

Do Cashless Transactions and Credit Distribution Affect Inflation in Indonesia?

Muhammad Firmansyah ^{1)*}, Arfida Boedirochminarni ²⁾, Wahyu Hidayat Riyanto ³⁾, Arini Roro Anggun Tsalasa ⁴⁾

^{1), 2), 3)} Department of Development Economics, University of Muhammadiyah Malang, Indonesia

⁴⁾ Department of Agribusiness, Muhammadiyah Gresik University, Indonesia

* E-mail corresponding author: firmansyah92@umm.ac.id

Ecoplan Submitted: July 01, 2024 Accepted: Sept 13, 2024 Published: Oct 26, 2024 Keywords: <i>Cashless Transaction; Capital Work Credit; Credit Consumption; Inflation</i>	Abstract - <i>The relationship between credit and non-cash transactions includes various mechanisms that affect the money supply, ultimately increasing inflation. One way to control inflation is to maintain the circulation of money. This study provides an understanding of the impact of these transactions on inflation, especially in Indonesia. It aims to test whether cashless transactions, working capital credit, and consumer credit significantly affect Indonesia's inflation rate in both the short and long term. This study was quantitative in nature. It involved statistical analysis techniques through the Error Correction Model (ECM), t-test analysis, and F-test to determine the effect of independent variables on dependent variables both partially and simultaneously. The results revealed that cashless transactions, working capital credit, and consumer credit had a positive and significant effect on the inflation rate in Indonesia in both the short and long term. These results suggest that a more in-depth approach to economic policy is needed, especially focusing on the synergy between fiscal policy, technological developments, and inflation dynamics.</i>
---	---

Abstrak - Hubungan antara kredit dan transaksi non-tunai mencakup berbagai mekanisme di mana transaksi ini mempengaruhi jumlah uang beredar yang pada akhirnya meningkatkan inflasi. Salah satu cara untuk mengendalikan inflasi adalah dengan mengontrol perputaran uang. Penelitian ini memberikan pemahaman mengenai dampak transaksi tersebut terhadap inflasi, terutama di Indonesia. Tujuan dari penelitian ini adalah untuk menguji apakah transaksi cashless, kredit modal kerja, dan kredit konsumsi memiliki pengaruh yang signifikan terhadap tingkat inflasi di Indonesia baik dalam jangka pendek dan jangka panjang. Penelitian ini merupakan penelitian kuantitatif. Teknik analisis dalam penelitian ini menggunakan Error Correction Model (ECM), analisis uji t, dan juga uji F untuk melihat pengaruh dari variabel independen terhadap variabel dependen baik secara parsial maupun simultan. Hasil dari penelitian ini menunjukkan bahwa transaksi cashless, kredit modal kerja, dan kredit konsumsi berpengaruh positif dan signifikan terhadap tingkat inflasi di Indonesia baik dalam jangka pendek maupun jangka panjang. Dari hasil penelitian ini maka perlunya pendekatan yang lebih mendalam terhadap kebijakan ekonomi yang mempertimbangkan sinergi antara kebijakan fiskal, perkembangan teknologi, dan dinamika inflasi.

