



Public Spending and Poverty Reduction in Indonesia: The Effects of Economic Growth and Public Spending on Poverty Reduction in Indonesia 2009-2018

Submitted: 22 March 2019
Accepted: 23 September 2019
Available Online: 30 October 2019

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Abstract

Poverty is a complex and multidimensional issue. Over the past four decades, the number of poor in Indonesia has experienced a significant decline, from 40.10 percent in 1976 to 9.82 percent in March 2018. Nevertheless, the disparity of poverty rates between provinces is still quite high. The poverty rate in several provinces in Java Island, for example, is already at the single-digit level, while in Eastern Indonesia, is still more than double-digit level. As it is known, public spending and economic growth are two crucial instruments on poverty reduction programs. This study aims to investigate the role of economic growth and public spending, particularly education, health, and social protection on poverty reduction in Indonesia. By using panel data from 31 provinces during 2009-2018 period, this study used two regression models to analyze the effects of these two variables on poverty reduction, both in urban and rural areas. This study shows that public spending on health and education sectors has a slightly different effect on poverty reduction between urban and rural areas. Convincingly, spending allocation on health and education has had a significant effect to reduce poverty rate in rural areas, while the decline of poverty rates in urban is likely more influenced by spending on health. This study also shows that over the past ten years, economic growth and social protection spending did not have a significant effect on reducing poverty rates. Therefore, in order to reduce poverty more effectively, it would be better for the government to focus its poverty reduction programs on investment in health and education sectors.

Keywords: education; growth; health; poverty; public spending; social protection

1. Introduction

Poverty has been a fascinating topic to be discussed. Indonesia has experienced quite impressive economic growth over the past four decades. In the 1970-1990 period, when Indonesia began to develop various sectors, such as industrial, agriculture, infrastructure, and also enjoyed the blessing of increasing oil prices (oil boom), economic growth was able to grow between 6-8 percent. Surprisingly, economic growth reached the highest record at 9.88 percent in 1980. The rapid growth in this period has significantly reduced the number of people living below the poverty line, from around 40 percent in 1976 to 28.6 percent in 1980. Then, the poverty rate continued to decrease continually to 15.1 percent in 1990.

Unfortunately, the Asian Financial Crisis (AFC) that hit Indonesia in 1998 has caused the Indonesian economy to collapse. During this crisis, the economic and social situation was utterly uncertain. Riots occurred everywhere, and people's purchasing power weakened. As a result, the economy growth contracted quite high, reaching 13.13 percent. This unfortunate economic and social situation has caused the poverty rate to skyrocket again to 24.2 percent. Luckily, one year after the crisis, the economic and social situation began to improve. Slowly but surely, the national economy began to grow convincingly,

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between 3-6 percent. As a result, the national poverty rate dropped again to 19.14 percent in 2000 and 11.22 percent in 2015. Finally, after twenty years since the AFC, national poverty rate reached out by 9.82 percent in March 2018.

Even though national poverty rates in Indonesia have reached out one-digit level, the issue of poverty has not been over yet. Indonesia is still facing inequality. The disparity of poverty between provinces is still quite high. In the East Nusa Tenggara, Papua, and West Papua province, for example, the poverty rates are still above 20 percent. While the poverty rate in other provinces, such as DKI Jakarta, Bali, and South Kalimantan, has been below 5 percent. The disparity of poverty is also still quite high between urban and rural areas. Until March 2018, the percentage of people living below the poverty line in rural was still recorded at 13.20 percent, while in urban, has touched 7.02 percent. This situation makes the government have to work hard in order to overcome these poverty issues.

Besides being the main agenda of the Sustainable Development Goals (SDGs), the topic of poverty has attracted many researchers to be discussed. Studies about poverty, economic growth, and public spending have given lots of ideas for poverty reduction agenda. Studies conducted by Adams (2003), Suryahadi, Hadiwidjaja, & Sumarto (2012), Suryahadi, Suryadarma, & Sumarto (2006), Son & Kakwani (2004), Moser & Ichida (2001), Alatas, Pritchett, & Wetterberg (2003), and Le, Nguyen, & Singh (2014) are some studies that reveal the role of economic growth on poverty reduction in several developing countries. Meanwhile, studies conducted by Biswal, Jha, & Biswal (2001), Fan, Hazell, & Thorat (2000), Fan (2009), Omari & Muturi (2016), Asghar, Hussain, & Rehman (2012), Nugroho (2017), Birowo (2011), and Sasana & Kusuma (2018) discuss the role of public spending on poverty reduction. Overall, these studies emphasize the critical role of economic growth and public spending as key instruments to reduce poverty.

