

SUERF Policy Brief

No 1189, June 2025

Monetary policy, central bank information, and bank lending: Evidence from German banks



Norbert Metiu and Sophia List | Deutsche Bundesbank

Keywords: Bank lending, central bank, credit, information shock, monetary policy, transmission mechanism

JEL codes: C33, E51, E58, G21

Abstract

The possible presence of information effects of monetary policy raises the following questions: First, how do monetary policy shocks stripped of information about economic funda-mentals affect bank lending? Second, does non-monetary central bank information have autonomous effects on bank lending? We show that a conventional increase in the policy rate results in a significant reduction in bank loans to non-financial corporations, with the effect being more pronounced for smaller banks with less liquid balance sheets. Moreover, our analysis demonstrates that a policy rate hike driven by an information shock leads to a significant rise in non-financial business loans, with the increase being more substantial for smaller banks with more liquid balance sheets.

Disclaimer: This policy brief is based on the paper "Monetary policy, central bank information, and bank lending: Evidence from German banks", Deutsche Bundesbank Discussion Paper (No 06/2025). The views expressed are those of the authors and do not necessarily reflect those of the Deutsche Bundesbank.

Monetary policy announcements may contain new information about the central bank's perception of economic conditions

Banks are crucial in transmitting monetary policy. There is long-standing evidence that monetary policy affects bank loan supply and the real economy through a bank-lending channel. Yet, when central banks announce a policy rate decision, they also reveal information about their assessment of economic conditions. Recent studies show that the non-monetary information contained in monetary policy announcements has macroeconomic implications that are distinct from the conventional effects of monetary policy. Evidence shows, for instance, that the announcement of a rate hike may reflect good news about the economy, stimulating economic activity. Moreover, existing theoretical work shows that such information effects occur particularly when the announcement contains good news about the state of financial conditions. This raises the question, how bank lending reacts to both the monetary as well as the nonmonetary component of central banks' announcements.

Micro-level data allows for an in-depth analysis of information effects on bank lending

In our study (List and Metiu, 2025) we add to research on the bank-lending channel of monetary policy transmission by considering the role of central bank information effects. We examine how bank lending to non-financial corporations (NFCs) reacts to central bank information shocks (CBI shocks) and to "pure" monetary policy shocks, i.e., those stripped of information effects (PMP shocks) identified as in Jarociński and Karádi (2020). Germany's bank-dominated financial system makes it ideal for this analysis.

We use a confidential bank-level panel data set that contains quarterly information on German bank balance sheets for the period between 2002 and 2018. The data are collected by the Deutsche Bundesbank and comprise all NFC loans larger than 1.5 million euros extended by banks domiciled in Germany, along with additional balance sheet figures. After adjustments, our sample comprises a balanced panel of over 900 commercial, savings, and cooperative banks that account for nearly 70% of total banking system assets in 2018.



Figure 1. Composition of banks in the sample, 2018

Notes: This figure depicts the composition of banks in the sample by total assets, loans to non-financial corporations, and the number of banks in 2018 (940 in total). Banks are categorized into the commercial bank sector, the savings bank sector, the cooperative bank sector, and other banks (including mortgage banks, building and loan associations, and banks with special tasks).

Bank lending to non-financial firms decreases after a conventional monetary policy shock, but increases following a central bank information shock

Using bank-level panel local projections (Jordá, 2005), we find that a positive PMP shock – i.e., an unexpected monetary policy rate tightening that is independent of information about economic fundamentals – leads to a statistically significant reduction in the volume of bank loans to NFCs. The effect is economically meaningful: On average across all banks, the loan volume decreases by around three-quarters of a percentage point one year after a one-standard-deviation positive PMP shock. The effects are relatively persistent, as firms receive nearly one and a half percentage points less credit relative to the pre-shock level three years after the shock.

