The Impact of Agricultural Sector Development on Employment and Income Inequality using Panel Data Regression Analysis

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ABSTRACT: The level of labor absorption and distribution of community income does not follow the large value of GRDP and investment. This study aims to analyze the effect of development and investment in the agricultural sector on labor absorption and the distribution of income. This study used a quantitative descriptive with secondary data and multiple linear regression analysis. The analysis is divided into two models, the first model is to analyze the impact of development and investment on labor absorption, while the second model is on the distribution of income. The first model shows that agricultural development has a significant effect on labor absorption, while agricultural investment has no significant effect. The second model shows that agricultural development has a significant effect on income distribution while agricultural investment has no significant effect. The implication is that the government implements policies that encourage productivity, as well as equal distribution of supporting facilities.

Keywords*:* Development, Investment, agricultural sector, Employment, Income distribution.

ABSTRAK: *Nilai PDRB dan investasi yang besar di Tingkat propinsi tidak diikuti tingkat penyerapan tenaga kerja dan distribusi pendapatan masyarakat. Penelitian ini bertujuan untuk menganalisis pengaruh pembangunan dan investasi di sektor pertanian terhadap penyerapan tenaga kerja di sektor pertanian dan distribusi pendapatan masyarakat. Penelitian ini adalah deskriptif kuantitatif dengan data sekunder dan alat analisis regresi linier berganda data panel. Analisis terbagi menjadi dua model, model pertama adalah menganalisis dampak pembangunan dan investasi di sektor pertanian terhadap penyerapan tenaga kerja disektor pertanian, sedangkan model kedua terhadap distribusi pendapatan masyarakat. Model pertama menunjukkan pembangunan sektor pertanian berpengaruh positif signifikan terhadap penyerapan tenaga kerja sektor pertanian, sedangkan investasi sektor pertanian tidak berpengaruh signifikan. Model kedua menunjukkan bahwa pembangunan sektor pertanian berpengaruh negative signifikan terhadap ketimpangan distribusi pendapatan sedangkan investasi sektor pertanian tidak berpengaruh signifikan. Implikasinya adalah pemerintah menerapkan kebijakan yang mendorong produktivitas, serta pemerataan sarana dan pra sarana penunjang.*

Kata Kunci: *Pembangunan, Investasi, Sektor Pertanian, Penyerapan Tenaga Kerja, Distribusi Pendapatan*

INTRODUCTION

Agriculture is one of the sectors that play an important role in the Indonesian economy. This role is reflected through its great contribution to various aspects such as the absorption of labor, the contribution towards the total Gross Regional Domestic Product (GRDP), and its ability to provide food. According to data from the Central Bureau of Statistics (BPS), the employment rate in the agricultural sector in Indonesia has always been above 88% from 2017 to 2021 (Statistics Indonesia, 2022). The high percentage of employment indicates that the agricultural sector is still one of the livelihoods that people are interested in. In another aspect, the improvement of the quality of the agricultural sector through development is expected to contribute significantly to the total value of GRDP in a region. The average contribution of the agricultural sector to GRDP from 2017 to 2021 in the 10 provinces with the highest GRDP of the agricultural sector in Indonesia respectively is Jambi at 29.57 percent, Lampung at 29.49, West Sumatra at 29.49 percent. 22.6, South Sulawesi at 22.26, North Sumatra at 21.24, Riau at 19.11, South Sumatra at 15.09, Central Java at 14.03, East Java at 11.88, and West Java at 8,574 (Statistics Indonesia, 2022).

Regional development can contribute to national development, one of which is to increase GDP (Mastuti, 2012). The huge contribution from the agricultural sector is in line with the continuous increase in the GRDP value of the agricultural sector from 2017 to 2021 in the 10 provinces. It demonstrates an increase in the added value from various economic activities within the internal agricultural sector, both on-farm and off-farm and then with the increase in output and productivity of the agricultural sector can also encourage increased economic growth (McArthur & McCord, 2017). The growth in output and productivity of each region is different, this is due to differences in the inputs used (Gong, 2018).

