

# **Inflation in the euro area and the US – causes, persistence, outlook**

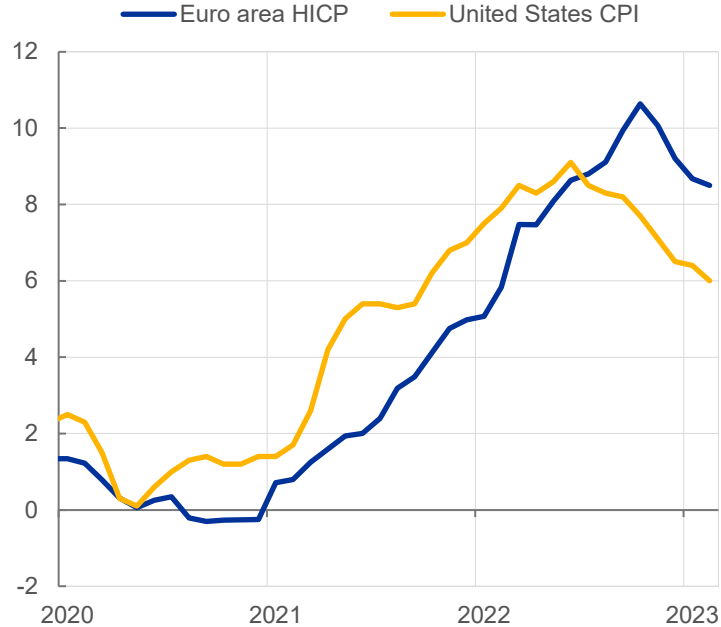
Isabel Schnabel, Member of the ECB's Executive Board

*Chicago Booth Conference on the Global Economy and Financial Stability, 26 March 2023*

# Headline inflation has started to decline but core inflation proves sticky

## Headline inflation

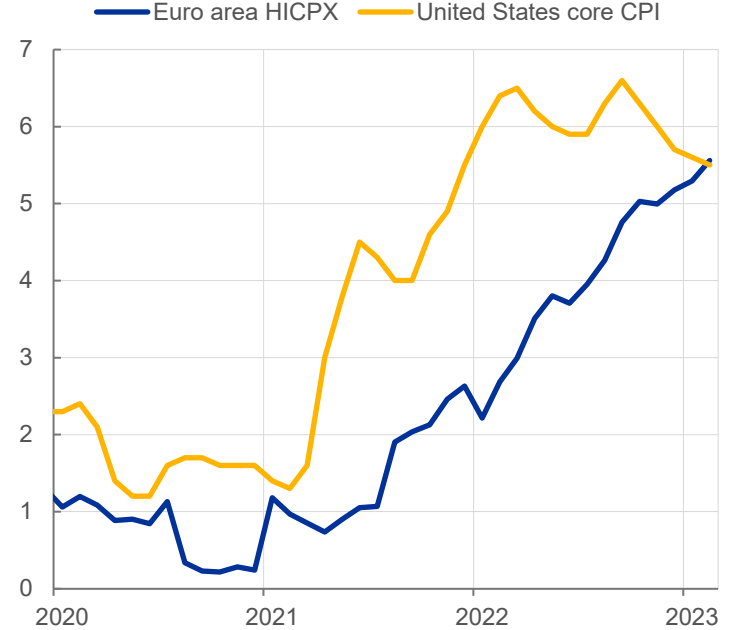
(annual percentage changes)



Sources: Eurostat, US Bureau of Labor Statistics and ECB calculations.  
Latest observation: February 2023.

## Core inflation

(annual percentage changes)



