

Increasing Employment through Local Government Expenditures: Simultaneous Model Analysis

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ABSTRACT

This study aims to find a solution to the problem of unemployment by developing a research model that involves variables of local government expenditure and employment that seeks to fill gaps in the needs of local government expenditure development and how local expenditure affects the rate of employment. This research was conducted using simultaneous model analysis of districts and towns in East Java Province, Indonesia. In the analysis of increasing employment through local government expenditure is done based on three main sectors, namely the agricultural sector industry and services. The results showed that in the agricultural sector, Gross Regional Domestic Product variable, direct expenditure, and area-wide had a positive and powerful effect on employment. Whereas in the industrial sector, the variable Gross Regional Domestic Product, area and lag of labor absorption have a positive and powerful effect on employment. Furthermore, the service sector has the result that the Gross Regional Domestic Product variable, area, and lag of labor absorption itself have a real positive impact on employment.

Keyword: Employment Absorption, Local Government Expenditure, Simultaneous Model

1. INTRODUCTION

The high unemployment rate causes the use of resources is not optimal in development. While the purpose of development is to create employment opportunities. The regional economy that cannot work in accordance with its capacity causes the growth of output unable to cover the increase in labor growth so that unemployment increases. This will be achieved if the addition of employment opportunities develops faster than the addition of labor. Unemployment is a state without job faced by the workers society, who have tried to get some jobs and failed. Individuals who face these problems are called unemployed [11] and [15]. The low level of employment chances with rising the unemployment rate, it is necessary to optimize the capacity of local governments. In addition, the effectiveness of local government expenditure is also needed, Determination of local government expenditure targets that are quite effective can encourage employment in the direction of positive growth, so as to provide new jobs in the labor market.

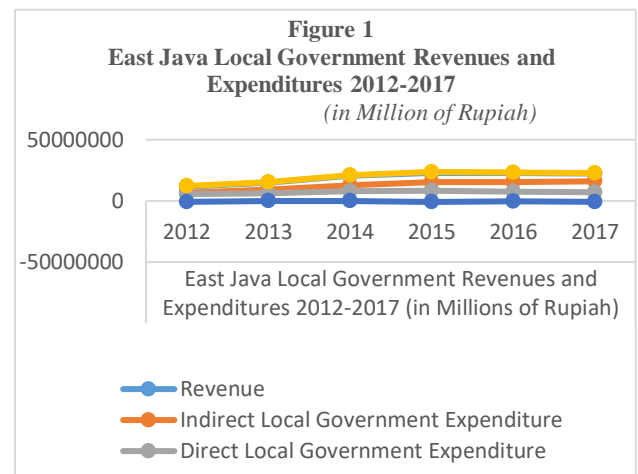


Figure 1 East Java Local Government Revenues and Expenditures 2012-2017

Source: DJPK, 2018

Figure.1 Showed that local revenues and expenditures from 2012 to 2015 showed a positive increase, but in 2016 and 2017 decreased. In 2013, local revenue increased by 1.13%, and total local expenditure rose by 1.26%. Whereas in 2014 local revenue and expenditure experienced a sharp increase, namely revenue increased by 1.385%, and expenditure rose by 1.358%. However, in 2016 and 2017 both local revenue and expenditure experienced a decline, where local revenue fell by 0.99%

and 0.98%, while regional expenditure decreased by 0.97% and 0.99%.