The negative effects of a restrictive monetary policy shock on bank loans can be attributed to several mechanisms. Firstly, policy rate tightening reduces banks' cash flows and increases indirect costs, negatively impacting the supply of new loans. Additionally, it lowers banks' net worth by affecting the market value of their assets more than their liabilities due to maturity transformation, potentially further reducing loan supply (Boivin et al., 2010; Ciccarelli et al., 2015). Higher policy rates may also decrease firms' loan demand by raising borrowing costs (Bernanke and Gertler, 1995; Ciccarelli et al., 2015).

At the same time, we find that a positive CBI shock – i.e., an unexpected policy rate tightening that reflects nonmonetary information about economic fundamentals – leads to a statistically significant increase in the volume of loans extended to non-financial firms. On average across all banks, the loan volume rises by more than one percentage point one year after a one-standard-deviation positive CBI shock.

Our results complement recent evidence that news about economic fundamentals are an important component of monetary policy surprises (Jarociński and Karádi, 2020; Andrade and Ferroni, 2021; Miranda-Agrippino and Ricco, 2021). Existing studies adopt the idea of a "central bank information" effect, whereby investors' beliefs about the state of the economy adjust in response to the central bank's announcement (Jarociński and Karádi, 2020).



Figure 2. Impulse responses for all banks

Notes: Responses of German banks' non-financial corporate loans to a positive, one-standard-deviation pure monetary policy (PMP) shock (left panel) and central bank information (CBI) shock (right panel), identified as in Jarociński and Karádi (2020). Average effects for all banks in the sample (N = 913). Loan growth is winsorized at the 1st and 99th percentile. Shaded areas represent the 68% (dark gray) and 90% (light gray) confidence intervals based on Driscoll and Kraay (1998) standard errors.

The rise in corporate loans after a central bank information shock is stronger for small banks with more liquid balance sheets

We examine separately banks that differ in balance sheet characteristics that mainly influence the supply of credit (Kashyap and Stein, 1995, 2000). Specifically, we group banks by the size and liquidity position of their balance sheets. The results show that the decline in loans after a PMP shock is stronger for relatively small banks with less liquid balance sheets, Hence, relatively small banks that have worse access to external finance are more responsive to PMP shocks than larger banks, consistent with a bank lending channel of monetary policy transmission.

Moreover, we find that the increase after a positive CBI shock is stronger for relatively small banks with more liquid balance sheets. Thus, when a policy rate tightening conveys good news about economic fundamentals, smaller and more liquid banks use their extra liquidity to expand business lending. This result adds a new dimension to the role of banks in the transmission of central bank policy. There are at least two potential explanations for why relatively small banks might be more affected by a CBI shock. First, smaller banks might face more information asymmetries because they have fewer resources to monitor economic conditions than larger banks (Holod and Peek, 2007). The information shock is thus likely to have a higher novelty value for relatively small banks. Second, smaller banks might be more collateral-constrained than larger banks. The rise in collateral values after a positive CBI shock may thus primarily improve financing conditions for relatively small banks, allowing them to extend more loans. Our results are robust to how we measure exogenous variation in monetary policy and central bank information, as well as to various choices of measurement, sample composition, statistical inference, and model specification.



Figure 3. Impulse responses for smaller vs. larger banks grouped by liquidity

Notes: Responses of German banks' non-financial corporate loans to a positive, one-standard deviation pure monetary policy (PMP) shock (left) and a central bank information (CBI) shock (right), identified as in Jarociński and Karádi (2020). Top panel: Effects for banks with the 25% lowest asset volume and liquidity ratio (blue); effects for banks with the 25% lowest asset volume and the 25% highest liquidity ratio (red). Bottom panel: Effects for banks with the 25% largest total asset volume and the 25% lowest liquidity ratio (blue); effects for banks with the 25% largest total asset volume and the 25% largest total asset volume and the 25% largest at the 1st and 99th percentile. Shaded areas represent the 68% (dark shaded) and 90% (light shaded) confidence intervals based on Driscoll and Kraay (1998) standard errors.