Kata Kunci: Transaksi Cashless; Kredit Modal Kerja; Kredit Konsumsi; Inflasi

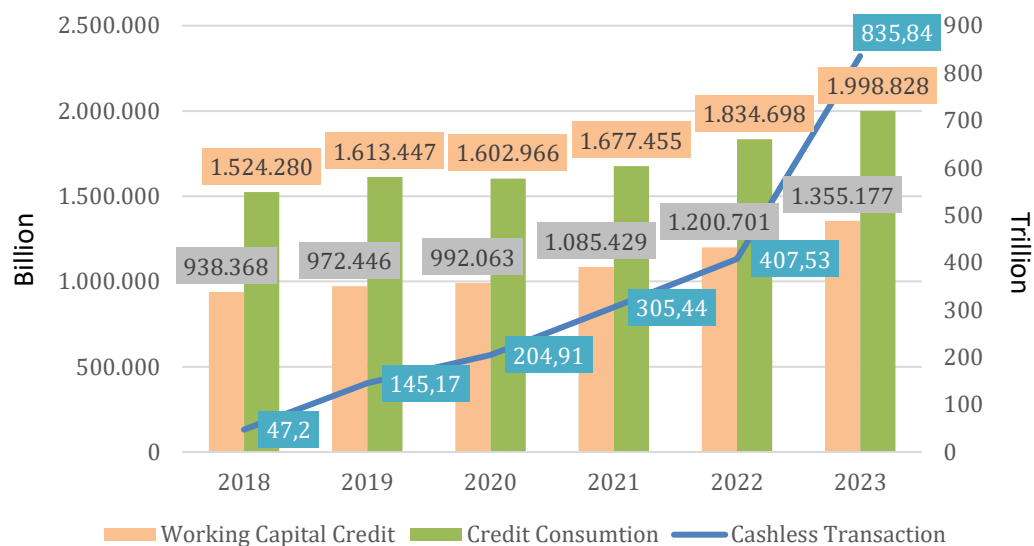
INTRODUCTION

Globalization has triggered significant technological developments. As technological advances continue to develop, the payment system is also transforming from cash-based to cashless (Maharani et al., 2023). Cashless transactions have various forms, from cards to electronic networks known as electronic money or e-money. Cashless transactions only sometimes require an internet connection or be done online. In this case, the value of money is stored electronically in payment systems such as server media and chips, which can be used to carry out payment transactions (Kalbuadi & Yanthi, 2021).

Cashless transactions are increasingly preferred because they make it easier for people to make payments more efficiently and effectively than cash payments. Apart from being practical and easy, this transaction aims to reduce crime due to using cash (Rahayu & Nugroho, 2019). Cashless transactions that can be used as a benchmark for inflation in Indonesia are the quantity of credit cards, debit cards, and

money transactions. In 2014, Bank Indonesia socialized the National Cashless Movement (GNTT). In 2016, Bank Indonesia presented the National Payment Gateway (GPN), and in 2019, Bank Indonesia presented the Quick Response Indonesia Standard (QRIS) (Fadillah & Munawar, 2020). Cashless transactions affect the circulation of money or the velocity of money in Indonesia. Cashless payment tools have a fast mechanism, increasing the intensity of money circulation in Indonesia. This affects the country's inflation rate (Ady, 2016).

Credit from banks can indirectly affect inflation through its interaction with cashless transactions and the amount of money in circulation within the monetary policy transmission channel (E. Maharani & Sari, 2024). As a financial intermediary institution, banks collect funds from the public in the form of deposits and channel them back in the form of loans (credit) (Eltania, 2022). Bank credit is the primary source of capital that drives the economy in Indonesia (Siwi et al., 2019). Credit distribution, based on its purpose, is divided into two main categories: consumer credit, which is used for personal consumption to obtain immediate satisfaction, and productive credit, which consists of investment credit for capital development and working capital credit. When banks succeed in increasing the distribution of funds in the form of credit to support economic activities, this will encourage a country's economic growth.



Source: Bank of Indonesia

Figure 1. The amount of distribution of Working Capital Credit, Consumer Credit, and Cashless Transactions in Indonesia

Figure 1 shows that the amount of working capital credit distribution, consumer credit, and cashless transactions in Indonesia tends to increase from 2018 to 2023. The graph shows that the highest increase occurred in 2023, with a percentage increase of 13% for working capital credit and an increase of 9% for consumer credit. However, for cashless transactions, the highest increase occurred in 2019, which was 208% compared to the previous year. The increasing credit distribution represents that the economy in Indonesia is growing because individuals, companies, and the government use credit for investment, consumption, and business expansion. In addition, the increase in cashless transactions in Indonesia also reflects consumer behavior that is aware of technological advances through a more modern and efficient payment system. Modernization of payment systems, including cashless transactions, is important in transmitting monetary policy. This modernization can help control inflation by influencing the money supply and interest rates (Maharani & Sari, 2024).

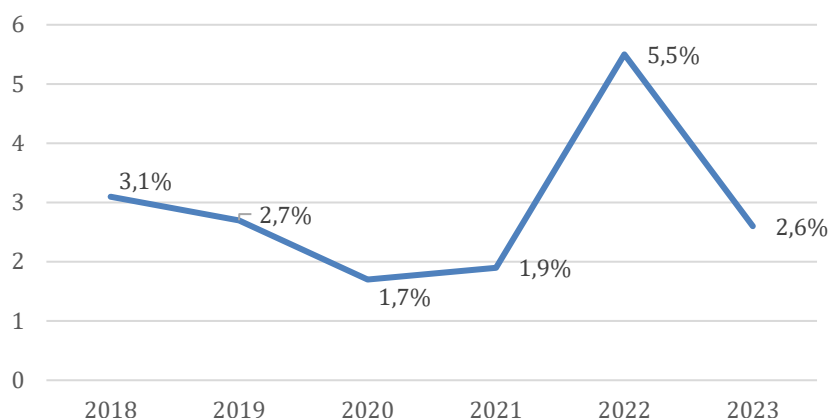


Figure 2. Inflation Rate in Indonesia

Figure 2 shows that the inflation rate fluctuates from 2018 - 2023. It can be seen that the highest inflation rate occurred in 2022, which was 5.5%, with a growth of 189% from the previous year. The increase in the highest inflation rate was due to improvements in economic conditions with increasing public demand after the pandemic in 2020 - 2021. Therefore, the inflation rates this year have improved drastically. Inflation has a direct impact on the banking intermediation function. When the inflation rate is high and difficult to control, people lose the incentive to save because the interest rate earned is relatively low, while the administrative costs of savings still have to be paid. In addition, in conditions of high inflation, people tend to withdraw funds from banks massively to increase consumption and unproductive investment. When banks are disrupted in carrying out their business, the supply of credit will decrease, and this will have an impact on reducing credit distribution.