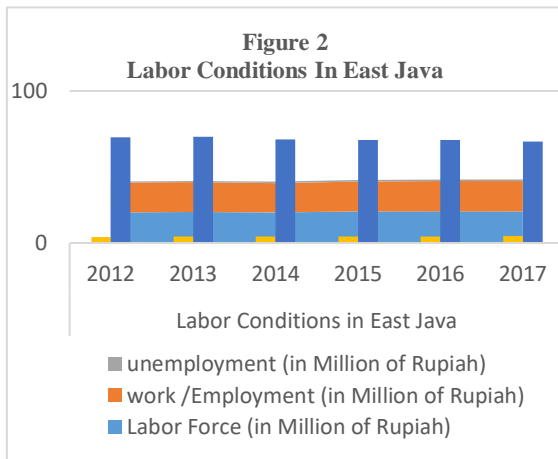


Figure 2 Labor Conditions In East Java

Source: BPS East Java Province

Figure 2 showed that the development of labor force in East Java Province during the last 6 years according to the sum of labor force, working population, and the sum of open unemployment shows an increase. The development of the East Java Province workforce in the last six years has increased, the number of labor force in 2012 amounted to 20.24 million people, and in 2015 became 20.69 million people or 16.12 percent of the total force national work. While the total population of people working in East Java in 2012 it was 19.41 million and increased in 2015 to 19.80 million or 16.38 percent of the total national employment opportunities. The rapid growth rate of the labor force with relatively slow employment growth causes the unemployment problem to become more serious. The large unemployment rate is a reflection of the lack of success in development in a country. Unemployment can affect poverty in various ways, [16]. The East Java Open Unemployment Rate (TPT) in 2015 reached 4.31 percent. Higher than the condition in 2014 which amounted to 4.19 percent. That is, an increase in unemployment by 50 thousand people year-on-year compared to 2014. This increase in unemployment is not due to termination of employment, but rather the large number of workforce who are heading to East Java but have not yet found work [8]. The number of Open unemployment in East Java in 2013 reached 804,400 people with a TPT percentage of 4.30 percent lower than the national TPT of 6.17 percent. Absorption of labor with the existing workforce is not optimal, meaning that the unemployment rate in East Java is relatively high despite high economic growth in East Java Province.

Based on the background above, it has been explained that local government expenditure shows significant development from year to year, but the unemployment rate still shows a quite large number. Thus the main issues to

be formulated to be discussed in this study include: What is the effect of local government expenditure on increasing employment in the regencies/city agriculture, industry and services in East Java Province? More specifically, this study aims to analyze the government expenditure effect on employment rate.

2. LITERATURE REVIEW

The Based Theory

According to [7], the development of macro theories regarding government expenditure can be grouped into three groups, namely: (1) The development model of the development of government expenditure by Rostow and Musgrave, (2) Wagner's Law concerning the development of government activities, and (3) Peacock & Theory Wiseman about paying taxes. Government expenditure theory put forward by Rostow and Musgrave in [7] is a view based on observations in many countries, but not based on a particular theory. In general, Rostow and Musgrave link government expenditure with three stages of economic development, namely the initial, intermediate and advanced stages.

Wagner explained that the development of government expenditure is increasing in percentage against the GNP (Gross National Product). This theory is based on observations in European countries, the USA, and Japan in the 19th century [8]. Wagner expressed his opinion in the form of a Wagner Law: "In an economy, if per capita income increases, relatively government expenditure will also increase". Theories of Government Expenditures is Wagner's Law Government activities in the economy tend to increase. Wagner measures the comparison of government expenditure to GDP by proposing a theory about the development of government expenditure which is increasing in percentage as a percentage of GDP, [9].

Peacock & Wiseman's theory is considered as the best theory and model of the three theories regarding the development of government expenditure. This theory is often called "The Displacement Effect", where the theory is based on a view that the government is always increasing expenditure while society do not like to pay greater taxes to finance the increasingly large government expenditure. Peacock and Wiseman based their theory on a theory that society have a level of tax tolerance, a level standart where society can recognize the sum of tax collection needed by the government to finance government expenditure,[10].

Labor Theory and Labor Market According to BPS, the labor force is the population of working age (15 years and over) who works or has worked but does not work and is unemployed. Furthermore, labor is someone who worked at least 1 hour (uninterrupted) in the past week. These activities also include the activities of unpaid workers who assist in a business / economic activity. The labor market is formed because of the demand and supply of labor.

Labor demand is the relationship between the grade of wages and the sum of workers required by the company to be employed. While the labor supply is a relationship between the grade of wages and the sum of workers who are ready to be provided.

The Relationship Between Government Expenditure and Employment.

Government expenditure is a fiscal policy that is able to increase national demand for goods and services, and subsequently increase the number of workers to produce additional demand for these goods and services. Therefore, government expenditure can affect inequality in the labor market. The relationship between government expenditure and labor absorption begins with changes in the realization of government expenditure (G) at the Keynesian intersection. For example, what happens is an increase in G. Increasing G is tantamount to an increase in demand for goods and services purchased by the government, which in turn will increase the total demand for national goods and services. As demand increases, producers will recruit new workers to produce the additional demand. Keynesian Intersection This basic Keynesian cross model is the easiest interpretation of Keynes's income theory [8]. Some empirical studies such as [5], looks at the role of government expenditure on employment from a different perspective. According to Hoffer in a condition of economic slowdown, public investment (public investment) has a higher labor absorption intensity than tax cuts. The condition is that the increase in public investment must be accompanied by institutional improvements to ensure that people's welfare does not decrease. Providing quality infrastructure and public services is the key to reducing inequality, increasing the workforce, and making it possible for the poor to escape poverty. [6], which allows the government to create or add to its budget deficit as long as the increase is spent on public infrastructure. According to Jackson, good public infrastructure and effective public services are the key to boosting the productivity of the private sector, especially those engaged in strategic industries. Public spending for increased infrastructure will drive economic productivity which will ultimately be able to create jobs.

Research Hypothesis

Based on the description of the background, problem formulation, research objectives, theoretical studies, and empirical studies, it can be hypothesized to be tested in this study that the local government expenditure on increasing employment in the regencies/city agriculture, industry and services in East Java Province.

