Government Expenditure and Private Investment on the Value of Agricultural Sector in Labor Absorption

Muhammad Arsyad, Mufidah Muis, Yusmiati Sabang

Abstract: ***This paper aims to find out to what extent the government expenditure and private investment on the value of agricultural sector in labor absorption from 1990 to 2005 in South Sulawesi Province, Indonesia and the most dominant variable and the one which had strong correlation to labor absorption in agricultural sector in South Sulawesi Province. The study was carried out in South Sulawesi Province. The data consisted of time series secondary data on 1990-2005. The data in this study were obtained through observation, interview, and documentation. The data were analyzed using multiple linier regressions in two series. The result shows that the government expenditure have a positive and significant influence on the value of agricultural sector output, while the private investment and dummy variable economic crisis do not have significant influence on the value of agricultural sector output, and the value of agricultural sector output has a positive and significant influence on labor absorption. The result shows that the government expenditure and private investment have a positive influence on labor absorption, and the value of agricultural sector output at condition of after economic crisis higher than at after economic crisis. The most dominant variable and has strong relation affecting the labor absorption is government expenditure.***

I. INTRODUCTION

In Indonesia, the agricultural sector is one sector that is able to survive in the economic crisis and the sector is capable of positive growth by 0.26% and contributed 17.28% at the end of 1998. This contribution increased 2.40% from the previous year (1997) that is equal to 14.88%. However, although the agricultural sector is able to survive in times of crisis (1998 and 1999), was also shown a declining trend in the relative contribution of agriculture to GDP before the crisis [1, 2]. According to Soekartawi (1995), one of the traits structural transformations that have occurred in the Indonesian economy in which the relative roles of agriculture and its contribution to GDP and employment have declined [3].

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Rock (2002) clarify that the industrial growth can falter if agriculture fails to supply sufficient food at low stable prices, earn foreign exchange rather than use it, release labor to manufacturing, finance the growth of industry, and stimulate local demand for the products of industry [4].

In order for agriculture to contribute to the national economy, deal with the dynamics of globalization and free trade, a national plan with the election on the basis of priorities and objectives of agricultural development programs is required. One significant aspect determining the success of development is the spread of investments according to the location and condition of the people. Invested in the agricultural sector is expected to encourage an increase in output and input demand. Therefore, contributes to the increase in income and employment expansion which in turn will boost economic growth and accelerate economic recovery.

Mariyono (2019) indicates that household attributes, business environment, supporting facilities and farm characteristics directly determined farmers to commercialize vegetable farming. Besides that, the farmer participation in market also influence by the factors of seed technology, access to credit and arm site [5]. The participation of farmer in market to become commercial vegetable farming eventually can increase their profit. In addition, the net revenue of vegetable farming is affected by the land fragmentation and status of landholding [5].

David and Ardiansyah (2017) claims the number of working-age adults is increasing rapidly and leads to an increasing per capita income among middle class households. The expansion of the organic food market in Indonesia depends on the rise of income and the level of education and most of the consumer in Indonesia are highly educated middle class households [6]. Indonesia's organic food market has been export outside the country such as non-perishable organic products, but facing organic certification issues. The perishable organic products are over-supplied but have faced export challenges due to their perishable nature [6].

Moreover, Feriyanto (2018) determine the influence of road infrastructure, electricity consumption and agriculture land on gross regional domestic product (GRDP) through empirical study in a special region of Yogyakarta Indonesia. Feriyanto (2018) claims that electricity consumption is significantly positive for GRDP, while others factors have no significant effects. But, the result of combination of these three factors of has a significant impact on the GRDP [7].

During the period of 2000-2004, the total value of domestic investment (DCI) in the agriculture sector in Indonesia reached Rp 11358.7 billion, with the largest contribution is invested in plantation crops. At the time of the crisis, the investment amount is only reached Rp 766 billion in 1998. However domestic investment increases occurring after the political and economic conditions in Indonesia become more stable. This is indicated by the value of domestic investment in 2004, which totaled Rp 1,899 billion [8].

