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The banking channel of monetary policy tightening in the euro area

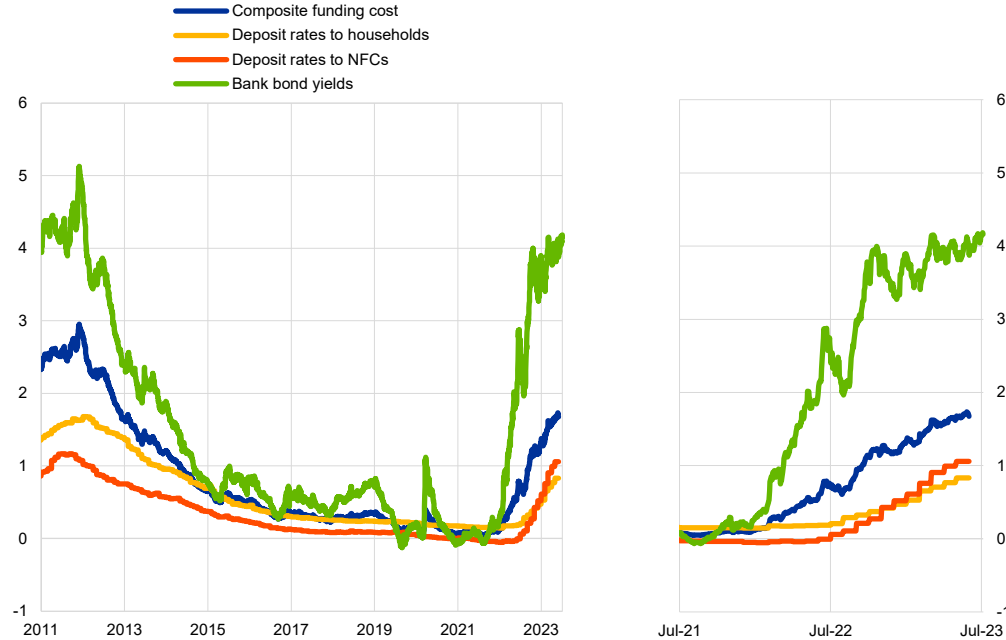
NBER Summer Institute 2023 Macro, Money
and Financial Frictions Workshop

Cambridge, 12 July 2023

- 400 basis points cumulative increase in policy rate
- ECB Balance Sheet Shrinkage: TLTROs; APP
 - Policy Rates; Yield Curve
 - Balance Sheet Channel; Bank Lending Channel; Risk-Taking Channel

- ❑ Permanent and cyclical components of shift in Monetary Policy
- ❑ Excess liquidity and Monetary Policy tightening
- ❑ Pandemic boost to household and corporate balance sheets
- ❑ Supply-driven inflation shock versus demand-driven

Euro area bank funding costs (percentages)



