



The Effect of Labor Force, Investment, Labor Absorption on Gross Regional Domestic Products of North Sumatra Province Agriculture

Albert Gamot Malau¹, Sya'ad Afifuddin,² Rahmanta³, Irsad Lubis⁴

¹*Student of Doctoral Program in Economics, University of North Sumatra*

^{2,3,4}*Lecturer of the Faculty of Economics and Business, University of North Sumatra*

**Corresponding author email: albert.malau@ecampus.ut.ac.id*

Abstract

Economic growth can also be interpreted as a process of continuous change towards better conditions in a country/region. The rate of economic growth in the province of North Sumatra has increased. The increase in economic growth is indicated by the value of the Gross Regional Domestic Product (GRDP). The purpose of this study was to analyze the effect of the investment workforce, employment in the agricultural sector on the Gross Regional Domestic Product of North Sumatra Province. This study uses Time Series data with a time span of 2000-2020. Parameters are estimated using the Two Stage Least Squares (TSLS) method. Data processing using the Statistical Analysis System (SAS) Program version 9.2. The results of the study explain that (1) the population of North Sumatra is increased by 10 units, it will encourage an increase in the North Sumatran Workforce by 1.84 units per year. An increase in the number of employed by 10 units will increase the labor force in the agricultural sector by 4.4 units, an increase in labor absorption by 10 units has an impact on increasing the labor force by 2.9 units per year, and if the labor force in the agricultural sector last year increased by 10 units, it will increase the labor force in the sector. agriculture by 2.0 units, (2) North Sumatra Regional minimum wage is increased by 10 units it will encourage a decrease in labor absorption by 8.0 units per year. An increase in investment in the agricultural sector by 10 units will have an impact on increasing employment by 0.031 units. An increase in the number of undergraduate education by 10 units has an impact on increasing labor absorption by 19.7 units, for last year's employment in the agricultural sector by 10 units, it will result in an increase in employment in the agricultural sector by 0.3 units, (3) If interest rates are increased by 10 units will reduce investment in the agricultural sector by 9.3197 units. An increase in inflation of 10 units has an impact on an increase in investment of 2,640,178 units per year. An increase in Gross Regional Domestic Product in the agricultural sector by 10 units will have an impact on an increase in investment in the agricultural sector by 160.58 units per year, an increase in the total number of employees working over 15 years of age by 10 units, it will have an impact on an increase in investment in the agricultural sector by 35.96 units, and an increase in investment. last year by 10 units will have an impact on increasing investment by 1.5 units. (4) local taxes are increased by 10 units, it will increase the gross regional domestic product of the agricultural sector by 203.5407 units. The increase in domestic investors by 10 units has an impact on the increase in gross regional domestic product in the agricultural sector of North Sumatra by 0.19 units per year. An increase in foreign investors by 10 units will have an impact on an increase in gross regional domestic product in the agricultural sector by 0.82 units per year. will increase the Gross Regional Domestic Product of the agricultural sector by 6.0 units.

Keywords: labor force, investment, labor absorption, gross regional domestic product

1. Introduction

The state plays a very important role in increasing the standard of living of its citizens by carrying out economic development, with economic development, the output or production results increase, the national income. Economic growth is a necessary condition in the development process (Miller et al., 1997). The national economic development policy, agricultural development is the first and fundamental step for industrial growth. Experts make scenarios, namely with a strong agricultural sector can be supported by strong industrial development. Most economists also argue that the success of the industrial sector is highly dependent on the success of agricultural development. Daniel (2002), North Sumatra Province is one of the provinces that contributes high real national income. Indonesian Central Bureau of Statistics in 2020, that the rate of Gross Regional Domestic Product of North Sumatra Province, from 2000-2020 is very fluctuating, In 2016 GRDP has increased by 10.15%, but in 2017 it has decreased to 0%. In 2019 it decreased by -5.14%, in 2020 it increased by 43% as shown in Figure 1.

