The euro area outlook

Seminar at the Economic and Social Research Institute, Dublin

20 December 2023
### December 2023 Eurosystem staff projections: assumptions

<table>
<thead>
<tr>
<th></th>
<th>December 2023</th>
<th>Revisions vs. September 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2023</td>
<td>2024</td>
</tr>
<tr>
<td>Oil price (level in USD)</td>
<td>84.0</td>
<td>80.1</td>
</tr>
<tr>
<td>Oil price (level in euro)</td>
<td>77.8</td>
<td>73.9</td>
</tr>
<tr>
<td>Natural gas price (EUR/MWh)</td>
<td>41.5</td>
<td>47.4</td>
</tr>
<tr>
<td>Wholesale electricity price (EUR/MWh)</td>
<td>105.0</td>
<td>116.5</td>
</tr>
<tr>
<td>Effective exchange rate (index 1999Q1=100)</td>
<td>121.9</td>
<td>123.5</td>
</tr>
<tr>
<td>USD per EUR (level)</td>
<td>1.08</td>
<td>1.08</td>
</tr>
<tr>
<td>3-month interest rate (% p.a.)</td>
<td>3.4</td>
<td>3.6</td>
</tr>
<tr>
<td>10-year bond yield (% p.a.)</td>
<td>3.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Stock price (level)</td>
<td>451</td>
<td>455</td>
</tr>
</tbody>
</table>

Note: Revisions are expressed as percentages for levels and percentage points for interest rates and bond yields.
## December 2023 Eurosystem staff projections: baseline

### December 2023

<table>
<thead>
<tr>
<th></th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>HICP</td>
<td>5.4</td>
<td>2.7</td>
<td>2.1</td>
<td>1.9</td>
<td>-0.2</td>
<td>-0.5</td>
<td>0.0</td>
</tr>
<tr>
<td>HICP excl. energy and food</td>
<td>5.0</td>
<td>2.7</td>
<td>2.3</td>
<td>2.1</td>
<td>-0.1</td>
<td>-0.2</td>
<td>0.1</td>
</tr>
<tr>
<td>Compensation per employee</td>
<td>5.3</td>
<td>4.6</td>
<td>3.8</td>
<td>3.3</td>
<td>0.0</td>
<td>0.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Unit labour costs</td>
<td>6.1</td>
<td>4.1</td>
<td>2.6</td>
<td>2.0</td>
<td>0.3</td>
<td>0.6</td>
<td>0.2</td>
</tr>
<tr>
<td>Real GDP</td>
<td>0.6</td>
<td>0.8</td>
<td>1.5</td>
<td>1.5</td>
<td>-0.1</td>
<td>-0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Private consumption</td>
<td>0.5</td>
<td>1.4</td>
<td>1.6</td>
<td>1.4</td>
<td>0.2</td>
<td>-0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Government consumption</td>
<td>0.1</td>
<td>1.1</td>
<td>1.3</td>
<td>1.2</td>
<td>0.2</td>
<td>0.0</td>
<td>-0.1</td>
</tr>
<tr>
<td>Total investment</td>
<td>1.3</td>
<td>0.4</td>
<td>1.8</td>
<td>2.1</td>
<td>-0.4</td>
<td>0.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>6.5</td>
<td>6.6</td>
<td>6.5</td>
<td>6.4</td>
<td>0.0</td>
<td>-0.1</td>
<td>-0.2</td>
</tr>
</tbody>
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### Revisions vs. September 2023

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<th>2024</th>
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</tr>
</thead>
<tbody>
<tr>
<td>HICP</td>
<td>-0.5</td>
<td>-0.3</td>
<td>0.1</td>
</tr>
<tr>
<td>HICP excl. energy and food</td>
<td>-0.3</td>
<td>0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Compensation per employee</td>
<td>0.0</td>
<td>0.1</td>
<td>0.4</td>
</tr>
<tr>
<td>Unit labour costs</td>
<td>0.5</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Real GDP</td>
<td>-0.2</td>
<td>-0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Private consumption</td>
<td>0.1</td>
<td>-0.1</td>
<td>0.0</td>
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<tr>
<td>Government consumption</td>
<td>0.1</td>
<td>0.4</td>
<td>-0.3</td>
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<td>-0.3</td>
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<td>0.0</td>
<td>-0.1</td>
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</tr>
</tbody>
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Note: Revisions calculated based on rounded figures.
### Goods and services consumption
(index: 2019 = 100)

- **Sources:** Eurostat, DG-ECFIN and ECB calculations.
- **Notes:** The country coverage for the figures in Q3 2023 is 95%. Non-durable goods include semi-durable ones. Latest observation: Q3 2023.

