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Effect of Natural Resources Share Fund on Economic Growth, Unemployment and Poverty in Producing Regions in Indonesia

Abdul Majid[1,*], Munawar Ismail[1], Putu Mahardika Adi Saputra[1]

[1]*Faculty of Economics and Business, University of Brawijaya, Malang, Indonesia*
[*]*Corresponding author. Email: amajid@student.ub.ac.id*

ABSTRACT
The main objective of this research is to get analytical results about effect of natural resource share fund (NSF) on economic growth, unemployment and poverty in the natural resource producing regions in Indonesia by the mediation of capital expenditure. This research uses partial least square method to measure direct and indirect effect among a series of variables on 20 Regencies/municipalities producing oil and gas in Indonesia for 2007-2016 period. The findings are natural resource share fund has positive and significant effect on economic growth through capital expenditure, no significant effect on unemployment rate, negative and significant effect on poverty level through capital expenditure only in eastern regions, negative and significant effect on poverty level through capital expenditure and economic growth in western region or using data of all regions.
Keywords: *Natural Resource Share Fund, Capital Expenditure, Economic Growth, Unemployment, Poverty*

1. INTRODUCTION

Development can be measured by domestic revenues and expenditures called Gross Domestic Product (GDP), which is the market value of all final goods and services produced in a country at a certain time period. Consequently, a nation's productivity is crucial to its construction. Productivity and economic growth are often explained simply as functions of physical capital, human capital, natural capital and technology knowledge [1].

To increase the regional income in the framework of financing implementation of the development which became its authority is carried out with a pattern for the outcome of tax acceptance and natural resources between the central government and local governments. The pattern for receiving results is done with a certain percentage based on the producing region. The Natural resources Share Fund (NSF) comprises the forestry, General mining, fisheries, petroleum and gas mining and geothermal mining sectors. And principle of distribution to areas based on the realization of natural resource revenue.

Head of Bappenas Bambang Brodjonegoro [2] confirms that economic growth is a fundamental requirement to improve people's welfare. Besides economic growth, the government is also focused on reducing inequality, unemployment, and poverty in Indonesia. Therby, economic growth, unemployment and poverty is also a regional priority in the use of NSF through regional expenditure.

Economic growth of a country is influenced by the quantity and quality of its resources, whether it be physical or natural resources or human resources namely the population and skill levels [3].

Data from Central Statistical Agency (BPS) [4] showed that 5 oil-producing regions in Indonesia had decreased Regional Gross Domestic Product (GRDP) even though the realization of NSF was increased, namely Kutai Kartanegara in 2014 and Bengkalis in 2012 and 2014. Based on the realization data of NSF, Kutai Kartanegara and Bengkalis are the 2 largest producing districts in Indonesia in 2011-2015 period. Total realization of NSF in 2011-2015 Kutai Kartanegara district is 20.2 trillion Rupiah and Bengkalis district amounted to 11.6 trillion Rupiah. And in the period 2011-2015, the fifth district, often the growth of its GRDP under the province average. At the regional level in Indonesia found 20% natural resources richest areas with the higher NSF had the slower of economic growth [5].

NSF for Petroleum has a positive effect on the level of Regional economic growth measured from the GRDP and income per capita [6]. The increase in NSF also leads to increased regional economic growth. Oil revenues for physical development investments in the domestic sector, directing higher economic growth [7].

Related with unemployment, the mining sector has a significant contribution to economic activities such as investments, employment, infrastructure, derivative industries, capital formation and foreign exchange income. While the contributions through exports and taxes influence indirectly to the community, depending on how the government allocate it [8].

Based on BPS data [4] that 4 oil and gas production districts in Indonesia have an unemployment rate above the province average and the unemployment rate also increased compared to the previous year, even though the realization of NSF has increased from the previous year, which was in Kutai Kartanegara Regency in 2014, Bengkalis District in 2014, Bojonegoro Regency in 2013 and 2015, and Teluk Bintuni Regency in 2013. The short-term impact of natural resource outcomes on the unemployment rate is no significant effect [9]. But if portion of NSF is high on capital expenditure, then it should be able to have a significant impact on unemployment, such as Leigh & Neill's research [10], indicating that the areas with road infrastructure expenditure had relatively large decline in the unemployment rate compared to the national average.

