Jurnal Ilmu Perbankan dan Keuangan Syariah
Vol. 8, no. 1 (2026), pages 92-115
p-ISSN: 2963-3524 e-ISSN: 2686-6625
Journal homepage: http://jurnaljipsya.org/index.php/jipsya

Financial Transaction Digitalization, Velocity of Money, Monetary Policy, and Inflation in Indonesia

Dwi Hermawan[1]
[1,] *Program Studi Magister Ilmu Ekonomi, Pasca Sarjana, Universitas Tadulako, Indonesia*
Corresponding email: hermawan.dwi23@gmail.com

Leave it blank

Received: December 2025	Revised: June 2026	Published: June 2026

ABSTRACT

This study aims to calculate and analyze the influence of digitization of financial transactions, the speed of money circulation, and monetary policy on inflation in Indonesia in 2017–2024. The data used is quantitative secondary data obtained from the publications of Bank Indonesia (BI), the Central Statistics Agency (BPS), the Financial Services Authority (OJK), and other related institutions. Data processing was carried out using SPSS (Statistical Package for the Social Sciences) software through regression analysis and statistical tests to understand the relationship between variables. The results of the analysis show that: (1) the digitization of financial transactions has a negative and significant effect on inflation, (2) the speed of money circulation has a positive and significant effect on inflation, and (3) the monetary policy implemented by Bank Indonesia has a negative and significant effect on inflation during the study period. Interest rate adjustments and wise liquidity management have been proven to help maintain price stability and control inflation. The increasing digitization of financial transactions and flexible and responsive monetary policies play an important role in keeping inflation under control. Nevertheless, this study has limitations regarding the number of variables and the data period used. Therefore, future research is suggested to add relevant variables and extend the analysis period to obtain more comprehensive results.

ARTICLE INFO

Keywords:
Digitization of Financial Transactions, Speed of Money Circulation, Monetary Policy, Inflation.

Introduction

Inflation isA monetary phenomenon that reflects a general and persistent increase in prices as a result of the growth of the money supply exceeding the growth of real output. Inflation is not only an indicator of economic imbalance, but also a reflection of the effectiveness of monetary policy in maintaining price stability and public purchasing power. According to the quantity theory of money,,Inflation occurs when the money supply

increases faster than the growth of economic output. In the context of the modern economy, particularly in the digital era, inflation is influenced not only by monetary and fiscal factors, but also by structural changes in the increasingly digitalized financial transaction system (Sudan, 2019).

Digital transformation in the financial sector has become a global phenomenon with a significant impact on consumption patterns, transaction efficiency, and the speed of money circulation. Innovations in digital financial services in Indonesia, such as e-wallets, mobile banking, and QRIS-based payment systems, have grown rapidly. According to data from Bank Indonesia (BI), the value of digital banking transactions in January 2024 reached IDR 5,335.33 trillion, representing a 17.19 percent year-on-year (yoy) growth. Meanwhile, Electronic Money (EU) transactions increased by 39.28 percent (yoy), reaching IDR 83.37 trillion. Transactions through QRIS showed a significant surge of 149.46 percent (yoy), reaching IDR 31.65 trillion. The number of QRIS users reached 46.37 million, while the number of merchants reached 30.88 million, the majority of whom are from the MSME sector.(Nadia, 2024).This growth is driven by internet penetration, mobile device usage, and government regulatory support.

Digitalization of financial transactions includes various technological innovations in the fields of payment systems, digital banking, and fintech that increase the efficiency, accessibility, and transparency of financial transactions (Arner et al., 2016)Digitalization can accelerate the circulation of money, increase financial inclusion, and lower transaction costs. However, this change also has the potential to influence inflationary pressures through accelerated consumption and changes in people's economic behavior (BIS, 2021).

The velocity of money, a variable that plays a role in inflation dynamics, describes how quickly money changes hands in the economy. The value of money circulating in the economy (MV) will be equal to the value of goods and services traded (PT). Therefore, changes in the money supply will have a direct impact on the price level, assuming the velocity of money and output volume are held constant (Sudan, 2019)Meanwhile, public preference for liquidity which is influenced by interest rates also determines the speed of money circulation (Musta'in et al., 2023)In a digital context, ease and speed of transactions can increase transaction frequency and accelerate the circulation of money in the economy.

Monetary policy remains the central bank's primary instrument for controlling inflation and maintaining economic stability. Bank Indonesia, as the monetary authority, uses instruments such as the BI Rate, open market operations, and liquidity controls to manage the money supply and stabilize prices. However, the effectiveness of these policies

faces new challenges in the digital era due to changes in the velocity of money circulation and people's increasingly adaptable behavior to digital transactions.

The digitalization of financial transactions, which allows for fast, efficient, and real-time transactions, has the potential to change the transmission mechanism of monetary policy. This change can impact the effectiveness of monetary instruments, such as interest rates and open market operations, in controlling aggregate demand. If not optimally managed, the acceleration of digital transaction flows can create unpredictable inflationary pressures, challenging monetary authorities' ability to maintain price stability. Accelerated digitalization can strengthen macroeconomic stability if supported by adaptive risk management and policies. However, risks such as cybersecurity and limited digital literacy can also pose challenges that disrupt financial stability.*International Monetary Fund,*2024).

Previous research has addressed some of these issues, including that inflation and the money supply are influenced by non-cash transactions; that e-money impacts inflation through increased consumption; that e-money and debit cards influence the money supply while credit cards do not; and that digitalization contributes to accelerating money circulation. However, these studies have not yet addressed the implications for inflation or the effectiveness of monetary policy (Rahmadani et al., 2023; Zunaitin et al., 2017; Lintangsari et al., 2018; Rahayu et al., 2020).

Given the limited research on inflation arising from the integration of digital financial transactions, money circulation velocity, and monetary policy, this study aims to fill this gap. This study aims to empirically analyze how these three variables influence inflation in Indonesia from 2017 to 2024. The results are expected to contribute to policymakers' formulation of appropriate economic strategies in the digital era to maintain price stability and promote sustainable economic growth.

Based on the above description, inflation is a crucial macroeconomic issue because it directly impacts people's purchasing power and national economic stability. The development of digital technology in the financial sector, such as the use of e-wallets, mobile banking, and QRIS-based payment systems, has changed people's transaction patterns by accelerating money circulation and encouraging increased consumption activity. This condition requires Bank Indonesia to adjust its monetary policy to remain effective in maintaining price stability and achieving the established inflation target. Therefore, this study is important to empirically analyze the effect of digitalization of financial transactions, the velocity of money circulation, and monetary policy on the inflation rate in Indonesia during the 2017–2024 period. The results are expected to provide academic contributions

and become considerations for the formulation of economic policies that are adaptive to the dynamics of the digital economy.

