The Role of Regional Government Expenditures on Regional Economic Growth in Indonesia

Agus Tri Basuki  
Ph.D Student on Economics and Business Faculty  
Universitas Sebelas Maret Surakarta and Lecturer on Economics and Business Faculty Universitas Muhammadiyah Yogyakarta

Mulyanto  
Lecturer on Economics and Business Faculty  
Universitas Sebelas Maret Surakarta  
Indonesia

Yunastiti Purwaningsih  
Lecturer on Economics and Business Faculty  
Universitas Sebelas Maret Surakarta  
Indonesia

AM Soesilo  
Lecturer on Economics and Business Faculty  
Universitas Sebelas Maret Surakarta  
Indonesia

Abstract—This research aims at empirically proving the composition of local government expenditure (education, health, marine and fisheries, agriculture, and general allocation fund) on economic growth in 18 provinces in Indonesia from 2010 to 2015. The model used in this research is panel data regression. The research results indicate: Firstly, the government expenditure component for marine and fisheries has the greatest contribution in driving economic growth in Indonesia, and this just suits the shape of its territory with 2/3 of it consisting of waters. Secondly, the government expenditure component for agriculture give the second greatest contribution after marine and fisheries expenditure, which suits the employment absorption in Indonesia, i.e. 35 percent of them is absorbed in agriculture sector. Thirdly; the Government expenditures for education and foreign investment have no influence on local economic growth.

Keywords— economic growth, data panel, government expenditure, and fiscal policy.

I. INTRODUCTION

In the effort of achieving its national goal, Indonesia has to encounter three main problems, they are: (1) declining state dignity; (2) weakening national economic constituents; and (3) dispering intolerance and national identity crisis. The weakening national economic constituents could be seen in unsettled poverty issues, social inequality, inter-region inequality, environmental damage resulting from excessive natural resources exploitation, and dependence in such fields as foods, energy, finance, and technology. The state does not seem to be capable of utilizing the huge natural resources this country has for its people welfare. The expectation for those national economic constituents to strengthen is getting far away when the state has no power in providing security on proper health and quality of life for its people, fails in minimizing national income inequality and unevennes resulting from dependence on foreign debts and food provision relying on import, and fails in dealing with energy crisis issue thanks to the global production equipment and corporate capital as well as the decreasing national oil reserves it owns.

Government expenditure will practically influence economic activities, not just because it could creates development process, rather it also serves as one of demand aggregat components which could increase products. Aruwa (2010) research results find that there is a long-term correlation between government expenditure and national revenue, and public expenditure and revenue for Nigeria case. Meanwhile, Hendarmin (2012) tests the influence of government capital expenditure on economic growth, resulting in its finding that there is a positive, yet insignificant correlation between them.

The government’s seriousness in developing their regions is measured from the existence of a governmental system known as Regional Autonomy. To support this, the government issues Law Number 22 of 1999 concerning Regional Government which is then amended into Law No. 32 of 2004 and Law Number 25 of 1999 concerning Revenue Sharing of Central and Regional Governments which is then amended further into Law Number 33 of 2004.

The law serves as a basis for any region to develop their region independently, relying more on the ability and potential the said region owns. This law also provides the regional government with a greater authority (local discretion) to design various development programs which suits with what the local society wants (local needs).

This study seeks to prove the role that the local government expenditure plays particularly in such fields as education, health, marine and fisheries, agriculture, general allocation fund, population and foreign investment, as well as the opinion of the Supreme Audit Agency’s (BPK) opinion on regional government’s financial statements in driving economic growth, to enable the creation of effectiveness and harmony in regional economic development, as well as the creation of good governance. In addition, this study also aims at empirically proving the influence of number of population, government expenditure for education, government expenditure for health, government expenditure for marine and fisheries, government expenditure for agriculture, central and regional government revenue sharing fund (general allocation fund), foreign investment and Supreme Audit Agency’s opinion on...
II. LITERATURE REVIEW

Economic growth relates tightly to the process of goods and services production increase process in the society’s economic activities. It is safe to say that economic growth deals with single-dimension development and it is measured from the increase in production output and revenue. In economic growth, it has been common to review the production processes which involve a number of product types using certain means of production (Djojohadikusumo, 1994). In this relationship, the quantitative sharing relationship between means of production in one hand and the entire production outputs on the other is shown. In one or other way, it could be expressed in a mathematical formal framework. Models regarding economic growth need to be tested using empiric-quantitative measurement.