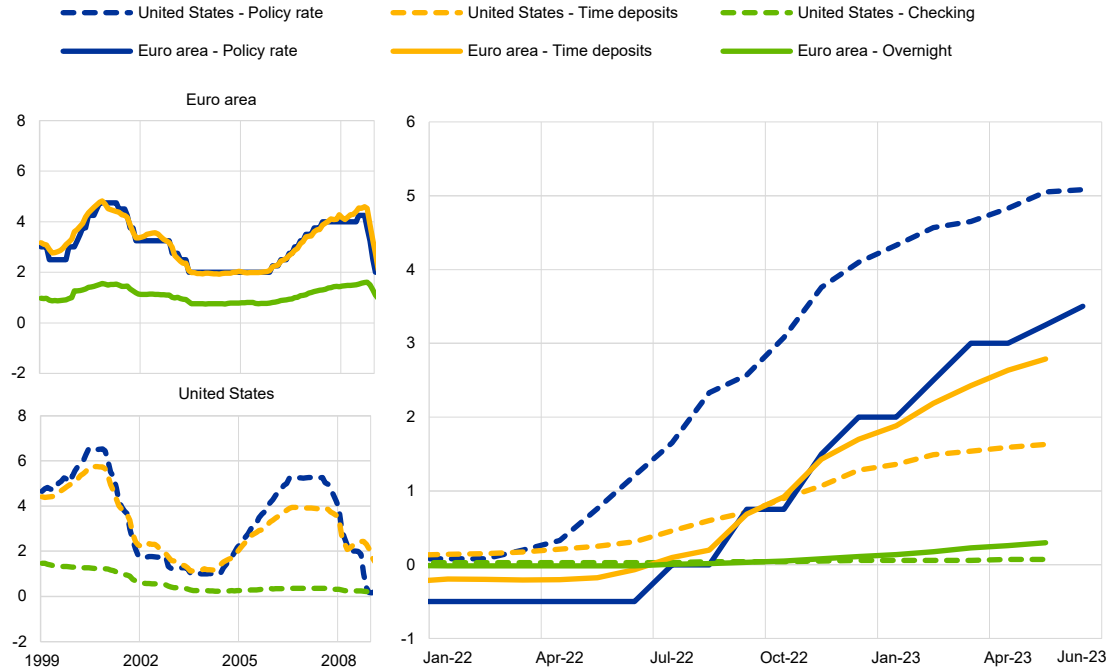
Sources: ECB (BSI, MIR), IHS Markit iBoxx and ECB calculations.

Notes: Daily bank bond yields. Monthly deposit rates on new business volumes weighted by outstanding amounts. Composite funding cost, calculated as a weighted average of the cost of deposits and market debt funding, with the respective outstanding amounts on bank balance sheets used as weights.

Latest observation: 4 July 2023 for bond yields; May 2023 for BSI and MIR.

Deposit rate pass-through in the euro area and the US

Deposit rate pass-through in the euro area and the US (percentages per annum)

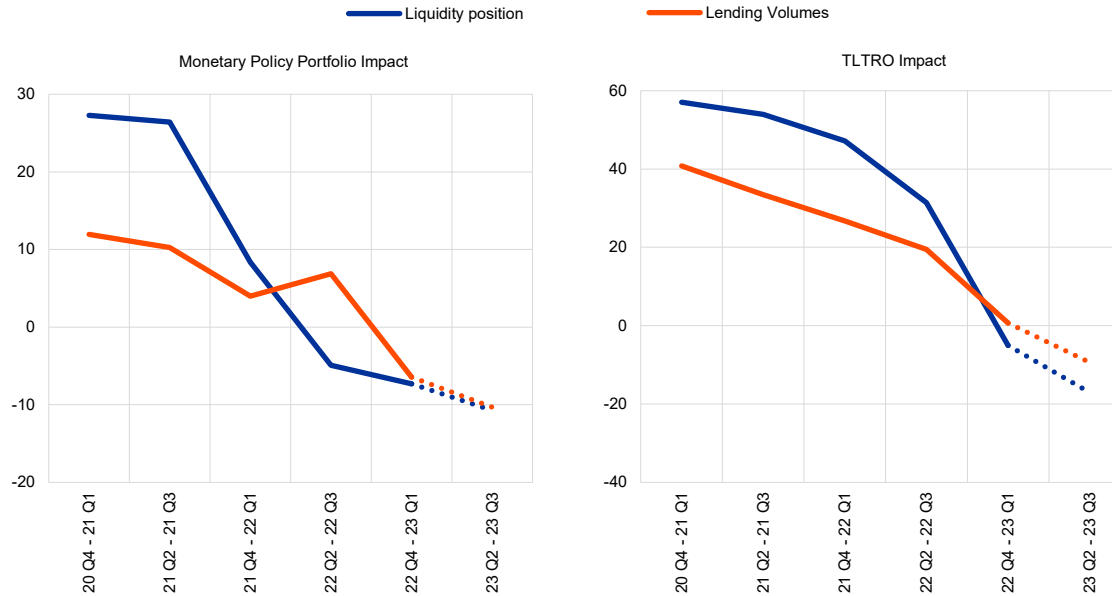


Sources: ECB (MIR, FM), RateWatch, FDIC and ECB calculations.

