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#### Government Spending Contributions on per Capita Income and its Effect toward the Human Development Index (Comparative Study between Western Indonesia and Central & East Indonesia)

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**Abstract**: In many countries, include Indonesia, a centralized government has a sizeable negative impact on inequality of development. During the New Regime Order era with a centralized system, Indonesia's development is concentrated in the western part of Indonesia which had led to inequality in terms of per capita income and human development. To solve these problems, one of the economic reforms undertaken by the Indonesia government is changes the system from a centralized to a decentralized system. Through the fiscal decentralization under Law No. 22/99 and 25/99, they hope to improve people's welfare and reduce inequality. This research is aim to assess the effect of government spending and investment on the growth of per capita income and see the effect of the growth of per capita income towards Human Development Index (HDI). The method used is multiple regression with panel data and the study from year 2007-2012 by dividing the two groups of regions ie: western Indonesia and central&eastern Indonesia. Based on the research results, for the western Indonesia, goods and services expenditure has a significant effect on the per capita income growth and per capita income growth significantly affect the human development index (HDI). For the central and eastern Indonesia, domestic and foreign direct investment (DDI and FDI), goods and services expenditure, and capital expenditures have a significant effect toward per capita income growth and per capita income growth effect significantly toward the HDI.

Keywords: Government Spending, FDI, DDI, Income/Capita Growth, HDI

## **1. Introduction**

Education and health are basic objectives of development. Education is essential for a satisfying and rewarding life and the other hand, health is essential on well being. Health and education can also be seen as vital components of growth and development as inputs to aggregate production function (Todaro and Smith, 2011). One of the indicators used to measure the success rate of development of a society is the Human Development Index (HDI). HDI is an indicator that used to measure one of the important aspects related to the quality of the results of economic development that is the degree of human development. HDI is a composition index which based on three indicators, namely: health, educational attainment and standard of living (purchasing power). HDI are closely related to economic development. HDI levels are much higher in high Gross Domestic Product per Capita (GDP/Cap), see table 1. Based on World Bank, GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.

Country	GDP/Cap			HDI	
	2010	2011	2012	2012	Category
Indonesia	2,272	2,947	3,471	0.681	Medium
Singapore	42,784	47,268	51,709	0.899	Very High
Malaysia	8,754	10,058	10,432	0.770	High
Thailand	4,083	5,192	5,480	0.720	High
Brunei Darussalam	30,880	40,244	41,127	0.852	Very High
Vietnam	1,334	1,543	1,755	0.635	Medium
USA	48,358	49,854	51,749	0.912	Very High
Japan	43,118	46,135	46,720	0.888	Very High
Switzerland	70,370	83,087	78,925	0.916	Very High

Source: World Bank (2014)

Based on table 1, Indonesia has a lower per capita income than other ASEAN Countries such as Malaysia, Brunei, Thailand and Singapore. This condition was followed with lower HDI where Indonesian HDI only at medium category as same as with Vietnam. Meanwhile the countries those have a high per capita income such as Singapore, USA, Japan, Switzerland and Brunei has a very high HDI category. The other ASEAN countries: Malaysia and Thailand has a high HDI category. That condition describes that per capita income has positive relationship with HDI. Some previous researchers have discussed the variables that affect the HDI, such as: Ramirez, et al. (1998); Costantini and Martini (2006); Costantini and Monni (2007); Muhammad, et al. (2010); Yasmeen et al. (2011); Hamzah et al. (2012). They discussed the link between economics growth with human development. Government of Indonesia has been trying to improve the welfare of the people that can increase the quality of life (HDI).

