

ANALYSIS OF THE FINANCIAL LITERACY ON ECONOMIC GROWTH IN INDONESIA

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Abstract: *The higher a person's financial literacy, the greater the level of utilisation of financial products and services. Expenditure management can take advantage of financial literacy so that it can maintain finances in meeting its needs, and good financial conditions will reflect economic growth that continues to increase. The purpose of this study is to determine the effect of financial literacy on economic growth with indicators such as balance of payments, investment, total loans, savings, money supply and interest rates. With the vector autoregression (VAR) analysis method which results in that the balance of payment variable has a mutual effect on investment. Then investment and economic growth are also influenced by savings and money supply and affect interest rates and the amount of loans. So as to limit the risk of financial literacy failure in the financial system, it is necessary to increase financial risk with product innovation in the financial sector.*

Keywords: *Financial Literacy, GDP, MS, INV, Savings, Total Loans*

INTRODUCTION

The state of the economy is a picture of economic activity that measures a country's success in improving its welfare status, as measured by its national income. Gross domestic product (GDP) is the main indicator that serves to track the economic condition of a country. Expansion of industrial goods production, infrastructure development, and an increase in the number of financial services are examples of economic growth (Renshytiwa, 2016). Lincolyn Reasons' book explains that there is a big difference between economic development and development. In economic development, the level of per capita income continues to increase, while economic growth is defined as an increase in national income or gross domestic product, regardless of whether the increase is gross, regardless of whether the increase is greater or less than the population growth rate or whether there is a change in economic structure greater or less than the population growth rate or whether there is a change in economic structure that occurs or not (Sukirno, 2011).

Economic growth also changes the level of value of economic activity from one period to another by taking the average of the same time, thus for Indonesia's Economic Growth 2013 - 2022 said economic growth rate must be compared with the level of national income from year to year.

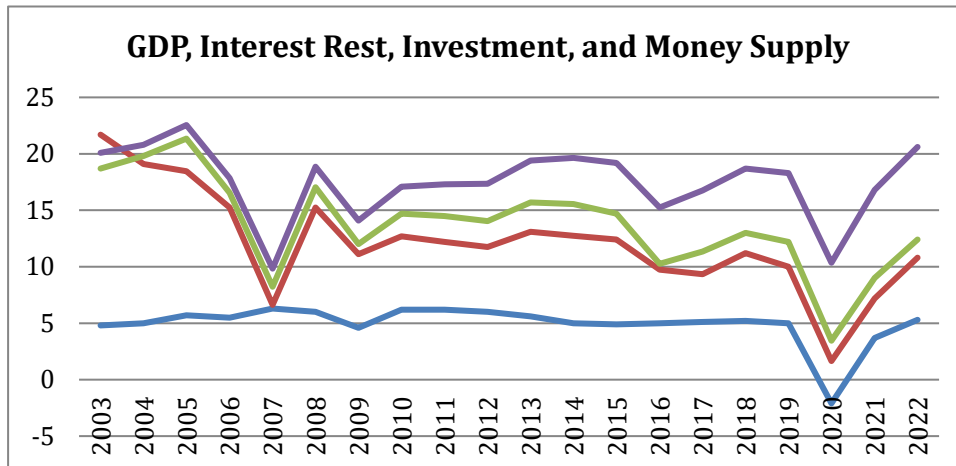


Figure 1. The Development of GDP, Interest Rates, Investment and Money Supply From 2003 To 2022

The data illustrates how the economic development process is every year in Indonesia, there are two things obtained, namely positive trends and negative trends where this positive trend occurs in 2021, economic growth grows from -2.1 per cent in 2020 to 3.7 per cent, for other periods it looks stable from year to year. So that to maintain stable economic growth requires the implementation of the financial sector and also monetary stability.

