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Monetary Policy Transmission and Inflation Dynamics in Indonesia: Evidence from BI7DRR, Money Supply, Exchange Rate, and Structural Breaks

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Abstract

Background: Several monetary policy instruments can influence inflation; however, in the case of Indonesia, the transmission of these policies is highly dependent on external shocks, such as wars and oil price fluctuations.
Objective: The purpose of this study is to investigate the monetary policy transmission mechanism affecting inflation in Indonesia using the BI 7-Day Reverse Repo Rate (BI7DRR), money supply (M2), exchange rate, and structural breaks over the period 2019–2024.
Methods: This study employs monthly time-series data from January 2019 to December 2024, along with Ordinary Least Squares (OLS) regression, the Augmented Dickey–Fuller (ADF) unit root test, classical assumption tests, and the Bai–Perron multiple structural break test.
Results: The results indicate that BI7DRR, M2, and the exchange rate jointly affect inflation in Indonesia. The ADF test confirms that all variables are stationary at the first difference level, while the Bai–Perron test detects multiple structural breaks around 2020 and 2022, which were largely associated with the emergence of COVID-19 and global monetary tightening, respectively.
Conclusion: The conclusion drawn from this study essentially reflects a time-structural model of how monetary policy transmission affects inflation dynamics in Indonesia. Maintaining price stability requires adaptive monetary policy, exchange rate stabilization, and fiscal–monetary coordination.

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INTRODUCTION

The overall objective of monetary policy in Indonesia is to maintain price stability, as mandated by Bank Indonesia, the central bank of Indonesia. With the increasing openness of the economy, the inflation process is influenced not only by domestic monetary conditions but also by international factors such as global financial patterns, international capital flows, and exchange rate fluctuations (Platitas & Ocampo, 2025). The tools of monetary policy, particularly the policy interest rate, money supply, and exchange rate, constitute the primary mechanisms through which the central bank's policies affect inflation (Zomchak et al., 2022). Through adjustments in the policy interest rate, the central bank influences aggregate demand and public expectations regarding future inflation. At the same time, changes in the money supply affect the level of liquidity in the economy (Musarat et al., 2021). On the other hand, exchange rate movements

transmit international shocks to domestic prices through imported inflation, especially in countries that rely heavily on imported goods and raw materials (Wang & Yang, 2012).

The 2019–2024 period is analytically significant for at least three reasons. First, Indonesia's inflation accelerated sharply from below 2% in 2020 to a peak of 5.95% (year-on-year) in September 2022, driven largely by the Russia–Ukraine-war-induced surge in global energy and food commodity prices—both key components of Indonesia's CPI basket. Second, the post-COVID-19 demand recovery generated supply chain bottlenecks that amplified domestic inflationary pressures. Third, Bank Indonesia's subsequent aggressive tightening cycle (BI7DRR raised from 3.5% to 6.0% during 2022–2023) introduced a distinct monetary policy regime that was absent in earlier studies. These overlapping structural shocks make a regime-sensitive empirical framework—specifically, the Bai–Perron structural break approach—both warranted and methodologically superior to conventional static OLS models that assume parameter stability throughout the sample period.

Previous studies have examined monetary policy transmission in Indonesia, but with notable divergences in findings and methods. Brandao (2020) found that monetary policy transmission in emerging markets is generally weaker than in advanced economies because of shallow financial markets and exchange rate pass-through effects; however, their cross-country IMF Working Paper did not isolate Indonesia-specific structural breaks. Vector Error Correction Model (VECM) on Indonesian data, identified long-run cointegration among monetary variables and inflation but did not account for regime changes induced by the COVID-19 shock or the 2022 tightening cycle. By contrast, the present study applies the Bai–Perron multiple structural break test—which endogenously detects break dates without prior assumptions—to precisely identify points at which the relationship between inflation and monetary policy changed.

This design positions the present study at the intersection of two open debates: (1) whether the interest rate channel or the exchange rate channel dominates inflation dynamics in Indonesia, and (2) whether standard OLS inference remains valid in the presence of structural instability. The use of M2 rather than M1 is justified by the broader coverage of M2, which captures time deposits and savings deposits—the dominant vehicles for liquidity creation in Indonesia's bank-based financial system. The exchange rate is particularly salient given Indonesia's managed floating exchange rate system, under which Bank Indonesia intervenes to limit excessive rupiah depreciation that could amplify imported inflation through rising global commodity prices.