Notes: US policy rate is the Federal Fund Rate. Left-hand side panel: time deposits are the average rate on a 12-month CD with a minimum of \$10,000. Checking rates are the average rate on a \$2,500 minimum checking account. Right-hand side panel: time deposits are national rates on 12-month CD for non-jumbo deposits (<\$100,000). Checking rates are national rates on non-jumbo deposits. The ECB policy rate is the MRO up to May 2014 and the DFR thereafter.

Latest observation: June 2023 for policy rates; May 2023 for deposit rates.

Impact of the ECB's monetary policy asset portfolio and TLTRO-III on bank lending conditions (net percentages)



Sources: ECB Bank Lending Survey (BLS).

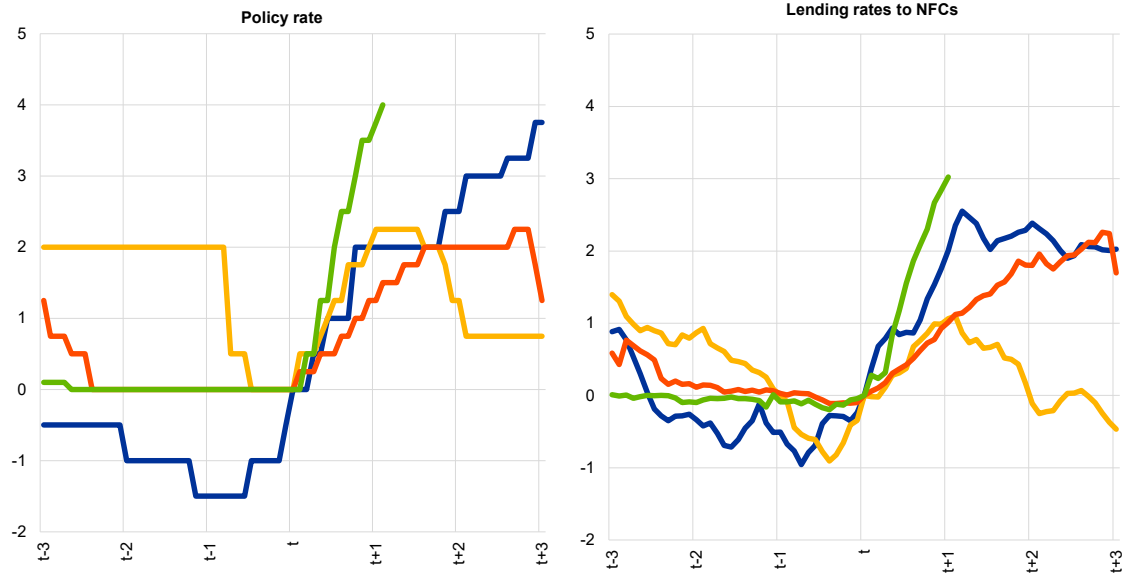
Notes: Chart shows the net percentage of banks reporting that changes in the ECB's monetary policy asset portfolio and TLTRO-III had (a) a positive impact on lending volumes and (b) contributed to an increase in their liquidity over the relevant six-month period. The final period denotes expectations.

Latest Observation: Bank Lending Survey 2023 Q1.

Lending rates to firms across hiking cycles

(x-axis: years; y-axis: cumulative changes in percentage points)

t= January 1989 t= October 1999 t= November 2005 t= May 2022



Sources: ECB (MIR) and ECB calculations.