Poverty is a complex and multidimensional issue. Poverty is not just a lack of income, but also the absence of basic needs, education, and health (Ahmad et al., 1990; World Bank, 2001). However, to facilitate the planning and monitoring policies, many countries (particularly developing countries) use a monetary approach to measure poverty. In Indonesia, poverty is calculated by Statistics Indonesia (*Badan Pusat Statistik/BPS*) using a basic needs approach. In this approach, poverty is seen as an economic inability to meet basic food and non-food needs measured by expenditure. The total expenditure (rupiah value) of the total basic food and food needs is called as poverty line (Central Bureau of Statistics of Central Java Province, 2015). By this approach, the poor are those who have an average monthly per capita expenditure below the poverty line.

Nowadays, poverty reduction has become a central goal for development, both central and local governments in Indonesia. Poverty reduction becomes one of the main agendas of The Sustainable Development Goals (SDGs) which have agreed upon by 189 state leaders in September 2015. World state leaders (including Indonesia) have committed to eradicating poverty in all its forms as stated on Sustainable Development Goals (SGDs). The first goal of SGDs is to ensure that everybody in every place in the world is free from poverty. According to 2020-2014 National Medium-Term Development Plan (RPJMN), the government of Indonesia targets the poverty rate to decrease to 6.5-7 percent by 2024. To achieve this target, government has allocated budget through health, education, and social protection programs.

Many studies have been conducted to emphasize the importance of economic growth and public spending as the driving force of poverty reduction. Although poverty is a complex issue, poverty reduction actually can be achieved by economic growth and or distribution of income (Son & Kakwani, 2004). Good economy growth (which is supported by poor pro policy) should have good impact on poverty reduction. Otherwise, it would lead bubble economics (Sasana & Kusuma, 2018). In line with Son & Kakwani (2004), Suryahadi et al. (2006) also suggested that economic growth has such effect on poverty reduction. When examined the relationship between economic growth and poverty reduction in Indonesia, they found evidence that growth in the rural services sector reduces poverty in all sectors and locations. Moreover, during pre and post AFC periods, the growth of service sector was the largest contributor to reduce poverty in Indonesia, both in rural and urban areas (Suryahadi et al., 2012).

Economic growth has been the core of poverty reduction strategies in Indonesia as well as sub-Saharan Africa for decades (Moser & Ichida, 2001). In sub-Saharan Africa, economic growth has been an essential factor leading to non-income poverty reduction over three decades. Countries with higher growth rates within each income group experienced faster rates of decline in poverty. The importance of economic growth for poverty reduction also could be seen from the study conducted by Le et al. (2014). Le et al. (2014) argued about the effect of growth on poverty in Vietnam during the 1990s and 2000s and found that growth and internal trade were typically pro-poor, with elasticity was estimated to be 0.95 for the 1990s and 0.83 for the 2000s.

Besides economic growth, the budget allocation is also a key instrument for the government to promote economic development and reduce absolute poverty (Wilhelm & Fiestas, 2005). Some researchers believe that increasing public spending could reduce the poverty rate through enhanced economic growth. According to Wilhelm & Fiestas (2005), public spending has the potential to affect growth and poverty reduction in two ways: it can increase growth performance, and it can also increase the chance of the poor to contribute to the growth process, mainly by strengthening human capabilities and reducing transaction costs.

