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Revisiting the Influence of Lending Rate to Indonesia's Credit Market

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ABSTRACT

This paper investigates the responsiveness of credit volumes to changes in lending rates in Indonesia and reexamines the strength of the monetary transmission mechanism through the credit channel. Using a vector autoregression framework applied to disaggregated bank credit data by sector, loan type, and firm size, we analyse how policy-driven interest rate movements propagate into actual lending outcomes. The results reveal a markedly uneven transmission: credit to micro, small, and medium enterprises (MSMEs) shows negligible sensitivity to interest rate changes, whereas lending to large firms responds more appreciably. In particular, bank credit to large corporates declines significantly when policy rates rise, consistent with conventional theory, while credit to smaller firms remains largely unaltered. These findings suggest that the traditional interest rate pass-through is fragmented and weak in key segments of the economy, undermining the efficacy of price-based monetary policy. The analysis points to structural factors, including heterogeneous bank behaviour, borrower constraints, and a propensity of banks to shift toward safer assets in uncertain times as underlying causes. The findings imply the need for a more nuanced policy approach that complements interest rate adjustments with targeted interventions to achieve broad-based credit stimulus and effective monetary control.

Keywords: Lending Rate, Credit Volume, Monetary Transmission

JEL Classification: G21, E51, H81

1 Introduction

Monetary policy is one of the most important levers available to governments and central banks to stabilise macroeconomic fluctuations, control inflation, and promote sustainable growth. At the core of monetary policy operations lies the interest rate instrument, which in theory, transmits to the broader economy through multiple channels, most notably the credit channel. According to this model, a change in the central bank's benchmark rate, such as Indonesia's BI Seven Day Reverse Repo Rate, should influence interbank rates, bank lending rates, and eventually, credit allocation across the economy (Mishkin, 1996; Bernanke & Blinder, 1988; Bernanke et al., 1999).

The effectiveness of this transmission mechanism depends on a well-functioning financial intermediation system. The bank lending channel posits that monetary policy affects banks' capacity to lend by altering their reserves and funding costs, while the balance sheet channel suggests that policy influences borrower behaviour through its effect on their net worth. Together, these frameworks form the basis for understanding how monetary signals impact investment, consumption, and production.

However, Indonesia's financial landscape poses challenges to this theoretical clarity. The banking system is heterogeneous, encompassing state owned, private, Islamic, and regional development banks, each with distinct risk preferences and client bases. Borrower profiles are also highly varied, from large corporates to micro and small enterprises. These complexities can create asymmetrical responses to policy changes, weakening the pass through of interest rates into credit growth (Alessandri & Bottero, 2020; Buch et al., 2015; Gambacorta & Shin, 2018).

1.1 Problem Statement

Monetary policy is designed with a clear purpose in mind: to guide economic activity by influencing the cost and availability of credit. At the heart of this mechanism lies the expectation that adjustments to the policy rate will be transmitted through the banking system, lowering lending rates and encouraging credit growth. Yet in many economies, particularly those with complex financial structures like Indonesia, can this process truly be relied upon to unfold as theory predicts?

Indonesia's banking landscape is highly diverse, encompassing institutions that differ not only in ownership and size but also in strategic orientation and lending behaviour. Borrowers represent a wide spectrum, from large corporations to small enterprises, each with distinct financial conditions and sensitivities to interest rate changes. This heterogeneity introduces significant variation in how monetary signals are received and acted upon across the credit system.

At the same time, external conditions play a crucial role. During periods of economic uncertainty, banks may prioritise safety over lending, redirecting funds into low-risk assets such as government bonds (Alessandri & Bottero, 2020; Becker & Ivashina, 2018; Buch et al., 2015; Gennaioli et al., 2018; Pietrovito & Pozzolo, 2023). Even when policy rates are lowered to stimulate lending, this precautionary behaviour can dilute the intended effect, creating a disconnect between monetary decisions and real sector outcomes.

These realities point to a fundamental question: does the credit channel of monetary transmission still function effectively in Indonesia's current economic and institutional context? Understanding this requires moving beyond aggregate figures and examining the credit system in finer detail. A more granular approach, one that considers differences across banks, borrowers, and sectors, is essential for identifying where transmission

weakens and for informing more targeted and responsive policy design.

1.2 Research Questions and Objectives

Understanding how monetary policy decisions translate into real economic outcomes is critical for assessing the effectiveness of central banking. In Indonesia, the complexity of the financial system raises important questions about the reliability and consistency of this transmission, particularly through the credit channel. To explore this issue, the study focuses on a set of key questions and objectives aimed at identifying how lending rates respond to policy changes and how those changes influence credit distribution across different segments of the economy.

This study seeks to address the following research questions:
1. Does the BI 7 Day Reverse Repo Rate effectively influence bank lending rates?
2. How do different types of borrowers and loan purposes respond to changes in lending rates?
3. Are there sectoral differences in credit responsiveness?
4. What underlying factors may weaken or disrupt the transmission process?

To answer these questions, the study aims to:
1. Analyse how lending rates respond to changes in the policy rate across different types of banks.
2. Examine how credit volume reacts to lending rate changes across borrower groups and loan categories.
3. Identify sectoral patterns and structural constraints that may limit the effectiveness of monetary policy transmission.

1.3 Significance of Study

While much of the existing research emphasises aggregated national indicators or focuses on advanced economies, recent evidence shows that this emphasis remains prevalent. Studies continue to rely heavily on data from high income countries where institutional frameworks are more established and financial markets more integrated (Ottonello & Winberry, 2020; Cloyne et al., 2023). Research from the European Central Bank highlights how the transmission of policy rates to bank lending in the euro area still primarily draws on national-level aggregates and consolidated financial indicators (Altavilla et al., 2020; ECB, 2022). In contrast, emerging economies with more fragmented financial systems and diverse credit market structures often receive less attention, despite potentially different transmission dynamics. This study responds to that gap by bringing attention to institutional diversity and sectoral nuances in Indonesia's monetary transmission process.

For policymakers, particularly those at Bank Indonesia and related financial authorities, the findings of this research may serve as a valuable diagnostic tool. By highlighting where the transmission mechanism functions effectively and where it breaks down, the study provides insights that can support more precise and responsive monetary strategies. This includes identifying whether certain types of banks or sectors require complementary policies or targeted interventions to enhance credit flow and ensure that monetary easing reaches intended beneficiaries.

In a broader context, the study also speaks to the resilience and inclusivity of Indonesia's financial system. If monetary policy is to play a meaningful role in supporting sustainable and equitable growth, then understanding its reach and limitations across different segments of t The remainder of this article is organised as follows; Section 2 reviews the relevant literature and become the foundation of our empirical research, Section 3 elaborates the

data and methodology used in our statistical inference, Section 4 discusses the econometric results on the rate-credit volume link, Section 5 concludes that Indonesia's credit channel of monetary transmission is highly attenuated for MSMEs and segmented sectors, and only robust for a narrow band of large-scale borrowers, and section 6 summarises the policy implications that might potentially be useful for Indonesia's Financial Services Authority (OJK).

2 Literature Review

2.1 Theoretical Foundations of Monetary Transmission

Monetary policy affects the economy through a variety of channels, with the interest rate channel historically serving as the primary mechanism. In traditional macroeconomic models, such as the IS-LM framework, central banks influence aggregate demand by altering policy rates, thereby changing borrowing costs for households and firms. Lower interest rates reduce the cost of capital, stimulating investment and consumption. However, this model assumes smooth and uniform transmission of rates through the financial system, overlooking institutional frictions and the diversity of financial actors.

Recognising these limitations, Bernanke & Blinder (1988) introduced the credit channel, suggesting that monetary policy influences the supply of loans, particularly through the behaviour of banks. This view became more prominent with the development of the bank lending channel, where policy-induced changes in reserves and deposits lead banks to adjust lending volumes. Simultaneously, the balance sheet channel, articulated by Bernanke & Gertler (1995), highlights how borrowers' financial conditions affect their access to credit. As monetary tightening erodes asset values and cash flows, the cost of external financing rises, discouraging investment.

The financial accelerator framework (Bernanke et al., 1999) integrates these insights into a dynamic system, showing how shocks are magnified through interactions between balance sheets and credit conditions. This framework explains why monetary policy effects are often non-linear and asymmetrical, especially during financial stress. It also shifts focus from rate changes alone to the broader health and behaviour of financial intermediaries. In this view, monetary transmission is not uniform but shaped by institutional resilience, market structure, and behavioral responses. This theoretical foundation is particularly relevant in emerging markets, where banking systems are more segmented and credit markets less developed, making transmission outcomes more heterogeneous and complex.

2.2 Heterogeneity in Monetary Transmission: Evidence from Advanced Economies

In many advanced economies, the journey of monetary policy from central banks to real world outcomes has turned out to be more complex than originally thought. Traditionally, economists assumed that changes in interest rates would ripple uniformly across households and firms. But recent research paints a richer and more nuanced picture. Ottonello & Winberry (2020), for instance, show that firms under financial strain pull back investments much more sharply during rate hikes than healthier firms, highlighting the role of financial heterogeneity in the transmission of monetary policy. Cloyne et al. (2020) similarly find that households with floating rate mortgages feel the effects of rate changes faster and more intensely than those with fixed obligations. These insights suggest monetary policy does not land on a level playing field. Instead, it filters through the complex financial situations of people and firms, shaped by their debt types, liquidity,

and resilience.

Institutional and regional differences also matter. Altavilla et al. (2020) reveal that in the euro area, the pass through from policy rates to lending behaviour depends on bank specific features like capitalisation and risk exposure. Byrne & Foster (2023) show that interest rate transmission varies notably across banking systems, using Ireland as an example. Segev & Schaffer (2020) provide convincing evidence that regional disparities in banking competition, as seen in United States branching deregulation, significantly shape credit cycles, with looser banking competition amplifying rate transmission regionally. Together, these studies remind us that even in mature systems, monetary policy interacts with diverse institutions, borrowers, and places. Understanding these differences is essential for designing policy that is effective, equitable, and locally appropriate.

2.3 Monetary Transmission in Emerging Markets: Institutional Complexities and Regional Divergence

In emerging market economies, the transmission of monetary policy often unfolds in a less predictable and more fragmented manner than in advanced economies. This is largely due to differences in institutional robustness, financial sector development, and exposure to global capital flows. Recent research by Checo et al. (2024) shows that the effectiveness of monetary policy in these settings is highly sensitive to firm-level financial conditions. Using newly constructed policy shock measures from analyst forecast deviations, their study finds that monetary tightening has stronger effects on more leveraged firms. This illustrates how institutional heterogeneity and credit constraints shape divergent monetary responses across countries. Similarly, Avdjiev & Hale (2019) highlight how international capital flows and global bank lending patterns interact with domestic policy decisions, further complicating the transmission of monetary signals in open emerging markets.