The current money supply debate is not new and has strong parallels in that it provides a richer and deeper analysis of the determinants of the money supply than the contemporary and long-ignored approach that prevailed among German monetary economists during the 1920s-1960s. The main objectives of macroeconomic policy are to expand the economy and maintain monetary stability. Money supply growth ensures appropriate economic growth however, inflation will occur due to inadequate money supply growth in the absence of appropriate macroeconomic policies (Madurapperuma, 2023). The money supply is the total stock of money in the economy at a certain period which is usually within the time curve of one fiscal year (Ranawangsih, 2005). The money supply is not only money in circulation and in the hands of the public, but all money issued officially by the Central Bank and Commercial Banks (Warjiyo, 2016).

It shows that the money supply increased every year, which means that the money supply increased significantly from 2003-2022. The money supply has increased, because the money supply depends on people's income which increases accompanied by economic stability (Pane, 2023). In addition, the increase was caused by an increase in quasi money through savings, deposits and foreign exchange accounts. The financial sector is one of the important indications in the process of economic growth, especially in Indonesia. According to (Chow, 2018) economic conditions are influenced by various factors, one of which is the development of financial institutions. The financial sector has a major influence on economic growth, the financial sector becomes the locomotive of economic growth through capital accumulation and technological innovation. more precisely, the financial sector is able to mobilise savings. this triggers an increase in consumption, increases the amount of savings, and accumulates human capital (Emara & Said, 2021).

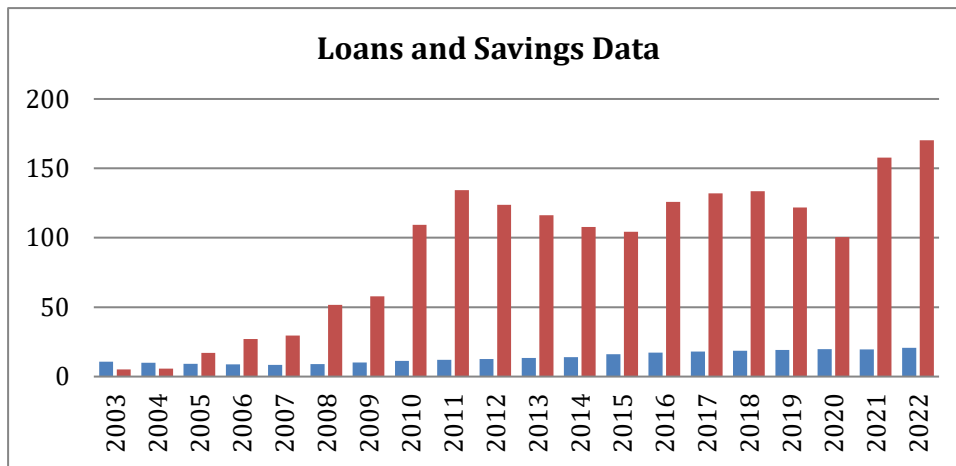


Figure 2. Development Chart of Total Loans and Savings from 2003 to 2022

The highest savings rate occurred in 2022, namely Rp. 170.21 billion, this is inversely proportional to 2020, which amounted to Rp. 100.54 billion, while the number of loans continues to increase, where there is a difference this is due to the covid-19 outbreak case which is like the opinion of (Dudiyanto, 2021) the level of public savings decreases and the number of loans increases during the Covid pandemic because people reduce their expenses due to reduced incoming income so as to maintain finances, they choose to meet their needs with declining financial conditions.

Financial inclusion has a close relationship with financial literacy where financial literacy is because if the higher a person's financial literacy, the greater the level of utilization of financial products and services (OJK, 2017). Financial literacy also has an understanding, financial literacy is about the extent to which a person understands financial concepts and proper financial management as a result he can make decisions both short-term and long-term planning from the dynamics of economic needs and conditions (Hugh, Parker, & Yoong, 2009). The statement from (Lusiardi & Mitchell, 2008) financial literacy is a person's skill to apply the knowledge, and expertise he has in order to achieve better financial behaviour, so that knowledge, expertise and behaviour are interrelated in the concept of financial literacy Financial knowledge includes knowledge of basic financial concepts, such as: basic compound interest, disparity between nominal value and real value, basic knowledge of risk diversification, value when, value of money origin, and others (Santoso, Yuwandini, & Mustawiroh, 2015) from several definitions above, it can be concluded that financial literacy is the ability or level of understanding of individuals or communities about how they manage their finances effectively according to the needs and economic conditions they face (Rangkuty & Dinata, 2024).