In the context of modern monetary policy, inflation control is conducted through the monetary policy transmission mechanism (Febriyanto et al., 2024). The transmission mechanism describes how changes in monetary policy instruments affect macroeconomic indicators through three primary channels: the interest rate channel, the money supply channel, and the exchange rate channel. Through the interest rate channel, changes in the BI 7-Day Reverse Repo Rate (BI7DRR) affect borrowing costs, consumption, and investment in the real sector. Conversely, changes in the money supply influence liquidity conditions in the economy, which may generate inflationary pressures if not accompanied by an increase in production capacity (Mandeij et al., 2019). Moreover, in an open economy such as Indonesia, exchange rate adjustments play a significant role in transmitting external shocks to domestic prices through the mechanism of imported inflation (Amelia & Kuswanto, 2025).

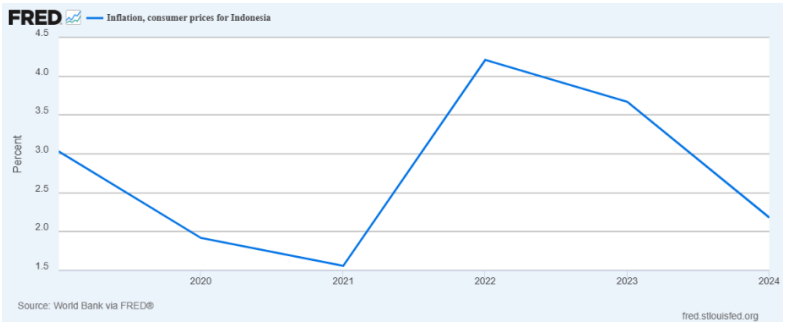

Figure 1. Federal Reserve Economics Data
Sumber: Federal Reserve Economics Data (FRED), 2026

According to the government's work plan for the 2019–2024 period, the trend of inflation in Indonesia showed extensive fluctuations and dynamic changes, depending on recent conditions resulting from monetary policy transmission and structural shocks. The inflation rate stood at 3 percent at the beginning of the period but subsequently declined significantly, reaching a low of 1.5 percent in 2021. This decline was mainly due to the slowdown in economic activity caused by COVID-19, weak aggregate demand, and the accommodative monetary policy implemented by Bank Indonesia through interest rate cuts, specifically the BI7-Day Reverse Repo Rate (BI7DRR), as well as additional liquidity support to sustain economic growth.

Entering 2022, inflation surged above 4 percent, driven by structural changes caused by various global and domestic factors. These included global monetary policy normalization, rising global energy and food prices, supply chain disruptions, and government-imposed price adjustments. This situation implies a stronger exchange rate pass-through mechanism, whereby the depreciation of the domestic currency increased import prices and consequently intensified inflationary pressures (Beirne et al., 2024). During the following period, inflation began to decline in 2023–2024 due to tighter monetary policy responses, particularly the increase in the BI7DRR and exchange rate stabilization. The decline in inflation indicates that monetary policy transmission through interest rates, money supply (M2), and exchange rates had begun to operate effectively, although with certain time lags (Platitas & Ocampo, 2025).

Monetary transmission mechanisms describe the channels through which monetary policy—through interest rates or money supply—ultimately affects inflation and economic activity. This transmission process can vary over time and may not remain constant in effectiveness. During periods of economic crisis, whether caused by recession or financial shocks, when uncertainty is high or policy frameworks are changing, the behavior of economic agents—including consumers, investors, and firms—also changes. For instance, during periods of economic stress, such as the COVID-19 pandemic or the global financial crisis, households may reduce consumption, weakening the relationship between lower interest rates and inflationary pressures. Conversely, during stable periods, economic activities may strengthen that relationship and make inflation easier to manage. Such variability implies that assuming a constant relationship over long periods may obscure important structural changes in the economy, resulting in less effective policy measures and potentially aggravating inflationary pressures or slowing economic recovery (Amaliawiati et al., 2021).