The main conditions for agricultural development in a region to be achieved properly are smooth accessibility to the market, the existence of government policy incentives such as fertilizer subsidies, and the use of effective and efficient technology (Dumasari, 2020). In the process of agricultural development, it is necessary to maintain and pay attention to non-technical external conditions such as climate change, so that the quality of agricultural output remains in good condition (Quang et al., 2018). The smoothness of accessibility through infrastructure development is expected to be evenly distributed throughout the entire territory of Indonesia, thus reducing development inequality. Because of that, to support the smoothness of accessibility, it is necessary to realize the investment in the agricultural sector in each targeted area and use it in the productive sub-sectors. The average rate of investment realization in the agricultural sector from 2017 to 2021 in the 10 provinces with the highest GDP in the agricultural sector in Indonesia in million rupiah respectively are Riau at 4,046,412.48, South Sumatra at 2,242,472.5, North Sumatra at 1,308,991.3, Jambi at 1,308,077.24, West Sumatra at 549,052.46, Lampung at 410,882, East Java at 339,797.16, West Java at 298,670.42, Central Java at 141,698.05, and South Sulawesi at 126,622.4 (Statistics Indonesia, 2022).

According to Statistics Indonesia, Investment is a form of provide funds in economic activities with the hope of obtaining profits in the future. The level or profit margin is one of the factors that influence the total amount of investment (Rahaman & Chakraborty, 2015). According to Boediono (2015: 43), future profits or Marginal Efficiency of Capital (MEC) is expressed in two dimensions; a dimension that indicates the size of the profit and a time dimension that shows how long the flows last. Investment is divided into two types; Investment in the form of Domestic Investment (PMDN) and Foreign Investment (PMA). One of type investment realization is a build of infrastructures to increase output in agricultural sector (Periera & Andraz, 2013). The realization of investment in the agricultural sector with the lowest value is in Central Java with a total of IDR 592,152.00 (million rupiah), and the realization of the highest value of the investment is in the province of Riau with a total investment of IDR 20,232,063.10 (million rupiah) in 2020. Investment can play a role in the economy, one of which is to increase innovation in industry with the aim of increasing output (Beck et al., 2022). Farmers needs help by the extension expert from agriculture sector to contribute and convey new ideas (Ali et al., 2018).

Based on the large contribution of the agricultural sector to the total GRDP, which is supported by a continuous increase in the GRDP value of the agricultural sector and the realization of a good investment in each region, it is expected to play a positive role in absorbing labor. Regional labour

market requires the usage of modern aspect as a characteristic (Koval et al., 2018). According to Boediono (2015), the labor in the economy is on the supply side or becomes a person who offers himself as a factor of production in an economic sector. In Keynes's theory, an increased employment will follow conditions in the commodity market. It means that if the amount of output (Q) increases, the number of people absorbed in that sector (N) will also increase. This condition is due to the need for additional production factors to meet the production target as output increases (Q). This theory is in line with previous research, which said that agricultural development can have a positive impact on the absorption of labor, because of the nature of the labor-intensive agricultural sector, so responding to the increase in output will require a lot of labor (Ishak, 2013). Another research also said the agricultural sector, which is typically labor intensive, educational opportunities can be expanded to add labor skill (Lahoti & Swaminathan, 2016). The labor force participation rate will reduce disparities between regions, so that there is a need for equitable distribution of regional development that is oriented towards employment (Chapman, 2015).

In fact, although there are positive conditions for increased GRDP and investment, they still have not shown a targeted condition for employment according to Keynes's theory. According to the Central Bureau of Statistics, there are five provinces that have experienced a three-fold slowdown in employment from 2017 to 2021. These provinces are Central Java, North Sumatra, South Sulawesi, South Sumatra, and West Sumatra. Employment is a certain amount of labor used in an economic sector. Labor issues are still a matter that needs to be resolved in Indonesia (Belmondo & Triani, 2020). The cause of the slowing absorption of labor is the level of labor supply, which is too much but not balanced with the quality of human resource s(Yasrizal & Hasan, 2016). Slowing condition in labor capacity can also be caused by decreased output in agricultural sector (Cortignani et al., 2020).

Based on these causes, the phenomenon that occurs in Indonesia is that there are workers who cannot be absorbed by existing job opportunities, so it will affect increasing unemployment (Wahyuni, 2019). Increased unemployment can lead to an increase in poverty levels (Saifuloh et al., 2019). Unemployment should be reduced, because labors is main component to increase economics growth (Sani et al., 2018). Another factor that causes the contribution of the agricultural sector to absorb labor is not maximum is because the wages that are assessed are not on the side of the welfare of farmers. Therefore, a thorough evaluation should be continued in order to ensure that the policies implemented can support farmers' welfare (Coderoni et al., 2018).