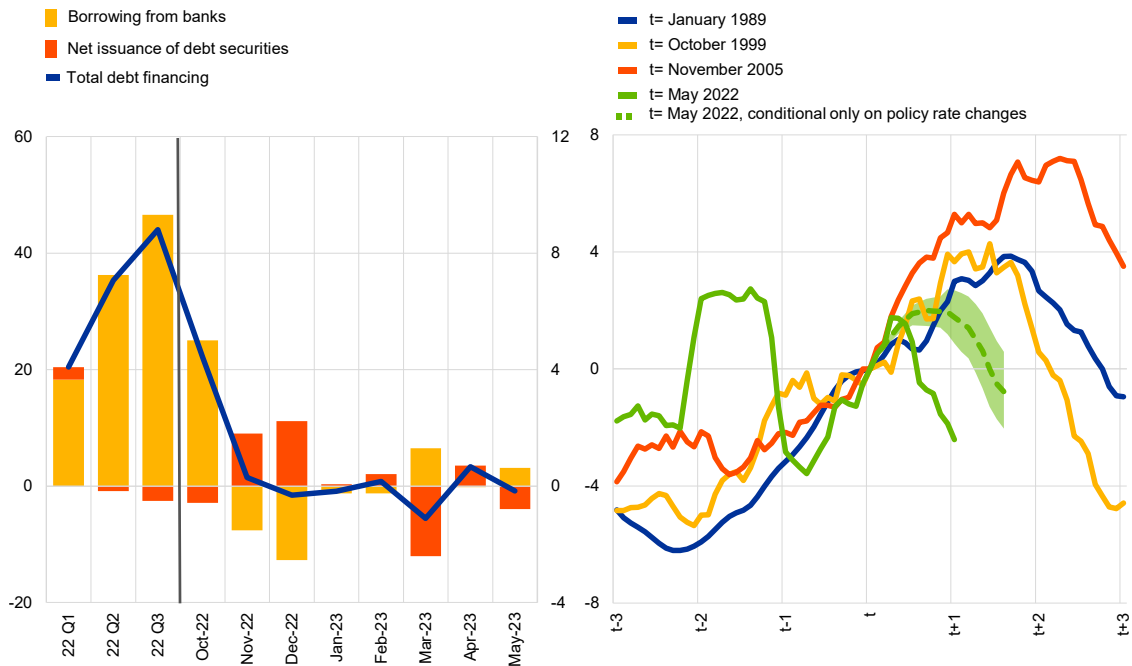
Notes: The ECB relevant policy rate is the Lombard rate up to December 1998, the MRO up to May 2014 and the DFR thereafter. t marks the start of each hiking cycle.

Latest observation: May 2023 for lending rates; June 2023 for policy rate.

Firm debt financing flows and lending volumes

Firm debt financing flows (left) and BVAR simulation of changes in lending volumes (right)

(left panel: average monthly flows in EUR bn, right panel: x-axis: years, y-axis: growth rate of credit in deviation from its growth rate at the start of the cycle (t), in percentage points)



Sources: ECB (BSI, CSEC) and ECB calculations.