Conclusion

We obtain two main results: First, a conventional policy rate tightening significantly reduces bank loans to nonfinancial corporations, especially for smaller banks with less liquid balance sheets that are likely to have more difficulties with raising external funding. Second, a policy rate tightening due to an information shock significantly increases lending to NFCs, particularly by smaller banks with more liquid balance sheets that can use the extra liquidity for corporate loans. This supports theoretical work suggesting that central bank information shocks reflect news about financial conditions.

References

Andrade, P., Ferroni, F., 2021. Delphic and odyssean monetary policy shocks: Evidence from the euro area. Journal of Monetary Economics 117, 816–832.

Bernanke, B.S., Gertler, M., 1995. Inside the black box: The credit channel of monetary policy transmission. Journal of Economic Perspectives 9, 27–48.

Boivin, J., Kiley, M.T., Mishkin, F.S., 2010. Chapter 8 - how has the monetary transmission mechanism evolved over time?, Volume 3 of Handbook of Monetary Economics, pp. 369–422.

Ciccarelli, M., Maddaloni, A., Peydro, J.L., 2015. Trusting the bankers: A new look at the credit channel of monetary policy. Review of Economic Dynamics 18, 979–1002.

Driscoll, J.C., Kraay, A.C., 1998. Consistent covariance matrix estimation with spatially de-pendent panel data. The Review of Economics and Statistics 80, 549–560.

Holod, D., Peek, J., 2007. Asymmetric information and liquidity constraints: A new test. Journal of Banking and Finance 31, 2425–2451.

Jarociński, M., Karádi, P., 2020. Deconstructing monetary policy surprises: The role of information shocks. American Economic Journal: Macroeconomics 12, 1–43.

Jordá, O., 2005. Estimation and inference of impulse responses by local projections. American Economic Review 95(1), 161–182.

List, S., Metiu, N., 2025. Monetary policy, central bank information, and bank lending: Evidence from German banks. Deutsche Bundesbank Discussion Paper 06/2025.

Kashyap, A.K., Stein, J.C., 1995. The impact of monetary policy on bank balance sheets. Carnegie-Rochester Conference Series on Public Policy 42, 151–195.

Kashyap, A.K., Stein, J.C., 2000. What do a million observations on banks say about the transmission of monetary policy? American Economic Review 90, 407–428.

Miranda-Agrippino, S., Ricco, G., 2021. The transmission of monetary policy shocks. Ameri-can Economic Journal: Macroeconomics 13, 74–107.

About the author(s)

Norbert Metiu is a Senior Economist and Deputy Head of Section in the Financial Stability Analysis and Macroprudential Surveillance Division of Deutsche Bundesbank. His research is in the field of empirical macroeconomics.

Sophia List is a Senior Economist in the Financial Stability Strategy and Policy Group at Deutsche Bundesbank. Her research interests include financial stability and empirical macroeconomics.

SUERF Policy Notes and Briefs disseminate SUERF Members' economic research, policy-oriented analyses, and views. They analyze relevant developments, address challenges and propose solutions to current monetary, financial and macroeconomic themes. The style is analytical yet non-technical, facilitating interaction and the exchange of ideas between researchers, policy makers and financial practitioners.

SUERF Policy Notes and Briefs are accessible to the public free of charge at https://www.suerf.org/publications/suerf-policy-notes-and-briefs/.

The views expressed are those of the authors and not necessarily those of the institutions the authors are affiliated with.

© SUERF – The European Money and Finance Forum. Reproduction or translation for educational and non-commercial purposes is permitted provided that the source is acknowledged.

Editorial Board: Ernest Gnan, David T. Llewellyn, Donato Masciandaro, Natacha Valla

Designed by the Information Management and Services Division of the Oesterreichische Nationalbank (OeNB)

SUERF Secretariat c/o OeNB, Otto-Wagner-Platz 3A-1090 Vienna, Austria Phone: +43 1 40 420 7206 E-Mail: suerf@oenb.at Website: https://www.suerf.org/