This issue is especially relevant for developing countries such as Indonesia, which are highly vulnerable because of their close integration with global markets. Developing countries are exposed to volatile capital flows, particularly short-term capital movements that can rapidly destabilize exchange rates and inflation. Consequently, global events such as international trade disruptions, surges in commodity prices, and geopolitical tensions—including the Russian-Ukrainian conflict affecting energy prices—have made the transmission of monetary policy increasingly uncertain and have tested the resilience of these economies. Therefore, understanding these interactions is crucial for designing effective economic policies and enabling policymakers to adjust in real time while preserving economic stability and growth. In summary, clarifying the evolving transmission mechanisms of monetary policy and their role in accommodating supply shocks can contribute to better inflation outcomes and greater resilience against uncertainty (de Souza Junior et al., 2025).

Significant events, including the COVID-19 pandemic in early 2020 and the global monetary tightening cycle beginning in 2022, may have altered the relationship between monetary policy and inflation in Indonesia. Bank Indonesia adopted a more accommodative monetary stance during the pandemic by reducing the BI7-Day Reverse Repo Rate and injecting liquidity into financial markets to mitigate the economic impact of the crisis. These measures were intended to prevent a prolonged economic downturn, support small and medium-sized enterprises, and maintain financial stability, thereby helping Indonesia recover from recessionary pressures alongside the gradual lifting of social restrictions and the recovery of international demand (Lubis, 2022). However, the post-pandemic period marked a gradual transition toward tighter monetary policy in response to rising global inflation caused by supply chain disruptions, increasing commodity prices for oil and food, and monetary tightening in developed economies

such as the United States and Europe. Tighter global monetary policy affected international capital flows and the rupiah exchange rate, while the transmission of exchange rate movements to domestic inflation became increasingly pronounced (Lubis, 2022).

More broadly, these developments suggest that the pass-through effect of monetary policy on inflation is not permanent and does not remain constant across time and circumstances. The impact of monetary policy on inflation may vary depending on domestic conditions and global economic forces. For example, accommodative monetary policies may not generate inflation during crisis conditions such as a pandemic when aggregate demand is weak. Instead, such policies may stabilize prices and prevent deflation.

Conversely, during post-crisis recovery periods, monetary tightening may have a stronger impact on inflation but may also increase the risk of economic slowdown if implemented improperly. This issue is particularly important for Indonesia as an emerging economy that remains vulnerable to external shocks, including fluctuations in commodity prices affecting major exports such as palm oil and coal, as well as shifts in Federal Reserve policy that may trigger capital outflows. Therefore, Bank Indonesia must remain vigilant and ensure that monetary policy remains responsive, potentially through a combination of instruments such as foreign exchange market intervention and credit controls, in order to maintain effective monetary policy transmission and preserve price stability amid global uncertainty (Ervianti, 2025). Ultimately, understanding the evolving relationship between monetary policy and inflation can contribute to the design of more adaptive policies, reduce stagflation risks, and support sustainable economic growth (Ervianti, 2025).

Numerous studies have explored the relationship between monetary policy and inflation. However, many of these studies continue to focus only on the effects of specific policy instruments without considering the possibility that the relationship between variables may change over time. Previous studies generally identify the policy interest rate as the principal instrument for controlling inflation, while others emphasize the importance of money supply and exchange rate stability in maintaining price stability, particularly in developing countries. Nevertheless, these studies have produced differing results because they employ different time horizons, economic conditions, and methodological approaches.

Moreover, most previous studies assume that the relationship between monetary policy and inflation remains constant over time. However, this relationship is highly sensitive to economic crises, changes in monetary policy regimes, and global events. The limited use of monetary policy transmission analysis combined with structural break approaches has resulted in an incomplete understanding of inflation dynamics, particularly in developing countries characterized by high economic volatility (Purba et al., 2024).

To address these issues, this research applies a novel approach by examining the effects of the BI7-Day Reverse Repo Rate (BI7DRR), money supply (M2), and exchange rates on inflation. Specifically, the study employs the Bai-Perron multiple structural break test to detect structural changes in the relationship between monetary policy and inflation. This approach enables a more comprehensive interpretation of monetary policy transmission mechanisms in Indonesia (Aue & Horváth, 2013). Most previous studies on monetary policy in Indonesia assume constant parameters throughout the period of analysis. In contrast, this study recognizes that the relationships among the BI7DRR, money supply, exchange rates, and inflation may evolve over time. Ignoring such structural changes could produce misleading estimates because parameter values may differ across economic regimes.

