*International Journal of Islamic Economics volume 4, nomor 01, (2022), pp.49-59*
DOI: https://doi.org/10.32332/ijie.v4i01.5193

# Analysis The Effect Of Credit Interest Rates, Gross Domestic Product, And Inflation On Domestic Investment In Indonesia In 2000 – 2021[1]

**Karel Milliano Hendika**
Muhammadiyah University of Surakarta
email: b300180298@student.ums.ac.id

**Eni Setyowati**
Muhammadiyah University of Surakarta
email: eni_setyowati@ums.ac.id

| | |
|---|---|
| Submitted | : March 2022 |
| Accepted | : May 2022 |
| Published | : June 2022 |

**Abstract**
*Indonesia as a developing country certainly depends on investment because it is the first step to do development. Investment in the form of investment is considered to solve several economic problems, such as economic crises, and other economic challenges. One of the investments in Indonesia is capital investment, which is the realization of domestic investment. There are several factors that affect domestic investment, such as credit interest rates, gross domestic product and inflation. This study aims to analyze these factors on domestic investment in Indonesia from 2000 to 2021. This study used regression analysis method Ordinary Least Square (OLS). The results showed that partially variable variable lending rates and gross domestic product have a negative influence on domestic investment, while the inflation variable has a positive influence.*

**Keywords:** *Credit Interest Rates, Domestic Investment, Gross Domestic Product.*

## A. Introduction

Indonesia is a developing country, where the Indonesian state does a lot of development in all fields to realize a just and prosperous society. This goal certainly requires considerable funding in order to be realized. The potential and natural resources in Indonesia can certainly generate a variety of abundant profits, and can be used to invest in order to improve economic performance. The current state of Indonesia requires large capital to catch up with the economyof other countries (Dedy Utomo, 2018).

The economy of a country depends on investment to solve some economic problems, crises and challenges. In fact, investing in certain sectors of the economy can quickly change the various economic challenges we face as a nation. One of the investments in Indonesia is Domestic Investment, which is the realization of domestic investment carried out by domestic capital owners directly based on general provisions and domestic investment procedures established by the government (Kambono & Marpaung, 2020).

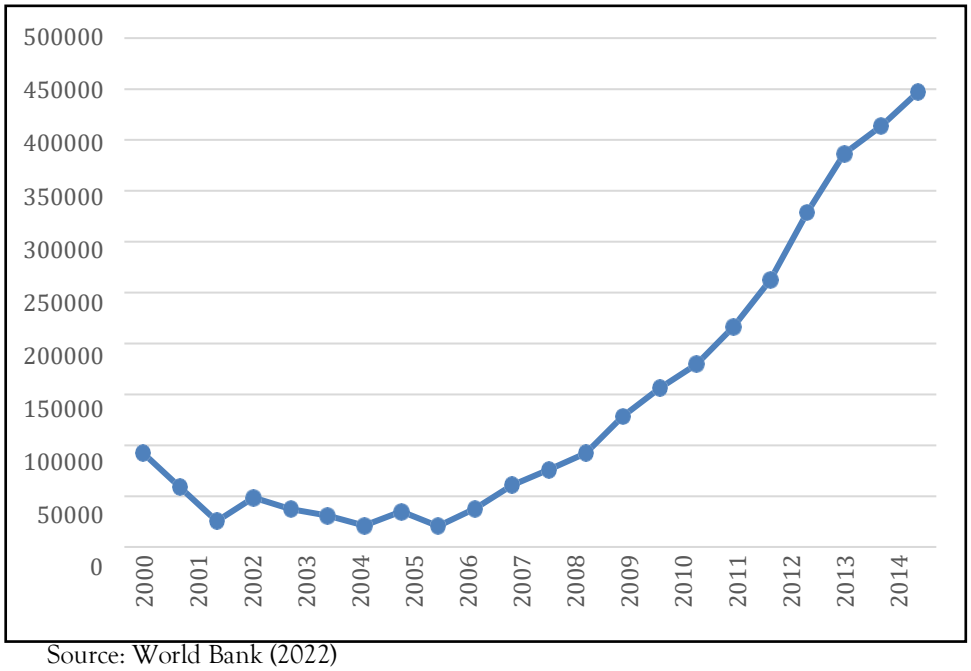
Domestic investment is an activity to invest capital to do business in the territory of the Republic of Indonesia conducted by domestic investors using domestic capital Mar'afiah (2017). The definition of domestic investment according to the Coordinating Board for

