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The Impact Of Monetary Policy On Indonesian Bank Loans

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Abstract

This article discusses monetary policy's impact on bank borrowing. The data selected are Indonesian state data and the annual research period for 13 years from 2008 - 2020 with secondary data from the world bank. This study investigates wide money as a percentage of Gdp, Interest payment percent of expense, Domestic credit to private sector by banks percent of GDP. This study uses a quantitative method with an autoregressive vector model with the results of data processing showing that there is no reciprocal or two-way relationship between the three variables. This study found that monetary policy's impact can have macroeconomic action by increasing or limiting the supply of bank loans. This is evidenced by the different magnitudes of growth in lending in various sectors reflecting the growing effects of monetary policy.

Keyword : Monetary Policy, Indonesian, Bank Loans

JEL Classification : C01, F18, F64

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Introduction

The amount and cost of credit with changes to the credit supply, both significant and margin-intensive, are significantly and substantially affected by monetary policy (Sasongko, Widarni, & Bawono, 2021). The monetary policy being tightened can reduce providing bank loans to companies and can hamper economic pursuits. The level of corporate lending policies that have variable rates direct impact the debt load and interest rates of borrowers (Abuka, Alinda, Minoiu, Peydró, & Presbitero, 2019). Although that monetary policy does shocks on the real economy is weak, total savings, total loans and industrial production increase after an expansionary monetary policy shock (Hidayanti & Prabowo, 2021). Monetary policy can influence macroeconomic activity by increasing or limiting the supply of bank loans. This is evidenced by the different

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magnitudes of growth in lending in various sectors reflecting the growing monetary policy's impacts. The shocks of monetary policy can affect bank behavior across all types of lending (Sun, Ford, & Dickinson, 2010).

The supply of loans to banks is decided based on perspectives on the future direction financial strategy. The offering loans declined in line with the expected reduction in credit margins following the tightening of monetary policy. But since the adjustment in borrowing rates has been slow, the results of the financial shock have only been gradual. The impact of monetary policy shocks on bank loans also takes into account the reaction of the output level and the lending rate (Hülsewig, Mayer, & Wollmershäuser, 2006).

Risk taking is increased by borrowing banks because borrowing banks do not adjust their assets to increase in short-term liabilities. these results have a bearing on the stability of the financial consequences and spillovers of monetary policy. This spillover effect through international bank loans is accepted through banks (Alper, Altunok, apacioğlu, & Ongena, 2020).

Based on the economic system, monetary policy causes a decrease in statistical economics in international bank lending affects global financial taking risks, however, global financial risk in monetary policy is a major factor in the demand for cross-border bank loans and is a private source that influences the world's financial cycle (Albrizio, Choi, Furceri, & Yoon, 2019 ; Viphindartin & Bawono, 2021).

The decline in the money market is evidence of an asymmetric error indicating that it matches bank lending rates. Bank loans will see a rapid response to a decline in money market rates if commercial banks can adjust the interest rates of customers who borrow from these banks (Matemilola, Ariffin, & Muhtar, 2014).

The form of monetary policy in developed countries uses currency as a target country to accommodate significant cross-border bank borrowers. To think about the external impact, they must explicitly think about the currency denominated in international bank claims foreign banks' participation in borrowing countries can reduce the acceleration of monetary policy through means of cross-border bank lending market (Takáts & Temesvary, 2020). However, worldwide bank credit which has a branch company in the borrower's nation is less responsive monetary policy modifications in the borrowing country (Kunt, Horváth, & Huizinga, 2020).

The growth rate of bank loans does not apply to changes in monetary policy (Li, 2022). However, currency significantly influences bank loan flows and is subject to changes in monetary policy (Takáts and Temesvary, 2020).

Literature Review

significant spillover effects of co-volatility between cryptocurrencies and conventional currencies gold markets, in particular in COVID-19 create uncertainty or economic shocks (Hsu, Sheu, and Yoon, 2021). In times of bear markets, monetary policy has a greater impact on stock market volatility than increases On the whole (Zare, Azali, and Habibullah, 2013). Economically compatible stock and bond market fundamental movements show the average risk premium across several Country-specific and global risk factors and the dynamics of the associated risk premium (Bakshia, Carrb, Wu, 2008).

