

An Investigation of the Determinant Factors of Indonesia Domestic Investment: An Analysis of the Q1 2010 to Q4 2018 Period



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ABSTRACT: The aim of this research is to investigate the impact of inflation, credit interest rates, exchange rates, and labor on domestic investment (PMDN) in Indonesia. Using secondary time series data from government institutions such as the Investment Coordinating Board, Central Statistics Agency, and Central Bank of Indonesia, the research examined these macroeconomic variables from Q1 2010 to Q4 2018. Quantitative data analysis, including multiple regression and models such as Autoregressive Conditional Heteroscedasticity (ARCH) and Generalized Autoregressive Conditional Heteroscedasticity (GARCH), was used to determine the relationship between the independent and dependent variables. The findings indicate that exchange rates and labor have a positive as well as significant impact on PMDN, while credit interest rates have a negative and significant impact. The effect of inflation on PMDN was found to be negative and insignificant. The research concludes that using the best model of E-GARCH, inflation, credit interest rates, exchange rates, and labor affect PMDN in Indonesia.

KEYWORDS: Inflation, Credit Interest Rates, Exchange Rates, Labor, PMDN

JEL Classification: E62, F33, G00, O11

I. INTRODUCTION

Investment is a crucial determinant of economic growth and development. It is a vital aspect of the ongoing process of economic progress. Economic development encompasses the production of goods and services within an economy, leading to job creation and increased income for citizens, thereby stimulating demand in the market.

Indonesia is considered a developing country, and the government is committed to development in all sectors. This requires a significant amount of capital, but the government's financial resources are limited. To obtain the necessary funds for development, the government implements policies such as investment.

Investment in a country can take various forms, including foreign investment (PMA) and domestic investment (PMDN). As defined in Law of the Republic of Indonesia Number 25 of 2007 concerning investment Article 1 Paragraph 3, PMA refers to investment activities carried out within the country using entirely foreign capital or in partnership with domestic investors. On the other hand, PMDN refers to the expenses or investments made by companies to acquire production goods in order to enhance their production capacity, specifically for goods and services within the economy.

Data from the Investment Coordinating Board (BKPM) indicates that the realization of investment from 2010 to 2018 has exhibited a consistent upward trend throughout the period. In 2010, the realization of PMDN and PMA was Rp208.5 trillion, with Rp148 trillion being for PMA and Rp60.5 trillion for PMDN. This was an increase from the realization of PMDN and PMA in 2009, which was Rp135 trillion. Investment realization continued to grow until 2013, reaching Rp398.4 trillion, with Rp128 trillion for PMDN and Rp270.4 trillion for PMA. The highest growth in realization of PMDN was in 2013, according to the head of BKPM, this was due to the improvement of one-stop integrated services and coordination with local governments. BKPM reported that investment realization in 2014 grew by 16.2 percent or Rp456.6 trillion from the previous year, with the realization of PMDN and PMA being IDR156.1 trillion and Rp307 trillion, respectively.

In 2015, investment realization increased by 17.8% or Rp545.5 trillion compared to the previous year. This exceeded the target of IDR519.5 trillion set by BKPM, with the PMDN and PMA realization at IDR179.5 trillion and 365.9 trillion. Despite the

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global economic slowdown, this achievement should be recognized. In 2016, BKPM data shows that investment realization reached Rp612.8 trillion, with PMDN realization at Rp216.2 trillion, an increase from the previous year. The Head of BKPM, Thomas Lembong, stated that there was a significant increase in the domestic market compared to 2015, despite the challenges faced by investors due to incidents such as the Air Asia plane crash and land as well as peat fires.

Inflation, which is the continuous increase in prices for basic goods, is a monetary phenomenon causing economic turmoil. High inflation can discourage investment as investors prefer a stable or low inflation environment. This is a sign of macroeconomic instability and government inability to control the economy. One solution to high inflation is increasing interest rates, but this can also decrease investment due to the high cost of capital.

Investment will only be conducted when the rate of return on capital invested by investors is greater than or equal to the interest rate. The interest rate is the compensation provided by the bank to customers who buy or sell products. There are two types of interest rates offered to customers: savings and loans. These two types of interest rates have a positive relationship, meaning that when the deposit interest rate increases with the loan rate. Therefore, the impact of interest rates on investment can be explained by the classical economists' belief.