[1] ICIEIFIL *has been presented on 2nd International Conference on Islamic Economics, Islamic Finance, & Islamic Law (ICIEIFIL)*

investment is domestic capital which is interpreted as a productive source of Indonesian society that can be used for Economic Development which is part of the wealth of Indonesian society including rights, objects (movable and immovable) that can be set aside or provided to run a company business (Eni Setyowati & Fatimah, 2007).

According to Iswandi (2017), in his research, domestic investment is an investment activity to do business in the territory of the Republic of Indonesia carried out by domestic investors, as one of the first steps in implementing economic development. Any economy can secure a certain percentage of national income. But to grow the economy, new investments are needed to increase capital stocks. Indonesia has again shown positive economic growth and the Indonesian economy began to lead to a consistent increase in the national economy every year Todaro (2006). Here is a figure 1 of the realization of domestic investment from 2000 – 2001.

**Figure 1**. The Development of Domestic Investment Realization Year 2000-2021 (Billion Rupiah)




Source: World Bank (2022)

Based on Figure 1, it can be seen that the realization of the development of domestic investment in Indonesia from 2000 to 2021. In the period from 2000 to 2008 it was seen that unstable movements occurred, which at that time were due to the economic impact due to the global economic crisis and other events related to social, political, and cultural. 2021 was the highest year with a total investment of 447063.6 billion Rupiah, while the lowest investment occurred in 2002 with a total investment in that year of only 25307.6 billion Rupiah. The increase in investment continued to rise in the period from 2008 to 2012 and slowly domestic investmentrose steadily in the following years.

Investment is one of the important components of GDP or Gross Domestic Product, therefore investment activities affect the economic growth of a country. Investment activities can be carried out if the difference between the return on investment capital and the interest

rate is greater or equal. The higher the interest rate, the less investment will be. When interest rates decrease, investment will increase (Ni Made Krisna Marsela, 2016)

In Table 1 it can be seen that the government with all its efforts to conduct governance to maintain macroeconomic stability. The inflation rate has also decreased year-on-year, with GDP tending to increase. Seeing the condition of Indonesia in such a way, increasing capital and maintaining economic stability is very important to improve the economy. Therefore, the government and the private sector seek to increase economic growth through the raising of funds directed at productive economic activities by boosting investment, both in the form of domestic investment and Foreign Investment.

**Table 1**. Development of Macroeconomic indicators in Indonesia from 2000 to 2021.

| Year | Credit InterestRates | Gross Domestic Product | Inflation |
|---|---|---|---|
| | (Percent) | (Milyar US$) | (Percent) |
| 2000 | 17,0 | 165 | 9.35 |
| 2001 | 17,3 | 160,4 | 12.55 |
| 2002 | 17,9 | 195,7 | 10.03 |
| 2003 | 16,8 | 234,8 | 5.06 |
| 2004 | 14,7 | 256,8 | 6.40 |
| 2005 | 14,8 | 285,9 | 17.11 |
| 2006 | 15,5 | 364,6 | 6.60 |
| 2007 | 13,9 | 432,2 | 6.59 |
| 2008 | 13,6 | 510,2 | 11.06 |
| 2009 | 13,7 | 539,6 | 2.78 |
| 2010 | 12,8 | 755,1 | 6.96 |
| 2011 | 12,1 | 893 | 3.79 |
| 2012 | 11,5 | 917,9 | 4.30 |
| 2013 | 11,6 | 912,5 | 8.38 |
| 2014 | 12,1 | 890,8 | 8.36 |
| 2015 | 12,2 | 860,9 | 3.35 |
| 2016 | 15,1 | 931,9 | 3.02 |
| 2017 | 10,9 | 1.015,60 | 3.61 |
| 2018 | 10,4 | 1.042,30 | 3.13 |
| 2019 | 10,1 | 1.119,10 | 2.72 |
| 2020 | 9,4 | 1.058,40 | 2.18 |
| 2021 | 8,6 | 1.186,10 | 1,7 |