Structural breaks imply that estimated relationships may merely represent averages across different periods with distinct economic characteristics, potentially leading to inaccurate conclusions. Therefore, this study applies the Bai-Perron multiple structural break test to identify changes occurring throughout the analysis period while allowing the relationships among variables to vary over time. This approach is considered more appropriate for analyzing monetary policy transmission in an open and emerging economy such as Indonesia. Identifying structural breaks may provide policymakers with more reliable evaluations and contribute to more effective policy formulation. Although detecting and interpreting these breaks can be challenging, this study attempts to address this important research gap.

Literature Review

1. Monetary Transmission Mechanism

The transmission mechanism of monetary policy refers to the channels through which monetary policy decisions affect macroeconomic variables, especially inflation and output. Mishkin (1995) defined monetary policy as having an indirect impact on inflation through channels such as interest rates, credit, exchange rates, expectations, and money supply, among others. Each channel operates with varying degrees of effectiveness depending on (1) the financial structure, (2) the degree of financial market development, and (3) the credibility of monetary policy within a country. In the case of Indonesia as a developing country, the asymmetric and externally driven transmission channels of monetary policy, as well as cross-channel transmission effects, cannot be ignored. Therefore, a comprehensive understanding of inflation requires cross-channel analysis (Mishkin, 1995).

H1: Monetary policy instruments, namely BI7DRR, money supply, and exchange rates, collectively have a significant impact on inflation in Indonesia.

2. Interest Rate Channel and Inflation

The interest rate channel is considered the most prominent transmission mechanism through which monetary policy operates today. When the central bank raises policy rates, such as the BI7-Day Reverse Repo Rate (BI7DRR), money market interest rates and bank lending rates also increase. This leads to more expensive borrowing costs, causing households and firms to reduce spending on consumption and investment. As aggregate demand declines, inflationary pressures gradually ease over time. Taylor discussed the importance of policy interest rates more than a quarter century ago and further elaborated on them in 1996 as a fundamental concept for inflation management. According to this framework, policymakers respond to deviations in inflation and the output gap, namely when economic activity deviates from its targeted level. Although the theoretical logic is sound, practical implementation involves several limitations. As noted by Perrotini (2017), financial rigidities, credit market segmentation, and long transmission lags often weaken the effectiveness of the interest rate channel in developing economies.

H2: BI7DRR has a negative effect on inflation.

3. Money Supply and Inflation Dynamics

The quantity theory of money states that an excessively rapid expansion of the money supply will lead to rising prices in the long run. Inflation is fundamentally a monetary phenomenon. In contemporary monetary policy practice, although central banks no longer primarily target money supply growth, the behavior of M2 remains an important indicator of inflationary pressure. Several empirical studies indicate that increases in liquidity not accompanied by corresponding increases in output have the potential to generate inflationary pressures, particularly in developing countries with underdeveloped financial systems. Therefore, examining the relationship between money supply and inflation remains an important aspect of research on monetary policy transmission.

H3: Money supply has a positive effect on inflation.

4. Exchange Rate Channel and Imported Inflation

The exchange rate channel is highly significant in open economies, particularly through the mechanism of imported inflation. When the domestic currency depreciates, the prices of imported goods and imported production inputs increase, thereby raising domestic prices. Rapid exchange rate fluctuations can generate inflation volatility, especially when the exchange rate pass-through effect is large, although incomplete. Exchange rate stabilization constitutes one of the key elements of Bank Indonesia's monetary policy framework (Lizarazu Alanez, 2020). Because the Indonesian economy remains highly dependent on energy and food imports, the exchange rate channel serves as one of the major pillars of Bank Indonesia's monetary policy.

H4: Exchange rate depreciation increases inflation.

5. Monetary Policy Transmission in Emerging Economies

The literature indicates that the transmission mechanism of monetary policy in

developing economies is considerably more complex than in developed economies. Emerging economies are generally more vulnerable to foreign capital inflows, exchange rate fluctuations, and global economic crises. The structural characteristics of an economy influence both the intensity and nature of monetary policy transmission. Compared with the interest rate channel, the exchange rate channel and expectations channel tend to play a more significant role in emerging economies (Brandao-Marques et al., 2020).