### Demand expectations
(standardised percentage balances)

- **Sources:** Eurostat, DG-ECFIN and ECB calculations.
- **Notes:** Data are standardised over pre-COVID period. The chart shows demand expectations of firms over next 3 months. Latest observation: November 2023.

### Outlook for private consumption
(annual percentage changes, percentage point contributions)

- **Source:** December 2023 Eurosystem staff projections.
- **Note:** Consumer prices refer to the HICP inflation.
Investment

Housing investment
(quarter-on-quarter percentage changes, quarterly average of diffusion index)

Sources: Eurostat, S&P Global and DG-ECFIN.
Note: The European Commission (EC) indicator is standardised and rescaled to have the same mean and standard deviation as the Purchasing Managers Index (PMI).
Latest observations: Q3 2023 for housing investment; November 2023 for PMI and EC.

Business investment
(quarter-on-quarter percentage changes, deviation from mean)

Sources: Eurostat, S&P Global and DG-ECFIN.
Notes: Business investment excludes Irish intellectual property products (IPP). The European Commission (EC) series is the industrial confidence indicator for capital goods.
Latest observations: Q3 2023 for investment; November 2023 for PMI and EC.

Outlook for investment and unit profits
(annual percentage changes)

Source: December 2023 Eurosystem staff projections.
Labour markets

**Employment and unemployment rate**
(quarter-on-quarter percentage changes, percentages of the labour force)

Sources: Eurostat, December 2023 Eurosystem staff projections and ECB calculations.
Note: Solid bars are quarterly data (and projections for Q4 2023), shaded bars are annual projections.
Latest observations: Q3 2023 for employment and October 2023 for unemployment rate.
The vertical line indicates the beginning of the projections.

**PMI employment**
(diffusion index)

Source: S&P Global.
Latest observation: December 2023 for composite, manufacturing and services, and November 2023 for construction.
HICP inflation and components
(annual percentage changes, percentage point contributions)

Sources: Eurostat, December 2023 Eurosystem staff projections and ECB calculations.

Notes: The cut-off date for technical assumptions was 23 November 2023. The macroeconomic projections for the euro area were finalised on 30 November 2023. The HICP estimate for November 2023 was included in the projections.

HICP inflation and components: revisions compared to September
(percentage points)

Sources: Eurostat, December 2023 Eurosystem staff projections and September 2023 ECB staff projections.

Notes: The cut-off date for technical assumptions was 23 November 2023. The macroeconomic projections for the euro area were finalised on 30 November 2023. The HICP flash estimate for November 2023 was included in the projections.
Headline inflation and inflation momentum

Headline inflation vis-à-vis Nov 2022
(percentage points)

Inflation momentum for HICP and sub-components
(annualised 3-month-on-3-month percentage changes)

Sources: Eurostat and ECB calculations.
Latest observation: November 2023.

Notes: Based on seasonally adjusted data. The broken red line corresponds to services adjusted for the effects of the €9 and €49 tickets introduced in Germany in June 2022 and May 2023, respectively.
Measures of underlying inflation and impact of monetary policy

Measures of underlying inflation
(annual percentage changes)

- HICPX
- HICPXX
- Domestic
- HICP excl. unprocessed food and energy

- HICP excl. energy
- Supercore
- PCCI
- PCCI excl. energy

Sources: Eurostat and ECB calculations.
Notes: The ‘adjusted’ measures abstract from energy and supply-bottleneck shocks using a large SVAR, see Banbura, M., Bobeica, E. and Martinez-Hernandez, C. (2023), “What drives core inflation? The role of supply shocks”, Working Paper Series, No 2875, ECB.
Latest observations: November 2023.