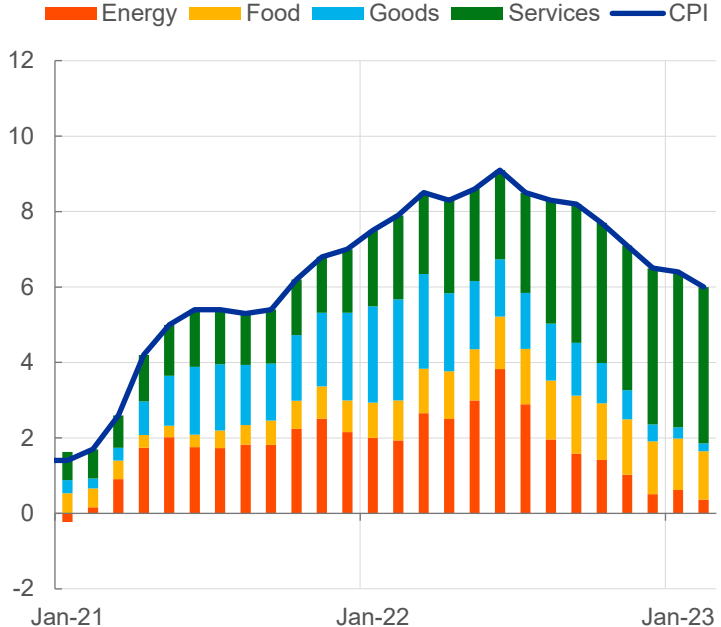
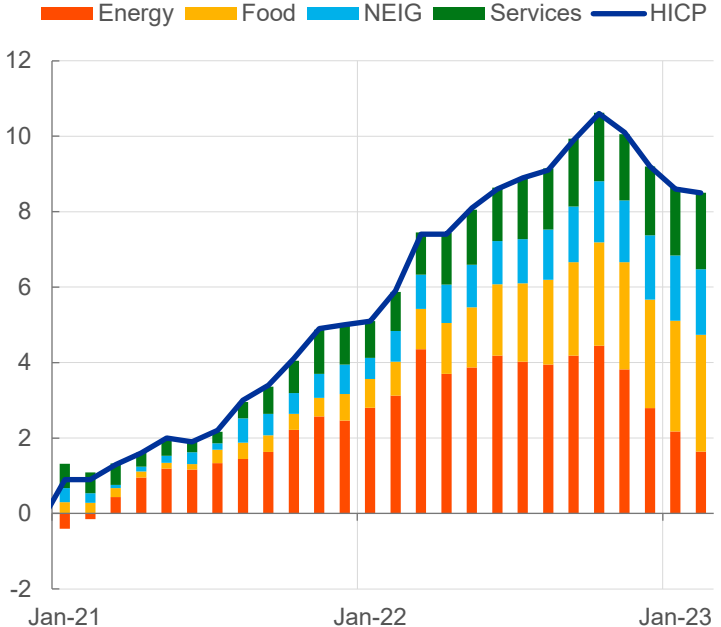
Sources: Eurostat, US Bureau of Labor Statistics and ECB calculations.  
Latest observation: February 2023.

# Energy contributions are falling quickly, while other components are still on the rise

## Contributions to headline inflation (annual percentage changes and percentage point contribution)

### Euro area

### US

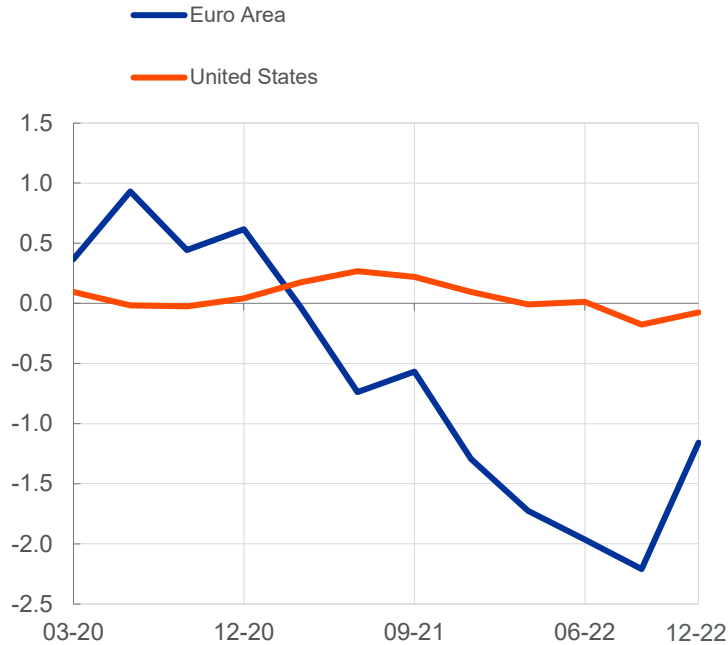


Sources: Eurostat and ECB calculations.  
Latest observation: February 2023.

Sources: US Bureau of Labor Statistics and ECB calculations.  
Latest observation: February 2023.