On the other hand, people in the oil-producing area are hoping to escape from poverty with the region's natural wealth. Sachs et al. [11] believes the oil in principle offers three major benefits for oil producing countries in poor countries, namely 1) oil revenues can boost living standards by funding public and private consumption to better levels. 2) oil can fund investments at higher levels. 3) because oil revenues are largely payable to the public sector.

Based on BPS data [4] that 4 oil and gas producing districts in Indonesia, both in Java, Sumatra, Kalimantan and Papua have a percentage of poverty above the average poverty of the province from 2011-2015, namely Kutai Kartanegara Regency, Musi Banyuasin, Bojonegoro, and Teluk Bintuni. Based on the realization data of NSF oil and gas, Kutai Kartanegara Regency is the largest oil and gas producing area in Indonesia and Musi Banyuasin Regency is the 3rd largest in Indonesia. Meanwhile, Bojonegoro Regency based on 2016 is the 2nd largest petroleum producer in Indonesia.

In the 20% of the richest areas of natural resources in Indonesia, the higher NSF is also had the higher level of poverty. The poverty rate of 20% of the richest region of natural resources in the period 2006-2012 tends to increase compared with the relatively not rich natural resource area [5]. But according to Warr et al. [12], that expenditures financed by natural resource projects should be able to reduce the level of poverty in the country. And looking at the high share of NSF on capital expenditure, it should have an impact on poverty such as the research result of Marinho et al. [13] which indicates there is a significant inverse relationship between public investment and poverty by infrastructure investment. So that infrastructure spending is concluded to be the primary basis for poverty alleviation.

1.1. Related Work

NSF should contribute greatly to economic growth, job creation and reduce the number of poor people. Based on background, data, theories, and gaps in the results of the research, it is interesting to know the effect of natural resouce share fund (NSF) on economic growth, unemployment and poverty in oil and gas regions in Indonesia with capital expenditure as mediation variables. The selection of capital expenditure as a mediation variable is because most of the capital expenditure on local governments is used to support physical development or infrastructure. Some previous studies have proven that spending on infrastructure affects economic growth, unemployment and poverty.

1.2. Paper Structure

The rest of the paper is organized as follows. Section 2 introduces the preliminaries used in this paper, which include Natural Resources Share Fund, Capital Expenditure, Economic Growth, Unemployment, and Poverty. Section 3 presents material and method include data, data sources, and analysis model. Then, Analysis results and discussion on the influence of natural resources fund on economic growth, unemployment and poverty in Section 4. Section 5 concludes the paper.

2. LITERATURE REVIEW

2.1. Natural Resources Share Fund

The NSF is one of a balance fund instruments in the framework of financial balance between central government and local government so that together with the other balancing funds can be used by local governments to fund some authority bestowed by central government to local governments.

NSF deployment consigned to local government according to local needs and priorities, except for the NSF for forestry reforestation only for forest and land rehabilitation and allocation of 0.5% NSF of oil and gas only for basic education budgets.

NSF is intended to reduce 1) vertical imbalance, which is realized with division reasonable portion between the central government and producing region, 2) horizontal imbalance, which is realized by equitable distribution to non-producer areas within the same province region as the producer.

Allocation of NSF is based on the principle by origin. And its distribution is based on realization of income from natural resource production. As the allocation percentage in Table 1 is visible that division with a portion of central government is greater than the portion of local government can be understood because central government must fund greater obligations and authority that can’t be bestowed to the local governments among others such as defense and security, financial and monetary, laws and judiciary, and religion sectors. NSF admission types include forestry, general mining, fisheries, oil and gas mining, and geothermal mining.

Table 1. Natural Resource Fund Allocation Percentage

No	Type	%				Special Autonomy	
		Central	Prov	Reg	Other	Aceh	Papua
1	Oil	84.5	3.1	6.2	6.2	70	70
2	Gas	69.5	6.1	12.2	12.2	70	70
3	Landrent	20	16	64	-		
4	Royalty	20	16	32	32		
5	Fisheries	20	-	-	80		
6	IIUPH	20	16	64	-		
7	Forestry	60	-	40	-		
8	PSDH	20	16	32	32		
9	Geothermal	20	16	32	32		

2.2. Capital Expenditure

In the regional revenue and expenditure budget (APBD) structure, regional revenue or income budget is always related to budget expenditure. APBD has several functions, namely authorization, planning, supervision, allocation, distribution, and stability functions. One function of the APBD is a planning function that means that regional budget becomes a guideline in planning activities for a year concerned. Each planned activity can be implemented when supported by sufficient availability of income budget. The more important APBD function is allocation function, which means that regional budgets should be aimed at creating jobs, reducing unemployment, and improving the efficiency and effectiveness of the local economy. Therefore, source of funding derived from the NSF can't directly impact on economy growth, unemployment and poverty without being implemented on activities program containing expenditure.