Source of GRDP-forming or commonly referred to as the mainstay of the economy is a sector which is based on natural resources, while sectors that rely on the role of land productivity associated with the use of technology as well as the sectors based on the role of the relative merits still weak. The objectives of this paper are to determine the influence of each government expenditure and private investment (domestic and foreign investments) on the growth of the agricultural sector in the creation of employment opportunities in the province of South Sulawesi. GDP by industrial origin in 2000 - 2004 is at constant prices in 2000. Table 1 shows the GDP of South Sulawesi on Constant Prices of 2000 [9].

Table. 1 GDP of South Sulawesi on Constant Prices of 2000 [9]

Sector	GDP of South Sulawesi	
	Rupiahs (million)	Percentage (%)
Agriculture	16,268,572.73	33.36
Mining	3,981,288.23	8.16
Processing industry	6,527,538.82	13.39
Electricity and clean water	611,131.72	1.25
Building	2,251,111.79	4.62
Trades, Hotels, Restaurants	7,260,339.35	14.89
Transport/Communication	3,514,134.33	7.21
Bank/Finance/Housing	2,907,727.70	5.96
Services	5,444,101.49	11.16
Total	48,765,946.16	100.00

With a growth rate as mentioned in Table 1, the process of structural change in the economy can be said to be slow given the role of inter-sector imbalances so great. It required a high growth rate (within a certain time) in order to change the basic structure of the economy towards the creation of a balance between sectors. Syuaib (2016) claims modernization of agricultural technologies has increased production to keep pace with the population growth also remind to formulate action strategies for develop better and sustainable future of agricultural practices [10].

One of the efforts to change the structure of the economy is through the development of industrial sector. Encourage the growth of the industrial sector's role with regard to the expansion of regional economic scale. One important factor in the development of the role of this sector is through the application of technology. But the strategy of development of industrial sector which has been implemented in South Sulawesi has not been able to elevate the role of this sector to be more significant. Therefore, this study is analyzes how large the effect of government spending and private investment to the value of agriculture in employment in the province of South Sulawesi.

II. METHODOLOGY

Type of Research

This study analysis the secondary data in the form of time series that aims to give an explanation of the effect of government spending and private investment to the growth of the agricultural sector in the creation of employment opportunities in the province of South Sulawesi.

Location and Time of Research

The location or region that will serve as the object of study is the area of South Sulawesi province. The criteria underlying the region is due in South Sulawesi is one area that has great potential resources in the agricultural sector. The research was conducted at the institution related to the Office of Statistics, Office of Agriculture and other relevant agencies in South Sulawesi. This study was conducted about three months, from August to October 2006.

Types and Sources of Data

The types of data used in this study include secondary data in the form of time series in South Sulawesi province from 1990 to 2004 that covers the allocation of government expenditure (budget), realization of private investment (domestic and foreign investments), and the output of the agricultural sector, as well as the amount of the agricultural labor force.

Analysis Method

The regression model used is a simple linear regression model 2 stages. The analysis model was used to observe the effect of government expenditure and private investment to output growth in the agricultural sector in relation to the creation of employment opportunities.

Equation (1) Output Function:

To demonstrate the effect of government expenditure and private investment in the agricultural sector to the agricultural sector output (GDP) can be viewed through the following equation:

$$Y_1 = f(X_1, X_2) \qquad (1a)$$

$$Y_1 = \alpha_0 X_1^{\alpha 1} X_2^{\alpha 2} e^{\mu 1} \qquad (1b)$$

To estimate the influence of government expenditure and private investment to the output of the agricultural sector in the model is a linear function using the natural logarithm function, so that it becomes:

$$\ln Y_1 = \ln \alpha_0 + \alpha_1 \ln X_1 + \alpha_2 \ln X_2 + \mu_1 \qquad (1c)$$