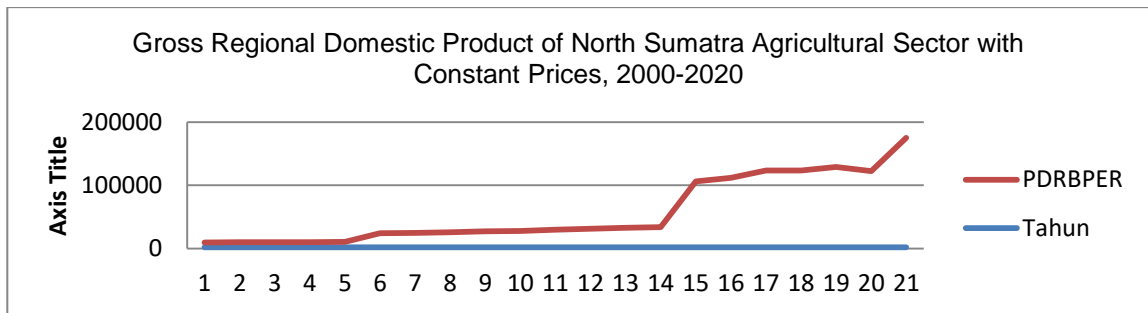


Figure 1. Rate of Gross Regional Domestic Product of North Sumatra Agricultural Sector, 2000-2020

Labor is one of the factors that affect the growth of a company area. (Simanjuntak, 2000) A large workforce is formed from a large population large, but it is feared that large population growth will have a disastrous effect bad for economic growth. According to (Todaro and Michael, 2006) that high population growth will cause problems if there are no jobs available. The population of North Sumatra Province who work in the agricultural sector is dominated by 59% in 2010, the number who works in the agricultural sector continues to decline. However, in 2016 the number working in the agricultural sector increased by 55%, this indicates that labor absorption is still dominated by the agricultural sector, as shown in Figure 2.

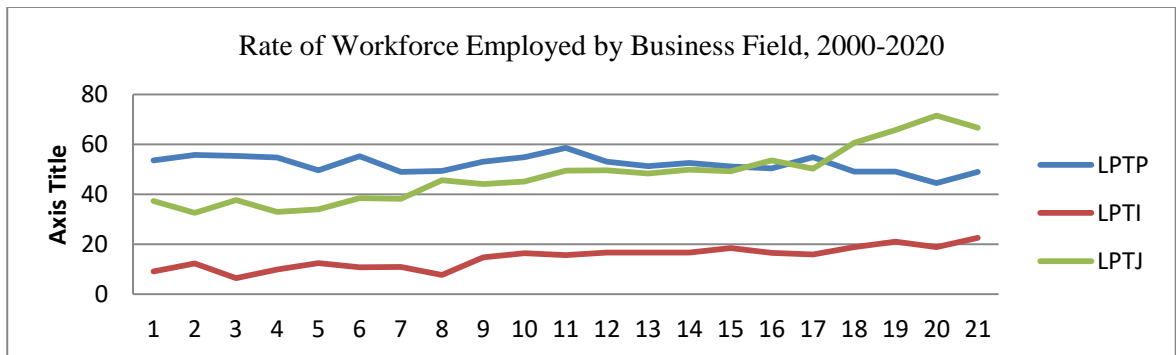


Figure 2. Rate of Workforce Employed by Business Field, 2000-2020

Where LPTP : Number of workers working in the agricultural sector

LPTI : Number of workers working in the industrial sector

LPTJ : Number of workers working in the service sector

The availability of job opportunities is a community need to increase the economic development of a region and a nation. Optimal labor absorption, will certainly result in a high dependency burden on the economy (Eliza, 2015) The availability of job opportunities is a community need to increase regional development. the above phenomenon shows that the labor force, employment, and investment and Gross Regional Domestic Product of the agricultural sector still have a large contribution to employment. To solve these problems, the researchers analyzed the influence of the labor force, employment, investment on the Gross Regional Domestic Product of the Agricultural Sector of North Sumatra Province (Sulistyaningsih, 1997).

1.1. Labor Demand

According to (Bellante and Jackson. 1990) the theory of labor demand is a theory that explains how much a company will employ workers with various levels of wages in a certain period. The demand for labor is different from consumer demand for goods and services. The function of a company's demand for labor is based on: (1) additional marginal output, namely the additional output produced by the entrepreneur by adding one worker. The additional result is called the additional marginal product or marginal physical product (MPPL) from the workforce, (2) marginal demand, namely the amount of money that will be obtained by the entrepreneur with the additional marginal result. This amount of money is called marginal revenue or marginal revenue (MR). Marginal demand here is the amount of additional marginal yield multiplied by the price per unit, so that $MR = VMPPPL = MPPL.P$, and (3) marginal cost is the amount of costs incurred by the entrepreneur by hiring an additional employee, in other words the employee's wages (Dawan, 2003; Manning, 2000).