Capital expenditures are budget expenditures for acquisition of fixed assets and other assets that benefit more than one accounting period. Capital expenditure is an expenditure made in the framework of procurement or construction of tangible fixed assets that have a value of benefits more than 12 months to be used in government activities, such as land, equipment and machinery, buildings, roads, irrigation and networks, and other fixed assets.

2.3. Economic Growth

Development of various models of economic growth that dynamically emerge follows the changing economy over time. Adam Smith through his classical theory assumes that economic growth actually rests on increasing of population. With increasing of population, there will be an increase in production output produced. Beside Adam Smith, David Ricardo also argued that population growth factors will increase economic growth. However, when the population increase becomes more and more than doubled at one time it will cause a large amount of labor. The excess workforce will result in wages falling. The smaller wages can then only be used to finance the minimum life level so that the economy will experience stationary state.

The classical theory was later developed into a neoclassical theory driven by Harrord-Domar and Robert Solow. Harrord-Domar assumed that the capital should be effectively used, as economic growth was heavily influenced by the role of the capital formation. This theory also discusses the national income and employment opportunities. Solow model, which is the development of the Harrod-Domar model as well as contributive pillar for development of neoclassical theory, adds the labour and technology factors to its growth model.

Solow argues that economic growth is a series of human-sourced activities, accumulated capital, use of modern technology. Solow growth model, labor and capital inputs put on a continuously reduced scale assumption (diminishing returns) if both are analyzed separately. Whereas if both are analyzed simultaneously, then put on the assumption of constant returns to scale. Based on these assumptions, population growth can have positive impact and can negatively impact. Therefore, according to Robert Solow the population has to be used as a positive resource [3].

Economic growth contains significance of increasing production of goods and services (outputs) generated by all economic activities occurring in the community at a certain period of time. Increased production of goods and services in question is measured based on a certain period as the basic year so that the value of improvement really reflects the existence of production growth that is free from price influence. The concept used by BPS to describe the production of goods and services produced by an area through GRDP approach. At the national level, economic growth is measured from the value rate of gross domestic product (GDP) and at the regional level is the rate of the gross regional domestic product value (GRDP) which is the basic measure of the economy performance in producing goods and services. In this study, to know economic growth of the region used GRDP growth rate by field of business on the basis of constant price [4].

2.4. Unemployment

Unemployment is people who do not have a job, are looking for work, or are preparing a new business. While the unemployment rate is a comparison between number of unemployed and number of workforces in a certain period expressed in terms of a percentage [14].

In this study, regional unemployment uses TPT or Open Unemployment Rate indicators. TPT is the percentage of unemployment number to total labor force. The main use of TPT is to find out the percentage of workforce included in unemployment. High TPT indicates that there are many labor forces that are not absorbed in market labor.

2.5. Poverty

Concept of poverty according to Bellinger [15] involves multidimensional, multidisciplinary and alternative measurement. Poverty is measured in two dimensions, namely the income dimension (wealth) and the non-financial dimension. Poverty in income dimension is not only measured by the low income received because it is usually temporary, but is also measured through ownership of assets such as land for small farmers and through access to public services. While the non-financial dimension is characterized by powerlessness or hopelessness that befalls low-income households. In its development, income dimension poverty is more often used because it is easier to measure. Poverty income dimension can be divided into absolute poverty and relative poverty. Absolute poverty refers to the inadequacy of income to meet basic needs such as food, housing, clothing, transportation and basic health. While relative poverty is measured by comparing household income with average national income.

This research uses concept of poverty set by BPS. BPS measures poverty using concept of ability to meet basic needs (basic needs approach). With this approach, poverty is seen as an inability on the economic side to meet basic needs of food and non-food measured from expenditure side. So the poor population is population that has an average monthly per capita expenditure under the poverty line. Each year, BPS determines magnitude of the poverty line based on the results of SUSENAS consumption module, which varies in each province depending on minimum cost of living for each province. Poverty Level is the percentage of the population that is below the Poverty Line.