Indonesia offers a salient example of such divergence. Naiborhu (2024) provides empirical evidence that Indonesian banks with high loan loss provisions and weaker capital positions respond less effectively to changes in the policy rate. These banks tend to adopt a more cautious lending stance, thereby weakening the credit channel of monetary transmission. The interaction between institutional prudence, regulatory requirements, and regional financial disparities results in a transmission process that is neither uniform nor immediate. Such findings underscore the need to account for both sectoral and regional characteristics when assessing the effectiveness of monetary policy in emerging markets.

2.4 Institutional and Regional Nuances in Indonesian Monetary Policy

Indonesia's monetary transmission is shaped by both regional disparities and institutional variety. Pamungkas et al. (2025), using panel data from 33 provinces between 2010 and 2023, show that the response of bank lending to changes in the policy rate varies significantly across regions. In Java, where financial systems are more mature and banks are densely concentrated, lending to small and medium enterprises and households tends to respond more strongly and promptly to interest rate shifts. In contrast, provinces outside Java, where financial access and market depth are more limited, experience weaker and delayed lending responses. This suggests that local economic conditions, bank coverage, and infrastructure quality all affect how effectively monetary policy is transmitted across the archipelago.

Institutional structure further complicates this transmission. Although detailed studies on Islamic bank responses in Indonesia remain limited in leading international journals, broader cross-country research suggests that Islamic banks, due to their profit and loss

sharing model, adjust more conservatively to policy shifts than conventional banks. According to Abedifar et al. (2013), Islamic banks tend to be less sensitive to changes in benchmark interest rates because their contractual frameworks are not directly interest based. In Indonesia, where Islamic banking continues to expand, particularly in certain provinces, this slower response may dampen the overall effect of monetary policy. These findings imply that both regional development levels and institutional banking structures must be considered to optimise the national monetary transmission strategy.

2.5 Sectoral Heterogeneity: Uneven Impact Across Industries

Monetary policy does not affect all industries equally. Kreamer (2022) demonstrates in the US context that sectors vary in interest rate sensitivity, particularly those dealing in durable goods. His theoretical model indicates that policymakers who account for sector specific interest elasticities and incorporate forward guidance can better manage macroeconomic fluctuations. When sectoral differences are overlooked, the result may be inefficient outcomes, as some parts of the economy remain overstimulated while others are insufficiently supported. These findings underscore the importance of aligning policy tools with structural sectoral dynamics rather than applying uniform rate adjustments across a diverse economy.

In the Indonesian context, Aginta & Someya (2022) provide evidence of significant regional and sectoral variation in response to monetary shocks. Utilising an SFAVAR model across 34 provinces, they find that manufacturing and mining intensive regions display more pronounced inflation and output responses to policy rate adjustments compared to provinces oriented toward exports or construction. Moreover, their results reveal that the degree of bank lending and regional export dependence modulate the speed and strength of monetary transmission, often influenced by spillover effects from neighboring regions. This sectoral heterogeneity suggests that a more tailored policy approach, sensitive to industrial composition and regional characteristics, is essential for achieving balanced macroeconomic outcomes across Indonesia's multifaceted economy.

3 Methodology

3.1 Variables Used

This study utilises a monthly data from March 2016 to January 2025 to analyse the dynamics of credit distribution and lending rates in Indonesia, with a specific focus on the transmission of monetary policy through the credit channel. The estimation window deliberately spans several major shocks, including the Covid-19 pandemic, episodes of trade tension, and periods of heightened geopolitical uncertainty, during which credit supply, credit demand, and regulatory responses may deviate from their pre-shock patterns. Prior studies show that large macro-financial disruptions and crisis-like episodes can generate structural breaks in bank lending behaviour and in the pass-through of policy rates to loan rates and credit volumes (Gambacorta & Marques-Ibanez, 2011; Altavilla et al., 2020). Evidence for emerging and bank-based economies also suggests that heightened uncertainty can weaken the effectiveness of conventional monetary policy instruments and alter the credit channel of transmission (Borio & Zhu, 2012). Against this background, the empirical results in this paper are interpreted together with a focused discussion of how these external shocks and associated policy interventions may shape the estimated relationships and the robustness of the main findings.

Descriptive statistics for the key variables are presented in Table 1. The core set of variables comprises: Credit Volume and Lending Rate dataset that includes information on credit volume and associated lending rates, disaggregated by (a) Sectoral Classification: Credit volume is recorded only for three sectors has big proportion in credit volume such as manufacture, construction, agriculture. (b) Firms size categorised by firm size Micro, Medium, and the along with large-scale borrowers. To proxy for institutional pricing behaviour specific to firm size, the study incorporates benchmark lending rates such as BRI SBDK Micro and Mandiri SBDK, which reflect bank-specific pricing strategies toward different segments of borrowers. These benchmarks allow for a more targeted understanding of how credit terms may differ for micro or large-scale firms in practice. (c) Objective of the loans such as working capital loans, investment loans and consumer loans.

Table 1. Descriptive statistics

Variables	Obs	Mean	Std. Dev.	Unit
Credit By Sectoral				
Credit volume in Construction	83	365.132	403.108	IDR, Trillion
Credit volume in Manufacture	83	982.19	1224.136	IDR, Trillion
Credit volume in Agriculture	83	421.198	523.784	IDR, Trillion
Lending rate (IDR)	83	9.331966	0.739698	%
Credit by Objective of the Loans				
Working Capital loans volume	83	2710.782	3437.547	IDR, Trillion
Rate of Working capital loans	83	9.333	10.59	%
Consumer loans volume	83	1728.323	2209.651	IDR, Trillion
Rate Consumer Loans	83	10.88	12.48	%
Investment loans volume	83	1560.265	233.537	IDR, Trillion
Rate Investment Loans	83	9.163	.752	%
Credit by Firm's Size				
Micro	83	360000.69	670999.75	IDR, Trillion
Medium	83	411522.72	518879.42	IDR, Trillion
Large	83	4785.297	6218.155	IDR, Trillion
BRI SBDK	83	15.963	19	%
Mandiri SBDK	83	8.851807	0.9322294	%
Covariate Variables				
Interbank rate 1 Month	83	5.467	7.445	%
BI7DRR (Policy Rate)	83	4.943	6.25	%

Source: Indonesia Financial Services Authority (OJK), Indonesia Central Bank, Authors (2025)

To assess monetary transmission, we use two primary indicators published by Bank Indonesia, Interbank Rate (1 Month): A short-term market interest rate indicating liquidity conditions in the interbank market. BI7DRR (7-Day Reverse Repo Rate): The official policy rate of Bank Indonesia, used as the main instrument for steering monetary policy. All credit and interest rate variables are observed monthly, allowing for detailed tracking of responses to policy changes over time. The combination of credit segmentation and monetary indicators allows the study to evaluate how credit supply adjusts across sectors, borrower sizes, and loan types in response to interest rate movements, providing insight into the credit transmission mechanism in the Indonesian financial system.

3.2 Empirical Strategy

To investigate the transmission of monetary policy through the credit channel, this study estimates a four-variable Vector Autoregression (VAR) model using monthly data from March 2018 to January 2025, totaling 83 observations. The VAR model is well-suited to capture the dynamic interrelationships between monetary policy instruments and credit outcomes without requiring strong priori theoretical assumptions. All variables in the system are treated as endogenous, allowing the analysis to trace how policy rate shocks propagate through the interbank market and lending rates to ultimately affect credit volume.

$$\ln credit_t = \alpha_1 + \sum_{i=1}^{4} \beta_{1i} \ln credit_{t-i} + \sum_{j=1}^{4} \gamma_{1j} bi7drr_{t-j} + \sum_{k=1}^{4} \delta_{1k} interbank_{t-k} \\ + \sum_{m=1}^{4} \theta_{1m} lendrate_{t-m} + u_{1t} \tag{1}$$

$$bi7drr_t = \alpha_2 + \sum_{i=1}^{4} \beta_{2i} \ln credit_{t-i} + \sum_{j=1}^{4} \gamma_{2j} bi7drr_{t-j} + \sum_{k=1}^{4} \delta_{2k} interbank_{t-k} \\ + \sum_{m=1}^{4} \theta_{2m} lendrate_{t-m} + u_{2t} \tag{2}$$

$$interbank_t = \alpha_3 + \sum_{i=1}^{4} \beta_{3i} \ln credit_{t-i} + \sum_{j=1}^{4} \gamma_{3j} bi7drr_{t-j} + \sum_{k=1}^{4} \delta_{3k} interbank_{t-k} \\ + \sum_{m=1}^{4} \theta_{3m} lendrate_{t-m} + u_{3t} \tag{3}$$

$$lendrate_t = \alpha_4 + \sum_{i=1}^{4} \beta_{4i} \ln credit_{t-i} + \sum_{j=1}^{4} \gamma_{4j} bi7drr_{t-j} + \sum_{k=1}^{4} \delta_{4k} interbank_{t-k} \\ + \sum_{m=1}^{4} \theta_{4m} lendrate_{t-m} + u_{4t} \tag{4}$$

The four main endogenous variables include: (1) the 7-Day Reverse Repo Rate (BI7DRR) as the primary policy instrument set by Bank Indonesia, (2) the 1-month interbank rate as a measure of liquidity in the banking sector, (3) the commercial bank lending rate, and (4) credit volume expressed in natural logarithm. This structure reflects the expected transmission pathway of monetary policy starting from the central bank's rate, influencing interbank rates, passing through bank lending rates, and finally impacting credit disbursement in the economy.

4 Results and Discussion

This study rigorously investigates how changes in lending rates affect credit volume across objective of the loans, different sectors, and a particular focus on micro, medium, and large corporation. Using a time series Granger causality and variance decomposition framework, we evaluate whether the credit channel of monetary policy, particularly through interest rate adjustments, functions effectively across Indonesia's productive sectors. Despite the theoretical expectation that lower lending rates should stimulate credit expansion, our empirical analysis reveals a markedly different reality (Bernanke & Blinder, 1988; Bernanke & Gertler, 1995). Across sectors evaluated, lending rates appear to have only a minimal effect on MSME credit volume, often explaining less than 4 percent of the variance over a three-month horizon. These finding challenges conventional assumptions about monetary transmission and suggest deeper institutional and behavioral factors at play.

4.1 Empirical Result by Type of Credit

These parts provide VAR analysis by disaggregating credit based on loan types working capital, consumer, and investment loans This approach enables a more nuanced understanding of how specific lending rates influence different segments of credit.