Equation (2) Employment Function:

The second function of the model output that shows the influence of the agricultural sector to employment creation can be viewed through the following functions:

$$Y_2 = f(Y_1) \qquad (2a)$$

$$Y_2 = \beta_0 Y_1^{\beta 1} e^{\mu 2} \qquad (2b)$$

To determine the influence of agricultural output to the creation of employment, then the model is in linear function of the natural logarithm function by using a:

$$\ln Y_2 = \ln\beta_0 + \beta_1 \ln Y_1 + \mu_2 \qquad (2c)$$

where:

Y1 = Value of agricultural sector GDP estimates at current prices Constant (millions of dollars)

Y2 = Total employment (soul)

X1 = Allocation of Government Expenditures (millions of dollars)

X2 = Actual Private Investment (millions of dollars)

α1 = effect of government spending on output sector agriculture

α2 = effect of private investment on output growth agricultural sector

β1 = effect of the output of the agricultural sector to the creation employment opportunities

μ1 = error term of the agricultural sector output function

μ2 = error term of the employment function

Based on the models described above, "t" and F are used to test the level of statistical significance. Test statistic "t" is used to test the effect of each independent variable to the variable bound to the specified level of significance (α = 0.05). Test statistic F is a regression model to test the feasibility of a certain level of significance (α = 0.05).

Based on the analysis of equation (1) and (2), it can be predicted effect of each, in where the effect of government spending on employment through growth in agriculture output by α1β1 and the effect of private investment on employment through growth in agriculture output by α2β1

III. RESULTS AND DISCUSSION

Development of the Agricultural Sector Public Expenditure in South Sulawesi Province

One of the forms of government participation in the economy is government spending. Government spending is a policy that is very effective in improving the welfare of the community, but this policy is often hampered by lack of funds available. The allocation of development funds is the government of South Sulawesi in particular detail in the budget that acts as a tool for determining development priorities taking into account the objectives to be achieved by this development effort. The most important of these is the policy of equitable distribution of development and stability in the economy and the policy is directed to rhythm in all sectors of the economy can stay awake and remain in harmony. Developmental role of local government through government spending especially in the agricultural sector are still quite large and increases from year to year. It can be seen from the growth of government spending which reached 2.55% in 2004.In 1990 the realization of government spending on the agricultural sector about 1,458,578 million rupiahs, up until the year 1996 about 2,894,989 million rupiahs. Then there was a decrease in 1997 and 1998 and increased again in 1999 about 9.48% until 2002. In 2003 again the realization of government spending decreased by 11.67% and increased again in 2004 about 2.55%. Figure 1 demonstrates the development spending on the agricultural sector in South Sulawesi relative increase from year to year until 2002, but eventually declined sharply in 2003. It can be caused by a decrease in total general state budget resulting distribution to multiple sectors declined anyway.

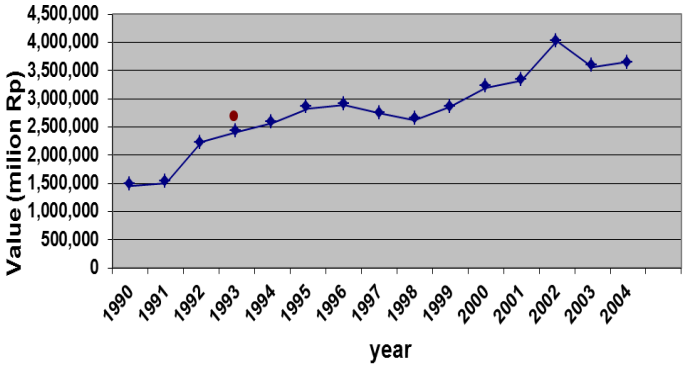

Fig. 1 Development of the Agricultural Sector Expenditure in South Sulawesi

Development of Private Investment (Domestic and Foreign) Agricultural Sector in South Sulawesi