Research by Rosanti and Maulida (2022) stated that Electronic Money, Credit Cards, and Debit Cards significantly influence Inflation in Indonesia. This is different from research conducted by Wijaya & Juliannisa (2023), which shows that non-cash payments (electronic money) do not significantly affect inflation in Indonesia in the long and short term. Johnson (2015) revealed that inflation does not significantly affect economic credit, including working capital credit. Mewoh et al. (2017) show that inflation does not significantly impact working capital credit distribution. Other research conducted by Polihu et al (2023) states that partially the consumption credit variable has no significant effect on inflation in Indonesia.

The interaction between non-cash transactions, working capital credit, consumer credit and inflation illustrates the complexity of the modern monetary system. On the one hand, non-cash transactions can strengthen the effectiveness of monetary policy. However, it presents challenges in controlling inflation. Similarly, the distribution of bank credit can encourage economic growth, but careful policies are needed to prevent inflation spikes. Therefore, based on the background above, the researcher wants to know the role of cashless transactions, working capital credit, and consumption credit in handling the inflation rate in Indonesia. This research aims to test whether cashless transactions, working capital credit, and consumption credit significantly influence Indonesia's short- and long-term inflation rate. It is hoped that the results of this study can provide a solid analysis to obtain relevant insights for policymakers.

LITERATURE REVIEW

Non-cash transactions are payment transactions carried out using cards or electronic networks (e-money). The transaction instruments can be made using cards (APMK), where debit cards and credit cards are the most widely used by people in Indonesia. Debit cards use a real-time operational system, so the money will be immediately counted in money circulation when transactions are made. Debit cards are a payment tool that has developed and replaced conventional payment tools, or what is also known as card-based payments (Swasti, 2017). A debit card is a non-cash payment instrument used for economic transactions, including shopping payments, where the transaction amount directly reduces the cardholder's savings balance. A debit card is an account-based card with funds originating from the customer's bank account. A credit card is a non-cash payment instrument used to make payments, where the card issuer first assumes the obligations of the cardholder. The cardholder must then make payment at the agreed time, either in cash or in instalments (Soraya & Abbas, 2022). Meanwhile, e-money is an electronic payment tool obtained by depositing a certain amount of money first with the issuer. The value of the money is then entered into

electronic money media, which is used to make payment or purchase transactions by directly reducing the value of the funds in e-money. With the advantages of being effective and efficient in its use, it is hoped that e-money can optimize economic growth in Indonesia (Ghassani & Hilyah, 2017). The research conducted by Titalessy (2020) shows that electronic money transactions have a significant effect on inflation

H1 : Cashless transactions have a significant effect on inflation

Working capital credit is facilities that meet particular needs, such as inventory/projects. Credit is one source of capital for companies. Using this capital requires approval and agreement between the debtor and the borrower, who must repay the loan to the creditor within a predetermined period. The existence of credit allows both parties to meet their business needs and daily needs (Firmansyah & Mu'ammal, 2023). Working capital credit is aimed at small businesses that lack funds and need funds for productive activities. Requests for working capital credit by business actors are used to increase their ability to produce output (Suarmanayasa, 2021). Apart from that, the increasing price of raw materials (input) and operational costs are reasons business actors take working capital credit as production capital. Credit greatly influences production, entrepreneurship levels, aggregate output, and productivity. Bank credit also has a positive relationship with economic development and inflation. The research conducted by Anwar and Akbar (2018) shows that working capital credit has a significant effect on inflation in Indonesia.

H2 : Working capital credit has a significant effect on inflation

Credit consumption is credit facilities provided to individuals by financial institutions or lenders for personal, non-business purposes. Generally, this type of credit is used to buy durable household goods such as furniture, personal vehicles, and houses. The loan amount provided is relatively small because the segment that applies for this type of credit is households, not large companies, for investment purposes or personal needs (Polihu et al., 2023). Credit consumption allows individuals to make purchases they might not be able to make with their current income. This encourages consumption and can increase the demand for goods and services in the market, contributing to economic growth. When consumer credit increases significantly, demand for goods and services can also increase, potentially putting downward pressure on prices (demand-pull inflation). This is especially true if an increase does not match the increase in consumption in production. The research conducted by Yeni et al (2018) states that credit growth significantly affects inflation in Indonesia.