So that the author is interested in raising research from issues related to financial literacy because the topic is interesting to study and there is a lot of empirical literature which states that financial literacy can affect GDP, and also along with technological developments, especially in the payment system where there are still many problems, especially in non-cash payment systems that need to be studied which can affect economic growth. Indonesia has a high GDP tends to have an inclusive financial sector so that there is ease in accessing financial services.

LITERATURE REVIEW

Financial literacy refers to the ability to understand and effectively use various financial skills, including personal financial management, budgeting, and investing. In the context of economic growth, financial literacy is crucial as it influences individual and collective financial behaviors that can have significant impacts on broader economic outcomes. This literature review explores how financial literacy impacts economic growth in Indonesia, focusing on various dimensions such as personal financial behavior, access to financial services, and macroeconomic implications.

Financial literacy encompasses knowledge about financial concepts, skills to manage

finances effectively, and the ability to make informed financial decisions. It includes understanding financial products, managing debt, saving, investing, and retirement planning. Globally, studies have shown that higher financial literacy correlates with better financial outcomes and economic sSAVility. Research by Lusardi and Mitchell (2014) highlights that financial literacy contributes to improved personal financial management and long-term economic sSAVility.

In Indonesia, financial literacy has been relatively low compared to global standards. According to the National Financial Literacy Survey (OJK, 2021), only 38.03% of Indonesians are considered financially literate. The survey reveals gaps in knowledge about financial products, planning, and long-term financial goals. The Indonesian government, through the Financial Services Authority (OJK), has launched various programs aimed at improving financial literacy. Initiatives such as the "Gerakan Nasional Literasi Keuangan" (National Financial Literacy Movement) aim to enhance financial education and promote better financial practices among Indonesians.

RESEARCH METHOD

This research is descriptive quantitative that describes the country's economy with its variables. Examines financial literacy on economic growth in Indonesia with time series data from 2003-2022 sourced from the world bank and financial access survey. The data analysis model uses Vector Autoregression (VAR) for short-term and long-term restrictions (Rydland, 2018). The Vector Autoregression method is a form that describes the relationship between variables with (1) Stationary Test known as the unit root test (Gujarati, 2003), (2) Optimum Lag Selection based on Akaike Information Criterion (AIC) and Schwarz Information Criterion (SC) (Rangkuty & Nasution, 2018), (3) Cointegration Test to see the long-term balance. (4) Causality Test can show the causality relationship between variables in the long term (Basuki, 2016), (5) Vector Autoregression Estimation Test to see the largest contribution of each variable, (6) Impulse Response to see the response (shock) of each variable, (7) Variance Decomposition decomposes the variation between variables.

With the equation of the VAR as follows:

$$GDP_t = \beta_{10} + \beta_{11}MSt_{-p} + \beta_{12}Ttl\ Loanst_{-p} + \beta_{13}SAVt_{-p} + \beta_{14}INVt_{-p} + \beta_{15}IRt_{-p} + \beta_{16}BoPt_{-p} + et_1$$

$$MSt = \beta_{20} + \beta_{21}Ttl\ Loanst_{-p} + \beta_{22}SAVt_{-p} + \beta_{23}INVt_{-p} + \beta_{24}IRt_{-p} + \beta_{25}BoPt_{-p} + \beta_{26}GDPt_{-p} + et_2$$

$$Ttl\ Loanst = \beta_{30} + \beta_{31}SAVt_{-p} + \beta_{32}INVt_{-p} + \beta_{33}IRt_{-p} + \beta_{34}BoPt_{-p} + \beta_{35}GDPt_{-p} + \beta_{36}MSt_{-p} + et_3$$

$$SAVt = \beta_{40} + \beta_{41}INVt_{-p} + \beta_{42}IRt_{-p} + \beta_{43}BoPt_{-p} + \beta_{44}GDPt_{-p} + \beta_{45}MSt_{-p} + \beta_{46}Ttl\ Loanst_{-p} + et_4$$