Investment is absolutely necessary in an effort to accelerate the pace of economic growth, because it is needed in order to finance the construction of the national production can be increased and expanding employment opportunities. Investment is a very unstable variable in this case is constantly fluctuating due to investments not only influenced by economic factors, but also by some other factors such as political, social, cultural, and so forth. Capital investment increased rapidly achieved in 2002 with a growth rate of 30.15% mainly domestic investment about 868,652 million rupiahs. This proves the increasing domestic investors to invest especially in the agricultural sector in South Sulawesi. This increase occurred not out of range of the government's efforts to simplify investment procedures with the policies set forth in the various packages deregulation. In contrast to foreign investment, the biggest investment occurred in 1996 with 391,071.80 million. In 1997 and 1998 there is no foreign investment in South Sulawesi for the agricultural sector. This can be caused by the monetary crisis in 1997 affecting foreign investment in Indonesia in general and especially in South Sulawesi. The data also show that the realization of domestic investment in the agricultural sector tends to be a lot of foreign investment from year to year. The total value of domestic investment about 9,216,852.31 million rupiahs with an average 614,456.8207 million and foreign investment about 2,879,219.35 million rupiahs with an average of 221,478.4115 million. Thus, the domestic investment or plays a very important role in the economic development of South Sulawesi, particularly in order to promote economic growth through increased investment in the agricultural sector. Figure 2 presented a graph illustrating the development of the agricultural sector of Private Investment in South Sulawesi.

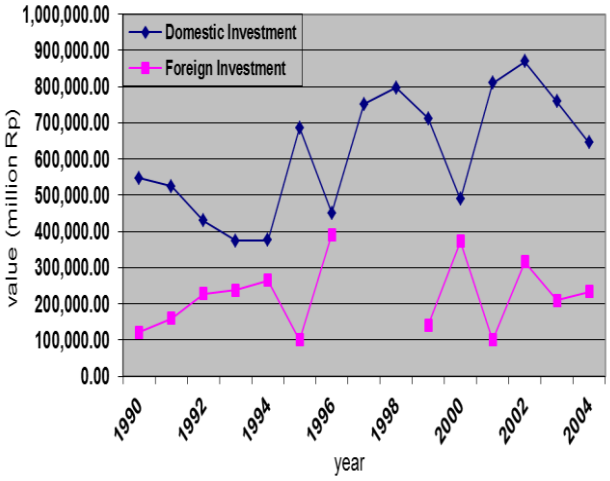

Fig. 2 Development of Private Investment in South Sulawesi

Development of the Agricultural Sector Employment in the province of South Sulawesi

The developments of domestic and foreign investments in South Sulawesi have a positive impact, thus encouraging the creation of employment opportunities in the various fields of business, nor to the agricultural sector. In this sector opportunities created for the period since 1990 to 2004 that as many as 36,242,699 with an average of 2,416,179.933 people. The data show that the lowest employment occurred in 1990 that as many as 1,363,832 people, and then continued to increase until the year 1998 with the number of manpower of 1,811,216 people. In 1999 and 2000, the manpower reduced to 4.12% and 6, 46% respectively and then increased again in 2001 with the number of manpower of 1,771,348 people. In 2002, a sharp increase of manpower about 6,842,476 people then decreased again until the end of 2004 with 4,519,799 people workforce. The analysis result indicated that the number of workers absorbed in the agricultural sector showed a significant increase. This happens because the sector is the primary sector that is always supported by other sectors in the economic development of a region. Figure 3 shows the development of employment opportunities in the agricultural sector and indicates that shedding labor in the agricultural sector relative strength increases from year to year. In 2002, even a surge in the number of labor force working in this sector. This is possible because of the government's response to social problems such as unemployment and decided to give more attention to it especially in this sector.