Development has a greater meaning to it than economic growth, while an increase in production is definitely one of the main characteristics in the development process. In addition to quantitative production increase, development processes include such changes to production components, productive resources utilization pattern (allocation) among economic activity sectors, property and revenue distribution pattern among economic player groups, and to institutional framework in the society life thoroughly.

A highly important matter in development processes is the increasingly widening opportunities of employment of productive nature (productive employment). Economic development ought to bring about active participation in productive activities for all members of society desiring to play some role in the economic process. Productive economic activities result in numerous positive impacts, such as increasing real income for most members of population. It could in turn qualitatively and quantitatively increase their consumer purchasing power.

According to Adam Smith, economic development is a mixed process of population growth and technology advancement (Suryana, 2000). Meanwhile, Todaro (1981) defines development as a multi-dimensional process which involves major changes to social structure, society attitude, national institution and economic growth acceleration, reduction of unevenness and elimination of absolute poverty.

According to Rostow, economic development or transformation of a traditional society into a modern one is a multi-dimensional process. Economic development, in his opinion, does not merely deals with changes to economic structure, rather it also has something to do with the process which causes; economic organization’s orientation change, society change, investment method change, a change to people’s way in determining an individual status which is then based on their ability to perform their job, and a shift of society’s belief from viewing that human life is determined by nature to viewing that humans need to manipulate their surrounding nature to create advancement.

The definition of economic development according to Simon Kuznets (Suryana, 2000) is a long-term increase in a state’s ability to provide increasingly more varied economic goods to their people. This ability grows along with their technology advancement, and institutional and ideological adjustments they need. This definition has 3 (three) components: firstly, a country’s economic growth could be seen from the continuously increasing goods supply; secondly, advanced technology is a factor in economic growth which determines the degree of ability growth in providing various goods to the people; and thirdly, the wide and efficient use of technology requires an adjustment to institutional and ideological aspects so that the innovation created by human science could be utilized appropriately.

Based on the expert definitions above, it could be concluded that Economic Development is defined as a process which causes the population’s output per capita of a society to increase in a long run. From this definition, three elements can be drawn; (1) economic development as a process means continuous changes within which elements of strength have been contained for new investments; (2) an effort of increasing output per capita; (3) increased outputper kapita should last in a long run.

III. PREVIOUS STUDIES

The rapid population growth has created numerous serious problems for mankind welfare throughout the world. To what extent the population issues in many countries would be capable of supporting or hindering economic development? The research finds that any population growth which is followed by efforts of improving their health, education and general welfare would drive an economic growth (Gisore, Kiprop, Kalio, & Ochieng, 2014; Sylvester, 2000). However, when this population growth is not followed by those efforts above, it is highly likely to impede economic development. Meanwhile, a study carried out by (Shora & Adela, 2014) on the impact of population growth on economic growth in 22 developing countries for 2001-2012 period using data panel results in a conclusion that population growth obstruct economic development; it is because this population growth is not followed by their productivity improvement through education and health betterment.

Fiscal policy is an economic policy taken by the government in managing the state finance (through expenditure for education, expenditure for health, expenditure for agriculture, and so forth) to address the economic condition towards betterment. Fiscal policy has its root in the state revenue from both tax and non-tax and it is allocated in the form of government expenditure as contained in its Budget.

Government expenditure for education has positive influence on economic development (Dada, 2013; Gyimah-Brempong, 2002; Idrees & Siddiqi, 2013; Muthui, Kosimbei, Maingi, & Thuku, 2013; Nworji, Okwu, Obiwruru, & Nworji, 2012). The research conducted by Shora and Adela (2014) concludes that government expenditure for education has negative influence on economic development. Meanwhile, A. S. Olabisi and Oloni (2012), in the research they conduct conclude that government expenditure allocated for education have no influence on economic growth.