Literature Review

Inflation Theory

Inflation occurs when the amount of money circulating in society increases, thus pushing up the prices of goods and services in general.which ultimately causes a decline in people's purchasing power(Rangkuty & Yusuf, 2020).To explain the causes of inflation, various theories have been developed, including Keynesian inflation theory and monetarist inflation theory..

Keynesian inflation theory emphasizes that inflation can occur when aggregate demand in the economy exceeds production capacity. According to this theory, when total demand for goods and services increases faster than the economy's ability to produce them, inflationary pressures arise. This type of inflation is often referred to as "demand-pull inflation." Inflation can also occur due to rising production costs, known as "cost-push inflation." Rising production costs, such as wages and raw material prices, can encourage producers to raise the selling prices of their products, which in turn increases the inflation rate.(Sukirno, 2015).

Quantity Theory of Money

The Quantity Theory of Money is a fundamental concept in monetary economics that explains the relationship between the amount of money in circulation and the price level in an economy.This theory was first introduced by Irving Fisher through his book entitled*The Purchasing Power of Money: Its Determination and Relation to Credit, Interest, and Crises*In his work, Fisher introduced the equation of exchange known as MV = PT, where M is the money supply, V is the velocity of money, P is the price level, and T is the volume of transactions. Fisher argued that changes in the money supply will directly affect the price level, assuming that the velocity of money and real output are held constant in the short run. Thus, an increase in the money supply will cause inflation, while a decrease in the money supply can cause deflation.(Sudana, 2019).

Analysis ofTo understand the role of money in the economy, economists generally use a slightly modified form of the quantity equation. The main problem with this formula lies in the difficulty of measuring the number of transactions (T). The solution is to replace the variable T with Y, which represents the total output of the economy. This equation

becomes MV = PY, better known as the quantity equation in the context of national income.(Ferdian, 2020).

Inflation is a monetary phenomenon that occurs when the growth in the money supply exceeds the growth in real output in the economy. Therefore, a tight monetary policy is needed to control inflation by regulating the money supply (Pujadi, 2022).

Keynesian Theory of Demand for Money

The theory of the demand for money was first introduced by John Maynard Keynes in his book, The General Theory of Employment, Interest, and Money (1936). This theory explains how individuals make decisions about holding cash (liquidity) based on three main motives: the transaction motive, the precautionary motive, and the speculative motive. The higher the income or economic activity, the greater the amount of money needed for transactions (Keynes, 1936).

The precautionary motive is the need to hold cash to meet unexpected needs.(Sumarni & Silvia, 2023).Uncertainty regarding income and expenditure then drives the demand for long-term funds, which is influenced by the level of income, in accordance with Keynes' theory of the safety objective.(Nakita et al., 2024). In this context, the feature describes the amount of cash required or cash balances maintained at various income levels required to support trading activities.

Several empirical studies have tested the relevance of Liquidity Preference Theory in modern economics. Based on the opinionRahayu et al. (2020)In the digital economy, people's liquidity preferences are undergoing significant changes. Their study shows that the adoption of digital financial technology reduces the need for physical cash but increases demand for digital liquid assets such as e-wallet balances and mobile banking. The digitalization of the financial system and innovation in payment technology have changed the liquidity preferences of global society. While cash is still used, there has been a significant shift towards more liquid digital assets, such as digital balances and cryptocurrencies (Adrian & Mancini-Griffoli, 2021)This shows that Keynes's theory is still relevant, but needs to be adapted to developments in the digital economy.

Digitalization of Financial Transactions

The digitalization of financial transactions refers to the use of digital technology to conduct, facilitate, and manage various financial transactions, including payments, fund transfers, and banking services. This includes the use of platforms such as mobile banking,

digital payment apps, e-wallets, and internet-based payment systems that replace conventional methods such as cash or check payments.

Through digitalization, financial transactions become faster, more efficient, and more accessible, providing users with the convenience of conducting transactions without the need for physical intermediaries such as banks or traditional financial institutions. Digitalization of the financial sector creates higher transaction efficiency, expands the accessibility of financial services, and accelerates the circulation of money in the economy. The adoption of digital payments significantly increases financial inclusion in developing countries (Sahi & Abbas, 2022). Based on opinionHandria & Ariefianto (2024)in Indonesia shows that the adoption of QRIS as a digital payment platform has driven economic efficiency, especially in the MSME sector.Bank Indonesia (2022)noted that the adoption of payment technologies such as QRIS increases efficiency and financial inclusion, which indirectly affects economic stability.Schumpeter (1934)states that innovation in the financial sector drives economic growth through efficient allocation of resources.

The digitalization of financial transactions not only increases efficiency but also changes the dynamics of the economy, including the circulation of money. One important innovation in the digitalization of transactions is the emergence of blockchain-based payment systems. According to the opinionFiedler et al. (2019)Blockchain has the potential to transform the way financial transactions are conducted by offering transparency, security, and speed in settlement. This technology, although still in its infancy, holds significant potential to reduce international transaction costs and accelerate settlement times, which can directly improve the efficiency of the global economy. The use of financial technologies such as fintech and mobile banking not only facilitates transactions but also expands access for individuals and micro-businesses previously excluded from formal financial services. In this context, digitalization can accelerate financial inclusion by providing easier and more affordable access to various segments of society, especially in remote areas.

Based on opinionDemirgüç-Kunt et al. (2021)The digitalization of financial transactions also increases the resilience of the financial system amidst the economic crisis. During the COVID-19 pandemic, many countries adopted digital payments as a measure to maintain economic continuity and encourage consumption through online transactions. According to the opinionSahi & Abbas (2022)revealed that people who are accustomed to digital payments have a faster ability to adapt in crisis situations, reducing economic losses caused by a decline in physical transactions.

Speed of Money Circulation

According to classical and monetarist economics, the velocity of money is considered relatively constant in the short run. This view is based on the quantity theory of money, which explains that changes in the money supply will directly affect the price level, assuming that the velocity of money and real output remain unchanged. However, in practice, the velocity of money can change due to various factors, such as technological advances in payment systems, financial innovation, and the implementation of monetary policy.(Puspitasari, 2024). Although classical and monetarist theories assume that the velocity of money is constant, reality shows that the velocity of money can change and fluctuate over time.