Dahmardeh & Tabar (2013) argued that government spending could have two effects on poverty reduction, both direct and indirect effects. The direct effects arise in the form of benefits the poor receive from expenditures on employment and welfare programs whereas the indirect effects come when

government investments, particularly on rural infrastructure, agricultural research, and the health and education, stimulate agricultural and non-agricultural growth. This growth then creates more employment and income opportunities for the poor and allow them to get food affordable. In other words, governmental expenditures would create investments and then accelerate economic growth (pro-growth), create the jobs (pro-job), and in the end, would eradicate poverty (pro-poor) (Nugroho, 2017).

Unfortunately, the effect of public spending on poverty reduction seems to have different effects in the specific places. In Kenya, for example, public spending on agriculture and health expenditures proved to have a positive and significant effect on poverty rate, while spending on infrastructure has a negative and significant effect on the poverty rate (Omari & Muturi, 2016). Meanwhile, the effect of spending on education on poverty rate was insignificant. However, this public spending tends to have a significant effect on poverty reduction in Indonesia. Even though different types of government spending have different effects on poverty reduction, but most of the studies concluded that public spending has significant effect on poverty reduction (Birowo, 2011; Nugroho, 2017; Sasana & Kusuma, 2018). Therefore, increasing government spending is believed would help to reduce poverty effectively.

This study aims to investigate the role of economic growth and public spending, particularly education, health, and social protection on poverty reduction at the provincial level in Indonesia. This study needs to be done since the disparity of poverty (between provinces and urban and rural) is still quite high. Do the economic growth and public spending, two important instruments in poverty reduction, really have an impact on poverty reduction in Indonesia?

Unfortunately, there are a few studies that examine the role of economic growth and public spending at the regional level, especially in Indonesia. Thus, this study tries to explore the linkage between economic growth and public spending on poverty reduction at the regional level. To achieve this purpose, this study employs provincial panel data from the past ten years and examines the role of economic growth and public spending on poverty reduction in Indonesia. By examining the relationship between poverty, economic growth, and public spending at the regional level, this study is expected to be one of the inputs for the government to support poverty alleviation programs.

2. Methods

This study uses two-panel data regression models to test the effect of economic growth and public spending on poverty reduction in Indonesia, both in urban and rural areas. For this purpose, this study employs panel data from 31 provinces during 2009-2018 period. The data come from two data sources. The poverty rate and economic growth data come from Statistics Indonesia (BPS), while public spending data, i.e., health, education, and social protection expenditures come from the Ministry of Finance of Indonesia. The data are collected in the last ten years, between 2009 to 2018.

As a note, the total public spending data used in this study is only public spending data, which is collected from the spending budget of the districts or cities in the relevant province. This is done because this study is going to examine the effects of public spending in specific provincial units, including provincial and district or city spending. This means that the central government budget, which is allocated in each province is excluded. Besides, if there were several spending data in districts or cities that are not sufficiently available (realization data), then the data is replaced by budget data with the same year.

The model to estimate the effect of economic growth and public spending on poverty reduction can be defined as equation 1.

$$\begin{aligned}
 PovR_{it} &= \alpha_i + \beta_1 health_{it} + \beta_2 educ_{it} + \beta_3 socsec_{it} + \beta_4 growth_{it} + \varepsilon_{it} \\
 PovU_{it} &= \alpha_i + \beta_1 health_{it} + \beta_2 educ_{it} + \beta_3 socsec_{it} + \beta_4 growth_{it} + \varepsilon_{it}
 \end{aligned}
 \dots\dots\dots \text{Equation 1}$$

$i = 1, 2, \dots, n$, and $t = \text{year}$.

Where $PovR_{it}$ refers to the poverty level of rural; $PovU_{it}$ refers to poverty level of urban; $\beta_1 health_{it}$ represents public spending on health sector; $\beta_2 educ_{it}$ represents public spending on education; $\beta_3 socsec_{it}$ represents public spending on social protection; $\beta_4 growth_{it}$ represent economic growth; ε_{it} is the error term, and α and β are the parameters to be estimated. The dependent variable in the estimation model is the poverty rate, both rural and urban areas. Meanwhile, the independent variables used in this model are public spending and economic growth as shown in the equations.

