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GOVERNMENT EXPENDITURE AND ECONOMIC GROWTH: AN EMPIRICAL STUDY IN INDONESIA

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ARTICLE INFORMATION	ABSTRACT
	Indonesia has been experiencing a rapid economic growth amid global crises in the United States and the European Union countries. In addition, government expenditures in Indonesia have also shown an increasing trend in recent years. Using panel data from 33 provinces in Indonesia from 2007 to 2012, this paper describes the current condition of GDP growth and government expenditures, examines the relationship between government expenditure and economic growth, and formulates government expenditure policy in order to harmonize GDP growth, poverty alleviation, and income inequality. The result indicates that government expenditure for development, such as building roads, hospital, bridges, electricity, and water supply, has a significant and positive effect on the regional economic growth rate. Not only can government expenditures affect economic growth but it also can reduce poverty by strengthening human capital through better education and health facilities. *Indonesia mengalami pertumbuhan ekonomi yang sangat tinggi di tengah krisis ekonomi dan keuangan yang melanda Amerika Serikat dan negara-negara Eropa. Di sisi lain, pengeluaran pemerintah juga menunjukkan adanya tren meningkat. Dengan menggunakan data panel dari 33 provinsi di Indonesia dalam kurun waktu 2007 sampai dengan 2012, penelitian ini akan menggambarkan kondisi terkini pertumbuhan ekonomi dan pengeluaran pemerintah di Indonesia, mengetahui hubungan antara pengeluaran pemerintah dan pertumbuhan ekonomi, serta memformulasikan kebijakan pengeluaran yang dapat mengharmonisasikan pertumbuhan PDB, pengurangan kemiskinan, dan kesenjangan pendapatan. Hasil dari penelitian menunjukkan bahwa pengeluaran pemerintah untuk pembangunan, atau belanja modal, seperti membangun gedung, rumah sakit, jembatan, listrik, dan akses air bersih, memiliki dampak positif dan signifikan terhadap pertumbuhan ekonomi. Pengeluaran pemerintah tidak hanya meningkatkan pertumbuhan ekonomi namun dapat mengurangi kemiskinan dengan memperkuat sumber daya manusia melalui fasilitas pendidikan dan kesehatan yang lebih baik. Pertumbuhan ekonomi bergerak berlawanan dengan tingkat kemiskinan, namun bergerak sejalan dengan kesenjangan pendapatan.*

1. INTRODUCTION

1.1. Background of Study

Indonesia has been experiencing a rapid economic growth amid global crises in the United States and the European Union countries. Indonesia has a positive trend in economic growth, especially after the financial crisis in 1997-1998. Since 1999 the economy has recovered and the growth rate accelerated from negative growth rate to over 4-6 percent afterwards. According to World Bank, Indonesia Gross Domestic Product (GDP) grows at 5.8 percent on average in the last five years. A substantial growth indicates that the more output produced and the more employment created in the economy. As a result, the level of poverty decreases significantly.

The growth rate is mainly driven by the increase of domestic consumer demand and spending from a growing middle class of over 100 million people with increasing levels of disposable income. Given a rapid economic growth, Indonesia has become one of the major destination countries for foreign investors. Low labor costs, massive natural resources, growing domestic market, favorable demographics are among key elements of the investors' reasons (KPMG, 2013).

Recently, government expenditures, both central and local government, in Indonesia have been increasing every year. Data from Directorate General of Fiscal Balance shows that the central government spending has increased by 63 percent from 2007 to 2011, and local government spending has risen even faster, by 83 percent for the same period. Current expenditure, mostly for government apparatus' salary, has the biggest portion of the total expenditures. During the period of 2007 to 2011, 46 percent of the total expenditures are spent to pay salaries, whilst only 25 percent is allocated to induce capital formulation.

The question whether government expenditures have a positive or negative effect on the economic growth remains inconclusive. Being one of the components of Keynesian Cross, the Keynesian school of thought argues that increasing government spending

will expand the level of output (income) in the economy. Government expenditure is regarded as an exogenous variable that boosts economic growth. Nevertheless, an increase in government expenditures may result in a higher budget deficit in the future. If government spending keeps increasing faster compared to the government tax revenue, then fiscal sustainability will be threatened because there exists a smaller capacity to finance both its operating and development expenditures (Sriyana, 2011).

Some empirical studies find a positive relationship between government expenditures and economic growth. The relationship between government expenditure and economic growth and poverty alleviation in rural areas in India, Vietnam and Uganda is positive, meaning that government can escalate the level of output in the agricultural areas by developing agricultural research, education, and rural infrastructure (Fan et al., 2000, 2004). Government size, measured as the share of total expenditure in GNP, causes economic growth in the short run and in the long run (Loizides & Vamvoukas, 2005). Applying panel data from 14 states in India over the period of 1990-2002, reallocation of funds to increase the share of public goods expenditures can increase the regional GDP growth by 2.7 percentage points (Hong & Ahmed, 2009). Furthermore, government spending on capital formation, development assistance, private investment, and trade-openness all have positive and significant effect on economic growth in the South Eastern Europe (Alexiou, 2009).