In order to improve its welfare and quality of life (HDI), Indonesia had run some policies. One of them is reformed the fiscal policy that started with the law No.22/1999 on Local Government which is complete by the Law No.25/1999 on Financial Balance between Central and Local Government. The both laws are updated with the law No.32/2004 on Local Government and law No.33/2004 on the Financial Balance between Central and Local Governments. The policy was done through the implementation of fiscal decentralization model in Indonesia and expected to improve Indonesian economic growth. A few studies have already been successful in verifying the potential contribution of fiscal decentralization to economic growth (see among others: Samimi et al. (2010), Pose and Ezcurra (2010), Carrion et al. (2008), Felterstein and Iwata (2005), Iimi (2005), Hamzah (2004), Lin and Liu (2000), Phillips and Woller (1997), Zhang and Zou (1998), and Oates (1995). One of the main objectives of fiscal decentralization is equality in distribution of percapita income. Centralistic system in the past (Soeharto's Rezim) made inequality of income distribution, where West Indonesia region has high average economic growth and HDI. Meanwhile East and Middle region only has average low economic growth and HDI (MP3EI, 2014). Table 2 shows the data of Regional GDP and HDI of West, East & Middle Province in period 2010 – 2012.

No	Province	RGDP (IDR 000)		HDI	
		2011	2012	2011	2012
1	A c e h	34,789,000	36,600,000	72.16	72.51
2	DKI Jakarta	422,237,000	449,821,000	77.97	78.33
3	Bangka Belitung	11,588,000	12,251,000	73.37	73.78
4	Riau	43,810,000	47,405,000	75.78	76.9
5	DIY	22,132,000	23,309,000	76.32	76.75
6	East Java	366,983,000	393,666,000	72.18	72.83
7	West Sulawesi	5,233,000	5,704,000	70.11	71.31
8	Maluku	4,509,000	4,861,000	71.87	72.42
9	North Maluku	3,230,000	3,445,000	69.47	69.98
10	Papua	21,208,000	21,436,000	65.36	65.86

Table 2: HDI and Regional GDP (RGDP) Year 2010 - 2012

Source: Bureau of Statistical Center (2013)

Based on data, RGDP has positive relationship towards HDI. West Region for example, Jakarta, Eas Java and Riau have a high RGDP and high HDI, meanwhile Papua has low RGDP and low HDI. The low quality human resources in province level can be barrier for increasing equality income distribution. This condition is one of the impacts of centralistic system. This research aims to examine the effect of government expenditure (employee, good & services, capital), domestic direct investment (DDI), and foreign direct investment (FDI) on HDI with percapita income as the intervening variable.

## 2. Theoretical Background

**Government Expenditure and Economic Growth:** Mangkoesoebroto (2001) described that macro theory of government follow on Rostow and Musgrave, the law of Wagner, and Peacock and Wiseman rule. According to Rostow (1991), the transition from underdevelopment to development can be described in terms of series which connects the development of government expenditure with the stages of economic development that distinguished between the initial stage, intermediate stage and advanced stage. In the early stages of economic development, the percentage of the total government investment is a great investment. Because at this stage the government should provide infrastructure, such as education, health, infrastructure, transport, and so on. In the middle stage of economic development, the

government investment is needed to boost economic growth in order to take off. At this stage, the role of private investment is greater but the role of government remains large because of the greater role of the private sector which generated a lot of market failure to provide goods and services in the pubic greater numbers and better quality. Moreover, at this stage of economic development leads to the relationship between increasingly complex sectors. Meanwhile Wagner (in Sofilda et al., 2013) stated in an economy where per capita income increases, the relative government expenditure will increase. Wagner quantifies the government activity in the economy by comparing the government expenditure to national income. 5 (Five) factors that cause the increased of government expenditure are: (i) demands of increased protection security and defense; (ii) rising income levels (iii) urbanization that accompanies economic growth; (iv) the development of democracy, and; (v) bureaucracy that accompanies the inefficiency of government development. Based on his observation in development countries, Wagner stated that the government expenditure will increase in line with the increase of per capita income of the country. Peacock and Wiseman (in Sofilda et al., 2013) explained the behavior of government development based on the analysis of "dialectic acceptance- expenditure of government". The government tries to increase the expenditure by relying on tax revenue even though peoples do not like the high tax payments. Economic development will affect the increase of tax levy although the tax rate doesn't change and will increase the government expenditure.