Based on classical quantity theory, the formula for determining the value of the velocity of money (V) can be further formulated. Irving Fisher developed a concept that explains the velocity of money in more depth, where V is clearly explained as the ratio between total expenditure and the amount of money circulating in the economy.(Gintting et al., 2019). This theory can be expressed by the following equation: or $V = \frac{PY}{M} V = \frac{PDB}{M}$

Information:

V : Speed of Money Circulation

P : Price Level (price index)

Y : Aggregate Output (finished goods)

M : Amount of Money in Circulation

This theory states that if the demand function for money changes, the velocity of money circulation (V) will also change.Fisher examined the relationship between the total amount of money in circulation (M) and the total value of expenditure on goods and services in an economy (PY), where P represents the price level and Y represents aggregate output.(Sukirno, 2015). Based on opinionMatondang (2020)The PY value, which has a similar meaning to nominal Gross Domestic Product (GDP), reflects the transaction value of finished goods. Nominal GDP itself is the total final value of goods and services produced by a country over a specific period. This form is one of the most commonly used representations of the quantity theory of money.

Empirical research in Indonesia shows that the velocity of money circulation is influenced by various factors, including monetary policy, financial digitalization, and global dynamics. The interest rate policy implemented by Bank Indonesia has proven effective in maintaining the stability of related economic variables, such as inflation and gross domestic product, in the short term. This indicates that the transmission of monetary policy through

the interest rate channel has a significant impact on Indonesia's economic stability in the short term. The use of non-cash payment systems in Indonesia not only accelerates economic transactions but also changes people's consumption patterns, which has an impact on increasing the velocity of money circulation.(Panjaitan, 2022). Furthermore, the impact of the COVID-19 pandemic has accelerated this change, with society's increasing reliance on digital technology for financial transactions. Furthermore, the COVID-19 pandemic has had a significant impact on V, with a temporary decline in economic activity causing fluctuations in the velocity of money circulation.

Money Supply

Money supply can be classified into two types: narrow and broad. The narrow definition of money supply includes currency circulating in the community and demand deposits. Meanwhile, the broad definition of money supply includes currency, savings deposits, and foreign currency accounts held by domestic private companies. This broad definition of money supply is often referred to as economic liquidity or M2, while the narrow definition of money supply is known as M1.(Taufik, 2021)From the perspective of classical and monetarist economic theory, the money supply (MU) is believed to be closely related to the price level (inflation), interest rates, and overall economic activity. Understanding the behavior of the MU is crucial in formulating monetary policy aimed at maintaining price stability and stimulating economic growth.

The increase in the JUB puts pressure on inflation and influences interest rates, which ultimately impact investment activity and economic growth. This finding underscores the importance of Bank Indonesia's role in managing the money supply to maintain national economic stability.(Inscription & Slamet, 2020).

Real Gross Domestic Product (GDP)

Gross Domestic Product (GDP) is the sum of the gross value added arising from all business units in a country, plus taxes and minus subsidies on products (Hasibuan et al., 2022). GDP at constant prices is used to measure real economic growth without being affected by price changes.Real GDP is used to compare production levels across time periods because it is adjusted for price changes. Real GDP also reflects the physical quantity of output, not the monetary value that can be distorted by inflation (Mankiw, 2014).

Real output growth in Indonesia is not only influenced by production factors such as labor and capital, but also by monetary conditions, including the money supply and the exchange rate.(Sipayung & Budhi, 2013). Increasing real output has the potential to reduce

inflationary pressures caused by increases in the money supply. Real output plays a strategic role in macroeconomic analysis, serving not only as an indicator of economic growth but also as a benchmark for evaluating the success of economic policies in significantly improving public welfare.

Monetary Policy

Based on opinionMishkin (2021)Monetary policy refers to actions taken by the Central Bank to control monetary variables, such as the money supply, lending rates, and exchange rates, in order to achieve specific economic goals. A frequently used monetary policy instrument in Indonesia is the BI Rate, or benchmark interest rate, set by Bank Indonesia. The BI Rate is the benchmark interest rate set by Bank Indonesia to support the implementation of monetary policy, particularly in controlling inflation in accordance with planned targets.

Based on opinionRizkin & Rizki (2017)In his research, he stated that based on the Granger causality test, there is a two-way causal relationship between the BI Rate and inflation. Bank Indonesia controls inflation through BI Rate adjustments. When inflation increases, the BI Rate is raised to reduce the money supply by encouraging people to save. Conversely, a BI Rate reduction aims to increase consumption and investment by lowering borrowing costs, which ultimately can stimulate economic growth and reduce inflation. Meanwhile, an increase in the BI Rate has a positive and significant impact on inflation in Indonesia, meaning that an increase in the benchmark interest rate tends to be followed by an increase in inflation.(Sari et al., 2024).

Research Hypothesis

Based on the description of the background, problem formulation, research objectives and framework of thought, the research hypothesis is as follows:

1. Digitalization of financial transactions has a negative and significant impact on inflation in Indonesia in 2017-2024.
2. The velocity of money circulation has a positive and significant effect on inflation in Indonesia in 2017-2024.

Monetary policy has a negative and significant impact on inflation in Indonesia in 2017-2024

Methods

This study uses a quantitative approach with an explanatory research method that aims to examine the causal relationships and influences between research variables. This

approach is used to analyze the influence of digitalization of financial transactions, velocity of money circulation, and monetary policy on inflation in Indonesia during the period 2017–2024. The data used is secondary quantitative data obtained from official institutions such as the Central Statistics Agency (BPS) and Bank Indonesia (BI). The research object focuses on inflation as the dependent variable, with digitalization of financial transactions, velocity of money circulation, and monetary policy (BI-Rate) as the independent variables.

The analytical methods used include calculating the velocity of money circulation (V = PY/M), descriptive analysis, and multiple linear regression analysis. Prior to regression estimation, the model was tested using classical assumption tests, including normality, multicollinearity, heteroscedasticity, and autocorrelation tests, to ensure that the BLUE criteria were met. Hypothesis testing was conducted using F-tests and t-tests to determine the simultaneous and partial effects of independent variables on inflation, as well as the coefficient of determination (R^2) to measure the model's ability to explain inflation variations. If you wish, I can also adjust the language style to be more concise or to suit a specific thesis/journal format.

Research result

Digitalization of financial transactions

Table 1 Descriptive Analysis of Financial Transaction Digitalization Variables

Description	Mark
Mean	Rp23,512,646,019,095,300
Standard Deviation	Rp16,878,014,361,304,900
Minimum	Rp1,152,889,923,266,650
Maximum	Rp69,845,814,887,247,700

Source: Appendix 1

Based on the descriptive analysis results in Table 4.1, the digitalization of financial transactions during the study period had an average value of Rp23,512,646,019,095,300 with a standard deviation of Rp16,878,014,361,304,900, indicating relatively high data variation and significant fluctuations over time. The minimum value of Rp1,152,889,923,266,650 reflects the lowest digital transaction volume, while the maximum value of Rp69,845,814,887,247,700 reflects the highest level of digitalization of financial transactions during the observation period. Overall, these results indicate significant growth in the digitalization of financial transactions, although accompanied by dynamics and fluctuations influenced by technology adoption, economic policies, and national and global economic conditions.

