SUERF
The European Money and Finance Forum

SUERF Policy Brief
No 1374, February 2026

Peering beyond the veil of aggregate bank lending rate dynamics: Insights into credit-level pricing and composition effects


Paul Reimers | Deutsche Bundesbank
Henrike Michaelis | Deutsche Bundesbank

Keywords: Credit pricing, euro area, monetary policy transmission, interest rate pass-through

JEL codes: E52, E43, E44, E58, G20, G21

Abstract

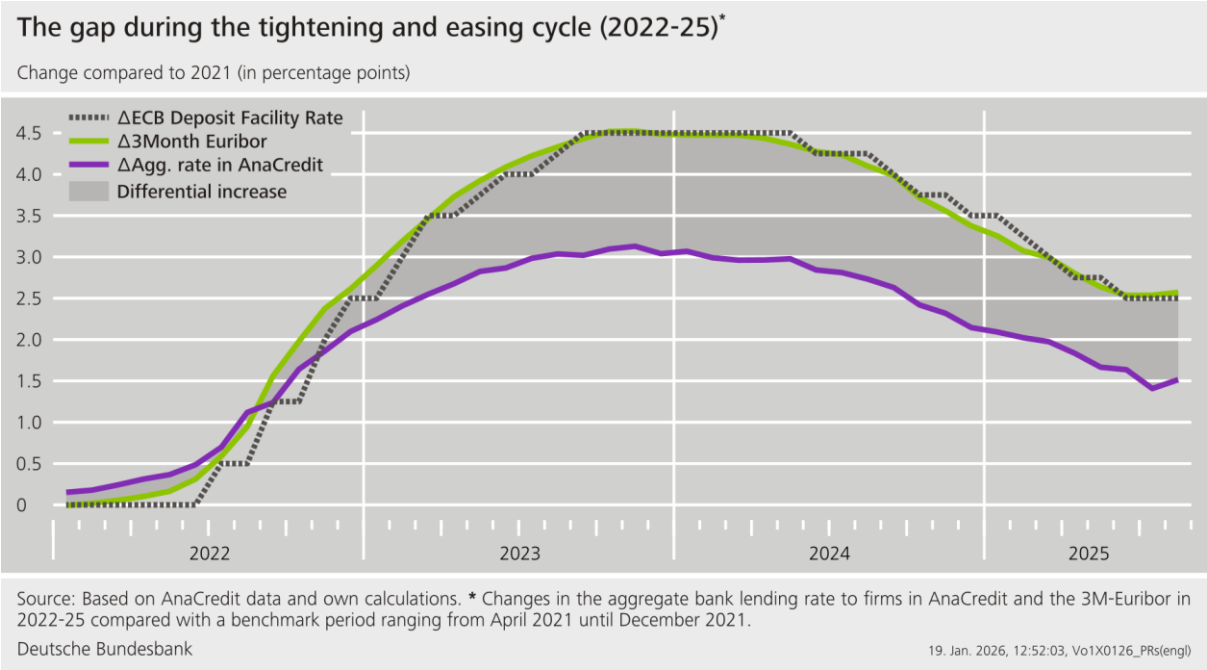
Compared to 2021, the aggregate bank lending rate to firms in the euro area increased significantly during the latest monetary policy tightening and easing cycle. But the increase was up to 1.5 PP less than the rise in policy and money market rates. What explains the increase in the lending rate, and why did it not rise in lockstep? We approach these questions using granular credit registry data, revealing how changes in the composition and pricing of credit translate into aggregate rate developments and the gap. Composition effects were minor, while pricing effects were instrumental in opening the gap. The key factor was the development of banks' fixed component of credit pricing. It increased less than the 3-month Euribor, signaling an incomplete pass-through of changes in refinancing costs. However, changes in mark-ups also played a critical role. They partly counteracted the incomplete pass-through and thus reduced the gap.

Disclaimer: This policy brief is based on Deutsche Bundesbank, Discussion Paper, No 36/2025. The views expressed are those of the authors and not necessarily those of the institutions the authors are affiliated with.