Economic development is a series of processes that occur in a country with the aim of increasing the prosperity of its citizens and is expected to be able to achieve a good level of income distribution (Ikhsan et al., 2019). A good development should be able to create broad and diverse jobs, so it is hoped that it will increase per capita income and an increasingly equal distribution of income (Simanjuntak et al., 2018). In other words, the existence of economics development must consider the balance of economics growth with population growth (Cervellati et al., 2023). Economic development can also increase the standard of living of community members and increase the income distributions (Istanti et al., 2021). Labor is an important factor in economic development, absorbing a lot of labor will increase economic welfare (Akpolat, 2014).

Based on the indicator of public income inequality through the Gini coefficient, the existence of a good climate for development and investment in the agricultural sector has an impact on reducing the level of inequality in the distribution of public income from 2017 to 2020. But in 2021, most provinces have experienced increased inequivalence in the distribution of public income. The rise of inequality possibly driven by elite capture of minority assets (Eren Arbatl & Gokmen, 2022). The average of Gini ratio in 10 provinces with the highest agricultural sector GRDP in 2017 – 2021 respectively are West Java at 0.403, South Sulawesi at 0.393, East Java at 0.376, Central Java at 0.364, South Sumatra at 0.345, Riau at 0.329, Lampung at 0.328, Jambi at 0.325, North Sumatra at 0.317 and West Sumatra at 0.308 (Statistics Indonesia, 2022).

Some of the factors that led to this increase in inequality were an increase in the poverty depth index and the poverty severity index from 2020 to 2021. When the population poverty rate increases, it can lead to an increase in income inequality, which is due to the decreasing incomes of the people, which leads to disparities. The problem of inequality in income distribution in developing countries is a problem that must be addressed during the development process, because good economic

development must prosper the entire society (Adhitya et al., 2020). One of the consequences of the problem of inequality in income distribution is a change in the use of production factors. For example, the use of technology is capital-intensive, so the impact will be fewer hours of work and a smaller workforce. The use of investment that is more geared towards capital-intensive projects will ultimately increase income distribution inequalities, because the income that should be received by the labor will be diverted to capital usage (Badriah, 2019). Based on the gap phenomenon that occurred in 10 provinces with the highest agricultural sector GRDP in Indonesia, this research was conducted to address several problems related to the magnitude of the impact of development and investment in the agricultural sector on the employment and income distribution. This research comprehensively analyzes the influence of development and investment in the agricultural sector on employment and community income distribution, in addition to being supported by location quotient and elasticity tests. The novelty of this research is that it includes elements of income distribution as one of the variables. It is hoped that the contribution of this research can broaden the view of agricultural studies to the aspect of social development.

METHODS

This research is descriptive-quantitative research. This study uses secondary data that obtained from the official website of the Statistics Indonesia on the variables of agricultural sector development, the absorption of labor in the agriculture sector, and income inequality. The investment in the agricultural sector are obtained from the official website of the Investment Coordinating Board (BKPM). The agricultural development indicator in this research is the GRDP and measured in billions of rupiah per year. The investment in this research is data on the realization of domestic investment in the agricultural sector and measured in billions of rupiah per year. Employment in this research is the total workforce absorbed in the agricultural sector and measured by people per year. The indicator of income inequality is the Gini coefficient and measured in numerical units per year. The analysis technique used in the research is Multiple linear regression analysis with a data panel.

In this study, there are two statistical models. The first model is to determine the impact of development and investment in the agricultural sector on the absorption of labor in the agricultural sector.

$$E_{it} = a + \beta_1 DEV_{it} + \beta_2 INV_{it} + \mu_{it}$$

Where:
E_{it}	= Emplyoment in the Agricultural Sector
a	= Constant
DEV_{it}	= Agricultural Sector Development
INV_{it}	= Agricultural Sector Investment
$\beta_{1,2}$	= Regression coefficients
μ_{it}	= Error Term
i	= Cross section
t	= Time series

The second model is to determine the impact of development and investment in the agricultural sector on the public distribution income.

$$INC_{it} = a + \beta_1 DEV_{it} + \beta_2 INV_{it} + \mu_{it}$$

Where:
INC_{it}	= Income Inequality
a	= Constant
DEV_{it}	= Agricultural Sector Development
INV_{it}	= Agricultural Sector Investment
$\beta_{1,2}$	= Regression coefficients

