UNEMPLOYMENT RATE, GOVERNMENT SPENDING, GROSS REGIONAL DOMESTIC PRODUCT AND POVERTY REDUCTION IN INDONESIA: *A POOLED DATA REGRESSION ANALYSIS FOR PROVINCES IN INDONESIA*

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Abstract: *This research aims at analyzing how significant the influences of Open Unemployment Rate (OUR), Government Spending (GS), and Gross Regional Domestic Product (GRDP) are on poverty reduction in Indonesia.The findings showed that OUR and GS did not affect poverty, however GRDP significantly had positive influence on poverty in Indonesia. The regional government with improving GRDP condition should keep creating programs related to employment provision to intensify workforce absorption. Therefore, the variables of government spending, Gross Regional Domestic Product of prevailing prices, and open unemployment rate significantly affect the poverty in Indonesia.*

Keywords: *OUR, GS, GRDP, poverty reduction*

1. INTRODUCTION

Poverty is one of the common problems faced by the governments of most countries in the world. As one of the developing countries, Indonesia also shares this specific problem which is burdensome socially and economically for the national economic development process. In fact, there have been many policies made by both central government and regional government; however, poverty still becomes a delicate issue to overcome up to recent. Many experts and institutions have defined poverty, one of which is Central Bureau of Statistics classifying the poor people using basic needs approach. Through the approach the poor people are viewed as the people who are economically incapable to fulfill their food and non-food basic needs measured from their expenditure. The poor community is described as the people with monthly per capita expense average below the poverty line.

It is assumed that one of the causes of the increase in poverty is the large number of unemployment. The higher unemployment rate will result in larger number of people

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living without income. More people living without income will lead to the prosperity and welfare decrease which in turn will make the number of poor people increase. In other words, unemployment rate is propotional to the number of poor people.

As can be seen in Figure 1, Open Unemployment Rate (OUR) across provinces in the period of 2007-2014 tended to decrease annually. OUR Banten province has the highest, while Bali has the lowest OUR in Indonesia. The decrease in OUR is expected to affect the decrease in poverty rate of all provinces in Indonesia.

Every government will certainly put any attempts to decrease the poverty rate in its region. These attempts will be effective if supported by qualified economic growth. Through the qualified economic growth, the policy on employment extension can be realized to decrease the unemployment rate and maximize productive investment in various economic sectors. The economic growth can be measured from annual GRDP increase. As already known, GRDP is the sum of added values of all production activities in a region's economics. This indicates that Gross Regional Domestic Product increase also reflects an increase in return to production factors used in the production activity which can also be economic performance indicator of the region/area.

Government always makes any efforts to decrease the number of poor people because the large number of poor people will not only be the regional government's
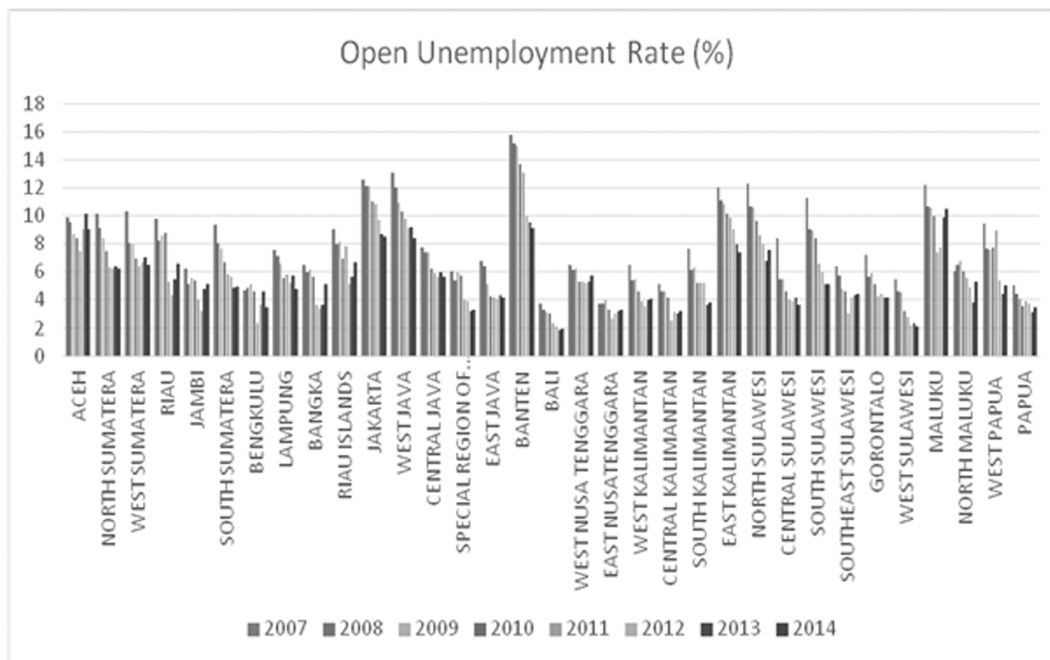