# Different intensities of terms-of-trade shock and fiscal responses

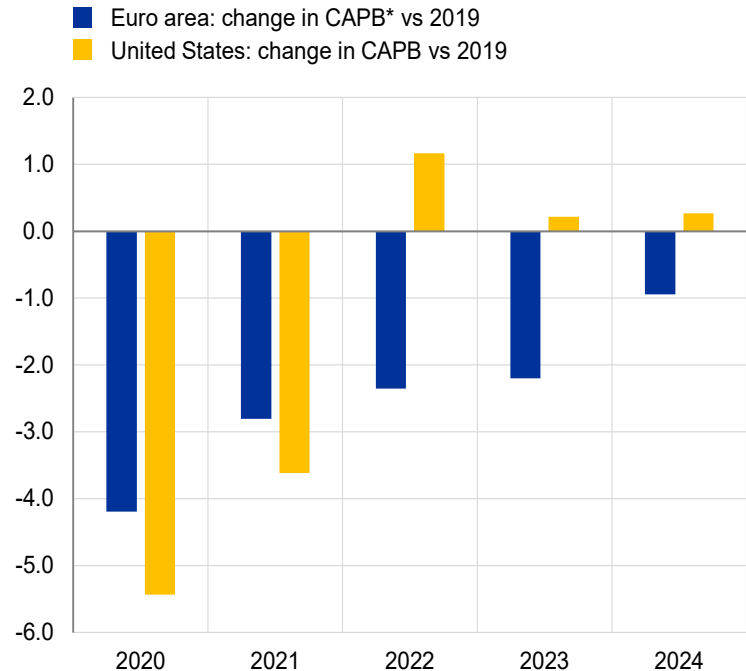
## Income effects of terms-of-trade shock (impact on year-on-year GDP growth in percentage points)



Source: Haver analytics, Eurostat and ECB calculations.

Notes: The income effect of terms of trade is calculated import and export price changes by their respective past values (one-year lag) expressed as percentage of GDP. The latest observation is 2022 Q4.

## Fiscal response to pandemic and energy crisis in the euro area and the US (percentage point of potential GDP)



Source: March 2023 ECB staff Macroeconomic projections and IMF Fiscal Monitor, October 2022.

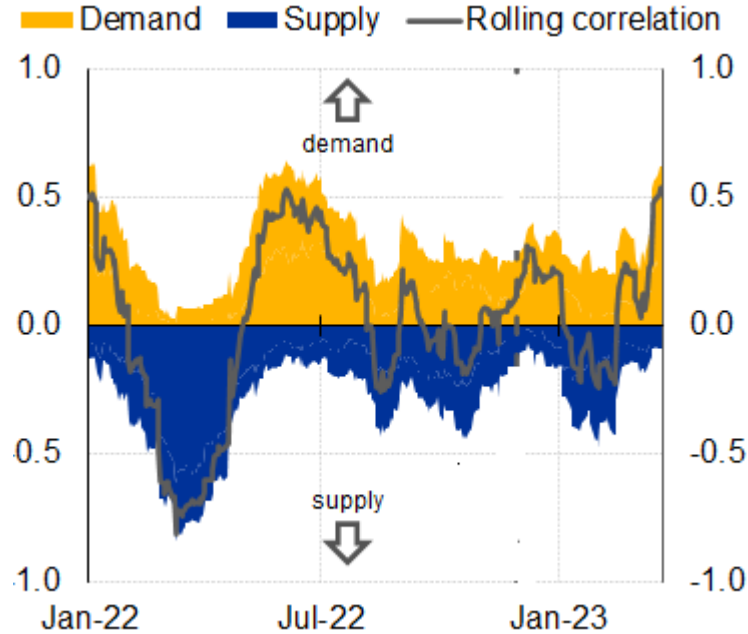
Notes: Negative (positive) numbers denote fiscal loosening (tightening) vs 2019.

\*CAPB stands for the cyclically adjusted primary balance. For the EA, this is adjusted for NGEU grants on the revenue side, in line with the definition for the EA fiscal stance. The measure shown in chart is a proxy for the discretionary fiscal policy response since the pre-pandemic period (2019). It includes also other factors (such as revenue windfalls/shortfalls). The measures for the EA and US are not fully comparable due to the timing and other methodological differences between the two sources.