However, there exist studies that find a negative relationship between government expenditures and economic growth. The effect of government expenditures on economic growth using data for 98 countries between the years 1960 to 1985 indicates that increases in government consumption significantly and negatively affects economic growth (Barro, 1991). Moreover, applying time-series data from 1965 to 1996, it is argued that government spending in Tanzania has not been productive, and thus, an increase in government spending (public investment) reduces the economic growth (Kweka & Morrissey, 2000). A study using a sample of time-series data in Indonesia from 1969 to 1999 finds that both government unproductive and productive spending have a negative relationship with economic growth. Government is perceived inefficient in development programs implementation and budget management (Ramayandi, 2003).

Some studies find that there is no significant effect of government expenditures on the economic growth rate. Public investment that corresponds to a stock of public capital has a positive relationship but insignificant with the output growth rate. This result indicates that "the flow of services from public capital with productive government services is imperfect. One of important factors to boost the level of output in the economy is human capital (Barro, 1991). Agell et al.

(1999) also find that the relationship between government spending and economic growth is insignificant.

The effect of government expenditures on economic growth may also vary between developing and developed countries. Government spending in agriculture and education promote economic growth in Asia and Africa countries, while spending in agriculture, infrastructure, and social security positively affect economic growth in Latin America (Fan & Saurkar, 2006). Using data from 14 OECD countries during the period of 1970 to 1987, it is found that government consumption, transfers and total spending as a share of GDP have a strongly negative effect on the economic growth, educational spending has a positive effect, and the level of government investment has no effect (Hansson & Henrekson, 1994). Another research is conducted to examine the relationship between government spending and economic growth in G-7 countries, and the result shows that the relationship vary significantly across time as well as across countries, and there is no significant evidence found that government spending can increase nor decrease economic growth (Hsieh & Lai, 1994). Among European Union countries, Anglo-Saxon and Nordic countries reveal higher speed of adjustment of government spending to potential output than Southern European countries (Arpaia & Turrini, 2008).

Given previous literatures, it can be concluded that the relationship between government expenditures and economic growth remains debatable. The impact may differ not only by countries or regions but also by the type of expenditures. This paper applies Cobb Douglas production function to determine the level of output produced in each province. Moreover, this study uses panel data from 33 provinces in Indonesia during the period of 2007-2012 and applies capital expenditures as a proxy of government expenditures. Capital expenditure is expected to be productive expenditures as described by Barro (1991) such that government can increase the level of output by reducing transaction costs, increasing human capacity and the level of productivity.

1.2. Objectives of the Study

Given the previous background of the study, this paper aims:
1. To describe the current condition of economic growth and government expenditures in Indonesia.
2. To examine the relationship between government expenditure and economic growth.
3. To formulate the government expenditure policy in order to harmonize GDP growth, poverty alleviation, and income inequality.

Figure 2. Capital Expenditure and Economic Growth Scheme
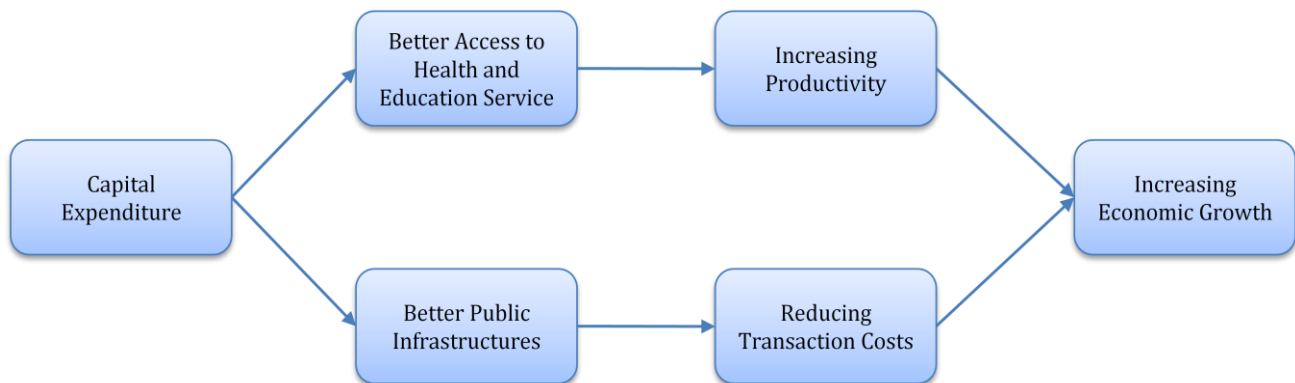
2. LITERATURE REVIEW AND HYPOTHESIS

2.1. The Approach of the Study

The role of government in the economy has long been a debate. John M. Keynes and his successors develop a concept that is called Keynesian Cross to explain how government expenditure can affect the level of output in the economy. Government spending has a positive relationship with the level of output (income) and therefore an increase in government spending will enhance the output in the economy. Keynes argues that the government should use its power through tax and spending to influence the business cycle and thus the economy in a particular country (Ekelund and Hebert, 2007). Meanwhile, Adam Smith with his classical colleagues and subsequent economists, known as neoclassical economists, argue that government should have a restricted role in the economy. Government's roles are limited only to protect property rights and to maintain the competition in the market.

