JISOSEPOL: JURNAL ILMU SOSIAL EKONOMI DAN POLITIK
Vol. 2, No. 1, pp. 53-63
E-ISSN: 3026-3220

INVESTMENT REALIZATION IN INDONESIA ON ECONOMIC GROWTH WITH INTEREST RATE AS MODERATING VARIABLE

Rosdiana
Universitas Krisnadwipayana, Bekasi, Indonesia
*__Correspondence Author Email__: rosdiana@unkris.ac.id

Abstrak

Penelitian ini bertujuan untuk mengeksplorasi hubungan antara investasi dan pertumbuhan ekonomi di Indonesia dengan mempertimbangkan suku bunga sebagai faktor moderasi. Metode penelitian yang digunakan adalah model regresi linier berganda dan Moderate Regression Analysis (MRA). Melalui analisis ini, penelitian ini bertujuan untuk memberikan pemahaman yang lebih mendalam tentang bagaimana investasi mempengaruhi pertumbuhan ekonomi, serta bagaimana suku bunga dapat memoderasi hubungan tersebut. Hasil penelitian menunjukkan bahwa investasi memiliki pengaruh positif dan signifikan terhadap pertumbuhan ekonomi di Indonesia. Hal ini menegaskan pentingnya investasi dalam mendorong pertumbuhan ekonomi negara. Selain itu, penelitian ini juga menemukan bahwa suku bunga memiliki peran penting sebagai variabel moderasi. Suku bunga mampu memperkuat hubungan antara investasi dan pertumbuhan ekonomi, menunjukkan bahwa kebijakan suku bunga dapat menjadi instrumen yang efektif dalam mengoptimalkan dampak investasi terhadap pertumbuhan ekonomi. Dengan demikian, temuan ini memberikan wawasan yang berharga bagi para pembuat kebijakan ekonomi dan praktisi bisnis dalam merancang strategi investasi yang lebih efektif dan berkelanjutan. Implikasi dari penelitian ini dapat menjadi dasar bagi pengembangan kebijakan ekonomi yang lebih baik di masa depan, serta memberikan panduan bagi pelaku bisnis untuk mengambil keputusan yang lebih tepat dalam mengelola investasi mereka. Namun, penelitian ini juga mengakui adanya batasan, seperti keterbatasan data dan model yang digunakan, yang bisa menjadi subjek penelitian lebih lanjut untuk peningkatan pemahaman tentang hubungan antara investasi, suku bunga, dan pertumbuhan ekonomi.

Kata kunci: Investasi, Suku Bunga, Pertumbuhan Ekonomi

Abstract

This research aims to explore the relationship between investment and economic growth in Indonesia, considering interest rates as a moderating factor. The research methodology employed includes multiple linear regression and Moderate Regression Analysis (MRA). Through this analysis, the study seeks to provide a deeper understanding of how investment influences economic growth, as well as how interest rates can moderate this relationship. The findings indicate that investment has a significant and positive effect on economic growth in Indonesia. This underscores the importance of investment in driving national economic growth. Furthermore, the study finds that interest rates play a crucial role as a moderating variable. Interest rates can strengthen the relationship between investment and economic growth, indicating that interest rate policies can be effective instruments in optimizing the impact of investment on economic growth. Thus, these findings offer valuable insights for policymakers and business practitioners in designing more effective and sustainable investment strategies. The implications of this research could serve as a foundation for the development of better economic policies in the future, as well as provide guidance for businesses to make more informed decisions in managing their investments. However, the study also acknowledges limitations, such as data constraints and the models used, which could be subjects for further research to enhance understanding of the relationship between investment, interest rates, and economic growth.