As inflation surged from 2021 onward, central banks around the world tightened their monetary policy. In the euro area, policy and money market rates increased by up to 4.5 percentage points (PP) during the 2022-25 monetary policy tightening and easing cycle. When bank lending is key for the transmission process, like in the euro area, policy makers, bankers and debtors closely watch how money market rates and bank lending rates co-move with policy rates. However, the bank lending rate to firms in the euro area did not increase in lockstep with policy and money market rates (Figure 1). It only increased by up to 3 PP. This opened a gap of 1.5 PP.

What explains the increase in the aggregate bank lending rate and the gap? This is what we address in our paper (Reimers and Michaelis, 2025). These are important questions for central bankers, as they relate directly to the strength of monetary policy transmission via banks e.g. to avoid an over-tightening of monetary policy. For banks and firms, these questions are highly relevant as well. They form expectations on how interest income and financing costs are likely to evolve and adjust their loan pricing and financing strategies accordingly.

Figure 1.



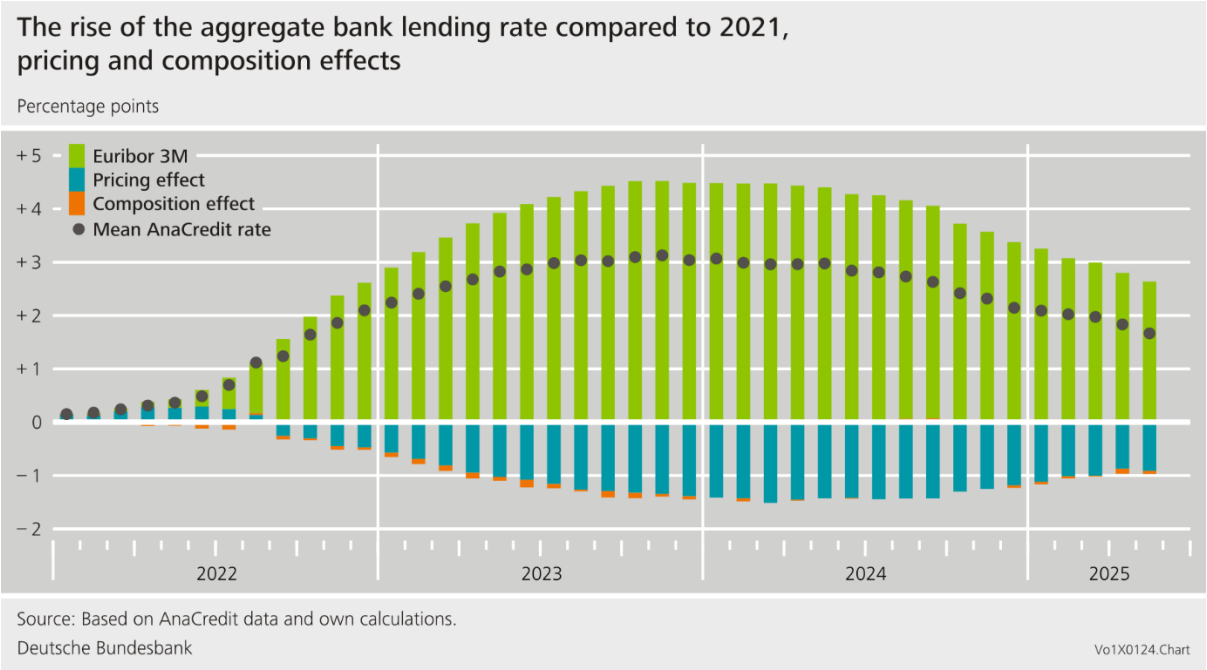
Until recently, the lack of credit-level data did not allow to investigate how micro-level developments shape the development of aggregate bank lending rates. This left open questions about the reasons for the incomplete pass-through (de Bondt et al., 2005; Belke et al., 2013; Holton and d'Acri, 2018; Horvath et al., 2018), and consequently the opening of the gap. We add insights to this by using credit-level registry data (AnaCredit). Its granular nature allows us to identify micro-level dynamics lying behind the 'veil of aggregate dynamics' that shape macro patterns. More specifically, we decompose the gap into 'composition' and 'pricing' effects. Composition effects arise because 'which banks' financed 'which firms' and 'in which way' changed compared to 2021. Pricing effects are due to changes in how banks priced credit and firm characteristics during 2022-25. They arise from two factors: The extent to which banks passed through their higher refinancing costs, and adjustments that banks made to the discounts and premia they use to account for firm and credit characteristics.

