



Does Fintech Lending and E-Money Affect the Indonesian Economy?

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ABSTRACT

This study aims to determine the effect of *peer-to-peer* lending and e-money on Indonesia's economic growth. This study uses a quantitative approach using quarterly time series data from 2018 to 2021 in the form of Indonesia's economic growth rate, loan distribution through *peer-to-peer* lending, and E-money transaction values. The analysis technique uses multiple linear regression with the Ordinary Least Square model. The results of the study show that the *peer-to-peer* lending variable has a positive influence on Indonesia's economic growth. Meanwhile, the e-money variable has a negative influence on Indonesia's economic growth. Meanwhile, through simultaneous testing, it was found that *peer-to-peer* lending and e-money variables jointly affect Indonesia's economic growth. These results indicate that the rapid development of *peer-to-peer* lending accompanied by the development of e-money will have a positive impact on Indonesia's economic growth.

Keywords: E-money, Financial Technology, Growth, Peer-to-Peer Lending.

1. INTRODUCTION

Economic growth has a very important role and is one of the main goals of development that every country wants to achieve. Economic growth is an indicator of the success of a country's economic development. So that both developed and developing countries will continue to strive to increase their economic growth. This also applies to Indonesia which continues to accelerate its economic growth by optimizing its potentials.

Indonesia's economic growth from 2018 to 2021 according to data from the Central Statistics Agency [1] tends to fluctuate. The Indonesian economy grew by 5.17 percent (y-on-y) in 2018. In the following year, the Indonesian economy experienced a decline until its peak in 2020. The Indonesian economy experienced a slump in growth reaching -2.07% (y-on- y). However, in 2021, the Indonesian economy will recover and experience growth of up to 3.69 percent (y-on-y).

Indonesia's economic growth in 2020 shows the lowest figure since the end of the monetary crisis in 1998. In 2020, Indonesia's economic growth touched -2.07 percent. The decline in Indonesia's economic growth was the result of the Covid-19 pandemic. The high number of cases of transmission of the Covid-19 virus has resulted in the government implementing a "Pembatasan Sosial Berskala Besar" (PSBB) policy to tackle the spread of the virus. The PSBB policy limits people's mobility so that economic activity is hampered and has a domino effect on the economic sector. But on the other hand, the implementation of the PSBB policy has had a positive impact on the development of the Fintech industry in Indonesia. This happened because people switched to using digital financial services to increase their mobility [2]

Peer-to-peer lending or what is usually referred to as information technology-based money lending services is the provision of services in the financial sector that bring together lenders and borrowers to obtain an agreement [2]. The convenience offered by peer-to-peer lending causes its presence to be welcomed by the public. This encourages the rapid development of peer-to-peer lending in society. The concept of peer-to-peer lending was first developed in the UK with Zopa in 2005 and emerged in the US in 2006 with Prosper then followed by Lending Club in 2007 [3]. In

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Korea, the number of peer-to-peer lending lenders increased from 5 to 6 at the end of 2014 to nearly 50 lenders in September 2015 and at the end of December 2016 it had increased to more than 100 lenders. Also in Korea, peer-to-peer lending companies are the most prominent in the fintech sector [4]. In China, the total transaction volume of peer-to-peer lending platforms has reached 4.648 trillion RMB and in the first half of 2017, the number of online borrowers and investors reached 4.37 million and 8.3 million respectively [5]. In Indonesia, the emergence of the peer-to-peer lending platform has received a good response from the public, this is evidenced by the rapid growth of the peer-to-peer lending target market in Indonesia [6]. Research by [7] using peer-to-peer and fintech lending statistical data from OJK, digital payment information from Statista, and economic growth data from Bank Indonesia as secondary references. The results of the multiple regression show that the development of digital payments and peer-to-peer financing has had a positive but limited impact on Indonesia's economic growth. Specifically, digital payments and peer-to-peer lending account for approximately 88% of economic growth

Apart from peer-to-peer lending, the digital payment system is also the type of fintech service most widely used by the public. Digital payment systems or non-cash payment systems are payments through digital or online modes, without involving cash exchanges. Payments like this are also commonly referred to as electronic payments (e-payments), which are defined as transfers of value from one payment account to another where both the payer and recipient use digital devices such as cell phones, computers, or debit/credit cards, as well as prepaid cards [8].