In the Solow Growth Model (see Sofilda et al., 2013), the key variable to develop economic growth is labor productivity or output per worker, how many the average worker in the economy is able to produce. Solow calculates the output per worker by simply taking the economy's level of real GDP or output, and divides it by the economy's labor force. This quantity, output per worker, is best simple proxy for the standard of living and level of prosperity of the economy. In every economic model and the Solow growth model is no exception economists analyze the model by looking for equilibrium: a point of balance, a condition of rest, a state of the system toward which the model will converge over time. Economists look for equilibrium for a simple reason: either an economy is at equilibrium position, or it is moving and probably moving rapidly to an equilibrium position.

**Human Development Index (HDI):** HDI released by UNDP in 1991 which stated that the HDI is one approach to measure the success rates of human development. HDI is starting to be used by the UNDP since 1990 to measure the achievement of human development of a country. Although not able to measure all dimensions of development, however, able to measure basic dimensions of human development which is considered to reflect the status of basic skills of population. HDI consists of 3 (three) components that are considered essential for humans and operationally easily calculated to produce a measure that reflects the effort of human development. The components are: (i). the chance of survival (longevity); (ii). knowledge, and (iii). a decent living (living standards). Chances of survival is calculated based on life expectancy at birth, knowledge is measured by the average length of the school and the literacy rate of the population aged 15 years and above, and a decent life is measured by expenditure per capita based on purchasing power parity.

## **Research Framework**



## **Figure 1: Research Framework**

The growth of per capita income will be used as intervening variable in this research and the independent variables include: employee expenditure; goods and services expenditure; capital expenditure; domestic; and foreign investments. While HDI variable used as the dependent variable. The independent variables use in hope that if the government expenditure and investing increase, then per capita income growth will increase directly and will increase the HDI ultimately. The three variables used (employee expenditure, goods and services expenditure, and capital expenditure) are a reflection of consumption expenditure by the government in order to increase the per capita income of a region. Investment from domestic sources (DDI) and from abroad (FDI) is an important factor in supporting economic growth. Its expectations with increased investment in Indonesia, the growth of per capita income will increase and eventually HDI will also increase. In this research the investment proxies by two variables: the investment made by the investor in the country and abroad.

# 3. Methodology

This research uses quantitative methods to analyze the influence of independent variables to the HDI with per capita income as intervening variable in two regions (West, East & Middle Region). The data used are secondary data, collected from relevant source that is BPS, Ministry of Finance and other literatures. Data are taken from the years 2007-2012 and come from 33 provinces in Indonesia. To answer the hypothesis that proposed in this research, we uses multiple linear regression analysis using panel data, which will result in three regression in the form of common effect, the fixed effect and random effect. As we mentioned before, the independent variables in this research include: employee expenditure, goods and services expenditure, capital expenditure, and domestic and foreign investments. The dependent variable in this research is the HDI and the intervening variable in this research is the growth of per capita income. The growth of per capita income will proxies by using the GDP data at constant 2000 prices provincial level divided by the population, and then transformed into logarithmic form (unit per cent). Consumption proxies by three variables: personnel expenditure, goods and services expenditure and then transformed into logarithmic form (unit per cent). Investment proxies for the total realization of domestic and foreign, which is transformed into a provincial level logarithmic form (unit per cent). The research model can be written as follows:

Model 1: Income/capita<sub>it</sub> =  $\alpha_0 + \beta_1$ Empexpendit<sub>it</sub>+ $\beta_2$ GoodExpendit<sub>it</sub>+ $\beta_3$ CapExpendit<sub>it</sub> + $\beta_4$ DDI<sub>it</sub>+ $\beta_5$ FDI<sub>it</sub>+  $e_{it}$ 

Model 2: HDI<sub>it</sub> =  $\alpha_0 + \beta_1$ Income/capita<sub>it</sub> + e<sub>it</sub>

