
(lhs: differential in 1Y OIS, rhs: EUR/USD)

- Difference in one year interest rate
- EUR/USD (rhs)

**Drivers of EUR/USD**
(lhs: cumulative changes since Jan-22, rhs: percent)

- EA macro
- US macro
- Global risk
- EA mon policy
- US mon policy
- EA risk

Source: Bloomberg and ECB.
Notes: Blue lines depict the differential of Euro Area and US (EA-US) one-year OIS rates. Latest observation: 19 September 2022.

Source: ECB and ECB staff calculations.
Substantial tightening of monetary policy expectations and financing conditions

EUR OIS forward curve
(percentage per annum)

- 16-Dec-21 (pre-GovC)
- 3-Feb-22 (pre-GovC)
- 14-Jun-2022 (previous highest point)
- 20-Sep-22 (latest point)

Market pricing of terminal rate
(percentage per annum)

Sources: Bloomberg and ECB.
Note: “GovC” refers to Governing Council meetings.

Sources: Morgan Stanley, Bloomberg, ECB and ECB calculations.
Notes: The terminal rate for the euro area is derived from the euro overnight index swap (OIS) forward curve by capturing the first local peak within a five-year horizon for each observation. The terminal rate for the United States is an estimate calculated by Morgan Stanley.
Latest observation: 19 September 2022.
Rising funding costs for banks, corporates and households, but real rates stay low

**Composite bank funding costs**

(% per annum)

- Composite funding cost
- Deposit rates for households
- Deposit rates for NFCs
- Bank bond yields

**Cost of debt financing for euro area firms**

(% per annum)

- Nominal cost of debt financing
- Cost of market-based debt
- Cost of bank borrowing
- Real cost of debt financing

**Cost of borrowing of households for house purchase**

(% per annum)

- Nominal cost of borrowing
- Real cost of borrowing

Sources: ECB (MIR, BSI), IHS Markit iBoxx and ECB calculations. Notes: 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. Calculated assuming that deposit rates remain at their July level until 19 September 2022. Latest observations: July 2022 for BSI and MIR; 19 September 2022 for iBoxx.

Sources: ECB (MIR, QSA), Merrill Lynch, Refinitiv, Bloomberg, Consensus Economics and ECB calculations. Notes: The diamonds refer to estimates assuming the cost of bank borrowing remained at its July 2022 level in August and September 2022. Latest observations: July 2022 for the nominal and real cost of debt financing and bank borrowing; 19 September 2022 for the cost of market-based debt.

Signs of ending housing boom after high growth of real estate prices and mortgages

Euro area RRE prices and mortgage lending
(Percentages)

- RRE price growth (nom., y-o-y)
- Mortgage lending growth (nom., y-o-y, adj., RHS)

Sources: ECB and ECB calculations.
Latest observation: RRE price growth (nom., y-o-y) 2022 Q1, Mortgage lending growth (nom., y-o-y, adj., RHS) 2022 Q2.

Euro area households’ expectations for house prices and intention to buy a house in next 12 months
(Percentage; median and interquartile range (IQR))

- Median and IQR of house price expectations in 12 months by HHs (% change)
- Intention to buy a house (percentage balance, RHS)

Sources: CES, European Commission and ECB calculations.
Latest observation: July 2022 for house price expectations and 2022 Q3 for intention to buy a house.
Sovereign bond spreads have become less sensitive to shifts in rate expectations.

Sources: Bloomberg.
Public debt sustainability hinges more on economic growth than interest rates.

**Average nominal sovereign yields on total government debt securities**

(percentage points)

Sources: ECB and ECB calculations.
Latest observation: August 2022.

**Impact of an interest rate and GDP shock on debt-to-GDP ratio**

(percentages)

Notes: High-debt economies are countries with a debt-to-GDP ratio exceeding 90% in 2019. Interest rate shock assumes permanently higher interest rates by 100 basis points (bp) across countries and maturities. Potential growth shock assumes potential growth lower by 1 percentage point (pp) for three years, implying permanently lower potential output levels.

Sources: European Commission and ECB calculations.
Thank you very much for your attention!