In Indonesia, digital payment systems or non-cash payment systems are experiencing rapid development because they are driven by advances in technology and innovation that have given rise to various types of non-cash payments [9]. This resulted in the rapid development of the use of non-cash payment systems, especially electronic money (e-money). Based on the SPIP report by Bank Indonesia, the use of e-money in Indonesia continues to increase. In 2021, the value of e-money transactions will reach more than IDR 305 trillion with a transaction volume of more than 5 million transactions. This number has certainly increased greatly when compared to 2017, the value of e-money transactions only reached IDR 12 trillion with a transaction volume of 943 thousand transactions.

Fintech peer-to-peer lending and digital payment systems (e-money) are experiencing rapid development in Indonesia as a result of the increasing use of technology. Theoretically, in the theory of endogenous growth, technological progress is one of the endogenous factors that influence economic growth [10]. So, it can be said that the development of fintech peer-to-peer lending and digital payment system (e-money) will have an impact on economic growth.

In this regard, there are several empirical studies that examine the influence of fintech, both peer-to-peer lending and digital payment systems (e-money) on economic growth. [11], in their research, found that peer-to-peer lending had a positive effect on the Indonesian economy. Peer-to-peer lending has great benefits in channeling loans to people who cannot be reached by banks. Peer-to-peer lending plays an important role in funding MSMEs where these MSMEs have a large contribution reaching 61.07 percent of the Indonesian economy in 2021 which will further encourage Indonesia's economic growth.

Research in Europe by [12] found that the highest share of total payments in Central and Eastern European countries consisted of payments using payment cards, then payments using transfers. Meanwhile, in Western European countries, apart from the fact that the percentage of total payments is dominated by card payments and transfers, more and more payments are made using electronic money instruments. This research also reveals a positive relationship between the value of payments using transfers, payment cards, and economic growth both in Central and Eastern European countries and in Western European countries. However, in Western European countries, payments using domiciliation have proven to be insignificant, while payments using electronic money instruments have been significant. In terms of positive correlation, the value of payments using transfers shows a higher correlation to real GDP per capita in Western European countries (0.80), while in Central and Eastern European countries it is only 0.48. The relationship between the value of payments using payment cards and economic growth is similar in both groups of countries. Interestingly, a high impact on real GDP per capita, around 0.80, is demonstrated by payments using electronic money instruments. This research can be a contribution to further research into causal relationships in the areas of non-cash payments and economic growth, including the division of countries based on, for example, levels of wealth."

Research by [13] shows the results of peer-to-peer lending have a positive effect on Indonesia's economic growth. The existence of growth in peer-to-peer lending can stimulate economic growth through peer-to-peer lending relationships with other variables that affect the economy such as employment through MSMEs, poverty, GDP, household consumption, inflation, and the Gini ratio. Ease of access to fintech peer-to-peer lending for MSME capital

will increase production which in turn can increase output value which in turn increases MSME will affect the improvement of the national economy and encourage economic growth.

Research by [14], shows the results that fintech peer-to-peer lending has a positive influence on the national economy, employment, and poverty levels. Disbursement of credit through financial technology and investment in financial technology in 2019 has a large contribution of up to IDR 60 trillion to the national economy. Besides that, fintech peer-to-peer lending also directly or indirectly affected the employment of 365,000 people, or 0.32 percent of the total national workforce. The research also shows that channeling funds through fintech and investing in fintech has had an impact on reducing the poverty percentage by 0.7 percent of the total poor population.