Price inflation may not reflect price changes that occur in many low- and middle-income countries, especially for non-tradable local resources (Turner, Lauer, Teerawattananon and Jit, 2019). Targeting inflation in a country has been proven to reduce dependence on foreign currency-denominated international debt (Ogrokhina & Rodriguez 2019).

Specific distributions provide evidence Country-specific and global risk drive global macroeconomic and financial cycles and worldwide macroeconomic activity reinforced by a complex network of cross-border interactions (Dées, & Galesi, 2021). Tightening of Lower credit growth is a result of monetary policy, and easing of Monetary policy promotes more credit expansion (Naiborhu, 2020).

Monetary policy has a relevant impact on US data. The decline in new companies entering can protect old companies from competition from new entrants and can reduce aggregate productivity (Hamano & Zanetti, 2022). The overflow effect of US financial strategy on the crisis regime in the selected ASEAN market is not a problem. Meanwhile, the spillover effect of US monetary policy regarding calm regime affects the selected ASEAN stock market (Yang & Hamori, 2014). Some of the factors that cause GCC countries to experience different responses to monetary policy are variations in financialization and liberalization policies, economic performance, and susceptibility to external and internal shocks (Elsayed, Naifar, & Nasreen, 2021).

The effect of a nation's monetary strategy is related to fluctuations in asset values and borrowing costs. but does not apply to the growth rate of bank interest loans (Li, 2022). Currency-related monetary policy changes even when neither the banking system of the lender nor the target country of the borrower utilizes that currency as their own (local) currency, significantly impact cross-border bank loan flows in that currency. While we find negligible transmission into interbank lending, the currency dimension of this international bank lending channel mostly functions through loans to non-banks. The transmission impact is present in both EUR and JPY loans as well as USD loans since this currency effect operates the same in all three reserve currencies (Takáts and Temesvary, 2020). Return on capital and currency values affect in determining investment. Investment adjustment to changes in the underlying variables is a bit slow (Weersink & Fulton, 2020).

H1 : The flow of bank loans is affected by changes in monetary policy

H2 : The effect of monetary policy does not affect bank lending

Research Method

Lokus Indonesia, an annual research period of 13 years from 2008 - 2020 with secondary data from the world bank. This study investigates % of GDP in broad terms, Interest payment percent of expense, Banks' domestic private sector credit as a percentage of GDP. This study uses a quantitative method with an autoregressive vector model with the following equation:

$$Ms_t = \beta +_1 Ir_{t1} +_2 Dc_{t2} + e_t$$

$$Ir_t = \beta +_1 Ms_{t1} +_2 Dc_{t2} + e_t$$

$$Dc_t = \beta +_1 Ir_{t1} +_2 Ms_{t2} + e_t$$

Description:

Ms : Broad money percent of GDP

Ir : Interest payment percent of expense

Dc : Domestic bank lending to the private sector as a percentage of GDP

β : Constant

e : Error term

t : Time period

Table 1. Variable Description

Variable	Description	Source	Unit of Analysis
Ms	Broad money percent of GDP	World Bank	Percent
Ir	Interest payment percent of expense	World Bank	Percent
Dc	Domestic bank lending to the private sector as a percentage of GDP	World Bank	Percent

Result and Discussion

For the first step, a root test is carried out on each variable. This test is to see the stationarity of each variable. The findings of the root testing are included in the table. 2,3,And 4.

Table 2. The Results Of The Root Test Of Broad money percent of GDP (Ms)

t-Statistic	Prob
-3.481.812	0.0405
-4.582.648	
-3.320.969	
-2.801.384	

The t-statistical value in the statistical analysis of the Augmented Dickey-Fuller on the Ms variable (-3.481812) is greater matched to the primary key in the MacKinnon table at various levels of confidence (5%, and 10%) and less than the confidence level (1%). In addition to looking at the Probability Augmented Dickey-Fuller value, you can also look at the Probability value at the alpha level. Probability value $< \alpha$ ($0.0405 < 0.05$), meaning that the data is stationary at the second level of variation.