All studies on the influence of health budget on economic growth conclude that health budget increases economic growth, an increased health budget results in the increase in public health degree, and an increased public health causes...
worker productivity improvement and accelerates the economic growth rate.

The role that agriculture plays in economic development is not merely deemed as a supporting element, rather development is defined as the structural transformation from an economy relying on agricultural activities into goods and services industrial economy. Thus, the government role is highly needed particularly in driving activities in agriculture by providing agriculture facilities and infrastructures (such irrigation, fertilizer and seeds). On the other hand, Ebere, Chidinma, Osundina, and C (2014) study concludes that the state budget allocated for agriculture could drive economic growth.

The government expenditures used to influence how the economy of a region takes place (such as: facilities and infrastructures of education, health, transportation and so on) would result in an increase to economic activities and drive economic growth. Almost all studies confirm that an effective government expenditure could improve economic growth. However, some researchers such as Hendarmin (2012) in their research conclude that government budget has no influence on economic growth. Therefore, Srinivasan (2011) in his research concludes that government budget has negative influence on economic growth; this is possible because of off-target government expenditure.

In economic development theory, there are arguments for and against the role of foreign companies in supporting economic development. The same also occur in the studies as shown in table 2.5 below. Almost all researchers agree that foreign investment could drive economic growth through its role in fulfilling resources shortage between the targeted investments and the domestic savings which could be mobilized.

Meanwhile, other researchers such as Hendarmin (2012) and A. S. Olabisi and Oloni (2012) argue that Foreign investment is in fact decreasing economic growth through exclusive agreement in production field with the government by not spending the profit they earn. Shora and Adela (2014) and Louzi & Abadi (2011) in their research conclude that foreign investment has no influence on economic growth.

Some researchers suggest that corruption might actually increase economic growth. This is possible through two mechanisms (Mauro, 1995). Firstlly, the corruption is practiced by providing fund to accelerate the handling of a business (speed money) and thus evade economic players from what could have delayed their business. As already widely known, being evaded from unnecessary hindrance for economic activities means costs, either from such aspects as possible loss of business opportunities, or those costs from interests, and other expenses. This could support growth if the country has poor bureaucracy. Secondly, the very existence of corruption could drive government employees to work harder. Those previously not really motivated to finish their routines are stimulated to work thanks to the incentive given for their services. Such case could actually occur in any country.

IV. MODEL SPECIFICATION

The model in this research is as follows:

\[
\text{LOG (GDRP)} = \beta_0 + \beta_1 \text{LOG(EDUC)} + \beta_2 \text{LOG(HEALTH)} + \beta_3 \text{LOG(MAREXP)} + \beta_4 \text{LOG(DAU)} + \beta_5 \text{LOG(PMA)} + \beta_6 \text{LOG(POP)} + \beta_7 \text{OPINI} + \epsilon_t
\]

Description:
GDRP is defined as regional economic growth, EDUC is defined as local government expenditure for education, HEALTH is defined as local government expenditure for health, MAREXP is defined as local government expenditure for agriculture, MAREXP is defined as local government expenditure for marine and fisheries, DAU is defined as general allocation fund from central government to regional governments, PMA is defined as foreign investment, POP is defined as total population in respective region and OPINI is defined as Supreme Audit Agency’s appraisal of Regional Government’s Financial Statements.

V. RESULTS AND DISCUSSION

In data panel model analysis, there are three approaches used, namely ordinary/pooled least square approach, fixed effect approach, and random effect approach. The results of regression could be seen in Table 1.