Research conducted by [15], shows that e-money has a positive effect on Indonesia's economic growth. The increase in the use of non-cash payment instruments in the form of debit/ATM cards, credit cards, and e-money has had an impact on reducing the demand for money. The reduced demand for money resulted in lower interest rates on the money market, which in turn could make borrowing costs more competitive, thereby increasing corporate investment. With increased investment, national output and growth will increase.

The research by [16] shows that the GDP variable has an insignificant negative impact in the short term, but has a significant positive impact in the long term on e-money transactions in Indonesia. The M1 variable, in the short term, has an insignificant negative impact, whereas in the long term has a significant negative impact on e-money in Indonesia. Meanwhile, the inflation variable, both in the short and long term, has an insignificant positive impact on the use of electronic money in Indonesia. The BI rate variable, both in the short and long term long term, has an insignificant negative impact on e-money in Indonesia.

Beside that research conducted by [17], shows that debit card transactions stimulate economic growth, while credit cards, electronic money and checks have no significant effect. The positive relationship between economic growth and debit card transactions remains strong after controlling for several factors. This study provides relevant policy recommendations. Moreover, research by [18] with Granger causality test shows that money and electronic money have a one-way relationship with growth. In short, money shows a positive and significant effect on growth in the short term, while electronic money does not have a significant effect. Meanwhile, in the long term, "neither money nor electronic money has an influence on growth. The coefficient of error shows a negative and significant effect, indicating that the model in this study is towards balance and stable. Therefore, it is recommended that the government increase the use of money including electronic money to improve the economy.

Based on the problems previously described, this research focuses on examining fintech peer-to-peer lending and digital payment systems (e-money) and their impact on Indonesia's economic growth. The results of this research are expected to be taken into consideration by related parties, especially the government in making policies and business actors in taking opportunities related to the development of fintech peer-to-peer lending and digital payment systems (e-money).

2. METHOD

This research is a type of research using a quantitative approach in which this research uses numerical data which is then measured by a statistical calculation test tool, related to the problem being studied in order to get a conclusion [19] The type of data used in this study is secondary data in the form of quarterly time series data for the period 2018 to 2021 obtained from the official website of the Central Bureau of Statistics, Bank Indonesia and the Financial Services Authority. In this study, the observed variable is the independent variable (X), namely peer-to-peer lending and e-money to the dependent variable (Y), namely economic growth.

The population of this study is all data on the amount of lending through peer-to-peer lending, data on the value of electronic money transactions (e-money), and data on Indonesia's economic growth. The sampling technique uses a purposive sampling technique taking into account the availability of well-recorded and structured data, data for the period 2018 to 2021, data on lending by peer-to-peer lending that has been registered and licensed by the OJK, and data on recorded e-money transaction values and licensed by Bank Indonesia.

The data collection technique used in this research is literature and document study. The data analysis technique uses multiple linear regression analysis with the Ordinary Least Square (OLS) model with the classical assumption test previously performed to provide certainty that the data used is free from deviations from the classical assumptions. Data analysis used statistical software in the form of EvIEWS version 10. Hypothesis testing using

multiple linear regression models was carried out by determining the regression equation. The regression equation model in this study is:

$$Y_t = \beta_0 + \beta_1 X1_t + \beta_2 X2_t + \varepsilon_t \quad (1)$$

Where:

| | |
|--------------------|--------------------------------|
| Y | = Economic Growth of Indonesia |
| β_0 | = Constant |
| β_1, β_2 | = Coefficients Regression |
| X1 | = Peer to peer lending |
| X2 | = E-money |
| ε | = error term |
| t | = time |

The regression equation above explains that Gross Domestic Product is affected by the amount of peer-to-peer lending assuming that other variables outside the research variables are constant (*ceteris paribus*).