3. Result and Discussion

3.1 Poverty Trend in Indonesia

In the past four decades, poverty rates in Indonesia have shown a sharp downward trend, both in urban and rural areas. Figure 1 shows trend of poverty rates in Indonesia during 1976-2018. In 1976, when the economic, social, and political situation was not sufficiently stable, the total poverty rate reached 40 percent. The total poverty rate then decreased to only 28.6 percent in 1980. During the same period, urban poverty rate fell by 9.8 percentage points to 38.8 percent in 1976 to 29.0 percent in 1980, while rural poverty rate fell by seven percentage points from 40.40 percent in 1976 to 28.40 percent in 1980. The decline of poverty rates in this period was inseparable from the improving Indonesian economy due to the blessing of rising oil prices (Oil boom). In the oil boom period, Indonesia received additional funds from

increased oil export revenues. At that time, oil crude prices on average increased more than 200 percent compared to the prices in the 1970s. Besides this blessing, the development of various basic industries carried out by State-Owned Enterprises (BUMN) also had great impact on poverty reduction. In the 1980-1990 period, the total poverty rate was successfully reduced more massively, fell by 13.50 percent, from 28.60 percent in 1980 to 15.10 percent in 1990. Surprisingly, the total poverty rate continued to decline by 11.30 percent in 1996. However, the Asian Financial Crisis (AFC) that hit Indonesian in 1998 has made the purchasing power of Indonesian weakened and has made the total poverty rate increased to 24.20 percent in 1998.

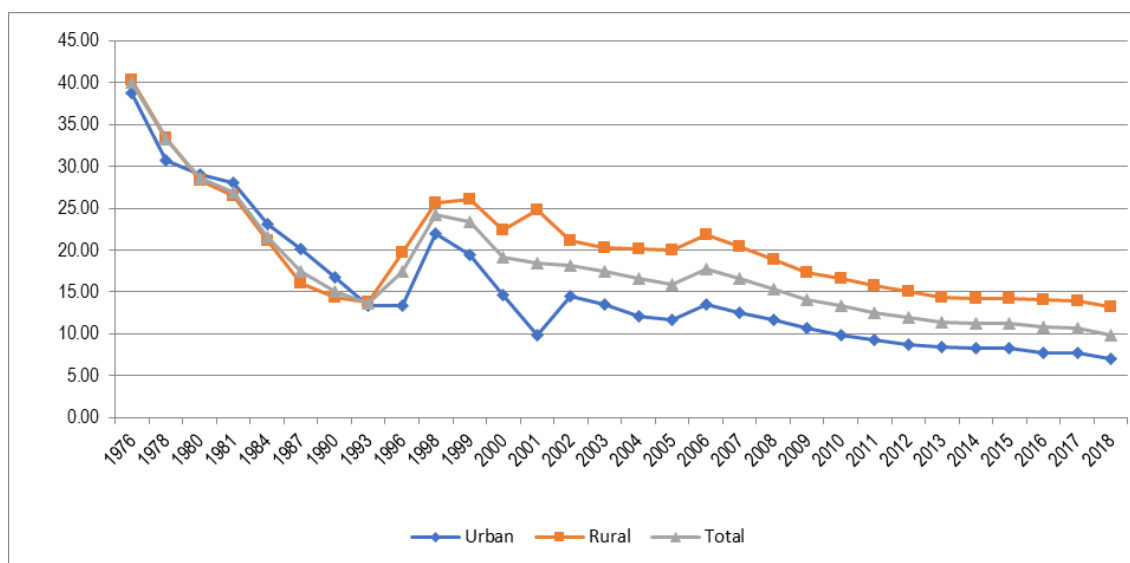


Figure 1. Poverty rates in Indonesia, 1976-2018
(Source: Authors' Analysis, 2018)

Fortunately, the effects of the AFC crisis did not last long. Slowly but surely, the economic and social situation has improved again. All parties, whether government, community or private sectors began to re-arrange their affair better. In 2000, the national economy was able to grow 4.5 percent after contracted quite sharply at 13.13 percent in 1998. This good improvement in social and economic conditions has affected the decline in the number of poor people, from 24.20 percent in 1998 to 19.14 percent in 2000. The poverty rate continued decline to 15.97 percent in 2005 and 13.33 percent in 2010. Finally, after 20 years, the poverty rate reached a historic low at 9.82 percent in March 2018.