Figure 1: Open Unemployment Rate (OUR) of All Provinces in Indonesia in The Period of 2007-2014

Source: Central Bureau of Statistics, processed

burden, but also can create negative effects, such as the increase in crime rate and social conflict in the region. This agrees with the research conducted by Azalahu et al. (2013) and Nwagwu (2014) in Nigeria which showed that the increasing poverty had risen the crime rate and insecurity level of the society.

Regional (provincial) governments in Indonesia have allocation post for government spending in the Regional Budget (APBD). The government spending is a form of fiscal policy to fund the expenditure in public interest, especially for poor people. The adequate amount of government spending allocation which is directed to the right target will reduce the poverty. As can be seen in Figure 2, the government spending for all provinces in Indonesia tended to rise during 2007-2014.

GDP developments illustrate the performance of the economy in each province. The higher the GRDP will make economic capacity of the province is getting better. GRDP will make the improvement in the provinces better economic conditions and allowing for poverty reduction programs. Almost all provinces in Indonesia during 2007 to 2014 showed improvement. The highest GRDP value in Indonesia is produced by the Province of Jakarta, while the lowest GRDP value in Indonesia is produced by the province of North Maluku

2. LITERATURE REVIEW

A research by Asghar et al (2012) in Pakistan found an interesting thing in which the government spending especially in education and law could reduce the poverty
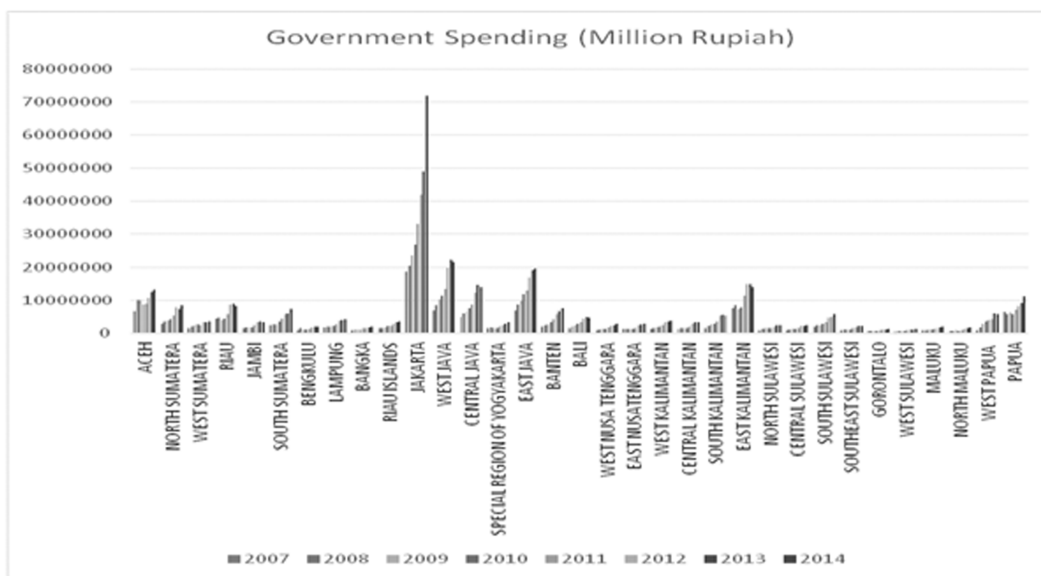