Figure 1. Keynesian Cross
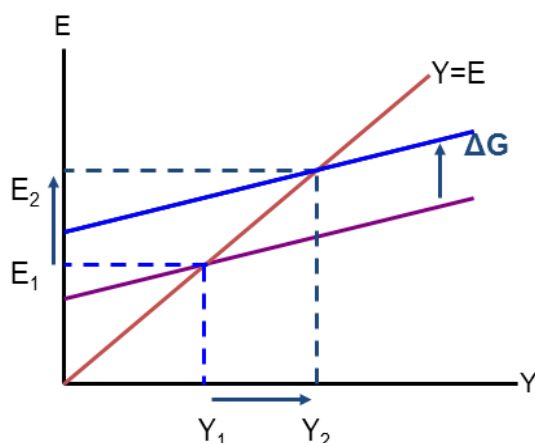
Keynesian Cross can be described in Figure 1 below. Vertical axis represents expenditure and horizontal axis represents output in the economy or GDP. The red line (Y=E) is a 45 degree line that indicates expenditures equals GDP. Increasing government expenditure by ΔG shifts planned expenditure upward by ΔG (from purple to blue line).

The increase of government expenditure affects real expenditure and GDP positively, real expenditures increases from E_1 to E_2, and GDP moves from Y_1 to Y_2. Notice that $\Delta Y > \Delta G$, meaning that an increase in government expenditure by ΔG have a multiplier effect on the economy by triggering consumption.

Government can increase the level of output produced either by individuals or by businesses in the economy through several channels. Firstly, government expenditure can enhance individuals' productivity by providing better access and facilities to health and education services, such as increasing the number of hospitals and schools and improving the quality of hospitals and schools. Healthy and well-educated individuals will find better jobs that accord their skill and eventually generate more earning. Public infrastructures can also affect economic growth positively by reducing transaction costs especially for businesses such that companies will enter local markets, create new jobs and eventually develop the local economy. Figure 2 depicts how government can affect economic growth through these channels.

Human capital and technological change are endogenous factors that affect the level of output in the economy (Barro, 1991; Romer, 1990). Technological change that arises from intentional investment decisions by profit-maximizing company encourages continued capital accumulation. In addition, economic growth is correlated with worldwide market integration but not necessarily related to population size and density. This finding explains why developing countries with large population are still not able to converge with developed countries but still benefit from economic integration with the rest of the world (Romer, 1990).

2.2. Hypothesis

From Figure 2, it is known that investing in capital expenditure, such as building schools and hospitals, will strengthen human capital such that productivity enhances due to better level of education and health. In addition, building new and additional infrastructures, such as road, bridges, and highway, can attract private investors because of reduction in transaction costs. Through both channels of capital

Table 2. Variable Description of the Study

Variable		Description
Regional GDP	:	The gross value added in the economy in the regional (provincial) level. Data are obtained from Central Bureau of Statistics Indonesia.
Capital Expenditure	:	States expenditures for capital formulation, such as spending on infrastructures (roads and bridges), building, equipment and machinery, and land. Data are acquired from Directorate General of Fiscal Balance Ministry of
Foreign Direct Investment	:	The net inflows of investment by foreign investors to Indonesia. Data are gained from Central Bureau of Statistics Indonesia and Indonesia Investment Coordinating Board.
Domestic Direct Investment	:	The net inflows of investment by domestic investors. Data are attained from Central Bureau of Statistics Indonesia and Indonesia Investment Coordinating Board.
Population Growth	:	An increase in the number of people that reside in the provincial level. Data are collected from Central Bureau of Statistics Indonesia.
Island	:	Dummy variable for geographical factor 1 is for provinces in Java and Bali 2 is for provinces in Sumatera 3 is for provinces in Kalimantan 4 is for provinces in Sulawesi 5 is for provinces in Eastern Islands of Indonesia

expenditure, government can increase the level of economy with regard to better human capital, public infrastructures, and social facilities.

Table 1. Expected Sign of the Parameters

Variable	Expected Sign
Capital Expenditure	+
Domestic Direct Investment	+
Foreign Direct Investment	+
Population Growth Rate	+

Given previous explanation and rationale, the main hypothesis of this study is:

H_1 : *Government expenditure for capital formulation has a significant and positive impact on economic growth rate*

Table 1 summarizes the expected sign of parameters applied in this study on the regional economic growth rate variable. Government expenditure for capital formulation, domestic direct

investment, foreign direct investment, and the population growth rate are expected to have a positive relationship with the economic growth rate.

3. METHODOLOGY

3.1. Data

This paper uses data for 33 provinces in Indonesia during the period of 2007 to 2012. States budget data are acquired from Directorate General of Fiscal Balance, Ministry of Finance of Republic of Indonesia. Other data are acquired from the Central Bureau of Statistics of Indonesia, either from statistics booklet or from statistical yearbook of Indonesia and from Indonesia Investment Coordinating Board. Table 2 provides variables used throughout this paper.