Interestingly, although the poverty rate can be reduced to the single-digit level post AFC crisis, the disparity of poverty between rural and urban was getting wider. Since the economic crisis, the rural area has experienced the highest incidence compared to urban areas. In 1999, for example, when the urban poverty rate was 19.41 percent, the rural poverty rate reached 26.03 percent. Then 20 years later (2018), when the urban poverty rate was at 7.02 percent, the rural poverty rate was still at 13.2 percent or almost double. Whereas, if we traced poverty incidence backward, we would find that the urban poverty rate in 1980-1990 period was recorded to be always higher than the rural poverty rate.

3.2 Growth and Poverty Reduction

In general, the trend of decreasing poverty rates moves in line with the existing economic conditions. High economic growth that has occurred from 1976 to 1996 (pre-economic crisis) or 1999 to 2018 (post-economic crisis) provided broad-based benefits for the poor. As a result, the poverty rate both in rural and urban declined significantly. Moreover, the poverty rate in the 1976-1996 period was able to decrease by about half. Figure 2 shows an overview of the trend of poverty reduction and economic growth over the past four decades.

Figure 2 shows that the poverty rate in four decades seems to have negative correlation to economic growth. In 1976, when the national economy was only able to grow about 6.89 percent, the poverty rate was still quite high, reached 40.1 percent. Nevertheless, the improvement of social and economic situation (which was marked by good economic growth) during the pre-crisis period, has proved to reduce poverty sharply. In 1980, when the economy grew by 9.88 percent, poverty rate has decreased to 28.60 percent. Similarly, in 1999, when the economy was only able to grow 0.79 percent (due to the AFC crisis), the poverty rate also jumped by 23.43 percent.

Figure 2 also suggests that the decline of poverty rates has experienced a significant slowdown in the post AFC crisis. Unlike the decline of poverty rates that occurred in the before AFC period (1976-1996), where on average poverty rate was able to decrease by 1.04 percent per year, the decline of poverty rates in the post-AFC was seemed to have a stagnation. During this post AFC period, the reduction of poverty rate was recorded no more than 1 percent per year. In this period, the average decline of poverty rate was only around 0.72 percent per year. The decline of an annual average poverty rate has only decreased by

around 0.5 percent in the past ten years. Whereas, during the post AFC period, economic growth was able to grow more than 5 percent per year. It means that economic growth seems to have less effect on poverty reduction.

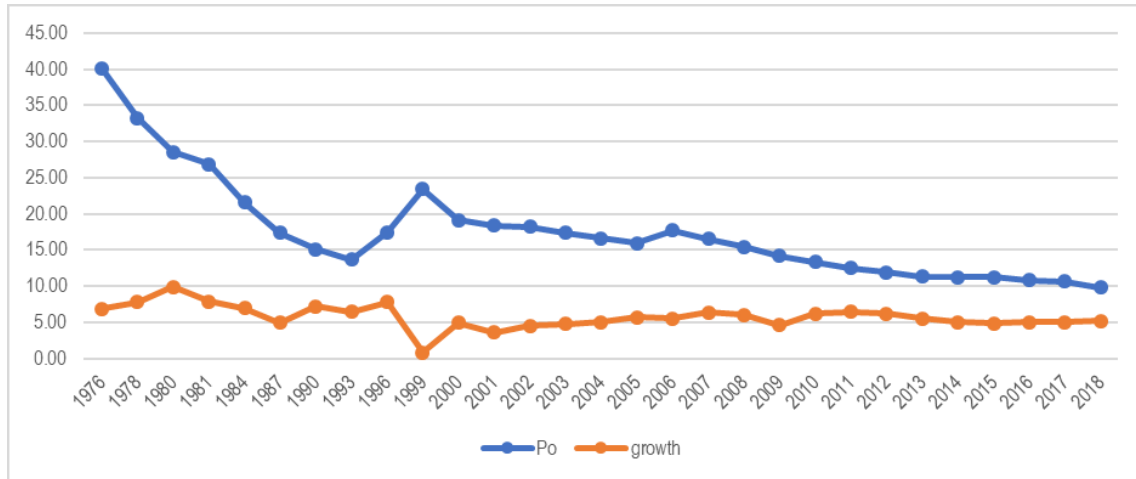


Figure 2. Growth and Poverty Rates, 1976-2018
(Source: Authors' Analysis, 2018)