2.6. Relationship of Natural Resource Fund and Economic Growth

Triyoso in Hendrasto [6] argues that each region has different endowment resources and infrastructure facilities. Regions that have abundant resources and are supported by adequate infrastructure facilities can achieve high economic growth. For example is rate of increase in Riau's income is very low if there is no oil revenues. The results of the analysis of the speed of Riau's revenue growth between 1969-1984 found that the presence of oil increased eleven times compared to without oil.

Public investment in infrastructure is crucial for a country's social and economic development, provides an attractive private investment environment, so that service costs are cheaper and more competitive and supports all other economic activities [16].

Capital expenditure as one form of government expenditure to build infrastructure and facilities is the main expenditure in facilitating economic activity. Infrastructure assets as part of assets manifested from capital expenditure, will play an important role in carrying out economic activities [17].

2.7. Relationship of Natural Resource Fund and Unemployment

Mining sector has a significant contribution to economic activities such as investment, employment, infrastructure, derivative industries, capital formation and foreign exchange earnings. While contributions through exports and taxes affect indirectly on society, depending on how the government allocates them [8].

Government spending in infrastructure potentially stimulate overall economic activity, especially in creating employment. Regions with relatively large road infrastructure expenditures have experienced even greater decreases in unemployment rate compared to national average [10].

2.8. Relationship of Natural Resource Fund and Poverty

Natural resource income in low-income countries must be returned to public investment, rather than to increase private consumption. Most development in poor countries is very limited due to the lack of public goods. Economic development, while undoubtedly requiring much private sector involvement in agriculture, industry and services, also depends on core public goods. These goods are generally not available, sometimes so minimal that their absence impedes investment by the private sector and causes the country to be trapped in poverty.

Limited access as an indicator of poverty. The poor are usually in areas that have minimal access and tend to be isolated from the surrounding area. This makes their mobility limited. This limitation makes them unable to take advantage of various employment opportunities arising from the growth process. The role of infrastructure such as roads will lead to open access to the area, so that it can reduce production costs and can connect rural areas with economic centre and make access to education and health easier. Infrastructure such as roads has an impact on economic growth, both in the agricultural and non-agricultural sectors, thus creating economic opportunities for both rural communities and the whole [18].

3. MATERIAL AND METHOD

3.1. Data and Data Sources

Data used are obtained from BPS, Ministry of Finance and related Local Government Agencies such as the Regional Financial and Asset Management Agency, Revenue Service Agency, Regional Development Planning Agency and Manpower Office. Which is a combination of cross-section and time-series data from variables NSF realization, capital expenditure realization (land; buildings and buildings; equipment and machinery; roads, irrigation and networks; others), GRDP according to the business

field at constant prices, open unemployment rates, and percentage of poverty in 20 oil and gas producing regencies/cities in Indonesia for the period 2007-2016.
Significant differences in geographic, demographic and infrastructure conditions between districts in the western and eastern regions of Indonesia are the main reasons for grouping and analyzing data into 2 group namely western regions for districts in Sumatra and Java, and eastern regions for districts/cities in Kalimantan and Papua. The difference is estimated to have a different effect also between western and eastern regions in the use of NSF for capital expenditure.

3.2. Analysis Model

Analysis model used is descriptive and quantitative analysis to analyze the direct and indirect effects between variables. Analytical tool used is Partial Least Square (PLS) wich is supported by SmartPLS software version 3.2.7.

The advantages of using PLS are as follows 1) information generated by PLS is more efficient and easy to interpret, especially on complex models, 2) can be run with a minimum sample of 30 data samples, 3) can test research models with a weak theoretical basis, 4) able to support complex models consisting of many dependent and independent variables, 5) able to manage multicollinearity problems between independent variables, 6) the results remain strong even though there are abnormal or missing data around 5-15% per indicator, 7) does not require data with normal distribution [19].
The stages of analysis using PLS through minimum of five processes, where each stage will affect the next stage. The stages are 1) conceptualizing the model, 2) determining the method of algorithm analysis, 3) determining the resampling method, 4) drawing a path diagram, 5) evaluating model [20]. Algorithm analysis method used is path weighting. Resampling method used is bootstrapping. Path diagram can be seen in Figure 1. And evaluation model consists of outer model and inner model which is done in 1) data of all producing regions, 2) data of western producing regions, 3) data of eastern producing regions.