H3 : Credit consumption credit has a significant effect on inflation

Inflation is the increase in prices in general and occurs continuously as measured by the CPI. An increase in the price of one or two goods cannot be categorized as inflation unless the increase is evenly distributed or impacts the increase in the majority of prices of other goods, such as foodstuffs, ready-to-eat and semi-finished foods, tobacco, drinks, health services, clothing, recreation, education, sports, communications, transportation, and financial services (Kalbuadi and Yanthi, 2021). The existence of fiscal and monetary policies involving the real sector aims to maintain inflation at a low point. A low and stable inflation rate is very important in determining long-term economic growth (Bezemer et al., 2023). Inflation has direct and indirect impacts on credit distribution. High inflation generally causes credit interest rates to rise, reducing credit demand and increasing the risk of bad debt. Banks tend to be more cautious in extending credit during periods of high inflation, while consumers and businesses are more likely to delay taking credit due to rising costs and declining purchasing power. To maintain credit distribution stability, governments and central banks often use monetary and fiscal policies to suppress the inflation rate and maintain economic conditions conducive to financing (Katusiime, 2018).

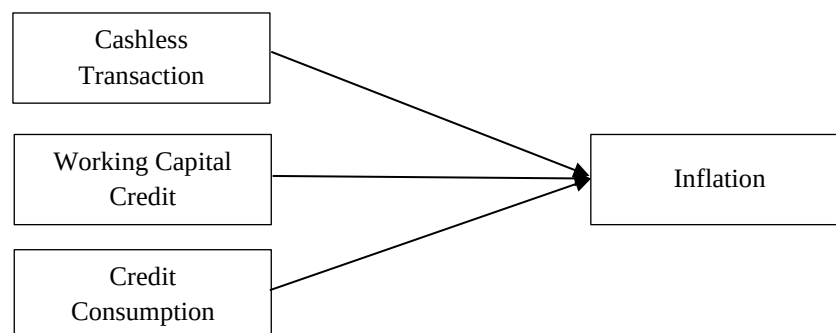


Figure 3. Framework of Thought

Source: Author's illustration

METHODOLOGY RESEARCH

The approach used in this research is quantitative, using secondary data. Secondary data is needed as data that meets the criteria for each variable to assess the impact between variables. Researchers process secondary data from Bank Indonesia and the Financial Services Authority (OJK). The data used in this research is monthly data for 2013-2023. The data selection was based on the fact that in 2013, cashless transactions grew, and credit distribution increased in Indonesia.

The analytical method used in this research is the Error Correction Model (ECM). This method can study economic phenomena in both the short and long term and evaluate the suitability of empirical models with economic theory (Pratami, 2020).

The ECM equation model in this research is:

$$\Delta \text{Inflation}_t = \beta_0 + \beta_1 \text{DCL}_t + \beta_2 \text{DWCC}_t + \beta_3 \text{DCC}_t + \beta_4 \text{CL}_{t-1} + \beta_5 \text{WCC}_{t-1} + \beta_6 \text{CC}_{t-1} + \beta_7 \text{ECT} + u_t$$

Note:

INFLATION : Inflation rate for the t- period

DCL_t : Cashless transactions in the t- period

DWCC_t : Working Capital Credit in the t- period

DCC_t : Consumption Credit in the t- period

DINFLATION : INFLATION_t – INFLATION_{t-1}

DCL_{t-1} : CL_t – CL_{t-1}

DWCC_{t-1} : WCC_t – WCC_{t-1}

DCC_{t-1} : CC_t – CC_{t-1}

ECT : Error Correction Term

β₁ -β₇ : The coefficient value of each independent variable

U_t : Error in t period

Table 1. Operational Definition of Variables

No	Variable	Operational Definition	Unit
1	Inflation	The price increase is general and occurs continuously as measured by the CPI.	Percent (%)
2	Cashless Transaction (CL)	Payment transactions carried out using cards or electronic networks (e-money)	All nominal amounts of transactions using debit cards, credit cards, and electronic money
3	Working Capital Credit (WCC)	Credit facilities are provided to meet particular working capital needs, such as inventory/projects.	The nominal amount of working capital credit disbursed by the bank
4	Credit Consumption (CC)	Credit facilities are provided to individuals by financial institutions or lenders for personal, non-business purposes.	The nominal amount of consumption credit distributed by banks

t-Test

The t-test is used to test whether the hypothesis partially significantly affects the dependent variable. The t-test is used to test the null hypothesis (H₀) that the coefficient of the independent variable is equal to zero (β=0). This means that the independent variable does not significantly affect the dependent variable. The alternative hypothesis (H₁) states that the regression coefficient is not equal to zero (β≠0), nor does the independent variable have a significant effect.