Based on summary statistics in Table 3, there are 198 observations (33 provinces x 6 years), but some variables may be lesser because of statistical treatment, such as log of variables. During the period of 2007-2012, provinces in Indonesia grow by 6.23

Table 3. Summary Statistics of Government Expenditure and Economic Growth Model, 2007-2012

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Year	198			2007	2012
RGDP rate	198	6.225859	3.618832	-5.51	28.47
Log RGDP	198	30.99089	1.290823	28.48084	33.73984
Log Capital Exp.	198	28.52519	0.7097897	26.91767	29.99953
Log FDI	182	27.28202	2.33285	21.35454	32.31968
Log DDI	161	26.81953	2.349729	18.42068	30.70002
Population Growth	198	2.315152	3.100465	-2.01	35.08
Island (Dummy)	198			1	5

Source: Data processed

Figure 3. Indonesia Annual GDP Growth Rate Trend, 1990-2013
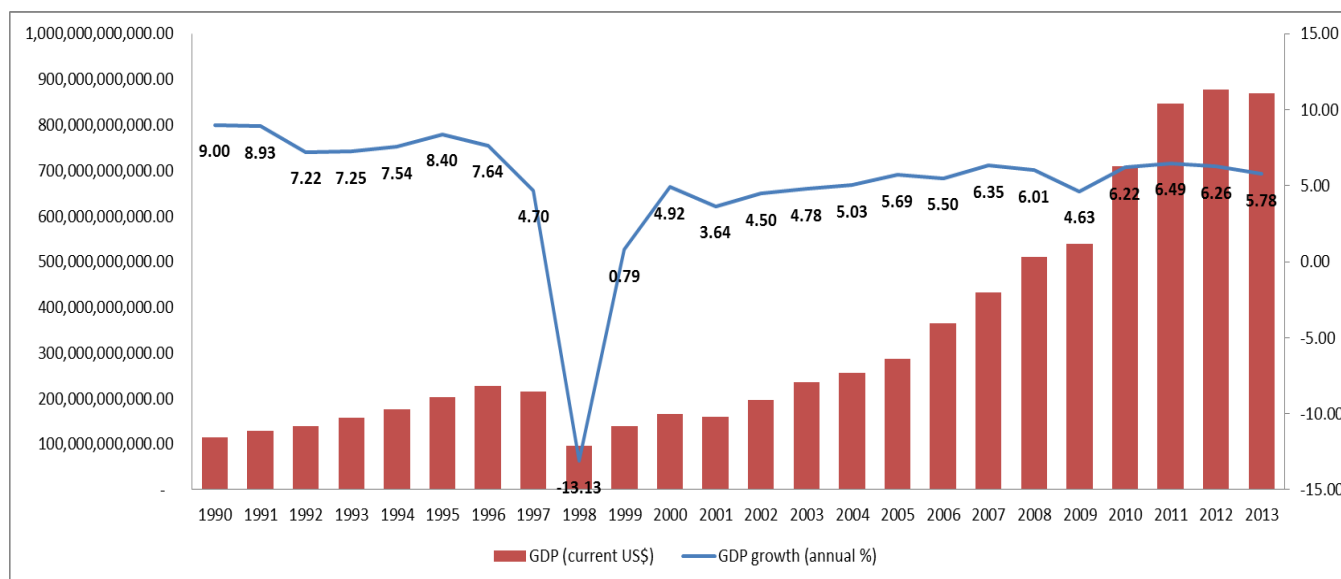
Source: World Bank (2014)

percent on average. The minimum growth rate is -5.51 percent in Aceh in 2009, whilst the highest rate is 28.47 percent achieved by West Papua in 2010. Most provinces experience slower economic growth in 2009 because of crisis in United States and most of European Union countries. Provincial population grows at 2.32 percent on average with the minimum growth rate is -2.01 percent that occurs in North Sumatera in 2010, while the highest population growth rate is 35.08 experienced by Papua in 2010.

3.2. Empirical Model

This paper describes the economic growth from the point of view of production process developed by applying the neoclassical aggregate production function, known as Cobb Douglas production function. Cobb Douglas function is commonly applied to explain economic growth from production side. Cobb Douglas function is determined as follow:

$$Y = f(K, L) \tag{1}$$

where the level of output in the economy, known as GDP (Y) is attributed to changes in factor production: capital (K) and labor (L). To incorporate government expenditure (G) in the production function, the production function can be formulated as follow:[9]

$$Y = f(K, L, G) \tag{2}$$

In accordance to the main purpose of this study, a model is formulated to find the relationship between government expenditure and the economic growth. The model consists of log regional GDP (lrgdp) as the dependent variable and log government expenditure for capital formulation (lcap) as the independent variable of interest. In addition, I also add some control variables that may influence the dependent variable (lrgdp), such as log foreign direct investment (lfdi) log domestic direct investment (lddi), the population growth rate (PG), and a dummy variable, island, to control for any individual effects in the model.

$$lrgdp = f(lcap, lfdi, lddi, PG, ISLAND) \tag{3}$$

The empirical equation is:

$$lrgdp_{it} = \beta_0 + \beta_1 lcap_{it} + \beta_2\, lfdi_{it} + \beta_3\, lddi_{it} + \beta_4\, PG_{it} + \beta_5\, ISLAND_{it} + \lambda_t + \varepsilon_{it} \tag{4}$$