1.2. Conceptual Framework

Economic growth can also be interpreted as a process of increasing the production capacity of an economy which is manifested in the form of an increase in national income, one of the indicators of income is the labor force, employment, investment and gross regional domestic product. This study uses the following design: the workforce is influenced by the number of residents, the number of people who work over 15 years of age with elementary-level education, as well as last year's workforce. Absorption of labor in the agricultural sector is influenced by the North Sumatra regional minimum wage, investment, the number of human resources employed by undergraduates and last year's employment. Investment is influenced by interest rates, inflation, regional gross domestic product, the number of education levels working in the agricultural sector and last year's investment. Gross Regional Domestic Product of North Sumatra Province in the agricultural sector is influenced by local taxes, domestic investors, foreign investors, agricultural development spending and last year's gross regional domestic product, as shown in Figure 3.

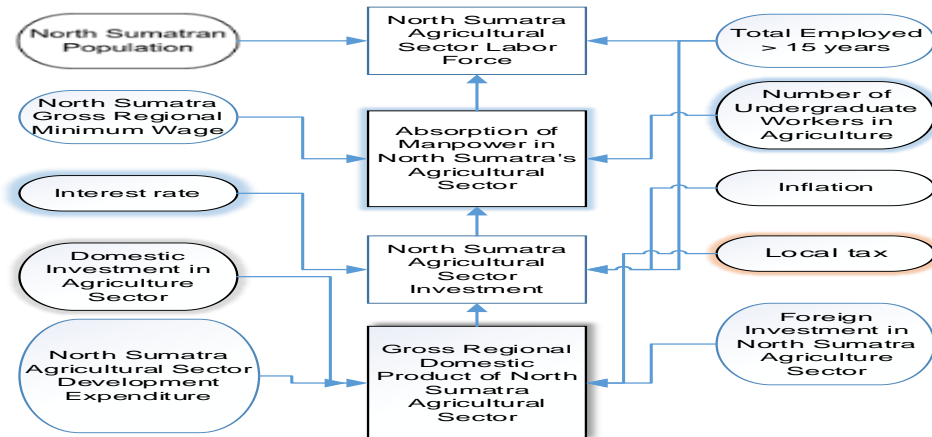




Figure 3. Model Framework for Analysis of the Influence of Labor Force, Investment, Labor Absorption on Gross Regional Domestic Product, North Sumatra Province, Agriculture Sector.

 : Variabel Endogen
 : Variabel Eksogen

2. Methodology

The model is an explanation of the actual phenomenon as a system or process (Rasyid, 2000). The econometric model is a special pattern of the algebraic model, namely a stochastic element that includes one or more variables (Wijarjono, 2013). The specificity of the econometric model lies in the stochastic element which takes into account the random elements. This randomness is usually ignored in relational theories or mathematical economic models which generally use exact or deterministic relationships (Eliza, 2015).

2.1. North Sumatra Agricultural Sector Labor Force

The variables that are expected to affect the North Sumatran Agricultural Sector Workforce are the population (JP), the total working education level (PDKT), and the North Sumatran agricultural sector labor force last year, so the equation for the Agricultural Sector Workforce is as follows:

$$AKSU_t = a_0 + a_1 JP_t + a_2 PDKT_t + a_3 PTP_t + a_4 AKSU_{t-1} + U_1 \tag{1}$$

The estimated parameters (hypothesis) are: $a_0, a_1, a_2, > 0$; $0 < a_3 < 1$; where :

$AKSU_t$: North Sumatran agricultural sector labor force year t (persons)

JP_t : Total population of North Sumatra province in year t (persons)

$PDKT_t$: total level of education working above 15 years in the t-th year (people)

$AKSU_{t-1}$: North Sumatra Agricultural Sector Workforce Last year (persons)