Keywords: *Investment, Interest Rate, Economic Growth*

JISOSEPOL: JURNAL ILMU SOSIAL EKONOMI DAN POLITIK
Vol. 2, No. 1, pp. 53-63
E-ISSN: 3026-3220

Article History:
Submitted: 27 Maret 2024
Revised: 6 April 2024
Accepted: 8 April 2024

INTRODUCTION

Indonesia is one of the developing countries that is focusing on national economic development and economic growth. High economic growth can be an indicator of the country's success in running the wheels of development, which in turn can be fully utilized for improving the welfare of its people. Economic growth itself is a process of increasing output over time which is an important indicator in measuring the success of a country's development (Todaro, 2003). By looking at the development of Gross Domestic Product (GDP), the country can measure how much *output* per capita is produced in a period and assess how much impact it has on society. And this applies to almost all countries in the world. Based on data from the International Monetary Fund, world economic growth for the period 2013-2022 can be seen in the following figure.

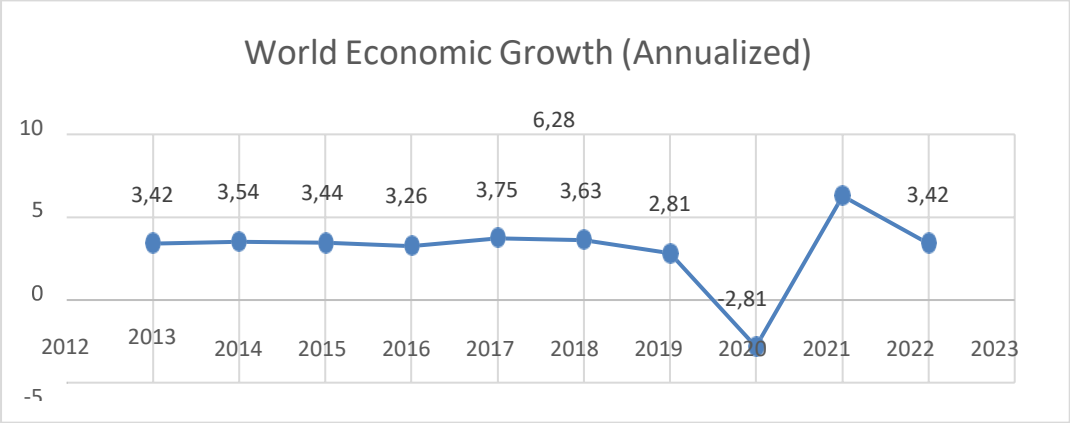


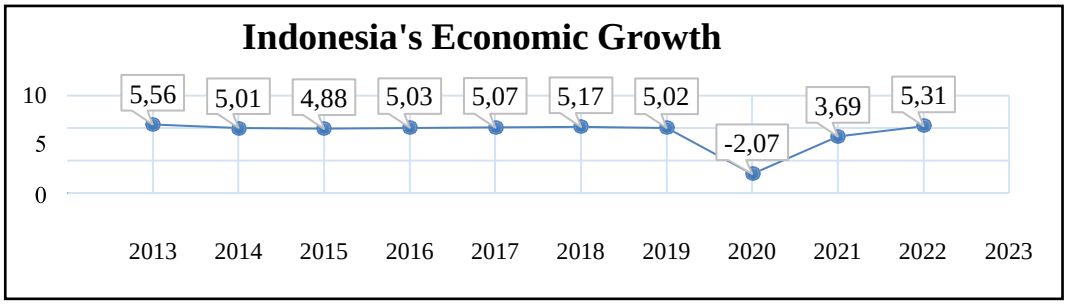
Figure 1. Percentage of Economic Growth in the World for the Period2 2013-2022

Figure 1 shows that every year economic growth often increases or decreases. These fluctuations are normal because there are various factors that can affect the economic growth of a country. Starting from resources, politics to technological developments. And the covid-19 pandemic is one of the factors that has the most impact.

The year 2020 witnessed the collapse of the world economy. Quoted from cnnindonesia.com, Finance Minister Sri Mulyani stated that the contraction of the world economy in early 2020 due to the COVID-19 pandemic was the worst in the last 150 years. Starting from developing countries to developed countries, even superpowers feel the impact of this pandemic. From money.kompas.com, in the first quarter of 2020 Thailand's economic growth was -1.8% and in the second quarter it fell to -12.2%. In Europe, the UK is one of the countries that has entered the brink of recession. In the first quarter of 2020, UK economic growth was minus 2.2%, then worsened in the second quarter to -20.4% and was recorded as the worst recession in

the country's history. Even a superpower like the United States is not free from the grip of recession. In the first quarter of 2020, economic growth in the United States was -5%. But things got worse in the second quarter, where Uncle Sam's country recorded economic growth of -32.9%.