Source: Central Bureau of Statistics, World Bank (2022)

If a country's economic growth is good, investment will increase. Economic growth can be seen from the Gross Domestic Product. If the GDP growth rate in a country is good then it can be ascertained it will give a positive effect because it will attract investors from within and from outside to invest their capital (Shahzad & Al-Swidi, 2013).

A region can be said to experience rapid economic growth if from year to year has a significant increase, while slow growth occurs when from year to year has decreased or fluctuated. It can be compared with the economic growth of the previous year of a region or compare it with other regions. Economic growth can be known by comparing GDP in a given year with the previous year (Sukirno, 2006).

Interest rates and future value forecasts are one of the important considerations before investing. One source of funds used by investors to finance investment expenditures is loans to banks. The Investor will consider and compare the interest expense to be paid with the expectation of the profit to be obtained from the amount of investment made. High interest rates will make investors postpone lending to banks until interest rates fall again (Septifany et al., 2015).

Interest rate policy can also serve to encourage economic improvement, otherwise it can also affect inflation. If the interest rate is set too high, then this policy is aimed at suppressing inflation. However, if interest rates are set low then its function is to encourage investment that will ultimately promote economic growth (Putri, 2017).

Several studies that have been carried out related to domestic investment, including research belonging to Alfarisi (2011) which analyzes the development of domestic investment in Indonesia in 1990-2010, found that lending rates negatively and significantly affect domestic investment. Research conducted by Dewi & Meydianawathi (2017) found that lending rates significantly affect domestic investment during 1991 - 2014. Yunus et al., (2019) research on domestic investment during 1988-2017, shows that the variables of Gross Domestic Product and inflation have a significant influence on domestic investment. Further research conducted by Iswandi (2017) found that inflation and credit interest rate variables have a significant influence on domestic investment during 2001-2015.

## B. Literature Review

Investment is an important factor for the continuity of the economic development process (Suistanable Development) or long-term economic growth. Economic development involves production activities in all sectors of the economy that cause employment opportunities and people's incomes to increase Sodik & Nuryadin (2005). Gross domestic product is often considered the best measure of economic performance. The total income of each person in the economy and as the total expenditure on the output of goods and services of a country's economy (Astuty & Siregar, 2018).

A growing market also means that the volume of production activities, employment opportunities and income in the country increases, and so on, then economic growth is created (Tambunan, 2001). The main forces of the economy that determine investment are the results of investment costs determined by the policy of interest rates and taxes, as well as expectations regarding the period Samuelson & Nordhaus (1992). Economic theory defines investment as spending to purchase capital goods and production equipment with the aim of replacing and especially adding to capital goods in the economy that will be used to produce goods and services in the future Sukirno (2005). Domestic investments are beneficial to the formation of fixed capital, consisting of investments into the formation of new fixed capital, the transaction

costs of existing fixed assets and the addition of the value of non-manufactured assets (Ivanović, 2015)

Investment is equal to the consumption savings of a country. in an open economy, investment and savings are not the same. therefore, domestic investment may be higher, equal or lower than national savings in a country Encinas-Ferrer & Villegas-Zermeño (2015). Capital formation as additional capital stock is necessary for economic growth, this capital formation is seen as the cost of increasing economic capacity and at the same time increasing the effective demand of society as a whole Rizky et al., (2016). However, to grow the economy, new investments are needed to increase capital stocks (Todaro, 2006).