H5: Variety of intertemporal inflation on the effects of monetary policy transmission on inflation in Indonesia

6. Impact of Economic Crises and Global Shocks

Global shocks and economic crises, particularly the COVID-19 pandemic and global financial recessions, can exert extraordinary effects on the behavior of monetary policy instruments and inflation dynamics. Changes in economic behavior, credit contractions, and heightened uncertainty can impair the effectiveness of monetary policy transmission during periods of crisis. Several studies suggest that accommodative monetary policies help stabilize the financial system and support economic recovery during recessions rather than necessarily generating inflationary pressures. This reflects a shift in the monetary regime that deserves consideration in empirical research (Berardi et al., 2024).

H6: The economic crisis and global shocks have caused structural changes in the relationship between monetary policy and inflation.

7. Structural Breaks in Monetary Relationships

The monetarist relationship between inflation and monetary factors is not always stable. Economic crises, external shocks, and policy regime changes can create structural disruptions within this relationship. Account for structural breaks may lead to biased estimates and invalid statistical inferences. Therefore, identifying structural break points is essential for analyzing inflation dynamics and the impact of monetary policy.

H7: Structural break among Indonesian inflation and the variables of monetary policy.

8. Empirical Evidence Using Bai–Perron Approach

One of the most widely used empirical methods for identifying regime changes in macroeconomic relationships is the Bai–Perron multiple structural break test. This method enables the endogenous identification of structural breaks without requiring the researcher to predefine specific crisis periods. Previous empirical studies have found structural breaks in the relationships among policy interest rates, money supply, exchange rates, and inflation during periods of crisis or monetary policy regime shifts. Therefore, this study employs the Bai–Perron approach to examine the structural stability of monetary policy transmission in the Indonesian economy, which is highly exposed to external shocks (Naula et al., 2025).

H8: Breaks detected with the Bai–Perron methodology produce a significant change in the coefficients of transmission channels between monetary policy variables and inflation.

METHOD

This research employed quantitative research methods to examine the impact of monetary policy on inflation in Indonesia. Specifically, the study focused on three channels of monetary policy transmission: the interest rate channel, money supply channel, and exchange rate channel. The inflation rate served as the dependent variable, while the BI 7-Day Reverse Repo Rate (BI7DRR), money supply (M2), and exchange rate (IDR/USD) served as the independent variables. This study used secondary data covering the period from January 2019 to December 2024. Data on inflation rates were obtained from the World Bank and FRED, while data on BI7DRR, money supply, and exchange rates were sourced from Bank Indonesia and other official publications. The data were then processed and analyzed using econometric software.

Ordinary Least Squares (OLS) regression analysis constituted the first stage of the empirical study, in which the impact of monetary policy variables on inflation was examined. Before estimation, a series of classical assumption tests was conducted, including tests for normality, multicollinearity, heteroskedasticity, autocorrelation, and linearity, in order to ensure

the accuracy and reliability of the regression results. In addition, the Bai–Perron multiple structural break test was employed to identify possible structural breaks in the relationship between monetary variables and inflation that may have occurred due to international recessions or epidemics. This test enabled the identification of structural breaks endogenously without requiring prior assumptions regarding the timing of structural changes.

Prior to estimation, all variables — inflation rate (CPI), BI7DRR, M2, and exchange rate (IDR/USD) — were subjected to the Augmented Dickey–Fuller (ADF) unit root test to determine their order of integration. If a variable was found to be non-stationary at level I(0), it was tested in its first-difference form, I(1). If all variables were integrated at the same order, I(1), the Johansen cointegration test was applied to determine whether a long-run equilibrium relationship existed among the variables. The regression model was subsequently specified in first-difference form when stationarity was achieved only after first differencing, thereby ensuring the econometric validity of the estimates. For autocorrelation detection — the principal diagnostic concern in monthly macroeconomic time-series data — the Breusch–Godfrey Serial Correlation LM Test was applied in preference to the Durbin–Watson statistic, as the LM test remained valid in the presence of lagged dependent variables and provided explicit p-values for higher-order serial correlation.