To separate composition from pricing effects, we implement a decomposition technique that is standard in the labour literature. We show how to use it to decompose the development of aggregate variables over time and are the first to do so in the loan pricing literature.

Pricing effects are key to understanding why the gap opened up

Composition effects were minor, while pricing effects were instrumental in opening the gap. Figure 2 makes this apparent via negative orange and blue bars. Combined, these bars sum up to explain the gap between the aggregate bank lending rate (dots) and the 3-month (3M) Euribor (green bars). The blue bars indicate that the aggregate rate would have risen by up to 1.5 PP more if credit pricing had remained as in 2021. Similarly, the increase in the aggregate rate would have been up to 0.15 PP higher if the composition of lending had remained as in 2021 (orange bars).

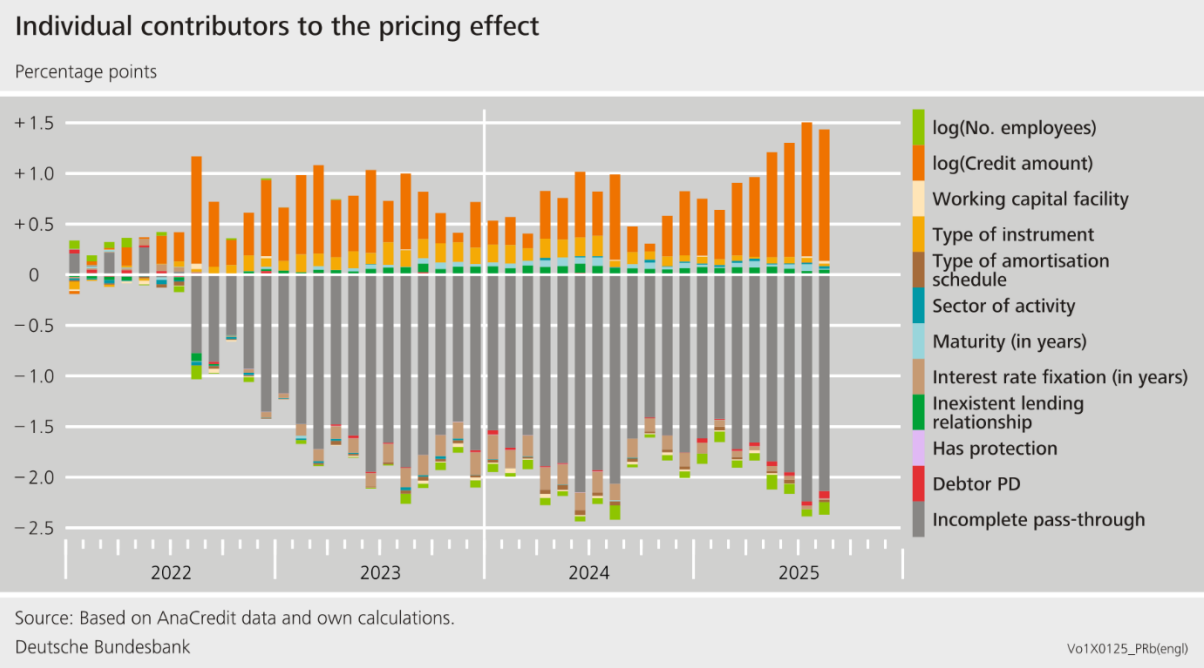
Figure 2.



