The Impact of Special Autonomy Funds on Poverty of Human Development and Unemployment in Aceh

Muhammad Abrar[a], Bambang Juanda[b], Muhammad Firdaus[c], Dedi Budiman Hakim[d], [a]Economic and Business Faculty, Universitas Syiah Kuala. Banda Aceh, Indonesia, [b,c,d]Regional and Rural Development Planning Study Program, Institut Pertanian Bogor, Indonesia, Email: [a*]muhammadabrar@unsyiah.ac.id

Aceh Province has been granted a Special Autonomy Fund (DOK) as additional funding for development financing. This paper aims to analyse the impact of the special autonomy fund and other transfer funds, including Local Own Revenue (PAD), through capital expenditure as well as goods and services expenditure on poverty, Human Development Index (HDI), and unemployment. This study uses panel data from 23 districts/cities in Aceh Province from 2000–2016 and Fixed Effect Model (FEM) analysis. The results show that prior to the special autonomy fund allocated, the Special Allocation Fund (DAK), the General Allocation Fund (DAU), and own-source revenue (PAD) had significant influences on poverty and HDI through capital expenditure. However, only DAU had a significant impact through goods and services expenditure. On the other hand, after the special autonomy fund was granted, only DAK had a significant influence on poverty and HDI through capital expenditure. Meanwhile, DAK, DAU, and PAD had significant impacts through goods and services expenditure. The results indicate that the DOK fund still has not had a significant effect on poverty, unemployment reduction and HDI improvement, either through capital expenditure or through goods and services expenditure.

**Key words:** *Human Development Index, Poverty, Special autonomy fund, Unemployment.*

Introduction

Fiscal decentralisation policies were carried out by many developing countries in the 1970s. The implementation of fiscal decentralisation policies in Indonesia has been extensively carried out since 2004, as regulated in Law Number 32 of 2004. It was revised through Law No. 23 of 2014 concerning regional autonomy. The law applies to all local governments in Indonesia. In addition, there are also special autonomy laws for regions that have special rights, one of which is the Special Autonomy Law No. 11 of 2006 concerning the Government of Aceh. The law provides a specificity for Aceh and specificity for the government. It is described in article 179, paragraph (1), which states that the Government of Aceh and regencies/cities have sources of regional income. One of these is sourced from the special autonomy fund (DOK). Special autonomy is a special authority that is recognised and given to a province to regulate and take care of the interests of local communities according to their own initiatives based on community aspirations.

DOK is the receipt of Aceh Province transfers from the central government. Part of the funding is used to finance district/city development programs. During the DOK implementation of the Aceh provincial government from 2008 to 2016, Aceh received a DOK of Rp 48.96 trillion or an average increase in revenue of 11 percent per year (Figure 1). The total regional income of Aceh Province in the same period amounted to Rp 107.33 trillion. The ratio of DOK to APBD is an average of 35.24 percent, meaning that DOK is the main source of revenue for Aceh's development. According to the Ministry of Home Affairs (2018), Aceh Province has the fifth largest regional income after DKI Jakarta, West Java, East Java and Central Java. This provides a golden opportunity for Aceh to spur development in the future.