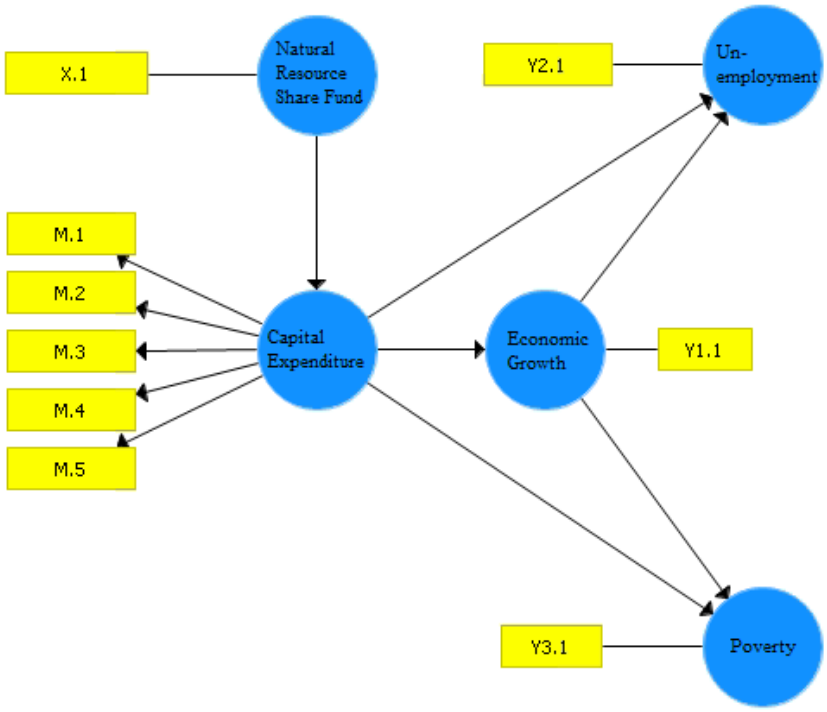

Figure 1 Path Diagram of Relationships Between Variables Using SmartPLS

4. RESULT AND DISCUSSION

4.1. Effect of Natural Resource Share Fund on Economic Growth

Model evaluation for all types of data, namely all oil and gas producing regions, western oil and gas producing regions, and eastern oil and gas producing regions in Indonesia have the same result that NSF has a positive and significant indirect effect on regional economic growth through capital expenditure.
This significant effect is indicated by t-Statistics value greater than 1.96, which is 10.31 for data of all producing regions; 7.38 for western producing regions; and 9.87 for eastern region producing. While the positive effect is shown by the Original Sample values, all of which are positive. From these data, it can be seen that the effect of

NSF on economic growth for producing regions in the eastern area is greater when compared to producing regions in the western area.

These results are consistent with research on the influence of oil share fund on economic growth in regencies/cities in Riau that oil share fund had positive effect on regional economic growth rates as measured by GRDP and income per capita [6]. Komarulzaman & Alisjahbana [21] also stated the same result, that revenue from the forestry, oil and gas sector had a positive effect on regional economic growth in Indonesia.

The use of oil revenues in form of Oil Funds or in form of physical development investment in domestic sector, directs higher economic growth. Physical development investment is better to influence in short and medium term based on the GDP produced, while the Oil Fund is more beneficial in long term [7]. The impact of natural resources in 12 producing countries varies from year to year, but remains positive and very large. The average increase in GDP per capita is around 20% per year, due to the contribution of natural resources such as oil, natural gas, natural gas liquids, and condensate [22]. Countries that were rich in natural resources in the period 1970-1990 had slower economic growth than countries that were poor in natural resources. But the impact began to change in the period 1990-2010, that there is positive impact on economic growth [23].

4.2. Effect of Natural Resource Share Fund on Unemployment

Model evaluation of all types data, namely all oil and gas producing regions, western oil and gas producing regions, and eastern oil and gas producing regions in Indonesia have in common, namely NSF has no significant effect on unemployment through capital expenditure. Insignificant result is shown by t-Statistics value which is smaller than 1.96, which is 1.07 for data of all producing regions; 0.07 for western region producing regions; and 0.25 for the eastern producing regions.

Most areas that are rich in natural resources still mismanage natural resource yields and fail to reduce unemployment [24]. Another possibility is that the impact of natural resource yields on the unemployment rate can be seen to be significant in the long term, but in the short term it has no significant effect [9]. However, if the management and utilization of NSF is carried out consistently and in accordance with the objectives of a government-funded infrastructure program to stimulate local employment, at least in the short term will reduce the number of unemployed [10].