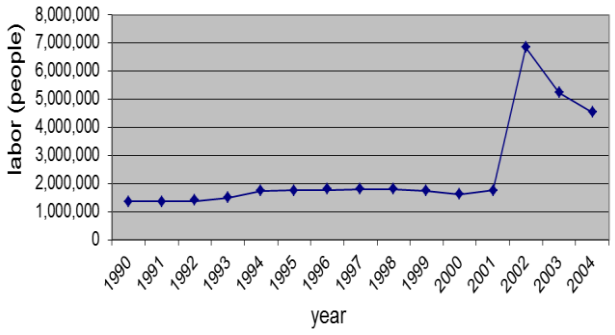

Fig. 3 Development of Agricultural Labor in South Sulawesi

Effect of government spending, private investment (domestic and foreign investments) to Agricultural Sector Growth in Employment Creation in South Sulawesi

Simple regression analysis with 2 stages SPSS 12 is used to prove the hypothesis that has been proposed earlier, whereby the government spending and private investment in these domestic and foreign investments have a positive and significant effect on the growth of agricultural output in the creation of employment opportunities.

Effect of Government Expenditure (X1) and Private Investment (X2) of the Agricultural Sector Output Growth (Y1)

Some decisions can be taken from the table of estimation results and the above equation is the feasibility of the model can be determined by looking at the value of the coefficient of determination (R2). Value found was 0818. This may mean that the variation of the independent variable expenditure (X1) and private investment (X2) can be explained variation in the dependent variable output growth in the agricultural sector (Y1) by 81%. Thus, the variation of other variables that explain variation in the growth of agricultural sector output (Y1), which are not accounted for in the model only by 19%. It can be concluded that the model is very feasible. From Sudjana (2003), that if the value of the correlation coefficient close to 1, both positive and negative, the relationship between the two variables is getting stronger and if the value of the correlation coefficient is 0 then there is no relationship at all between the two variables [11]. Similarly, the correlation coefficient of this model is 0904. This may mean that the relationship between the independent variables in government spending (X1) and private investment (X2) with the dependent variable output growth in the agricultural sector (Y1) is very strong.

The F test value obtained from the study was 26 897 with a 0000 value of the significance level (Sig. = 0.000 <α = 0.05), it can be said that the government spending the independent variable (X1) and private investment (X2) significantly affect the dependent variable output growth in the agricultural sector (Y1). T-test is used to test the significance level of the model is partially or test the significance of independent variables influence government spending. T value for government expenditure variable (X1) is 3.500 with a significance level of 0.004. Thus the independent variable expenditure (X1) is very significant to the growth of the agricultural sector output (Y1) because the t value is greater than the value of t table (2179). While the t value for private investment variable (X2) significance level is 1385 with 0191. Where this means private investment dependent variable (X2) did not significantly affect the growth of the agricultural sector output (Y1) because the t value is less than the value of t table (2179). Constant value is 26.363. This means that if the value of government spending (X1) and private investment (X2) fixed, the percentage growth in the agricultural sector output (Y1) will be increased by 26.363%.

Regression coefficient value of government expenditure (X1) is 1.760, which means that if government spending (X1) increased by 1%, the growth of agricultural sector output (Y1) will be increased by 1.760%. It is caused due to the influence of economic growth annually increases which then encourage the growth of GDP, in this case in the agricultural sector. The bigger the government spending, the greater the growth of the agricultural sector output. This is in line with the statement Boediono (1995) that government spending can practically affect economic activity in general, but also one of the components of aggregate demand will drive the increase in domestic production [12]. Private investment regression coefficient (X2) is 1.134, which means that if private investment (X2) increased by 1%, the growth of agricultural sector output (Y1) will be increased by 1.134%. Where it is caused by the effect of economic growth annually increased in almost all sectors, including the agricultural sector as one of the primary sector. This is in line with the statement Jhingan (1999) that capital formation makes the construction so maybe, despite a population increase as investment in capital equipment not only increase production but also to generate employment opportunities and economies of large scale production [13].