Figure 1

DOK's definitive ceiling from 2008-2016 and projected ceiling for 2016-2027
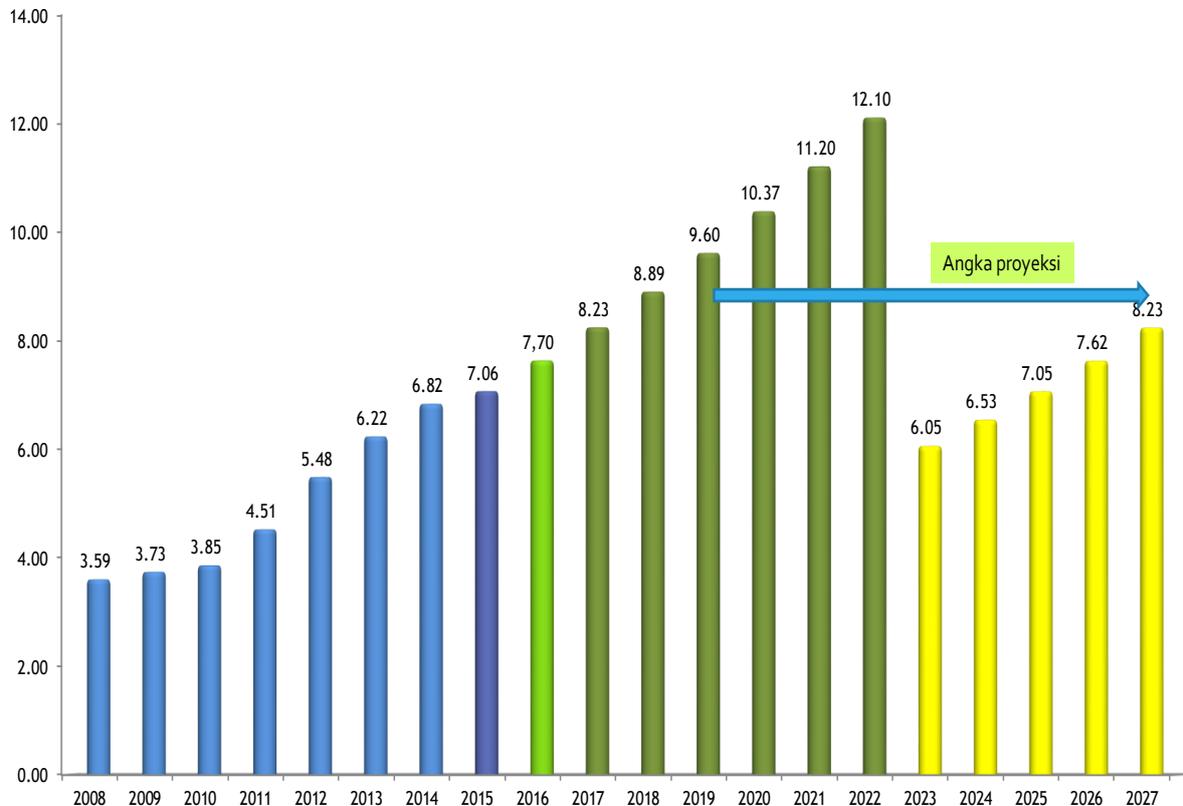
Source: Aceh Provincial Finance Office 2017

Basically, the management of DOK in Aceh must be able to be a trigger for the problem of community welfare. In terms of revenue and financial management, Aceh receives a substantial additional fund. This is true in the case of Aceh's equalisation fund, which obtains revenue-sharing funds in addition to oil and gas revenue-sharing funds under the provisions of the part of oil mining by 55 percent, and the part of natural gas mining by 40 percent. The funds are then allocated to finance education in Aceh (at least 30 percent). A maximum of 70 percent is allocated to finance development programs that are mutually agreed upon between the Government of Aceh and the district/city government. In addition to revenue-sharing funds, the province of Aceh also has DOK.

DOK is allocated to finance six main areas and Aceh's special features. Some key areas, such as infrastructure and education, get a sizable allocation compared to other sectors. The infrastructure sector received the largest allocation since 2008, accounting for Rp 13.7 trillion until 2016. Infrastructure allocations recorded an average of 36 percent annually, reflecting Aceh's development priorities in addition to education. Both of these sectors had a portion of 50 percent of the overall DOK allocation in 2016. The economic sector and poverty alleviation accounted for 34 percent of the total allocation. This is ironic, since a large amount of the

budget has not been accompanied by significant improvements in development performance, such as poverty, HDI and unemployment. The fact is that for almost a decade after the implementation of SAF in Aceh, poverty remains a major problem. The poverty rate in Aceh in 2016 was 17.08 percent. This figure is far above the national poverty level and is the second worst on the island of Sumatra after Bengkulu Province (BPS 2016). The unemployment rate in 2015 was 9.93 percent and HDI 69.45. The performance of unemployment and HDI is still below the national average. In the same year, the unemployment rate was 6.18 percent and the HDI achievement was 69.55.