$$INVt = \beta_{50} + \beta_{51}IRt_{-p} + \beta_{52}BoPt_{-p} + \beta_{53}GDPt_{-p} + \beta_{54}MSt_{-p} + \beta_{55}Ttl\ Loanst_{-p} + \beta_{56}SAVt_{-p} + et_5$$

$$IRt = \beta_{60} + \beta_{61}BoPt_{-p} + \beta_{62}GDPt_{-p} + \beta_{63}MSt_{-p} + \beta_{64}Ttl\ Loanst_{-p} + \beta_{65}SAVt_{-p} + \beta_{66}INVt_{-p} + et_6$$

$$BoPt = \beta_{70} + \beta_{71}GDPt_{-p} + \beta_{72}MSt_{-p} + \beta_{73}Ttl\ Loanst_{-p} + \beta_{74}SAVt_{-p} + \beta_{75}INVt_{-p} + \beta_{76}IRt_{-p} + et_7$$

Description:

GDP = Gross Domestic Product

MS = Total Money in Circulation

Ttl Loans = Total Loans

SAV = Savings

INV = Investment

IR = Interest Rate

BoP = Balance of Payment

β = Regression coefficient

et = Random shocks

p = Lag length

RESULTS AND DISCUSSION

Unit root test with augmented dicky-fuller (ADF) t-statistic value at 5% confidence level and probability value smaller than 0.05 (Gujarati, 2003) on inflation, economic growth and interest rate variables <0.05 means it is stationary at the level and variable money supply and savings stationary at 1st difference and variable balance of payment and total loans stationary at 2nd difference with prob <0.05. The lag results used with the akaike information criterion (AIC) value of 54.99291 on lag 1 is greater than 50.76532 on lag 2, so this study uses lag 1 for its analysis. The cointegration test results show that the three equations are cointegrated at the 5% level (*). This indicates that there is a long-term correlation between the variables. The causality results (granger causality test) above can be explained that the balance of payment and savings have a relationship in the short term this is because the prob value <0.05, but there is no relationship between savings and balance of payment so there is no two-way relationship. Then other variables also show the same results, namely investment and interest rates, economic growth and money supply and economic growth and savings. From the results of the causality test, only these have a short-term relationship because most variables have a long-term relationship, so further test analyses can be carried out.

VAR Estimation Results

The VAR estimation test is conducted after the assumption test, namely stationary, cointegration, causality and optimal lag tests. The goal is to determine the relationship between the variables.

Table 1. VAR Results

	BoP	INV	Ttl Loans	MS	GDP	IR	SAV
BoP	0.867800 (0.22330)	-0.026715 (0.01388)	-0.006125 (0.01481)	12235.44 (8152.12)	0.027163 (0.04168)	-0.050222 (0.07019)	0.427585 (0.32664)
INV	5.632889 (3.37093)	-0.354756 (0.20956)	0.139731 (0.22355)	352696.2 (123065.)	-0.540234 (0.62919)	0.046654 (1.05961)	-3.596768 (4.93104)
Ttl Loans	2.088595 (1.73308)	-0.078225 (0.10774)	0.873560 (0.11493)	396227.8 (63271.0)	-0.344447 (0.32348)	-0.492097 (0.54477)	-0.482786 (2.53517)
MS	2.02E-06 (2.3E-06)	-2.89E-07 (1.4E-07)	1.01E-07 (1.5E-07)	0.142918 (0.08304)	-3.16E-07 (4.2E-07)	7.45E-07 (7.1E-07)	-3.62E-06 (3.3E-06)
GDP	1.022400 (1.91622)	-0.179588 (0.11913)	0.019023 (0.12708)	-113665.4 (69957.3)	-0.266298 (0.35767)	0.187289 (0.60234)	-8.616231 (2.80308)
IR	-0.547383 (0.84289)	-0.003373 (0.05240)	-0.061693 (0.05590)	-77737.27 (30772.1)	0.062082 (0.15733)	0.116362 (0.26495)	-1.326001 (1.23299)
SAV	-0.293974 (0.10772)	0.012285 (0.00670)	0.008593 (0.00714)	3063.039 (3932.77)	0.033564 (0.02011)	-0.020794 (0.03386)	1.027246 (0.15758)