# Rotation towards demand-side factors amid stronger-than-expected macroeconomy

## Rolling correlation between daily changes in 1y1y ILS rates and daily Euro Stoxx returns

(correlation coefficient)

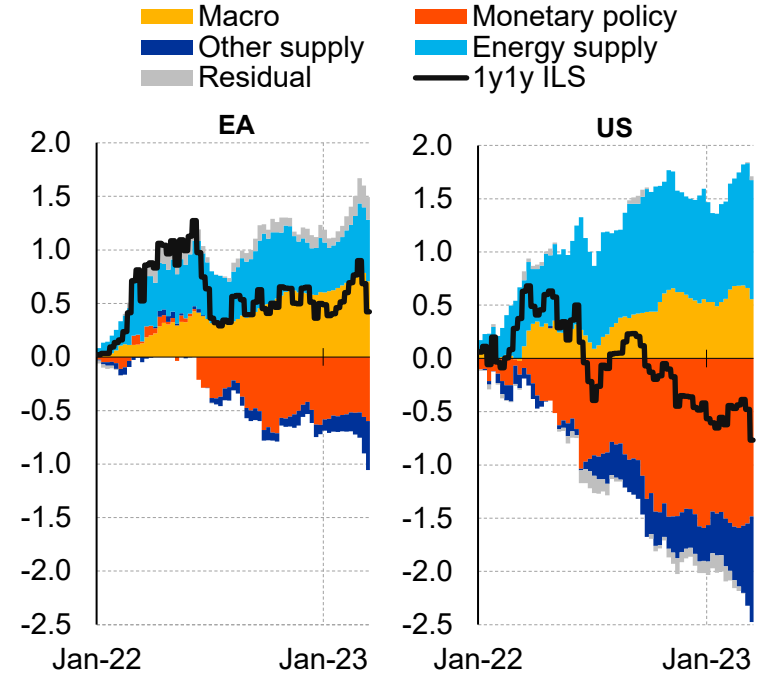


Sources: Refinitiv and ECB calculations.

Notes: 30-trading days rolling correlation of daily percentage point changes in 1Y1Y ILS rates and daily returns on Euro Stoxx. Demand (supply) refers to that part of the correlation coming from trading days on which ILS rates and stock returns moved in the same (opposite) direction. In each subsample, the split between favourable and adverse is based on the share of days in the rolling window of favourable (equities up) or adverse (equities down) market dynamics. Latest observation: 22 March 2023.

## Decomposition of 1Y1Y ILS change

(since 1 Sep 2022; percent p.a.)

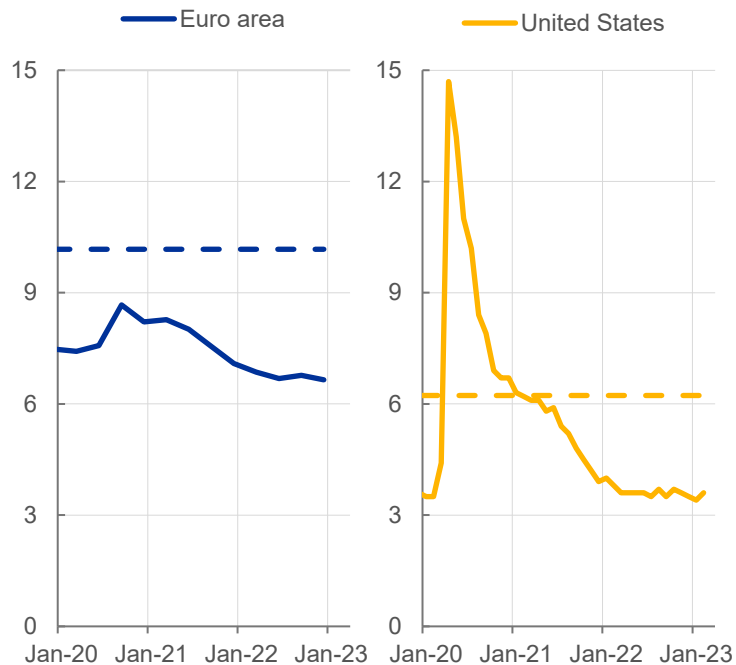


Sources: Bloomberg, Refinitiv, NY Fed and ECB staff calculations.