2.2. Absorption of Manpower in the Agricultural Sector of North Sumatra Province

The variables that are expected to affect employment in the agricultural sector of North Sumatra are the North Sumatran Regional Minimum Wage (UMRSU), Agricultural Sector Investment (INV), Gross Regional Domestic Product of the Agricultural Sector (PDRBPERR), the number of people working with a bachelor's level of education (PDKS) and Absorption of labor in the agricultural sector of North Sumatra last year (PTPt-1). Then the equation is as follows:

$$PTP_t = b_0 + b_1 UMRSU_t + b_2 INV_t + b_3 PDKS_t + b_4 PTP_{t-1} + U_2 \tag{2}$$

The estimated parameters (hypothesis) are: $b_0, b_2, b_3 > 0$; $b_1 < 0$ $0 < b_4 < 1$; where:

- PTP_t : Absorption of Manpower in the North Sumatran Agricultural Sector in year t (persons)
- UMRSU_t : North Sumatra regional minimum wage in year t (Rupiah)
- INV_t : Investment in the Agricultural Sector in year t (Billion IDR)
- PKDS_t : number of workforce with t-year undergraduate education (persons)
- PTP_{t-1} : Labor absorption in the agricultural sector last year (persons)

2.3. North Sumatra Agricultural Sector Investment

The variables that are expected to have an effect on North Sumatra's Agricultural Sector Investment are interest rates (SKB, Inflation (INF), Gross Regional Domestic Product of the Agricultural Sector, the total level of education working over 15 years and the labor force of the North Sumatran agricultural sector last year. Agricultural Sector Work Investment in the Agricultural Sector is as follows:

$$INV_t = c_0 + c_1 SKB_t + c_2 INF_t + c_3 PDRBPER_t + c_4 PKDT + c_5 INV_{t-1} + U_3 . \quad (3)$$

The estimated parameters (hypothesis) are: $c_0, c_2, c_3, c_4 > 0$; $c_1 < 0$; $0 < c_5 < 1$

where :

- SKB_t : Interest Rate in –t year (%)
- INF_t : Year t inflation (%)
- PKDT_t : total number of people working over 15 years in the t-th year (people)
- PDRBPER_t : Gross Regional Domestic Product of Agriculture Sector in year t (Million IDR)
- INV_{t-1} : Investment in North Sumatra Agriculture Sector Last year (Million RP)

2.4. Gross Regional Domestic Product of North Sumatra Agricultural Sector

The variables that are expected to affect the Gross Regional Domestic Product of the Agricultural Sector of North Sumatra are Regional Taxes (PJK), Domestic Investors (IDN), Foreign Investors (IASI), Agricultural Development Expenditures (EXPER) and Gross Regional Domestic Product of the Sumatran Agricultural Sector north last year. Then the equation is as follows:

$$PDRBPER_t = d_0 + d_1 PJK_t + d_2 IDN_t + d_3 IASI_t + d_4 EXPER_1 + d_5 LPDRBPER_{t-1} + U_4 . \quad (4)$$

The estimated parameters (hypothesis) are: $d_0, d_1, d_2, d_3, d_4 > 0$; $0 < d_5 < 1$; where:

PDRBPER_{t-1}: Gross Regional Domestic Product of North Sumatra Agriculture Sector last year (Billion IDR)

- PJK_t : Regional Tax of –t year (%)
- IDN_t : Domestic Investor in year t (billion IDR)
- IASI_t : year t foreign investors (Milyat RP)
- EXPER_t : Agricultural Sector Development Expenditure (Million Rupiah)

Based on the order condition, an equation can be identified if the number of variables included in the equation is greater than or equal to the total number of endogenous variables minus one. The structural equation identification formula based on the order condition according to (Koutsoyiannis, A. 1977) is as following:

$$(G - g) + (K - k) > (G - 1) \text{ or } (K - k) > (g - 1) . \quad (5)$$

Table 1, following is identification test of the Analysis Model of the Effect of Labor Force, Investment, Labor Absorption on Gross Regional Domestic Product of North Sumatra Province Agricultural Sector.