$lrgdp_{it}$: log regional real GDP
$lcap_{it}$: log government expenditures for capital formulation
$lfdi_{it}$: log foreign direct investment
$lddi_{it}$: log domestic direct investment
PG_{it} : population growth rate
$ISLAND_{it}$: dummy variable for island
β_0 : the intercept
$\beta_1, \beta_2, \beta_3, \beta_4$: the parameters
λ_t : year dummy variables
ε_{it} : the error term

To estimate the unobserved effects of panel data models such as equation (2), there are two methods that are commonly applied in econometrics: Fixed Effect and Random Effect estimation. Fixed Effect can "estimate the effects of time-varying independent variables in the presence of time-constant omitted variables". In the Fixed Effect model, variables that are constant over time will be omitted. The Random Effect estimation assumes that the unobserved individual effect is uncorrelated with each explanatory variable (Wooldridge, 2009). In this case, the Random Effect

Figure 4. Contribution to GDP by Sector in Indonesian Economy, 2000-2013
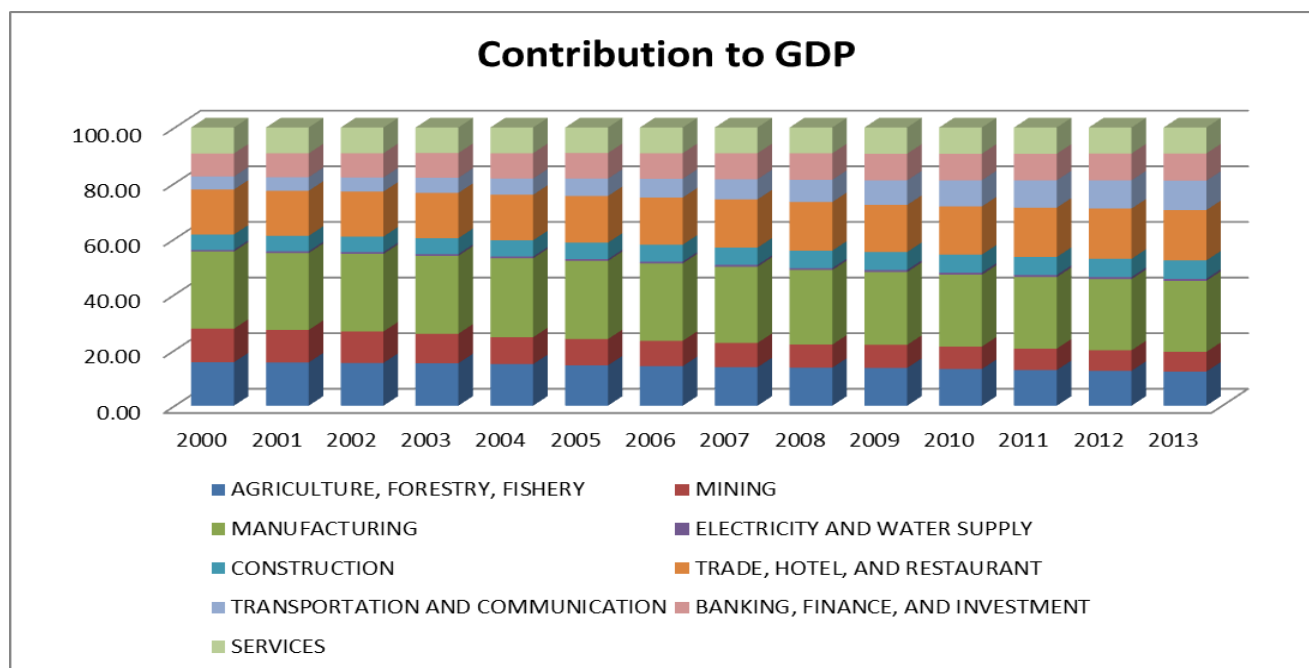
Source: Central Bureau of Statistics of Indonesia (2014)

estimation will include the dummy variable, island, into equation (4). Meanwhile the Fixed Effect model will drop the dummy variable because of its constant-over-time characteristic.

4. RESULT AND DISCUSSION

4.1. Current Condition of GDP Growth and Government Expenditures in Indonesia

The Indonesia economic growth rate has fluctuated during the last two decades as depicted by Figure 3. The economy reaches its highest growth rate in 1990 with 9 percent growth rate because of the oil boom and political stability in the 1970's and 1980's. A crisis that hits most of Asian countries in 1997-1998 had caused severe effects on the Indonesian economy. Many local companies failed to repay their foreign debts because of the depreciation of the Indonesian rupiah. Thus, the economic growth diminished and reached its lowest level in 1997.