Notes: Decompositions are based on a weekly mixed-frequency BVAR model estimated with weekly observations of US 10-year benchmark yield, US inflation linked swaps 1Y1Y, oil prices, stock prices and monthly observations of the Global Supply Chain Pressure Index of the NY Fed. For the EA, oil price is replaced by a synthetic index based on gas and oil prices. Identification via sign and zero restrictions, using data from 2005. Latest observation: 17 March 2023 (weekly data).

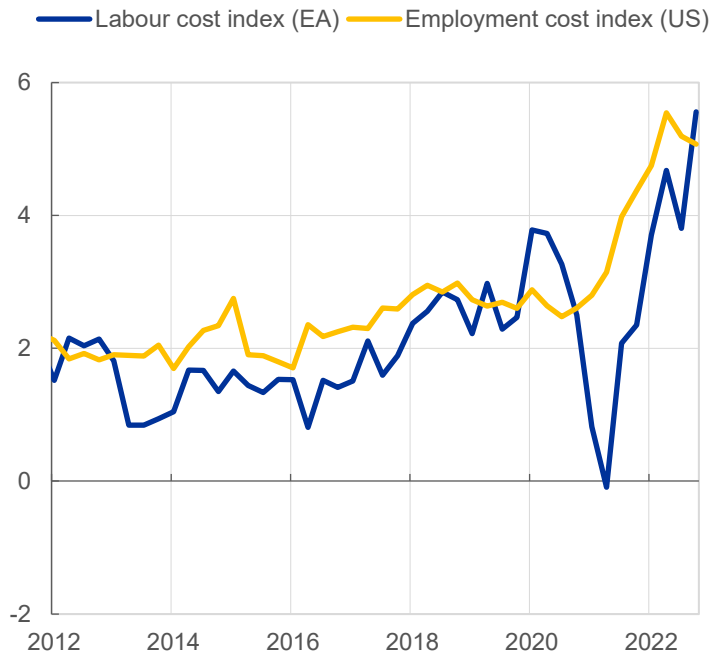
# Strong labour markets with rapid pick-up in wage growth

## Unemployment (percent)



Sources: Bureau of Labor Statistics and ECB staff calculations.  
Notes: The dashed line refers to the long-term average (2010-2019).  
Latest observation: December 2022 (EA) and February 2023 (US).

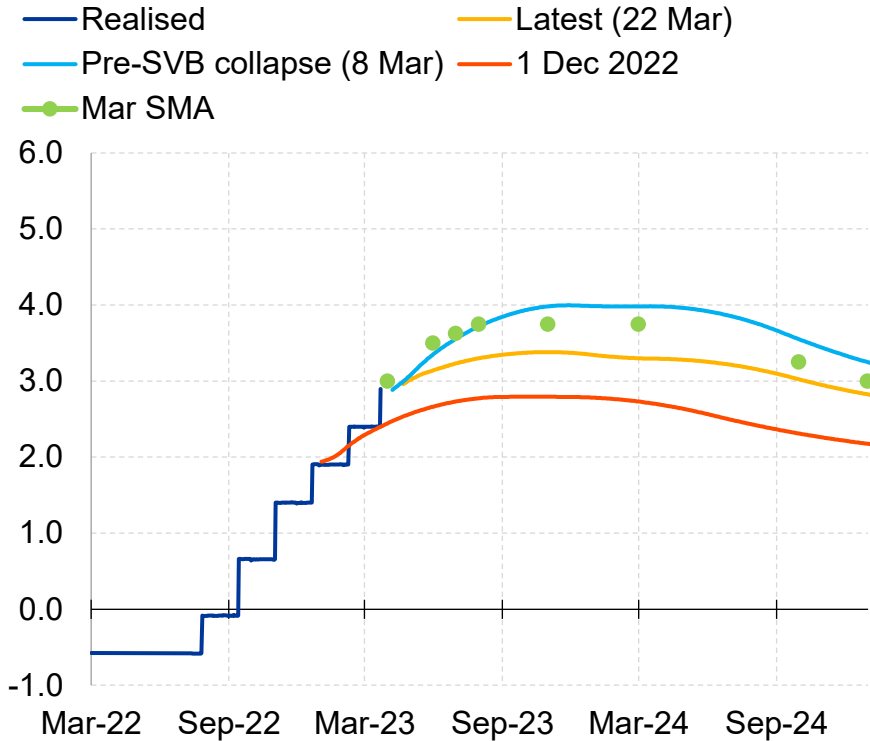
## Wage developments (annual percentage change)



Sources: Eurostat, Bureau of Labor Statistics and ECB calculations.  
Latest observation: 2022 Q4.