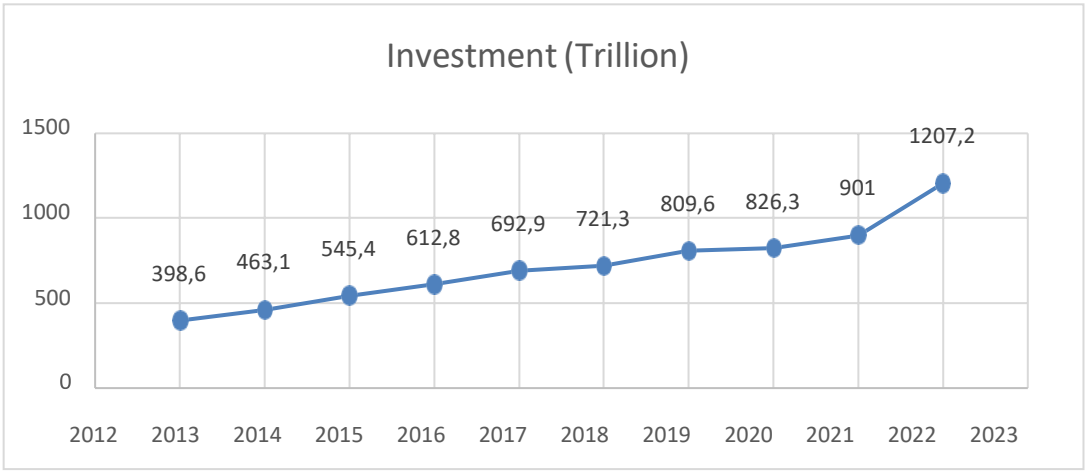
Indonesia itself felt the impact caused by the spread of covid-19. Before the pandemic occurred, shown in Figure 1.1, Indonesia's economic growth was fairly stable. Indonesia's GDP figure for the period 2013-2019 moved in the range of 4.88 to 5.56. But in 2020 Indonesia's annual economic growth fell sharply, from 5.02% in 2019 to -2.07% in 2020. From cnnindonesia.com, Finance Minister Sri Mulyani said that this was the deepest contraction since the financialcrisis in 1997-1998.



Source: Central Bureaau of Statistic, 2022
Figure 2. Percentage of Economic Growth in Indonesia for the Period2013-2022

The Central Bureau of Statistics noted that in 2020 Indonesia's economic growth has decreased by minus 2.07%. The contraction that occurred was due to the Large-Scale Social Restrictions (PSBB) policy to reduce the spread of covid-19. With covid-19 continuing to spread plus drastically reduced community activities outside the home, it has a significant impact on the rate of economic growth in Indonesia.

Gross Domestic Product (GDP) is one of the popular macroeconomic indicators to measure the economic performance of a country (Yuliadi, 2009). Endogenous factors of economic development are closely related to economic potential which can be measured in the variables of private investment and government spending (Arsyad, 2010; Bergh & Henrekson, 2011). In endogenous growth theory, the role of investment in physical and human capital contributes to determining long-term economic growth. Savings and investment can promote sustainable economic growth (Mankiw, 2000). Three important functions of investment activities are (a) investment is one component of aggregate expenditure, so that an increase in investment will increase aggregate demand, national income, and employment opportunities; (b) the increase in capital goods due to investment will increase production capacity; (c) investment is always followed by technological development (Suindyah, 2011).