Intensive employment opportunities in oil and gas producing regions are still dominated by projects in the mining sector, which are mostly temporary. After the project is completed, those who remain are skilled or have special certification, so there will be a lot of unemployment from unskilled workers who have finished their work contracts. As happened in Bojonegoro Regency in 2015, unemployment increased very high from previous year from 20.19 thousand people to 32.09 thousand people. That is because in December 2015, the Banyu Urip oil and gas field project in Gayam District was completed, resulting in a workforce reduction about 9,765 people. Therefore, the local government should be able to anticipate it with education and training programs for these workers and be a liaison to employment providers or new opportunities.

The development of oil and gas projects and high labor costs for work in oil and gas sector, are also attractive for job seekers from neighbour regions, so that the amount of migration into oil and gas producing areas is on average much higher than the amount of outgoing migration. As seen in Table 2 and Table 3 which show migration data in oil and gas producing regions in western and eastern regions in 2010 and 2015. This will certainly have a big influence on unemployment rate in these producing regions when the project's service life has ended.

Table 2 Number of Migrations in Riau Province (Western Producing Regions)

No	Regency	2010		2015	
		In	Out	In	Out
1	Bengkalis	191,141	92,285	182,805	80,058
2	Kampar	299,760	29,914	276,391	66,484
3	Rokan Hilir	243,809	47,444	239,580	56,159
4	Siak	211,777	29,914	216,661	29,925

Table 3 Number of Migrations in Kalimantar Timur Province (Eastern Producing Regions)

No	Regency	2010		2015	
		In	Out	In	Out
1	Kutai Kertanegara	254,892	47,837	232,983	50,293
2	Bontang	84,234	19,191	89,120	25,932
3	Penajam Paser Utara	75,536	7,223	60,511	8,619

4.3. Effect of Natural Resource Share Fund on Poverty

Model evaluation for 2 types of data namely all oil and gas producing regions, and western oil and gas producing regions Indonesia regarding the effect of NSF on regional poverty through capital expenditure is not significant. The insignificant result is shown by t-Statistics value which is smaller than 1.96, which is 0.04 for all producing regions and 0.02 for western producing regions.

Natural resource revenue has no direct and significant effect on poverty rates [25]. Likewise with the results of research that in 20% richest areas of natural resources in Indonesia, the higher natural resource share fund had the

higher the poverty rate. The poverty rate of 20% of the regions richest in natural resources in the period 2006-2012 tended to increase compared to areas that were relatively not rich in natural resources [5].

While the model evaluation for data of eastern oil and gas producing regions in Indonesia, the effect of the NSF indirectly on regional poverty through capital expenditure is negative and significant. This significant effect is indicated by t-Statistics value which is greater than 1.96 which is 3.08. And negative influence is shown by the value of Original Sample which is negative. From these, it can be seen that the effect of NSF on poverty for eastern producing regions is better when compared to producing regions in the western regions.

Expenditures financed by natural resource projects can be expected to reduce poverty levels in the country. The amount of poverty reduction that occurs is very sensitive to distribution assumptions. The most important determinant of poverty reduction is government spending that is more focused on rural areas rather than urban areas [12]. The success of the role of capital expenditure as a mediating variable is supported by the study of Marinho et al. [13] which suggests that there is a significant inverse relationship between public investment and poverty. However, public investment is in infrastructure, so infrastructure spending is concluded to be the main basis for poverty alleviation.

The effect of NSF on poverty through capital expenditure between western and eastern regions has different results can be caused by a combination of the following factors:

4.3.1. Difference in natural resource share fund contribution to total regional income

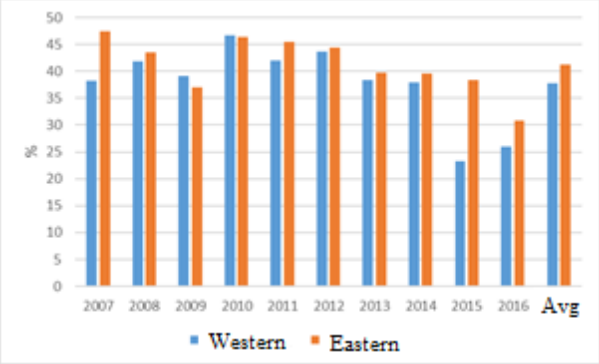

Figure 2. Comparison of Natural Resource Share Fund Contribution Average to Total Revenue between Western and Eastern Producing Regions

Based on Figure 2, average contribution of NSF to total income in western producing regions was 38% (Medium Category) or 3% lower compared to eastern regions which was 41% (Good Category). With higher NSF's contribution, local government had higher ability to finance regional expenditure, especially capital expenditure.