Various studies show that there is no real relationship between the impact of fiscal decentralisation and economic development (which shows a negative relationship and shows a positive relationship). The results of research by Xie et al (1999), Sepulveda and Martinez (2011), Putra (2014), Adefeso (2015), Zulham et al. (2015), Murdiansyah and Ikhsan (2016), and Nurlina et al (2019) show that negative impacts are shown among others. Research by Lessman (2006), Martinez and Yao (2009), Freinkman and Plekhanov (2010), Sepulveda and Martinez (2011), Faridi (2011), Badruddin (2011), Faridi et 2011 Al (2012), Philip and Isah (2012), Amagoh and Amin (2012), and Soejoto et al (2015) analyses the impact of decentralisation on economic growth, showing positive impacts.

Previous research conducted in several studies has shown the impact of fiscal decentralisation through special autonomy policies on economic growth. This includes research by Putra (2014), Zulham et al. (2015), and Murdiansyah and Ikhsan (2016). They analysed the direct effects of special autonomy on economic growth. This study tries to explore this in more detail by further looking at the impact of SAF on economic development in Aceh Province. This includes dimensions of human development, poverty and unemployment through variable mediation of capital expenditure and goods and services expenditure, and the use of the GRDP variable with constant prices in 2000 as an indicator of economic growth. Specifically, it also looks at the impact of the central government's budget in the form of deconcentrated funds and regional development spending in Aceh Province to see more effective use of the budget. The selection of the use of the DOK budget is the focus because this particular DOK has a strategic position in the economy to reduce poverty. This is the goal of regional autonomy carried out by the central government to improve people's welfare. Based on the phenomena above, this study focuses on the impact of SAF on poverty, HDI, and unemployment in Aceh Province.

Literature Review

The Impact of Decentralisation

Faridhi (2011) indicates that the impact of the decentralisation of expenditure and revenue is part of improving public sector efficiency, cutting budget deficits and reducing poverty,

creating jobs, and encouraging human development. The impact of decentralisation will increase economic efficiency because local governments will provide public services according to community needs (Habbe et al., 2019). Over the course of time, this efficiency will lead to the creation of jobs and an increase in regional HDI acceleration. Finding fiscal decentralisation significantly drives human development and creates short-term and long-term regional employment. Furthermore, Philip and Isah (2012) found the same thing with Faridhi: Fiscal decentralisation significantly boosts employment opportunities and increases regional short-term and long-term HDI. Kalirajan and Otsuka's (2012) research in the State of India found decentralisation increased education and health sector spending so as to increase human development. This research was conducted from 1980 until 2006 using the OLS method. The results of their analysis found a positive impact of fiscal decentralisation on Indian macroeconomic stability. The study also shows that in India, income decentralisation is more effective than decentralised spending, and it is recommended to increase economic development, reduce unemployment, and increase long-term human development through fiscal decentralisation.

Special Autonomy

According to Freinkman and Plekhanov, (2010) special autonomy is very beneficial for human development, encouraging the quality of human education, reducing unemployment, and regional economic development. With regional autonomy, a region can regulate the economy in accordance with the wishes of the local community. Furthermore, Freinkman said that regional autonomy also gives greater responsibility and authority to regional authorities in regulating or managing the activities of a region. Golem (2010) argues that with fiscal decentralisation, a regional government will be closer and more responsive to the local community. As a result, it will be better suited to what is expected by the community (to be desired by the government). Bartolucci et al. (2015) said that fiscal decentralisation greatly affects local communities. Firstly, decentralisation increases accountability in the process of providing local government services that are closer than those of the central government. Local governments are assumed to be subject to electoral pressure from local citizens. Secondly, local government authorities are closer to their constituents because they have better access to local information. This allows local governments to provide goods and services that are more suitable or in accordance with the wishes of the local community. This has an impact on job creation, human development and reduction of poverty.