Source: Investment Coordinating Board
Figure 3. Development of Investment Realization in Indonesia Period 2013-2022

Figure 3 shows that investment realization in Indonesia continues to increase every year. However, there was a slowdown in investment growth in 2020 caused by the Covid-19 pandemic. Limited community activities, reduced public income and declining world economic growth are some of the factors that affect sluggish investment activities. So that it has an impact on a significant decrease in investment realization in 2020. Seeing this, the government immediately acted tomake decisions such as issuing work copyright laws and various other policies to facilitate the investment process. It is hoped that this can attract investors, both domestic and foreign, and increase investment demand. That way the creation of new jobs will accelerate.

Interest rates themselves have their own role in a country's economy. Interest rates can be viewed as income earned from savings. Households will make more savings when interest rates are high because more income from savers will be earned. At low interest rates, people do not really like to make savings because they feel it is better to make consumption expenditures than to save. Thus at low interest rates people tend to increase consumption expenditure (Sukirno, 2012: 74).

As one of the instruments in monetary policy, the authority to set interest rates is fully held by the central bank, namely Bank Indonesia (BI). There are several indicators of interest rates, including economic conditions, government monetary policy, inflation rate, cost of money,level of competition between banks, international monetary turmoil and national and international capital market situations (Hasibuan 2011: 20, in Nginang 2017). Because there are many factors and various indicators that need to be considered in setting interest rates,making the rise and fall of interest rates very volatile.

Table 1. Percentage of Interest Rates in Indonesia for the Period 2013-2022

Year	Interest Rate
2013	7.50
2014	7.75
2015	7.50

2016	4,75
2017	4,25
2018	6,00
2019	5,00
2020	3,75
2021	3,50
2022	5.50

Source: Bank of Indonesia, 2022

Table 1 shows that the highest interest rate occurred in 2014 at 7.75% and the lowest occurred in 2021 at 3.50%. The covid-19 pandemic is one of the main causes of the low interest rates in 2020 and 2021. The recession that occurred in 2020 and the economic recovery process that lasted until 2021, made BI have to reduce interest rates to encourage and stabilize economic conditions.

This research is also motivated by previous studies, including research by Wahana (2020), Gwijangge et al (2018), Murti and Sahara (2019), Setijawan et al (2021) which state that investment has a positive and significant effect on economic growth. Referring to the previous studies that have been stated above, the authors are interested in conducting similar research with different variables, methods and periods. In this study the authors used the investment variable as an independent variable, the dependent variable economic growth variable and what distinguishes this study from previous studies is that the authors used the interest rate variable as a *moderating variable,* with a research period of 2013-2022. Based on the background above, the authors are interested in conducting research on "INVESTMENT REALIZATION IN INDONESIA ON ECONOMIC GROWTH WITH INTEREST *RATES* AS A *MODERATING* VARIABLE"..

Economic growth is a particular factor of medium- and long-term output growth, the determinants of growth are full labor, high technology, rapid capital accumulation, and savings as an investment that depends on the amount of public income (Rudiger Dornbusch and Stanley Fischer, 1997). The process of economic growth itself is influenced by two kinds of factors, namely economic and non-economic factors. Economic factors that can affect the economic growth of a country can be in the form of natural resources, human resources, capital, business, technology and so on. But these factors also need to be supported by non-economic factors such as social institutions, political conditions and moral values in a nation to produce the desired economic growth.(Jhingan, 2003).

GDP itself is a price index that measures the price level of a number of goods produced in an economy that are purchased by households, companies, governments, and foreign countries (Muana Nanga, 2005: 28). By looking at GDP, the output produced by an economy in a country can be calculated and the ability of people to consume can also be estimated. Sukirno (2006) explains that an economy is said to grow if there is an increase in output per capita in the long term, economic growth as a quantitative measure that describes the development of an economy in a particular year when compared to the previous year.

The theory of the investment multiplier model was put forward in the "*General Theory of Employment, Interest, and Monetary*" by Keynes in 1936. He said that to increase national income (national *output*), investment must be increased. Keynes (1936) also added that investment is seen in terms of total supply, which means that if output changes, investment will change. The investment multiplier shows the relationship between the initial increase in investment and the resulting increase in national income. It is a measure of the change innational income caused by a change in investment. Thus, it explains the relationship between an increase in investment and an increase in income generated.