Figure 2: Government Spending of All Provinces in Indonesia in The Period of 2007-2014

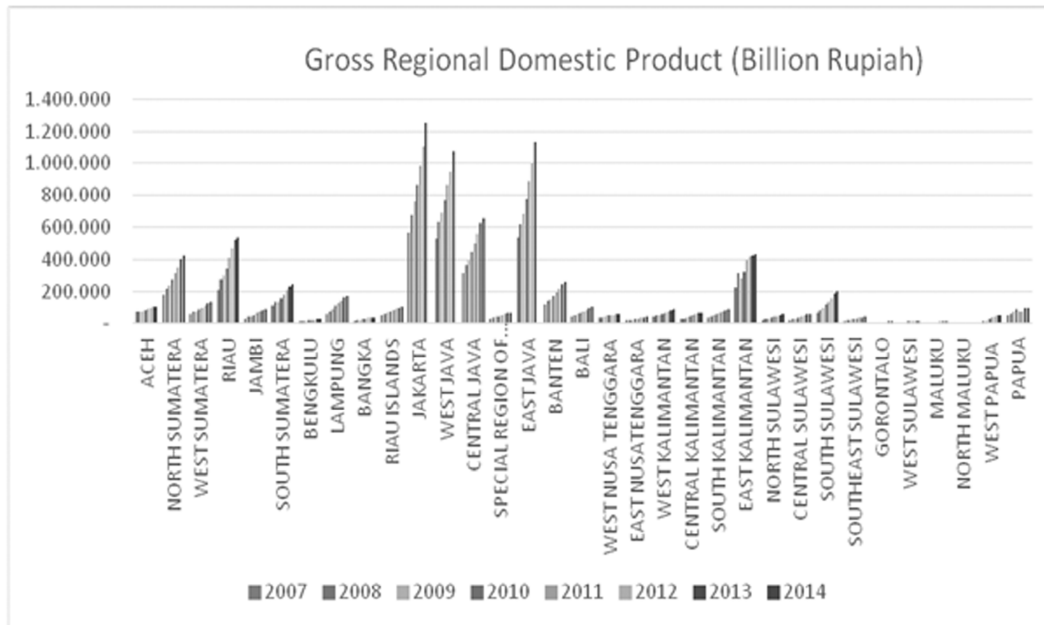*Source*: Central Bureau of Statistics. Processed

Figure 3: Gross Regional Domestic Product of All Provinces in Indonesia in The Period of 2007-2014

Source: Central Bureau of Statistics. Processed

number. This shows that the people capacity enhancement through education and regulation making as well as law reinforcement in Pakistan was successful to reduce the poverty number in the country. This finding is in line with the research conducted by Rodriguez (2009) who found that Mexican government strategies to reduce the poverty was through public spending, both in social programs and economic competitiveness improvement programs.

However, the findings above mentioned contradict the finding of research conducted by Odior (2014) di Nigeria. In that country, the poverty reduction as stipulated in Millennium Development Goals (MDGs) which would be implemented through government spending in education in 2015 would not achieve an optimum result since the government spending could not significantly influence the poverty rate reduction. The insignificant government spending impact on poverty reduction is also concluded in the research done by Amaghionyeodiwe (2009) in Nigeria several years before Odior's research. Amaghionyeodiwe more specifically explained that the increasing government spending in health sector was not balanced with the health improvement of the poor people which resulted in high poverty rate.

Moreover, unemployment rate is another factor that causes high poverty rate, and a number of research have shown that. Ukpere and Slabbert (2009) explains that the relation among current globalization, unemployment, imbalance, and poverty has

to be studied further. The researcher found that unemployment might increase imbalance and poverty rate. In addition, the result obtained in Freeman's (2003) research in the US indicates that the strong macro economic environment seemed as the sole condition needed to reduce poverty. In other research, Ukpere (2011) also emphasizes that capitalistic globalization might create prosperity, but not in Africa since the globalization leads to poverty resulting from more unemployment.