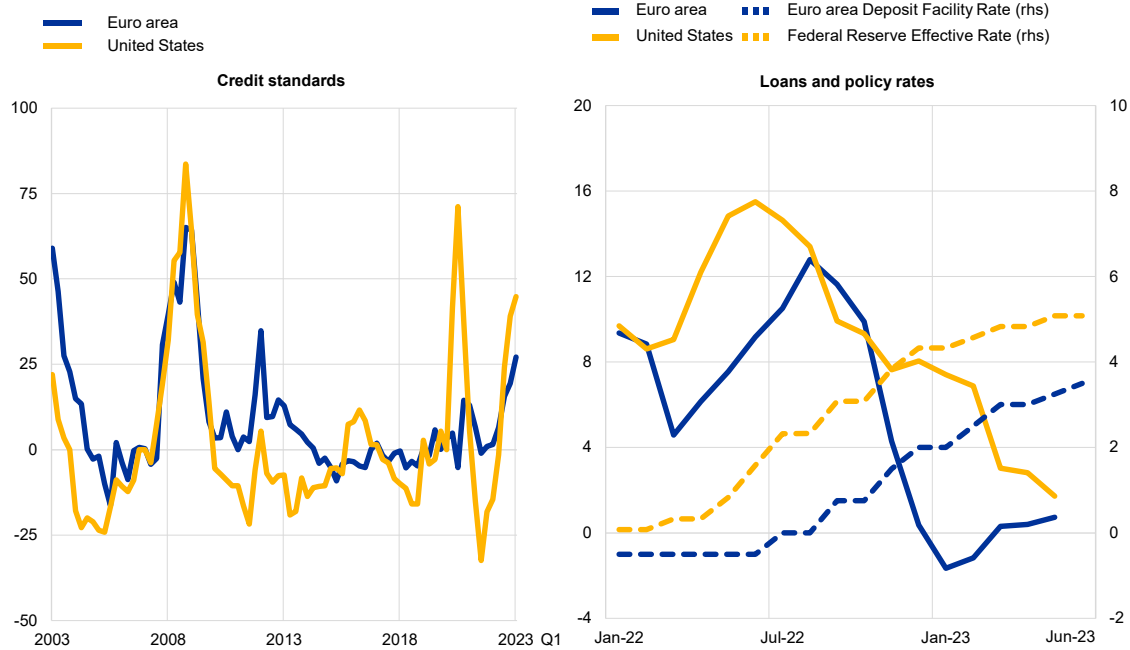
Notes: MFI loans are adjusted for sales and securitisation and cash pooling. The seasonal adjustment of the net issuance of debt securities is not official. Starting months correspond to the month immediately preceding the first hike or explicit announcement of the hike of the cycle. The dotted line corresponds to a BVAR counterfactual for lending volumes, taking December 2021 as the last observation and projecting volumes conditional on the path of monetary policy rates. The type of BVAR used is the one by Altavilla Giannone, Lenza (2016).

Latest observation: May 2023.

Changes in credit standards and corporate loan dynamics for US and EA

Changes in credit standards and corporate loan dynamics for United States and Euro area

(left panel: net percentages, right panel: left: 3-month annualised growth rates, right: percentages per annum)

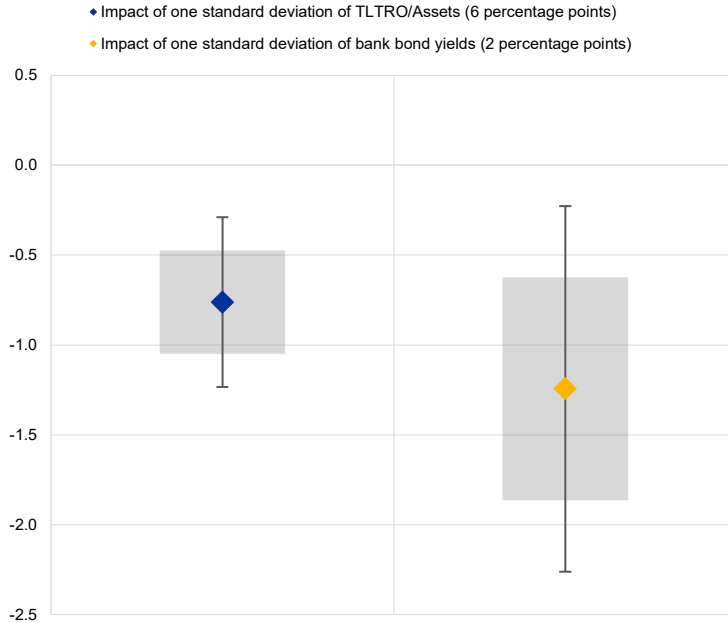


Sources: Haver analytics and ECB (BLS, BSI).

Notes: Credit standards for the US correspond to the Senior Loan Officer Opinion Survey on bank lending practices, net percentage of domestic respondents tightening standards for Commercial and Industrial loans for large and medium banks. The right-hand side panel shows loans and leases of domestically chartered banks for the US.