4.1.1 Working Capital Loans

In working-capital loans, the lending rate explains approximately 8%-13% of the variance in working-capital credit (see Table 2, Figure 1 row 2). Consistent with this, the FEVD indicates a moderate price channel: lending-rate shocks account for about 8%-14% of the forecast-error variance across horizons, rising from single-digit shares at short horizons to the low-teens at medium horizons. By contrast, the credit series' own shocks remain dominant at roughly 82%-92%, while interbank-rate shocks contribute only about 1%-2% and policy-rate (BI7DRR) shocks about 0%-2%. The Impulse Reaction Function (IRF) corroborates these patterns: the quantity response to a lending-rate shock is small on impact and builds gradually, consistent with slow pass-through to loan volumes.
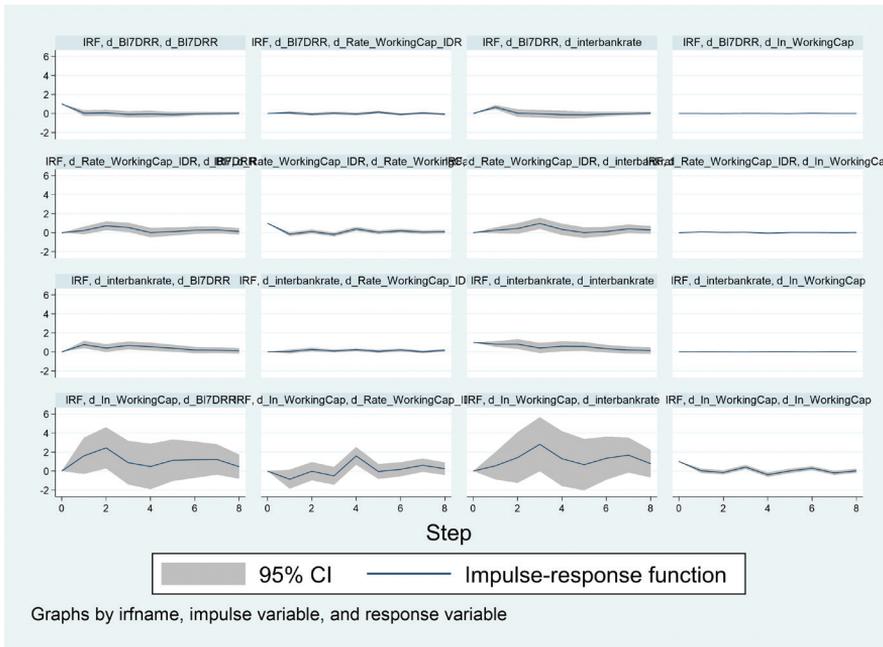

Figure 1. Impulse Response Function (IRF) Working Capital Loans

Table 2. Forecast Error Variance Decomposition (FEVD) Working Capital loans

Step	d_ln_WorkingCap	d_Rate_WorkingCap_IDR	d_interbankrate	d_BI7DRR
0	0	0	0	0
1	1	0	0	0
2	0.916198	0.082763	0.000152	0.000887
3	0.893694	0.088997	0.010273	0.007035
4	0.87284	0.111219	0.009186	0.006756
5	0.845915	0.137207	0.010779	0.006999
6	0.839757	0.137727	0.010714	0.011802
7	0.827024	0.13742	0.014374	0.021182
8	0.822908	0.133175	0.022989	0.020927

4.1.2 Consumer Loans

For consumer loans, lending rate shocks contribute to 3% to 6% of the variation in consumer loans, with the impact fading over time (See Figure 2 row 2, Table 3). The FEVD shows that the credit series' own shocks remain dominant at 87%-93%, while interbank-rate shocks contribute only 0%-0.5% and policy-rate (BI7DRR) shocks contribute 2%-6%. IRFs are consistent with this decomposition: the quantity response to a lending-rate shock is small on impact and attenuates over the horizon, consistent with limited pass-through to consumer-loan volumes.
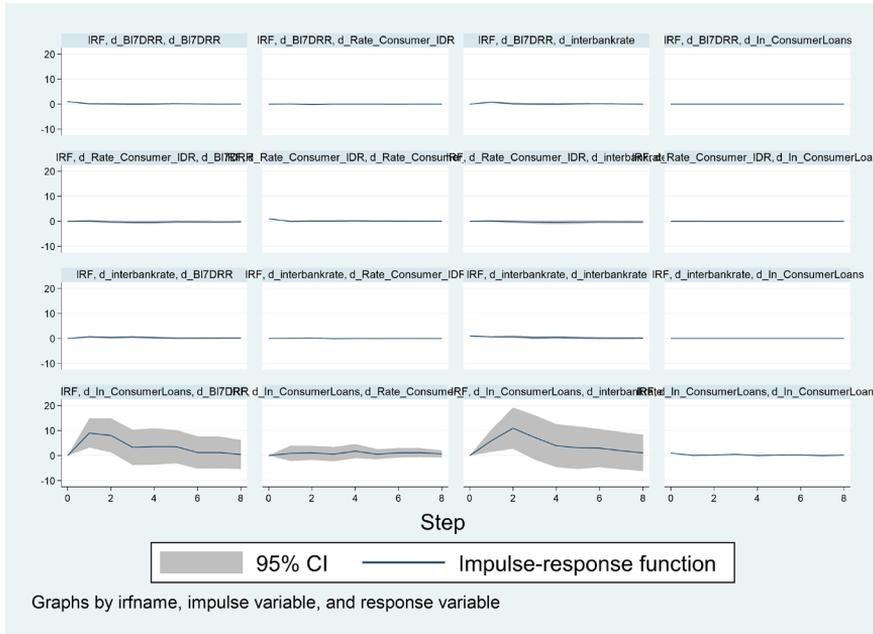
Figure 2. Impulse Response Function (IRF) Consumer Loans

Table 3. Forecast Error Variance Decomposition (FEVD) Consumer Capital loans

Step	d_ln_ConsumerLoans	d_Rate_Consumer_IDR	d_interbankrate	d_BI7DRR
0	0	0	0	0
1	1	0	0	0
2	0.934767	0.038649	0.000354	0.02623
3	0.907678	0.065291	0.002128	0.024903
4	0.900536	0.053488	0.00203	0.043945
5	0.886404	0.059197	0.002004	0.052395
6	0.87928	0.067789	0.002022	0.050909
7	0.876086	0.06511	0.003703	0.055101
8	0.874298	0.065023	0.004635	0.056043

4.1.3 Investment Loans

Investment loans FEVD indicates a small price channel. Lending-rate shocks explain about 7-11% of the variance in investment credit (see Table 4, Figure 3 row 2), increasing from the high single digits at short horizons to around 10-11% at longer horizons. Own shocks of investment credit remain dominant (86-93%), while interbank and policy-rate (BI7DRR) shocks together account for 1-2%. IRFs are consistent and show that responses to lending-rate shocks are small on impact and build slowly, reflecting longer planning horizons, contract rigidities, and repricing lags. Overall, monetary policy does not transmit directly or strongly to either working-capital or investment lending volumes, indicating frictions that limit the translation of rate changes into real-sector credit flows, especially for business financing.
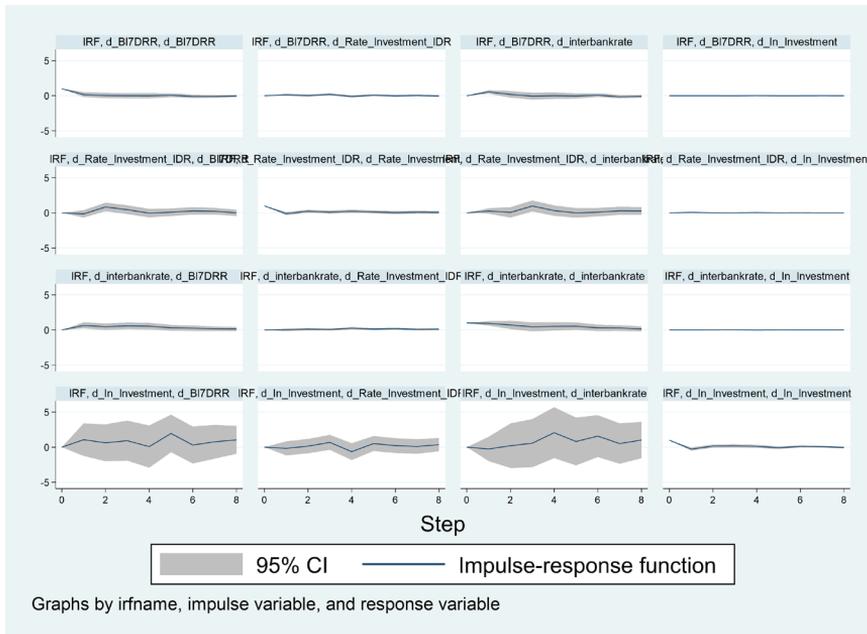

Figure 3. Impulse Response Function (IRF) Investment Loans

Table 4. Forecast Error Variance Decomposition (FEVD) Investment loans

Step	d_ln_Investment	d_Rate_Investment_IDR	d_interbankrate	d_BI7DRR
0	0	0	0	0
1	1	0	0	0
2	0.927254	0.071773	0.000767	0.000205
3	0.922347	0.073405	0.003926	0.000321
4	0.917323	0.071382	0.004948	0.006347
5	0.878147	0.102516	0.006342	0.012995
6	0.877128	0.101691	0.006465	0.014716
7	0.870282	0.108464	0.006402	0.014852
8	0.865017	0.10791	0.01129	0.015783