# Sharp repricing of rate expectations due to persistent inflation and financial instability

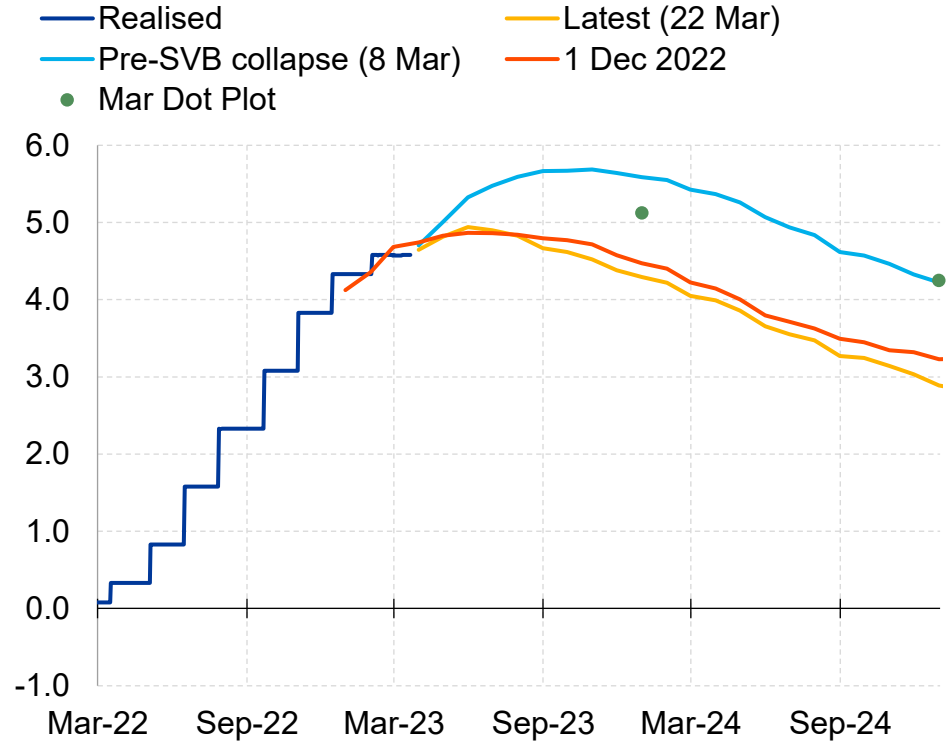
## EA nominal OIS forward curve (percent)



Sources: Bloomberg, ECB calculations.

Notes: Chart refers to realized and forward €STR levels. SMA refers to the expected level of deposit facility rate (DFR). Latest observation 22 March 2023.

## US nominal OIS forward curve (percent)



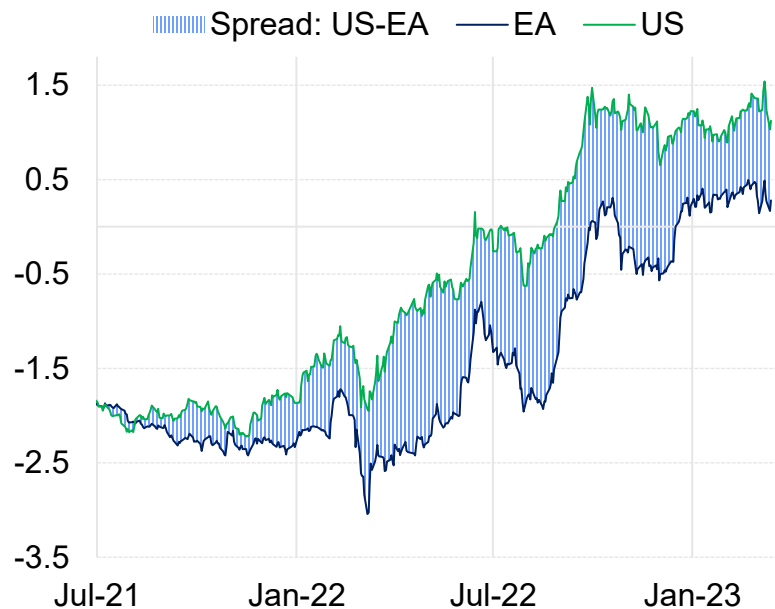
Sources: Bloomberg, ECB calculations.