The same opinion was originated by Kolev (2005) who did a research in Bulgaria. Kolev argued that the unemployment resulting from work field availability uncertainty significantly positively influenced the poverty rate. Yao (2004) conducted a study on the reasons why a company had to lay off its workers and the impact of surplus labor on poverty. The findings showed that the unemployment rate caused by surplus labor in Ghuangzhou and Tianjin China positively influenced the poverty in the regions.

In addition to government spending and unemployment rate, this study also assumed that there was an influence coming from Gross Regional Domestic Product (GRDP) variable on poverty rate. Regarding that, Hasan (2015) in his research assumed that GDP growth in Nigeria significantly negatively influenced the unemployment. It means that GDP growth in Nigeria had succeeded to decrease the unemployment rate triggering poverty in the country. Hasan concluded further that GDP growth of Nigeria significantly negatively influenced its poverty rate.

Tarmizi (2014) also stated that variables such as GDP, population, industrial sector market, inflation, and education influenced poverty rate. More specifically, Tarmizi urged that PDB negatively influenced the poverty rate of Deli Serdang Indonesia specifically. Moreover, the negative and significant correlation between PDB growth and poverty line is also strengthened by another research carried out by Warr (2004) in Thailand. He said that the decreasing poverty rate of the country was strongly influenced by its PDB growth. His research findings also showed that the poverty rate reduction could not be achieved by increasing the minimum wage.

3. RESEARCH METHODOLOGY

This study employed secondary data from 2007 up to 2014 collected from thirty three provinces in Indonesia, including poverty rate, open unemployment rate, government spending, and GRDP. The data collection technique used was library research in Indonesian Central Bureau of Statistics. The analysis technique used to assess the influence of open unemployment rate, prevailing price-based GRDP, and government spending on the poverty rates of thirty three provinces in Indonesia was pooled data regression model using fixed effect model approach.

The model specification built in this research was a functional equation: Poverty Rate = f (Government Spending, Open Unemployment rate, prevailing price-based GRDP). After assesed using MWD model, the best function obtained for poverty estimation in Indonesia was in the semi logarithmic equation as follows.
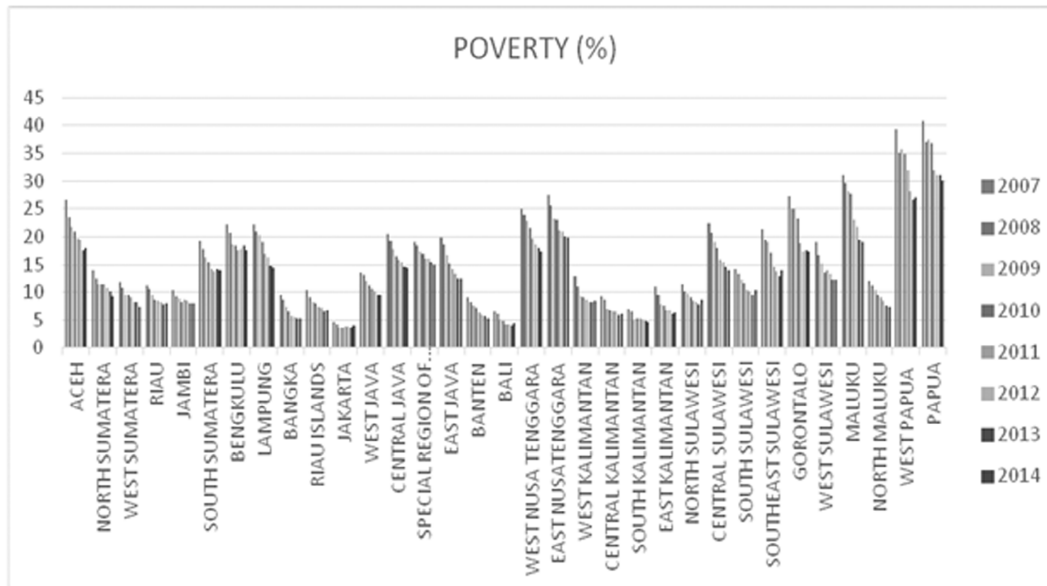
Figure 4: Poverty of All Provinces in Indonesia in The Period of 2007-2014