4.2 Empirical Result by Sector

4.2.1 Agricultural

In the agriculture, forestry, and fisheries sectors, credit is only moderately responsive to interest rate changes. FEVD shows that lending-rate shocks account for about 4.4-4.6% of movements in agricultural credit over the horizon, while the sector's own shocks remain dominant at around 87-96%. Interbank-rate shocks contribute about 0-6.7% and policy-rate (BI7DRR) shocks contribute about 0-1.4% (see Figure 4 row 2, Table 5). These shares imply that interest rate adjustments play a secondary role, with external drivers such as commodity prices, government programs and subsidies, and seasonal cash-flow patterns exerting greater influence on credit volumes.
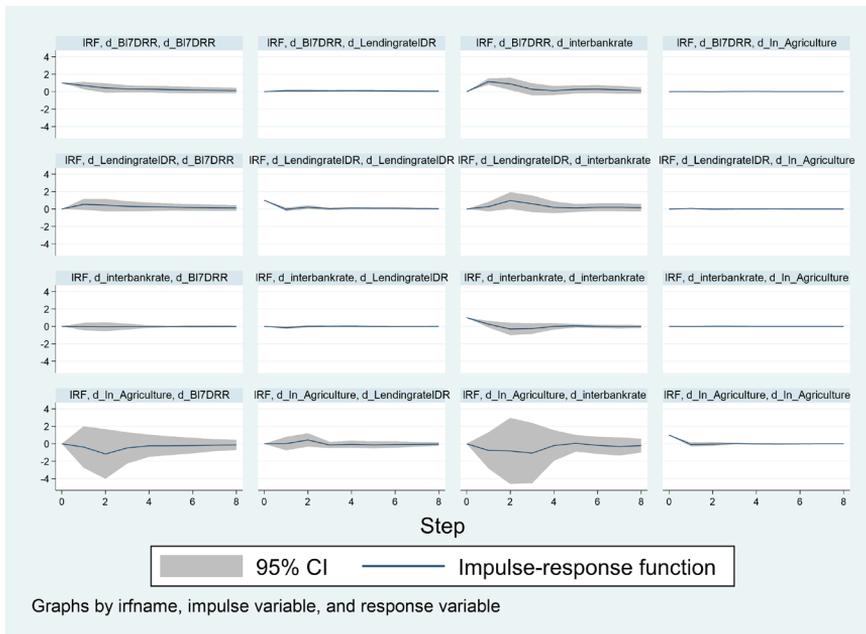

Figure 4. Impulse Response Function (IRF) Agricultural Sector Loans

Table 5. Forecast Error Variance Decomposition (FEVD) Agricultural loans

Step	d_ln_Agricultural	d_interbankrate	d_BI7DRR	d_LendingrateIDR
0	0	0	0	0
1	1	0	0	0
2	0.956045	0.000018	0.000156	0.04378
3	0.950041	0.000888	0.002611	0.04646
4	0.900772	0.048148	0.0068	0.04428
5	0.878599	0.064446	0.012662	0.044293
6	0.875955	0.064839	0.013211	0.045995
7	0.875646	0.064952	0.013268	0.046134
8	0.873754	0.066643	0.01351	0.046093

4.2.2 Manufacturing

Manufacturing loans FEVD shows a very small price channel. Lending-rate shocks explain only about 2.1-2.3% of the variance in manufacturing credit over the horizon, while own shocks dominate at 93-96%. Interbank-rate shocks contribute 1.6-3.1% and policy-rate (BI7DRR) shocks 0.1-1.0% (see Figure 5 row 2, Table 6). This pattern suggests that investment and credit expansion in manufacturing are influenced more by supply-chain conditions, input-cost pressures, and policy-driven credit programs than by loan pricing alone. Monetary policy still matters, but structural and programmatic factors play the larger role in shaping credit dynamics in this sector.
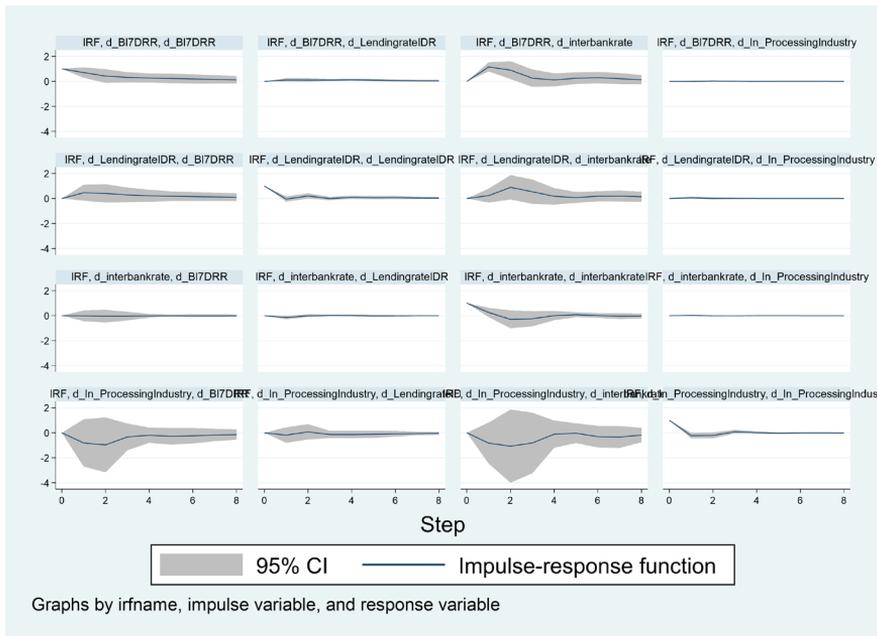
Figure 5. Impulse Response Function (IRF) Manufacturing Sector Loans

Table 6. Forecast Error Variance Decomposition (FEVD) Manufacturing loans

Step	d_ln_ProcessingIndustry	d_interbankrate	d_BI7DRR	d_LendingrateIDR
0	0	0	0	0
1	1	0	0	0
2	0.960929	0.015743	0.000638	0.02269
3	0.950051	0.02161	0.006429	0.021911
4	0.947725	0.021705	0.008419	0.02215
5	0.947317	0.021953	0.008418	0.022312
6	0.942425	0.02661	0.00875	0.022215
7	0.937445	0.030563	0.009813	0.022179
8	0.936192	0.031309	0.010126	0.022374

4.2.3 Construction

Construction loans The FEVD indicates low sensitivity to interest rates. Lending-rate shocks explain about 3.8-4.2% of the variance in construction credit, while own shocks dominate at roughly 91-96%. Interbank-rate shocks contribute up to 2.5% and policy-rate (BI7DRR) shocks about 0.3-2.3% (Table 7, Figure 6 row 2). Risk assessments and project evaluations appear to play a greater role than lending rates in determining access to credit. Informal credit from suppliers, rotating savings, and familial lending arrangements may also substitute for formal bank financing, especially among smaller contractors.
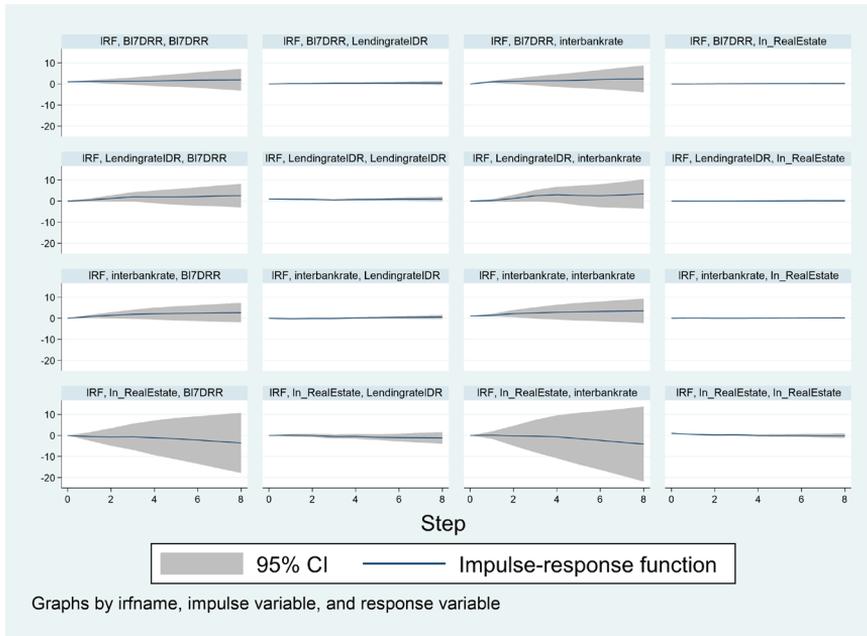
Figure 6. Impulse Response Function (IRF) Construction Sector Loans

Table 7. Forecast Error Variance Decomposition (FEVD) Construction loans

Step	d_ln_Construction	d_interbankrate	d_BI7DRR	d_LendingrateIDR
0	0	0	0	0
1	1	0	0	0
2	0.957668	0.000181	0.00328	0.03887
3	0.940813	0.002842	0.018307	0.038038
4	0.934882	0.002972	0.01981	0.042336
5	0.934576	0.003294	0.019808	0.042323
6	0.922327	0.01521	0.020621	0.041842
7	0.912321	0.023439	0.022609	0.041631
8	0.909624	0.025053	0.02328	0.042042

4.3 Empirical Result by Firms Size

A disaggregation of the regression analysis by firm size confirms that monetary policy impacts are highly uneven across borrower categories. The variance decomposition of credit growth indicates that changes in interest rates explain virtually none of the fluctuations in micro enterprise lending, only a modest portion for small and medium firms, but a substantially larger share for large corporate credit.

