E-Money in Banking Performance Base On Absolute Income and Transformation of Money Theory in Indonesia

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Abstract

The purpose of this study is to investigate how E-Money can affect credit and bank performance in Indonesia. This study only focuses on the impact of E-Money in influencing credit and bank performance. This study uses a quantitative method with threshold autoregression testing with earnings after tax as endogenous variables and for exogenous variables E-money and financing as threshold variables and third party funds as non-threshold variables. We find that bank credit or financing comes from third-party funds or it can be said that third-party funds are the key factors that affect credit or financing. So that third-party funds become a vital factor in bank performance. Credit or financing is a key factor in the Bank's performance because by doing financing or providing credit the bank can earn income. However, the results of the influence of E-Money or electronic money on bank performance are still ambiguous. Although we find that E-Money is a factor that strengthens financing in influencing bank performance with profit after tax indicators. It can be said that E-Money has the potential as an intervening variable on the effect of financing on profit after tax.

Keywords: E-Money, Banking, Absolute Income Theory, Transformation Of Money

JEL Classification: C10, G21, M40, M41

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Introduction

Economic performance is supported by the business sector. The business sector is the main support sector in the economy (Sasongko et al, 2021). In the business sector, there are production, distribution, and consumption activities. In each of these processes, of course, requires transactions both in the goods market or the consumer market as well as in the labor market. So that the cycle of household production and household consumption is formed (Mankiw,2020). In this cycle, there are transactions both in the consumption market and in the labor market or resource market. In the theory of absolute income, individual consumption creates transactions in the consumption market so that the income earned by individuals from wages or individual incomes from the resource market depends on the individual's role in the process by which products and services are created and made available in the market for sale or consumption (Rochon & Rossi, 2021).

The role of individuals in the resource market varies, ranging from workers who receive income in the form of wages, As investors who invest part of their excess income, As entrepreneurs who manage businesses and generate profits (Rin & Hellmann, 2020; Sasongko & Bawono, 2021). The individual's role has an influence on the decision to ask for money. Keynes explained that there are three things that motivate individuals to make a demand for money by requesting money. The transaction motivation, cautious motive, and speculative motive are the first three (Brandl,2020 ; Dinonasih,2021).

In absolute income theory, individuals earn income from contributing to the economy and use that income to spend (consumption) to meet their needs. In the theory of absolute income,

consumption is the sum of autonomy as expenditure or consumption made when income is zero plus income minus taxes (Mayer,2021). However, not all humans work and contribute and still have to consume as much as their autonomy. This has not been explained by Keyness and is still a limitation of the absolute income theory.

In line with Keynes' theory related to income and individual contributions to the economy, Campos & Reggio (2015) found that there is a negative relationship between the unemployment rate and the level of consumption, which means that the aggregate level of public consumption is based on the aggregate contribution of society to the economy. However, research by Campos & Reggio (2015) has not been able to explain how individuals who do not contribute to the economy in the resource market or who have no income can meet their needs even if only at the level of autonomous consumption. The limitation of absolute income theory is a theoretical gap as well as a limitation in this study.

The limitations of absolute income theory are related to how individuals who have no income can consume, Kling et al. (2020) explain that when individuals lack the money they can borrow and financial inclusion can help individuals overcome the problem of short-term income. Research by Omar & Inaba (2020) found that financial inclusion can reduce income inequality and reduce poverty in developing countries.

According to RATNAWATI, K. (2020), the financial industry plays a critical role in raising Asian citizens' standards of living. According to Garcia & Puspaningtyas (2021), the bank is a financial sector that is essential to the money supply, the ratio of bank credit, and the ratio of domestic savings all play a significant role in promoting economic growth, which affects people's welfare.

Financial stability and macroeconomics influence each other (Prabowo & Garcia, 2020). The consumption component plays a significant role in promoting both the wellbeing of the populace and economic progress. Government subsidies can encourage consumption and encourage economic growth (Harnani & Rama, 2021). Banks are an important part of the economy. The Bank's performance has a significant impact on the economy. Bank performance comes from credit or financing (Kirikkaleli & Athari, 2020).