<table>
<thead>
<tr>
<th>Table 1. The Result of Regression Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log(GDRP) is Dependent Var.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>LOG(EDUC)</td>
</tr>
<tr>
<td>(0.031077)</td>
</tr>
<tr>
<td>LOG(HEALTH)</td>
</tr>
<tr>
<td>(0.039484)</td>
</tr>
<tr>
<td>LOG(MAREXP)</td>
</tr>
<tr>
<td>(0.046665)</td>
</tr>
<tr>
<td>LOG(DAU)</td>
</tr>
<tr>
<td>(0.05993)**</td>
</tr>
<tr>
<td>LOG(PMA)</td>
</tr>
<tr>
<td>(0.027999)</td>
</tr>
<tr>
<td>LOG(AGREXP)</td>
</tr>
<tr>
<td>(0.011293)</td>
</tr>
<tr>
<td>LOG(POP)</td>
</tr>
<tr>
<td>(0.026627)</td>
</tr>
<tr>
<td>OPINI</td>
</tr>
<tr>
<td>(0.015971)</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>(0.490318)</td>
</tr>
<tr>
<td>R-squared</td>
</tr>
<tr>
<td>F-statistic</td>
</tr>
</tbody>
</table>

Sources: The data processed
Description: ( ) Standart error
*** = sign 1%  ** = sign 5%  * = sign 10%
The statistical test used to determine whether pooled data is a fixed effect method should be used to make the data regression is the Hausman test and the Chow test. Based on the results of calculations using the Hausman test and the Chow Test the best model chosen is the Fixed effect model (Model 1 in Table 2). The Fixed Effect model in table 2 needs to meet the BLUE (Best Linear Unbiased Estimator) requirement or be free from violations of basic assumptions and only heteroscedasticity tests are relevant to be used in the panel data model (Gujarati, D. N., & Porter, D. C. 2003). By using Park Test all independent variables do not have a correlation with residuals, so the model is free from heteroscedasticity.

Table 2. The Result of Fixed Effect Model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOG(EDUC)</td>
<td>-0.0017</td>
<td>-0.0069</td>
<td>-0.0022</td>
<td>-0.0100</td>
</tr>
<tr>
<td>(0.0126)</td>
<td>(0.0128)</td>
<td>(0.0123)</td>
<td>(0.0119)</td>
<td></td>
</tr>
<tr>
<td>LOG(HEALTH)</td>
<td>0.0392***</td>
<td>0.048***</td>
<td>0.0398***</td>
<td>0.0471***</td>
</tr>
<tr>
<td>(0.0146)</td>
<td>(0.0149)</td>
<td>(0.0142)</td>
<td>(0.01192)</td>
<td></td>
</tr>
<tr>
<td>LOG(MAREXP)</td>
<td>0.0918***</td>
<td>0.0943</td>
<td>0.087***</td>
<td>0.0668***</td>
</tr>
<tr>
<td>(0.0172)</td>
<td>(0.0117)</td>
<td>(0.0114)</td>
<td>(0.01219)</td>
<td></td>
</tr>
<tr>
<td>LOG(AGREXP)</td>
<td>0.0846***</td>
<td>0.1115***</td>
<td>0.0903***</td>
<td>0.0992***</td>
</tr>
<tr>
<td>(0.0119)</td>
<td>(0.0155)</td>
<td>(0.0170)</td>
<td>(0.0179)</td>
<td></td>
</tr>
<tr>
<td>LOG(DAU)</td>
<td>0.0648***</td>
<td>0.0660***</td>
<td>0.1333***</td>
<td></td>
</tr>
<tr>
<td>(0.0265)</td>
<td>(0.0260)</td>
<td>(0.02598)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOG(PMA)</td>
<td>0.0017</td>
<td>0.00346</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(0.0039)</td>
<td>(0.0041)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOG(POP)</td>
<td>0.4176***</td>
<td>0.5069***</td>
<td>0.4176***</td>
<td></td>
</tr>
<tr>
<td>(0.102)</td>
<td>(0.0973)</td>
<td>(0.1015)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPINI</td>
<td>-0.011***</td>
<td>-0.016***</td>
<td>-0.011***</td>
<td></td>
</tr>
<tr>
<td>(0.0056)</td>
<td>(0.005)</td>
<td>(0.006)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>7.5516***</td>
<td>6.6843***</td>
<td>7.5506***</td>
<td>13.043***</td>
</tr>
<tr>
<td>(1.4149)</td>
<td>(1.4005)</td>
<td>(1.4097)</td>
<td>(0.2283)</td>
<td></td>
</tr>
</tbody>
</table>