The gap was shaped by an incomplete pass-through of refinancing costs and adjustments in mark-ups, in particular higher costs for larger credit amounts and specific instruments

The decomposition allows us to delve deeper, identifying individual contributors to the pricing effect. We find that banks adjusted their fixed components of credit pricing by less than the increase in the 3M Euribor, which was a key factor behind the opening of the gap (grey bars in Figure 3). According to the literature, banks adjust their fixed components of credit pricing to pass through changes in refinancing costs, but this pass-through tends to be incomplete (de Bondt et al., 2005; Belke et al., 2013; Holton and d'Acri, 2018; Horvath et al., 2018). Therefore, the opening of a gap is not surprising. However, the lesson learnt here is that the transmission of monetary policy to bank lending rates involves more than a passing through of refinancing costs: Changes in mark-ups (i.e. in premia and discounts) were critical as well. For example, larger credit amounts and certain instrument types became more expensive compared to 2021. For credit amounts, the mechanism was as follows: Larger credit amounts typically come at a discount. But compared to 2021, this discount decreased during 2022-25. This exerted upward pressure on the aggregate rate amounting to as much as +1.3 PP. For instrument types, the pricing effect amounted to as much as +0.25 PP, respectively. Without adjustments in the premia and discounts, the gap would have been even larger (amounting to up to 2.25 PP, rather than 1.5 PP).

Figure 3.



Conclusion

Overall, we show that monetary policy impulses were transmitted to bank lending rates differently depending on the type of firm and financing arrangement. Our micro-insights complement macro-based approaches to better understand how compositional shifts and pricing changes shape aggregate interest rate pass-through patterns. These adjustments may be strategic to tailor lending terms to different firms and financing profiles or to better manage risk and profitability. Understanding and anticipating these adjustments can help firms optimize their financing strategies, negotiate better terms, and align demand for and the supply of credit.

Our micro-based perspective on how individual determinants of bank lending rates shape pass-through patterns is also useful for monetary policy. So far, understanding of interest rate pass-through patterns has largely been derived from macro analyses. Their shortcoming, however, is that they conceal the influence of changes in the composition or pricing of individual determinants of bank lending rates on the pass-through. We show that there is more to transmission of monetary policy via banks than just a passing through of changes in banks' refinancing costs: The way banks price firm and credit characteristics when setting interest rates changes, too – and compensates for the incomplete pass-through of refinancing costs.

So far, the literature lacks comparable evidence on compositional shifts and pricing changes during other monetary policy tightening and easing phases. This hinders policymakers, bankers, and debtors in evaluating whether the compositional shifts and pricing changes that we document for 2022-25 were in line with broader historical patterns. We emphasize the importance of building historical evidence on the contributions of compositional shifts and pricing changes to the development of the aggregate bank lending rate and the gap. Such historical patterns would be very valuable, for example for policymakers when calibrating monetary policy and assessing the strength of monetary policy transmission.

References

Belke, A., J. Beckmann, and F. Verheyen (2013). Interest rate pass-through in the EMU – new evidence from nonlinear cointegration techniques for fully harmonized data. Journal of International Money and Finance 37, 1–24.

de Bondt, G., B. Mojon, and N. Valla (2005). Term structure and the sluggishness of retail bank interest rates in euro area countries. ECB Working Paper 518.

Holton, S. and C. R. d'Acri (2018). Interest rate pass-through since the euro area crisis. Journal of Banking & Finance 96, 277–291.

Horvath, R., J. Kotlebova, and M. Siranova (2018). Interest rate pass-through in the euro area: Financial fragmentation, balance sheet policies and negative rates. Journal of Financial Stability 36, 12–21.

Reimers, P., H. Michaelis (2025). Peering beyond the veil: A dissection of aggregate bank lending rate movements into pricing and composition effects using credit-level data, Bundesbank Discussion Paper, No 36/2025. https://doi.org/10.71734/DP-2025-36

About the author(s)

Paul Reimers is a Senior Economist in the monetary policy and analysis department at the Deutsche Bundesbank.

Henrike Michaelis is a Senior Economist in the monetary policy and analysis department at the Deutsche Bundesbank. Before joining the Bundesbank, she worked as an Economist for macroeconomics and financial markets at the German Council of Economic Experts.

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/.

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

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/