Changes in the Central Bank's interest rate (BI rate) will affect the interest in deposits and bank loans. A decrease can lower credit interest rates, leading to an increase in demand for bank loans from businesses and households. This decrease in credit interest rates will also lower the cost of capital for companies to invest, resulting in an increase in investment.

Exchange rates, also known as the value of one currency in relation to another, are often used as a benchmark to assess the economic stability of a country. The fluctuations in exchange rates can result in either depreciation or appreciation of a domestic currency in relation to foreign currencies. Depreciation refers to a decrease in the value of a domestic currency, whereas appreciation denotes an increase in the value of a domestic currency. It is important to note that a high exchange rate can have an adverse effect on investment opportunities.

For investors, the depreciation of a country's currency, such as the Indonesian rupiah against the US dollar, can indicate a bleak outlook for the economy. This can occur when the fundamental factors of the economy are not strong and can be exacerbated by speculative actions. It adds risk for investors who want to invest in that country's stock market, and may avoid risks by waiting for an improvement in the economic situation before buying or selling.

The number of available labor, which forms the working age population is another important macroeconomic factor. Article 1, paragraph 2 of Law No. 13 of 2003 defines labor as anyone who can do work to produce commodities or services to meet personal needs and the requirements of the community. These employees obtain salaries as compensation for their contribution to the production process. A country's population is divided into two groups, namely, the labor force and the non-labor force. The labor force, as defined by the Bureau of Labor Statistics (BLS), includes both the employed and the unemployed members of the population aged 15 and up. In contrast, the non-workforce consists of the working-age population who are not in school or working outside the home. Investment can be boosted in the long run by increasing production capacity, which is achieved by hiring more personnel. Furthermore, when a country's capital development is particularly rapid, these employees should be replaced by AI. Workers may be pushed to the fringes of society when the company's human resource strategies are poorly implemented.

II. LITERATURE REVIEW

2.1. Previous Research

Sasana (2008) conducted a research study using the Ordinary Least Squares (OLS) method to examine the factors affecting private investment in Central Java. The results of the study showed that there is a negative relationship between interest rates and the growth of private investment in Central Java, and this relationship was found to be statistically significant. Furthermore, it was found that the inflation rate and government spending variables had a significant positive effect on private investment in Central Java. Analysis of Factors Affecting Investment in Indonesia 1990-2010 using Error Correction Model method was conducted by Sarungu & Endah K (2013). This research indicates inflation has a negative and significant effect on investment total in the long run, as well as the exchange rates have a positive and significant effect on investment in the long run. Laoh (2014) published "Analysis of the Influence of Macroeconomic Indicators on PMDN in Indonesia for the 2003-2012 Period" using the OLS method. It was found that credit interest rates and inflation rates had a negative and significant effect on PMDN, while the exchange rate had a positive but insignificant effect. GDP was reported to have a positive and significant effect on PMDN.

Utomo's research, which was published in 2018 under the title "Analysis of Factors Affecting PMDN in Central Java," revealed that government expenditure had a negative but insignificant impact on PMDN, while the variable of labor had a positive and statistically significant effect. Additionally, the study found that credit interest rates exerted a negative but insignificant impact on PMDN.

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In 2019, Jannah and Asnawi conducted an empirical study to investigate the factors affecting investment in Indonesia between the years 1990 and 2017. The results of the study revealed that interest rates had a negative and statistically significant impact on investment in Indonesia. However, the results also indicated that inflation did not exert any significant influence on investment, while the exchange rate variable was found to have a positive and statistically significant impact. In contrast, economic growth was found to exert a negative and statistically significant effect on investment in Indonesia (Jannah, 2019).

2.2. Theoretical basic

Investment is defined as the allocation of resources, typically financial, towards the acquisition of assets with the expectation of generating income or capital appreciation in the future. It encompasses various economic activities, including the acquisition of capital goods and production equipment, with the aim of increasing the capacity to produce goods and services (Jhingan, 2014). These activities can continuously increase employment, national income, and community welfare. The role is derived from three functions, namely (1) as a component of aggregate expenditure to increase demand, national income, and employment, (2) the increase in capital goods to boost production capacity, (3) investment is followed by technological developments to accelerate economic performance, and replace human resources.

2.2.1. Direct PMA and PMDN

PMA is a transfer of capital, financial, and high-skill labor to generate profits. Activities conducted within the territory of Indonesia by domestic investors using capital are known PMDN. The need arises from the increasing demand for products within the country, with investment in capital goods leading to an increase in production and employment opportunities. The regulation of PMDN is provided for in Law Number 25 of 2007 concerning Investment.