Sources: The data processed

Description: ( ) Standard error  *** = sign 1%  ** = sign 5%  * = sign 10%

To see the effect of each variable, the model was developed into 4 models. Model 2 does not include DAU, model 3 does not include PMA and model 4 does not include PMA, POP and OPINI.

The Government Expenditure for Education has no influence on regional economic growth. It means that education allocation cannot increase education quality and quantity, rather it merely increases teachers’ welfare. This means that the increased education fund allocation is mostly used for teacher certification and school operation. The false ideas have been implemented in several provinces in Indonesia which state that the creation and expansion of opportunity to obtain quantitatively fast education is the main key to bringing about successful national development. They believe that the more education opportunities available, the faster the development process would be. Departing from this idea, regions take up the race to expand their education within relatively short time, making the field more sensitive politically. Every time an election for regional leaders is held, free education has always been a common topic. The rapid expansion of education opportunity have consumed substantial costs, yet the society surprisingly experiences in average development inequality.

Indonesia is encountered with two main alternatives for their policies in the effort of dealing with education problems, i.e. firstly; expanding formal education system quantitatively in the form minor modifications to both the curriculum, teaching methods, and evaluation without amending the education policies which take too much costs and institutional structures of its manpower market. Secondly; they try to reform their entire education system, followed with changes to the demand and supply for schooling opportunities and direct back the curriculum for it to suit the actual national needs. The evidences show that the first alternative would only worsen such problems as unemployments, poverty, income distribution inequality, and village economic stagnancy.

Results of this research confirm the studies conducted by Bloom et al. (2010), A. e. a. Olabisi (2012), Gisore et al. (2014) and Al-Shatti (2014) which suggest that education expenditure has no correlation with economic growth.

The government expenditure for health has positive influence on regional economic growth as proven by the fact that increased health expenditure will result in decreased infant and maternal mortality rate, hence capable of driving economic growth. In addition, the healthy Indonesia program could improve productivity, which in turn will drive economic growth.

Government expenditure for marine and fisheries allocation has positive influence on regional economic growth. This is because most of Indonesia’s territory is sea, leading to optimized utilization of resources in marine and fisheries when the government expenditure is allocated to it.

The development expenditure for agriculture has an influence on economic growth in 18 provinces in Indonesia. The objective agriculture development in Indonesia is to improve village community level of life by increasing their income, total production, and small farmer productivity. Therefore, the first thing the government should do is to identify the main sources of agriculture advancement and the basic condition which possibly influence the achievement of successful development in agriculture sector. All these important elements clearly relate to one another, making a highly complex relation. The development of agriculture and village sector could only succeed in bringing about benefits for a lot of people when the government together with all farmers do something harmoniously, particularly regarding the provision and improvement of entitlement or utilization of lands to each
The general allocation fund has positive influence on regional economic growth. General allocation fund (DAU) is an amount of fund allocated for each autonomous province in Indonesia every year as a development fund. DAU is one of expenditure components in the State Budget (APBN), and it is one of revenue components in Regional Government Budget (APBD). DAU aims to be financial power distribution among regions to fund the autonomous regional needs in the effort of implementing decentralization. DAU is used by regional government in promoting economic growth, particularly to supplement the fund in regional development.

Foreign investment (PMA) has no relation with regional economic growth. It can be seen in the fact that so far foreign investments in Indonesia are mainly dealing with natural resources exploration, and those regions relying merely on their natural resources experience low average economic growth. This has made the government to pass policies to increase the value added of their natural products in order to enable the maximally optimized investment role. This research confirms Louzi and Abadi (2011) who suggest that investment has no influence on economic growth.