4.3.2. Difference in realization of capital expenditure budget

Based on Figure 3, the average realization of capital expenditure in western producing regions during the 2007-2016 period in total and in detail (capital expenditure, land, buildings, roads, etc.) is lower when compared to the eastern regions. The average realization of regional capital expenditure in western region is 4.779 Trillion or 61% of eastern regions which is 7.777 Trillion.

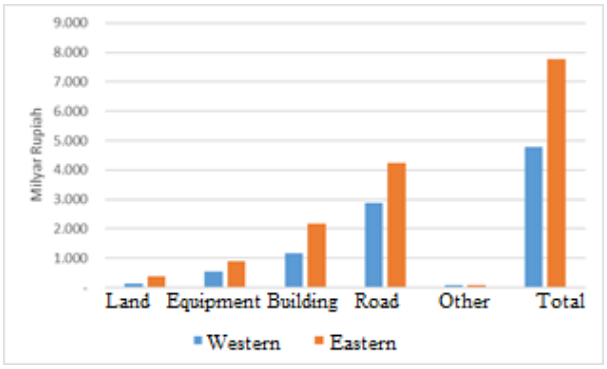

Figure 3. Comparison of Capital Expenditures Realization Average between Western and Eastern Producing Regions

4.3.3. Difference in composition of the number of poor areas is based on the average national poverty rate

The number of regions that had an average poverty rate above the national average poverty in western producing regions during the 2007-2016 period was 53% or 13% higher compared to the eastern producing regions which was 40%.

4.3.4. Difference in budget allocation percentage of health sector

Besides looking at the differences in each of the related variables, it is also necessary to look at the differences in accuracy of capital expenditure allocation that leads to a reduction in poverty levels. Capital expenditure can be used to help the poor through spending in health, for example, the construction of health facilities such as hospitals, puskesmas, polindes, and procurement of medical and health equipment. The benefits of capital expenditure for health can be felt directly for the poor, so that it can have an impact on poverty reduction both in short and long term.

Based on Figure 4, health expenditure percentage average in western regions is lower than eastern regions. Likewise, if look at the comparison in general from 2007 to 2016. It is possible that the influence of NSF on poverty through

capital expenditure will be smaller or different when compared to its effect on eastern regions.

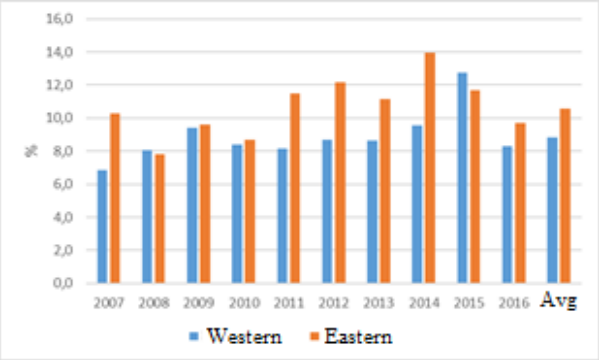

Figure 4. Comparison of Health Spending Allocation Percentage Average in Western and Eastern Producing Regions

4.4. Effect of Natural Resource Share Fund on Unemployment through Economic Growth

Model evaluation of all types of data are all oil and gas producing regions, western oil and gas producing regions and eastern oil and gas producing regions in Indonesia in common, namely the NSF has no significant effect on unemployment through capital expenditure and economic growth. This insignificant result is shown by t-Statistics value which is smaller than 1.96, which is 0.71 for all producing regions; 0.68 for western producing regions; and 1.14 for eastern producing regions.

Based on empirical results from all models do not show strong evidence and do not confirm the existence of an inverse relationship between unemployment rate and economic growth, as suggested by Okun's Law [26]. So it can be concluded that the impact of economic growth in creating employment is not significant enough to stimulate job creation in oil and gas producing regions [27].

Faster economic growth should reduce unemployment, as happened in the 1970s in United States and Europe. The effect of economic growth on unemployment can occur when inflation is at a certain level. At an inflation rate below or above a certain threshold, faster economic growth leads to higher or lower unemployment rates [28].

NSF with capital expenditure mediation and economic growth is still unable to reduce unemployment rate significantly due to high number of job seekers entering the oil and gas producing regions, making it more significant in increasing the unemployment rate, both in the western and eastern producing regions. The effect of migration on unemployment is supported by Jean & Jimenez's research [29] which concludes that inward migration has an effect on unemployment.

