

Everything everywhere all at once: responding to multiple global shocks

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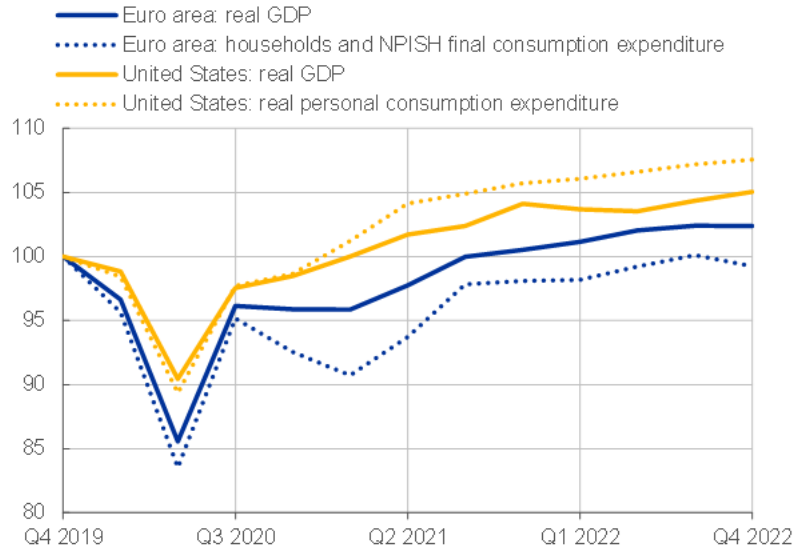
Speech at a panel on “Global shocks, policy spillovers and geo-strategic risks: how to coordinate policies” at The ECB and its Watchers XXIII Conference

Frankfurt, 22 March 2023

Chart 1

Evolution of real GDP and private consumption in the euro area and the United States

(index: Q4 2019 = 100)



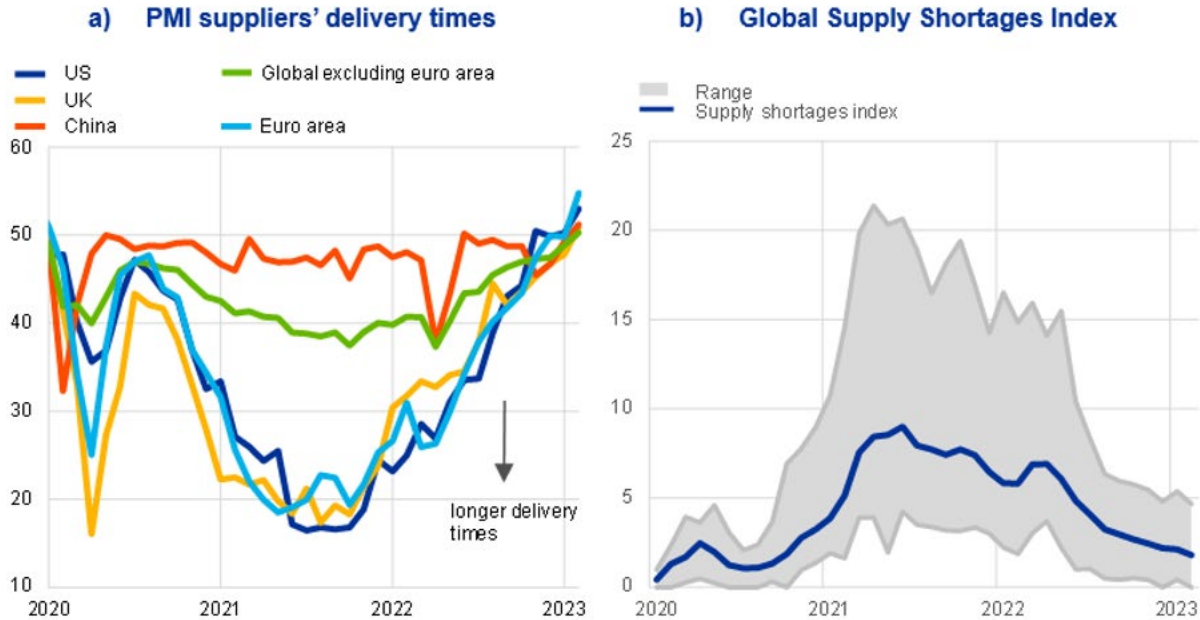
Sources: Eurostat, FRED and ECB staff calculations.

Note: NPISH stands for "non-profit institutions serving households".

Chart 2

Easing of supply chain bottlenecks

(diffusion indices)



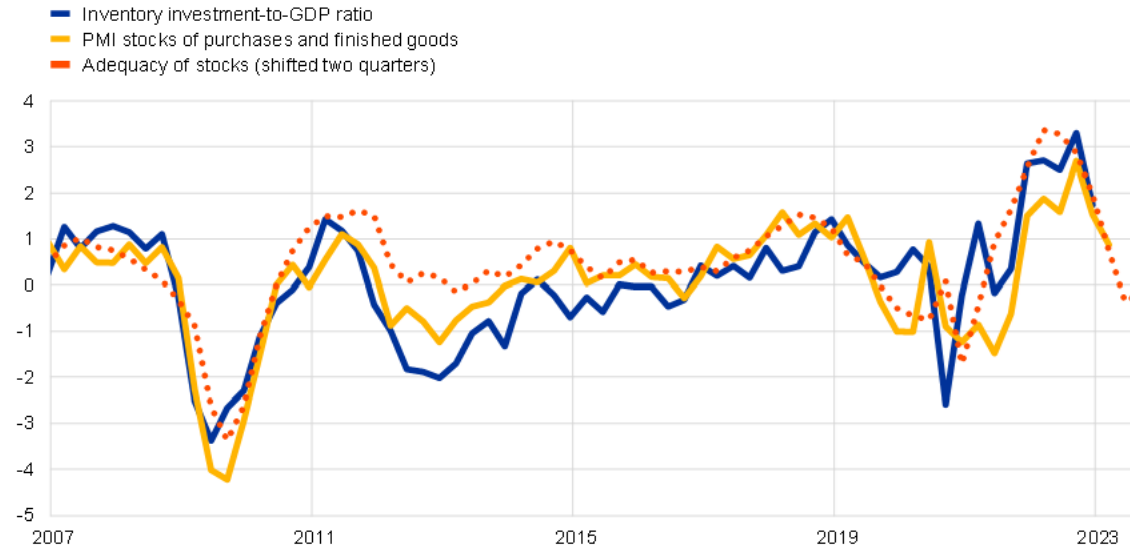
Sources: S&P Global, Markit and ECB staff calculations.