4.3.1 Micro Firms

Micro loans FEVD shows that credit dynamics are almost entirely self-driven. The sector's own shocks explain about 99.4-99.6% of the forecast variance, while rate variables contribute only fractions of a percent: policy rate (BI7DRR) 0.35- 0.56%, benchmark lending rate for micro (BRI SBDK Micro) 0.05%, and interbank rate 0.01% (Table 8). This pattern implies that micro-credit volumes respond far more to borrower cash flows, collateral and program design than to movements in lending or policy rates.
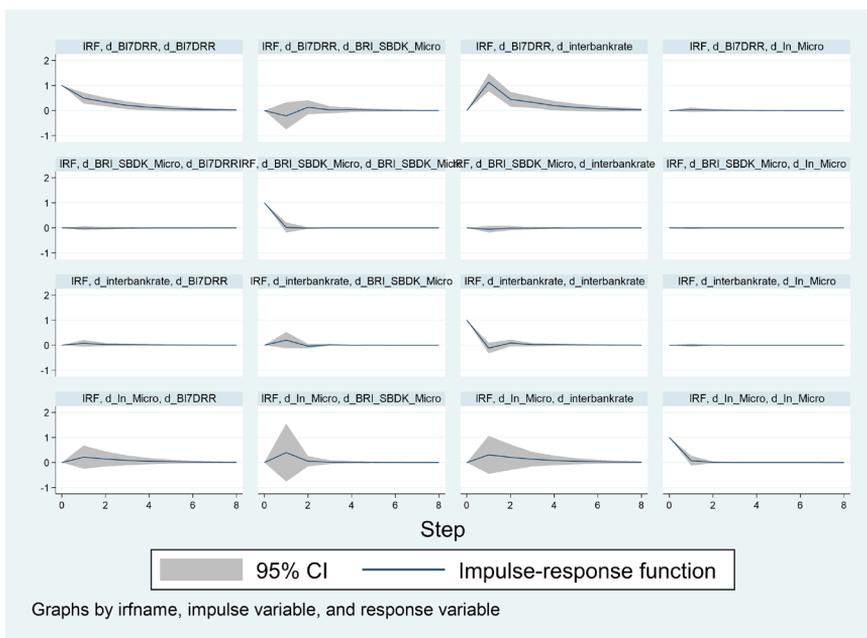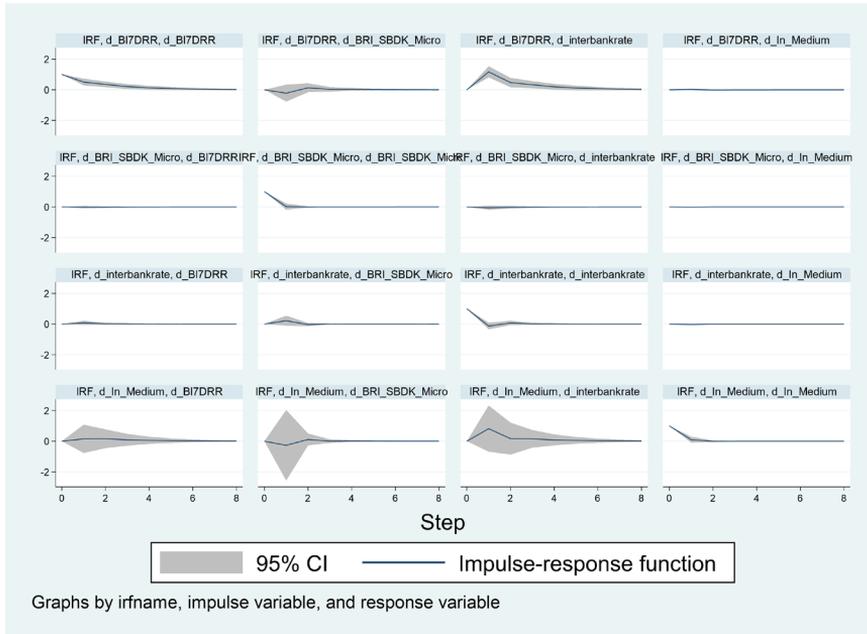

Figure 7. Impulse Response Function (IRF) Micro Firms Loans

Table 8. Forecast Error Variance Decomposition (FEVD) Micro loans

Step	d_ln_Micro	d_BRI_SBDK_Micro	d_BI7DRR	d_interbankrate
0	0	0	0	0
1	1	0	0	0
2	0.995912	0.000475	0.003544	0.000069
3	0.994675	0.000475	0.004769	0.000082
4	0.994202	0.000476	0.005234	0.000088
5	0.994022	0.000476	0.005411	0.000091
6	0.993952	0.000476	0.005458	0.000092
7	0.993926	0.000476	0.005506	0.000092
8	0.993915	0.000476	0.005516	0.000092

4.3.2 Medium Firms

Variance in medium-firm lending is overwhelmingly driven by own shocks, at 94.8-95.6% across horizons. Rate variables contribute only marginal shares: the interbank rate accounts for 3.28-3.30%, the benchmark lending rate (BRI SBDK Micro proxy) for 1.08-1.10%, and the policy rate (BI7DRR) for 0.00-0.79% (Table 9). Taken together, these ranges indicate a weak price channel for the medium segment, with credit dynamics shaped primarily by firm-specific demand and balance-sheet conditions rather than by monetary or money-market signals.

Figure 8. Impulse Response Function (IRF) Medium Firms Loans

Table 9. Forecast Error Variance Decomposition (FEVD) Medium loans

Step	d_ln_Medium	d_BRI_SBDK_Micro	d_BI7DRR	d_interbankrate
0	0	0	0	0
1	1	0	0	0
2	0.956224	0.010776	5.4e-06	0.032995
3	0.951013	0.010977	0.005195	0.032815
4	0.949375	0.010963	0.006854	0.032809
5	0.948718	0.010958	0.007534	0.03279
6	0.948478	0.010956	0.007781	0.032785
7	0.948388	0.010955	0.007804	0.032783
8	0.948354	0.010955	0.007909	0.032782

4.3.3 Large Firms

As shown in Table 10, variance in large-firm lending is still dominated by own shocks ($\approx$85.0-94.0%), but the price channel is stronger than in smaller segments. The policy rate (BI7DRR) explains a rising share of the variance, 4.7-13.7% across horizons, while the interbank rate contributes 1.0% and the benchmark lending rate (Mandiri SBDK) only 0.26-0.32%. Taken together, policy signals matter for large-corporate credit more than money-market or posted benchmark rates, yet firm-specific and balance sheet factors remain the primary drivers of loan volumes.
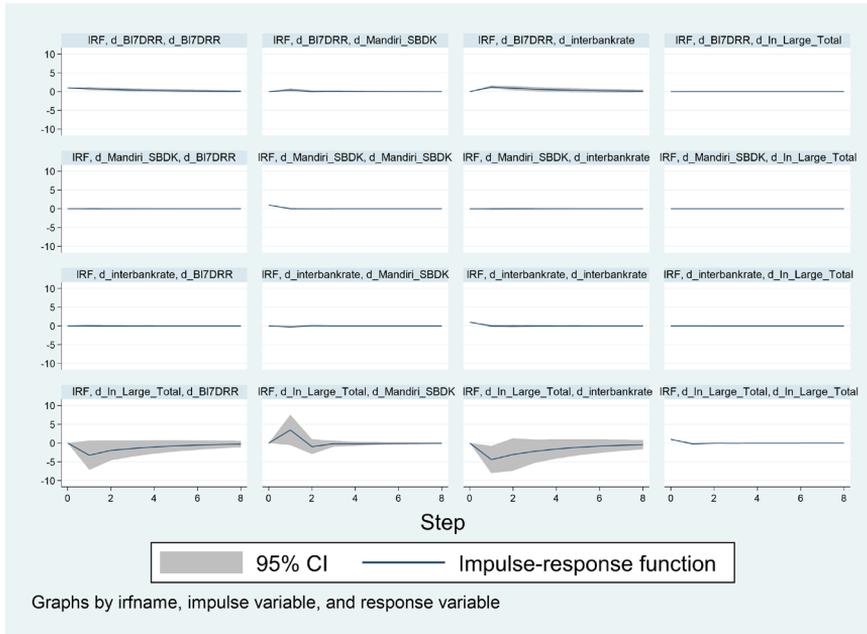
Figure 9. Impulse Response Function (IRF) Large Firms Loans

Table 10. Forecast Error Variance Decomposition (FEVD) Large loans

Step	d_ln_Large_Total	d_Mandiri_SBDK	d_BI7DRR	d_interbankrate
0	0	0	0	0
1	1	0	0	0
2	0.939886	0.002632	0.047143	0.010339
3	0.891248	0.002873	0.095782	0.010097
4	0.870394	0.003049	0.116693	0.009864
5	0.859742	0.003132	0.127377	0.00975
6	0.854324	0.003175	0.13281	0.009691
7	0.851533	0.003197	0.135609	0.009661
8	0.85009	0.003208	0.137056	0.009646

4.4 Empirical Result by Bank Ownership

4.4.1 Private National Bank

As shown in Table 11, lending-rate shocks account for about 6-13% of the variance in private-bank credit within the first few months, then ease toward 6% at longer horizons. Own shocks remain the primary driver at 79-85%. Monetary and money-market signals are secondary: the policy rate (BI7DRR) explains 1-7.6% and the interbank rate 1-3%. Taken together, private-bank credit is partly sensitive to loan pricing, but the price channel is not dominant, pass-through from policy to lending rates is present yet limited, and credit dynamics are largely shaped by bank- and borrower-specific factors.
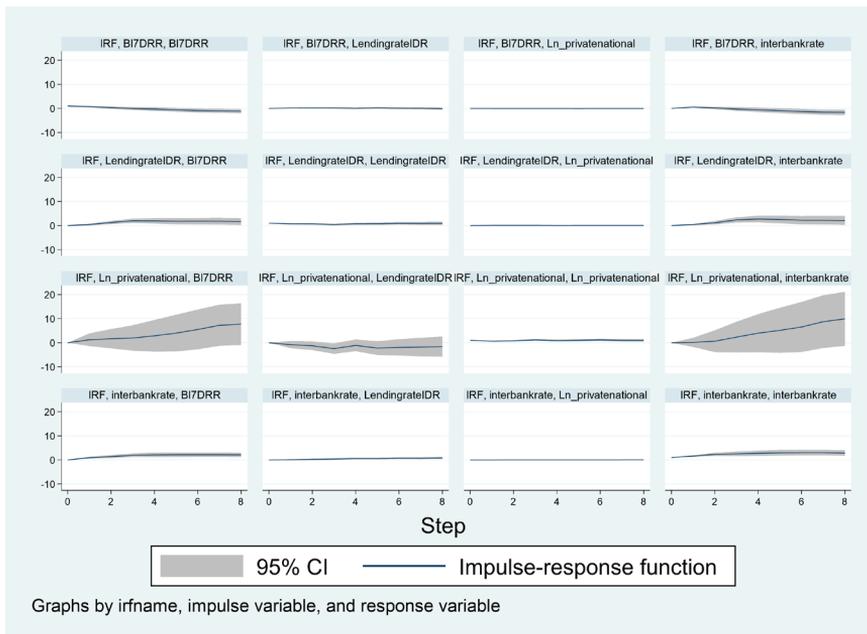
Figure 10. Impulse Response Function (IRF) Private National Bank

Table 11. Forecast Error Variance Decomposition (FEVD) Private National Bank Loans

Step	LendingrateIDR	interbankrate	BI7DRR	Ln_privatenational
0	0	0	0	0
1	0	0	0	1
2	0.083268	0.011338	0.014306	0.891087
3	0.129708	0.023112	0.056024	0.791156
4	0.119746	0.025971	0.05093	0.803353
5	0.095802	0.028882	0.06081	0.814506
6	0.077345	0.030998	0.076494	0.815163
7	0.063381	0.02715	0.072652	0.836817
8	0.056133	0.023902	0.074518	0.845446