3. RESULTS

3.1 Hypothesis Test

Table 1. Partial Significance Test Results (t test)

| Variable | Coefficient | t-Statistic | Prob. |
|----------|-------------|-------------|--------|
| C | 5.448661 | 3.314147 | 0.0056 |
| X1 | 0.000422 | 2.580881 | 0.0228 |
| X2 | -0.000242 | -2.792085 | 0.0153 |

Based on Table 1, the estimation results of each independent variable are obtained. The following describes the results of the statistical t-test for each independent variable.

3.1.1 Peer-to-peer lending (X1)

Based on the results of the statistical t-test using the E-views 10 program, the t-value for peer-to-peer lending (X1) is 2.580881 and the probability value is 0.0228. The t-table value with 16 observations, 13 degrees of freedom, and an alpha confidence level of 0.05 is 2.160. From the t count and t table it can be seen that the t count is greater than the t table or t count (2.581) > t table (2.160), besides that it can be seen from the probability value of the t statistic which is smaller than alpha (0.05) or 0.023 < 0.05 so the decision is to accept H_a , which means it is concluded that peer to peer lending has an effect on Indonesia's economic growth. The peer-to-peer lending variable coefficient value is 0.000422 indicating a positive influence on economic growth. This can be interpreted that if the value of lending through peer-to-peer lending increases by 1 unit, then economic growth will increase by 0.000422 units assuming other independent variables are considered constant.

3.1.2 E-money (X2)

Based on the results of the statistical t-test, the probability value of the t statistic is 0.0153 where the value is smaller than alpha 0.05 or 0.0153 < 0.05 so the decision is to accept H_a , which means that e-money has a significant influence on the growth of the Indonesian economy. The coefficient value of the e-money variable is -0.000242 shows a negative effect on economic growth. This can be interpreted that if the value of e-money transactions increases by 1 unit, it will cause a decrease in economic growth by 0.000242 units assuming other independent variables are considered constant.

3.2 F test

The results of simultaneous testing or F-test can be seen in the following table.

Table 2. Simultaneous Significance Test Results (F test)

| | |
|-------------------|----------|
| F-Statistic | 3.899181 |
| Prob(F-statistic) | 0.047146 |

Based on Table 2, the calculated F value is 3.899181 and the probability value is 0.047146. The value of the F table with the number of observations is 16 and k is 3, the value of $df_1 = 3-1 = 2$, and the value of $df_2 = 16-3 = 13$ is 3.81. From the calculated F value and F table, it can be seen that the calculated F value (3.90) > F table (3.81) and also seen from the probability value of the F statistic (0.047146) < alpha (0.05). From these results, it can be concluded that H_a is accepted, which means that together peer to peer lending and e-money have a positive effect on Indonesia's economic growth.

3.3 Coefficient of Determination

The results of the analysis of the coefficient of determination can be seen in the following table.

Table 3. The coefficient of determination

| | |
|--------------------|-----------|
| R-squared | 0.3744951 |
| Adjusted R-Squared | 0.278789 |

4. DISCUSSION

4.1 The Effect Of Peer To Peer Lending On Indonesia's Economic Growth

Based on the results of the study, it shows that peer-to-peer lending has a positive influence on Indonesia's economic growth. This can be interpreted if the amount of lending through peer-to-peer lending increases, it will result in increased economic growth and vice versa. The results of this study are consistent with the research hypothesis that peer-to-peer lending has a positive effect on Indonesia's economic growth. In addition, the results of this study are in line with the theory of endogenous growth in which an increase in peer-to-peer lending indicates an increase in the use of technology will encourage economic growth because technological progress is one of the key determinants of economic growth.

Peer-to-peer lending is a new breakthrough in the use of technology in the financial sector, especially in lending and borrowing services that offer convenience and smoothness for investors and borrowers in carrying out their activities. The increase in lending through peer-to-peer lending indicates an increase in domestic funding used for the development of productive sectors which will have an impact on increasing people's productivity in the procurement of goods or services. In December 2021, based on statistical data on fintech lending published by the Financial Services Authority, it shows that the amount of loan disbursement through p2p lending to the productive sector reached more than IDR 8 trillion with a percentage of 65.88% of total loan disbursement. Of course, an increase in the production of goods or services will lead to an increase in national output or that can be measured through an increase in the national Gross Domestic Product (GDP) which will further encourage economic growth.