Bank financing has a relationship in transactions, especially consumer credit that occurs in the goods market or consumption market (Bezemer et al, 2020). Financing can also occur in the resource market or production market in the form of capital financing or working capital credit in the business sector (Chen & Kieschnick,2017). In the theory of transformation of money, changes in the form of money are followed by a shift in the value of the money towards public acceptance. In the theory of money transformation, digitizing money is a form of money transformation from paper money to digital money with the value of money in the form of ease of transaction (Viphindrartin et al,2021). E-Money or digital money can speed up transactions (Gowda & Chakravorty, 2021).

The research of Bawono & Prestianawati (2019) found that differences in the form of money in the transformation of money have an impact on differences in the constancy of the internal exchange rate for each currency. Sasongko & Bawono's (2020) research in history-based research found that money underwent a transformation in the form of goods money to cash money and then to digital money followed by a shift in the value of money from the money itself. Research by Liu & Dewitte (2021) found that digital money and the digitization of money in the form of mobile payments and credit cards have a direct impact on banking and financing transactions in the consumption sector. In line with the transformation of Money theory, Ante et al. (2021) research finds that digital money increases transaction efficiency. Durgun & Timur (2015) explained that digital money or electronic money is very different from traditional money (paper money). Digital money makes it easier for humans to transact. Khalaf (2018) explained that E-Money has a significant impact on the financial sector including credit and bank performance. Chen et al (2021) explained that fintech or financial

technology which is part of the transformation of paper money into digital money encourages bank performance. Fouillet et al (2021) explains that the impact and how digitalization of money on performance including bank performance is still debated.

Theoretical frameworks and previous research findings can be used to generate the following study areas:

How E-Money affect bank credit and performance?

This study aims to explore the potential impact of E-Money on credit and bank performance in Indonesia. This study only focuses on the impact of E-Money in influencing credit and bank performance. A previous study (RATNAWATI, 2020; Garcia & Puspaningtyas, 2021) explained that credit and bank performance are a vital sector in providing short-term solutions for individuals who lack income or do not have the income to meet minimal living needs or in Keynes theory called autonomic, however, in keyness theory, it is not explained how a person who has no income can live and survive. So that it becomes the limitation of theory in this research.

Literature Review

In Keynes's theory, consumption and investment originating from individual incomes have a macro effect on economic growth, banks as financial institutions play a role in bridging individuals who have excess income who save their money in banks (loanable supply) with individuals who need additional money through credit. loanable demand) so that banks are one of the public's accesses to financing (credit) when they need additional money (Viphindrartin, 2021). Credit and savings have a relationship of influence (Drean, 2021).

Access to finance that can be accessed by the public is based on financial development and financial deepening that exists in the community. Financial Deepening has an influence on economic performance so that financial institutions are important institutions in economic development (Wilantari, 2021). Financial deepening is a manifestation of people's access to financial services and people who lack income or the poor can access financial services to meet their life needs where their income is not enough to meet their autonomous needs (Alshubiri, 2021). Financial deepening can be indicated by an increase in public credit (Chakraborty, 2019).

Third-party funds as funds that have been collected by banks from the community become a source of credit financing distributed to the public (Giri et al, 2019). Ekinci (2016) explains that credit is the main factor determining bank performance because it is the main activity of the banking business, specifically gathering money from the general public in the form of savings accounts or third-party funds and giving it to the general public in the form of credit or loans so that banks may profit from interest.

Research by WIDARNI & BAWONO (2021) found that technological developments in Indonesia have an impact on the Indonesian economy. Kim & Shim (2018) explained that the development of digital technology has an impact on the business sector and the economy.

The development of digital technology creates financial innovation in the form of financial technology that encourages financial inclusion (Senyo & Osabutey, 2020). Digital technology encourages the creation of electronic money and the birth of digital money which is the embodiment of the transformation of money from paper money to digital money (Wonglimpiyarat, 2016).