4.4.2 State-Owned Bank

As shown in Table 12, credit at state banks exhibits mild rate sensitivity. Lending-rate shocks explain about 5.6-7.7% of the variance in state-bank credit, while own shocks dominate at 85.6-93.9%. The interbank rate contributes 0.04-3.6%, and the policy rate (BI7DRR) contributes 0.3-4.6%, with the policy share rising at longer horizons. Overall, loan pricing matters but is not the primary driver of state-bank credit. The FEVD pattern implies weak pass-through from policy to lending rates, and the rising policy-rate share together with the IRFs suggests two-way interactions between policy conditions and credit volumes rather than a direct, immediate transmission through loan pricing.
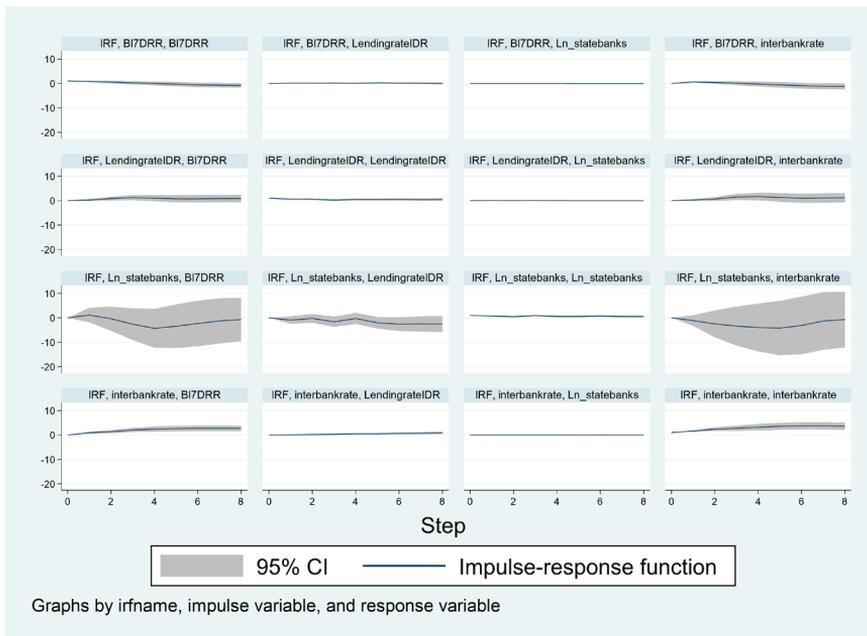
Figure 11. Impulse Response Function (IRF) State-Owned Bank

Table 12. Forecast Error Variance Decomposition (FEVD) State-Owned Bank Loans

Step	LendingrateIDR	interbankrate	BI7DRR	Ln_statebanks
0	0	0	0	0
1	0	0	0	1
2	0.057667	0.000393	0.00312	0.938819
3	0.059166	0.008583	0.010131	0.92212
4	0.077379	0.015827	0.008368	0.898426
5	0.073306	0.019898	0.008141	0.898655
6	0.068492	0.035886	0.040085	0.855537
7	0.058294	0.034897	0.041845	0.864963
8	0.055778	0.032044	0.045573	0.866605

4.4.3 Foreign and Joint Bank

As shown in Table 13, foreign and joint-bank credit is only weakly linked to loan pricing. Own shocks explain about 91.3-98.5% of the variance across horizons. USD lending-rate shocks account for only 1.2-3.2%, interbank rate 0.25-0.65%, and the policy rate (BI7DRR) 0.04-4.85%. The Granger causality test indicates that the USD lending rate does not significantly cause foreign credit growth, which is consistent with the low FEVD shares. Overall, monetary transmission to this segment is limited. Policy and money-market signals matter at the margin, but credit dynamics are driven mainly by borrower and bank-specific factors rather than by movements in lending or policy rates.
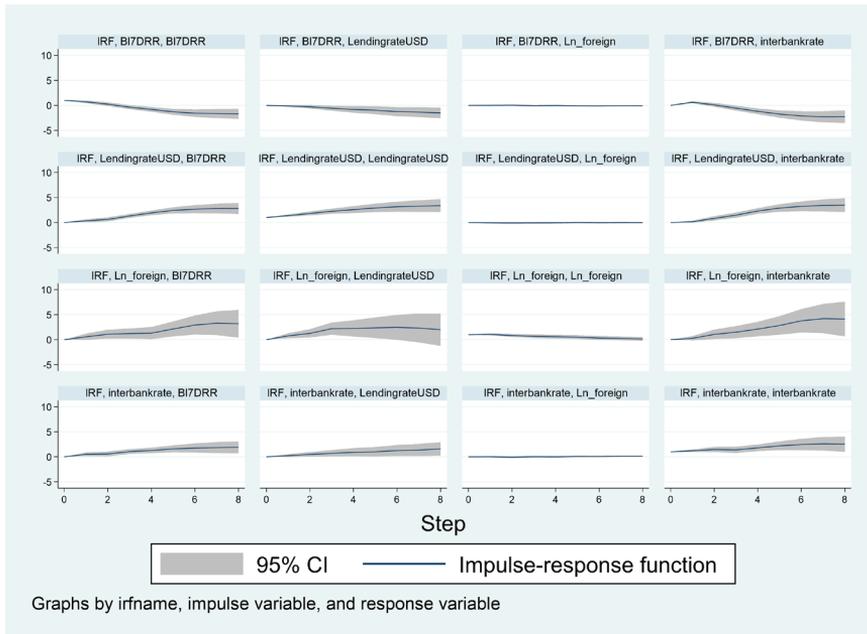
Figure 12. Impulse Response Function (IRF) Foreign and Joint Bank

Table 13. Forecast Error Variance Decomposition (FEVD) Foreign and Joint Bank Loans

Step	Ln_foreign_Loan	LendingrateUSD	interbankrate	BI7DRR
0	1	0	0	0
1	0.985077	0.012009	0.002489	0.000425
2	0.974072	0.019562	0.003317	0.003049
3	0.959499	0.02685	0.004409	0.009243
4	0.957552	0.028214	0.004855	0.009838
5	0.944183	0.027441	0.004069	0.023407
6	0.925301	0.03018	0.006327	0.038193
7	0.912994	0.032028	0.006467	0.048512

4.5 General Discussion

Overall, the empirical results in this study confirm the core insight of the credit channel and financial accelerator literature, while revealing an even sharper degree of heterogeneity than what is typically documented in advanced economies. At a broad level, the weak and uneven pass through from policy rates and lending rates to credit volumes across loan types, sectors, firm sizes, and bank groups is consistent with the idea that informational frictions, collateral constraints, and institutional segmentation can significantly dampen monetary transmission (Bernanke & Gertler, 1995; Bernanke et al., 1999). However, the near absence of responsiveness for micro and some MSME intensive segments suggests that in Indonesia the credit channel is not only imperfect but effectively truncated for large parts of the borrower distribution.

By loan type, the findings for working capital, consumer and investment loans align with the international evidence that business lending tends to be more closely tied to the credit channel than household borrowing. Working capital loans in this study display rising sensitivity to lending rate shocks over time, which is broadly in line with contributions that emphasise the importance of bank dependent financing for firms, especially in low growth environments, as in Sapriza & Temesvary (2024) and in the balance sheet channel tradition. In contrast, consumer loans show a direct transmission from the policy rate to credit volumes but only a small and fading role for lending rate shocks, echoing studies such as Cloyne et al. (2020) where household segments respond differently depending on contract structure and risk. The limited interest rate sensitivity of investment loans also matches the view that long horizon projects are less reactive to short term rate fluctuations, but it points to an even weaker amplification mechanism than predicted by the financial accelerator framework.

The sectoral results reinforce and nuance the sectoral heterogeneity highlighted in previous work. Kreamer (2022) and related studies argue that interest rate elasticities differ across industries, particularly between durable and non-durable sectors. In this paper, agriculture, manufacturing, and construction all display low to very low variance shares explained by lending rate shocks, despite their differing capital intensities. This pattern is broadly consistent with evidence for Indonesia that manufacturing and mining intensive regions display stronger responses to monetary shocks than trade and service-oriented provinces (Aginta & Someya, 2022), yet the magnitudes here suggest that structural factors such as commodity price volatility, government programs, and reliance on informal finance dominate rate movements. In that sense, the results are aligned with the qualitative direction of prior researches but indicate that the sectoral credit response to interest rates in Indonesia may be even more muted than standard models imply.

The firm size decomposition provides perhaps the closest and most direct bridge to the heterogeneous transmission literature in emerging markets. The finding that micro firms show almost no response to policy or lending rate shocks, while medium firms exhibit only partial transmission and large firms display the strongest sensitivity, is highly consistent with the mechanisms described by Bernanke & Gertler (1995), Bernanke et al. (1999), and more recent cross country work by Ottonello & Winberry (2020) and Checo et al. (2024). These studies stress that borrowers with weaker balance sheets and tighter constraints respond less to monetary policy. The Indonesian evidence here fits that pattern but pushes it further: for micro borrowers, the credit channel is effectively inactive, with credit behaviour dominated by idiosyncratic and non-price factors. This strengthens the message from Naiborhu (2024) and Pamungkas et al. (2025) that institutional frictions

and provisioning or capital constraints in banks can significantly attenuate rate pass through, especially for smaller clients.

The results by bank type and ownership are broadly in line with the literature on institutional heterogeneity in monetary transmission. Prior studies show that bank characteristics such as capitalisation, risk appetite, and business models shape the strength and speed of transmission (Altavilla et al., 2020; Abedifar et al., 2013). The weak sensitivity of private national bank credit to lending rate shocks in this study mirrors those findings, suggesting that bank level portfolio choices and regulatory constraints may overshadow marginal pricing signals. Combined with the growing role of Islamic and development-oriented institutions documented in earlier research, these results suggest that Indonesia's bank-based system channels policy impulses more effectively to well capitalised, large firm oriented segments, while leaving micro and MSME borrowers largely insulated from interest rate movements. In sum, the findings are broadly consistent with the direction of previous theories and empirical work, but they reveal a degree of segmentation and asymmetry that is particularly pronounced compared to the benchmark cases in advanced economies.

Finally, the interpretation of these results should take into account that the sample period spans major economic shocks, including the 2018 Trade War 1.0 and the COVID-19 pandemic in 2020. The result of impulse-response functions shows that a shock to the lending rate generates a very similar and economically small response of credit volume in both specifications either when the sample includes the COVID-19 and trade-war periods and when those observations are excluded. This suggests that the interest-rate/credit-volume elasticity is structurally low and does not change materially during crisis episodes. One plausible interpretation is that, in this period, lending decisions were driven more by banks' risk perceptions, borrower balance-sheet conditions, and regulatory than by marginal changes in loan pricing. To the best of the authors' knowledge, there is no previous empirical study that explicitly compares the lending-rate–credit-volume transmission between crisis and non-crisis periods particularly during the COVID-19 episode in the context under study. Overall, the results imply that the transmission from lending rates to aggregate credit is weak and relatively time-invariant, even in the presence of large macroeconomic shocks.