F-Test

The F test is used to determine whether all independent variables significantly affect the dependent variable. Unlike the t-test, which partially tests the significance of the independent variable coefficients, the F test tests all independent variable coefficients simultaneously (together). If all coefficients of the independent variables are equal to zero, the independent variables do not affect the dependent variable. The alternative hypothesis (H₁) states that at least one of the coefficients is not equal to zero, which means that the independent variables simultaneously affect the dependent variable.

RESULT AND DISCUSSION

Stationarity Test

This test compares probability values (prob) at a significance level of 5% (0.05). If $\text{prob} < 0.05$, then the data is considered stationary. Conversely, if $\text{prob} > 0.05$, the data is considered nonstationary (Maulayati et al., 2020). Based on the test results, a significant level of stationarity in the observed variables can be seen. For cashless variables, working capital credit, consumption credit, and stationary inflation at the 1st Difference level.

Table 2. Stationarity Test Results

Variable	Level		1 st Difference	
	Prob	Remark	Prob	Remark
Cashless Transaction	0.0735	Not Stationary	0.0034	Stationary
Working Capital Credit	0.0211	Stationary	0.0173	Stationary
Credit Consumption	0.0037	Stationary	0.0056	Stationary
Inflation	0.1622	Not Stationary	0.0082	Stationary

Cointegration Test

The cointegration test is carried out to avoid the appearance of spurious regression. Through this test, it can be seen whether there is a long-term relationship between variables. The cointegration test was carried out using the Johansen method by comparing probability values at a significance level of 5%. If $\text{prob} < 5\%$, the variable is considered cointegrated (Maulayati et al., 2020).

Table 3. Cointegration Test Result

Variable	Significance	Remark
Residual	0.0000	Cointegrated

Based on Table 3, the cointegration test results on the residuals show a probability value of 0.0000. This value is smaller than alpha 5%, so it can be concluded that there is cointegration between the independent and dependent variables. This shows that these variables are in a long-run equilibrium condition.

Error Correction Model Test

Error correction model (ECM) testing was carried out to determine short-term and long-term relationships between variables. The results of this test are described as follows:

Table 4. ECM Estimation Test Results

Dependent Variable	Inflation				
Variable	Coefficient	Std. Error	t-Statistic	Prob	Remark
Short-term					
Constanta	15.7051	11.7335	-1.2564	0.0133	
Cashless Transaction	0.4872	0.23861	1.7023	0.0024	Significant
Working Capital Credit	2.4413	0.11319	7.1405	0.0087	Significant
Credit Consumption	1.7521	0.72053	-1.8417	0.0163	Significant
ECT	0.7264	0.24186	6.9136	0.0000	
Long-term					
Constanta	13.0582	14.2116	1.7784	0.0267	
Cashless Transaction	0.5039	0.36101	-1.5829	0.0351	Significant
Working Capital Credit	2.8657	0.44382	-2.0385	0.0372	Significant
Credit Consumption	1.8521	1.50741	-1.4605	0.0098	Significant
R-squared	: 0.883501				

Based on Table 4, it can be seen from the short-term and long-term ECM estimation results; it can be seen that the R-squared value in the ECM estimation results is 0.883501, which means that the cashless transaction variables can explain 88% of the inflation rate, working capital credit, and consumption credit.

Other variables outside this research model explain the remaining 12%. The constant value shows the number 15.7051, so it can be interpreted that if there is no influence from other variables or the independent variable in this research is considered 0. The inflation rate will be 15.7% in the short term. Meanwhile, the constant value of 13.0582 shows that if there is no influence from other variables or the independent variable in this research is considered 0. The inflation rate will be 13.05% in the long term.

The effect of cashless transactions on inflation has a coefficient value of 0.4872, a probability value of 0.0024 in the short term, a coefficient value of 0.5039, and a probability value of 0.0351 in the long term. Thus, it can be concluded that the cashless transaction variable significantly affects inflation in the short and long term. The effect of working capital credit on inflation has a coefficient value of 2.4413, a probability value of 0.0087 in the short term, a coefficient value of 2.8657, and a probability value of 0.0372 in the long term. Thus, it can be concluded that the working capital credit variable significantly affects inflation in the short and long term. The effect of consumption credit on inflation has a coefficient value of 1.7521, with a probability value of 0.0163 in the short term, and a coefficient value of 1.8521, with a probability value of 0.0098 in the long term. Thus, it can be concluded that the consumption credit variable significantly affects inflation in the short and long term. The ECT coefficient value is 0.7264, with a probability value of 0.0000, smaller than alpha 0.05, so the ECM model in this research is valid. The coefficient value shows that 72.64% of the discrepancies can be corrected in the short term versus the long term in one period.