The transformation of money in forms such as goods money to paper money and paper money to digital money has a different level of stability in the internal exchange rate of money and is always followed by a shift in the value of money in the perspective of society in accepting the money as money. The transformation of paper money into digital money occurs because of the impetus for the ease of transactions and the movement of money quickly and efficiently (Sasongko et al, 2021). Gowda & Chakravorty (2021) explained that digital money

can reduce transaction costs and can speed up and streamline financial transactions. Zhang et al.(2021) explain that transaction cost efficiency and transaction convenience can increase credit.

Digital finance has an impact on financial inclusion so that financial transactions are increasing and credit is also increasing (Ozili, 2018). Digital money has an impact on bank credit through the speed and ease of transactions (Shen & Hou, 2021). Electronic money has an impact on bank performance (Akhisar et al, 2021).

Based on previous research, provisional conclusions can be formulated, namely:

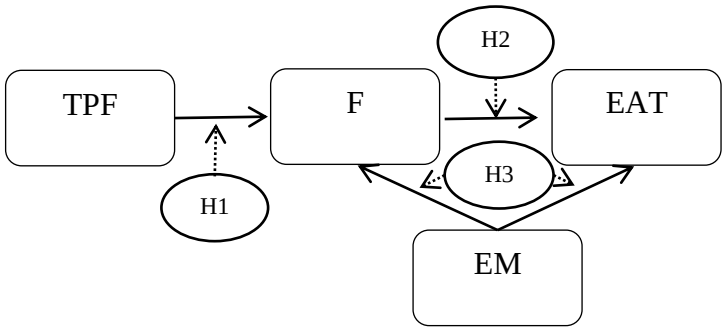
H1: Credit or bank financing comes from third-party funds or it can be said that third-party funds are a key factor affecting credit or financing

H2: Credit or financing is a key factor in the Bank's performance

H3: E-Money or electronic money affects credit and affects bank performance

Research Methods

Based on the hypothesis, the research model is formulated as follows:



Information :

TPF = Third Party Fund

F = Financing

EAT = Earning After Tax

EM = E-Money

H1 = Hypothesis 1

H2 = Hypothesis 2

H3 = Hypothesis 3

In hypothesis 1, Credit or bank financing comes from third-party funds or it can be said that third-party funds are a key factor affecting credit or financing (Ekinci, 2016; Chen & Kieschnick, 2017; Giri et al, 2019; Bezemer et al, 2020). In hypothesis 2, credit or financing is a key factor in the Bank's performance (Ekinci, 2016; Kirikkaleli & Athari, 2020). In hypothesis 3, E-Money or electronic money affects credit and affects bank performance (Khalaf, 2018; Akhisar et al, 2021; Chen et al, 2021); Zhang et al, 2021).

In testing the hypothesis, two tests were carried out, first testing the direction of the relationship between E-money and financing and then testing the data on the influence of financing and E-money on bank performance, which was indicated by earnings after tax.

To determine the behavior of the data on financing on earnings after tax and E-Money on earnings after tax, a threshold autoregression test was conducted with earnings after tax as endogenous variables and for exogenous variables E-money and financing as threshold variables and third party funds as non-threshold variables. After testing the autoregression threshold, a multicollinearity test is carried out to see if there is multicollinearity in each variable. Stationarity testing to see whether the data is stationary or not and is carried out before performing autoregression testing.