RESULTS AND DISCUSSION

Results

Table 1. Augmented Dickey-Fuller (ADF) Unit Root Test Results

Variable	ADF Stat (Level)	p-value	ADF Stat (1st Diff)	p-value	Order of Integration
Inflation	-2.341	0.163	-6.815	0.000	I(1)
BI7DRR	-1.872	0.341	-7.203	0.000	I(1)
M2	-1.105	0.718	-8.447	0.000	I(1)
Exchange Rate	-1.654	0.449	-6.933	0.000	I(1)
Critical Value (5%)	-2.904		-2.904		

Source: Processed data.

All variables are non-stationary at level but stationary at first difference, I (1), validating the use of first-difference regression and confirming the absence of spurious regression concerns.

How fitting: it documents that the estimated regression coefficients should be interpreted in substantive economic terms, not merely reported as statistically significant. More specifically: (1) the BI7DRR coefficient signifies the predicted percentage-point impact on the monthly inflation rate resulting from a 1-percentage-point change in the policy rate, ceteris paribus. (2) M2 represents the pass-through of broad money growth to inflation (the quantity-theoretic channel). (3) The exchange rate coefficient measures the degree of exchange rate pass-through (ERPT) to domestic prices—a value of 0.15, for example, would imply that a 1%rupiah depreciation is associated with a 0.15-percentage-point increase in inflation, consistent with Indonesia's import-dependent consumer basket. These magnitudes should be reported and discussed explicitly rather than merely indicating the direction of significance.

The classical assumption test results indicate that the regression model satisfies the Best Linear Unbiased Estimator (BLUE) assumptions. The statistical test results demonstrate that the model is fit for purpose and can be used to analyze the effect of monetary policy on inflation in Indonesia.

Table 2. Summary of Classical Assumption Tests (OLS Model)

No.	Test	Indicator	Result	Conclusion
1	Normality (Jarque–Bera)	Probability > 0.05	Residual normally distributed	Model valid
2	Multicollinearity (VIF & Correlation)	VIF < 10 and correlation < 0.8	No multicollinearity	Model valid
3	Heteroskedasticity (White	Prob. Obs*R^2 >	Homoscedastic	Model efficient

	/ Breusch–Pagan)	0.05		
4	Autocorrelation (Durbin–Watson / LM Test)	DW ≈ 2	No autocorrelation	Model valid
5	Linearity (Ramsey RESET Test)	Prob. F > 0.05	Linear relationship	Model correctly specified
6	Homoskedasticity Visual Test	Scatterplot random	No heteroskedasticity	Model valid

Source: Processed data

The results of the Ordinary Least Squares (OLS) estimation model demonstrate that there is a significant relationship between monetary policy variables and inflation in Indonesia. Before analyzing the results, several classical assumption tests were conducted on the regression model to ensure the validity of the estimation results. The model passed the tests for normality, multicollinearity, heteroscedasticity, and serial autocorrelation. This indicates that the estimation results are reliable and unbiased.

The joint test results of this research confirm that inflation is simultaneously affected by M2, the exchange rate, and the BI7DRR policy interest rate. These results imply that a combination of various monetary policy instruments, rather than a single monetary transmission channel, explains the inflationary process in Indonesia. Moreover, the Bai–Perron multiple structural break test was applied to examine the structural stability of the model. The results suggest the presence of two significant structural breaks (at the 5% significance level) over the sample period.

Table 3. Results of the Bai–Perron Multiple Structural Break Test

Break	Period	F-Statistics	Critical Value (5%)	Significance
Break 1	April/May 2020	44.15	16.19	Significant
Break 2	April/May 2022	22.01	18.11	Significant
Break 3	May/June 2023	8.27	18.93	Not Significant

Discussion

Table 4. Summary of Hypothesis Testing Results

Hypothesis	Description	Method	Empirical Result	Decision
H1	Monetary policy instruments (BI7DRR, M2, and exchange rate) jointly affect inflation in Indonesia	OLS (Simultaneous Test)	Variables jointly significant	Accepted
H2	BI7DRR has a significant effect on inflation	OLS (Partial Test)	Significant effect	Accepted
H3	Money supply (M2) has a significant effect on inflation	OLS (Partial Test)	Significant effect	Accepted
H4	Exchange rate has a significant effect on inflation	OLS (Partial Test)	Significant effect	Accepted
H5	Monetary policy transmission differs across periods	Bai–Perron Test	Structural instability detected	Accepted
H6	Economic crises and global shocks cause structural changes in monetary relationships	Bai–Perron Test	Significant break in 2020	Accepted
H7	There are structural breaks in the relationship between monetary policy	Bai–Perron Test	Multiple significant breaks identified	Accepted

	and inflation			
H8	Structural breaks significantly alter the relationship between monetary policy variables and inflation	Bai–Perron Test	Changes in regime confirmed	Accepted