The Effect of Cashless Transactions on Inflation

The research results show that cashless transactions have a significant effect on inflation. This is in line with research conducted by Rosanti and Maulida (2022), which states that electronic money, credit cards and debit cards significantly affect inflation. Other research conducted by Titalessy (2020) also shows that electronic money transactions significantly affect inflation. The advantages of non-cash payments lie in convenience, speed of transactions, time savings, and reduced circulation of physical money in society. Top-up transactions, which are based on transferring currency values from cash to non-cash, will affect the money supply, which affects the circulation of money in Indonesia. The existence of electronic money will make it easier for the monetary authority to control the money supply through several instruments or policies implemented to control inflation. The less physical cash in circulation will indirectly affect the inflation rate (Aprilianto & Muslikhati, 2022). Digital money will also encourage public consumption and demand for goods and services, which ultimately has the potential to increase actual sector activity. The results of this study indicate that the shift towards electronic payments is an important factor in the country's economic dynamics. People are reluctant to carry large amounts of cash in their wallets for transactions because they are considered unsafe and impractical. Apart from that, obstacles such as queues at ATMs or limited operational banking services are reasons people switch to cashless transactions (Ong & Chong, 2023). These findings are particularly relevant in the increasing shift towards digital payments, as they provide insights into how such a transition could affect inflation dynamics. Central banks and monetary authorities should consider these dynamics when setting interest rates and other monetary policies.

The Effect of Working Capital Credit on Inflation

The research results show that working capital credit significantly affects inflation. The more comprehensive community's increase in working capital credit depends on inflation developments. The decline in per capita income also causes the demand for credit from the public to decrease because people feel they need to be more confident about repaying the credit they have taken. In addition, weak inflation due to a decrease in people's purchasing power will cause company income to be low, so demand for working capital credit and investment credit will also decrease because there is little possibility for companies to increase their production. This follows research conducted by Gusnimar and Sentosa (2019), which explains that inflation positively and significantly affects investment credit. When inflation is high, the price of goods will tend to rise, so business people will take out working capital loans from banks. Other research conducted by Anwar and Akbar (2018) shows that working capital credit significantly affects inflation in Indonesia. Increasing the amount of credit will increase the money supply, affecting inflation. This study provides empirical evidence on the impact of working capital credit on inflation in Indonesia. Thus, policymakers must be careful when increasing credit distribution. Fiscal spending is needed to support the economy in balancing the effects of inflation.

The Effect of Consumer Credit on Inflation

The research results show that consumption credit has a significant effect on inflation. In inflation, the price level does not necessarily determine inflation but rather the impact caused by inflation (Polihu et al., 2023). This is in line with research conducted by Yeni et al (2018), which states that credit growth significantly affects inflation in Indonesia. The development of banking credit will influence inflation and the real sector

(output) through investment and consumption. When investment and consumption increase, aggregate demand will also increase. Other research conducted by Rizkina and Diana (2023) shows a correlation between the consumption credit variable and inflation. The increase in inflation encourages the government to adopt a policy of increasing the BI rate, which an increase will follow in loan interest rates. As a result, people are reluctant to take out consumption credit because of high interest rates, so consumption credit distribution decreases. These results highlight the complex interaction between inflation and credit availability in managing inflation. By providing access to additional financial resources, credit allows consumers to maintain or increase their spending, even when their income may be insufficient. This suggests that policies that promote responsible credit distribution can support economic activity.

CONCLUSION

The results of this research show that cashless transactions, working capital credit and consumption credit significantly affect inflation in Indonesia. With the rapid growth of technology, payment tools are also changing. Electronic money is slowly replacing the role of paper money and coins. The emergence of electronic money provides convenience for consumers, which can increase demand for goods and services, thereby causing demand-pull inflation. Changes in payment methods from using cash have now shifted to electronic money. Apart from following government recommendations, such as using electronic money to pay for toll roads, people prefer electronic money as a transaction tool because they do not have to bear interest rate losses. The easy process of refilling electronic money (moving nominal money from a bank account to electronic money) causes people to use it only for current transaction needs and prefer to keep most of their money in bank accounts. Therefore, when interest rates are high, people will be reluctant to make transactions.

Inflation is a variable that must be considered by commercial banks in Indonesia when distributing consumption credit and working capital credit. When there is an increase in the disbursement of working capital credit and consumption credit, it will impact increasing inflation in Indonesia. So that inflation can be controlled and measured, the monetary authority can make a prudent policy in distributing working capital and consumption credit. In this case, working capital and consumption credit can stimulate economic activity from the demand side so that consumers spend money to meet their needs. So, it is hoped that Bank Indonesia can tighten monetary operations to reduce the proportion of funds channelled for working capital and consumption credit.