Speed of Money Circulation

Table 2 Descriptive Analysis of Money Circulation Velocity Variable

Description	Mark
Mean	0.42
Standard Deviation	0.05
Minimum	0.35
Maximum	0.49

Source: Appendix 1

Based on the descriptive analysis in Table 4.2, the velocity of money circulation during the study period had an average value of 0.42 with a standard deviation of 0.05, indicating that money circulation was relatively stable and did not experience significant fluctuations. The minimum value of 0.35 represents the period with the slowest rate of money circulation, while the maximum value of 0.49 represents the period with the highest rate of money circulation. Overall, these results indicate that the velocity of money circulation is within a narrow range around the average value, thus reflecting the stability of economic transaction activity, which is further relevant for analyzing its relationship with the digitalization of financial transactions, monetary policy, and inflation.

Monetary Policy

Table 3 Descriptive Analysis of Monetary Policy Variables (BI Interest Rate)

Description	Mark
Mean	4.87
Standard Deviation	0.97
Minimum	3.50
Maximum	6.25

Source: Appendix 1

Table 4.3 shows that the BI interest rate during the 2017–2024 period had an average value of 4.87 percent with a standard deviation of 0.97, indicating variations in monetary policy, although the fluctuations were relatively moderate. The minimum BI interest rate of 3.50 percent reflects the implementation of a looser monetary policy to encourage economic growth, while the maximum value of 6.25 percent indicates a tighter monetary policy implemented by Bank Indonesia in response to inflationary pressures and maintaining macroeconomic stability..

Table 4 Descriptive Analysis of Inflation Variables

Description	Mark
Mean	0.23
Standard Deviation	0.28
Minimum	-0.27
Maximum	1.17

Source: Appendix 1

Based on the descriptive analysis of the inflation variable presented in Table 4.4, the mean inflation value during the study period was 0.23. This indicates that, on average, the monthly inflation rate was around 0.23 percent. The standard deviation value of 0.28 indicates a fairly high level of variation in the inflation data, meaning that inflation fluctuations during the study period were relatively large. The minimum inflation value was recorded at -0.27, indicating a period of deflation, when prices generally decline. Conversely, the maximum inflation value of 1.17 reflects the period with the highest price spike during the study period.

The results of this study provide an overview of inflation volatility, which is influenced by various factors, such as changes in monetary policy, fluctuations in the velocity of money circulation, and the impact of the digitalization of financial transactions. Further analysis is needed to understand the relationship between inflation and the other variables studied, and how these dynamics influence economic stability.

Hypothesis Testing

F test

The F-test is conducted to measure the simultaneous influence of independent variables on the dependent variable in a multiple linear regression model. In this study, the F-test aims to determine whether the digitalization of financial transactions, the velocity of money circulation, and monetary policy together have a significant influence on inflation in 2017–2024. Through this test, the calculated F-value will be compared with the F-table at a certain significance level (for example, 0.05) to determine the overall significance of the model. If the calculated F-value is greater than the F-table, or the significance value (p-value) is smaller than the specified significance level, then the regression model is considered significant. This means that the independent variables simultaneously have a significant influence on the dependent variable. The F-test also helps assess the feasibility of the regression model used in this study, whether the model is able to explain the relationship between the independent and dependent variables comprehensively.

The F-test results in this study yielded a calculated F-value of 286.695 with a significance value of 0.000. This significance value is less than 0.05, indicating that simultaneously, the variables of digitalization of financial transactions, velocity of money circulation, and monetary policy have a significant effect on inflation.

Partial Test (t-Test)

Table 5 Partial Test Results (t-Test)

Description	t-count	Significance	Results
Intercept	58,239	0.000	
X1	-25,601	0.000	H0 is rejected, H1 is accepted
X2	2,407	0.018	H0 is rejected, H1 is accepted
X3	-2,864	0.005	H0 is rejected, H1 is accepted

Source: Appendix 3

The partial test (t-test) was used to examine the effect of each independent variable individually on inflation in the 2017–2024 period. Based on the partial test results presented in Table 4.8, it is known that all independent variables, namely digitalization of financial transactions, velocity of money circulation, and monetary policy, have a significant effect on inflation because the significance value is less than 0.05 so that H_0 is rejected and H_1 is accepted. Digitalization of financial transactions shows a t-value of -25.601 with a significance of 0.000, which indicates a significant negative effect on inflation, so that increasing digitalization of transactions tends to reduce the inflation rate. Velocity of money circulation has a t-value of 2.407 with a significance of 0.018, which indicates a significant positive effect, meaning that the faster money circulates, the inflation tends to increase. Meanwhile, monetary policy has a t-value of -2.864 with a significance of 0.005, which indicates a significant negative effect on inflation, so that the tighter the monetary policy implemented, the inflation rate tends to decrease.

Discussion

The Impact of Digitalization of Financial Transactions on Inflation in 2017-2024

The results of this study indicate that the digitalization of financial transactions has a negative and significant impact on inflation in 2017–2024, with a t-value of -25.601 and a significance level of 0.000. This finding confirms that although digitalization encourages increased efficiency and speed of money circulation, its impact actually suppresses the rate of inflation because the digital payment system is able to increase transparency, accuracy

of transaction recording, and the effectiveness of monetary policy. This result is in line with the research of Fauzie and Istanto (2014) who found that the use of non-cash payment instruments can suppress the growth of the money supply and maintain price stability, and is supported by the findings of Lintangsari et al. (2018) who showed that strengthening the digital payment system plays a role in strengthening the stability of the national financial system.

Non-cash transactions impact money circulation, with increased digital transaction volume contributing to reduced inflationary pressures due to the efficiency of money distribution in society (Gintting et al., 2019). The consistency of this research result is also evident in studies(Nurhaliza & Nofrian, 2023) which shows that the use of electronic money has a negative relationship with inflation because it is able to reduce the imbalance between money in circulation and real transaction needs, while Rahayu and Nugroho (2020) emphasize that digitalization of the payment system accelerates money circulation without triggering price increases thanks to stricter monetary supervision.