Source: Central Bureau of Statistics. Processed

$$PR_{it} = \beta_0 + \beta_1 \log GS_{it} + OUR_{it} + \beta_3 \log GRDP_{it} + e_{it} \tag{1}$$

4. ANALYSIS AND DISCUSSION

Indonesia realizes that poverty becomes a burden in the economic development of the province. Therefore, efforts to continue reducing poverty continue to be pursued serious makeover in all provinces in Indonesia. During 2007 to 2014 the development of poverty in all provinces in Indonesia has decreased. The highest poverty in Indonesia occurred in the province of Papua while the lowest poverty occurred in the province of Jakarta.

The research used the data of thirty three provinces in Indonesia. The poverty model estimated used the data from 2007 until 2014 (eight year period) resulting in 264 pool observation data in total. Selection of the best models in panel data analysis begins with statistical tests to select the best model among the common, fixed and random effects through several stages. The first stage perform statistical tests to choose the model of the common effects of the fixed effects, the results are presented in Table 1. Based on F test and chi-square statistic shows that the fixed effect model is better than the general model.

The second stage perform statistical tests to select the fixed effects model against the random effects, the results are presented in Table 2. Results of Hausman test shows that the fixed effect model that is appropriate for this analysis.

Table 1
Result of Redundant Fixed Effects Tests

Redundant Fixed Effects Tests			
Test cross-section and period fixed effects			
Effects Test	*Statistic*	*d.f.*	*Prob.**
Cross-section F	239.52634	32,228	0.0000
Cross-section Chi-square	935.71263	32	0.0000

Note: Ho: Common model is true; Ha: Fixed effect is true. * = Ho is rejected at
0.05 significance level, fixed effect is better than common model

Table 2
Result of Hausman Test: Fixed and Random Effects

Correlated Random Effects - Hausman Test			
Test cross-section random effects			
Test Summary	*Chi-Sq. Statistic*	*Chi-Sq. d.f.*	*Prob. **
Cross-section random	28.668858	3	0.0000

Note: Ho: Random effects is true; Ha: Fixed effects is true. * = Ho is rejected at
0.05 significance level, fixed effects is better than random effects

Table 3
Regression Result

Independent Variables	*Coefficient*		*t-statistic*
Constant	86.67247		14.50434
Government Spending	0.631338		1.020642
Open Unemployment Rate	-0.044163		-0.42401
Gross Regional Domestic Product	-7.291311		-9.33022[a]
R2		0.976363	
Adjusted R²		0.972735	
F statistic		269.0868[b]	

Note: [a], [b]= significant at 0.01 and 0.05 significance level respectively

The result of data empirical assessment using Fixed Effect Model is as follows:

4.1. Government Spending (GS)

The government spending in this model does not significantly influence poverty rate indicating that government spending has not created poverty reduction yet across provinces in Indonesia. The allocation of government budget for poverty reduction increases every year; nonetheless, the increase has not shown a significant impact on poverty rate reduction. In the Government Budget, the government spending is used more to pay the government employees'salary, so the government spending used to poverty reduction is inadequate in proportion to the number of existing poor people. Consequently, the government spending is not significant to the poverty rate of Indonesia.

This finding is in line with what was studied by Odior (2014) who found an insignificant relation between government spending and poverty rate. This finding also agrees with the research of Amaghionyeodiwe (2009) which specifically described that the continuously increasing government spending of Nigeria in health sector was not followed by the health improvement of poor people which resulted in stagnant poverty rate. However, this finding contradicts (though it has similarity in the influence direction) the research implemented by Asghar et a.l (2012) and Rodriguez (2009) arguing that the government spending positively correlated with the poverty rate.

The role of government spending for poverty alleviation in a state is crucial, especially for infrastructure procurement in the poor neighborhood to empower the poor society to be active in economic development of the state. The research of Ebimobowei et al, (2012) in Negeria shows that the attempt to reduce poverty has been an important challenge in the current economic development. The improvement in micro finance implemented by Nigerian government is assumed as insignificant to reduce the poverty. Other supports such as basic provisions including qualified road, stable electricity supply, and good transportation system are required.