Impulse responses to monetary policy shocks by sensitivity of HICPX items
(cumulative percentage changes)

- Highly sensitive
- Moderately sensitive

Sources: ECB calculations.
Notes: Impulse responses across highly sensitive and moderately sensitive items are a weighted average based on the monetary policy responsiveness of the 73 HICPX items to a 25 bp (tightening) shock, after controlling for lags of the dependent variable, money market rates, industrial production, a stock market index, producer prices, oil prices and the nominal effective exchange rate. Items are classified according to their individual responsiveness relative to the median across all items with a significant (negative) response. Impulse responses are based on smooth local projections (as in Barnichon and Brownlees, 2019) using the proxy for monetary policy shocks by Jarocinski and Karadi (2020). Estimation sample spans from 1999 up to September 2023. The x-axis shows months after the shock.
Selling price expectations

Sources: Eurostat, DG-ECFIN and ECB calculations.
Notes: IPPI stands for indicator of producer price pressures, see the box entitled "Indicators for producer price pressures in consumer goods inflation", Economic Bulletin, Issue 3, ECB, 2023 Rubene (2023); the grey bars show the 95% confidence interval. Contact-intensive services refer to wholesale and retail trade, transport, accommodation and food services. Not contact-intensive services cover information and communication, financial and insurance activities, real estate, professional and administrative activities. Three months ahead selling price expectations data are seasonally adjusted and expressed as average deviation from pre-pandemic levels.
Latest observations: November 2023 for HICP, Services, PCCI and selling price expectations; October 2023 for the rest.
Outlook for wages and the GDP deflator

**Compensation per employee**
(annual percentage changes, percentage point contributions)

- Wage drift - other factors
- Wage drift - impact of average hours worked
- Social security contributions
- Negotiated wages growth
- Compensation per employee growth

**SOURCES:** Eurostat, ECB, December 2023 Eurosystem staff projections and ECB calculations.

**NOTES:** Diamonds show the December 2023 Eurosystem projections for compensation per employee growth. Latest observation: Q3 2023.

**Wage tracker**
(annual percentage changes)

- CPE December 2023 BMPE
- ECB wage tracker incl. one-offs
- ECB wage tracker - latest agreements incl. one-offs
- Indeed wage tracker
- Negotiated wages including one-offs

**SOURCES:** Calculated based on micro data on wage agreements provided by Deutsche Bundesbank, Banco de España, the Dutch employer association (AWVN), Österreichische Nationalbank, Bank of Greece, Banca d’Italia and Banque de France.

**NOTES:** EA aggregate based on ES, IT, GR, AT, DE, NL, FR as of November 2023. The indicator of the latest wage agreements shows the wage growth implied by agreements reached in a quarter for 12 months ahead. Indeed tracker measures wage growth in online job ads, computed by the Central Bank of Ireland. Latest observations: Q3 2023 for negotiated wages; November 2023 for Indeed and ECB wage tracker; Q4 2023 for latest agreements.

**GDP deflator**
(annual percentage changes, percentage point contributions)

- Unit profits
- Unit labour costs
- Unit net taxes
- GDP deflator

**SOURCES:** Eurostat, December 2023 Eurosystem staff projections and ECB calculations.

**NOTES:** Unit taxes reflect taxes minus subsidies. When the contribution of subsidies on products is larger than the contribution of indirect taxes, the unit tax contribution turns negative. Latest observation: Q3 2023.
Inflation expectations

**Consumer inflation expectations**
(annual percentage changes)

- Inflation expectations one year ahead, median
- Inflation expectations three years ahead, median
- Perception of past inflation, median

Source: ECB CES.