According to classical economists, investment is a function of interest rates, with a higher value leading to a decrease in the desire to invest and a lower value motivating entrepreneur to invest due to the reduced cost of utilizing funds. Smith theorizes that investment is undertaken with the expectation of profit dependent on the current investment climate and actual profits (Jhingan, M, 2014). However, changes in national income may also have an impact on investment.

Investments are made with the intention of increasing the ability of the community to produce, with an increase in production leading to capital accumulation, considered by classical scholars to be a crucial requirement for economic development. Furthermore, a nation's capital is increased through the cultivation and continual addition of savings derived from income, with investment being the quickest means of achieving this by providing the greatest income for the population and facilitating saving. Therefore, it can be inferred that investment has the ability to increase income.

Classical scholars also believed in the concept of a wage reserve, with wages typically equating to the minimum necessary for the living needs of workers. The labor force will increase when the wage reserve surpasses this minimum level since competition for employment will become more intense. Under these circumstances, some workers may struggle to maintain a standard of living, hindering their ability to have a family or raise children. This will result in a decrease in the labor force and an increase in competition among capitalists for workers, leading to a rise in wages. According to Smith, in stable conditions, wages will fall to a level sufficient for living, whereas in periods of rapid capital accumulation, it will rise above the level of necessary living expenses. The extent to which wages increase is dependent upon the rate of capital accumulation and population growth. Meanwhile, the wage reserve is obtained through savings and utilized to finance labor using investment. Smith also theorizes that savings can automatically be converted into investments.

It is argued by Keynesians that the volume of investment is dependent upon the marginal efficiency of capital and the interest rates on the supply side. The marginal efficiency of capital, which pertains to the level of return expected from new capital assets, is deemed to be greater when an expectation of higher profit motivates the entrepreneur to invest. Interest rate, another factor impacting investment, is dependent upon quantity. Investment may be increased by either raising the marginal efficiency of capital or by reducing interest rates. However, it should be noted that an increase in investment does not always result in an increase in employment, particularly when the tendency to consume simultaneously decreases. Conversely, the tendency to consume may result in an increase in employment without an increase in investment. Capital formation, which is considered to be essential for economic development, may be made possible through an increase in public saving. It differs from the perspective of Keynes, where underdeveloped countries may develop through limiting consumption and increasing saving. In underdeveloped countries, saving is not considered to be detrimental, but beneficial (Jhingan, M, 2014). The Harrod-Domard theory continues to analyze this Keynesian theory regarding the Capital-Output Ratio (COR) and Incremental Capital-Output Ratio (ICOR), which may be considered as neo-Keynesian.

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a. Inflation

It is understood that inflation is the continuous increase in the prices of goods and services, decreasing the value of the currency in the local country. An increase in prices can only be deemed inflation when it is widespread and affects the prices of other goods and services. It is divided into two categories, namely temporary and permanent inflation. Permanent inflation is caused by increased pressure for goods and services, while temporary inflation may be caused by increase in energy costs, transportation, and natural disasters. Furthermore, inflation should be properly controlled by the government and the Central Bank in order to maintain monetary and economic stability. The causes may include an increase in the amount of money circulating in society, a reduced stock, or an increase in demand for goods and services. Inflation control cannot solely be achieved through monetary policy but should also involve other macroeconomic policies such as fiscal policies in the real business sector. Coordination and cooperation between cross-sectoral institutions is deemed crucial in addressing the issue (Purnomo, R, S, D., Serfiyani, C, Y. dan Hariyani, 2013).

An investor may tend to invest in a country with a stable inflation rate as it offers a sense of security by not significantly increasing the price level of goods. This stability can provide a sense of security in investing. Conversely, a decrease in the inflation rate of a country can be a positive signal for investors, with a decrease in the risk of purchasing power of money and real income.

b. Interest rate

Interest is considered to be the cost of funds that are disbursed in the form of loans. The formation of loan offers is determined by savings groups, specifically those who possess an income that exceeds their consumption needs during a certain period, while loan requests are formed by groups of investors. The level of investment is also influenced by the loan interest rates, which are considered to be the cost of funds. The analysis of investment costs is deemed to be more complex than that of other commodities, as capital goods are of a long-lived nature. To determine the price of capital, represented by the interest rate for loans or credits, calculation should be conducted when considering the purchase of long-lived goods.