The existence of factors that affect investment is the interest rate, which is expected to provide benefits to the owners of capital (investors). Then there is the level of investment profit that is foreseen in the future, to give an idea to investors about the type of business that is prospective and can be carried out in the future and the amount of investment value that must be made to meet the amount of capital required. The level of national income and its changes, if the income level of the community increases, the purchasing power of the community also increases, the total aggregate demand increases which in turn will encourage the growth of other investments(induced investments) (Sukirno, 2004).

Another factor from the country that affects investment activities is interest rates. Interest rates that are too high will affect the present value of the company's cash flow, so that existing investment opportunities will no longer be attractive. High interest rates will also increase the cost of capital that the company must bear. Therefore, Lubis & Zulam (2016) argues that high interest rates will also cause the return that investors signaled from an investment will increaseand vice versa.

Interest rate is the fee that the borrower must pay to the lender for borrowing or using a certain amount of money Septifany et al., (2015). An increase in the benchmark interest rate will lead to an increase in interest rates that will eventually make investors withdraw all their money so that income will decrease. Therefore, the increase in interest rates can reduce investor interestto invest (Pratiwi et al., 2015).

In addition, according to Putri (2017) interest rate policy can encourage economic improvement, but if the interest rate set by the government is too high, then it will have an impact on inflation. Inflation is the rise in price levels that occur continuously, affecting individuals, entrepreneurs, and governments. Inflation is generally considered an important economic problem that must be resolved immediately (Frederic, 2008).

## C. Research Methodology

The analysis tool that will be used in this study is Ordinary Least Square regression analysis (OLS). According to Gujarati (2004) the definition of OLS (Ordinary Least Square) is an econometric method in which there is an independent variable which is an explanatory variable and the dependent variable is a variable described in a linear equation. Then the econometric model used as follows:

$$DI = \beta 0 + \beta 1CIRt + \beta 2GDPt + \beta 3INFt + \varepsilon$$

DI = Direct Investment (Million Rupiah)
CIR = Credit Interest Rates (%)
GDP = Gross Domestic Product
(Rupiah)INF = Inflation (%)
log = Logarithm-based operators e
$\varepsilon$ = Error term (error factor)
$\beta 0$ = Constants
$\beta 1 \dots \beta 4$ = Regression coefficients of independent
variablest = Year to t

This study used annual *Time series* data with a time span of 2000-2021. Which includes data on domestic investment, lending rates, gross domestic product and inflation. The Data was obtained from the World Bank (IMF), Badan Pusat Statistik (BPS) and Bank Indonesia (BI).

## D. Results And Discussion

The results of the above econometric model estimation and all its complementary tests are summarized in Table 2.

**Table 2**. Estimated Results

| |
|---|
| $DI_t$= 240.000.000 - 1563326 $LogGDP_t$ – 678741.1$CIR_t$ + 300.4828 $INF_t$<br>(0,1051)*** (0,0867)*** (0,0091)* |
| $R^2$ = 0,646168; DW = 0,650823; *F* statistic = 10,34848; Prob. *F* = 0,0004 |
| Test Diagnosis<br>(1) Multicollinearity (*VIF*)<br>*LogGDP* = 12,09942; *CIR* = 10,36017; *INF* = 1,761928<br>(2) Residual Normality (Jarque-Bera)<br>JB(2) = 1,3987; Prob. JB(2) = 0,4967<br>(3) Autocorrelation (Breusch-Godfrey)<br>$\chi^2$(3) = 16,1403; Prob. $\chi^2$(3) = 0,0011<br>(4) Heteroscedasticity (White)<br>$\chi^2$(9) = 7,7769; Prob. $\chi^2$(9) = 0,4556<br>(5) Linearity (Ramsey RESET)<br>*F*(1,16) = 16,2612; Prob. *F*(1,16) = 0,0010 |