е
r

## 4. Result and Analysis

Based on test results using multiple linear regression analysis of panel data by using eView's 7.0 software obtained these following results. This research divided the process based on the classification of the area time in Indonesia that is WESTIND and CENTEASTIND. The province belongs to WESTIND are the provinces that located on the Island of Sumatra, Java, Madura, West Kalimantan and Central Kalimantan, while the province which belongs to CENTEASTIND are Bali, NTB, NTT, South Kalimantan, East Kalimantan, Sulawesi, Maluku and Papua. Based on the combined test results(Indonesia), by using Fixed Effect method, all variables except capital expenditures and personnel expenditures have a positive influence directly and significant statistically at 99% confidence level on the growth of per capita income in 33 provinces in Indonesia. In the WESTIND test results, that is only goods and services expenditure that can increase the growth of per capita income at 99 percent confidence level, while the other variables are insignificant. In the test results in the CENTEASTIND region, the variable of FDI, DDI, goods and capital expenditure can increase the growth of income per capita, while the employee expenditure does not have the influence on the growth of per capita income in the region of central and eastern Indonesia.

MODEL 1	INDONESIA	WestInd	CentEastInd
VARIABLE	В	В	В
С	9.857154***	9.701764***	11.14738***
LOGDDI	0.002615***	-0.000766	0.004640***
LOGFDI	0.004937***	0.002596	0.005553**
LOGGoodExpendit	0.212065***	0.207585***	0.195865***
LOGCapExpendit	0.001994	0.019180	-0.081550**
LOGEmpexpendit	0.001253	0.003460	0.047734
Adjusted R-squared	1392.411	0.987561	0.981968
F-statistic	5339.348	387.1387	256.0878
Prob	0.000000	0.000000	0.000000
Testing Model			
Chow Test (Prob)	0.000000	0.000000	0.000000

**Table 3: Equation I Testing Results** 

Source: Data Processed (Eviews 7.0)

Note: significance \*\*\* level of alpha 1%; \*\* alpha 5% and \* alpha 10%

When the employee expenditure does not have the influence on the growth of per capita income in the CENTEASTIND, we can say that there is as the effect of the failure of centralization of the economy model. So, the decentralization policy is expected to bring a better change. By the decentralization, most of the responsibility for the provision of public services, including infrastructure, depends on local governments. But right now, the largest expenditure item for most local governments in Indonesia is salary (leaving little room for investment in infrastructure). That is why the decentralization fiscal policy is also still unsuccessful. Policy options are to improve service access for people by declining poverty as income, improved quality and access to basic services will bring significant impact on living standards. It requires the handling of a number of challenges in the delivery of local services (supply side), one of them, with a re-allocation of more resources to the cluster service delivery centers and regional bureaucracy. At the same time, we realize that the decentralization also contribute to improved access to information, civil society and the media, and increased involvement in the local political process, which offers the opportunity to increase accountability for service delivery and the results of the query.

On the other hand, findings at WESTIND area that is only goods and services expenditure effect significantly toward the growth of per capita income, while the other variables are insignificant, shows that at the period of centralistic era, WESTIND area already savor or enjoy the cake of development program that create by central government. Besides that, these areas also have a tremendous natural resources and almost 80% economic activities occur or take place at this area. These resources already improved the quality of expenditure that measured by output and the desired outcomes continuously. So, today, increased expenditure by local governments at WESTIND have only a weak relationship (or not at all) to increase the results of its realization. Hence the local just need to convert the quality of expenditure requires, such as: increased allocation efficiencies in the allocation of expenditure that related among sectors and across programs and fields. For example, a significant increase in education spending in the last decade largely used for teacher salaries due to the increase in revenues teachers (Indonesia now has one of the lowest student teacher ratio in the world) and certification (certificate earned salaries of teachers with the number doubling). However, there is evidence that the number and teacher's certificate are not associated with the realization of a better educational outcome, as measured by student achievement. Indonesian student's achievement for reading, math, and science remained low when compared to other countries and have not increased in this period. In the road sector, the shopping street area has increased, but the construction of new roads have priority over road maintenance so that the district roads are in poor condition or damaged up to 40 percent. However, evidence shows that investment in rural infrastructure maintenance carries a higher rate of return than the infrastructure improvements that are likely to become the focus of local government. Re-allocation of the budget so that the local government is more inclined to maintenance than infrastructure improvements that tend to be the focus of the local government.