 Biggest Contribution 1

 Biggest Contribution 2

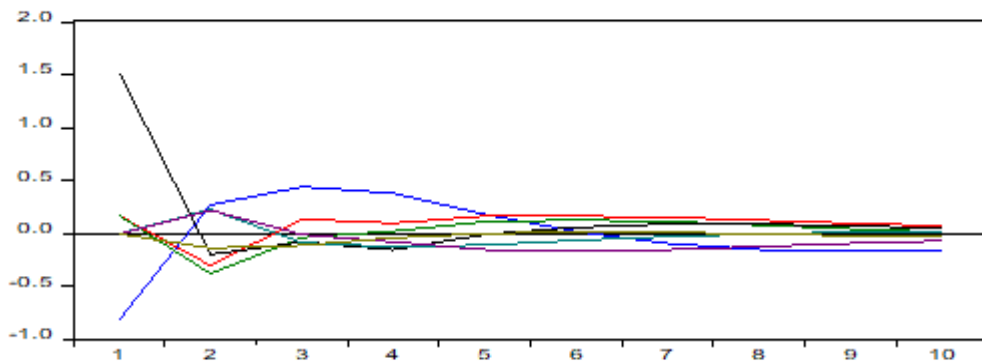
Source: Author's Processing (2024)

The first largest contribution and the second largest contribution to the balance of payments variable are shown by the balance of payments itself and investment. Savings and money supply also contribute to the investment variable. Savings in Indonesia have now successfully transformed into investment, thus boosting economic growth. The results are confirmed based on the findings of Murdijaningsih (2020) and Adi Kusuma & Adi (2021) that the higher the level of public savings will affect economic growth. Savings according to Solow's theory will be invested where the tendency to save will increase the capital stock continuously causing an increase in economic activity accompanied by an increase in economic growth (Hasan & Fitra, 2013). The contribution of the number of loans is also indicated by the number of loans and money supply. In an economic context, the contribution of loans is often measured through variables such as the amount of loans provided by banks or financial institutions, as well as the money supply in the financial system. This is because loans play an important role in starting and developing businesses, as well as in meeting consumer needs, so that they can significantly affect economic growth (Ferdinand et al., 2022) These results are in line with research (Perlambang, 2017). However, it is contrary to research (Budhi & Sri, 2012) that there is no correlation between the number of loans and the money supply. Likewise with research (Mahendra,

2016) which states that the amount of money has no significant effect on the number of loans in Indonesia in the period 2005-2014. The money supply is also influenced by the money supply and investment (Pane, Tanjung, Tobing, & Ar, 2024) where the results are in accordance with that the money supply affects the amount of investment (Warjiyo, 2016) and economic growth is also contributed by interest rates and savings. Where the growth in money supply will trigger economic growth if there is an increase in money supply which will cause interest rates to fall and have an impact on the goods market, namely by increasing investment so that with an increase in investment new capital is created with new capital can increase output and increase the number of workers and ultimately increase income so as to spur economic growth (Ningsih & Amar, 2020). This result is in line with if interest rates rise, there will also be an increase in economic growth (Liza Imelda, 2021). Interest rates are influenced by the money supply and the interest rate itself and savings are influenced by the contribution of the balance of payments and savings itself. An increase in interest rates will determine economic fundamentals in this case economic growth and these results are supported by research (Rusiadi, 2023).

VAR Impulse Response Function

Measuring the short, medium or long term response of a variable to changes in other variables involves the use of an Impulse Response Function (IRF).



Source: EViews Data processed, 2024

Estimation of the impulse response is done to see the shock between the research variables. Impulse response shows the response of a variable due to the response (shock) of other variables in a certain period (Basuki & Prawoto, 2016). The response of a standard deviation shows the tendency of the response direction in convergent conditions to be called positive and negative in the short term, medium term, and long term (Afrizal, 2020).