Table 1. Identification Test of the Analysis Model

Equation	M	K-M	G-1	Decision
$AKSU = a_0 + a_1 JP + a_2 PDKT + a_3 PTP + a_4 AKSU_{t-1}$	5	13 >	12	<i>over identified</i>
$AKSU = a_0 + a_1 JP + a_2 PDKT + a_3 PTP + a_4 AKSU_{t-1}$	5	13 >	12	<i>over identified</i>
$AKSU = a_0 + a_1 JP + a_2 PDKT + a_3 PTP + a_4 AKSU_{t-1}$	6	12 =	12	<i>exactly identified</i>
$PDRBPER_t = d_0 + d_1 PJK_t + d_2 IDN + d_3 IASI + d_4 EXPER_{1+} + d_5 PDRBPER_{t-1}$	6	12 =	12	<i>exactly identified</i>

The model consists of 4 endogenous variables, the total number of variables contained in the model is 18. Following the order condition procedure, it can be seen that the model identification results are over identified and exactly identified, so the equation can be estimated using the Two stage square method (TSLS). Simultaneous parameter estimation will help simulate the policy accurately and efficiently. The data used in this study is secondary data, obtained from the Central Statistics Agency (BPS) of North Sumatra Province in 2000-2020, the Ministry of Manpower and Transmigration, the Investment Coordinating Board. To find out whether the model is valid enough to be used for simulation, then the model validation must first be carried out. Statistical criteria that are often used to validate the estimated value of econometric models include Root Mean Square Error (RMSE), Root Mean Square Percent Error (Koutsoyiannis, 1977).

3. Results and Discussion

3.1. Overview of the Conjecture Model

The model formulated in analyzing the influence of the investment workforce, labor absorption on the Gross Regional Domestic Product of North Sumatra Province in the Agriculture sector is a simultaneous equation model, and is thought to use the 2SLS (Two Stage Least Squares) method. After respecification, a model is obtained. If the variable does not match the hypothesis and is not statistically accepted (not significant), then the model is removed, and the variable is replaced with other relevant variables. The results of the evaluation of the predicted model parameters show that most of the predicted parameter signs in each equation are in line with expectations. Overall the value of the coefficient of determination (R2) is quite high and ranges from 0.40901 to 0.95429, and the value of the F statistic probability in all equations is real to very real, ie the value ranges from 0.1514 to 0.0001. The results of the t-test indicate that in general the estimated parameters in the model equation, some are not real and some are significantly different from zero at the level of significance between 1 to 30 percent. To see the response of the endogenous variables to changes in the explanatory variables of each equation, the average elasticity value for both the short and long term is calculated.

3.2. North Sumatra Agricultural Sector Work Force (AKSU)

The Fishery Sector Workforce of North Sumatra Province is hypothesized to be influenced by the population (JP), the level of education working age above 15 (PDKT), employment in the agricultural sector (PTP) and the labor force in the agricultural sector of North Sumatra last year (AKSU_{t-1}). The results of the estimation of the equation of the Fishery Sector of North Sumatra Province are presented in Table 2.

Table 2. Parameter Estimation Results of the Agricultural Sector of North Sumatra, 2000-2020

No	Explanatory Variable	Parameter guess	Prob t	Level real	Elastisitas SR	Elastisitas LR
1	AKSU					
	Intersep	-1206742	0.1769			
	JP	0.184178	0.0537	A	0.12	0.98
	PDKT	0.442920	0.0018	A	0.34	1.23

PTP1	0.295710	0.2727	C	0.05	1.56
AKSU1	0.207836	0.2192	C	0.45	1.54
$R^2 = 0.95429$; Adj R-Sq = 0.94210; Prob F = 0.0001					

Source: processed data, 2021

Information that A: significant effect at level α 1-10%, B: significant effect at level α 11 – 20%, c: significant effect at level α 21 – 30%