Source: Eviews 10 (2022)

Diagnostic tests showed that the model has an estimated multicollonearity problem. the value of VIF log GDP and CIR has a value > 10 so it is mentioned that there is a multicolloniarity problem. However, the inflation variable does not have multicolloniarity problem. Empirical probability value of Residual normality, autocorrelation, heteroscedasticity, and linearity Test, respectively 0,4967 (>0,10), 0,0011 (<0,01), 0,4556 (>0,10), 0,0010 (<0,01), shows that the residual distribution is normal, there is an autocorrelation problem, free from heteroscedasticityproblems, with non-linear model specifications.

Goodness of fit Statistics shows that the model exists, seen from the empirical probability of Statistics F, which is 0.0004 (<0.01), With R2 or medium prediction power, which is 0.6462. That is, overall variables, Gross Domestic Product (GDP), Credit Interest Rates (IR), and Inflation (INF), can explain 64.62% variation or rise and fall of Domestic Investment variables(DI)

Separately, the variables of Credit Interest Rates, Gross Domestic Product and Inflation, have a significant influence on Domestic Investment, each with an empirical probability of t 0,0867 (< 0,10), 0,1051 (>0,10), and 0.0091 (< 0,01). Gross Domestic Product variable has a regression coefficient of -1563326 thus, Gross Domestic Product negatively affects domestic investment. If Gross Domestic Product increases by 1 percent, it will reduce Domestic Investment by 1563326 billion rupiah.

Variable Credit Interest Rate has a regression coefficient of -678741.1. Thus, credit interest rates negatively affect domestic investment. If credit interest rates rise by 1 percent will reduce domestic investment by 678741.1 billion rupiah. Then the inflation variable here has regression coefficient of 300.4828. That means inflation has a positive effect on domestic investment. If inflation rises by 1 percent will increase Domestic Investment by 300.4828 billion rupiah.

Gross domestic product has a negative influence on domestic investment, the value of the GDP coefficient is a macroeconomic parimeter that describes the level of efficiency of economic production in a country. Thus, by knowing the value of GDP, it can be obtained an overview of the efficiency and effectiveness of capital investment that must be done. The GDP value can also be used by the government to calculate the estimated investment needs in the following year so that policy steps can be taken. High GDP coefficient value indicates the level of investment efficiency in a country, with such a high value it can certainly give a positive effect because it will attract investors from abroad and from within the country. The statement is in line with the results of previous research compiled by Yunus et al., (2019) where these results will show a good impact on the economy in the future.

Credit Interest Rates negatively affect domestic investment, this is because if one day the country raises interest rates too high, then this policy can certainly reduce investor interest to invest in the country. However, if a country sets low lending rates, then it can increase investor interest to invest in the country. The statement is in line with the results of previous research compiled by Alfarisi (2011) and Dedy Utomo (2018) where lending rates have a negative and significant influence on state investment.

Inflation has a positive and significant effect on domestic investment. This means that if inflation rises by 1 percent, then it will increase domestic investment. Inflation will encourage the development of a country's economy because the demand for goods and services will increase so as to make investors use their money for something more productive such as investment, it will ultimately promote economic growth in a country. The results of this study are in line with the results of research written by Iswandi (2017) and Sudirman (2017) explained that inflation has a positive and significant influence on domestic investment.