Table 3. The Results Of The Root Test Of Interest payment percent of expense (Ir)

t-Statistic	Prob
-3.439.249	0.0309
-4.121.990	
-3.144.920	
-2.713.751	

The amount of t statistic in test of improved Dickey-Fuller statistic on variable Ir (-3.439249) is greater at various levels of confidence than the critical value in the MacKinnon table (5%, 10%) and smaller than the level of confidence (1%). In addition to looking at the Probability Augmented Dickey-Fuller value, you can also look at the Probability value at the alpha level. Probability value $< \alpha$ ($0.0309 < 0.05$), meaning that the data is stationary level.

Table 4. The Results Of The Root Test Of Domestic Credit (Dc)

t-Statistic	Prob
-3.433.499	0.0431
-4.582.648	
-3.320.969	
-2.801.384	

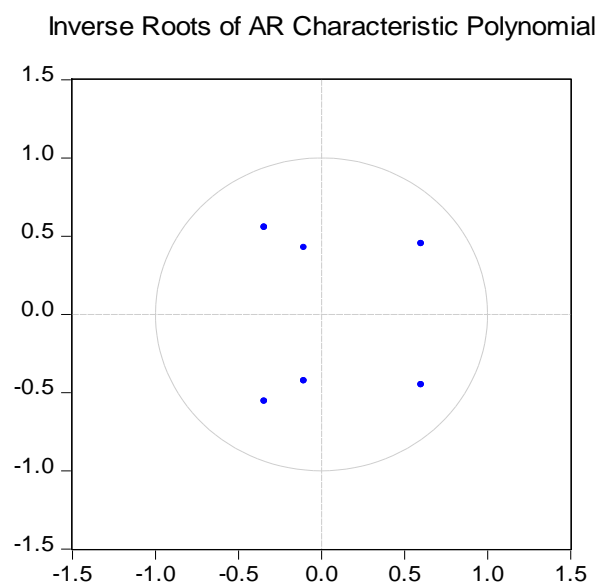
The value of t statistic in the statistic for the Augmented Dickey-Fuller test (-3.433499) at several levels of confidence, is lower than critical level in the MacKinnon table. (5%, and 10%) and greater than the confidence level (1%). In addition to looking at the Probability Augmented Dickey-Fuller value, you can also look at the Probability value at the alpha level. Probability value $< \alpha$ ($0.0431 < 0.05$), meaning the material is sitting tight at the 2st increasing levels.

Judging from the root test above, the three variables are stationary at a certain level. Furthermore, is the ideal time test is carried to highlight how long the reaction of from a variable to another is with the test results presented.

Table 5. The Optimal Lag Test

0	-12.50881	NA	0.004472	3.101761	3.192537	3.002181
1	1.645395	16.98504*	0.001835	2.070921	2.434023	1.672599
2	23.55024	13.14291	0.000329*	-0.510048*	0.125381*	-1.207112*

The output result is known that the value is at lag "2". At the "2" lag level, LR, FPE, AIC, SC, HQ have the lowest value, therefore lag "2" is chosen for the highest level. After knowing the variable is in lag "2" then a stability test will be carried out to determine the stability of the factor.

**Figure 1.** The Inverse Roots Of AR Characteristic Polynomial Point

The output results above show that the AR Characteristic includes Inverse Roots Polynomial point is round., which means that the VAR estimate is considered stable. VAR estimate is presented in table 6.

Table 6. VAR Estimate

	D(DC)	IR	D(MS)
D(DC(-1))	6.254531 (17.4551) [0.35832]	-50.46966 (19.0601) [-2.64792]	6.255766 (17.5357) [0.35675]
IR(-2)	-0.189296	-0.962529	-0.190204

	(0.23913)	(0.26112)	(0.24023)
	[-0.79161]	[-3.68620]	[-0.79175]
D(MS(-1))	-6.515870	49.51584	-6.516260
	(17.2447)	(18.8303)	(17.3243)
	[-0.37785]	[2.62958]	[-0.37613]
C	2.679122	13.50963	2.612323
	(2.11062)	(2.30469)	(2.12036)
	[1.26935]	[5.86179]	[1.23202]

Dc has a negative relationship with Ir with cointegration -50,46966 and T-statistic -2.64792. Ms has a positive relationship with Ir with cointegration 49,51584 and T-statistic 2.62958. The relationship between variables can be clearly illustrated in table 6.