μit   = Error Term
i   = Cross section
t   = Time series

To support analysis this research adds analysis using Location Quotient (LQ). Location Quotient is an analytical tool used to compare regional economic sectors with regional and national economies using the same sectors. The LQ method uses a formula:

$$LQ = \frac{X_{ij}/RV_j}{X_i/RV}$$

LQ = Location Quotient coefficient of the agricultural sector in Province j
X_{ij} = GRDP of the agricultural sector in Province j
X_i = GDP of the agricultural sector at the national level
RV_j = Total GRDP in the Province
RV = Total GDP

The results of the LQ calculation can be interpreted as if LQ > 1 which means the agricultural sector is the base or leading sector in the region, if LQ < 1 means the agricultural sector is not a base sector and needs to import to meet regional needs, whereas if LQ = 1 it means The agricultural sector has the same role both regionally and nationally (Tarigan, 2014).

RESULTS AND DISCUSSIONS

The Effect of Development and Investment in the Agricultural Sector on the Absorption of Labor in the Agricultural Sector

Based on the criteria for selecting the best model through the Chow test and Hausman test, the selected model is the Fixed Effect Model (FEM). The purpose of conducting the multiple linear regression analysis of the data panel is to determine the influence of the independent variables on the dependent variable. Based on the test results, it is known that the magnitude of the regression coefficient of the agricultural sector development variable is 0.059 (β1) and the investment variable in the agricultural sector is 0.0000103 (β2). The following table shows the results of testing on the data panel multiple linear regression model.

Table 1. The Results of Multiple Linear Regression Analysis of Panel Data on the Effects of Development and Investment in the Agricultural Sector on Employment in the Agricultural Sector

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	664,6092	1,016845	653,5996	0,0000
DEV	0,059665	0,007771	7,67746	0,0000
INV	1,03E-04	1,39E-03	0,074047	0,9414

Source: E-Views 10.0 (Data processed)

Based on the regression coefficient values that contained in Table 1, the multiple linear regression of the data panel equation model can be compiled as follows.

$$E_{it} = 664.6092 + 0.059665 DEV_{it} + 0.0000103\ INV_{it} + \mu_{it}$$

The magnitude of the influence or explanatory capacity of the variables of development and investment in the agricultural sector on the employment in the agricultural sector can be identified through the R-squared value. Based on the table above, the R-squared value is 0.654 or 65.4%. It means that variations in changes in the development and investment variables in the agricultural sector can

explain the variations in changes on the employment variables in the agricultural sector by 65.4%, while 34.6% are influenced by other variables outside this study

This model has passed the classical assumption tests. This model can be analyzed further because it has passed all classical assumption tests. To test whether the independent variable has a simultaneous effect on the dependent variable, the F test is used. Based on research, it is known that the F-statistical probability value is 0.000006 or smaller than 0.05 (alpha 5%). The F table value is 3.20 while the F-statistic is 6.556997, so the F-statistic > F-table. Based on these criteria, it can be concluded simultaneously that there is a significant influence from development and investment in the agricultural sector on employment in the agricultural sector.

To partially analyze the influence of the independent variable on the dependent variable, use the t test. Based on the results of the t test, it was found that the variable that had a statistically significant effect on Absorption of Labor in the Agricultural Sector was agricultural sector development, while investment in the agricultural sector was not statistically significant. An explanation of each variable will be presented in the paragraph below.

Agricultural sector development has a positive and significant effect on the employment in the agricultural sector. The value of the t-statistic on the development of the agricultural sector was 7.677 with a positive direction of influence, while the t-table value is df (n-k) with an alpha of 5% of 1.667 so with this value the t-statistic > t-table. Then the probability value development of the agricultural sector is 0.0000 or less than 0.05 so that with t-statistics (7.677) > (1.667) t-table and probability 0.0000 <0.05. This is because the agricultural sector is a leading sector that has a high GRDP level. The impact of the increase in the value of GRDP in each province will create more absorption of labor, because when the output of production in an area increase, it will be followed by an increase in public income along with increased productivity. Then if public income increases, it can increase public purchasing power and create higher demand for goods and services in an industry, so that in the end the industry will open wider employment opportunities to fulfill public demands (Haryatiningsih & Hafiz, 2021).

The determination of the leading sector is also proven by the Location Quotient (LQ) analysis in most provinces which have a value greater than 1. Another reason that causes the development of the agricultural sector have a positive impact on the employment is that the agricultural sector is a provider of household needs so that it has high demand. With increased demand or public purchasing power will increase the need for labor in order to meet production targets. From the other macro variables, the export position of agricultural commodities has also increased from 2017 to 2022.