The financial crisis not only shook the economy but also had political and social implications. The reigning president ended his 32-year presidency in 1998 after a massive demonstration and chaos triggered by the financial crisis. The GDP growth rate drops from 4.7 percent in 1997 to -13.13 percent in 1998 because of the financial crisis, and new era, called reformation era begins.
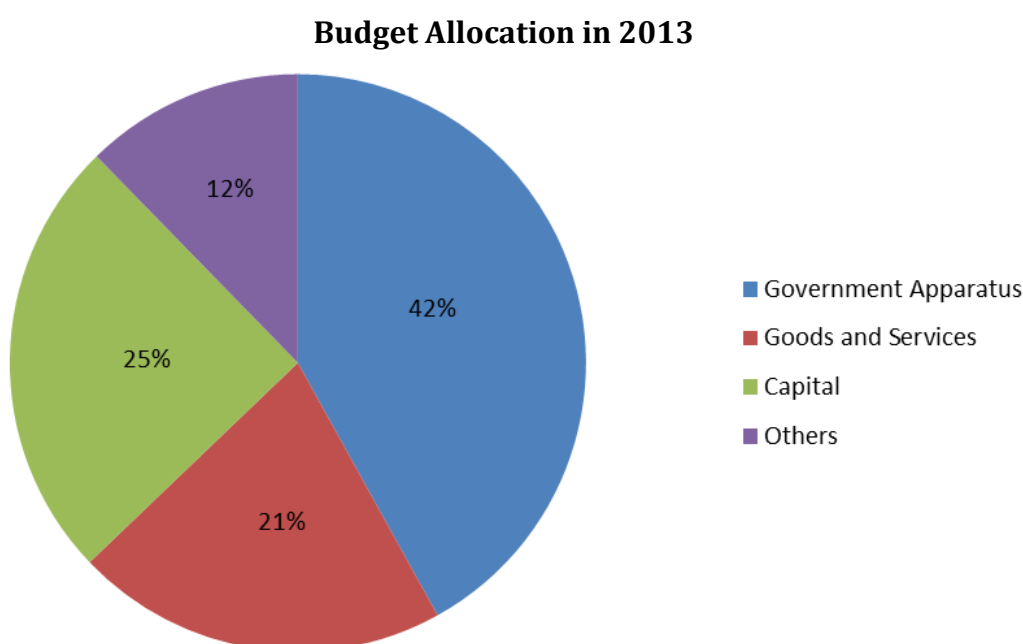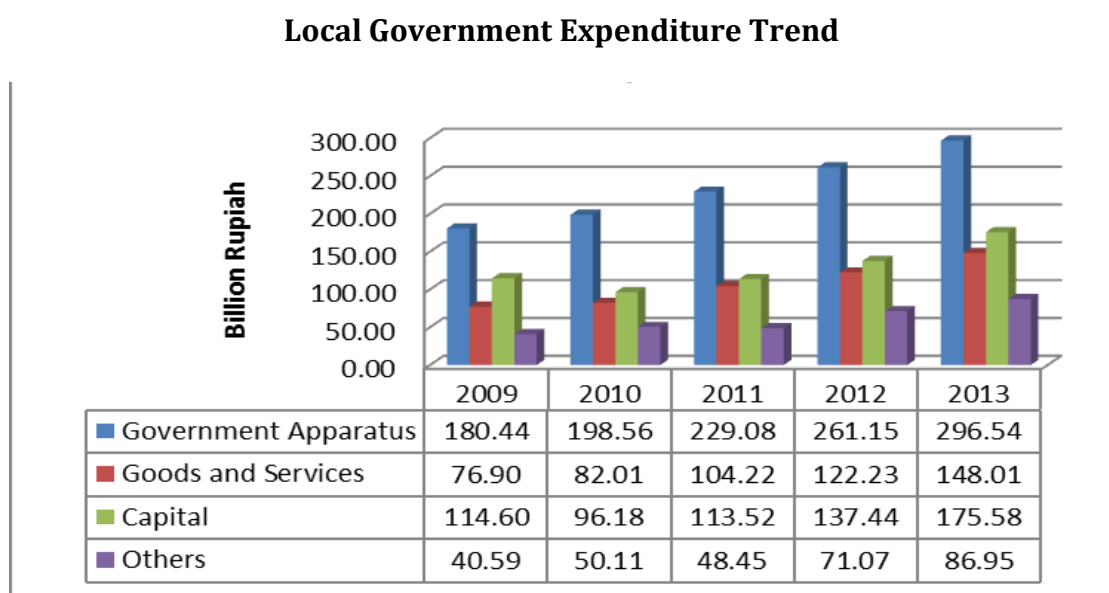
Figure 3 also depicts that economic growth starts to increase in 1999/2000 when central government decentralizes most of its authorities to local government. Centralistic government is perceived as high cost for the economy. Decentralization is directly influenced price stability and has indirect positive impact on economic growth (Martinez-Vazquez and Mcnab, 2006). Reformation era has shifted most authorities, from central to provincial and municipal

government. Local government is responsible to provide social needs, such as education, health, and public infrastructures.