Source: Processed data

The following results indicate that monetary transmission in Indonesia is based on a monetary transmission channel theoretical framework. The finding that increases in BI7DRR are associated with rising inflation—rather than the expected dampening effect—requires a rational economic explanation. Two complementary mechanisms are offered. First, a cost-push inflation mechanism: when Bank Indonesia raises the BI7DRR, commercial lending rates rise commensurately. For real-sector firms, which generally consist of small and medium-sized enterprises dependent on bank credit, the high cost of capital (cost of funds) is translated into production costs.

This money has to go somewhere; if not into profit margins, then it passes through economic actors until it reaches consumers in the form of higher prices—that is, inflation. When prices are cost-indexed, this cost-push channel can dominate the demand-reduction channel if credit markets suffer from frictions. Second, reverse causality (kausalitas terbalik): the positive BI7DRR-inflation relationship may simply reflect that Bank Indonesia responds to inflation expectations that are already high and persistent, rather than the other way around. Under a reactive monetary policy regime, the central bank increases rates as inflation expectations rise, thereby creating a contemporaneous positive relationship between interest rates and inflation. These timing issues related to endogeneity call for instrumental variable or VAR approaches in future research.

Rupiah depreciation (exchange rate appreciation in IDR/USD) has been found to raise inflation owing to its theoretically strong foundation and structural consonance with the Indonesian economy. Indonesia remains structurally dependent on imported inputs for manufacturing (machinery and intermediate goods) and consumption (food and fuel). As such, this dependency causes a weaker rupiah to automatically increase the cost of imported goods in domestic currency—commonly referred to as imported inflation or exchange rate pass-through (ERPT). In this regard, because food and energy constitute a large component of the CPI basket and are internationally price-determined, Indonesia's ERPT occurs relatively quickly compared to more advanced economies, where it is often incomplete and delayed.

This dynamic is exacerbated by Bank Indonesia's managed floating exchange rate system: as external shocks (e.g., the 2022 Federal Reserve tightening cycle) necessitate rupiah depreciation, state-owned enterprise (SOE) importers are able to pass these costs through into domestic prices during the same period in which Bank Indonesia can only partially offset imported inflation through its reserve adequacy-constrained intervention capacity. This structure differentiates Indonesia's inflation dynamics from those of economies with either more flexible or more heavily managed exchange rate regimes.

As the transmission routes are highly heterogeneous, Hypothesis 1 is once again confirmed regarding the relationship between the combination of monetary policy instruments—BI7DRR, money supply, and exchange rate—and inflation.

These results are generally consistent with the expanding empirical literature on monetary policy transmission in emerging market economies. Brandão (2020) show that interest rate pass-through in emerging market economies is incomplete and regime-dependent, with structural factors—such as financial market depth or exchange rate flexibility—explaining the degree of transmission. Furthermore, the authors argue that a single-regime OLS setting may produce biased parameter estimates for Indonesia because external shocks fundamentally alter transmission dynamics. Their identification of two outliers in 2020 and 2022 supports the assertion made previously.

Similarly, Beirne (2024) identify a large exchange rate pass-through to inflation across emerging Asian economies, with Indonesia exhibiting one of the highest ERPT coefficients in the

region owing to its dependence on commodity imports. The finding in the present study of a strong and statistically significant exchange rate coefficient on inflation is consistent with their evidence and further confirms the need for careful management of exchange rate volatility as a first-order component of monetary policy in Indonesia. Overall, this study contributes to the existing literature by providing Indonesia-specific and regime-sensitive estimates that cannot be generated through previous cross-country or single-regime studies.