3.3 Poverty Trend in Indonesia

The economic situation, which was getting better during the post AFC crisis, made total revenues also increased, both central and local governments. Moreover, in the decentralization era, local governments received more transfer funds from the central government. As a result, the allocation of local government spending also increased. In the post AFC crisis period (decentralization era), the realization of regional (provincial/district/city) spending continued to experience a significant increase. Based on data from the Ministry of Finance, the total of local spending has increased by around 12 times over the past 18 years, from around IDR 93.2 trillion in 2001 to around IDR 1.151 trillion in 2018. Gradually, the total realization of local spending was around IDR 162 trillion in 2005, then increased to IDR 505 trillion in 2010, and increased again to IDR 1.151 trillion in 2018. This spending increase has helped reduce poverty significantly, from 19.14 percent in 2000 to around 15.97 in 2005, and decreased significantly to 9.82 percent in March 2018.

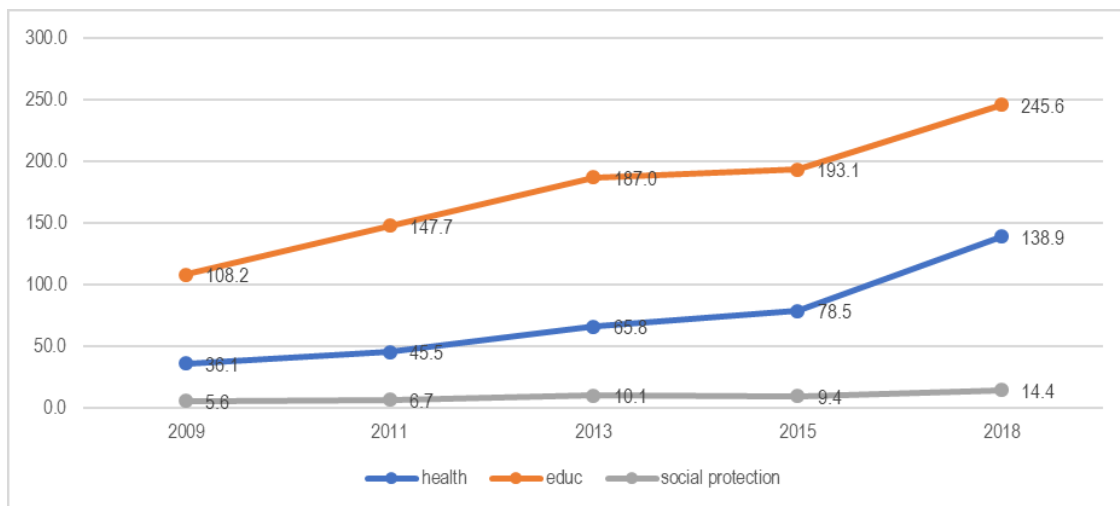


Figure 3. The Realization of Public Spending On Health, Education, And Social Protection
(Source: Authors' Analysis, 2018)

Figure 3 shows the realization of public spending from all observed local government. The realization of spending on education sector has experienced a significant increase over the past ten years. This was because, since 2009, the government (central and local governments) began to allocate 20 percent of national budget on education in accordance with the mandate of the constitution. In 2009, the total realization of public spending on education sector from all districts/cities and provinces reached out 108 trillion rupiahs, higher than the realization of spending on health sector at 36.1 trillion. In the 2009-2014 period, the portion of education budget in APBN also was the second largest, after budget on subsidies. Whereas since 2015, the education budget has become the largest of central government expenditure.

In line with the increase in education spending, the allocation of spending on education sector has increased by more than 200 percent by 187 trillion in 2013 and became 245 trillion in 2018. Meanwhile, the allocation of public spending on social protection, which was intended to help the poor, has not increased significantly for the past ten years. In 2009, the total of public spending on social protection was 5.6 trillion, then increased to 14.4 trillion in 2018.