Borrowing funds through peer-to-peer lending is mostly carried out by MSMEs, where MSMEs are one of the biggest contributors to Indonesia's GDP. Peer-to-peer lending is utilized by MSME actors who are still not reached by banks and do not have collateral to obtain capital to develop their businesses. This funding for MSMEs will have a good impact on the economy because the development of MSMEs will create jobs so that they can absorb labor which in turn will reduce the number of unemployed so that there will be a decrease in the poverty rate and income inequality. The development of MSMEs will have an impact on increasing business productivity which will have a good impact on increasing production results. Of course, the increase in production results will have an impact on increasing the income of MSME actors which will then have an impact on increasing living standards and also impacting on increasing consumption. The increase in consumption will then have an impact on increasing GDP and will encourage economic growth. In addition, with the development of MSMEs, the production of goods and services will increase, besides being able to meet domestic needs, this production can also be exported abroad so that export performance will increase. There has been an increase in various economic sectors as a result of the existence of business capital through Peer-to-peer lending in order to develop MSMEs which can further encourage Indonesia's economic growth.

The results of this study are in line with the research of [8], with the results of the research stating that fintech lending has an effect on the Indonesian economy. These results indicate that an increase in fintech lending has had a positive impact on Indonesia's economic growth through its role as a channel of funds which has a positive impact on the Indonesian economy. Credit distribution through fintech lending will lead to increased income in all economic institutions which in turn will have an impact on reducing poverty and inequality.

Research by [13], gives the result that peer-to-peer lending has a positive influence on Indonesia's economic growth through the positive impact of peer-to-peer lending on the Indonesian economy. The development of peer-to-peer lending has had a domino effect on economic sectors such as the financial services sector, agriculture, construction, and the health sector. In addition, peer-to-peer lending has a positive influence on the economy through channeling funds for MSME capital which encourages increased production and employment which will increase people's income.

The results of the research by [20], show that fintech peer-to-peer lending positively affects SMEs (Small and Medium Enterprises). Alternative financial modes, especially fintech peer-to-peer lending, can increase the availability of credit for SMEs where these SMEs have an important role in the economy.

The research results of [21], show that in 2018 fintech peer-to-peer lending added to the value of Indonesia's GDP reaching IDR 25.97 trillion and providing additional income to the national workforce of IDR 4.56 trillion and increased employment up to 215,433 people. In addition, the channeling of funds and investment from fintech peer-to-peer lending has resulted in increased household consumption of up to Rp. 8.94 trillion and contributed to Indonesia's GDP of up to 56 percent so of course this increase in household consumption will have an impact on economic growth.

The results of other studies also state that in 2019 fintech peer-to-peer lending contributed to Indonesia's GDP reaching more than 60 trillion rupiah and economic growth of 0.45%. In addition, peer-to-peer lending contributed to the Indonesian economy through its impact on increasing employment by up to 362 thousand people, reducing the poverty rate to 177 thousand people, and reducing inequality to 0.01 percent [14].

4.2 The Effect of E-money on Indonesia's Economic Growth

In connection with the results of the research, the results show that e-money has a negative effect on Indonesia's economic growth. This means that the increasing use of e-money will have an impact on reducing Indonesia's economic growth and vice versa. The results of this study are in contrast to the research hypothesis that e-money has a positive effect on economic growth. In addition, the results of this study are also not in line with endogenous growth theory which states that technological development is a key factor determining economic growth where an increase in e-money which implies technological development will affect increased economic growth.