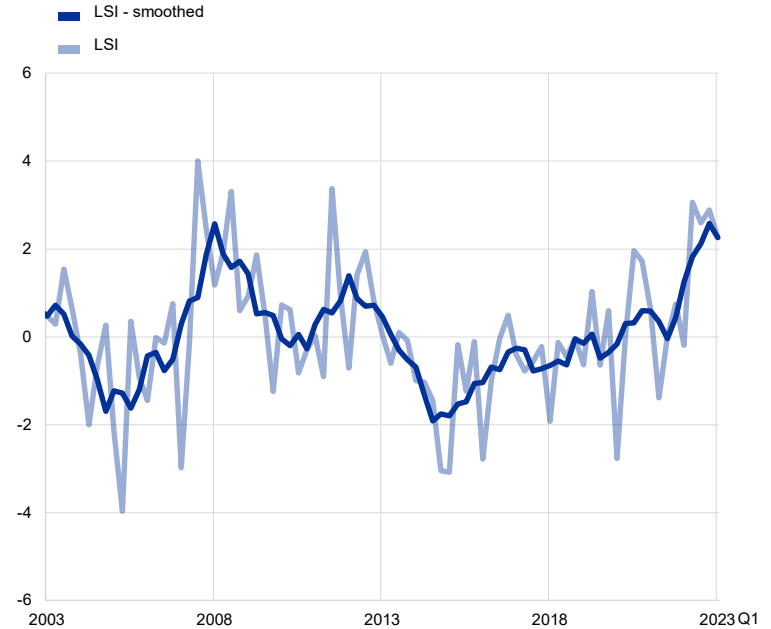
Latest observation: 2023 Q1 for credit standards, May 2023 for loans, June 2023 for rates.

Drivers of loan supply restrictions (percentage points)



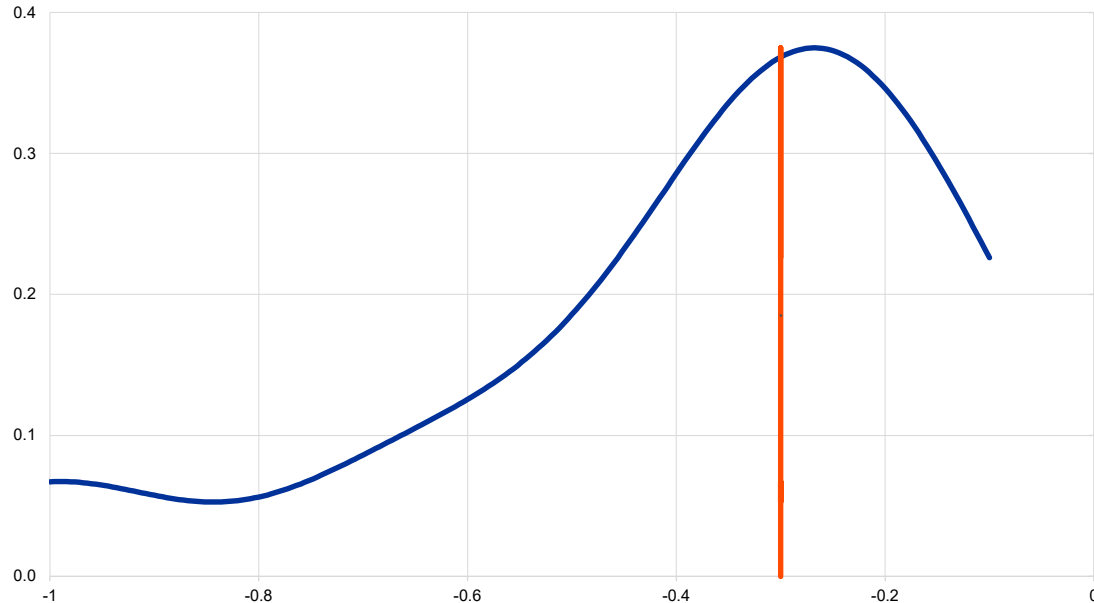
Sources: ECB (AnaCredit, iBSI, MOPDB), IHS Markit iBoxx, and ECB calculations.
 Notes: Coefficients from a regression of 3-months ahead loan supply shocks (as in Amiti and Weinstein 2018), on TLTRO over assets, and level of bank bond yields, and bank fixed effects and country-time fixed effects. Sample Dec-2019-Nov-2022. Standard error clustered at the country-time level.
 Latest observation: November 2022.