Notes: The Global Supply Shortage Index measures how many selected items have been in short supply against their long-run average for each month. The long-run average refers to value 1 of the index. The shaded area refers to the 5th-95th percentile range across 20 items (e.g. chemicals, electrical items, packaging, steel and textiles). The latest observations are for February 2023.

Chart 3

Inventory-to-GDP ratio and related survey indicators in the euro area

(standard deviation from historical (1999-2019) mean)



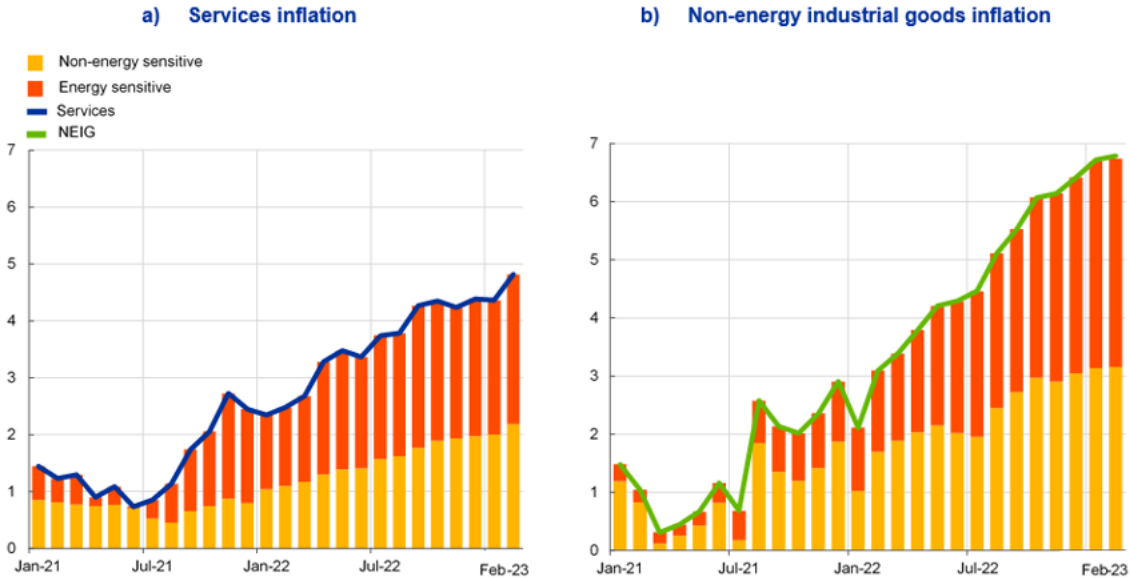
Sources: Eurostat (inventory investment-to-GDP ratio), S&P Global (PMI stocks of purchases and finished goods), European Commission (adequacy of stocks) and ECB calculations.

Note: The latest observations are for the fourth quarter of 2022 for the inventory investment-to-GDP ratio and the first quarter of 2023 for PMI stocks and adequacy of stocks.

Chart 4

Contributions of energy-sensitive components to goods and services inflation in the euro area

(annual percentage changes and percentage point contributions)



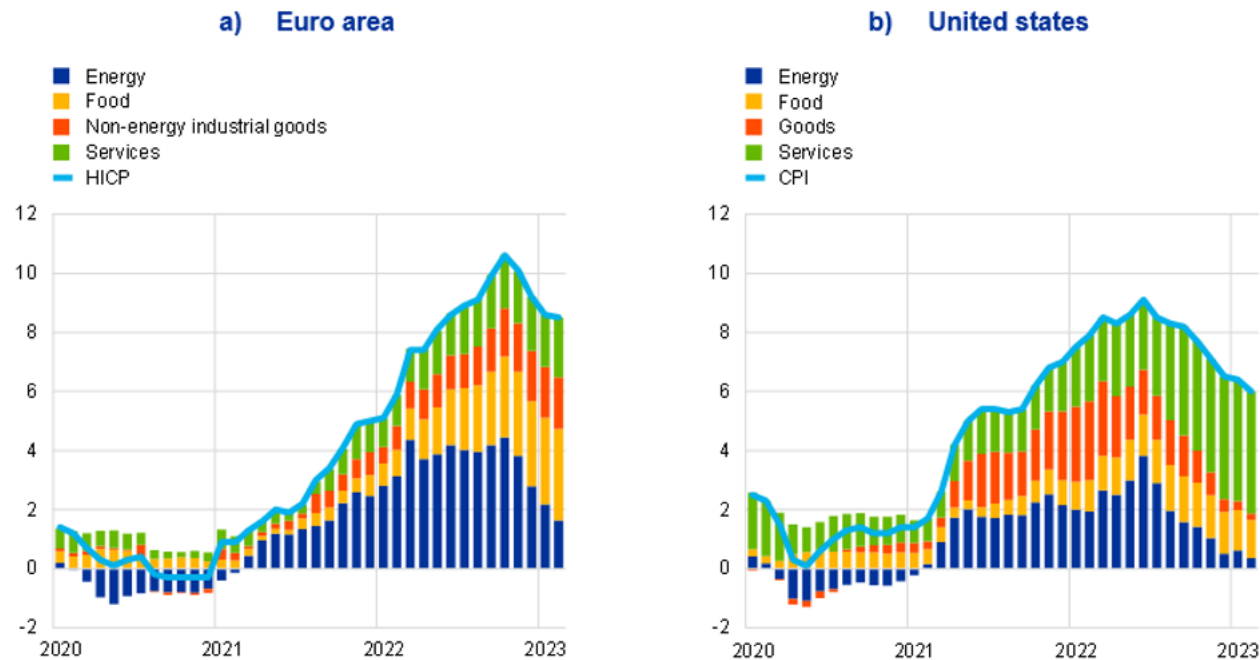
Sources: Eurostat and ECB staff calculations.