4.5. Effect of Natural Resource Share Fund on Poverty through Economic Growth

Model evaluation for 2 types of data namely all oil and gas producing regions and western oil and gas producing regions in Indonesia regarding the effect of the NSF indirectly on regional poverty through capital expenditure and economic growth are negative and significant. This significant result is shown by t-Statistics value greater than 1.96, which is 3.34 for all producing regions and 2.70 for western producing regions. And the negative influence is shown by the value of Original Sample which is negative.

These results are consistent with studies conducted by Yustie & Heriqbaldi [30] that capital expenditure and economic growth together have significant effect on poverty levels in districts/cities in East Java.

While model evaluation for data of oil and gas in eastern producing regions are not significant. The insignificant effect is indicated by t-Statistics value which is smaller than 1.96 which is 1.13. From the two results it can be seen that the effect of NSF on poverty through economic growth in western producing regions is better when compared to eastern producing regions. Geographical conditions in eastern regions are very broad, have a high degree of difficulty and high costs in infrastructure development. This is likely to cause infrastructure development in eastern regions as one of the drivers of economic growth that has not been carried out evenly, so it has not directly benefit for the poor as a whole. Based on Figure 5, the percentage of economic growth in eastern regions on average is 2.3% or 1.1% lower compared to western regions of 3.4%. Likewise when viewed in general the comparison is from 2007 to 2016.

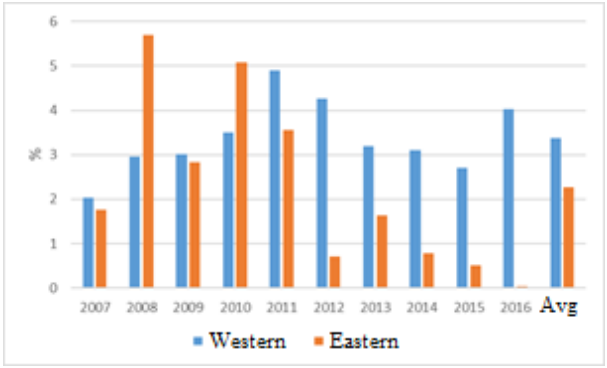

Figure 5 Comparison of Economic Growth in Western and Eastern Producing Regions

5. CONCLUSION

NSF has a positive and significant influence on economic growth in producing regions with capital expenditure as a mediating variable. To increase economic growth, capital expenditure is used for construction of road and bridge infrastructure, agricultural irrigation and agricultural

equipment procurement to directly support economic activities so as to encourage regional economic growth.

NSF has no significant effect on unemployment rate in producing regions. That is because 1) infrastructure programs are still largely concentrated in physical development which is likely not directed at employment development, 2) labor intensive employment that develops in producing regions is still dominated by projects in mining sector, most of which are temporary, 3) the development of oil and gas projects and high labor costs for work in the oil and gas sector are attractive for job seekers from neighbour regions, so that the amount of incoming migration is very high, which in turn increases the percentage of open unemployment in producing regions.

NSF has negative and significant effect on poverty levels with capital expenditure as a mediating variable only in the eastern producing regions, while in the western region producing regions no significant effect. This is due to differences 1) the contribution of NSF to the total income of the western region is on average lower, 2) the average of the regional capital expenditure budget is lower, 3) the composition of the number of poor areas is based on an average level of poverty national in western region is greater, 4) the percentage of budget allocation in the health sector in western region is on average lower.

NSF has no significant effect on unemployment rate indirectly through capital expenditure and economic growth. This is due to the high number of incoming migration dominated by job seekers, so that employment is increasingly limited and unemployment rate becomes higher. The effect of migration into oil and gas producing regions is likely to have more significant effect on unemployment rate than the effect of economic growth.

NSF has a negative and significant effect on poverty levels indirectly through capital expenditure and economic growth in western producing regions or when using data from all producing regions in Indonesia. The reduction in poverty can occur because capital expenditure is used for construction of road and bridge infrastructure, agricultural irrigation, and procurement of medical, health and agricultural equipment. While NSF does not have a significant effect on poverty through capital expenditure and economic growth in eastern region, because the percentage of economic growth in eastern regions is on average lower than in western regions. Infrastructure development in eastern region as one of the drivers of economic growth has not been carried out evenly due to broad geographical conditions and difficult terrain, so it has not yet directly benefit for the poor as a whole.

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