c. Exchange Rates

Exchange rates are known to be volatile and subject to fluctuations, which may take the form of depreciation or appreciation. Depreciation of a currency, such as the rupiah against the US dollar, indicates a decrease in the price of the US dollar relative to the rupiah. Conversely, appreciation represents an increase in the rupiah's value relative to the US dollar. These fluctuations in exchange rates can have an impact on the domestic prices of goods for other countries. The rupiah exchange rate against the US dollar plays a significant role in international trade, as it allows for the comparison of prices generated by various countries (Krugman, Paul R. & Obstfeld, Maurice, Melitz, 2012).

d. Labor

Labor, or human resources, pertains to the provision of work or services in the production process. It reflects the quality of effort exerted to produce goods and services within a given period of time. Human resources concern individuals who are capable of providing employment or services through the execution of activities with economic value, which result in the production of goods or services to meet the needs of the community. The ability to work is physically determined by age, and a country's labor force may be improved through the upgrading of education. In Indonesia, the working age population, defined as those aged 10 years or older, is referred to as the labor force or Manpower (Simanjuntak, P, 2001).

According to the Central Statistics Agency (2003), the workforce refers to the working-age population who, within the past week, had a job or were temporarily not working for reasons such as waiting for harvest, or being on leave. Furthermore, those who do not have a job but are seeking or expecting employment are also considered part of the labor force. The non-labor force, as defined by the Central Statistics Agency (BPS), includes the working-age population (15 years and over) who are still in school, taking care of the household, or engaged in activities other than personal pursuits. The workforce, hence, comprises groups who are in school, those who take care of the household, other groups, and income earners.

2.2.2. Theoretical Thinking Framework

In this research, it was determined that changes in the BI (Bank Indonesia) rate can have an impact on deposit and bank credit rates in the event of economic sluggishness. Through the use of expansionary monetary policy, BI may seek to stimulate economic activity by decreasing interest rates. A decrease in BI interest rates leads to a decrease in credit interest rates, resulting in an increase in demand for corporate and household credit. Additionally, a reduction in credit interest rates will also lower the cost of capital for companies, thereby increasing consumption and investment activities as well as resulting in an improvement of the economy. Conversely, a decrease in credit interest rates will automatically lead to a decrease in deposit interest rates, resulting in individuals opting to withdraw their funds rather than saving them in banks. This can lead to an increase in the amount of money circulating in society and potentially high inflation. In response to high inflation, BI may raise their interest rates to decrease excessive economic activity and reduce inflationary pressure.

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Furthermore, it was noted that changes in BI interest rates can also affect exchange rates through a mechanism referred to as the exchange rate channel. An increase in the BI rate can positively affect the difference between the Indonesian and the foreign interest rate, with the widening of this interest rate difference encouraging foreign investors to invest in financial instruments in Indonesia, such as the SBI (Sukuk Negara Ritel), as a result of the higher rate of return. This influx of foreign capital can lead to an appreciation of the exchange rate, which can positively impact PMDN. This is because an appreciation of the domestic exchange rate can increase the desire to invest, as it reduces the costs associated with investing and increases expectations of future returns.

It is important to note that investment is influenced not only by factors such as the inflation, the interest, and the exchange rates, but also by various other macroeconomic measures, including the number of workers. Manpower consists of the labor force and not the labor force, with a minimum age of 10 years without a maximum limit. The labor force is defined as the population of working age (15 years or older) who are currently employed, temporarily unemployed, or unemployed. Conversely, the workforce does not include the population of working age (15 years or older) who are pursuing education, engaged in domestic responsibilities, or participating in activities other than those related to employment. An increase in the number of workers can positively affect the production capacity and investment.

III. RESEARCH METHODS

In regard to research methods, this research utilized secondary data from the 2010Q1-2018Q4 period in the form of PMDN, inflation rate data, credit interest rates, IDR/USD (Indonesian Rupiah/United States Dollar) exchange rate volatility, and employment. The data was sourced from various entities such as the BKPM, BPS, and BI. The analytical method employed was quantitative data analysis, using multiple regression, Autoregressive Conditional Heteroscedasticity (ARCH), and Generalized Autoregressive Conditional Heteroscedasticity (GARCH) to quantitatively estimate the effect of several independent variables on the dependent. A multiple regression model is used to explain the formation of ARCH and GARCH models as follows:

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \dots + \beta_n X_{nt} + e_t$$

Information:

- Y_t = Dependent variable
- X_{1t} = Independent Variable
- X_{2t} = Independent Variable
- B_0 = Intercept (constant)
- $\beta_1, \beta_2,$ = Regression Coefficient
- e = Standard Error

IV. RESULT

4.1. Data analysis

This section analyzes the results of the effect of inflation, credit interest rates, volatility exchange rates, and labor on PMDN in Indonesia. To determine the influence between the independent variable and the dependent variable, the ARCH-GARCH estimation model is used. Based on the results of data analysis using, the EGARCH equation is obtained as follows:

$$\text{PMDN} = -22.10243 - 0.005239 \text{ Inflation} - 2.083560 \text{ Interest Rate} + 2.219644$$

$$(-40.49005) *** (-1.530845) (-13.90949) *** (25.44206) ***$$

$$\text{Exchange Rate} + 0.087920 \text{ TK} + 0.29850 \text{ AR (1)} + e$$

$$(3.132355) *** (8.890911) ***$$

Information:

(***) is significant at $\alpha = 1$ percent

(**) is significant at $\alpha = 5$ percent

(*) is significant at $\alpha = 10$ percent

In order for a regression model to be considered optimal, it must produce the Best Linear Unbiased Estimator (BLUE). This condition is met when several assumptions, referred to as classical assumptions, are satisfied. The classical assumptions employed in this research are as follows:

Research finding shows that the Jarque-Bera statistic is 1.568250 and the corresponding probability is 0.456519 or higher than $\alpha=5$ percent. Therefore, it can be inferred that the residuals in the EGARCH model are normally distributed. The results of a multicollinearity test indicate that there is no matrix value between the independent variables less than 0.90, indicating a lack of

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correlation in the model, specifically the inflation variable, credit interest rates, volatility exchange rates, and labor. The heteroscedasticity test shows a variance that is no longer a minimum, resulting in a biased estimator and a strong test of the significance of the regression coefficient. The Chi-Square value is presented as 0.3017 with a probability of 0.2823, leading to the conclusion that there is no heteroscedasticity problem in the model.

The Durbin-Watson statistic, with a value of 2.035134, was obtained from the estimation results of the EGARCH model and was used to determine the presence or absence of autocorrelation in the model. The criteria of $d_U < d < 4-d_U$ was applied and it was concluded that there is no positive or negative autocorrelation in the EGARCH estimation model used. The results of the Durbin-Watson statistic, as shown in research finding, indicate that with a sample size of 36 and 4 independent variables, the value of d_L is 1.1602, d_U is 1.7353, $4-d_U$ is 2.2642, $4-d_L$ is 2.8398, and Durbin-Watson statistic is 2.035134. Therefore, the testing criteria of $d_U < d < 4-d_U$ or $1.7353 < 2.035134 < 2.2642$ are met, indicating that there is no positive or negative autocorrelation in the EGARCH estimation model.

This test determines the influence of the independent variables on the dependent variable. The independent variables simultaneously or collectively significantly influence the dependent variable when $F\text{-test} > F\text{-table}$ $\alpha=0.05$. Meanwhile, when $F\text{-test} < F\text{-table}$ $\alpha=0.05$, the independent variables do not significantly affect the dependent variable. This can be seen in the EGARCH, $F\text{-test}$ model of $55.27392 > F\text{-table}$, which is 2.68 at $\alpha=0.05$. It can be concluded that the independent variables, namely inflation, credit interest rates, volatility exchange rates, and labor, simultaneously affect PMDN. It can be concluded that the inflation variable is insignificant because the probability of the t-statistic is more than alpha 0.05, and the variables of credit interest rates, exchange rates, and labor are significant at alpha 0.05.

The coefficient of determination, R^2 , is used to determine the level of closeness of the relationship or the goodness of fit between the dependent and independent variables as indicated by the magnitude of R^2 . The R^2 value of the EGARCH regression model is stated as 0.952150 or 95.21 percent, indicating a strong or close relationship between the dependent and independent variables. This is interpreted as 95.21 percent of the variation in the ups and downs of PMDN explained by inflation, credit interest rates, exchange rates, and labor. It is inferred that other variables outside the model can explain the remainder.