Notes: The term "energy-sensitive component" reflects items with a share of energy in direct costs above the average share of energy across services items (panel a) and non-energy industrial goods (NEIG) items (panel b). The latest observations are for February 2023.

Chart 5

Headline inflation and components in the euro area and the United States

(annual percentage changes and percentage point contributions)



Sources: Eurostat, US Bureau of Labor Statistics and ECB calculations.

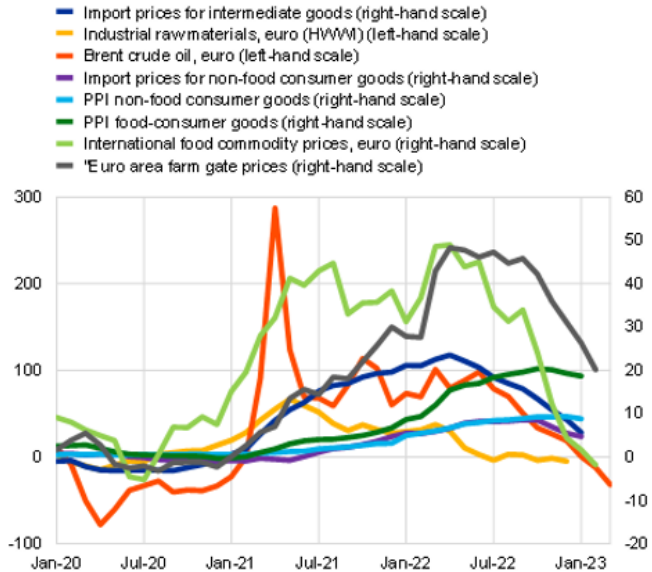
Note: The latest observations are for February 2023.

Chart 6

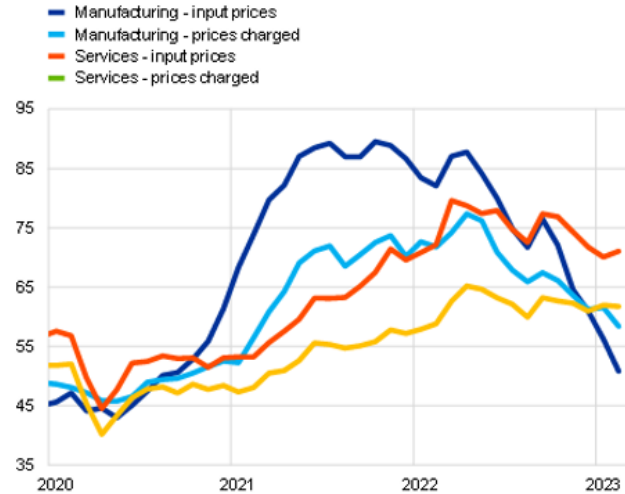
Pipeline pressures and input/output prices

(panel a): annual percentage changes; panel b): diffusion index

a) Overview of pipeline measures



b) PMI input and output prices



Sources: panel a): Eurostat and Refinitiv and Hamburg Institute of International Economics (HWWI), panel b): Markit.

Notes: Panel a): For Brent crude oil in euro, the monthly value represents the average of the data available (working days up to the day of the update). The latest observations are for 15 March 2023 for Brent crude oil in euro, February 2023 for euro area farm gate prices and international food commodity prices and January 2023 for the other items. Panel b): The latest observations are for February 2023.

Chart 7

Labour markets are still tight

(panel a): percent; panel b): annual percentage changes)



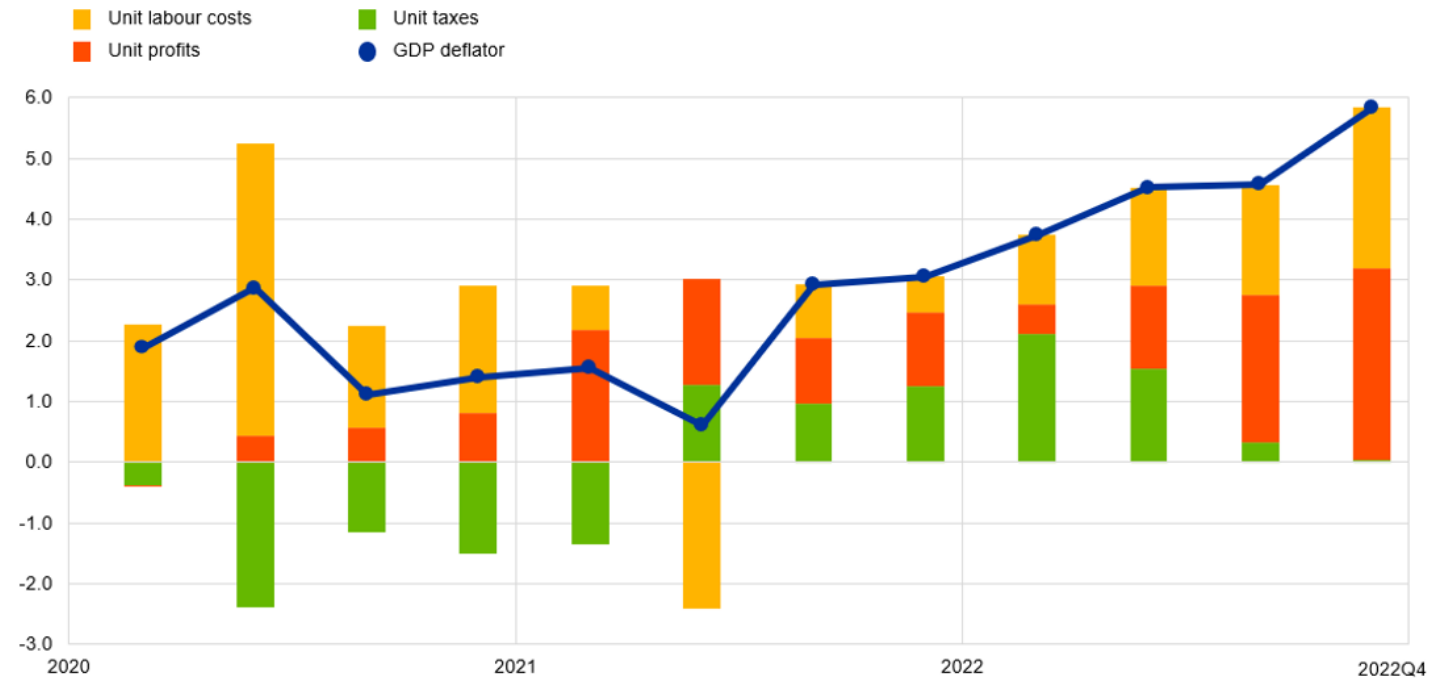
Sources: OECD, Haver and ECB calculations.