Table 7. Causality Test

(IR) (DC)	0.89969	0.4637
(DC) (IR)	1.30422	0.3501
(MS) (DC)	4.06724	0.0894
(DC) (MS)	4.27465	0.0827
(MS) (IR)	1.24002	0.3653
(IR) (MS)	0.77891	0.5076

The output results show no two-way or reciprocal relationship. This can be seen from the value of Prob. IR had also Granger Caused DC and Prob. DC does not Granger Cause IR whose value is above the alpha level of 0.05 (5%), meaning that IR does not significantly affect DC and DC does not significantly affect IR.

The output results show that there is a reciprocal relationship (two-way relationship). This can be seen from the value of Prob. MS does not Granger Cause DC its value is below the alpha level of 0.05 (5%) and Prob. DC does not Granger Cause MS whose value is above the alpha level of 0.05 (5%), meaning that MS significantly affects DC and DC does not significantly affect MS.

The output results show that there is no bidirectional relationship or reciprocal relationship. This can be seen from the value of Prob. Granger MS does not cause IR and Prob. Granger MS is not

produced by IR whose value is above the alpha level of 0.05 (5%), the meaning is MS does not greatly impact IR and IR does not significantly affect MS.

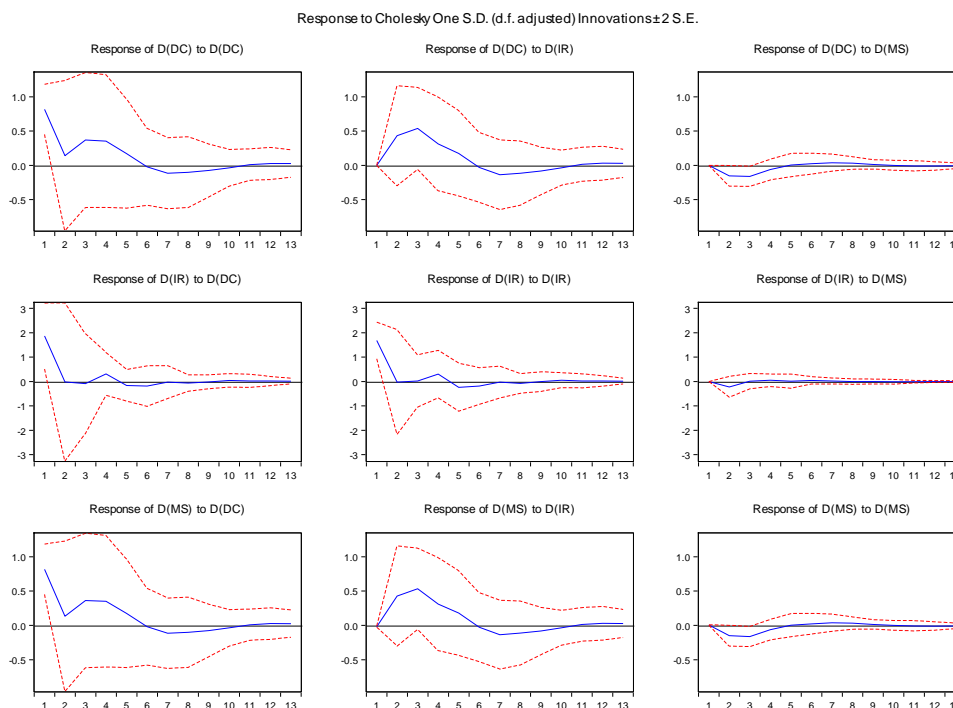


Figure 2. Impulse Response Test

The output results from the impulse response above show that MS, IR and DC have decreased in three periods or it can be said that there is no increase or there is a stagnant tendency for each period.

Conclusion

The conclusion that can be drawn from the results of data processing using the VAR method is that the monetary sector credit variable to the private sector has a good relation with the real loan rate variable and negative relation with domestic credit by banks. The effect of monetary policy as indicated by Broad money proportion of GDP. Where % of GDP within broad terms can affect macroeconomic activities by increasing or limiting the supply of bank loans. This is evidenced by the magnitude of credit growth in various different sectors reflecting the increasing influence of monetary policy.

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