The results of this data analysis are in line with previous studies. The revitalization of the agricultural sector such as creating differentiation of agricultural products from food crops, horticulture and plantations will increase the quantity of output in the agricultural sector. Increased output and diversity of product will attract labor to be absorbed in the agricultural sector (Faqih, 2021).

Investment in the agricultural sector statistically has insignificant effect on the absorption of labor in the agricultural sector. It is known that the value of the t-statistic for investment in the agricultural sector is 0.07 with a positive direction of influence, while the value of the t-table is df (n-k) with an alpha of 5% of 1.667 so that with this value the t-statistic <t-table. Then the probability value of investment in the agricultural sector is 0.9414 or more than 0.05 so that with the t-statistic criteria (0.07) < (1.667) t-table and the probability is 0.9414 which means more than 0.05. The results that show the non-optimal role of investment in the agricultural sector in absorbing labor in the agricultural sector was there is a change in the mindset of people to work outside the agricultural sector. This change in mindset is accompanied with the increase in public education level which causes their career preferences to be more inclined to other sectors such as industry (Nooralam & Laut, 2020). In previous research stated there is reallocation of labor from one low-productivity sector to another, higher-productivity sector (McCullough, 2016).

This is in line with Kuznets theory which said that the agricultural sector plays an important role in contributing labor to other sectors such as industry. Besides that, modern era agricultural development has used technology to create production efficiency so that there is a shift in the workforce. Investmnet is driving a sector through the implementation of innovation in order to increase output (Ozkan et al., 2012).

The results of this data analysis are in line with previous research which stated that investment in the agricultural sector did not have a significant effect on the absorption of labor in the agricultural sector. This is allegedly due to the contributions from both PMDN and FDI in the agricultural sector which are more oriented towards absorbing other production factors besides the workforce in order to improve production efficiency (Dewi et al., 2016). Another factor is the existence of FDI (Foreign Direct Investment) which can affect the absorption of local workers (Iqbal et al., 2014).

To support the previous analysis, this research conducted an elasticity test Elasticity Analysis. The development of the agricultural sector (PP) has an elasticity coefficient of 0.012 or less than 1 so that it can be said to be inelastic to the absorption of labor in the agricultural sector. Investment in the agricultural sector (INV) has an elasticity coefficient of 0.000 or less than 1, so it can be said to be inelastic to the absorption of labor in the agricultural sector.

The background of the inelastic nature of employment in the agricultural sector is when the development of the agricultural sector was in a modern phase, it was characterized using technology. The purpose of using this technology is to create a higher level of effectiveness and efficiency. One example of the use of technology in the agricultural sector is the Indo Combine Harvester which can facilitate the process of harvesting rice in paddy field

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In the second model analysis, it is known that based on the criteria for selecting the best model through the Chow test and Hausman test, the selected model is the Fixed Effect Model (FEM). Based on the test results, it is known that the magnitude of the regression coefficient of the agricultural sector development variable is 0.000592($\beta1$) and the investment variable in the agricultural sector is 4.59E-07 ($\beta2$). Here are the results of testing on the panel data multiple linear regression model.

Table 2. Results of Multiple Linear Regression Analysis of Panel Data on the Effects of Development and Investment in the Agricultural Sector on Community Income Inequality.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.507174	0.034266	14.80101	0
DEV	-0.000592	0.00013	-4.550792	0.0001
INV	4.59E-07	1.80E-06	0.255002	0.8001

Source: E-Views 10.0 (Data processed)

Based on the regression coefficient values in Table 2, the multiple linear regression of the data panel equation model can be compiled as follows.

$$INC_{it} = 0.507174 + 0.000592 DEV_{it} + 0.000000459\ INV_{it} + \mu_{it}$$

Based on the table above, the R-squared value to determine the amount of influence or explanatory capacity of the dependent variable is 0.95 or 95%. It means that variations in changes in development and investment variables in the agricultural sector can explain the variations in change on the income distribution variables by 95%, while 5% are influenced by other variables outside this study.

This model has passed the classical assumption tests. This model can be analyzed further because it has passed all classical assumption tests. To test whether the independent variable has a simultaneous effect on the dependent variable, the F test is used. Based on research, It is known that the probability value of the F-statistic in the panel data regression model is 0.000 or less than 0.05 (alpha 5%). On the other hand, it is known that the value in the F-table is F = (k-1), (n-k) = F (2;47) = 3.20, while the F-statistic value is 79.86. Relating to both of these criteria, a probability value of F-statistic <0.05 and F-statistic > F-table 90. So it can be concluded that development and investment in the agricultural sector together have a significant effect on the distribution of public income.