3.4 Poverty Model

For capturing the disparity of poverty between rural and urban, this study employs panel data from 31 provinces, which broke down by rural and urban areas. By examining the data, this study suggests that the best model to assess the effect of changes in urban poverty is a random effect model, while rural poverty is a fixed-effect model with cross-section weights.

Tabel 1: Statistical Model Testing Result

Type of test	F Value	p-value
(1)	(2)	(3)
Urban model		
<i>Random effect</i>	22.68827	0,0000
Rural model		
<i>Fixed effect with cross section weight</i>	257.1725	0,0000

Source: Authors' Analysis (2018)

The estimation model results are presented in Table 1. As shown in Table 1, the results convincingly indicate that the types of public spending and economic growth simultaneously have a significant effect on poverty reduction in each province in Indonesia, both in rural and urban models. This could be seen from the value of probability of F statistic which is below 0.05 both in rural and urban poverty. P-values, which are below 5 percent mean that the model is fit, and all the independent variables have significant effect on the dependent variable. The estimated poverty equation confirms that additional spending in health, education, social security and increasing of growth have contributed significantly to reducing poverty.

3.5 The Effect of Public Spending and Growth

The effect of public spending and economic growth on poverty reduction could be seen in Table 2. The results suggest that different types of government spending and economic growth have different impacts on poverty reduction. This could be seen from the coefficients of the three types of public spending and economic growth variables. In urban poverty model, all coefficients are negative, while in rural poverty model, only three variables (except growth) are unfavorable.

Tabel 2: Estimation Model

Variables	Urban				Rural			
	Coefficient	Std. Error	t-Statistic	Prob.	Coefficient	Std. Error	t-Statistic	Prob.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
C	9.682	0.824	11.750	0.000	16.946	0.274	61.820	0.000
Health	-0.251	0.105	-2.400	0.017	-0.215	0.090	-2.390	0.018
Educ	-0.099	0.076	-1.300	0.193	-0.196	0.069	-2.840	0.005
Socsec	-0.906	1.274	-0.710	0.478	-0.504	1.231	-0.410	0.683
Growth	-0.004	0.026	-0.150	0.877	0.002	0.032	0.060	0.950

Source: Authors' Analysis (2018)

Public spending on the health sector (health) has a negative and significant effect on poverty reduction both in rural and urban poverty. This means any increase in public spending on health sector would have an impact on reducing poverty. Conversely, if there is a reduction in public spending on health sector, it would also affect increasing poverty. The effect of spending on health sector is not too different between urban and rural areas. Nevertheless, the addition of health spending would have a more significant effect on urban poverty than rural poverty. If the local government increases public spending on health sector by 1 trillion Rupiah, urban poverty would be reduced by 0.25 percent, and rural poverty would reduce by 0.21 percent, *ceteris paribus*.

Based on the results of models, the effect of spending on education also has different effects on poverty reduction in rural and urban areas. Public spending on education has a significant effect on rural poverty, and on the contrary, it has an insignificant effect on urban poverty. Table 1 shows the magnitude of the effect of spending on education sector on poverty reduction in urban and rural areas. In urban areas, although statistically insignificant, an increase in education spending is believed to help reduce the number of poor people. If the local government increases education spending by IDR 1 trillion, urban poverty would

decrease by 0.09 percent. While in rural areas, an increase in education spending of 1 trillion would be able to reduce rural poverty by 0.19 percent, *ceteris paribus*. The different effects between urban and rural areas at least illustrate that in rural areas, education is still a powerful booster on poverty alleviation programs. This is inseparable from the fact that there are still many villagers who do not attend school or only have low education. In urban areas, education is not a crucial issue since access to education is very wide opened. Investment in education is an important investment for development capital in the future. Educated people are believed to have a better level of welfare than those who are not educated.

The significance of spending in the education sector reinforces several other important findings, that public spending in the education sector is one of the main keys to reducing poverty. Convincingly, increased spending in the education sector would affect poverty reduction, although the effect is not too large as spending in the health sector.