The negative effect of e-money on Indonesia's economic growth occurs due to unstable economic conditions as a result of the Covid-19 pandemic. The existence of the Covid-19 pandemic has disrupted economic activity because the government has implemented a Large-Scale Social Restrictions (PSBB) policy that limits people's mobility. The existence of the Covid-19 pandemic also had an impact on the industrial sector which resulted in large-scale industries collapsing because they could not deal with the impact of the pandemic. The decline in the large-scale industry was also caused by the existence of a lockdown policy implemented by other countries so that domestic companies could not carry out export or import activities. Meanwhile, the high use of e-money is still in the micro-sectors where the sector's influence on economic growth is smaller than the effect of large-scale industries on economic growth. So that the high use of e-money cannot cover the negative impact of the collapse of large-scale industries which in turn can have a negative effect on Indonesia's economic growth.

The results of this study are in line with research conducted by [5], which shows that e-money has a negative effect on Indonesia's economic growth. In addition, research conducted by [23] shows that e-money has a negative effect on Indonesia's economic growth both in the short term and in the long term.

4.3 The Effect of Peer to peer lending and E-money on Indonesia's Economic Growth

Based on the test results, it was found that peer-to-peer lending and e-money simultaneously had a positive influence on Indonesia's economic growth. This can be interpreted that every time there is a change in peer-to-peer lending and e-money will cause changes in Indonesia's economic growth. If the changes in peer-to-peer lending and e-money are positive, it will also have a positive effect on Indonesia's economic growth. Conversely, if the changes in peer-to-peer lending and e-money are negative, they will also have a negative effect on Indonesia's economic growth. The results of this study are consistent with the research hypothesis that peer-to-peer lending and e-money both have a positive effect on economic growth. In addition, the results of this study are in line with the endogenous growth theory which states that the key determinant of economic growth is technological development, in which an increase in peer-to-peer lending and e-money indicates technological development which will then increase economic growth.

The increase in peer-to-peer lending and e-money indicates an increase in investment and an increase in public consumption. This increase in investment will boost economic productivity as a result of increased funding for productive sectors. This funding can encourage the opening of employment opportunities that have an impact on increasing employment absorption which in turn will have an impact on reducing the number of unemployed and reducing poverty and inequality levels.

The increase in channeling of funds through peer-to-peer lending coupled with the increased use of e-money also indicates a smooth transaction process as a positive impact from the use of technology. Increasing the use of e-money in society will encourage the creation of a cashless society which is the goal of the government together with Bank Indonesia in launching the National Non-Cash Movement program. The implementation of the GNNT program will create an efficient, safe and smooth payment system which will further increase public consumption. An increase in public consumption will encourage an increase in the production of goods and services to meet public demand so that an increase in production output will also increase economic output which will further encourage economic growth.

Based on the explanation above, it can be concluded that an increase in peer-to-peer lending accompanied by an increase in e-money will have a positive effect on increasing Indonesia's economic growth. Conversely, if there is a decrease in peer-to-peer lending accompanied by a decrease in the use of e-money, it will have a negative effect on Indonesia's economic growth.

5. CONCLUSION

In connection with the results of data analysis on the influence of fintech peer-to-peer lending and digital payment system (e-money) on Indonesia's economic growth. It can be concluded that peer-to-peer lending has a positive effect on Indonesia's economic growth. Meanwhile, e-money has a negative effect on Indonesia's economic growth. Meanwhile, simultaneously peer to peer lending and e-money have a positive and significant impact on Indonesia's economic growth.

In connection with these results, it is hoped that the Government and related authorities will always provide supervision and control and make appropriate policies in overseeing the development of fintech, especially peer-to-peer lending and e-money so that their development is more optimal and can have a good impact on Indonesia's economic growth. In addition, the government is expected to provide education to the public regarding the differences between legal and illegal fintech, so that the public can have confidence in fintech. For further research wishing to improve this research, it is hoped that they will be able to obtain better results by increasing the research year period or by adding other variables related to economic growth or using variables of other types of fintech services.

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