To partially analyze the influence of the independent variable on the dependent variable, use the t test. Based on the results of the t test, it was found that the variable that had a statistically

significant effect on the income distribution was agricultural sector development, while investment in the agricultural sector was not statistically significant. An explanation of each variable will be presented in the paragraph below.

The development of the sector agriculture has a negative and significant effect on the distribution of public income. It is known that the value of the t-statistic for the development of the agricultural sector is 4.55 with a negative direction of influence, while the t-table value is df (n-k) with an alpha of 5% of 1.667. Based on the probability value of the development of the agricultural sector, the result is 0.0001 or less than 0.05 so the t-statistic criteria(4.55) > (1.667) t table, and probability 0.0001 <0.05.

Based on the result, the terms of measuring the welfare of farmers through the Farmer Exchange Rate (NTP) indicator shows very good conditions, even the average in 10 provinces in 2022 has a NTP above 100%, which means that the trade turnover of the agricultural sector is in a good climate, where the prices received by farmers can increase faster than the prices paid by farmers.

Investment in the agricultural sector has not significant effect on the distribution of public income. It is known that the value of the t-statistic on investment in the agricultural sector is 0.255 with a positive direction of influence, while the t-table value is df (n-k) with an alpha of 5% of 1.667. Based on the probability value of investment in the agricultural sector, the value is 0.8001 or more than 0.05, so the t-statistic criteria (0.255) < (1.667) t-table, and probability 0.8001 > 0.05.

Investment in the agricultural sector has not significant effect on the income distribution. The less optimal impact is due to investment in the agricultural sector currently still facing various problems, such as land ownership conflicts and a lack of agricultural infrastructure in the hinterland.

To support the previous analysis, this research conducted an elasticity test Elasticity Analysis. The development of the agricultural sector (PP) has an elasticity coefficient of -0.4544 or less than 1 so that it can be said to be inelastic towards the distribution of public income. Investment in the agricultural sector (INV) has an elasticity coefficient of 0.0014 or less than 1 so that it can be said to be inelastic with the distribution of community income.

In terms of the distribution of community income, there are several things become the background for this inelasticity, that is the demand for agricultural products has characteristics that are less responsive to price changes. This is because agricultural products include primary needs that are always needed by the community, so even though there is an increase in added value of the agricultural sector, people's income levels do not increase so quickly. This supports the research of Wijaksana et al. (2017) which states that the elasticity of the agricultural sector is inelastic. Inelastic because the agricultural sector consists of various sub-sectors, for the plantation sub-sector it is inelastic because many of the products produced are still raw and require further processing, so the impact on farmers' welfare is still low. The forestry sub-sector has a longer time period and process for producing output so it is difficult to estimate the time and size of the total output produced. For the fisheries sub-sector, this is because output results are still low, as well as a lack of public knowledge about how to manage or catch fish due to a lack of supporting capacity factors and community initiative.

CONCLUSION

The development of the agricultural sector with the GRDP indicator individually has a positive and significant impact on employment. Due to the fact that the agricultural sector is a leading sector and a primary provider of society's needs. In the income distribution variable, the development of the agricultural sector has a negative and significant effect on the inequality of income distribution individually. These results are due to the existence of Farmer Exchange Rates in the majority of provinces which have values above 100%. Based on these results, the possible efforts that can be made by the government is keep improving to the quality of the agricultural sector and support agricultural productivity by providing fertilizer subsidies, farmer price policies (floor prices and ceiling prices) and fostering farmer groups so that their competitiveness is even higher.

Investment in the agricultural sector has not shown a significant effect on employment and income distribution individually. These results are due to changes in the mindset of people to work outside the agricultural sector as well as technological advances in the agricultural sector. In addition,

the internal of the agricultural sector still needs to be improved, especially in the distribution of infrastructure development in the hinterland. Based on these conditions, it is hoped that there will be improvements in agricultural infrastructure facilities, especially in the outer islands so the quality of the agricultural sector will improve. Also, the government should build a good investment climate by building trust in the certainty of agricultural commodity prices.

This study has several limitations, the investment in this study is only Domestic Investment (PMDN), so it is hoped that further research can combine PMDN and PMA (Foreign Investment) investment.

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