Policymakers should also focus on creating a strong digital ecosystem and facilitating safe and efficient cashless transactions to help manage inflation's effects while driving economic growth. In addition, policymakers need to understand the relationship between cashless transactions, credit distribution, and inflation to assist in long-term economic planning. Policymakers can use this insight to develop a comprehensive economic strategy that balances economic growth with inflation control and ensures sustainable development in Indonesia. This study does not consider other variables outside this research model that may affect inflation. Therefore, further research can provide additional insights in addressing the gaps in the findings of this study.

ACKNOWLEDGMENT

Thank you to the Faculty of Economics and Business, University of Muhammadiyah Malang, for funding this research so that the author can complete it.

BIBLIOGRAPHY

- Ady, E. M. (2016). Pengaruh Sistem Pembayaran Non Tunai Terhadap Inflasi di Indonesia Tahun 2011-2015. *Jurnal Ilmiah Universitas Brawijaya*, 1–15.
- Anwar, A. I., & Akbar, A. (2018). The Effect of Credit To The Inflation Rate Through Gross Domestic Product In Indonesia. *Jurnal Economics, Social, and Development Studies*, 5(2), 78–93.
- Aprilianto, F., & Muslikhati, M. (2022). The Impact of a Cashless Payment System on Inflation. *Jurnal Ekonomi Pembangunan*, 20(02), 124–136.
- Bezemer, D., Ryan-Collins, J., van Lerven, F., & Zhang, L. (2023). Credit policy and the ‘debt shift’ in advanced economies. *Socio-Economic Review*, 21(1), 437–478. <https://doi.org/10.1093/ser/mwab041>
- Eltania, M. (2022). Pengaruh Suku Bunga Kredit, Inflasi, dan Nilai Tukar Terhadap Jenis Penyaluran Kredit. *Contemporary Studies In Economic*, 1(1), 25–37. <https://doi.org/10.21776/csefb.2022.01.1.03>
- Fadillah, A. A., & Munawar. (2020). Analisis Pengaruh Penggunaan Alat Pembayaran Menggunakan Kartu (APMK) dan Uang Elektronik Terhadap Jumlah Uang Beredar Periode 2009-2019. *Jurnal Ilmiah Mahasiswa FEB, Universitas Brawijaya*. <https://jimfeb.ub.ac.id/index.php/jimfeb/article/view/7048>