The following is the model equation for testing the direction of the influence of E-Money on financing:

$F_t = \beta_0 + \beta_1 EM + e_t$

The equation is to see if there is an influence between E-Money on financing so that it can be seen whether there is a possibility of E-Money strengthening the effect of financing on Earning after Tax or not. To determine the direction of the influence of financing and E-Money on EAT, the following test equation is formulated:

$$EAT_t = (\beta_0 + \beta_1 EM_{t1} + \beta_2 F_{t2}) + (\beta_3 + \beta_4 EM_{t4} + \beta_5 F_{t5}) \text{ x } @LOGIT(\beta_6 EAT_{t6})) + \beta_7 TPF_{t7} + e_t$$

The equation is to test linearly and nonlinearly the direction of influence between E-Money and Financing on Earnings after tax. From the research model, it is susceptible to the possibility of multicollinearity so it is necessary to do whether there is multicollinearity or not. This research makes use of secondary data from Bank Indonesia and the Indonesian Financial Services Authority with variable descriptions as follows:

Table 1. Variable Description

Variable	Description	Unit of Analysis	Data source
EAT	Earnings after taxes is EAT. In this study, net income after taxes for all Indonesian banks is added up each month to determine EAT.	Billion Rupiah	Indonesian financial services authority
TPF	Tributary Party Funds, or TPF. The total public monies collected each month by all Indonesian banks are added up to determine TPF.	Billion Rupiah	Indonesian financial services authority
F	F is financing. Financing is determined by totaling all bank financing in Indonesia.	Billion Rupiah	Indonesian financial services authority
EM	EM is Electronic Money Supply. The circulation of electronic money is calculated by adding up all electronic money circulating in the community throughout Indonesia	Billion Rupiah	Indonesian financial services authority

Results And Discussion

To ensure that the data is stationary, the data stationarity test is carried out with the test results presented in table 2.

Table 2. Data Stationarity Test Results

Method			Statistic	Prob.**
ADF - Fisher Chi-square			8.78	0.36
ADF - Choi Z-stat			0.64	0.74
Series	Prob.	Lag	Max Lag	Obs
E_MONEY	9.18E-01	1.00E+00	4.00	23.00
F	1.03E-01	0.00E+00	4.00	24.00
EAT	1.33E-01	0.00E+00	4.00	24.00
TPF	9.88E-01	4.00E+00	4.00	20.00

The probabilities for Fisher's test were calculated use the Chi-square distribution asymptotically. Asymptotic normality is assumed in all other tests. The test results show that all of the data is stationary since the probability value is more than 0.05 and the chi-square value is also greater than 0.05.

To see the direction of the relationship between e-money and financing, a regression was completed using the regression findings shown in Table 3.

Table 3. Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
E_MONEY	0.07580	0.0002450	3.0929480	0.0051
R-squared	0.8137490			
Adjusted R-squared	0.8030420			

The findings of the regression show that, with a probability of 0.051 and a coefficient of 0.0758, e-money and funding have a substantial positive link.

To find out the behavior of the data from financing, e-money as a threshold variable on the earnings after tax of banks in Indonesia and third party funds as a non-threshold variable, an threshold autoregressive estimate is made with the estimation results presented in table 4.

Table 4. Threshold Autoregressive Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Threshold Variables (linear part)				
C	-140627.6	502119.1	-0.280068	0.7835
E_MONEY	-0.000191	0.000221	-0.863682	0.4023
F	0.023502	0.071962	0.32659	0.7488
Threshold Variables (nonlinear part)				
C	-2647479	1664662	-1.5904	0.1341
E_MONEY	-0.002948	0.000741	-3.977015	0.0014
F	0.64065	0.28912	2.215859	0.0438
Non-Threshold Variables				
TPF	0.066064	0.048073	1.374243	0.191
Slopes				
SLOPE	0.000547	0.000362	1.50844	0.1537
Thresholds				
THRESHOLD	102249	2306.888	44.32335	0
R-squared	0.77582	Mean dependent var		77119.95
Adjusted R-squared	0.647717	S.D. dependent var		38852.95
S.E. of regression	23060.57	Akaike info criterion		23.21581
Sum squared resid	7450000000	Schwarz criterion		23.66013
Log likelihood	-257.9818	Hannan-Quinn criter.		23.32755
F-statistic	6.056218	Durbin-Watson stat		0.802533
Prob(F-statistic)	0.001779			

With a likelihood of 0.4023, t-statistic value of -0.863682, and coefficient of -0.000191, E-Money considerably negatively impacts bank performance in the linear section, according to the results of the autoregression threshold estimate. This implies that the amount of bank money available for financing is decreasing as a result of the increased usage of electronic money in community interactions. As a result, the performance of Indonesian banks is strongly correlated negatively with the quantity of e-money in circulation. The probability value of 0.7488, t-statistic of 0.32659, and coefficient value of 0.023502 all show that finance has a significant positive influence on the linear part.