Notes: Panel a): the OECD aggregate for the vacancy ratio is based on the United States, United Kingdom, Japan, South Korea, euro area (excluding Italy), Canada, Sweden, Switzerland, Poland, Romania, Czech Republic, and Hungary. The dashed lines refer to long-term averages (2010-2019). The latest observations are for the third quarter of 2022 for the vacancy ratio and the fourth quarter of 2022 for the unemployment rate. Panel b): wage growth series are not harmonised, so comparability across country data is limited. Wages refer to average hourly wages for the United States and Canada and to average weekly regular earnings (excluding bonuses) for the United Kingdom. For the euro area and Japan, wage data track negotiated and scheduled wages respectively. The long-term average refers to 2010-2019. The latest observations are for February 2023 for the United States and Canada, January 2023 for Japan and the United Kingdom and December 2022 for the euro area.

Chart 8

GDP deflator at market prices

(annual percentage changes; percentage point contributions)



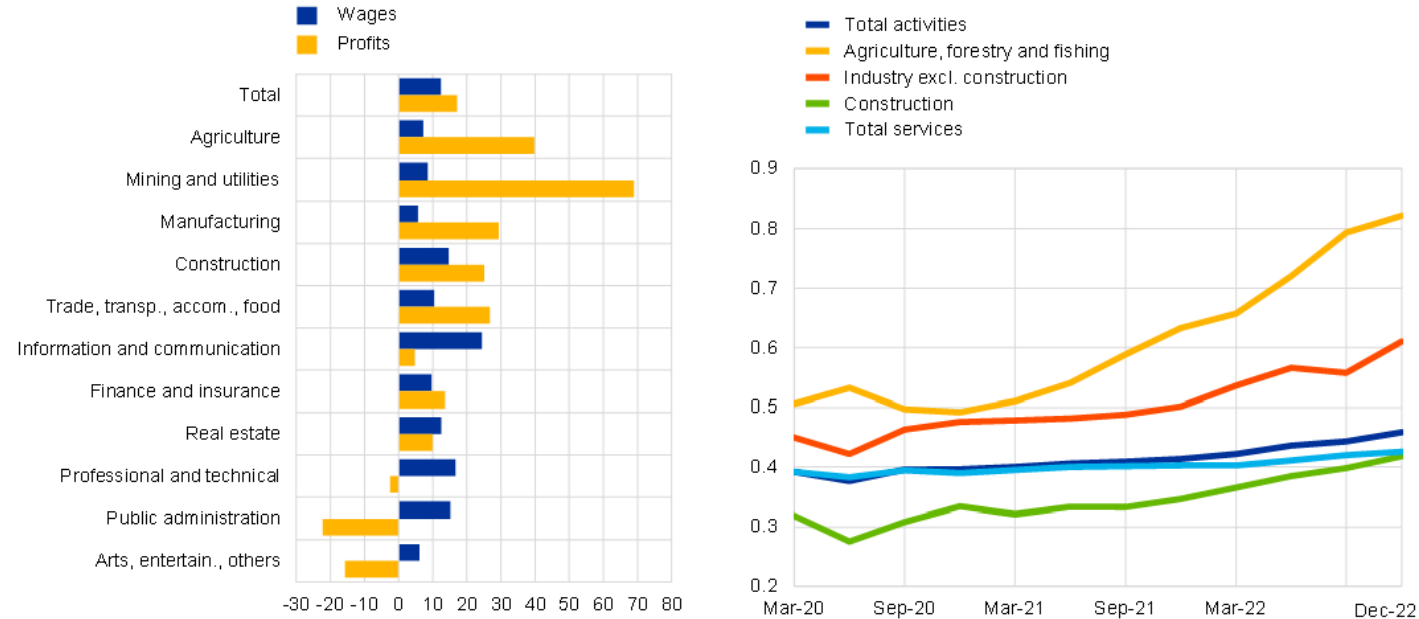
Sources: Eurostat and ECB calculations.

Note: The latest observations are for the fourth quarter of 2022.