Loan Supply Indicator (LSI) (index)



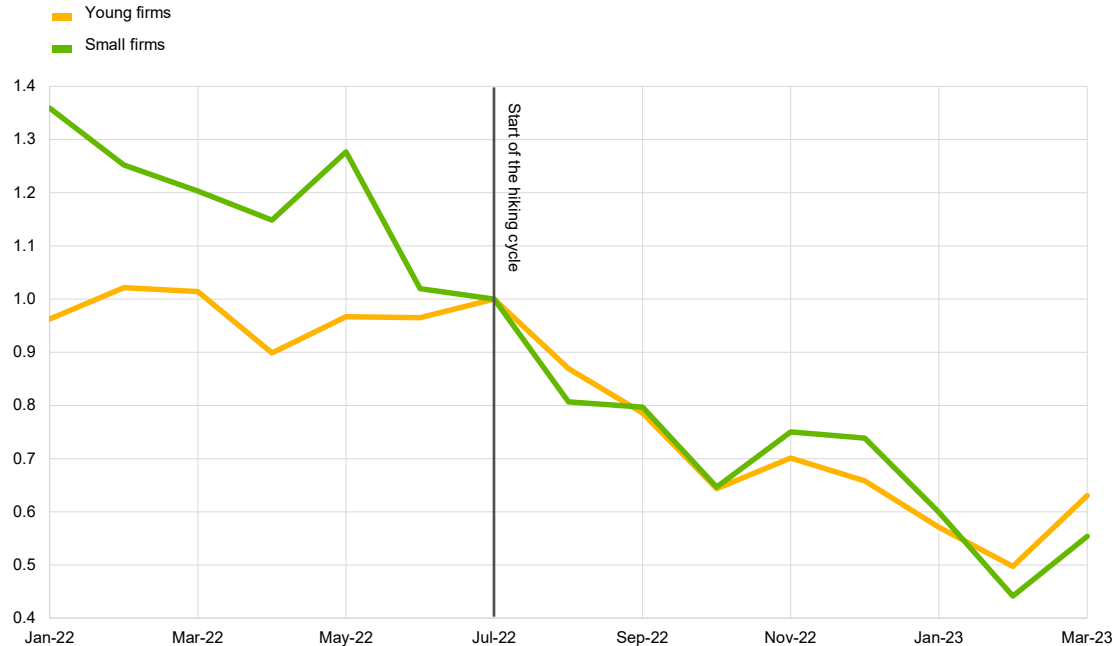
Sources: ECB calculations.
 Notes: The LSI uses the BLS NFC credit standards and purges it by demand and macro-financial pre-existing factors using the methodology described in Altavilla, C., Paries, M. D. and Nicoletti, G. (2019).
 Latest observation: 2023 Q1.

Impact of credit supply shock on real GDP (p.p.)



Sources: Gilchrist, S. and Zakrajsek, E. (2011); Barnett, W. A. and Thomas, R. L. (2014); Mumtaz, H., Pinter, G., and Theodoridis, K. (2018); Basset, C. et al. (2014); Altavilla, C., Darracq Paries, M., and Nicoletti, G. (2019); Chen, K., Higgins, P., and Zha, T. (2021); Gambetti, L. and Musso, A. (2017); Mendicino, C. et al. (2019); Jermann, U. and Quadrini, V. (2012); Gerali, A. et al. (2010); Darracq Paries, M., Kok Sorensen, C., and Rodriguez-Palenzuela, D. (2011); World Economic Outlook, IMF (2023); Barauskaitė, I. et al. (2022); Moccero, D. N., Darracq Paries, M., and Maurin, L. (2014); Ciccarelli, M., Maddaloni, A., and Peydro, J.-L. (2015). Notes: The chart shows the distribution of the impact on real GDP of a credit supply shock across studies. The vertical line reports the estimate obtained by using the LSI as external instrument in a Bayesian vector autoregressive (BVAR) model to quantify the impact of a credit supply shock on real GDP growth. The solid blue line shows the kernel density of the distribution of 15 estimates, truncated at the minimum and maximum estimate. The x-axis shows the pp decline in GDP cumulated over a 3-year horizon of a credit supply shock that reduces loan growth by 1pp. The median impact across studies is -0.3 pp.