In economic theory, the interest rate can be described as the value earned in return for the value that has been saved or invested. This interest rate will reflect the interaction between money exchanges. According to Patterson and Lygnerud (1999), there is short-terminterest and long-term interest. Short-term interest rates are influenced by the Central Bank, so money is monopolized. Long-term interest rates, however, indicate current economic conditions and the possibility of inflation. According to Keynes, interest rates are determined by supply and demand in the money market. This theory is also called the liquidity preference theory. Keynes said that the interest rate is solely amonetary phenomenon in which its formation occurs in the money market. In Keynes' concept, the alternative of storing wealth consists of securities (bonds) and cash. This concept is based on the idea thatpeople generally have a desire to keep a certain amount of money.

METHOD

This research analysis method uses quantitative analysis with multiple regression to see the effect of investment on economic growth in Indonesia and how interest rates are able to moderate economic growth in Indonesia. The data used in this study are secondary data in the form of time series data sourced from the publication of the Central Statistics Agency (BPS) and the publication of the Investment Coordinating Board (BKPM) for the period 2013-2022.

RESULT AND DISCUSSION

First, the normality test shows that the *probability* value is 0.520399> 0.05. so it can be concluded that the data on the residual variable is normally distributed. Second, the multicollinearity test shown in table 4.5 shows that the VIF value is 2.492166 < 10.00. So it can be concluded that the data in this study does not occur multicollinearity. Third, the Autocorrelation test using the *Durbin-Watson* test which can be seen from the *Model Summary* Table. It is known that the Durbin Waston (d) value is 1.887574 with a dL value of 1.3908 and a dU value of 1.6000 (taken from the Durbin Waston table), which means the 4- dU value is 2.4000. So it can be concluded that 1.6000 < 1.887574 <2.4000 corresponds to dU < d < 4-dU. So, the basis for decision making is met and there is no autocorrelation problem. The fourth heterocedacity test shown in table 4.7, it is known that the Prob. Chi- Square on Obs*R-Squared is

0.8629> 0.05. Therefore, it can be concluded that the data on the variables of this study do not have heteroscedasticity problems.

The purpose of the multiple linear regression test is to determine whether or not there is an effect of two or more independent variableson the dependent variable. This test is also to determine the effect ofchanges in each unit of the independent variable on changes in the dependent variable by looking at the regression coefficient value.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.012831	0.081543	61.47475	0.0000
LOG_INVESTATION	0.679078	0.027888	24.35028	0.0000
LOG_SUKUBUNGA	0.008595	0.032049	0.268194	0.7900
R-squared	0.975163	Mean dependent var		6.535250
Adjusted R-squared	0.973820	S.D. dependent var		0.094135
S.E. of regression	0.015231	Akaike info criterion		-5.458887
Sum squared resid	0.008584	Schwarz criterion		-5.332221
Log likelihood	112.1777	Hannan-Quinn criter.		-5.413088
F-statistic	726.3437	Durbin-Watson stat		1.109749
Prob(F-statistic)	0.000000			

Source: Processed secondary data, 2023

The regression model obtained from the test results above can bewritten as follows:

LOG_PDB = 5.012831 + 0.679078 LOG_INVESTMENT + 0.008595 LOG_INTEREST RATE

The equation contains meaning:

The constant value is 5.012831. This means that the effect of economic growth in Indonesia is 5.012831 with the assumption that other variables are constant.

The regression coefficient value of the investment variable is 0.679078. This means that every 1% increase in investment will increase economic growth by 67.90%.

The regression coefficient value of the interest rate variable is 0.008595. This means that every time there is an increase in interest rates by 1%, it will increase economic growth by 0.85%.

Hypothesis Test

This test aims to show how far the model's ability to explain variations in the dependent variable. The value of R^2 which is closer to one, means that the greater the information provided by the independent variables to explain the dependent variable. The coefficient of determination used in this test is the *R-squared* value because the independent variables are not more than two. based on the regressiontest results in table 4.8, it is known that the *R-squared* value is 0.975163. This means that the independent variables, namely investment and interest rates, are able to explain the dependent variable, namely economic growth, by 97.52%. While the remaining 2.48% is influenced by other variables outside the regression model of this study.