4.6 More discussion Why Credit is not sensitive to lending rate

Lending Behaviour can be inferred by their Loan-to-Deposit Ratio (LDR), proxy for the financial intermediary function of banks, and its government bonds holding. Lower LDR and higher banks holding of gov't bonds imply that banks preferred to put their third-party fund (DPK) to hold risk-free assets rather than passing to the borrower. However, time-series data shows that over time, LDR tends to be higher and banks ownership of gov't bonds tend to be lower, signaling banks preference to its lending activities vis-à-vis holding a risk-free asset. Nevertheless, there is a sign of trend reversal in early 2025, which has a slight turn of direction for both LDR and gov't bonds ownership of banks, implying a heightened business risk probability.

Time series data already shown that over time, banks still prefer lending activities vis-à-vis holding a risk-free asset (Figure 13), further our preliminary study using OLS Regression found that there is significant substitution effect between holding SBN and credit bank provision (Table 14). The findings suggest that when banks increase their holdings of government bonds, they tend to reduce their lending. It proved by the decrease amount of credit distributed and tendency to decrease in the amount of LDR. It could

be as consequence of Bank that is likely to prioritise the safety and liquidity over credit expansion especially during periods of heightened uncertainty or rising interest rate such as in early of 2025 as shown from the descriptive statistics.
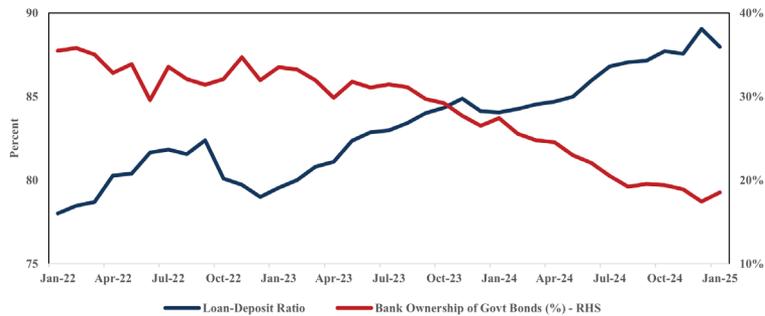

Figure 13. Commercial Banks Ownership of Gov't Bonds and Loan-Deposit Ratio

Source: Bank Indonesia, Bloomberg (2025)

On the other hand, we can also observe firms' preference to borrow money either domestically (through commercial bank credit) or foreign debt. Lack of domestic credit demand growth may be explained due to firms' preference to borrow abroad. However, time-series data show that over time, domestic credit growth is consistently higher than foreign debt growth, signalling firms preference to borrow money domestically.

Table 14. OLS Regression Result of SBN to LDR & Credit Volume

Variables	(1) ln_Credit	(2) ln_Credit
ln_SBNOwnership	-0.121*** (0.0237)	
BIRate	0.0867*** (0.00304)	0.0740*** (0.00357)
LendingRate	-0.225*** (0.0126)	-0.207*** (0.00578)
SBN_AssetRatio		-0.0134*** (0.00162)
Constant	18.96*** (0.440)	17.33*** (0.0782)
Observations	83	83
R-squared	0.939	0.955

Foreign Debt growth even declined in the second half of 2024 onwards. Even so, there is a possibility of large firms or multinational companies that has operation outside Indonesia raising debts through international debt market, but is not recorded in Indonesia, then use the money for domestic operations.
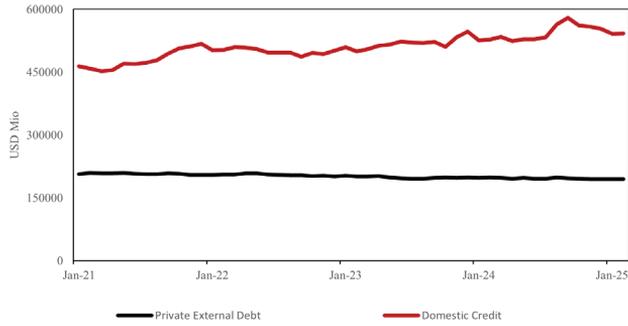
Figure 14. External and Domestic Credit Volume
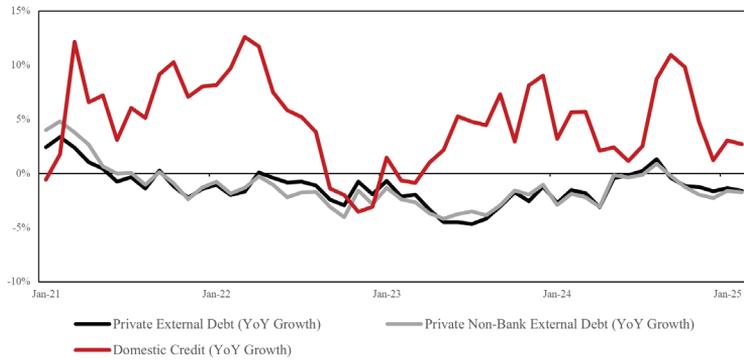
Source: Bank Indonesia, Bloomberg (2025)

Figure 15. External and Domestic Credit Volume Growth

Source: Ministry of Finance Republic Indonesia, Bloomberg (2025)

5 Conclusion and Policy Recommendations

5.1 Conclusion

The empirical evidence presented in this study paints a coherent but concerning picture of monetary transmission via the credit channel in Indonesia. Across disaggregation by firm size, loan type, and economic sector, we find that the link between interest rates and credit growth is highly tenuous for most segments apart from large corporate borrowers. In theory, a cut in the policy rate should spur banks to lower lending rates and expand credit supply broadly (Mishkin, 1996; Bernanke & Gertler, 1995). In practice, however, our results show that this pass-through is largely broken for the MSME sector and many critical industries. Credit extended to micro and small enterprises, which collectively form the backbone of Indonesia's economy, exhibits near-zero elasticity with respect to lending rate movements. Whether policy rates rise or fall, the growth of MSME credit remains essentially flat and driven by factors outside the interest rate realm.

This finding is consistent with a fragmented credit system where only certain borrowers have the financial capacity or collateral to respond to price signals. It also dovetails with prior Indonesian evidence of heterogeneous regional and sectoral policy effects (Aginta &

Someya, 2022), reinforcing the notion that monetary policy operates unevenly in a diverse economy. By contrast, credit to large firms and well-established corporate borrowers is noticeably sensitive to interest rate changes, suggesting that the conventional lending channel is operative chiefly for this top tier. We observe that when Bank Indonesia raises policy rates, lending to large enterprises tends to slow appreciably, and conversely, rate cuts during easing cycles have been associated with accelerated credit growth for large businesses. This pattern implies that the intended restraining or stimulative impact of monetary policy is being absorbed disproportionately by larger firms, which typically have better access to credit and more flexible financing options.

Large companies likely benefit from stronger balance sheets and creditworthiness (as posited by the balance sheet channel), enabling them to borrow more when rates fall and conversely scale back when rates rise (Bernanke et al., 1999). In effect, the financial accelerator is working in reverse for smaller firms. Instead of amplifying monetary easing, weak balance sheets and collateral gaps among MSMEs prevent them from accessing additional credit, even at lower interest rates. This outcome is emblematic of financial frictions undermining policy transmission: informational asymmetry and collateral constraints lead banks to restrict lending to small firms irrespective of rate incentives (Bernanke & Gertler, 1995).

In summary, our study finds that Indonesia's credit channel of monetary transmission is highly attenuated for MSMEs and segmented sectors, and only robust for a narrow band of large-scale borrowers. Our paper found a structural weakening of the conventional bank lending channel in a context of diverse financial institutions and borrower profiles (Bernanke & Gertler, 1995; Ottonello & Winberry, 2020). The results call for a reassessment of reliance on interest rate policy alone to achieve broad-based credit and economic objectives. In emerging markets with fragmented credit systems, complementary measures, potentially including targeted credit programs, macroprudential policies, and efforts to address bank risk aversion, are likely necessary to fill the gaps in transmission (Pamungkas et al., 2025).

Future iterations of this study should deepen identification and broaden scope to enhance both inference and policy relevance. A natural next step is to move from aggregate panels to loan-level (bank-firm) data, enabling borrower-bank matched fixed effects, alternative instruments for lending rates, and tests for non-linear or threshold responses across the firm-size distribution. Equally important is to embed the evolving architecture of financial digitalisation, capturing bank digitisation intensity, e-KYC and credit-bureau depth, electronic payment penetration, and the deployment of alternative data in underwriting, to assess whether digital channels relax information and collateral frictions and thereby amplify or mute interest-rate pass-through. The analysis would also benefit from an explicit treatment of external shocks, incorporating standard geopolitical risk indices, global policy-uncertainty gauges, and commodity-price shocks to facilitate high-frequency, event-style evaluation of sudden tightening and its heterogeneous real effects on micro, medium, and large firms. Finally, allowing for regional and sectoral heterogeneity (including supply-chain exposure), tracing dynamic adjustment paths to separate transitory from persistent quantity effects, and expanding robustness (alternative credit measures, deflators, placebo tests, and model-comparison exercises such as state-dependent or regime-switching specifications) would materially strengthen the credibility and granularity of the transmission mapping established here.

5.2 Policy Recommendations

The evidence of a weak credit channel, especially for MSMEs, calls for a strategic policy response. Indonesia's policymakers, in particular Bank Indonesia (BI) and Financial Services Authorities (OJK), should adopt targeted measures to reinforce monetary transmission and ensure that credit flows to productive sectors even when risk perceptions are high. Below, we outline key recommendations:

5.2.1 Strengthen Interest Rate Pass-Through to Lending

Banks often hesitate to lower lending rates for smaller borrowers, impeding pass-through. Regulators could encourage more transparent and competitive pricing of loans. For instance, simplifying the prime lending rate structure and publicly benchmarking MSME loan rates to the policy rate could pressure banks to adjust rates in tandem with monetary easing (Altavilla et al., 2020b). In addition, macroprudential guidance or moral suasion can be used to prompt banks to expand lending when policy rates are cut. Bank Indonesia might revive or refine its interest rate pass-through agreements with banks, ensuring that benefits of policy easing are swiftly transmitted to borrowers in the form of lower loan rates. Conversely, during tightening cycles, authorities should monitor that banks do not disproportionately raise rates on MSMEs while protecting larger clients, a pattern that exacerbates credit inequality (Byrne & Foster, 2023). Clear communication and data publication on lending rate spreads for different segments can foster accountability and competition, narrowing the gap between policy rates and actual borrowing costs.