Indonesia was recognized as an agricultural country with abundant natural resources and fertile soils, but agriculture no longer became the main source of GDP in the last 2 decades as being shown in Figure 4. Manufacturing replaces agriculture and nowadays plays an important role in contributing to Indonesian GDP. This sector has been the biggest contributor to GDP since 2000, with contribution of more than one quarter of the total GDP every year. Most of manufacturing industries are located in provinces in the island of Java. Central Bureau of Statistics of Indonesia records that there are 23,941 manufacturing industries in Indonesia in 2013 which 19,773 (82.6 percent) are located in Java. Food, apparel, and garment industry are the biggest three industries in Indonesia. Trade, hotel, and restaurant sector contributes 18.09 percent of total GDP in 2013, second below manufacturing and have an increasing trend. On the other hand, natural resource-based sectors, such as agriculture and mining, have a decreasing trend in the last two decades.

Government expenditures play an important role in determining the economic progress of a country. The Indonesia government expenditures, on the other hand, have been increasing in the last five years. Figure 5 shows an increasing trend in the government budget. On average, government expenditures increase by 14.4 percent in the five-year period. Most of government expenditures are spent to pay government apparatus' salaries and honorarium, 42.78 percent of total expenditure on average in 2013, declining from 44.7 percent in 2012. Spending on goods and services increases by 15% on average, and capital expenditure

Figure 5. The Allocation of Local Government Expenditure in Indonesia, 2009-2013

Local Government Expenditure Trend

	2009	2010	2011	2012	2013
Government Apparatus	180.44	198.56	229.08	261.15	296.54
Goods and Services	76.90	82.01	104.22	122.23	148.01
Capital	114.60	96.18	113.52	137.44	175.58
Others	40.59	50.11	48.45	71.07	86.95

Budget Allocation in 2013

- Government Apparatus 42%
- Goods and Services 21%
- Capital 25%
- Others 12%

Source: Directorate General of Fiscal Balance, Ministry of Finance (2013)

rises by 12.7 percent. This decline shows government commitment to allocate more spending on building public infrastructures. In addition, local government expenditures can be classified into nine sectors: economy, health, defense, environment, tourism, public service, education, social securities, and housing.

4.2. Relationship between Government Expenditure and Economic Growth

Using STATA 11th edition, Table 4 depicts the estimation result of equation (4) using Ordinary Least Square (OLS), Fixed Effect (FE), and Random Effect (RE). Not only does the equation include the variable of interest, government expenditure for capital

formulation, but also it includes other control variables that may affect the dependent variable (economic growth), such as foreign direct investment, domestic direct investment, and population growth.

The result in Table 4 provides comparison between Ordinary Least Square, Fixed Effect and Random Effect estimation. Government expenditure, represented by government expenditure for capital formulation, has a positive and significant effect on the level of output in the regional (provincial) economy in Indonesia. The sign is consistent among models: OLS, Fixed Effect, and Random Effect model that commonly applied to estimate panel data. Increasing capital expenditures by one percent will

Table 4. The Result of Economic Growth Estimation in Indonesia, 2014[1)]

Dependent variable: Log regional GDP

VARIABLES	OLS (1)	Fixed Effect (2)	Random Effect (3)
Log capital expenditure	0.30***	0.18***	0.27***
	(0.048)	(0.037)	(0.043)
Log foreign direct investment		0.02***	0.02***
		(0.006)	(0.007)
Log domestic direct investment		0.02***	0.02***
		(0.005)	(0.007)
Population growth		0.00055	0.00064
		(0.002)	(0.003)
Sumatera			-1.14***
			(0.241)
Kalimantan			-1.22***
			(0.306)
Sulawesi			-1.99***
			(0.274)
Eastern Islands of Indonesia			-2.28***
			(0.273)
Constant	22.58***	25.03***	23.53***
	(1.386)	(1.016)	(1.201)
Observations	198	159	159
Number of id	33	33	33
R-squared	0.143	0.427	

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

[1)] Data based on panel data of 33 provinces in Indonesia, 2007-2012

increase regional GDP by 0.3 percent, 0.18 percent, and 0.27 percent using OLS, Fixed Effect, and Random Effect estimation respectively. This result shows that government can increase economic growth by investing in public infrastructures, such as hospitals, schools, roads, and bridges. These expenditures will increase individuals' productivity and reduce transaction costs if funds are allocated efficiently. This result confirms previous studies conducted by Fan et al. (2000, 2004), Loizides and Vamvoukas (2005), Hong and Ahmed (2009), and Alexiou (2009).

Other finding is foreign direct investment and domestic direct investments as proxies of private investment have a positive and significant effect on regional economic growth. Foreign direct investment, for example, is mostly associated with technology transfer that can increase efficiency in production and reduce costs. FDI eventually creates positive spillovers into recipient countries (Carkovic And Levine, 2005). Realizing the positive impact of investment in the economy, government usually attracts investors, both domestic and foreign investors, through tax incentives.

However, this paper finds that the effect of population growth on the level of output is statistically insignificant. The insignificant effect of population growth on the economic growth rate confirms previous studies by Barro (1991) and Romer (1991) that economic growth is mostly influenced by human capital and technological change. This argument explains why developing countries which are commonly very populous have a lower growth rate compared to developed countries.