The results of hypothesis testing shown in table 4.8, have obtained the t value of each investment and interest rate variable.

From the test results, it is known that the t value of investment is 24.35028> t table 2.02809. As well as the prob value. investment of 0.0000 <0.05. So it can be concluded that partially the investment variable has a significant effect on economic growth.

From the test results, it is known that the t value of the interest rate is0.268194 < t table 2.02809. As well as the prob value. interest rate of0.7900> 0.05. So it can be concluded that partially the interest rate variable has no significant effect on economic growth.

The purpose of the moderation regression analysis test is to determine whether the *moderating* variable strengthens or weakens the relationship between the independent variable and the dependentvariable.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2157902.	353402.0	6.106082	0.0000
INVESTMENT	7931.700	1790.200	4.430622	0.0001
SUKUBUNGA	-174759.2	59658.04	-2.929349	0.0059
INVESTMENT_SB	958.1638	352.5776	2.717597	0.0100

R-squared	0.969670	Mean dependent var	3507841.
Adjusted R-squared	0.967142	S.D. dependent var	758065.7
S.E. of regression	137412.4	Akaike info criterion	26.59400
Sum squared resid	6.80E+11	Schwarz criterion	26.76289
Log likelihood	-527.8800	Hannan-Quinn criter.	26.65507
F-statistic	383.6445	Durbin-Watson stat	1.023983
Prob(F-statistic)	0.000000		

Source: Processed secondary data, 2023

GDP = 2157902 + 7931,700 (INVESTMENT) - 174759.2 (Interest range) + 958,1638 (INVESTMENT_Interest range).

Decision making in this test is determined by the *prob. value* and the t-value of the interaction or multiplication of the two independent variables (INVESTMENT_SB). Based on the test results above, it is known that the *prob. value is* 0.0100 <0.05 and the t value is 2.717597> 2.02809. Therefore, it can be concluded that the moderating variable, namely interest rates, is able to moderate the relationship between investment and economic growth.

Discussion

Investment Realization in Indonesia on Economic Growth

The results of the research that has been done, show that investmentis able to encourage economic growth. These results are in line with research conducted by Saadah Yuliana, Abdul Bashir and Siti Rohima (2019) with the title "The Effect of Investment on Economic Growth inthe Local Economy" where the study states that investment has a positive and significant effect on economic growth.

Investment as one of the macroeconomic variables has a relationship with various economic sectors that can increase economic growth. Such as investment made by a company in the context of expansion. This can form a chain effect, namely the opening of new jobs, reducing the unemployment rate, increasing per capita income and leading to increased economic growth. Or when the government focuses investment to encourage the quality and potential of local products tobecome export goods that can compete in foreign markets. That waythe activity and flow of export goods will increase. The result is the development of domestic industries and increased state revenues that will ultimately drive economic growth.

Interest Rate as a *Moderating* Variable in the Relationship of Investment Realization in Indonesia to Economic Growth

Based on the results of the research that has been done, it shows thatinterest rates are able to moderate the relationship between investment and economic growth. Interest rates as a moderating variable in the relationship between investment and economic growth have an important role. Investment theory from Keynes (Nanga, 2005) explains that if interest rates fall, it will cause investment demand to increase and vice versa will apply if interest rates increase because investors will consider the investment to be made.

Because interest rates as a monetary policy tool can affect the cost ofborrowing and the return on investment assets, which can affect investment decisions and ultimately, economic growth itself. When interest rates are high the cost of borrowing will increase so that investors will prefer to save their money. However, if interest rates are low then the cost of borrowing will go down. This also indicates that economic conditions are improving, so that investors can be encouraged to invest again and will ultimately help increase economicgrowth.