Notes: Chart refers to realized and forward fed funds rate level. Latest observation 22 March 2023.

# Rising real rates from very low levels with stable sovereign spreads in the euro area

## 5-year real OIS rates: EA vs US

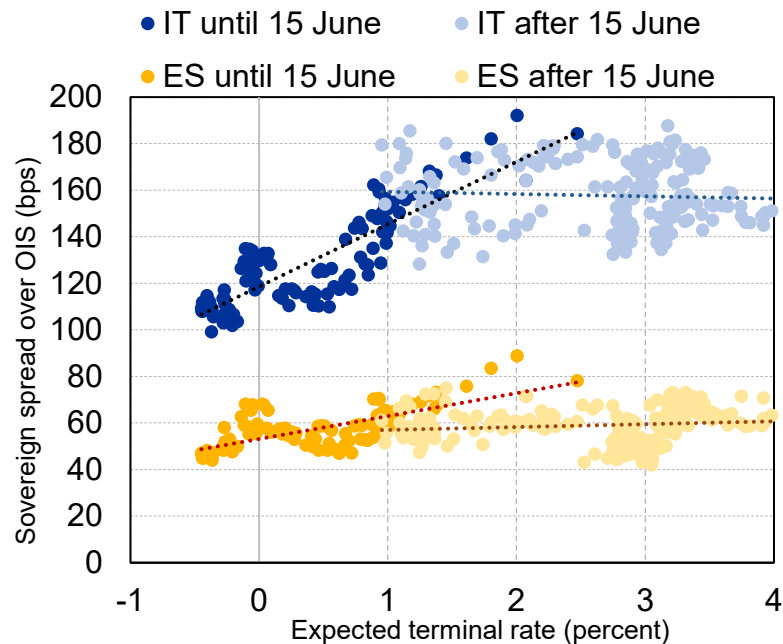
(percent)



Sources: Bloomberg.  
Latest observation: 22 March 2023.

## Sensitivity of sovereign spreads to risk-free rate expectations

(basis points, percentage)

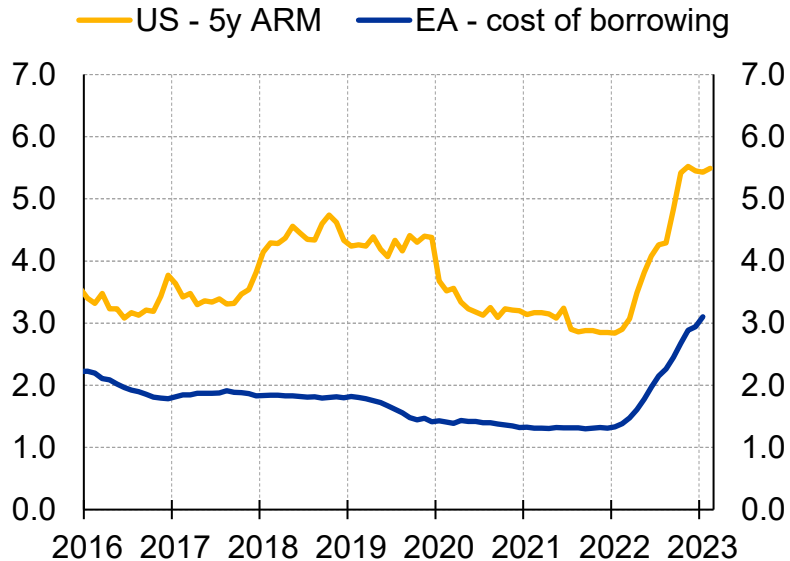


Sources: Bloomberg and ECB calculations. \* This chart shows the relationship between the spread of selected sovereign 10-year benchmarks over the 10-year EA OIS rate (y-axis) versus the outright level of the ESTR OIS forward covering the 8th ECB maintenance period from today (%). The chart differentiates between the period from the start of 2022 until 15 June 2022 (ECB announcement on activation of PEPP flexibility and work on an anti-fragmentation instrument) and the period thereafter. Latest observation: 22 March 2023.