Unlike the effects of public spending on the health and education sectors which conclusively have a significant effect in reducing poverty, the effects of social protection spending and economic growth on poverty reduction are not significant. Although not significant, it does not mean that these two variables are not important for poverty reduction efforts. Both variables are still important for poverty alleviation efforts, only statistically, the effect is not clearly seen. Although its function to protect the poor, the data shows that social protection spending does not have a statistically significant effect on reducing poverty at the provincial level, both in urban and rural poverty. However, it still has a negative correlation, which means that the effect of social protection spending has an inverse relationship to the poverty rate. Therefore, the addition of social protection spending would help reduce poverty; on the contrary, reducing social protection spending would increase poverty. Although not significant, social protection spending has an entirely decreasing effect compared to the other four explanatory variables. The effect in urban area is quite significant, almost twice as much as the effect of the decline in rural areas. If the local government increases social protection spending by IDR 1 trillion, the urban poverty rate will decrease by 0.9 percent. While in rural areas, it would be able to reduce poverty by 0.5 percent.

Meanwhile, the effect of economic growth on poverty rate at the provincial level does not seem to be clearly illustrated. In contrast to previous studies that revealed the influence of solid growth on poverty reduction (Moser & Ichida, 2001; Suryahadi et al., 2012, 2006), the data at the provincial level show the opposite. At the provincial level, economic growth has no reliable effect on reducing poverty. With a probability value greater than 0.05, it can be concluded that economic growth does not have a significant effect on poverty reduction. The positive growth coefficient in the rural poverty model shows that any increase in economic growth is believed to be not pro-poor or less pro-poor in rural areas. Thus, as Suryahadi pointed, alleviating poverty in a specific sector does not always require economic growth in a particular sector location (Suryahadi et al., 2006). While in urban areas, although not significant, it still has a positive effect on poverty reduction. This means that the decrease in urban poverty followed an increase in economic growth.

This result is different from the study conducted by Suryahadi et al. (2012, 2006) and (Son & Kakwani (2004) which states that economic growth has a very strong effect in reducing poverty. At the regional (provincial) level, economic growth, in fact, does not have a significant effect as the findings at the national level. This is likely to be one of the answers to why the level of poverty in the regions is still high, although economic growth also grows positively.

4. Conclusion

This study examines the relationship between economic growth, public spending, and poverty in Indonesia. By using provincial data from 2009-2018, the panel data were used to estimate the impact of spending on health, education, social protection, and growth on poverty reduction. This study ascertains that spending on health and education are two key instruments to reduce poverty. Meanwhile, spending on social protection and growth has an insignificant poverty reduction at the provincial level.

In terms of significance, public spending on the health sector has a significant effect on poverty reduction both in rural and urban poverty. However, the effect of education spending has different effects both in rural and urban. In the urban area, public spending tends to have a significant effect on poverty reduction, while in the rural area, it tends to have insignificant effects. If the local government increases spending on health sector by one trillion Rupiah, the urban poverty rate will decrease by 0.25 percent, and rural poverty would decrease by 0.21 percent, *ceteris paribus*. Moreover, the effect of spending on education also has different effects on poverty reduction both in rural and urban areas. In the urban area, public spending on education has no significant effect on urban poverty reduction. On the contrary, it has a significant effect on rural poverty reduction. If the local government increases spending on education sector by one trillion Rupiah, the urban poverty rate will be reduced by 0.09 percent, while rural poverty by 0.19 percent, *ceteris paribus*.

This study also found empirical evidence that spending on social protection and growth is insignificant to reduce poverty. Although they are not significant, social protection spending has an entirely decreasing effect compared to the other four explanatory variables. This study proves that in rural areas, any increase in economic growth is believed not to be pro-poor to the people who live in poverty. As a result, economic growth tends to not affect reducing poverty. While in urban areas, although it is not significant, it still has a positive effect on poverty reduction.

Therefore, to reduce poverty more effectively, it would be better for local governments to increase their budget allocations to the health and education sectors. Besides would help to reduce poverty

effectively. In the long run, investment in health and education would improve the welfare and quality of life. Furthermore, inclusive growth is also needed to ensure the reduced benefit the economic added value.

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