Chart 9

Sectoral wage and profit developments

(left-hand panel: percentage change from Q4 2019 to Q4 2022; right-hand panel: gross operating surplus over real value added, level)



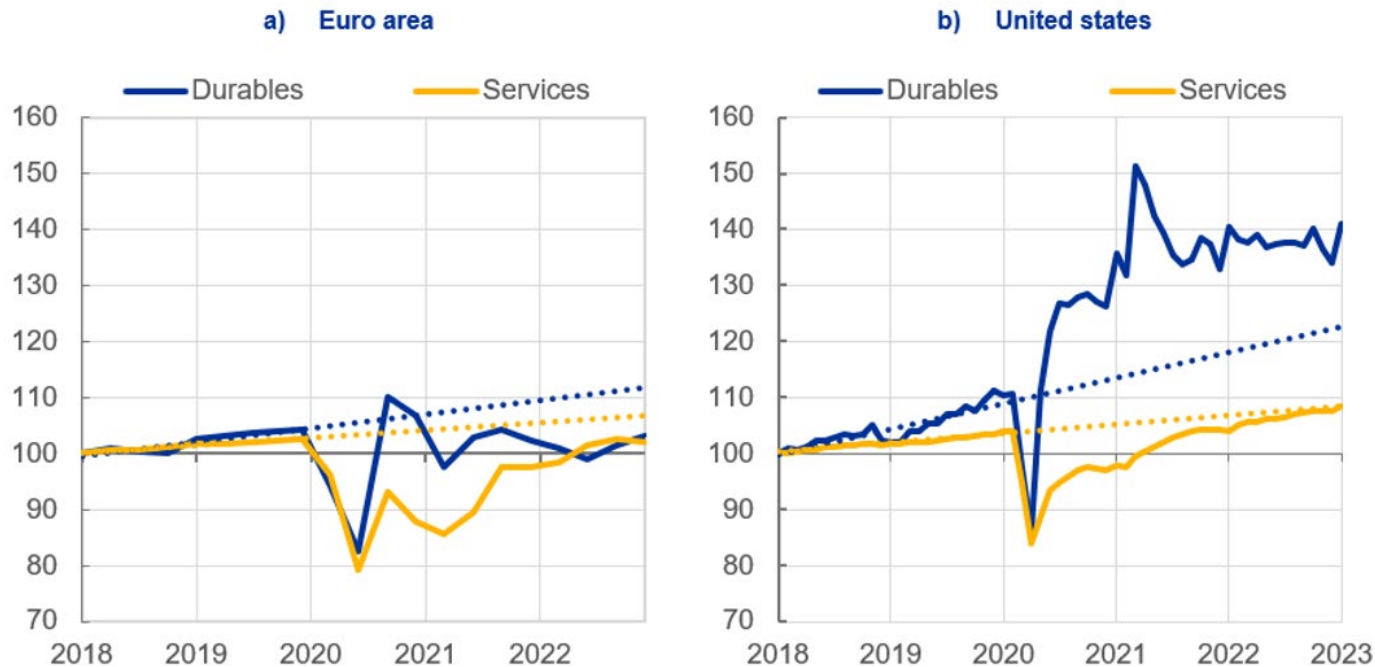
Sources: Eurostat and ECB calculations.

Notes: Wages refer to compensation of employees, and profits to gross operating surplus. Income for self-employed people is included in wages. The latest observations are for the fourth quarter of 2022.

Chart 10

Individual consumption – durables and services

(panel a): index: Q1 2018 = 100; panel b): January 2018 = 100)



Sources: ECB and Federal Reserve System.

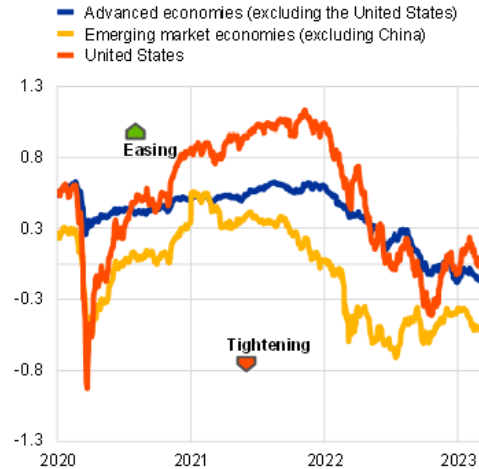
Notes: Dotted lines denote the linear trend (from the first quarter of 2018 to the fourth quarter of 2019). Durables and services for the euro area are approximated using a bottom-up aggregation of available country-level data.

Chart 11

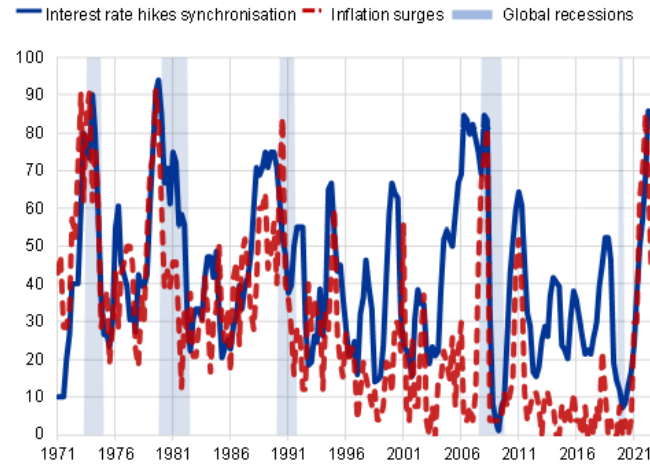
Global tightening of financing conditions

(panel a): standardised indices; panel b): percentages of countries)

a) Financial conditions indices



b) Inflation surges, rate hikes synchronisation and global recessions



Sources: Panel a) Refinitiv Datastream and ECB staff calculations; Panel b) Haver and ECB staff calculations.

