

The effect of non-cash payment transactions on economic growth: Evidence from Indonesia

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ABSTRACT

This study aims to see how the development of non-cash transaction activities that occur in society using debit cards, credit cards, and e-money as independent variables in this study. This type of research uses a quantitative data approach, and the data is secondary data sourced from Statistics Indonesia and Bank Indonesia publications from 2009 to 2021. The analysis method used in this research is multiple linear regression. The analysis results show that the debit card variable has a positive and significant effect on economic growth, and credit cards have a positive and significant effect on economic growth. Furthermore, e-money also has a positive and significant effect on economic growth. Simultaneously, debit cards, credit cards, and e-money affect economic growth.

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1. Introduction

The Covid-19 outbreak is one of the causes of the current threat of the economic crisis. The spread of this virus has had a significant impact, especially on economic activity. As a result, many economic sectors, such as tourist attractions for micro, small and medium enterprises (MSMEs), are experiencing probability items and are no longer operating. Apart from that, to prevent the spread of this virus, the government has implemented restrictions on community activities to reduce people's purchasing power for goods and services.

However, amidst the limitations of these activities, people can take advantage of currently developing technology so that buying and selling activities are still ongoing. Non-cash payment systems can replace the role of coins and paper. Besides that, non-cash transactions are considered more practical, efficient,

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effective, fast, and safe without leaving the house. These instruments were created to assist activities and simplify the process of non-cash payments and can be helpful when factors that hinder economic growth persist as they are now.

In order to encourage the use of non-cash, the government is carrying out an activity called the National Non-Cash Movement (GNNT) by conducting outreach to the public about the procedures for using non-cash. Apart from debit cards, credit cards, and e-money, there are several other non-cash payment instruments, such as smart cards, e-wallets, funds, OVO, Go-Pay, and other cards.

Table 1. Non-Cash Transactions, 2016-2020

Year	Debit card	Credit card	E-money
2016	5,196,512,452	305,052,297	51,204,580
2017	6,200,437,637	297,761,229	90,003,848
2018	6,929,665,964	314,294,068	167,205,578
2019	7,474,823,816	342,682,828	292,229,320
2020	6,916,875,229	238,903,609	432,281,380

Source: Bank Indonesia (2022)

Table 1 data shows changes in the number of non-cash transactions in Indonesia, where the use of non-cash transactions was the lowest in 2016 and increased in 2019. This change was caused by increasingly sophisticated technological developments in Indonesia and the ease of transactions so that non-cash payments Cash is more popular with the public and is considered more practical and efficient.

The development of electronic card-based non-cash transactions in Indonesia has enormous potential. This can be seen from the increase in transaction data using card payment tools and e-money. Technology's ease of use and development can change people's lifestyles when carrying out economic transactions.

2. Literature review

2.1. Economic growth

Economic growth is defined as the development of activities in the economy, which causes goods and services produced in society to continue to increase, which can increase the prosperity of society (Sukirno, 2011). An economy is said to be experiencing growth if the real income of society in a particular year is greater than the real income of society in the previous year (Budiono, 2013).

The growth model based on the classical economic growth model has weaknesses, such as not being able to explain why many countries in the world have higher economic growth than predicted in this model. This is because the neo-classical growth model only looks at one source, namely the contribution of the increasing number of factors of production. Thus, this model does not include many other production factors that determine the economic growth rate. One of the most important is technology. Technology is considered constant in this model, so it is not included (Tambunan, 2011).

2.2. Non-cash transactions

The non-cash transaction payment system has changed over several centuries, in line with changes in the use of money as a means of payment. In 1958, Bank of America introduced credit cards (Global Insight, 2003). For business expansion purposes, Bank of America issuers established Visa in 1977. Credit cards can enable customers to obtain goods and services on credit and pay for them with a check or account at the bank holding the license of the credit card issuer. This development continues with the discovery of other non-cash payment tools such as debit cards, smart cards, internet banking, etc. Electronic payments, namely electronic money, have begun to be introduced in several countries, including Indonesia. The difference between electronic money and other electronic payment tools, such as credit cards, debit cards, and debit cards. is that in terms of use, electronic money does not require authorization and is not tied directly to customers at the bank.

Non-cash transactions are a payment system used to transfer a sum of money from one party to another. The payment system in Indonesia consists of cash payment systems and non-cash payments. Currently, currency consists of paper money and metal, which is the means of cash payment for the public. Payment systems and technological advances have progressed, leading to non-cash payment systems being used more frequently. Apart from being driven by community needs, this transaction is considered safer, more practical, effective, and efficient.

2.3. Non-Cash Transaction Instruments in Indonesia

Payment Instrument Using Cards is a non-cash payment instrument that uses a card for the payment transaction process. According to Bank Indonesia regulation Number 14/12/PB/2012 concerning amendments to Bank Indonesia regulation

number 11/11/PB/2009 concerning the implementation of payment instrument activities using cards (APMK), one of which contains a description of the types of instruments according to their function and their respective usage mechanisms. Some of these instruments are debit cards, credit cards, and e-money. These three instruments are well known, and the public knows how to use them. Apart from these three instruments, there are several other instruments, such as e-wallet, OVO, GoPay, etc.