Similarly, the research carried out by Fan et al. (2000) shows that to reduce poverty in rural areas, the Indian government must prioritize the investment in rural road procurement and research in agriculture. This is believed to result in higher productivity growth. The government spending in education was proven to affect the number of poor people in rural areas and to encourage the labor productivity growth. Other investments like in irrigation establishment, in land and water conservation, in health, as well as in rural and society development also have positive impact on poverty alleviation in India. This shows that the significant fund allocation provision in government spending for poverty alleviation programs shall certainly influence the government success in reducing the number of poor people in the country/the region.

4.2. Open Unemployment Rate (OUR)

The open unemployment rate in this model does not influence poverty rate. The condition is caused by the fact that many people choose to be unemployed (voluntary unemployment) due to the incompatibility of their educational background with the available jobs or with the rate of salary. In addition, the relatively high family income also serves as the factor which influences the well-educated people to be unemployed with the consideration that their family can still support their lives until they get expected jobs or income compatible with their educational background. This shows the strong family relationship in Indonesia as proven by the condition in which people can still rely on their families for their livelihood. Although they are already in their productive age to earn living, if they have not yet got the proper jobs, they will still live together with their families.

The condition results in slightly different research finding compared to other research findings in other countries. The research conducted by Ukpere and Slabbert (2009), Freeman

(2003), as well as Ukpere (2011) in the US and African countries showed that the unemployment rate had significantly positive influence to the poverty rate of those countries. The unemployed people in those countries do not have income which will make them difficult to earn living and put them below the decent standard living condition what so called poor. The more unemployed people living below the minimum standard, the more poor people registered in the country. This is similar to the research finding of Kolev (2005) in Bulgaria and Zao (2004) in China which state that the unemployment rate has significantly positive influence on the poverty rate of the countries.

4.3. Gross Regional Domestic Product (GRDP)

The GRDP significantly negatively influences poverty rate. GRDP coefficient was -7.291311. This indicates that when GRDP experiences 1 percent increase, the poverty rate decreases by 0.007291311 percent. The qualified economic growth (calculated based on GRDP increase) can be realized through the policy on employment extension to reduce the unemployment rate and maximize productive investment in all economic sectors in Indonesia. Through those attempts, the government can increase the society income and prosperity which leads to the poverty reduction in Indonesia.

A number of previous references also found a negatively significant relation between GDP (Gross Domestic Product) or GRDP growth and poverty rate. The research conducted by Tarmizi (2014) found that GDP growth significantly negatively influenced poverty rate. Likely, Warr's (2004) research in Thailand showed that the decrease in poverty rate of the country was strongly influenced by its GDP growth.

4.4. Intercept Coefficient of the Provinces in Indonesia.

The Fixed Effect test conducted indicates that each province in Indonesia has different intercept coefficient which explains that Fixed Effect model is able to describe the different behavior of the provinces. The province has a positive intercept means that provinces have poverty higher than average poverty throughout Indonesia. Instead the province has a negative intercept implies that the province has a relatively lower poverty compared to the average poverty throughout Indonesia.

The estimation result shows that the provinces of Papua, East Java, Central Java, West Java, and West Papua have relatively high positive intercept value compared to other provinces. It means that the heterogeneity between the provinces of Papua, East Java, Central Java, West Java, and West Papua and other provinces may raise the poverty rate of the provinces in question. Other estimation results indicate that the provinces of North Maluku, Bangka, West Sulawesi, Central Kalimantan and South Kalimantan have a low intercept value compared to other provinces.