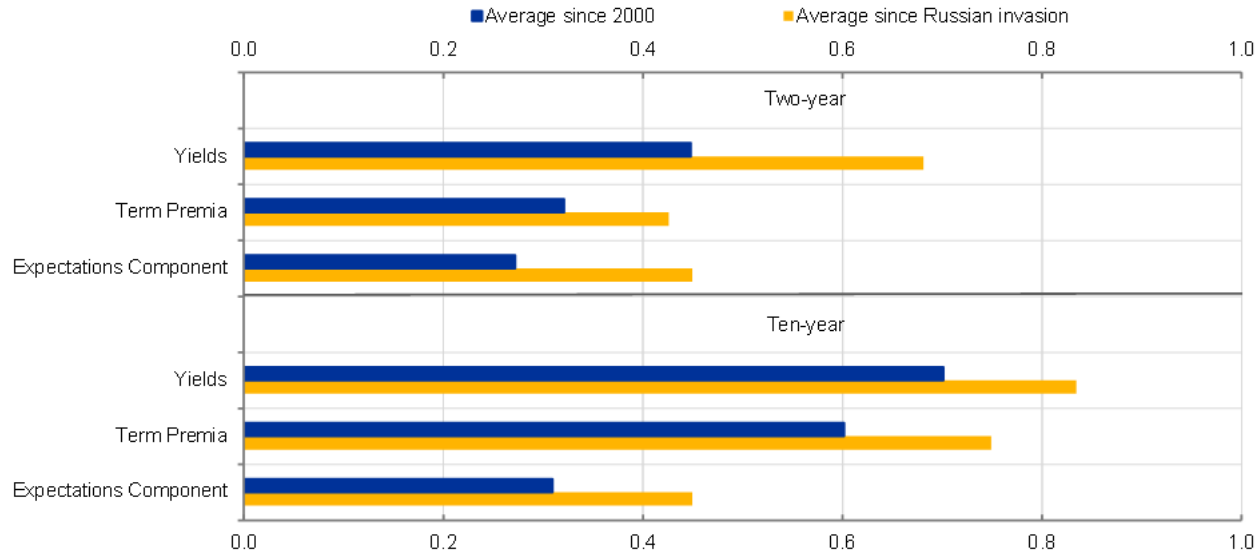
Notes: Panel a): Country-level indices are aggregated as a weighted average using GDP purchasing power parity percentage shares. An increase reflects loosening financial conditions. A decrease reflects tightening financial conditions. The latest observations are for 17 March 2023.

Panel b): The global "inflation surges" index shows the share of countries which, at time t , are experiencing contemporaneously (1) year-on-year inflation that is higher than the time $t-1$ and (2) year-on-year inflation that is above a certain threshold. In this case, the threshold is given by the average of the year-on-year inflation in the post-Volcker period, from the first quarter of 1984 to the fourth quarter of 2022. The global "rate hikes synchronisation" index is constructed using BIS data on policy rates set by central banks and shows the share of countries that are tightening at time t . Both the indices cover 30 countries across advanced economies and emerging market economies. Global recessions are periods with (1) an annual world GDP per capita that is negative or close to zero, and (2) a high share of countries in a technical recession. The latest observations are for the fourth quarter of 2022.

Chart 12

Global component in yields

(correlation coefficients)



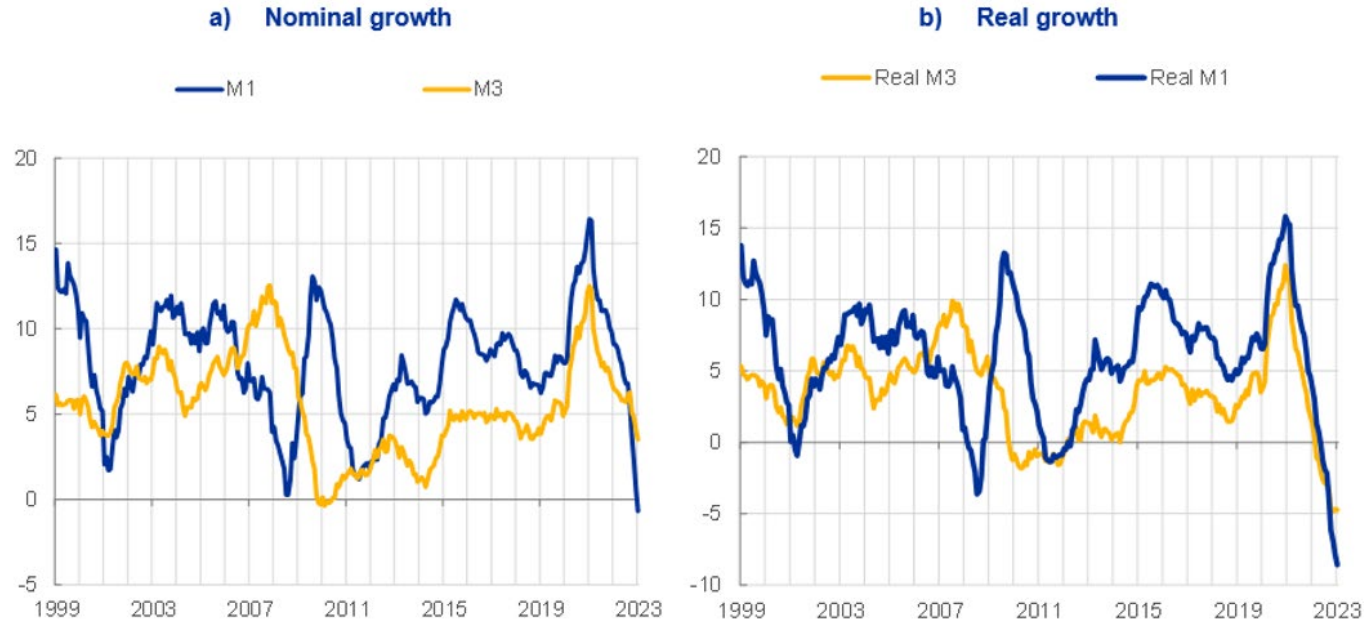
Sources: Datastream and Haver Analytics.

Notes: The sample consists of ten advanced economies (Australia, Canada, Denmark, euro area, Japan, New Zealand, Sweden, Switzerland, United Kingdom and United States). The bilateral correlation coefficients are averaged across these countries and time periods. The term premia and expectations components are the average of estimates from three models (dynamic Nelson-Siegel, rotated dynamic Nelson-Siegel and dynamic Svensson-Soderlind). The latest observations are for 9 March 2023.

Chart 13

Growth of monetary aggregates M1 and M3 in the euro area and the United States

(annual growth rates, percentages)



Sources: Panel a): ECB (BSI); panel b): ECB (BSI and ICP).