3. RESEARCH METHOD

The Type and Source of Data

This study uses secondary data, which is a mixture of time series and cross-sectional data called panel data or data pool. The data unit is regency and city level in East Java Province. The main data are local expenditures, the number of labor, and other supporting data obtained from the statistics agency of regencies and cities in East Java, Directorate General of Fiscal Balance of the Ministry of Finance of the Republic of Indonesia, as well as electronic and print media.

Analysis Methods

This research uses quantitative descriptive analysis method using simultaneous equation models with panel data. This model has more than one endogenous variable and more than one equation that forms a system of equations and relationships that occur in more than one direction.

Research Models.

The model of this study is built on a framework of economic theory, literature, and facts. Library study is the source of the theory underlying the preparation of the model, so that the model can show the inter-block linkages well to accommodate the research objectives. This study uses an econometric model, starting from model specification, assessment, verification or evaluation, and policy implications based on estimated parameters to formulated mathematical equations that describe the relationship between economic variables. Furthermore, the model estimates the specified models and obtained parameters and performs statistical verifications to test the estimation results. At this stage a simultaneous econometric model is formulated, consisting of structural and identity equations. Structural equations are representations of endogenous and exogenous variables that operationally produce signs and magnitudes of parameter estimation values in accordance with theoretical expectations. The General Model of Simultaneous Equations is as follows, [3].

$$Y1t = \beta12Y2t + \beta13Y3t + + \beta1MYMt + \gamma 11 X1t + \gamma 12 X2t + + \gamma 1K XKt + \mu1t$$

$$Y2t = \beta21Y1t + \beta23Y3t + + \beta 2M YMt + \gamma 21 X1t + \gamma 22 X2t + + \gamma 2K XKt + \mu2t$$

$$Y3t = \beta31Y1t + \beta32Y2t + + \beta3MYMt + \gamma 31 X1t + \gamma 32 X2t + + \gamma 3K XKt + \mu3t$$

$$..... YMt = \beta M1 Y1t + \beta M2 Y2t + + \beta M, M-1 YM-1, t + \gamma M1 X1t + \gamma M2 X2t + + \gamma MK XKt + \mu Mt$$

Information:

Y1, Y2 ,YM = a number of M endogenous variables,
 X1, X2 ,XM = a number of M exogeneous variables,
 $\mu_1, \mu_2, \dots, \mu_M$ = a number of M residuals,
 t = observation,
 β = endogenous variable coefficients/ parameters
 γ = exogeneous variable coefficients/parameters.

4. RESULT AND DISCUSSION

A.1 Local Government Expenditures

In this discussion the results of simultaneous regression testing are presented into two blocks, namely Block I Regional/Local Expenditures and Block II Employment. The results of the analysis in Table 1 show that the structure of regional expenditure is still dominated by indirect expenditure, which is relatively much larger than direct expenditure, meaning that local governments prioritize more on indirect expenditures than direct expenditures. This is in accordance with the findings of [4].

Table 1. Block I Regional Expenditures

Variable	Total Regional Expenditure (LNTRE)	
	Parameter	P- Value
Constanta	1.438	0.000
LNDE	0.326	0.000**
LNIE	0.616	0.000**
R ² = 0.814	Prob > F = 0.000	
Variable	Indirect Expenditure (LNIE)	
	Parameter	P- Value
Constanta	1.1330	0.191
LNDRDP	-0.022	0.000**
LNAA	0.054	0.226
LNPOP	-0.034	0.001**
LNLR	0.094	0.001**
LNFFR	0.060	0.000**
LNGAF	0.796	0.000**
LNIE-1	3.05E-07	0.000**
R ² = 0.959	Prob > F = 0.000	
Variable	Direct Expenditure (LNDE)	
	Parameter	P- Value
Constanta	3.508	0.000
LNDEAS	0.124	0.010**
LNDEIS	0.131	0.020**
LNDESS	0.138	0.000**
LNDEEHS	0.437	0.000**
R ² = 0.503	Prob > F = 0.000	
Description: ** = Significant at the level of 5%		
* = Significant at the level of 10%		

Source: Data Processed (Attachment, 2018)

The estimation result of the total local expenditure equation from indirect expenditure and direct expenditure shows that all equations have a high level of explanation.

It can be seen from the coefficient of determination (R²), which reaches 0.814; 0.959, and 0.503. The values infer that each exogenous variable used in the equation can explain 81, 96, and 50 percent of the diversity of endogenous variables. Judging from the value of the F-test statistic, all equations have Pr > F of 0.0000, indicating that the exogenous variables have a powerful effect on the endogenous variables.