3. Methodology

3.1. Data collection and sample

This research uses a quantitative approach using secondary data from publications by the BPS, Statistics Indonesia. The data that is the research focus involves the period from 2009 to 2021. A quantitative approach was chosen to allow a more systematic and objective analysis of the phenomenon under study.

The analytical method applied in this research is multiple linear regression. The main purpose of using this method is to evaluate and measure the influence of the independent variables on the dependent variable. Multiple linear regression analysis provides a deeper understanding of the relationships between variables within the framework of this research.

To determine the effect of the independent variables on the dependent variable used in multiple linear regression analysis (Sugiyono, 2011), which is shown in Equation 1.

$$GDP_t = \beta_0 + \beta_1 DC_t + \beta_2 CC_t + \beta_3 EM_t + \varepsilon \quad (1)$$

Where GDP is a real gross domestic product, DC is a debit card, CC is a credit card, β_0 is a constant, and ε is the error term.

4. Results

Partially, debit card transactions positively and significantly affect Indonesia's economic growth. The probability value of 0.0001 is smaller than 0.05, and the coefficient value is 0.000468. Credit card transactions have a positive and significant effect on economic growth. The probability value of 0.0022 is smaller than 0.05, and the coefficient value is 0.007308. E-money transactions have a positive and

significant effect on economic growth in Indonesia. Where is the value of probability 0.0270 is smaller than 0.05, and a coefficient value of 0.006577 is obtained.

The probability value in the F test is 0.000000, which is smaller than 0.05; because the probability value is smaller than the significance level, namely 0.05, it can be concluded that the debit card, credit card, and e-money transaction variables simultaneously have an effect. The magnitude of the relationship or correlation coefficient of determination (R^2) is 0.991446. This value means that all independent variables, namely debit cards, credit cards, and e-money, influence the dependent variable, namely economic growth of 99.14 percent, while the remainder is 0. Other factors outside this research influenced 86 percent.

Table 2. Regression results

Variable	Coefficient	Std. Error	t-Statistic	Probability.
Constant	4615165	261578.2	1,764,354	0.0000
DD	0.000468	7,190-05	6.499.067	0.0001
CC	0.007308	0.001733	4,218,165	0.0022
EM	0.002203	0.000836	2,636,949	0.0270
R-squared	0.988595	Adjusted R-squared	0.988595	
F-statistic	347.7119			
Probability(F-statistic)	0.0000			

Note: GDP is the dependent variable.

Source: Author's calculations

5. Discussion

The regression results on the debit card transaction variable show that it positively and significantly affects Indonesia's economic growth. The probability value of 0.0001 is smaller than 0.05, and a coefficient value of 0.000468 is obtained, which means that every time there is an increase of 1 percent, economic growth will increase by 0.000468 in Indonesia. This is because the offer of convenience in carrying out transaction processes causes people to be impulsive even though it does not increase their productivity.

The results of this research align with research conducted by Muhammad (2021), which states that long and short-term debit card transactions have a positive and significant effect on economic growth. In contrast to research conducted by Mahendra (2019), his research stated that Debit cards had a significant and negative effect on economic growth.

Based on the regression estimation results, the credit card transaction variable positively and significantly affects economic growth. The probability value of 0.0022 is smaller than 0.05, and a coefficient value of 0.007308 is obtained, which means that every time there is an increase of 1 percent, economic growth will increase by

0.0077308 percent in Indonesia. This is because the use of non-cash payment systems continues to increase and replace the role of cash in society.

The results of this research are in line with research conducted by (Munthe, 2017), who stated that partial and simultaneous use of credit cards has a positive and significant effect on economic growth. Research by Susilawati & Putri (2019) also states that credit cards positively and significantly affect economic growth.

The estimation results show that e-money transactions have a positive and significant effect on economic growth in Indonesia. The probability value, 0.0270, is smaller than 0.05, and a coefficient value of 0.006577 is obtained, meaning that for every percent increase, economic growth will increase by 0.002203 percent in Indonesia. This is caused by using e-money to access various transactions, such as paying toll road transactions using e-money.

The results of this research are in line with research conducted by Marginingsih & Sari (2019), which states that e-money has a positive and significant effect on economic growth. Meanwhile, research conducted by Tawakalni (2020) states that the e-money variable in the long and short term has a negative effect on economic growth.

6. Conclusion

Debit card transactions positively and significantly affect economic growth in Indonesia. That is because the ease of carrying out the transaction process through debit cards can reduce costs and time efficiency during transactions. Likewise, credit card transactions positively and significantly affect economic growth in Indonesia. That is due to the widespread use of increasingly popular credit cards, especially among the upper middle class. Furthermore, e-money transactions have a positive and significant effect on economic growth in Indonesia. Following the objectives of Bank Indonesia, namely creating non-cash payments to reduce public demand for cash.

With this research, it is hoped that Bank Indonesia as a monetary authority can be a reference for reviewing non-cash payment systems, especially payment instruments using cards and electronic ones as legal tender to support more controlled use to support inflation control in the community so that the circulation of money in the community remains stable to encourage more advanced economic growth. To increase the use of e-money, the financial industry and financial authorities can cooperate to increase the national non-cash movement by increasing socialization and security guarantees and providing facilities when

conducting transaction activities to increase public confidence in non-cash payments.

Disclosure statement

The authors declare that there is no conflict of interest regarding the publication of this paper.

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