- Firmansyah, M., & Mu'ammal, I. (2023). Efektivitas transmisi kebijakan moneter jalur kredit dan harga aset terhadap pertumbuhan ekonomi pada bank sentral di ASEAN-5. *Entrepreneurship Bisnis Manajemen Akuntansi (E-BISMA)*, 378–396. <https://doi.org/10.37631/ebisma.v4i2.1206>
- Ghassani, N., & Hilyah, A. (2017). Efisiensi Time Saving Dalam Penerapan Pembayaran Transaksi Menggunakan E-Money. *Prosiding Seminar Nasional Multi Disiplin Ilmu*, 3, 625–627. <https://surabayakota.bps.go.id/linkTabelStatistik/view/id/329>
- Gusnimar, G., & Sentosa, S. U. (2019). Pengaruh Dana Pihak Ketiga, Inflasi, dan Tingkat Suku Bunga Kredit Terhadap Permintaan Kredit Investasi Bank Pemerintah Daerah di Indonesia. *Jurnal Kajian Ekonomi Dan Pembangunan*, 1(2), 553–562.
- Johnson, K.-A. (2015). Analysis of the impact of the economic credits on the inflation and economic growth in Togo. *African Journal of Marketing Management*, 7(6), 69–79. <https://doi.org/10.5897/ajmm2014.0414>
- Kalbuadi, K., & Yanthi, M. D. (2021). Analisis Pengaruh Peluncuran Sistem E-Money dan Jumlah Uang Beredar Terhadap Inflasi di Indonesia. *Jurnal Cendekia Akuntansi*, 2(1), 11–23. <https://doi.org/https://doi.org/10.32503/akuntansi.v3i2>
- Katusiime, L. (2018). Private sector credit and inflation volatility. *Economies*, 6(2), 2–13. <https://doi.org/10.3390/economies6020028>
- Maharani, D. P., Romiza, N., Pasaribu, E., & Febriani, R. E. (2023). Pengaruh Digital Payment Terhadap Pertumbuhan Ekonomi Indonesia: Analisis Kawasan di Indonesia Selama Pandemi Covid-19. *Ecoplan*, 6(2), 145–154.
- Maharani, E., & Sari, W. I. (2024). Effectiveness of Monetary Policy Transmission Path on Usecashless Payment and Amount of Money Supply on the Increasing Inflation Rate in Indonesia. *Formosa Journal of Sustainable Research*, 3(5), 893–902. <https://doi.org/10.55927/fjsr.v3i5.9318>
- Maulayati, R. R., Bahril, M. A., Najiatur, N., & Herianingrum, S. (2020). Effect of Macroeconomic Variables on Third-Party Funds in Islamic Commercial Banks in Indonesia. *Journal of Islamic Economics Lariba*, 6(1), 19–40. <https://doi.org/10.20885/jielariba.vol6.iss1.art2>
- Mewoh, R. L., Oldy Rotinsulu, T., Kawung, G. M. V., Pembangunan, J. E., Ekonomi, F., & Bisnis, D. (2017). Analisis Faktor-Faktor yang Mempengaruhi Penyaluran Kredit Modal Kerja Pada Bank Umum di Sulawesi Utara. *Jurnal Berkala Ilmiah Efisiensi*, 17(01).
- Ong, H. B., & Chong, L. L. (2023). The effect of cashless payments on the internet and mobile banking. *Journal of Financial Services Marketing*, 28(1), 178–188. <https://doi.org/10.1057/s41264-022-00145-0>
- Polihu, H. A., Rotinsulu, T. O., & Mandei, D. (2023). Analisis Pengaruh Suku Bunga Kredit dan Inflasi Terhadap Permintaan Kredit Konsumsi di Sulawesi Utara Tahun 2012-2021. *Jurnal Berkala Ilmiah Efisiensi*, 23(8), 85–96.
- Pratami, A. (2020). Dampak Inflasi dan Dana Pihak Ketiga terhadap Pembiayaan dengan Moderasi Pertumbuhan Ekonomi. *Ecoplan*, 3(2), 99–104.
- Rahayu, S., & Nugroho, R. Y. Y. (2019). Dampak Pembayaran Non Tunai Terhadap Percepatan Perputaran Uang di Indonesia. *Jurnal Bisnis Dan Ekonomi Islam*, 5(01), 15–26. <https://doi.org/10.33752/bisei.v5i01.716>
- Rizkina, A., & Diana, A. (2023). Pengaruh Tingkat Suku Bunga dan Inflasi Terhadap Kredit Konsumsi di Indonesia. *Jurnal Ekonomi Dan Kebijakan Publik Indonesia*, 10(1), 54–64.
- Rosanti, O., & Maulida, S. (2022). Pengaruh Sistem Pembayaran Elektronik Terhadap Inflasi Di Indonesia. *ARBITRASE: Journal of Economics and Accounting*, 3(1), 33–38. <https://doi.org/10.47065/arbitrase.v3i1.418>
- Siwi, J. A., Rumate, V. A., Niode, A. O., Pembangunan, J. E., Ekonomi, F., & Bisnis, D. (2019). Analisis Pengaruh Tingkat Suku Bunga Terhadap Permintaan Kredit Pada Bank Umum di Indonesia Tahun 2011-2017. In *Jurnal Berkala Ilmiah Efisiensi* (Vol. 19, Issue 01).
- Soraya, J. L., & Abbas, M. H. I. (2022). Does Non-Cash Payments Affect The Inflation Rate In Indonesia? *Management Studies and Entrepreneurship Journal*, 3(2), 454–465. <http://journal.yrpiiku.com/index.php/msej>
- Suarmanayasa, I. N. (2021). Determinan Penyerapan Kredit Modal Kerja Untuk Usaha Kecil. *Jurnal Ilmu Sosial Dan Humaniora*, 10(2), 322. <https://doi.org/10.23887/jish-undiksha.v10i2.36894>
- Swasti, L. M. (2017). Studi Persepsi Masyarakat Terhadap Penggunaan Alat Pembayaran Non Tunai. *Jurnal Ilmiah Universitas Brawijaya*, 1–12.
- Titalessy, P. B. (2020). Cashless Payments and its Impact on Inflation. *Advances in Social Sciences Research Journal*, 7(9), 524–532. <https://doi.org/10.14738/assrj.79.9074>

- Wijaya, A. P., & Juliannisa, I. A. (2023). Pengaruh Jumlah Uang Beredar, Pembayaran Nontunai dan BI Rate Terhadap Inflasi di Indonesia. *Jurnal PROFIT: Kajian Pendidikan Ekonomi Dan Ilmu Ekonomi*, 10(1), 30–41. <https://doi.org/10.36706/jp.v10i1.19593>
- Yeni, P., Amar, S., & Satrianto, A. (2018). “Pengaruh Suku Bunga, Loan to Deposit Ratio (LDR) dan Pertumbuhan Kredit terhadap Inflasi di Indonesia.” *Jurnal EcoGen*, 1(3), 557–566.