## E. Conclusion

From a series of discussions that have been explained from the model used, it can be concludedas follows:

1. Gross domestic product during the period of research has an effect on domestic investment. The relationship between the two variables is negative. So, if the value of GDP is high, then the investor is not interested in investing, and vice versa, if the value of GDP is low then the investor is interested in investing in a country.
2. Credit interest rates during the study period negatively affect domestic investment. The relationship between the two variables is negative. So if the value of interest rates is high, thendomestic investment will weaken, and vice versa if the value of lending rates is low, then domestic investment will be high.
3. Inflation during the research period has a positive effect on domestic investment. So if the value of inflation rises, then domestic investment will rise, and vice versa if the value of inflation falls, then domestic investment will decrease

**Bibliography**

Alfarisi, S. (2011). Analisis Pengaruh Suku Bunga Kredit Dan Krisis Ekonomi Terhadap Penanaman Modal Dalam Negeri Di Indonesia Tahun 1990-2010. *Jurnal Ekonomi Pembangunan*, *9*(2), 197. https://doi.org/10.22219/jep.v9i2.3674

Astuty, F., & Siregar, I. N. P. (2018). Analisis Produk Domestik Bruto, Infrastruktur, Nilai Tukar Dan Tingkat Suku Bunga Terhadap Investasi Asing Langsung Di Indonesia. *Jkbm (Jurnal Konsep Bisnis Dan Manajemen)*, *5*(1), 91. https://doi.org/10.31289/jkbm.v5i1.1875

Dedy Utomo, F. (2018). Analisis Faktor-Faktor yang Mempengaruhi PMDN di Jawa Tengah. *Economics Development Analysis Journal*, *6*(2), 165–169. https://doi.org/10. 15294/edaj. v6i2.22214

Dewi, K. S. ayu P., & Meydianawathi, L. G. (2017). Faktor-Faktor Yang Mempengaruhi Realisasi Penanaman Modal Dalam Negeri Di Provinsi Bali. *E-Journal Ekonomi Pembangunan niversitas Udayana*, *6*, 622–647. https://doi.org/10.31958/ imara.v2i2.1254

Encinas-Ferrer, C., & Villegas-Zermeño, E. (2015). Foreign Direct Investment and Gross Domestic Product Growth. *Procedia Economics and Finance*, *24*(July), 198–207. https://doi.org/10.1016/s2212-5671(15)00647-4

Eni Setyowati, & Fatimah, S. (2007). Analasis Faktor - Faktor Yang Mempengaruhi Investasi di Jawa Tengah Tahun 1980 - 2002. *Jurnal Ekonomi Pembangunan*, *8*(1), 62–84. https://doi.org/10.23917/jep.v8i1.3938

Frederic, M. (2008). *Ekonomi, Uang, Perbankan dan Pasar Keuangan* (2nd ed.). Penerbit Salemba Empat.

Gujarati, D. (2004). *Basic Econometrics 4th edition* (4th ed.). Tata McGraw Hill.

Iswandi, R. (2017). Analisis Pengaruh Produk Domestik Regional Bruto, Inflasi, Dan Suku Bunga Kredit Terhadap Penanaman Modal Dalam Negeri Di Riau Tahun 2001 – 2015. *JOM Fekon*, *4*(1), 634–646. https://doi.org/10.22219/jep.v9i2.3674

Ivanović, I. (2015). Impact of Foreign Direct Investment (Fdi) on Domestic Investment in Republic of Croatia. *Review of Innovation and Competitiveness*, *1*(1), 137–160. https://doi.org/10.32728/ric 2015.11/8.

Kambono, H., & Marpaung, E. I. (2020). Pengaruh Investasi Asing dan Investasi Dalam Negeri Terhadap Perekonomian Indonesia. *Jurnal Akuntansi Maranatha*, *12*(1), 137–145. https://doi.org/10.28932/jam.v12i1.2282

Lubis, P., & Zulam, S. Bin. (2016). Analisis Faktor-Faktor Yang Memengaruhi Permintaan Investasi. *Perspektif Ekonomi Darussalam*, *2*(2), 147– 166. https://doi.org/10.24815/jped.v2i2.6691

Mar'afiah, A. (2017). Pengaruh Investasi Penanaman Modal Asing dan Penanaman Modal Dalam Negeri Terhadap Pertumbuhan Ekonomi di Kota Makasar. *Jurnal Economix Volume 4 Nomor 1 Juni 2016*, *5*(2), 203–214. https://doi.org/10.33096/paradoks.v2i2.258