The estimation results show that if the population of North Sumatra is increased by 10 units, it will encourage an increase in the North Sumatran Work Force by 1.84 units per year. An increase in the level of basic, senior and tertiary education by 10 units will increase the labor force in the agricultural sector by 4.4 units, an increase in labor absorption by 10 units will increase the labor force by 2.9 units per year, and increase the labor force in the agricultural sector last year by 10 units. will increase the labor force in the agricultural sector by 2.0 units. Overall, the above results indicate that the level of education contributes significantly to the formation of the workforce in the agricultural sector of North Sumatra compared to the total population. The coefficient of determination R^2 is 0.95429 which means that 95.42 units of variation of the endogenous variable can be explained by the explanatory variables included in the equation. The probability value of F is 0.0001, meaning that the explanatory variables together can explain the variation of the North Sumatran Agricultural Sector Workforce. The results of the t-test showed that not all explanatory variables were significantly different from zero at the level of 1 – 30 percent, except for the education variable. Based on the value of elasticity, the response of endogenous variables (PDKT) to all explanatory variables in the short term is inelastic, that is, it does not provide a strong response to changes in these explanatory variables. But in the long term, the last year's agricultural sector labor force variable (elastic) with respect to the change in the Total variable who worked over 15 years

3.3. Absorption of Manpower in the Agricultural Sector of North Sumatra Province

The absorption of labor in the agricultural sector in Sumatra Province is hypothesized by the regional minimum wage for the province of North Sumatra (UMRSU), investment in the agricultural sector (INV), the number of undergraduate education workers (PDKS) and labor absorption in the agricultural sector of North Sumatra last year (PTPt-1). The results of the estimation of the labor absorption equation in the agricultural sector are presented in Table 3.

Table 3. Results of Estimating Parameters of Labor Absorption in the Agricultural Sector of North Sumatra Province, 2000-2020

NO	Explanatori variable	Parameter guess	Prob t	Level real	Elastisitas SR	Elastisitas LR
2	PTP					
	Itersep	2594503	0.0036			
	UMRSU	-0.80604	0.0172	-	0.06	0.98
	INVR	0.003612	0.8209	A	0.05	0.24
	PDKS	1.976189	0.0314	-	0.04	0.33
	PTP1	-0.03762	0.8967	A		
$R^2 = 0.39104$; Adj R-Sq = 0.22865; Prob F = 0.0953						

Source: processed data, 2021

Information that A: significant effect at level α 1 – 10%

Absorption of labor in the agricultural sector (PTP) is positively related to the explanatory variables, namely investment in the agricultural sector (INV), undergraduate education level (PDKS), and employment in the agricultural sector last year and has a negative effect on the North Sumatra Regional Minimum Wage (UMRSU). The variables of the North Sumatran regional minimum wage, and the

number of undergraduate education levels have a significant and significant effect on employment in the North Sumatran fisheries sector, other variables have no significant effect on employment. The estimation results show that if the North Sumatra Regional Minimum Wage is increased by 10 units, it will encourage a decrease in labor absorption by 8.0 units per year. An increase in investment in the agricultural sector by 10 units will have an impact on increasing employment by 0.031 units. An increase in the number of undergraduate education (PDKS) by 10 units has an impact on increasing labor absorption by 19.7 units, and if the increase in labor absorption in the agricultural sector last year by 10 units will result in a decrease in employment in the agricultural sector by 0.3 units per year. The coefficient of determination R² is 0.39104 which means 39.10 units of variation of the endogenous variable can be explained by the explanatory variables included in the equation. The probability value of F is 0.0953, meaning that the explanatory variables together can explain variations in employment in the agricultural sector. The results of the t test show that all explanatory variables are significantly different from zero at the level of 1 – 10 percent, except for the variable amount of investment. the explanatory variables. However, in the long term, regional minimum wage variables in the agricultural sector and undergraduate education levels are responsive (elastic) to changes in labor absorption variables in the agricultural sector.

3.4. Investment in North Sumatra's Agricultural Sector

Agricultural Sector Investment (INV)) is positively related to all the explanatory variables, namely INF Inflation, Gross Regional Domestic Product of the Agricultural Sector (PDRBPER), total undergraduate education level (PDSK). Variables of inflation and undergraduate education level have a significant and significant effect on investment, while interest rates and gross regional domestic product of the agricultural sector are not significant, as shown in Table 4.

Table 4. Results of Estimating Parameters of Investment in the Agricultural Sector of North Sumatra Province, 2000-2020.