A Bank Indonesia report (2021) further supports these findings by stating that payment digitization improves monetary policy transmission through a fast, efficient, and integrated transaction system. This view aligns with the argument of Bech, Ougaard, and Picillo (2018), who argued that digital transformation in the global payment system can maintain price stability through digital data-based monitoring mechanisms. The alignment of this research's findings with various previous findings indicates that the digitalization of financial transactions in Indonesia plays a dual role, increasing economic efficiency while strengthening price stability, thus becoming a crucial instrument in supporting the effectiveness of monetary policy in the digital economy era.

Theoretically, the impact of digitalization on inflation can be explained through several mechanisms related to payment system efficiency, increased financial access, and changes in consumption behavior. The digitization of financial transactions allows people to more easily conduct transactions through platforms such as e-wallets, mobile banking, and online payment applications. Easier access to digital payment systems can increase transaction volume in the economy, but more importantly, it can increase the efficiency of money circulation. The faster money circulates, the faster the flow of goods and services in the economy, potentially increasing productivity and reducing transaction costs. In this context, despite the increase in transaction volume, the resulting efficiency actually has a greater impact on cost reduction, rather than inflation.

The quantity theory of money, proposed by Irving Fisher through the equation MV = PQ, explains that the amount of money in circulation (M) and the velocity of money

circulation (V) can influence the price level (P) and output (Q). In the context of the digitalization of financial transactions, although the amount of money circulating in the economy may increase due to ease of access and transaction efficiency, the faster increase in the velocity of money circulation actually leads to the efficiency of the payment system, which helps reduce inflationary pressures. In other words, even though money circulates more quickly, digitalization reduces transaction cost barriers, so that public consumption remains controlled and does not trigger significant price increases.

This study found that the digitalization of financial transactions plays a role in lowering inflation, suggesting that increased efficiency and transparency in payment systems can slow price increases even as the money supply increases. This demonstrates that the effects of digitalization are more complex and can be controlled with appropriate policies, particularly monetary policy.

This research also closely aligns with findings in previous literature examining the impact of digitalization on inflation and the economy. For example, research by Handria & Ariyanto (2024) shows that wider use of digital payments in developing countries can increase aggregate demand. This rapid increase in demand is often accompanied by an imbalance between the demand and supply of goods and services, which can lead to inflation. However, these findings are more relevant in the context of developing countries experiencing instability in the supply of goods and services. Meanwhile, in the Indonesian context, this research shows that despite an increase in the velocity of money circulation, the impact of inflation can be better controlled through adaptive monetary policy and careful management of digitalization.

Sahi et al. (2020) also noted that during the COVID-19 pandemic, the increase in digital transactions in Indonesia has impacted the prices of certain consumer goods, particularly those related to basic needs and lifestyle. However, they suggested that this impact was more temporary and influenced by external conditions such as supply disruptions. Furthermore, the results of this study indicate that despite the surge in transaction digitalization, its impact on inflation can be managed with flexible monetary policy and better liquidity management by Bank Indonesia.

Increased financial inclusion resulting from the digitization of financial transactions also plays a crucial role in driving more sustainable economic growth. Digital payment systems enable people who previously lacked access to banking services to more easily participate in the formal economy. This has the potential to increase purchasing power and consumption, which, if not managed wisely, could lead to inflationary pressures. However, while consumption may increase, digitalization actually leads to lower inflation due to

broader access to financial services and reduced transaction costs, which increase efficiency.

Digitalization is also accelerating changes in people's consumption patterns, with people preferring online transactions over cash. This shift has impacted the trade and services sectors, as well as the price structure within the economy. However, despite these changes in consumption patterns, digitalization provides opportunities for economic actors to access markets more easily and accelerate the distribution of goods and services, which helps reduce market barriers and, in turn, prevent inflation.

Bank Indonesia, as the monetary authority, plays a crucial role in managing the impact of digitalization on inflation. One step taken by Bank Indonesia is the introduction of QRIS (Quick Response Code Indonesian Standard), which not only improves transaction efficiency but also expands the reach of digital payment systems. Strengthening monetary policy, such as regulating interest rates and liquidity, as well as monitoring digitalization developments, is crucial to maintaining price stability and ensuring that the benefits of digitalization are maximized without causing adverse inflationary impacts. The results of this study support the theory and previous research that the digitalization of financial transactions has a significant negative impact on inflation.

The Effect of Money Circulation Velocity on Inflation in 2017-2024

The results of this study indicate that the velocity of money circulation has a positive and significant effect on inflation in 2017–2024, with a t-value of 2.407 and a significance level of 0.018. This finding confirms that the probability of the velocity of money circulation has a direct impact on the probability of the price level, in accordance with the quantity theory of money proposed by Irving Fisher through the equation MV = PQ, where an increase in the variable V will drive an increase in P when the money supply (M) and the output of goods and services (Q) are relatively constant. This result is consistent with research by Wati and Addin (2023) which proves that the M2 component and the velocity of money circulation have a positive relationship with inflation in Indonesia over the past decade. Research by Prasasti and Slamet (2020) also strengthens this finding by showing that an increase in the money supply and its velocity have a significant effect on inflation and short-term interest rates.

The consistency of this research's findings aligns with Friedman's (1968) view that inflation control is highly dependent on the stability of the money supply and its velocity. Research by Sipayung and Budhi (2013) also shows that increased economic activity, which accelerates money circulation, drives inflationary pressures in Indonesia. Komalasari,

Fatmasari, and Suharto (2024) emphasize that the relationship between money circulation velocity, interest rates, and inflation significantly influences each other. A Bank Indonesia report (2022) also highlights that changes in consumption behavior and advances in financial technology have the potential to increase money circulation velocity, which requires adaptive monetary policy to maintain inflation control. The alignment of this research's findings with theory and previous research reinforces the understanding that money circulation velocity is a crucial factor in the monetary transmission mechanism and significantly contributes to inflation dynamics in Indonesia.

An increase in the velocity of money circulation reflects increased transaction activity in the economy, leading to increased aggregate demand. When money circulation accelerates, people tend to be more active in consumption and investment, thus driving up the prices of goods and services in the market. These results are consistent with research by Panjaitan (2022), which found that increased velocity of money circulation in Indonesia is positively associated with inflationary pressures, particularly in the household consumption sector.

The increase in the velocity of money circulation during the study period was also influenced by the increasingly rapid digitalization of finance. Digitization simplifies transaction processes and accelerates the movement of money from one party to another, which has a direct impact on the frequency of transactions in the economy. Research by Nurhaliza & Nofrian (2023) also supports this finding by stating that the adoption of financial technologies such as digital wallets and electronic transfers accelerates money circulation and has the potential to drive inflation. However, the effect of money circulation velocity on inflation also depends on overall economic conditions. In some cases, accelerated money circulation does not necessarily trigger high inflation if accompanied by increased productivity and an adequate supply of goods and services. As Rusiadi & Novalina (2017) noted, in a stable and productive economy, increased money circulation velocity can support economic growth without exerting significant pressure on inflation.