E-money clearly has a considerable negative influence when compared to the coefficient value of -0.002948 in the non-linear section and the t-statistical value of -3.977015. The t-statistical value is higher than the coefficient value, indicating that e-money has a considerably negative influence on earnings after tax as a measure of bank performance. With

a coefficient value of 0.64065 and a t-statistic value of 2.215859, the non-linear component of financing considerably raises earnings after taxes.
Third-Party Fund as a non-threshold value has a significant positive effect with a probability value of 0.191, a t-statistic value of 1.374243, and a coefficient value of 0.066064. which indicates that bank performance depends on third-party funds used as financing funds to generate bank income. But as more E-Money is transacted with in Indonesia, a rise in its circulation will result in a decrease in the amount of money that banks collect as financing funds. The findings of this investigation are consistent with the studies conducted by Chen & Kieschnick (2017), Ekinci (2016), Giri et al. (2019), Bezemer et al. (2020), and Kirikkaleli & Athari (2020). in order to accept assumptions 1 and 2. Hypothesis 3 cannot be accepted, nevertheless, because this study does not entirely align with studies conducted by Zhang et al. (2021), Akhisar et al. (2021), Chen et al. (2021), and Khalaf (2018). This study closely aligns with the findings of Fouillet et al.'s (2021) investigation. where we find that the impact of E-Money and digitalization of money on bank performance is still ambiguous. To check the presence of multicollinearity or not, a multicollinearity test was carried out which is presented in table 5.

Table 5. Multicollinearity Test Results

	F	TPF	E_MONEY
F	1	0.465943685	0.541986146
TPF	0.465943685	1	0.550484975
E_MONEY	0.541986146	0.550484975	1

From the results of the data multicollinearity test, there is no data that has a correlation value of more than 70% so it can be said that each exogenous data does not have problems related to multicollinearity.

Conclusion

Credit or bank financing comes from third-party funds or it can be said that third-party funds are the key factors that affect credit or financing. So that third-party funds are a vital factor in bank performance. Credit or financing is crucial to the effectiveness of the Bank because by doing financing or providing credit the bank can earn income. However, the results of the influence of E-Money or electronic money on bank performance are still ambiguous. Although we find that E-Money is a factor that strengthens financing in influencing bank performance with earnings after tax indicators. It can be said that E-Money has the potential as a mediating factor on the impact of funding on earnings after tax.

Implications And Recommendations

This research was conducted with the limited time, cost and manpower that we have, so we only focus on the banking side. This research can be expanded by using the theory of absolute income and transformation of money where the performance of banks and other financial service institutions such as fintech or PTP lending can encourage economic growth and become a short-term solution for individuals who lack the income to meet their autonomous needs that have not been explained by absolute income theory. However, due to the limited time, cost, and manpower we have, we focus on the transformation of paper money into digital and its impact on bank performance in terms between loanable demand and loanable supply. Research on the transformation of paper money into digital money needs to be done further research because in history money has continued to transform from goods money and currently, paper money and processes in the transformation of digital money through electronic money are the same as before becoming paper money as now money is transformed from goods money into paper money through banknotes and then actually turn into paper money that we use every day.

Contribution

This research contributes to academics as an additional reference and research literature related to the transformation of paper money into digital money and its impact on bank performance. This research also contributes to the practical realm where this research finds that the key factor of bank performance is third-party funds although this study it is still unable to clearly explain the impact of the transformation of paper money into digital money on bank performance. However, this study found that money digitization has the potential as an intervening variable for financing in influencing bank performance.

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