**SMA inflation expectations**
(annual percentage changes)

- 2023
- 2024
- 2025
- 2026

Source: ECB SMA.
Note: The chart shows the median values.
Risk-free rates and the real rate curve

**€STR forward curve and survey expectations on the DFR**
(percentages per annum)

- €STR forward curve adjusted for term premia (latest)
- €STR forward curve (latest)
- €STR forward curve (pre Oct GovC - 25 Oct 23)
- Realised €STR
- SMA median (Dec 23)
- SMA 25th-75th percentiles

Sources: Refinitiv, Bloomberg, and ECB calculations.
Notes: The bars depict the median of responses to the December SMA on expectations of future deposit facility rates. Surveys are adjusted for an €STR vs. DFR spread. Model estimates are based on three variations of Joslin, Singleton and Zhu (2011): an affine term structure model without survey information on interest rate expectations, and an affine and a lower bound term structure model, both incorporating survey information on interest rates expectations.

**Real yield curve**
(percentages per annum)

- Real yield curve (latest)
- Real yield curve (Dec 2021)

Sources: Bloomberg, Refinitiv and ECB calculations.
Notes: The real yield curve is computed as the difference between OIS and ILS rates at each maturity. The curve for December 2021 refers to 31 December 2021.
Latest observations: 15 December 2023.
Money and credit to firms and households

Sources of money creation (average monthly flows, EUR billions)

Net debt financing flows of euro area firms (average monthly flows, EUR billions)

Bank loans to households by purpose (average monthly flows, EUR billions)

Sources: ECB (BSI) and ECB calculations.
Note: Figures for M3 are adjusted for the operational incident in TARGET2 which inflated the September 2022 figures for OFI deposits and loans, reversing them in October and November 2022.
Latest observations: October 2023.

Sources: ECB (BSI and CSEC) and ECB calculations.
Notes: MFI loans are adjusted for sales and securitisation. The seasonal adjustment for the net issuance of debt securities is not official.

Sources: ECB (BSI and CSEC) and ECB calculations.
Notes: MFI loans are adjusted for sales and securitisation. For the breakdown items of loans to households, this adjustment is indirectly treated for seasonality, with the difference between the sum of breakdowns and the total attributed to loans for house purchase.
Bank funding cost and cost of bank borrowing

**Composite bank funding costs**  
(percentages per annum)

| Source: ECB (BSI, MIR, MMSR), IHS Markit iBoxx and ECB calculations. Notes: Daily bank bond yields. Funding costs are the average of the costs of deposits and bank bonds weighted by outstanding amounts. Cost of deposits are new business deposit rates for non-financial private sector. Interbank money market borrowing is the weighted average of secured transactions (before July 2016; proxied by the GC pooling rate). Money market rates are smoothed for end-of-month effects. Latest observation: October 2023 for monthly data; 15 December 2023 for daily data. |

**Cost of borrowing for firms**  
(percentages per annum)


**Cost of borrowing for households for house purchase**  
(percentages per annum)

Monetary policy transmission

**Tightening of financial conditions across hiking cycles**
(percentages per annum)

- **Range of past** (DE)
- **1978 (DE)**
- **Current (EA)**
- **1972 (DE)**
- **Current (DE)**

**Non-linearity in monetary policy transmission**
(left panel: semi-elasticity of credit growth, percentage points; right panel: quarters)

**Credit growth through the lens of non-linearity**
(left panel: annual credit growth; right panel: changes in annual credit growth)

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**Sources:** Refinitiv, Bloomberg and ECB calculations.

**Notes:** The historical cycles are based on German data, i.e., DE interbank 1Y, BUND 10Y yield, the DAX equity index and DM/USD exchange rate until 1999, thereafter the euro NEER-42 exchange rate. Hiking cycles start in the month immediately preceding the first hike, i.e., August 1972, November 1978, June 1988, October 1999, November 2005, and December 2021. Latest observation: December 2023 (monthly data).

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**Sources:** ECB (MNA, LFSI, STS, BSI) and ECB calculations.

**Notes:** The shaded region represent the 95% confidence interval. The chart shows estimates of the strength and speed of monetary policy on credit for small, medium and large shocks. Strength is defined as the semi-elasticity of credit growth at the horizon where it peaks. Latest observation: October 2023.

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**Sources:** ECB and ECB calculations.