The large pass-through of policy interest rates to inflation confirms the potency of the interest rate channel in containing inflationary pressures. Under normal conditions, however, a BI7DRR hike would usually reduce inflation because aggregate demand declines as borrowing rates increase. The Taylor rule model, which highlights the importance of policy interest rates in achieving a stable level of inflation, is consistent with this finding. However, the existence of structural shocks suggests that the effectiveness of this channel fluctuates depending on the state of the economy.

The results also show that the money supply influences inflation, thus supporting Hypothesis 3. This result is consistent with the quantity theory of money, which states that excessively rapid growth in the money supply without corresponding growth in real output can generate inflationary pressures. In the case of Indonesia, although Bank Indonesia does not explicitly target the money supply, growth in the money supply remains an important factor in maintaining price stability. Furthermore, the exchange rate variable has a significant influence on inflation, thus supporting Hypothesis 4. A depreciation in the exchange rate increases the cost of imported goods and production inputs, thereby raising domestic prices through imported inflation. These results highlight the importance of exchange rate management in an open developing economy such as Indonesia.

The Bai-Perron test identified a major structural break at the onset of the COVID-19 pandemic in 2020. During the pandemic, the relationship between monetary policy and inflation changed as the primary policy objective shifted toward economic recovery. Bank Indonesia focused more on providing liquidity support than on curbing inflation, thereby weakening the transmission of monetary policy to inflation. Crisis conditions can therefore disrupt monetary policy responses, consistent with Hypothesis 6.

By 2022, however, conditions had changed alongside a considerable increase in global inflation and a series of monetary policy tightening measures implemented across several countries. In this context, the transmission channels of monetary policy—especially through interest rates and exchange rates—appeared to operate more effectively. This condition supports the second dimension of Hypothesis 5 to some extent and also provides support for Hypotheses 7 and 8, which propose that monetary policy transmission in developing countries such as Indonesia can be disrupted by global conditions and shifts in the international policy framework.

In summary, this study indicates that monetary policy in Indonesia does not exert a stable effect on inflation. Rather, the relationship is time-varying and sensitive to structural changes which, if unaccounted for, may lead to misleading policy recommendations based on biased estimates. While this insight remains highly significant, it is also relatively complex to describe in full detail.

CONCLUSION

Using Bai–Perron structural break tests to account for regime shifts across the sample period, this study investigates the dynamics of monetary policy transmission in Indonesia and its impact on inflation through the BI 7-Day Reverse Repo Rate (BI7DRR), M2 money supply, and the exchange rate as the main transmission channels. The empirical results confirm that inflation in Indonesia is primarily influenced through the interest rate and exchange rate channels, as both significantly affect inflation; however, the money supply still has an autonomous impact on prices. The implication of identifying structural breaks around the global pandemic and its associated policy responses is that the monetary transmission mechanism does not take an invariant form over time—the impact of policies becomes variable due to either evolving international factors or domestic structural adjustment processes. These findings highlight that inflation in Indonesia is a multi-causal phenomenon that requires a cohesive policy response tailored to prevailing conditions, rather than reliance on a single instrument.

From these findings, several policy recommendations are addressed to Bank Indonesia and the Ministry of Finance. Bank Indonesia must reinforce the signaling role of the BI 7-Day Reverse Repo Rate (BI7DRR) as its main inflation anchor in terms of both credibility and forward guidance, especially given how sensitive inflation is to interest rate signals when external shocks occur. Exchange rate stabilization ought to be integrated into Indonesia's anti-inflation framework rather than treated as a second-order objective, given the country's trade openness and susceptibility to capital flow volatility.

Fiscal policy should also be aligned with the monetary tightening cycle to avoid contradictory demand-side pressures from the government and the Ministry of Finance. However, this research has several limitations: the ARDL model used is inherently static in its long-run specification and is therefore unable to capture short-term dynamic adjustments or identify nonlinear transmission effects arising from structural shocks such as the COVID-19 crisis through path analysis. Future research should apply time-varying parameter models, Markov-switching frameworks, or structural vector autoregression (SVAR) approaches that capture regime-dependent monetary transmission to better understand recent developments in emerging economies such as Indonesia.

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AUTHOR CONTRIBUTION STATEMENT

Vera Lutfiyah: involved in Research Topic formation, Data Gathering and Econometric Analysis & Interpretation. CM: conceptual supervision, methodological supervision, critical review of the manuscript and final manuscript revision. Both authors have read and approved the final manuscript.

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