Criticisms have been widely addressed to foreign investments, particularly regarding its impact on development in Indonesia which is highly unevenly distributed and in many cases foreign investment company activities strengthen the dualistic economic structure and worsens revenue distribution. They will transfer their resources from its utilization to produce food materials into its utilization to produce sophisticated goods and satisfy only certain groups and tend to worsen the inequality of economic opportunity between rural and urban areas with many of them operating in urban areas and accelerate the urbanization flow from villages to cities. Foreign investment companies tend to produce those goods many find unsuitable for them (consumed only by certain groups), thus promoting extravagant consumption pattern through advertisement and the goods they produce tend to use capital intensive technology. Therefore, domestic resources tend to be allocated to those socially non-beneficial projects.

Population growth could promote economic growth in many provinces in Indonesia. Traditionally, population growth serves as a positive factor in reference to economic growth. The large number of population is a potential market to be sources of demand for various goods and services which then sets various economic activities in motion and finally creates a scale of economy. Results from this research confirms the studies performed by Sylwester, (2000), and Gisore et al. (2014).

The policy to decelerate population growth rate is addressed in a long run to reduce absolute poverty, minimize income distribution unevenness, expand the opportunity to pursue education particularly for women, increase employment opportunity, increase health facilities and infrastructures and create social services in a more evenly-distributed manner.

The Supreme Audit Agency’s opinion on Regional Government’s Financial Statements has negative relationship with regional economic growth. Insofar, regional government has yet optimized performance-based budget. What has been implemented is limited merely to budget absorption, and this has not had any impact yet on the outcome of each program being implemented. This research confirms Mauro (1995), which states that corruption could drive government employees to work harder. Those who are previously no so motivated to finish their routines will be geared up to work hard thanks to the incentive for their services they give. To avoid corruption, there is a need to optimize the Corruption Eradication Commission (KPK) institution. Upon the establishment of Corruption Eradication Commission, there is an increasing trend of many cases being brought before the court, which involve many state higher-ups officials.

VI. CONCLUSION

From the results of analysis of the influence of government expenditure composition (education, health, marine and fisheries, agriculture, and general allocation fund), it could be interpreted: Firstly, that from all government expenditure components, the one for marine and fisheries has the greatest contribution in promoting economic growth in Indonesia, and this just suits the shape of its territory with 2/3 of it consisting of waters. Secondly the government expenditure component for agriculture gives the second greatest contribution after expenditure for marine and fisheries. This really supports the fact that 35 percent of employment absorption in Indonesia is in agriculture sector, thus, the agriculture development priority or “back to village” program the government has implemented have been appropriate.

The government expenditure for education has no influence on regional economic growth. The government needs to re-evaluate elementary education in terms of its curriculum, teaching method, and education evaluation. This would then make people not just pursuing quantity, rather they will also maintain the elementary education quality.

Foreign investment has no influence on economic growth. Foreign investment companies tend to produce products consumed only by certain groups, thus promoting extravagant consumption pattern through advertisement and the goods they produce tend to use capital intensive technology.

The Supreme Audit Agency’s opinion on regional government’s financial statements has negative relationship on regional economic growth (In accordance with research Mo, P. H. 2001). It means that in Indonesia all matters related to public interests should be settled using money and this motivates people working in the field to work harder. To rectify the condition, the regional government role should be optimized through monitoring and evaluation of expenditure budget, i.e. that the money coming from APBD is people’s money, thus, it should be used as optimal as possible for the greater good of the people. So far, regional government has not optimizing performance-based budget. What has been implemented is limited merely to budget absorption, and this has not had any impact yet on the
outcome of each program being implemented. In addition to optimization through monitoring and evaluation of performance-based budget, the government needs to make everything regarding their financial policy to be transparent. Transparency allows the society to participate in giving positive contribution to the government policy in budget and to fund development programs, as well as to settle various issues in the government. Transparency ensures the rights for any information which could help prevent it from being misused by individual or groups for their personal interest, for their political or economic benefits (OECD, 2003).

REFERENCES