5.2.2 Expand Targeted Credit Programs and Guarantees

To directly support credit access for MSMEs in the face of weak transmission, the government and central bank should bolster targeted lending schemes. Programs like Kredit Usaha Rakyat (KUR), which provide interest subsidies and partial guarantees for small business loans, could be scaled up and better aligned with monetary policy cycles. When policy rates are lowered, an expansion of such programs would immediately channel cheap funds to MSMEs, achieving the stimulus that general rate cuts fail to deliver. Credit guarantee schemes are particularly crucial: by having a government entity or development finance institution absorb a portion of default risk, banks' risk-adjusted returns on MSME loans improve, incentivising them to lend rather than park funds in government bonds (Naiborhu, 2024). The authorities should consider increasing the guaranteed coverage or simplifying claim processes to make risk-sharing more effective.

5.2.3 Incentivize Bank Lending Over Safe Assets

Reducing banks' reliance on government securities during uncertain times requires alignment of regulatory incentives. Bank Indonesia and the Financial Services Authority (OJK) could introduce countercyclical measures such as a "lending commitment" or funding-for-lending program. For example, the central bank could offer low-cost funding or temporary reserve-requirement reductions for banks that meet MSME lending growth benchmarks. Such schemes were used successfully in other countries to maintain credit flow (especially in crises) by effectively remunerating banks for lending rather than holding bonds. Additionally, adjusting capital risk weights in favor of MSME loans (recognising their typically short-term nature and perhaps using historically lower default correlations) can make these loans more attractive relative to zero-risk-weight government bonds. Care must be taken to balance financial stability, but a modest recalibration (e.g., lower capital charges on high-quality MSME loans or priority sector lending quotas) can tilt

bank portfolios toward the real sector. Macroprudential tools might also be employed: the OJK could set guidelines limiting excessive growth in non-loan assets during expansionary monetary periods, or conversely, allow more flexibility on liquidity ratios when banks expand credit to targeted sectors. The overarching goal is to break the "safe asset" preference loop by making it more profitable and convenient for banks to lend to businesses than to accumulate sovereign securities in periods of monetary easing.

5.2.4 Enhance Financial Infrastructure and Reduce Frictions

Many frictions weakening the credit channel stem from structural issues in credit markets. Policymakers should continue strengthening the financial infrastructure that underpins lending to smaller borrowers. This includes expanding the credit information bureau coverage so that MSMEs with good repayment histories can more easily qualify for loans and fully operationalise the movable collateral registry to allow businesses to pledge inventories or receivables for credit (thus reducing collateral constraints). Improving legal enforcement of contracts and collateral (e.g., expediting claim processes on collateral assets) would raise banks' confidence in lending down-market. Financial literacy and outreach programs can stimulate credit demand among viable MSMEs that currently self-select out of borrowing due to perceived complexity or mistrust. As digitalisation grows, regulators should leverage fintech and digital lending platforms to reach underserved segments. By providing a clear regulatory framework and support for fintech-credit partnerships, alternative lenders can integrate with traditional banks (for instance, through co-lending or referral models) to extend credit to micro entrepreneurs using innovative credit scoring. These platforms often use non-traditional data to evaluate creditworthiness, potentially overcoming information asymmetry that banks face. Digital lending and peer-to-peer models can thus complement bank lending, ensuring that a larger swath of the economy responds to changes in financing conditions. Bank Indonesia can facilitate this by encouraging interoperability between banks and fintech (such as data-sharing initiatives) and by adopting proportionate regulations that manage risks without stifling innovation.

Implementing these recommendations would bolster the credit channel's effectiveness and complement monetary policy in Indonesia. By directly addressing the institutional frictions and risk perceptions that inhibit lending to MSMEs and other underserved sectors, policymakers can ensure that future interest rate adjustments yield more uniform and equitable effects across the economy. In essence, a mix of prudent regulation, innovative financial instruments, and strategic use of public-sector balance sheets can empower the banking system to transmit monetary impulses more faithfully. This will not only enhance the stability and inclusiveness of Indonesia's monetary policy outcomes but also support broader economic development goals by channelling credit to where it generates the most productive value.

Disclosure

and conducted the formal analysis. Author 1 provided literature review and the discussion related to the previous study. Data curation was carried out by Author 3. The original draft was prepared by all of the authors.

All research ideas, empirical strategies, data analysis, and final interpretations are the sole responsibility of the authors, who carefully reviewed and verified all AI-assisted text. The data underlying this study were obtained from publicly accessible official sources and licensed databases. Macroeconomic and financial data were sourced from Bank Indonesia, Badan Pusat Statistik (BPS), Otoritas Jasa Keuangan (OJK), as well as from subscription-based databases such as CEIC and Bloomberg. Data obtained from licensed databases are not publicly shareable due to contractual restrictions. However, processed datasets and replication code used in the analysis are available from the corresponding author upon reasonable request, and the authors affirm that all data used in this study can be responsibly accounted.

References

Abedifar, P., Molyneux, P., & Tarazi, A. (2013). Risk in islamic banking. *Review of Finance, 17*(6), 2035-2096. https://doi.org/10.1093/rof/rfs041

Aginta, H., & Someya, M. (2022). Regional economic structure and heterogeneous effects of monetary policy: Evidence from Indonesian provinces. *Journal of Economic Structures, 11*(1), 1-17. https://doi.org/10.1186/s40008-021-00260-6

Alessandri, P., & Bottero, M. (2020). Bank lending in uncertain times. *European Economic Review, 128*, 103503. https://doi.org/10.1016/j.euroecorev.2020.103503

Altavilla, C., Boucinha, M., Holton, S., & Ongena, S. (2020). Monetary policy and bank profitability in a low-interest rate environment. *Economic Policy, 33*(96), 531-586. https://doi.org/10.1093/epolic/eiy013

Altavilla, C., Canova, F., & Ciccarelli, M. (2020). Mending the broken link: Heterogeneous bank lending rates and monetary policy pass-through. *Journal of Monetary Economics, 110*, 81-98. https://doi.org/10.1016/j.jmoneco.2019.01.001

Avdjiev, S., & Hale, G. (2019). US monetary policy and fluctuations of international bank lending. *Journal of International Money and Finance*, *95*, 251-268. https://doi.org/10.1016/j.jimonfin.2018.06.013

Becker, B., & Ivashina, V. (2018). Financial repression in the European sovereign debt crisis. *Review of Finance, 22*(1), 83-115. https://doi.org/10.1093/rof/rfx041

Bernanke, B. S., & Blinder, A. S. (1988). Credit, money, and aggregate demand. *American Economic Review*, *78*(2), 435-439.

Bernanke, B. S., & Gertler, M. (1995). Inside the black box: The credit channel of monetary policy transmission. *Journal of Economic Perspectives, 9*(4), 27-48. https://doi.org/10.1257/jep.9.4.27

Bernanke, B. S., Gertler, M., & Gilchrist, S. (1999). *The financial accelerator in a quantitative business cycle framework*. In J. B. Taylor & M. Woodford (Eds.), Handbook of Macroeconomics (Vol. 1C, pp. 1341-1393). https://doi.org/10.1016/S1574-0048(99)10034-X

Buch, C. M., Buchholz, M., & Tonzer, L. (2015). Uncertainty, bank lending, and bank-level heterogeneity. *IMF Economic Review, 63*(4), 919-954. https://doi.org/10.1057/imfer.2015.35

Byrne, D., & Foster, S. (2023). *Transmission of monetary policy: Bank interest rate pass-through in Ireland and the Euro area* (Economic Letter No. 3/EL/23). Central Bank of Ireland.

Borio, C., & Zhu, H. (2012). Capital regulation, risk-taking and monetary policy: A missing link in the transmission mechanism? *Journal of Financial stability*, *8*(4), 236-251. https://doi.org/10.1016/j.jfs.2011.12.003

Checo, A., Grigoli, F., & Sandri, D. (2024). *Monetary policy transmission in emerging markets: Proverbial concerns, novel evidence* (BIS Working Paper No. 1170). Bank for International

Settlements.

Cloyne, J., Ferreira, C., & Surico, P. (2020). Monetary policy when households have debt: New evidence on the transmission mechanism. *Review of Economic Studies*, *87*(1), 102-129. https://doi.org/10.1093/restud/rdy074

European Central Bank (ECB). (2022). *The transmission of monetary policy in the Euro area*. ECB Economic Bulletin, Issue 4. https://www.ecb.europa.eu/press/key/date/2022/html/ecb. sp221011~5062b44330.en.html

Gambacorta, L., & Marques-Ibanez, D. (2011). *The bank lending channel: Lessons from the crisis* (BIS Working Papers No. 345). Bank for International Settlements.

Gambacorta, L., & Shin, H. S. (2018). Why bank capital matters for monetary policy. *Journal of Financial Intermediation, 35*, 17-29. https://doi.org/10.1016/j.jfi.2016.09.005

Gennaioli, N., Martin, A., & Rossi, S. (2018). Banks, government bonds, and default: What do the data say? *Journal of Monetary Economics, 98*, 98-113. https://doi.org/10.1016/j. jmoneco.2018.04.011

Kreamer, J. (2022). Sectoral heterogeneity and monetary policy. *American Economic Journal Macroeconomics, 14*(2), 123-159. https://doi.org/10.1257/mac.20190248

Mishkin, F. S. (1996). The channels of monetary transmission: Lessons for monetary policy. *NBER Working Paper No. 5464*. https://doi.org/ 10.3386/w5464

Naiborhu, E. D. (2024). The lending implications of loan loss provisioning and monetary policy in Indonesia. *Pacific Basin Finance Journal, 86*, Article 102446. https://doi.org/10.1016/j. pacfin.2024.102446

Ottonello, P., & Winberry, T. (2020). Financial heterogeneity and the transmission of monetary policy. *Econometrica*, *88*(6), 2473-2502. https://doi.org/10.3982/ECTA15949

Pamungkas, P., Septianto, F., Trinugroho, I., Ab Rahim, R., Ridhwan, M. M., & Sergi, B. S. (2025). Monetary policy via bank lending channel: Evidence from lending decomposition. *Journal of Risk and Financial Management, 18*(5), 249. https://doi.org/10.3390/ jrfm18050249

Pietrovito, F., & Pozzolo, A. F. (2023). Did small banks trade off lending with government bond purchases during the sovereign debt crisis? *International Review of Economics & Finance, 86*, 666-683. https://doi.org/10.1016/j.iref.2023.03.041

Sapriza, H., & Temesvary, J. (2024). Economic activity and the bank credit channel. *Journal of Banking & Finance*, *164*, 107216. https://doi.org/10.1016/j.jbankfin.2024.107216

Segev, N., & Schaffer, M. (2020). Monetary policy, bank competition and regional credit cycles: Evidence from a quasi-natural experiment. *Journal of Corporate Finance*, 64, 101494. https://doi.org/10.1016/j.jcorpfin.2019.101494

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