Bank loan volumes of fringe firms relative to the total market since the policy hike (ratios to overall market developments)

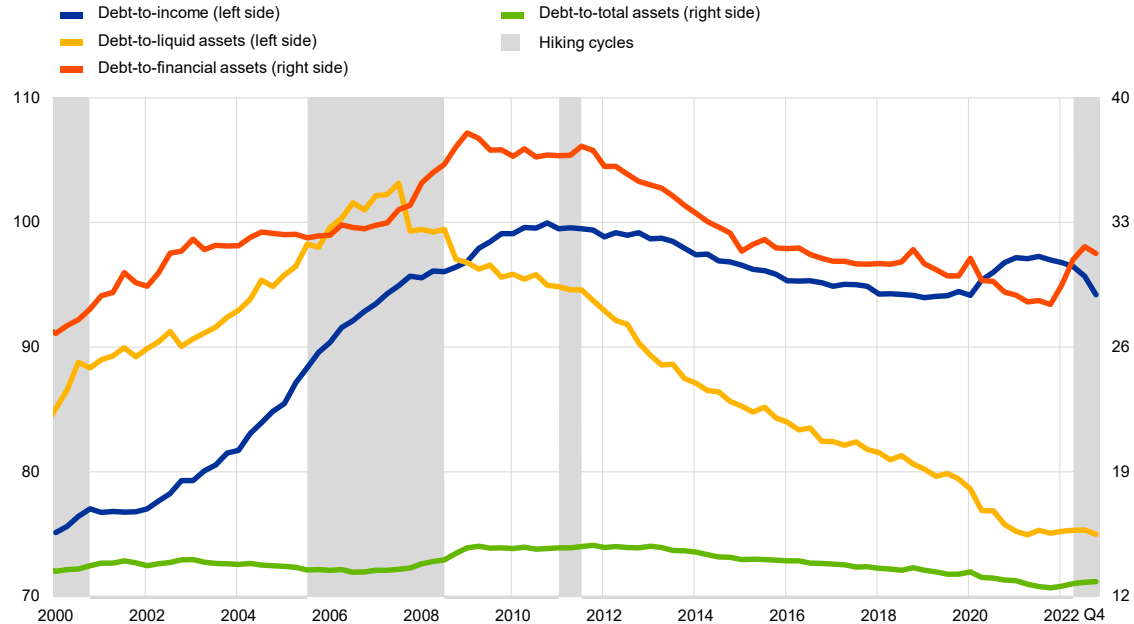


Sources: ECB (CSEC, AnaCredit, RIAD), Orbis and ECB calculations.

Notes: The chart compares loan rate and volume dynamics of small and young firms relative to general market movements around the start of the hiking cycle in July 2022 based on merged AnaCredit-Orbis data. The series are standardized by overall market developments in rates and volumes, and subsequently to unity at the start of the hiking cycle.

Latest observation: March 2023.

Household balance sheet indicators (percentages)



Sources: Eurostat, ECB (QSA) and ECB calculations.
Latest observation: 2022 Q4.

- ❑ Banking transmission set to strengthen as lagged effects kick in
- ❑ Interaction with macroeconomic developments
- ❑ Non-linear amplification risks
- Data-dependent monetary policy (...strength of monetary transmission): hard and soft information on banking channels
- Near-term: July Bank Lending Survey (BLS)