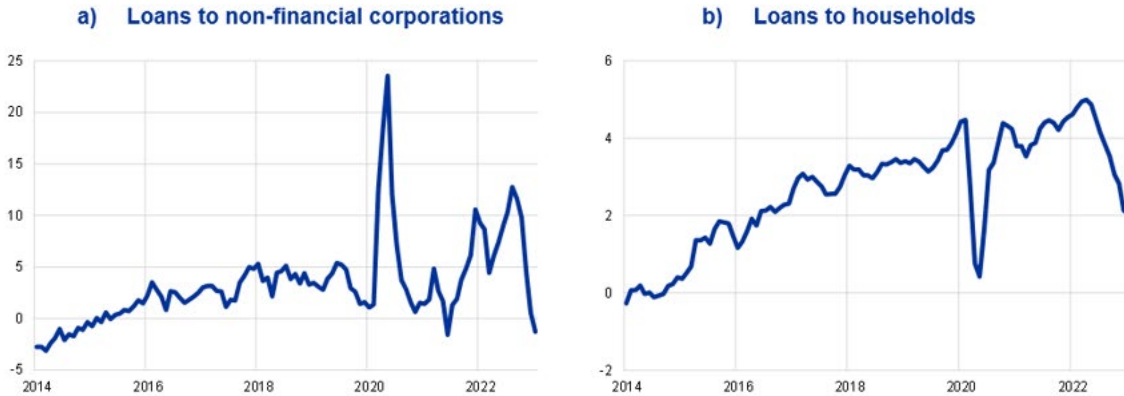
Notes: Solid lines show the annual growth rates of the index of notional stocks, i.e. a measure of flows normalised by outstanding amounts in the previous month. With this method, valuation changes and reclassifications are excluded from the computation of annual growth rates, and thus jumps in the annual growth series are avoided.

Dotted lines show the annual growth rates of outstanding amounts. This method avoids the risk of distortion in the ratio of the money stock over price index that is implicit in the calculation of the real rates. In panel b), M3 and M1 are deflated by the HICP index. The latest observations are for January 2023.

Chart 14

Credit growth in the euro area

(three-month annualised percentage changes, seasonally adjusted)



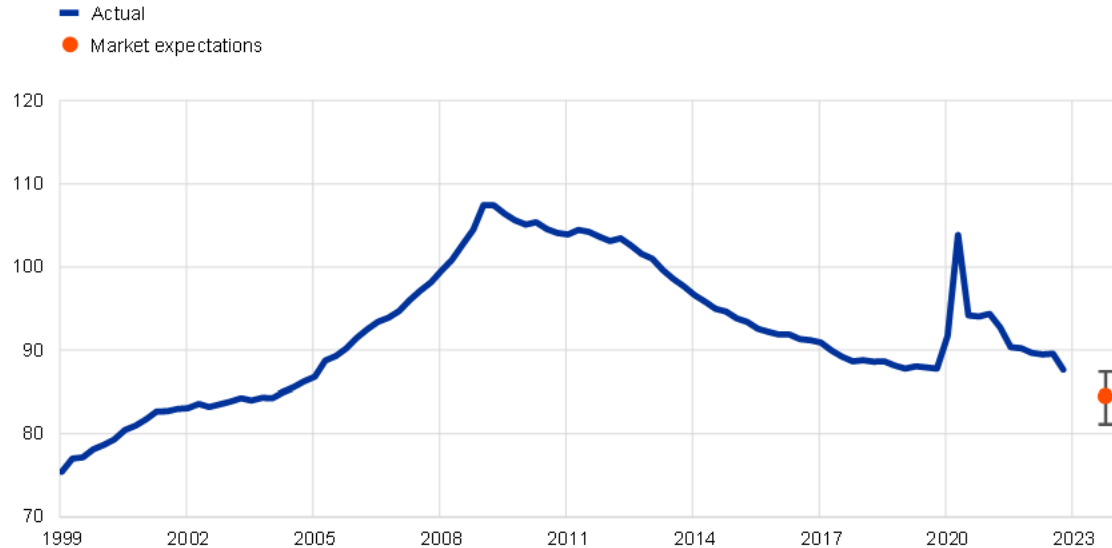
Source: ECB (BSI).

Notes: In panel a), MFI loans are adjusted for sales, securitisation and cash pooling activities. In panel b), MFI loans are adjusted for sales and securitisation. The latest observations are for January 2023.

Chart 15

Bank loans to the non-financial private sector in the euro area

(percentages of GDP)



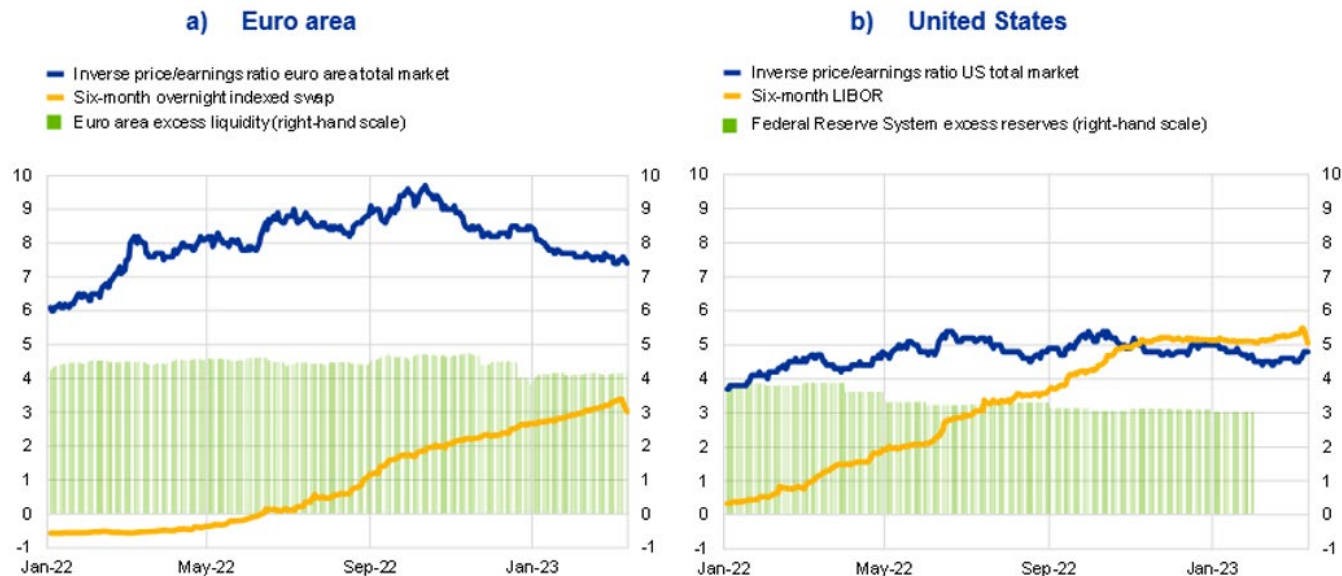
Sources: ECB (BSI, MNA), Refinitiv (I/B/E/S), ECB projections, individual banks' financial statements and ECB calculations.