Furthermore, based on the results of testing both combined models variable 33 provinces and separation based on time region, showed statistically significant results at the 99 percent confidence level unless there are models pm-CET positively influence the growth of income per capita of the IPM in Indonesia during the period 2007-2012. As mentioned earlier, that the public expenditure on education, health and infrastructure can increase the per capita income. So that people have preferences that tend to consume

better and quality. Public spending in education and health can improve the quality of human resources through the consumption of good nutrition, education participation and ease of access to health so that every individual has the physical endurance, ability, knowledge, and skills as the basis of human capital (human capital) in economic activity either as employment or self-employment. Meanwhile, public spending in infrastructure opens up wider trade access through the construction of infrastructure that can accommodate all interests of integrated economic activity. Hence will increasing the HDI. Economic impact arising from the increase in income per capita is increasing purchasing power and the high level of consumption that would increase aggregate demand for commodities that will encourage investment that ultimately can create economic growth.

MODEL 2	INDONESIA	WestInd	CentEastInd
VARIABLE	В	В	В
С	-52.51593***	-67.75289***	-41.55344
I/Cap Growth	7.865830***	8.806676***	7.176591***
R-squared	0.892356	0.955318	0.812619
F-statistic	41.19807	105.7143	21.39451
Prob	0.000000	0.000000	0.081627
Testing Model			
Chow Test (Prob)	0.000000	0.000000	0.000000
Hausman Test (Prob)	0.000000	0.000000	0.009200

Table 4: Equa	ation II Te	sting Results
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Source: Data Processed (Eviews 7.0)

Note: significance \*\*\* level of alpha 1%; \*\* alpha 5% and \* alpha 10%

The results of the second equation aim to see the effect of per capita income growth to the HDI. Based on the test results of both combined models of 33 provinces, the results show that there is a significant effect at the 99% confidence level for the growth of income per capita towards HDI in Indonesia during the period 2007-2012. Hence, if we refer to the combined model of 33 provinces and also for WESTIND and CENTEASTIND, there are the direct effects of capital expenditure, personnel expenditure, goods and services expenditures, DDI, and FDI variables toward HDI through economic growth variable.

#### **5.** Conclusion and Recommendations

Based on the results of combined test we can conclude that by using the Fixed Effect, all variables except capital expenditures and personnel expenditures have a positive influence directly and significant statistically at 99% confidence level on the growth of per capita income in 33 provinces in Indonesia. In the WESTIND test results, that is only goods and services expenditure that can increase the growth of per capita income at 99 percent confidence level, while the other variables are insignificant. In the test results in the CENTEASTIND region, the variable of FDI, DDI, goods and capital expenditure can increase the growth of per capita income per capita, while the employee expenditure does not have the influence on the growth of per capita income in the region of central and eastern Indonesia. The results of the second equation for combined models of 33 provinces and for WESTIND and CENTEASTIND, show that there is a significant effect at the 99% confidence level for the growth of income per capita towards HDI during the period 2007-2012. Hence, there are the direct effects of capital expenditure, personnel expenditure, goods and services expenditures, DDI, and FDI variables toward HDI through economic growth variable.

**Recommendations:** There is a surprising result in equation or model 2. At combined models of 33 provinces and WESTIND, we find that there is a significant negative effect for constant value but not significant and negative effect at CENTEASTIND. These results suggest that the government should focus on efforts that have a direct impact on improving the human development index when making policy and development planning in addressing the problems of poverty in the whole Indonesia especial at west area.