No	Explanatory Variable	Parameter guess	Prob t	Level real	Elastisitas SR	Elastisitas LR
3	INV					
	Intersep	-1269241				
	SKB	-93197.8	0.3476	-		
	INF	264017.8	0.0018	A	0.95	1.23
	PDRBPER	16.05854	0.3152	-	0.14	0.65
	PDKT	3.596534	0.0509	A	0.56	0.98
	INV1	-0.15067	0.4001	-		
R ² = 0.62901 ; Adj R-Sq = 0.49651; Prob F = 0.0096						

The estimation results explain that if the interest rate is increased by 10 units, investment in the agricultural sector will decrease by 9.3197 units. An increase in inflation of 10 units has an impact on an increase in investment of 2,640,178 units per year. An increase in Gross Regional Domestic Product in the agricultural sector by 10 units will have an impact on an increase in investment in the agricultural sector by 160.58 units per year, an increase in the total number of employees working over 15 years of age by 10 units, it will have an impact on an increase in investment in the agricultural sector by 35.96 units, and an increase in investment. last year by 10 units will have an impact on increasing investment by 1.5 units. The coefficient of determination R² is 0.66753 which means that 66.75 units of variation of the endogenous variable can be explained by the explanatory variables included in the equation. The probability value of F is 0.0096, which means that the explanatory variables together can explain the variation of Investment in the Agricultural Sector. The results of the t-test showed that all explanatory variables were significantly different from zero at the level of 1 – 10 percent, except for the interest rate variable and gross regional domestic product of the agricultural sector.

3.5. Gross Regional Domestic Product of North Sumatra Agricultural Sector (PDRBPER)

Gross Regional Domestic Product in the agricultural sector of North Sumatra Province is hypothesized to be influenced by local taxes (PJK), Domestic Investors (IDN), Foreign Investors (IAS), Agricultural Sector Development Expenditures (EXPER) and Gross Regional Domestic Product for the agricultural sector last year. (PDRBPER_{t-1}). The results of the estimation of the Gross Regional Domestic Product equation in the agricultural sector are presented in Table 5.

Table 5. Estimation Result of Gross Regional Domestic Product Parameter of Agriculture Sector of North Sumatra Province, 2000-2020

No	Explanatory Variable	Parameter guess	Prob t	Level real	Elastisitas SR	Elastisitas LR
2	PDRBPER					
	Intersep	-22478.3				
	PJK	20.35407	0.0181	A	0.23	1.23
	IDN	0.019657	0.0149	A	0.05	0.54
	IASI	-0.08225	0.1572	B	0.12	0.86
	EXPER1	0.020313	0.2994	C	0.45	0.98
	PDRBPER1	0.609808	0.0056	A	0.24	0.67
R ² = 0.94369; Adj R-Sq = 0.92358; Prob F = <.0001						

Source: processed data, 2021

Information that A: significant effect at level α 1-10%, B: significant effect at level α 11 – 20%, and c: significant effect at level α 21 – 30%

Gross Regional Domestic Product of the Agricultural Sector (PDRBPER) is positively related to all the explanatory variables, namely local taxes (PJK), Domestic Investors (IDN), agricultural sector development expenditures as well as last year's gross regional domestic product of the agricultural sector (PDRBPER). foreign capital has a negative effect. All variables have a significant and significant effect on the gross regional domestic product of the agricultural sector. Gross Regional Domestic Product of the Agricultural Sector (PDRBPER) is positively related to all the explanatory variables, namely local taxes (PJK), Domestic Investors (IDN), agricultural sector development expenditures as well as last year's gross regional domestic product of the agricultural sector (PDRBPER). foreign capital has a negative effect. All variables have a significant and significant effect on the gross regional domestic product of the agricultural sector.

The estimation results show that if the local tax is increased by 10 units, it will increase the gross regional domestic product of the agricultural sector by 203.5407 units. The increase in domestic investors by 10 units has an impact on the increase in gross regional domestic product in the agricultural sector of North Sumatra by 0.19 units per year. An increase in foreign investors by 10 units will have an impact on an increase in gross regional domestic product in the agricultural sector by 0.82 units per year. will increase the Gross Regional Domestic Product of the agricultural sector by 6.0 units. The coefficient of determination R² is 0.94369 meaning 94.36 units of variation of the endogenous variable can be explained by the explanatory variables included in the equation. The probability value of F is <.0001, meaning that the explanatory variables together can explain the variation of the Gross Regional Domestic Product in the agricultural sector. The results of the t-test showed that all explanatory variables were significantly different from zero at the level of 1 – 30 percent, except for the variables of expenditure on agricultural sector development and foreign investors