Furthermore, this study also confirms that provinces in Java and Bali have a higher economic growth compared to provinces in other islands in Indonesia. This finding indicates that provinces in Java and Bali still become target for development and investment. Given a better initial public infrastructures, it is easier for provinces in Java to attract investments. In addition, differences in provincial characteristics, such as resources and natural environment, economic structure, public and community institutions, social norms or expectations, and demographic characteristic of the population, will result in differences in economic growth rate across provinces. In order to create equality in term of economic output and income, central government then need to pay more attention on building better facilities and infrastructures in provinces in the eastern of Indonesia.

4.3. Economic Growth, Poverty Alleviation, and Inequality

The government of Indonesia has released the National Medium-Term Development Plan 2010-2014 on January 20th, 2010 that becomes a guideline for development activities in Indonesia for five-year period. There are three pillars for development

strategy: pro-growth, pro-poor, pro-jobs. This plan indicates government commitment to not only increase economic growth but also reduce poverty. The implementation of the National Medium-Term Development Plan is reflected by decreasing current expenditures and increasing expenditures for capital formulation for projects/programs that eventually stimulate growth, reduce poverty, and create jobs.

Government expenditure can affect economic growth positively and the poverty rate negatively (Fan et al. 2000, 2004; Fosu, 2010; Hariadi, 2009). However, income inequality, measured by GINI ratio, demonstrates an increasing trend. Figure 5 depicts economic growth, poverty, and income inequality trend in Indonesia in the last fifteen years. Given an increase in economic growth and a decrease in the poverty rate, Indonesia still encounters income inequality problem that rises over time. Growth itself is not sufficient. It should be sustainable, sustained and inclusive (Mckay & Sumner, 2008). High initial level of inequality can be a barrier for the effectiveness of economic growth to reduce poverty while growing inequality reduces poverty directly for a given level of growth (Fosu, 2010).

Economic growth not only can affect poverty but also can affect income distribution in the economy. Economic growth can alleviate poverty but also increase income inequality, although the effect is smaller than the reduction in poverty. Hence, government program to induce economic growth is not a trade-off to poverty alleviation (Hariadi, 2009). However, the trend of economic growth in Asia has been both less inclusive and less pro-poor. This trend can be redressed by increasing spending on health, education, and social safety nets; reforming labor markets to enhance the labor share of total income; to reform financial systems more inclusive (Balakrishnan et al., 2013). Other suggestions are to redistribute the benefits of growth through pro-poor public expenditure and to increase the rate of job creation (Mckay & Sumner, 2008).

There exists a trade-off between economic growth and income redistribution. If government aggressively redistributes income, economic growth will be lower significantly (Scully, 2008; Benhabib, 2003). Income redistribution through tax structure, for instance, will discourage high-income individuals to work harder. Economic growth raises income inequality by shifting the share of market income to the highest quintile, at the expense of the other income quintiles (Scully, 2008).

5. CONCLUSION

Indonesia has become one of the fastest growing countries in the world amid crises in the United States and European Union countries. Government spending is perceived as an important factor in determining the level of output produced in the economy. Aligning with economic growth trend, government expenditure has increased in the last few years that eventually could

contribute to both regional and national economic growth.

This paper examines the relationship between government expenditure, measured by government expenditure for capital formulation or capital expenditure, and economic growth, measured by regional GDP in 33 provinces in Indonesia during the period of 2007 to 2012. The result indicates that there is a positive and significant effect of capital expenditure on regional economic growth. Local government can increase economic growth by providing better access and facilities to public infrastructures that increase human capital and reduce transaction costs. Better access to health and education facilities can increase individuals' capacity and productivity.

Furthermore, this study finds that local government can increase its regional GDP by encouraging investment, both from domestic and foreign investment. Foreign direct investment, for example, is associated with technology transfer that can increase efficiency in production. Related to individual characteristics, this study indicates that provinces in Java are growing faster than other provinces due to better infrastructures and facilities. However, there is no evidence that population growth increases regional GDP in Indonesia.

Economic growth in developing countries like Indonesia is perceived less pro-poor and less inclusive. Thus, economic growth is necessary to be sustainable, sustained and inclusive. The trend shows that economic growth moves in an opposite direction with poverty and in-line with income inequality, measured by GINI ratio. Government should allocate spending to induce growth, redistribute the benefits of growth through pro-poor expenditure and increase job creation.

6. POLICY IMPLICATION AND LIMITATION

The results of this study imply that policy makers can stimulate economic growth by nurturing government expenditure on capital formulation and encouraging private sector to invest through foreign direct investment and domestic direct investment. Nevertheless, economic growth should not be the main target because economic trend shows that an increase in economic growth is not only followed by poverty alleviation but also by increasing income inequality.

Government of Indonesia should pay more attention on differences in initial level of public infrastructures and facilities among provinces in Indonesia. These differences result in different economic growth rate and can create inequality among provinces. Government should not allocate expenditures to certain provinces that make inequality worse.

It should be stressed that there are some caveats in this study. First, the short period of time might have been a lack in this paper. For further research, a longer time series might help to better explain the effects of

the government spending on economic growth. In addition, this study does not accommodate the level of openness in trade, such as regional import and export because of data availability. Lastly, there is no technological change factor accommodated in the determination of economic growth. Cobb-Douglas production function determines technology as one of growth factors. The importance of technology in the economy is confirmed by Romer (1990) and Barro (1991).

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