# Higher bank lending rates eventually translate into lower loan growth

## Mortgage rates (percentages per annum)

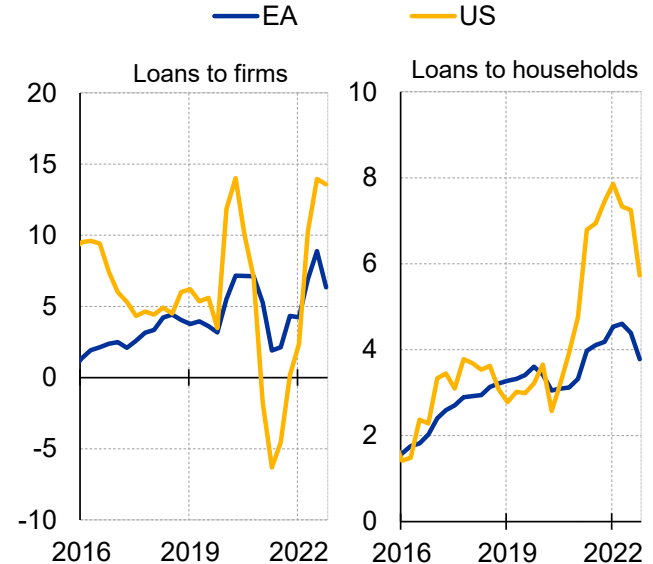


Sources: ECB, Wall Street Journal and ECB calculations.

Notes: "5y ARM" stands for 5-year adjustable mortgage rate. For the euro area, the cost of borrowing indicator is calculated as a weighted average of MFI interest rates on short-term and long-term loans to households for house purchase, where the new business volumes used are smoothed with a moving average of the previous 24 months' observations.

Latest observation: February 2023 for the US, January 2023 for the euro area.

## Bank loans broken down by borrower (annual percentage changes)



Sources: ECB (Balance Sheet Statistics), Federal Reserve Board (Flow of Funds) and ECB calculations.

Notes: In the euro area, loans are adjusted for loan sales and securitization as well as positions arising from notional cash pooling services provided by MFIs.

Latest observation: 2022 Q4.

# Financial turbulence has notable effects in markets, but so far mainly on financial firms

## Equity prices

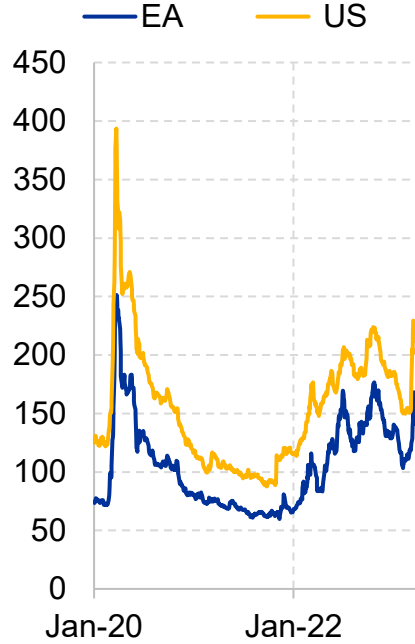
(Index levels, Jan 2022 = 100)



Sources: Refinitiv Eikon, ECB calculations. Notes: Based on Datastream total market and non-financial sector indices. Daily data. Last observation: 24 March 2023.

## IG financials spreads

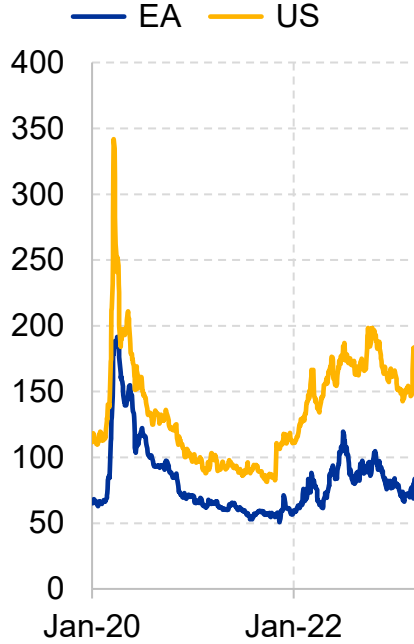
(basis points)



Sources: iBoxx, Bloomberg and ECB calculation. Latest observation: 24 March 2023.

## IG non-financials spreads

(basis points)



**Thank you very much for your attention!**