During 2017-2024, the velocity of money in Indonesia fluctuated, influenced by various factors, including the monetary policy implemented by Bank Indonesia. Bank Indonesia's efforts to control inflation through interest rate regulation and other monetary instruments also influenced the dynamics of the velocity of money. When interest rates are lowered, people tend to withdraw funds from savings for consumption and investment, which ultimately increases the velocity of money and triggers price increases. Increased velocity of money can also reflect inflation expectations among economic actors. When people anticipate future price increases, they tend to accelerate their consumption of goods

and services before prices rise further. This accelerates the velocity of money in the economy and creates additional inflationary pressures.

The findings in this study also strengthen the results of previous research conducted byRahayu et al. (2020), which states that high money circulation velocity is often an indicator of increased economic activity, but it can also be a major trigger for inflationary spikes if not balanced by appropriate monetary policy. In this context, Bank Indonesia plays a strategic role in managing money circulation velocity through interest rate policy and controlling market liquidity.

The results of this study confirm that the velocity of money circulation has a significant impact on inflation in Indonesia during 2017-2024. The increasing velocity of money circulation contributes to rising inflationary pressures, especially amidst the rapid digitalization of financial transactions. Therefore, it is crucial for monetary authorities to continuously monitor and manage the velocity of money circulation to maintain controlled inflation and ensure sustainable economic growth. These results support the theory and previous research that the velocity of money circulation has a significant positive effect on inflation.

The Impact of Monetary Policy on Inflation in 2017-2024

The results of this study indicate that monetary policy had a negative and significant impact on inflation in 2017–2024, with a t-value of -2.864 and a significance level of 0.005. This finding confirms that the policy measures implemented by Bank Indonesia have proven effective in suppressing the rate of inflation and maintaining price stability amidst global economic dynamics. These results align with Friedman's (1968) view, which asserts that controlling the money supply through monetary policy is the main instrument in maintaining price stability. Keynes' (1936) theory also supports this finding by emphasizing the importance of interest rates and central bank intervention in regulating aggregate demand to stabilize inflation. Research by Septiani et al. (2024) found that monetary policy in Indonesia played a significant role in keeping inflation under control through the benchmark interest rate mechanism and controlling banking liquidity. Research by Sari, Herlin, and Havilla (2024) also showed that changes in the BI Rate and the BI 7-Day Reverse Repo Rate significantly affected the inflation rate, where tightening monetary policy through interest rate increases succeeded in reducing price pressures. This consistency of results is also evident in research by Alfiandri and Satria (2025), which states that monetary policy has a stabilizing effect on the Indonesian economy through the Time-Varying VAR model, demonstrating BI's policy flexibility in responding to changing economic conditions.

Reports from Bank Indonesia (2021) and Bank Indonesia (2022) emphasize that a data-driven monetary strategy and strengthened coordination with the government have played a crucial role in maintaining inflation within the national target range despite external pressures such as the pandemic and global commodity price fluctuations. These research findings, which align with previous theory and empirical findings, strengthen evidence that monetary policy plays a strategic role in guiding macroeconomic stability and sustainably reducing inflation through interest rate management, liquidity management, and open market operations that adapt to national economic dynamics.

Monetary policy aims to regulate the money supply in the economy, which in turn affects the price level and inflation. The monetarist theory proposed by Milton Friedman states that inflation is a phenomenon caused by the growth of the money supply that is faster than the growth of economic output. One of the main tools of monetary policy is regulating the money supply to prevent excessive inflation. In this context, Bank Indonesia uses various monetary policy instruments, such as adjusting the benchmark interest rate (BI Rate), open market operations, and setting the minimum reserve requirement (GWM), to influence the money supply in the market and control inflation.

The results of this study indicate that monetary policy implemented during 2017–2024, particularly through prudent interest rate policy and prudent liquidity management, has a direct impact on curbing inflation. Higher interest rates tend to reduce aggregate demand by increasing borrowing costs and reducing consumption and investment. This reduces pressure on prices of goods and services, ultimately lowering inflation. Conversely, lowering interest rates can increase aggregate demand by making it easier for individuals and businesses to access financing, but this must be done cautiously to avoid triggering excessive inflation.

The importance of monetary policy in controlling inflation in Indonesia is also reflected in Bank Indonesia's measures in addressing external shocks, such as rising global energy prices or fluctuating exchange rates. In response to these phenomena, Bank Indonesia has implemented a flexible monetary policy by adjusting interest rates and managing liquidity to maintain domestic price stability. For example, in 2018-2019, Bank Indonesia raised its benchmark interest rate to address inflationary pressures caused by the trade deficit and fluctuating prices of imported goods. This interest rate increase aimed to attract capital inflows and control inflation by reducing domestic consumption and investment. Furthermore, monetary policy, integrated with fiscal policy and other sectors of the economy, plays a crucial role in maintaining inflationary balance. Bank Indonesia also plays a crucial role in maintaining the stability of the rupiah exchange rate, which is crucial

in controlling inflation, particularly that caused by fluctuations in the prices of imported goods. For example, its foreign exchange market intervention policy to address the weakening rupiah against the US dollar in 2018 was a crucial step in maintaining public purchasing power and preventing imported inflation that could harm the economy.

The impact of monetary policy on inflation can also be seen in the relatively controlled inflation achieved between 2017 and 2024. Despite several external challenges, such as global uncertainty and fluctuating commodity prices, Bank Indonesia managed to maintain inflation within a stable and low range. This controlled inflation is the result of a combination of proactive monetary policy, timely interest rate adjustments, and prudent liquidity management.

The results of this study are also consistent with various previous studies showing that monetary policy has a significant impact on inflation. For example, research conducted by Septiani et al. (2024) showed that tight monetary policy through interest rate increases can reduce inflation, especially in the face of demand pressures. Furthermore, research by Alfiandari & Satria (2020) revealed that Bank Indonesia's policy of adjusting the benchmark interest rate contributed to lower inflation and strengthened economic stability in Indonesia during the post-crisis period.

Although monetary policy has a significant influence on inflation, this impact can vary depending on overall economic conditions. If monetary policy is too tight, it can lead to an excessive decline in economic activity, thus hampering economic growth. Conversely, if monetary policy is too loose, it can lead to a spike in inflation that is harmful to the economy. Therefore, it is crucial for Bank Indonesia to implement a flexible monetary policy that is responsive to domestic and global economic dynamics.The results of this study support the theory and results of previous research that monetary policy has a significant positive effect on inflation.