Variance Decomposition

After the dynamic analysis by impulse response, then look at the characteristics of the model with variance decomposition. The results can be seen in the following:

Table 2. Variance Decomposition Results

ANALYSIS OF FINANCIAL LITERACY ON ECONOMIC GROWTH IN INDONESIA	Recommendation		
	Short Term	Middle Term	Lorm Term
BoP	BoP	BoP	BoP
	-	MS	MS
INV	INV	INV	INV
	BoP	BoP	BoP
Ttl Loans	Ttl Loans	INV	INV
	INV	SAV	BoP

MS	BoP	BoP	BoP
	MS	INV	INV
GDP	GDP	GDP	GDP
	BoP	BoP	BoP
IR	IR	IR	IR
	INV	INV	INV
SAV	SAV	BoP	BoP
	GDP	SAV	SAV

Source: EViews Data, 2024

In the short term, the effective balance of payment is recommended by the balance of payment itself with a value of 100%, while in the medium term it is 60.94% and long term it is 59.49% and the second recommendation in the medium term is by the money supply of 12.91% and long term 12.82. If there is an increase in economic growth, it will usually be followed by an increase in the balance of payments (Afrizal, 2020). Similarly, investment in the short term 97.13%, medium and long term is also recommended by the variable itself and the balance of payments of 12.01% in the medium and long term (Rasyida & Yuliana, 2019). The amount of loan is also recommended by the amount of loan itself 39.50% in the short term and investment 37.18% in the medium and long term by 34.07% but different from the second recommendation by the investment, savings and balance of payment variables. This is appropriate if the effect of the loan amount can affect the level of investment and savings (Safitri, 2021). Savings and loans affect investment decision making. If in a situation of necessity, individuals will make investment credit, which is a loan for investment. Individuals who understand financial planning will allocate their funds for consumption, investment and savings. If the funds for savings are sufficient, individuals will invest with the aim of preparing future funds to avoid bankruptcy or not being able to use income as well as possible (Hariawan & Canggih, 2022). Savings and investment are believed to be one of the factors that determine the level of economic growth (Amril, 2013).

The money supply is influenced by the balance of payments 58.73% and investment by 27.45% in the medium and long term, apart from the variable itself 47.03% in the short term. If the money supply increases, this also affects transaction efficiency and dependence on debit cards as a means of payment, (Sari, 2020) using non-cash payment instruments will also create an increase in the circulation of money in the economy (velocity of money). As stated by (Cristien, 2021) who said that the presence of card payment tools has the potential to break the increase in consumption levels. The increase will cause national income to increase and can encourage the demand for money in society, while in terms of government, the promotion of card payments can save money printing costs. This increases welfare with high purchasing power (Saputra, 2016).

Economic growth is recommended by the economic growth variable in the short, medium and long term 76.26% and the second recommendation by the balance of payment variable 21.77%. Interest rates are also influenced by the variable itself 64.04% and investment 28.02% both in the short, medium and long term. In accordance with the results that interest rates affect the level of public investment. (Patrick Lie & Rivai, 2022) Low interest rates will make investors interested in investing their funds, making the money supply more and more which makes interest rates decrease. The accumulation of capital will have an effect on productivity, so it is clear that a high level of investment will encourage faster economic growth. Increased interest rates cause prices to decline with consumption increasing as seen from the balance of payments (Sasono, 2020). Meanwhile, savings are influenced by the balance of payments 42.65% and savings 18.47% in the medium and long term. If savings in Indonesia increase, it can create good payment transactions so that a good economy can also be achieved. This result is inversely proportional to research which states that if savings increase, the balance of payments decreases and children's interest rates move up (Aginta. H., 2021).

CONCLUSIONS AND SUGGESTIONS

The effect on the seven variables due to changes in one variable on another varies. Shocks continue to occur and increase until they decrease and vice versa. Each variable contributes differently, as shown by the balance of payments variable, which has a mutual effect on investment. Then investment and economic growth are also influenced by savings and money supply and affect interest rates and the amount of loans. From this study it can be seen that all financial literacy indicator variables contribute to each other and are recommended both in the short, medium and long term, so that to limit the risk of financial literacy failure in the financial system it is necessary to increase financial risk with product innovation in the financial sector.

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