CONCLUSION

Investment Realization has a positive and significant effect on economic growth, which can be concluded that if investment increases, economic growth will also increase. Interest rates are able to moderate the effect of investment on economic growth, which can be concluded that interest rates as a monetary policy tool can affect the cost of borrowing and the return on investment assets, which can affect investment decisions and ultimately, economic growth itself. The government is expected to issue policies that can adjust and facilitate the process of making

investments in order to increase investor interest both from within and outside the country to invest in Indonesia.

REFERENCES

Arsyad, L. (1999). Introduction to Regional Economic Planning and Development, First Edition. Yogyakarta: BPFE.

Arsyad, L. (2010). Development Economics (4th ed.). Yogyakarta: STIE-YKPN

Central Bureau of Statistics. (2022). GDP data at current prices 2013- 2022. Indonesia

Bank Indonesia. (2022) https://www.bi.go.id/

BKPM. (2022). "Development of Indonesia's Investment Realization for the period 2013-2022".

Bergh, A., & Henrekson, M. (2011). Government Size and Growth: A Survey and Interpretation of the Evidence (No. 858). Working Paper. Stockholm, Sweden: Research Institute of Industrial Economics.

Dornbusch, Rudiger and Fischer, Stanley. 1997. Macroeconomics Fourth Edition.Erlangga: Jakarta.

Hartono, J. (2017). Portfolio Theory and Investment Analysis (eleventh). Yogyakarta: BPFE.

Hutahaean, P. (2019). State Expenditure and Indonesia's Economic Growth: Cointegration and Causality Analysis. Review of Economics and Finance, 3(2), 103-115. https://doi.org/10.31685/kek.v3i2.411

Jhingan, M.L., 2003, Development Economics and the Economy, Jakarta: PT Raya Grafindo Persada

John Maynard Keynes. (1936). The General Theory of Employment, Interest and Money. M a c m i l l a n

Judisseno, R. 2005. Monetary and Banking System in Indonesia. PT Gramedia Pustaka Utama, Jakarta

Karl and Fair. 2001. Principles of Macroeconomics. Jakarta: Prenhalind.

Mankiw, G. N. (2000). Macroeconomics Theory (4th ed.). Jakarta: Erlangga Publisher

Mishkin, F. S. (2008). Money Economics, Banking, and Financial Markets (Vol. 8th Edition). Jakarta: Fourth Edition.

Nanga, Muana. 2005. Macroeconomics: Theory, Problems and Policies, Jakarta: RajaGrafindo Perkasa.

Patterson, Ben & Lygnerud, Kristina. (1999). The determination ofinterest rates. European Parliament L-2929 Luxembourg.

Perlambang, H. (2017). Analysis of the Effect of Money Supply, SbI Interest Rate, Exchange Rate on Inflation Rate. Economic Media, 18(2), 49. https://doi.org/10.25105/me.v18i2.2251

Rahardjo, A. (2013). Theories of Economic Development, Economic Growth and Regional Growth, first printing. Theories of Economic Development, Economic Growth and Regional Growth, first printing. Yogyakarta: Graha Ilmu.

Suindyah, S. (2011). The Effect of Investment, Labor and Government Expenditure on Economic Growth in East Java Province. EQUITY, 15(4), 477-500.

Sukirno, 2006. Macroeconomics: An Introductory Theory, Publisher of PT. Raja Grafindo Persada, Jakarta

Sukirno, S. (2006). Macroeconomics: An Introductory Theory, Publisher of PT. Raja Grafindo Persada, Jakarta.

Sukirno, S. (2008). Microeconomics: Introductory Theory. Third Edition. Jakarta: PT Raja Grafindo Persada

Sukirno, S. (2012). Macroeconomics. Introductory Theory Third Edition. Jakarta: Rajawali Press.

Todaro, M., & Smith, S. C. (2003). Economic Development in the ThirdWorld. (Eighth edition. Volume 2). Jakarta: Erlangga.

Yuliadi. (2009). The Indonesian Economy: Problems and PolicyImplementation (1st ed.). Yogyakarta: BPFE Gadjah Mada University.