Notes: The orange marker shows the median forecast for year-end 2023, and the whiskers represent values within one standard deviation around the median (10th and 90th percentiles), as reported by market analysts and sourced through I/B/E/S. The distribution is weighted by realised loan volume for each bank as of year-end 2022 and based on an underlying sample of 143 forecasts covering 44 banks, submitted between 20 January and 10 March 2023. In each quarter, GDP is calculated by multiplying quarterly, seasonally adjusted flows by four; the figure for 2023 is based on the March 2023 ECB staff macroeconomic projections for the euro area. The latest observations are for the fourth quarter of 2022 for BSI and MNA, while market expectations refer to the fourth quarter of 2023.

Chart 16

Inverse price/earnings ratio, six-month risk-free rate and excess reserves in the euro area and the United States

(left-hand scale: percentage points, right-hand scale: EUR trillions)



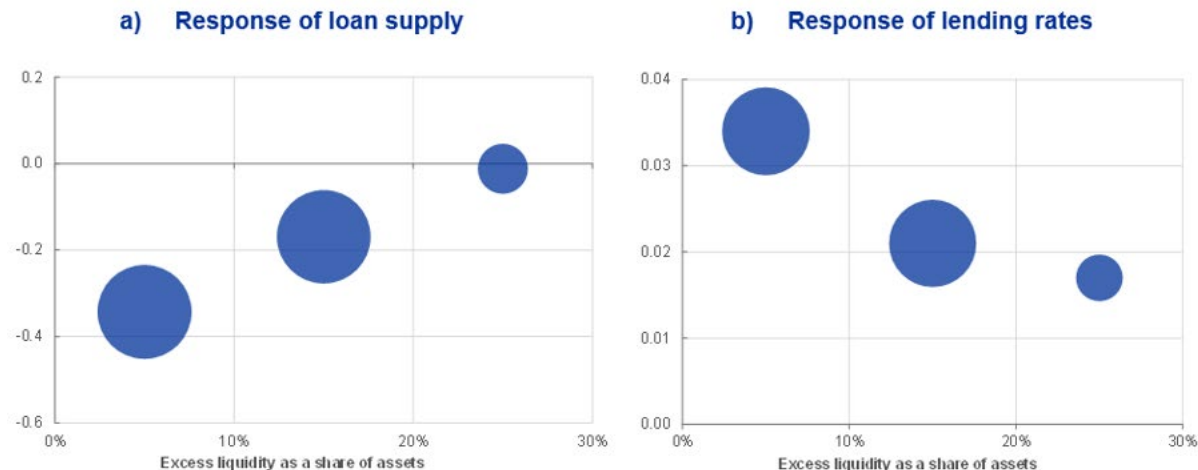
Sources: Panel a): Refinitiv and ECB calculations; panel b): Refinitiv, Federal Reserve, and ECB calculations.

Notes: The inverse price/earnings ratio is a gauge of the earnings yield of holding stocks, shown here in comparison to risk-free rates. In panel a), excess liquidity is calculated as banks' current account and deposit facility holdings minus their minimum reserve requirements. In panel b), excess reserves are calculated as reserves of depository institutions minus required reserves (the latter are set to zero in 2020). The latest observations in panel a) are 13 March 2023 for financial market data and 8 March 2023 for excess liquidity. The latest observations in panel b) are 13 March 2023 for financial market data and January 2023 (monthly data) for excess reserves.

Chart 17

Response of loan supply and lending rates to a policy rate hike by level of excess liquidity

(percentage points of supply-driven loan growth (panel a) and change in lending rates (panel b) over three months for each percentage point increase in the deposit facility rate; size of bubbles equal to volumes of loans to firms)



Sources: Panel a): ECB (AnaCredit, iBSI, MOPDB) and ECB calculations; panel b): ECB (AnaCredit, iBSI, iMIR, MOPDB) and ECB calculations.

Notes: Supply-driven loan growth at the bank level is identified applying the methodology of Mary Amiti and David Weinstein to the euro area credit register (see Amiti, M. and Weinstein, D. (2018), "How Much Do Idiosyncratic Bank Shocks Affect Investment? Evidence from Matched Bank-Firm Loan Data", *Journal of Political Economy*, Vol. 126, No 2, pp. 525-587. The chart reports coefficients from regressions of the supply-driven loan growth (panel a) and bank-level changes in new lending rates to firms (panel b) three months ahead on the level of excess liquidity interacted with the change in the deposit facility rate over the same period, distinguishing between observations before and after December 2021 and with the excess liquidity-over-assets ratio between the levels indicated on the x-axis. The specification includes bank and country time fixed effects and controls for bank assets. The size of the bubbles measures the outstanding amounts of loans to firms for banks belonging to each category. The latest observations are for November 2022.

Thank you for your attention!