4. Conclusion

Based on the results and discussion in the previous chapter, several conclusions can be drawn

according to the purpose of this study, (1) namely if the population of North Sumatra is increased by 10 units, it will encourage an increase in the North Sumatran Work Force by 1.84 units per year. An increase in the level of basic, senior and tertiary education by 10 units will increase the labor force in the agricultural sector by 4.4 units, an increase in labor absorption by 10 units will increase the labor force by 2.9 units per year, and increase the labor force in the agricultural sector last year by 10 units. will increase the labor force in the agricultural sector by 2.0 units (Albert, 2018); (2) if the North Sumatra Regional minimum wage is increased by 10 units it will encourage a decrease in labor absorption by 8.0 units per year. An increase in investment in the agricultural sector by 10 units will have an impact on increasing employment by 0.031 units. An increase in the number of undergraduate education (PDKS) by 10 units has an impact on increasing labor absorption by 19.7 units, for last year's employment in the agricultural sector by 10 units, it will result in an increase in employment in the agricultural sector by 0.3 units; (3) The estimation results show that If the North Sumatra Regional Minimum Wage is increased by 10 units, it will encourage a decrease in labor absorption by 8.0 units per year. An increase in investment in the agricultural sector by 10 units will have an impact on increasing employment by 0.031 units. An increase in the number of undergraduate education (PDKS) by 10 units has an impact on increasing labor absorption by 19.7 units, and if the increase in labor absorption in the agricultural sector last year by 10 units will result in a decrease in employment in the agricultural sector by 0.3 units per year; (4) taxes area is increased by 10 units, it will increase the gross regional domestic product of the agricultural sector by 203,5407 units. The increase in domestic investors by 10 units has an impact on the increase in gross regional domestic product in the agricultural sector of North Sumatra by 0.19 units per year. An increase in foreign investors by 10 units will have an impact on an increase in gross regional domestic product in the agricultural sector by 0.82 units per year. will increase the Gross Regional Domestic Product of the agricultural sector by 6.0 units

References

- Albert, G.M. 2018. Impact of Government Policy on Fisheries Production, Number of Fleet Fisheries, Investment, Fisheries Household in Batam City, *International Journal of Economics and Financial Issues*, 8(6), 110-114.
- Bellante, D. and M. Jackson. (1990). *Employment Economics*. University of Indonesia Publishing Institute, Jakarta.
- Daniel, (2002). *Introduction to Agricultural Economics*. Earth Literacy: Jakarta
- Dawan, M. R. (2003). The Role of Workers in Economist Development. *Journal of Economic Reform*, 4(1): 51-70.
- Eliza, Y. (2015). The Influence of Investment, Labor Force and Government Expenditure on Economic Growth in West Sumatra, *Pekbis Jurnal*, 7(3), 200-210
- Koutsoyiannis, A. (1977). *Theory of Econometrics*, Second Edition , Published In The USA 1978.
- Manning, C. (2000). Labor Market Adjustment to Indonesia's Economic Crisis. *Indonesian Economic Studies Bulletin*, 36(1): 105-136.
- Miller, Stephen, M., and Frank R.S. (1997). Fiscal Structure and Economic Growth at the State and Local Level, *Public Finance Review*, 25(30), 213-237
- Wijarjono, A. (2013). *Introductory Econometrics and Applications with Guide to Eviews*. Fourth Edition, UPP STIM YKPN

- Rasyid, R. (2000). Autonomous Regions Have Opportunity to Encourage Investment in the Agricultural Sector. Clipping Sinar Tani 26 April – 2 May 2000. *Agricultural Socio-Economic Research Center*. Bogor.
- Simanjuntak, P. (2000) . Introduction to Human Resource Economics. Publishing Institute Faculty of Economics, University of Indonesia, Jakarta.
- Sulistyaningsih, E. (1997). The Impact of Changes in Economic Structure on the Structure of Labor Absorption in Indonesia 1960-2000: An Input-Output Approach. *Doctoral Dissertation*. Postgraduate Program, Bogor Agricultural University, Bogor.
- Todaro, P. and Michael, (2006). *Third World Economic Development*, Eighth Edition, Erlangga. Jakarta.