Conclusion

Based on the results of regression analysis and hypothesis testing, the following conclusions can be drawn:

1. The digitalization of financial transactions has been shown to have a significant negative impact on inflation in Indonesia. This suggests that increased digitalization actually suppresses inflation, as payment system efficiency and the resulting reduction in transaction costs promote price stability.
2. The velocity of money circulation has a positive and significant effect on inflation. This finding supports the quantity theory of money, which states that an acceleration in the

circulation of money increases consumption activity and aggregate demand, ultimately driving up the prices of goods and services.

3. Monetary policy has a negative and significant impact on inflation. The monetary policy implemented by Bank Indonesia to maintain macroeconomic stability, including interest rates, has proven effective in controlling inflation during 2017–2024.

Suggestion

1. The government and Bank Indonesia need to strengthen regulations and policies that support the balanced development of financial digitalization to control its impact on inflation. Supervision of digital transaction activities needs to be tightened to minimize risks that could impact financial system stability. Furthermore, closer coordination between Bank Indonesia and fiscal authorities in responding to inflation dynamics is key to maintaining national economic stability.
2. Financial industry players, particularly banks and digital payment service providers, are expected to continue improving innovation and security in digital transaction systems. Increasing public education on the wise use of digital financial services is also crucial to reduce the risk of excessive consumption, which could potentially trigger inflationary pressures. Public awareness is needed to utilize the ease of digital financial access wisely and responsibly. Careful personal financial management will help maintain stable purchasing power and support overall economic resilience.
3. For future researchers, it is recommended to expand the scope of the study by adding other variables that could potentially influence inflation, such as the money supply, exchange rates, or fiscal policy. Furthermore, more complex analytical methods, such as the Vector Autoregression (VAR) or Error Correction Model (ECM), can be used to provide a more in-depth picture of long-term relationships. This way, the research results can provide a more comprehensive basis for formulating future economic policies.

References

Adrian, T., & Mancini-Griffoli, T. (2021). A new era of digital money. IMF Finance & Development. https://www.imf.org/external/pubs/ft/fandd/2021/06/online/digital-money-new-era-adrian-mancini-griffoli.htm

Alfiandri, AAP, & Satria, D. (2025). The Impact of Monetary Policy on the Indonesian Economy: A Time-Varying VAR Analysis. Media for Development Economic Research (MedREP), 2(2).

Arner, D. W., Barberis, J., & Buckley, R. P. (2016). The evolution of FinTech: A new post-crisis paradigm. Georgetown Journal of International Law, 47(4), 1271–1320.

Bank Indonesia. (2021). Indonesian Economic Report 2021. Bank Indonesia.

Bank Indonesia. (2022). Proceedings of Bank Indonesia Annual Meeting 2022. Bank Indonesia.

Bech, M., Ougaard, F., & Picillo, C. (2018). Payments are a-changing but cash still rules. BIS Quarterly Review, March, 67–80.

Bank for International Settlements. (2021). Annual economic report: June 2021.https://www.bis.org/publ/arpdf/ar2021e.pdf

Central Bureau of Statistics. (2024). Quarterly Gross Domestic Product of Indonesia (No. 07130.2002). https://www.bps.go.id

Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2021). Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19. The World Bank.https://doi.org/10.1596/978-1-4648-1897-4

Fauzie, S., & Istanto, LS (2014). Analysis of the impact of non-cash payments on the money supply in Indonesia. Journal of Economics and Finance, 2(1), 610–621.https://www.neliti.com/publications/14817/

Ferdian, TFT (2020). Money Supply in Economic Activities and Business Orientation in Islam. Economics & Business, 19(2), 107-114.

Fiedler, S., Gern, K.-J., & Stolzenburg, U. (2019). The impact of digitalization on the monetary system. European Parliament.

Fisher, I., & Brown, H. G. (1911). The purchasing power of money: Its determination and relation to credit, interest and crises. The Macmillan Company.

Friedman, M. (1968). The role of monetary policy. The American Economic Review, 58(1), 1–17.https://doi.org/10.4324/9781912281091

Gintting, Z., Djambak, S., & Mukhlis, M. (2019). The impact of non-cash transactions on money circulation in Indonesia. Journal of Development Economics, 16(2), 44–55.https://doi.org/10.29259/jep.v16i2.8877

Ghozali, I. (2012). Econometrics: Theory, Concepts and Applications of SPSS 17. Diponegoro University Publishing Agency.

Handria, A., & Ariefianto, MD (2024). QRIS adoption, ease of financial recording, and accountability of financial reports: A study on MSMEs in Yogyakarta City. Co-Value: Journal of Cooperative Economics and Entrepreneurship, 14(9), 1–14.https://doi.org/10.59188/covalue.v14i9.4213

Hasibuan, RRA, Kartika, A., Suwito, FA, & Agustin, L. (2022). The Influence of Gross Regional Domestic Product (GRDP) on the Poverty Level in Medan City. Reslaj: Religion Education Social Laa Roiba Journal, 4(3), 683-693.

Ibrahim, A., Alang, AH, Madi, Baharuddin, Ahmad, MA, & Darmawati. (2018). Research methodology. Gunadarma Science.

International Monetary Fund. (2024). Global financial stability report: Cyber risk – A growing concern for macrofinancial stability (April), 1–26.

Keynes, J. M. (1936). The general theory of employment, interest and money. Macmillan and Co.https://archive.org/details/generaltheoryofe0003keyn

Komalasari, A., Fatmasari, D., & Suharto, T. (2024). The influence of money supply, interest rates, and inflation on economic growth in Indonesia. Antarctic Business Economics Journal, 2(1), 1–10.

KPMG. (2022). The new technology frontier for developing economies.https://assets.kpmg/content/dam/kpmg/xx/pdf/2022/02/new-technology-frontier-for-developing-economies.pdf

Lintangsari, NN, Hidayati, N., Purnamasari, Y., Carolina, H., & Ramadhan, WF (2018). Analysis of the influence of non-cash payment instruments on the stability of the

financial system in Indonesia. Journal of Economic Development Dynamics, 1(1), 47–62.https://doi.org/10.14710/jdep.1.1.47-62

Lukmanulhakim, M., Djambak, S., & Yusuf, K. (2016). The influence of non-cash transactions on money velocity in Indonesia. Journal of Development Economics, 14(1), 41–46.https://ejournal.unsri.ac.id/index.php/jep/article/view/8774/4665

Matondang, M. (2020). The Effect of Exchange Rates, Inflation, and Gross Domestic Product on Indonesia's Current Account Balance (2010–2018 Period) (Doctoral dissertation, State Islamic University of North Sumatra).