4.2. Discussion of Research Finding

4.2.1. Inflation Effect on PPMDN in Indonesia

Based on the estimation results obtained from the EGARCH model, it can be determined that inflation has a negative and insignificant effect on PMDN, as evidenced by a coefficient value of -0.005239 and a probability of 0.1258 at a significance level of $\alpha = 5$ percent. This suggests that a 1 percent increase in inflation would result in a 0.005239 percent decrease in PMDN.

The research results indicate that inflation has a negative and insignificant effect on PMDN. These findings align with the research conducted by (Jannah, 2019) where an increase in inflation does not have an impact on investment. The absence of inflation's effect on PMDN implies that a change in inflation will not necessarily affect investment. These results are consistent with those of research conducted by Ivanov et al. (2020), which attribute the absence of inflationary influence on investment to the presence of Demand-Pull Inflation. An excess demand for goods and services exceeding the amount that the economy can produce results in an increase in prices. However, even with an increase in prices, entrepreneurs will still attempt to produce as much as possible, hence, inflation does not affect PMDN.

4.2.2. The Credit Interest Rates Effect on PMDN in Indonesia

It is estimated using the EGARCH model that credit interest rates have a negative and significant effect on PMDN at $\alpha=5$ percent. The coefficient value is found to be -2.083560 with a probability of 0.0000, indicating that an increase of 1 percent in loan interest rate will decrease PMDN by 2.083560 percent.

The findings align with the research conducted by Laoh (2014) where an increase in loan interest rates results in a decrease in PMDN. High-interest rates can discourage investors from investing in the real sector as they will prefer to keep money in the bank. An increase in credit interest rates results in a rise in the cost of capital, hence, causing a decrease in investment.

Changes in interest rates can reflect the basic situation of macroeconomic operations and affect macroeconomic variables such as GDP, price level, employment rate, international balance of payments, and economic growth rate. This result aligns with classical economic thinking, where the interest rate is inversely related to the desire to invest, resulting in a decrease in the expected profits of investors. Conversely, a decrease in loan interest rates can stimulate investment by reducing the cost of utilizing funds and increasing anticipated profits. This is supported by the economic principle posited by Smith, which states that investment is made with the expectation of profit, and the expectation of future profits is contingent upon the current investment climate and actual profits, as highlighted by (Jhingan, M, 2014).

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4.2.3. The Exchange Rates Effect on PMDN in Indonesia

The IDR/USD exchange rates have a positive and significant effect on PMDN in Indonesia with a coefficient value of 2.219644 with a probability of 0.0000 at $\alpha=5$ percent based on the estimation results using the EGARCH model. It can be said that PMDN will increase by 2.219644 percent when the exchange rate increases by 1 percent.

These results are in line with research conducted by (Jannah, 2019), where the volatility exchange rates have a positive effect and are significant to PMDN in Indonesia. Investors will choose to invest in the country to obtain profits in the future when the domestic exchange rate strengthens or appreciates. Conversely, when the domestic exchange rate weakens or depreciates, investment is reduced through its negative impact on domestic absorption, known as the Expenditure Reducing Effect. A decrease in the volatility of exchange rates can cause the real value of public assets to increase with prices in general and further reduce the domestic demand of the community. This symptom at the company level will be responded to by a decrease in spending/capital allocation on investment.

4.2.4. The Labor Effect on Indonesia's PMDN

Labor has a positive and significant effect on PMDN with a coefficient value of 0.087920, probability of 0.0017 at $\alpha=5$ percent based on the estimation results using the EGARCH model. Therefore, increase in workforce by 1 unit, can also positively affect PMDN by 0.087920 percent.

Investment cannot be separated from capital, technology, and labor. The increase in the workforce will have an impact on production capacity, hence, investors are interested in investing because there are fresh workers who can produce.

V. CONCLUSION AND POLICY RECOMMENDATION

5.1. Conclusion

It is concluded that, based on the results obtained from the EGARCH model, inflation rates, credit interest rates, exchange rate volatility, and labor have a simultaneous impact on PMDN in Indonesia. Specifically, the variables of exchange rate volatility and labor have a positive and significant effect on PMDN, while the credit interest rate has a negative and significant effect. However, the effect of inflation on PMDN is negative and not statistically significant.

5.2. Policy Recommendation

The authors provide suggestions that can be submitted to investors, the Indonesian government, and further researchers based on the results and discussion, namely:

The government should better maintain the stability of interest and exchange rates to encourage PMDN.

Other macroeconomic indicator variables should be added to the variables and research period for further research.

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