5. CONCLUSION AND POLICY IMPLICATION

The research findings indicate that the government spending and open unemployment rate variables partially do not significantly influence the poverty rate in Indonesia. The

Table 4
Intercept Coefficient of the Provinces in Indonesia

No	Province	Intercept Coefficient
1	Papua	29,361177
2	East Java	27,062217
3	Central Java	24,417127
4	West Java	22,461007
5	West Papua	19,662737
6	South Sumatera	16,133357
7	Aceh	15,999766
8	Lampung	15,957976
9	North Sumatera	15,659190
10	Jakarta	15,113884
11	Riau	14,907806
12	East Kalimantan	12,897504
13	West Nusa Tenggara	12,771244
14	East Nusa Tenggara	10,929694
15	South Sulawesi	9,601428
16	Special Region of Yogyakarta	8,482257
17	Banten	8,196691
18	Central Sulawesi	7,906540
19	West Sumatera	5,631609
20	Maluku	5,018384
21	Southeast Sulawesi	4,933793
22	Bengkulu	4,113867
23	West Kalimantan	3,053021
24	Riau Islands	2,833183
25	Jambi	1,314562
26	Gorontalo	0,935743
27	North Sulawesi	-0,806244
28	Bali	-1,087742
29	South Kalimantan	-1,493053
30	Central Kalimantan	-1,825423
31	West Sulawesi	-3,787023
32	Bangka	-5,348273
33	North Maluku	-14,487583

Source: Eviews calculation result

prevailing price-based GRDP significantly negatively influences the poverty rate of Indonesia. The variables of government spending, prevailing price-based GRDP, and open unemployment rate altogether have significant influence on the poverty rate of Indonesia.

The government of Indonesia is expected to improve the government spending allocation in poverty alleviation in all provinces in Indonesia. The significant amount of government spending allocation is required in comparison to the number of poor people to reduce the poverty rate in all provinces of Indonesia. The government must be more serious in providing fund and determining its allocation precisely. The government must also take into consideration the infrastructure improvement on the provincial level due to the fact that the lacking access to a particular region (province) may result in relative high

poverty rate in the corresponding region (province). In addition, the distribution of the allocation of cash transfer for the poor people must be closely monitored in order to reach the targeted group so that the poor people can benefit from the subsidy optimally.

The regional government with improving GRDP condition should create more programs related to new employment to absorb more workforce annually. The more people employed, the more people earning living above the poverty line which in turn will reduce the poverty in the region. The improving GRDP condition will enable the regional government to increase the labor productivity through the integrated labor capacity enhancement work programs which will further increase the output (resulting in rising GRDP) and labor income. Consequently, the economic growth raises, and the economic activities will run faster and be distributed evenly in each economic sector. Hence, the strengthening labor income may reduce the number of poor people in the society. The study by Khan (2007) in 16 countries funded by the United Nations Development Programme (UNDP) and the International Labour Organization (ILO) found that the reduction of the number of the poor people in the countries was influenced by the economic growth and labor absorption intensity.

To decrease the poverty rate in each province of Indonesia, in additon to the implementation of the variables already mentioned, the government can perform the policies recommended by the research on poverty alleviation in several countries during the recent years. Indubitably, the recommendations must be fitted to the local conditions of the provinces in Indonesia. One of the attempts is the improvement of monthly zakat effectivity as studied by Ali et al.(2015) in Kelantan Malaysia which found that zakat distribution decreased the poverty rate and reduced the poverty severity.

Hotze et al. (2013) in his research in India concluded that the Indian government must focus on creating employment for the poor people as the way out of the poverty. The infrastructure improvement in India through the investment increase and distribution in the infrastructural sectors, such as employment and opportunity provision for the poor people and economic competitiveness enhancement, is an answer to decrease the poverty rate of India. Furthermore, the research by Ho and Odhiambo (2011) in China recommends that the long-term financial sector improvement can be a solution to reduce poverty in China.

Appendix

Formula (1)

$PR_{it} = \beta_0 + \beta_1 \log GS_{it} + OUR_{it} + \beta_3 \log GRDP_{it} + e_{it}$

Where:

PR	=	Poverty Rate (in percentage)
GS	=	Government Spending (million rupiah)
OUR	=	Open Unemployment Rate (in percentage)
GRDP	=	prevailing price-based Gross Regional Domestic Product (in billion rupiah)
β	=	constanta
t	=	period of 2007-2014
e	=	*error term*

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