A.2 The Impact of Local Government Expenditures on Employment

In the analysis of the impact of government expenditure on employment there is also disaggregation based on three main sectors, namely agriculture, industry and services. Estimation results show that the GRDP variable in these agricultur sector, direct expenditure and an area has a powerful positive effect on employment. While the labor wages and population have a positive effect, although they are not significant. The parameter value of 0.146 indicates that for each increase in the GRDP of 6,85 million rupiah, it will be able to absorb an additional workforce of one person.

Table 2. Block II Employment

Variable	Agricultur Sector (LNAS)	
	Parameter	P- Value
Constanta	5.005	0.039**
LNRMW	0.1052	0.451
LNDRDP	0.1463	0.000**
LNDE	0.2209	0.0018**
LNPOP	-0.0925	0.356
LNA	0.6376	0.000**
LNIt-1		
R ² = 0.94	Prob > F = 0.000	
Variable	Industry Sector (LNIS)	
	Parameter	P- Value
Constanta	9.441	0.000**
LNRMW	0.2027	0.085*
LNDRDP	0.0777	0.030**
LNDE	0.0245	0.668
LNPOP	0.0685	0.495
LNA	0.1583	0.001**
LNLI-1	11E-04	0.000**
R ² = 0.87	Prob > F = 0.000	
Variable	Service Sector (LNSS)	
	Parameter	P- Value
Constanta	1.724	0.306
LNRMW	0.0151	0.849
LNDRDP	0.4878	0.000**
LNDE	-0.0425	0.089*
LNPOP	0.1056	0.150
LNA	0.0978	0.003**
LNSS-1	3.48E-06	0.003**
R ² = 0.85	Prob > F = 0.000	
**) Significan on level 5%		

Source: Data Processed (Attachment, 2018)

In the labor absorption equation of the industrial sector, it appears that the wage variable has a positive impact on employment, although it is significant at level 10%. While the variables that have a significant positive effect on employment are industrial sector GRDP, an area and employment in the previous year. Variables direct expenditure and population do not show a real effect, so it can be said that the direct expenditure and population of labor absorption does not differ significantly. Related to the magnitude of the effect of the GRDP of the Industrial Sector, and an area, on employment, it is relatively big in terms of its marginal impact, which are 0.0777 and 0.1583; and respectively. These results indicate that to increase the employment of one person, an increase in the GRDP of the industrial sector is needed by 12,87 million rupiah and 6,32 million rupiah. Meanwhile, when seen from the relatively low elasticity value, the GRDP growth of the industrial sector by 10 percent, for example, will only increase labor absorption by 0.48 percent.

In line with the industrial sector, employment in the service sector is also influenced by the GRDP, an area of the service sector and its lag variable. Labor wages have a positive effect, although not significantly. It is suspected that in the service sector the number of workers is still relatively small compared to its economic capacity so that its marginal value is still increasing. Thus the increase in wages does not have an impact on reducing employment. The parameter value of the service sector GRDP of 0.4878 shows the marginal effect of the GRDP on the employment of industrial sector workers, indicating that to increase the employment of one person, an increase in GRDP of two million rupiah is needed. When viewed based on the results of these estimates, it appears that economic growth in the agricultural sector is more responsive to employment than the industrial sector or the service sector. This shows that the agricultural sector still tends to be at work compared to the industrial and service sectors. Another interpretation of this result is that labor productivity in the agricultural sector is far lower than the productivity of the service sector and industry.

5. CONCLUSION

Based on an analysis of the results of studies and discussions on the influence of local government expenditure on employment in the Regencies and City of East Java Province, Indonesia, the following conclusions can be drawn: When viewed based on the results of these estimates, it appears that economic growth in the agricultural sector is more responsive to employment than the industrial sector or the service sector. This shows that the agricultural sector still tends to be at work compared to the industrial and service sectors. Another interpretation of this result is that labor productivity in the agricultural sector is far lower than the productivity of the service sector and industry. Variable of minimum regional wage has not significant influence but the coefficient is positive (contrary to economic theory); while the direct expenditure

variable has a significant influence in the agriculture and service sector (according to theory), but in the industry sector has not significant (contrary to economic theory); With regard to employment opportunities, only the gross regional domestic product and an area variable has a significant influence and has a positive coefficient (according to theory); while the population variable, despite having a negative slope in the agriculture sector (according to theory), is not significant, but in the industry and service sector has a positive coefficient (contrary to economic theory), is not significant.

Finally, the local governments expenditure have a big role to play in reducing unemployment through expenditure policies. The effectiveness of local expenditure policies gives the consequences of local government budgets being more responsive to employment. However, it still needs to be further investigated whether the expenditure of the local government is able to improve the increase in employment in regions/cities in East Java. Increased local government expenditure will certainly stimulate economic performance, such as increased employment. Increasing local government expenditure will increase demand for goods and services, which will stimulate the production sector, both the agricultural sector, the industrial sector and the service sector. As [10] argues, an increase in government expenditure will increase planned expenditure, as much as a change in government expenditure, which in turn will increase output

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