Mankiw, N.G. (2014). Principles of economics (7th ed.). Cengage Learning.

Mishkin, F.S. (2021). The economics of money, banking and financial markets (Global ed.). Pearson.

Montgomery, D. C., Peck, E. A., & Vining, G. G. (2012). Introduction to linear regression analysis (5th ed.). Wiley.

Musta'in, MA, Putra, YE, Azizah, ZC, Sarpini, I., & Sy, ME Money and Its Demand: An Analysis of the Role of the Central Bank in Economic Control.

Nadia. (2024). BI recorded a 17.19 percent growth in digital banking transactions to Rp5,335 trillion as of January 2024. Gatra.com.https://www.gatra.com/ news-593189

Nakita, Fitrawaty, Sianturi, YM, Silalahi, NEL, & Sinaga, OS (2024). The effect of exchange rates and interest rates on the demand for money in Indonesia in 2017–2022. Ekoma: Journal of Economics, Management, and Accounting, 4(1).

Nurhaliza, A., & Nofrian, F. (2023). Analysis of the influence of electronic money on the speed of money circulation in Indonesia. Journal of Development Economic and Digitalization, 2(1), 33–52.

Nursari, A., Suparta, IW, & Yoke, M. (2019). The effect of non-cash payments on the amount of money demanded by the public (M1) and the economy. Journal of Economics and Development, 8(10), 285–306.

Panjaitan, C. (2022). Influence of the non-cash payment system on the money supply in Indonesia. GROWTH: Journal of Master of Economics, University of Palangka Raya, 7(1), 62–79.https://doi.org/10.52300/ grow.v7i1.4514

Prasasti, KB, & Slamet, EJ (2020). The influence of the money supply on inflation and interest rates, as well as on investment and economic growth in Indonesia. Airlangga Journal of Economics and Business, 30(1), 39–48.https://doi.org/10.20473/jeba.v30i12020.39-48

Pujadi, A. (2022). Inflation: Theory and Policy. Journal of Diversity Management, 2(2), 73-77.

Puspitasari, ANF, Rotinsulu, TO, & Niode, AO (2021). Analysis of the influence of non-cash payment transactions on the M1 money supply in Indonesia in 2009–2019. EMBA Journal, 9(2), 523–532.

Rahayu, & Nugroho, RYY (2020). The impact of non-cash payments on the acceleration of money circulation in Indonesia. BISEI: Journal of Islamic Business and Economics, 5(1), 15–26.https://ejournal.unhasy.ac.id/ index.php/bisei/article/view/716

Rahmadani, SA, Yunita, N., Pratama, AW, & Panorama, M. (2023). The effect of non-cash transactions on the money supply with inflation as a moderating variable. JAD: Dewantara Journal of Accounting & Financial Research, 5(1), 27–38.https://doi.org/10.26533/jad.v5i1.1052

Rangkuty, DM, & Yusuf, M. (2020). Monetary economics. CV Manhaji.

Rizkin, A., & Rizki, CZ (2017). The relationship between credit and interest rates with inflation in Indonesia. Indonesian Journal of Economics and Public Policy, 4(1).

Rusiadi, R., & Novalina, A. (2017). Analysis of Foreign Investment, Inflation, and Unemployment on Economic Growth in North Sumatra. Journal of Economic Studies and Public Policy (JEpa), 2(1), 43-50.

Sahi, A., & Abbas, A.F. (2022). Digital payment adoption: A review (2015–2022).

Sari, Y., Herlin, F., & Havilla, S. (2024). The effect of the BI rate and the BI 7-day reverse repo rate on inflation in Indonesia using the Vector Autoregression (VAR) method. Ekonomis: Journal of Economics and Business, 8(1), 754–765.https://doi.org/10.33087/ekonomis.v8i1.1711

Schumpeter, J. A. (1934). The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle. Harvard University Press.https://archive.org/details/theoryofeconomic0000schu

Septiani, S., Rahmawati, T., Oktariani, VD, Evi, E., & Fadilla, A. (2024). The role of monetary policy in Indonesia in dealing with inflation. Journal of Economics, Assets, and Evaluation, 1(3), 1–7.https://doi.org/10.47134/ jeae.v1i3.204

Sipayung, PTE, & Budhi, MKS (2013). The influence of GDP, exchange rate and money supply on inflation in Indonesia during the period 1993–2012. E-Journal of Development Economics, Udayana University, 2(1), 334–343.

Sudana, IM (2019). Financial management theory and practice. Airlangga University Press.

Sugiyono. (2013). Educational research methods: Quantitative, qualitative, and R&D approaches. Alfabeta.

Sugiyono. (2016). Quantitative, qualitative, and R&D research methods (23rd ed.). Alfabeta.

Sugiyono. (2017). Business research methods: Quantitative, qualitative, combination, and R&D approaches. Alfabeta.

Suhesti Ningsih, & Kristiyanti, L. (2016). Analysis of the influence of money supply, SBI interest rates, and exchange rates on inflation in Indonesia. Journal of Accounting & Finance Research, 1–12.https://doi.org/10.54367/jrak.v2i1.170

Sukirno, S. (2015). Macroeconomics: Introductory Theory (Seventh Edition). RajaGrafindo Persada.

Sumarni, & Silvia, R. (2023). Monetary economics. UNPRI Press.

Taufik, DA (2021). Analysis of the influence of money supply, SBI interest rates, and exchange rates on inflation rates. Diponegoro Journal of Economics, 10, 372.

Wahyudi, SK, & Riana, A. (2024). Analysis of factors influencing inflation in Indonesia in 2011–2020. Mirai Management Journal, 9(3), 393–409.

Wati, SH, & Addin, S. (2023). Analysis of the implementation of quantity theory on M2 components and inflation in Indonesia in 2010–2022. Monetary: Journal of Accounting and Finance, 10(1), 100–107.https://doi.org/10.31294/monetary.v10i1.15521

Wooldridge, J. M. (2015). Introductory econometrics: A modern approach. Cengage Learning.

Yodiatmaja, B. (2012). Financial inclusion model in rural-based MSMEs. Jejak: Journal of Economics and Policy, 5(2), 127–229.https://doi.org/10.15294/jejak.v7i1.3596

Zunaitin, E., Niken, WR, & Wahyu, PF (2017). The effect of e-money on inflation in Indonesia. Equilibrium Journal, 2(1), 18–23.https://jurnal.unej.ac.id/index.php/JEK/article/download/13920/7264