#### References

Bureau of Statistical Center Statistical. (2013). Annual Report. Jakarta.

Carrion-i-Silvestre, J. L., Espasa, M. & Mora, T. (2008). Fiscal Decentralization and Economic Growth in Spain. *Public Finance Review*, 36(2), 194-218.

Costantini, V. & Martini, C. (2006). A Modified Environmental Kuznets Curve for Sustainable Development

Assessment Using Panel Data. Department of Economics, University of Roma.

Costantini, V. & Monni, S. (2007). Environment, human development and economic growth. Ecological Economics, ECOLEC-02847.

- Felterstein, A. & Iwata, S. (2005). Decentralization and Macroeconomic Performance in China; Regional Autonomy has its Costs. *Journal of Development Economics*, 76, 481–501. cenet.org.cn/upfile/94/200512712545165.pdf
- Hamzah, M. Z., Risqiani, R. & Sofilda, E. (2012). Human Development Quality and Its Problems in Indonesia. OIDA International Journal of Sustanable Development, 5(7), 29-36.
- Hamzah, M. Z. (2004). The Effect of Fiscal Decentralization to Economic Growth. PhD Dissertation. Not Published.
- Iimi, A. (2005). Decentralization and Economic Growth Revisited: An Empirical Note. *Journal of Urban Economics*, 57(3), 449–461.
- Lin, J. Y. & Liu, Z. (2000). Fiscal Decentralization and Economic Growth in China. *Economic and Cultural Change*, 49, 1-21.
- Mangkoesoebroto, G. (2001). Ekonomi Publik. Edisi III. BPFE: Yogyakarta.
- Masterplan Percepaan dan Perluasan Pembangunan Ekonomi Indonesia (MP3EI). 2014.
- Muhammad, S. D., Majeed, S., Hussain, A. & Lal, I. (2010). Impact of Globalization on HDI (Human Development Index): Case Study of Pakistan. *European Journal of Social Sciences*, 13(1), 46-55.
- Oates, W. E. (1995). Comment on Conflict and Dilemmas of Decentralization by Rudolf Holmes. The World Bank Research Observer, 351 – 353.
- Phillips, K. L. & Woller, G. (1997). Does Fiscal Decentralization Lead to Economic Growth? *International Economic Review*, 23, 21-33.
- Pose, A. R. & Ezcurra, R. (2010). Is fiscal decentralization harmful for economic growth? Evidence from the OECD countries. Economics and Social Sciences working papers series 2010/09.
- Ramirez, A., Ranis, G. & Frances, S. (1998). Economic Growth and Human Development. QEH Working Paper Series-18
- Rostow, W. W. (1991). *The stages of Economic Growth: A Non-Communist Manifesto.* 3rd edition. Cambridge, Cambridge University Press.
- Samimi, A. Jafari, P., Lar, S. K. & Haddad, G. K. (2010). Fiscal Decentralization and Economic Growth in Iran. *Australian Journal of Basic and Applied Sciences*, 4(11), 5490-5495. Fiscal decentralization in developing and transition economies: progress, problem, and promise. Washington DC: World Bank Working Paper.
- Sofilda, E., Hamzah, M. Z. & Sholeh, A. S. (2013). Human Development and Poverty in Papua Province (An Analysis of Simultaneous Approach on Panel Data Regression). *OIDA International Journal of Sustainable Development*, 06(06), 51-62.
- Todaro, M. P. & Smith, S. C. (2011). Economic Development, 10th Edition. Addison Wesley. UNDP.
- www.worldbank.org/en/about/annual report. 2014.
- Yasmeen, G., Begum, R. & Mujtaba, B.G. (2011). Human Development Challenges and Opportunities in Pakistan: Defying Income Inequality and Poverty. *Journal of Business Studies Quarterly*, 2(3), 1-12.
- Zhang, T. & Zou, J. (1998). Fiscal Decentralization, Public Spending, and Economic Growth in China. *Journal of Public Economics*, 67, 221-240.