Ni Made Krisna Marsela. (2016). Pengaruh Tingkat Inflasi, Pdrb, Suku Bunga Kredit, Serta Kurs Dollar Terhadap Investasi. *E-Jurnal EP Unud*, *3*(3), 77–87. https://doi.org/10.1037/14946-010

Pratiwi, N. M., Dzulkirom AR, M., & Azizah, D. F. (2015). Pengaruh Inflasi, Tingkat Suku Bunga Sbi, Dan Nilai Tukar Terhadap Penanaman Modal Asing Dan Pertumbuhan Ekonomi Di Indonesia (Tahun 2004 sampai dengan Tahun 2013). *Jurnal Administrasi Bisnis*, *26*(2), 1–9.

Putri, V. K. (2017). Analisis Pengaruh Jumlah Uang Beredar, Suku Bunga Sertifikat Bank Indonesia, dan Suku Bunga Kredit Investasi terhadap Inflasi di Indonesia. *JOM Fekon*, *4*(1), 26–39.

Rizky, R. L., Agustin, G., & Mukhlis, I. (2016). Pengaruh Penanaman Modal Asing, Penanaman Modal Dalam Negeri Dan Belanja Modal Terhadap Pertumbuhan Ekonomi Provinsi Di Indonesia. *Jurnal Ekonomi Dan Ekonomi Studi Pembangunan*, *8*(1), 9–16. https://doi.org/10.17977/um002v8i12016p009

Samuelson, P. A., & Nordhaus, W. D. (1992). *Makro Ekonomi*. Erlangga.

Septifany, A. T., Hidayat, R. R., & Sulasmiyati, S. (2015). Penanaman Modal Asing Di Indonesia ( Studi Pada Bank Indonesia Periode Tahun 2006-2014 ). *Jurnal Administrasi Bisnis (JAB)*, *25*(2), 1–7.

Shahzad, A., & Al-Swidi, A. K. (2013). Effect of Macroeconomic Variables on the FDI inflows: The Moderating Role of Political Stability: An Evidence from Pakistan. *Asian SocialScience*, *9*(9), 270–279. https://dx.doi.org/10.5539/ass.v9n9p270

Sodik, J., & Nuryadin, D. (2005). Investasi Dan Pertumbuhan Ekonomi Regional (Studi Kasus Pada 26 Propinsi Di Indonesia , Pra Dan Pasca Otonomi). *Ekonomi Pembangunan*, *10*(2), 157–170. http://ormawa.ft.uns.ac.id/repo/data/4/Ekotek/TUGAS/1/jrnal/599-594-1-PB.pdf

Sudirman, D. (2017). Analisis Pengaruh Tenaga Kerja, Ekspor Dan Inflasi Terhadap Penanaman Modal Dalam Negeri (Pmdn) Kalimantan Tengah. *Al – Ulum Ilmu Sosial Dan Humaniora*, *3*(1), 343–356.

Sukirno, S. (2004). *Makro Ekonomi Edisi Ketiga*. PT Raja Grafindo Persada.

Sukirno, S. (2005). *Pengantar Teori Ekonomi Makro*. PT Raja Grafindo Persada.

Sukirno, S. (2006). *Makroekonomi Teori Pengantar*. PT Raja Grafindo Persada.

Todaro, M. P. (2006). *Pembangunan Ekonomi di Dunia ketiga, Edisi 9, Jilid 1*. Alih Bahasa Drs. Haris Munandar.

Yunus, F., Rostin, & Rumbia, W. A. (2019). Determinan Investasi Penanaman Modal Dalam Negeri (PMDN) Di Indonesia. *Jurnal Progres Ekonomi Pembangunan (JPEP)*, *4*(2), 91–100.