Effect of Output Growth in the Agricultural Sector (Y1) in Creation of Labor (Y2)

Some decisions can be taken from the table of estimation results and the above equation is the feasibility of the model can be determined by looking at the value of the coefficient of determination (R2). Value found was 0.841 This may mean that the variation of the independent variable Agricultural Sector Growth in output (Y1) can explain variations in the dependent variable Employment (Y2) by 84%. Thus, the variation of other variables that explains variation Employment (Y2), which is not accounted for in the model only by 16%. It can be concluded that this model is very feasible. Similarly, the correlation coefficient of this model is 0.917. This may mean that the relationship between the independent variables of the agricultural sector output growth (Y1) with the dependent variable job opportunities (Y2) is very strong. F test value obtained from the study was 68.675 with 0.000 value of the significance level (Sig. = 0.000 $<\alpha$ = 0.05), we can conclude that the independent variable output growth in the agricultural sector (Y1) significantly affect the dependent variable job opportunities (Y2). Similarly, the t value to agricultural output growth variable (Y1) is 8.287 with a significance level of 0.000. Thus, the independent variable agricultural output growth (Y1) is very real impact on employment opportunities (Y2) because the t value is greater than the value of t table (1.812). Constant value is 5.047. This value means that if the growth of the agricultural sector output (Y1) fixed, the percentage of total employment (Y2) will be increased by 5.047%. Regression coefficient value of agricultural output growth (Y1) is 0.629, which means that if the output of the agricultural sector (Y1) increased by 1%, then the number of employment opportunities (Y2) will be increased by 0.629%. It is caused due to the growth of the agricultural sector output increased annually is then pushed open job creation opportunities in this sector as well.

Effect of Output Growth in the Agricultural Sector (Y1) in Creation of Labor (Y2) as a result of Government Expenditure (X1) and Private Investment (X2)

Government expenditure and private investment in these domestic and foreign, can affect economic activity in general, not only because such spending can create the infrastructure needed in the development process but also one of the components of aggregate demand will drive the increase in domestic production. In such circumstances, the economic growth for developing countries will be realized quickly is only possible through domestic and foreign, mainly aimed at creating the necessary instructors for development. The role of foreign investment and domestic investment in economic development lies in increasing the rate of economic growth, where economic development is not simply to improve the well-being but also should be directed to the creation of new employment opportunities. The rate of economic growth can be increased if domestic and foreign development plans meet the goals that have been set up in advance so that economic stability can be achieved.

IV. CONCLUSIONS

The magnitude of each influence government spending and private investment (domestic and foreign investments) on the growth of the agricultural sector in the creation of employment opportunities in the province of South Sulawesi are as follows:

i. Apparently government spending has positive and significant impact on output growth in the agricultural sector in South Sulawesi. Any increase in government spending (X1) increased by 1%, the growth of agricultural sector output (Y1) will increase by 1.760%.
ii. As for the variable private investment in the agricultural sector also showed a positive and significant effect on the growth of agricultural output. The results of the data processing show that any increase in private investment (X2) by 1% in the agricultural sector will increase the growth of the agricultural sector output (Y1) of 1.134%.
iii. Growth in the agricultural sector output had shown a positive and significant influence also on the variable amount of labor absorption in agriculture. This is demonstrated by the results of data processing show that if the output of the agricultural sector (Y1) increased by 1%, then the amount of labor (Y2) are absorbed in the sector will increase by 0.629%.
iv. Effect of growth in agricultural output in the creation of employment as a result of government spending (X1), suggests that the creation of employment positive effect on government spending.
v. Effect of growth in agricultural output in the creation of employment as a result of private investment (X2) suggests that the creation of employment positive effect of private investment, i.e. when private investment in the agricultural sector increases, the creation of employment created in the sector will increase as well.

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