Method

This research was conducted in Aceh Province using district/city panel data for 2000-2016. The variables used are capital expenditure, capital expenditure and spending, and services in mediating the relationship between DOK, PAD, DAU, DAK, and DBH, poverty, HDI, and unemployment. Analysis of the effect on development performance in Aceh Province was also

carried out by lagging (t-1) one year and (t-2) two years for the variable of capital expenditure and economic growth (PDRBK). This is based on the problem of suboptimal absorption of the budget. What happens is absorption that is always low at the beginning of the year finally accumulates at the end of the year. The condition of budget absorption in Indonesia is termed by the World Bank as a slowdown in the work process. This can slow from the beginning of the year to the middle of the budget year but can increase sharply in the final year of implementation (slow back-loaded) (BPKP, 2011). In addition, government projects also sometimes exceed a period of one fiscal year, so the impact on poverty occurs over one or two years.

According to Haryanto, (2015) the delay in the realisation of capital is still a classic problem that repeats every year. In theory it can be explained that capital expenditure is the main reflection in determining quality spending in terms of explaining the effect of investment on regional development and national development. Therefore, the realisation of the special autonomy fund, DAK, DAU, DBH, and PAD through capital expenditure on poverty will only reveal its effect on poverty in the following year. The time lag or time gap between the measurement of the dependent variable in relation to the independent variable and the intermediate variable needs to be adjusted to the research model.

The analysis technique used was Ordinary Least Square (OLS) with a Fixed Effect Model (FEM) model that was processed using Eviews 9 software. The regression model in this study refers to the model developed by Juanda et al (2017), Sobari (2011), Muda et al (2018 & 2019). In this model, natural logarithmic (LN) transformation is used in both independent and dependent variables to facilitate the interpretation of the model. Transformation also significantly reduces the difference between large-value observations and small values. This make the data normally distributed. The regression model is as follows:

I. A Model of the influence of the independent variable through the variable capital expenditure and expenditure of goods and services.
a.   A Model of the effect of funds transfers on the capital expenditure variable

$$LNBM_{it} = b0 + b_1LNDAK_{it} + b_1LNDAU_{it} + b_3LNPAD_{it} + b_4DBH_{it} + b_5LNOTSUS_{it} + DOK + b_6LNDAK_{it} * DOK + b_7LNDAU_{it} * DOK + b_8LNPAD_{it} * DOK + b_9LNDBH_{it} * DOK + b_{10}LNDBH_{it} * DOK + e_{it} \qquad (1)$$

b. The model of the influence of funds transfers on the variable of shopping goods and services.

$$LNBBJ_{it} = b0 + b_1LNDAK_{it} + b_1LNDAU_{it} + b_3LNPAD_{it} + b_4DBH_{it} + b_5LNOTSUS_{it} + DOK + b_6LNDAK_{it} * DOK + b_7LNDAU_{it} * DOK + b_8LNPAD_{it} * DOK + b_9DBH_{it} * DOK + b_{10}LNDBH_{it} * DOK + e_{it} \qquad (2)$$

II. Model of the influence of capital expenditure and goods and services expenditure on poverty, HDI and unemployment.

a. $POV_{it} = b0 + b_1 LNBM_{it-1} + b_2 LNBBJ_{it} + b_3 LNPDRBK_{it-1} + b_4 DOK + b_5 LNBM_{it-1} + DOK + b_6 LNBBJ_{it}*DOK + b_7 LNPDRBK_{it-1}*DOK + e_{it}$ (3)

b. $LNIPM_{it} = b_0 + b_1 LNBM_{it} + b_2 LNBBJ_{it} + b_3 LNPDRBK_{it} + b_4 DOK + b_5 LNBM_{it} + DOK + b_6 LNBBJ_{it}*DOK + b_7 LNPDRBK_{it}*DOK + e_{it}$ (4)

c. $TPT_{it} = b_0 + b_1 LNBM_{it} + b_2 LNBBJ_{it} + b_3 LNPDRBK_{it} + b_4 DOK + b_5 LNBM_{it} + DOK + b_6 LNBBJ_{it}*DOK + b_7 LNPDRBK_{it}*DOK + e_{it}$ (5)

The operational definitions of variables and measurements are as follows:

= Human Development Index (HDI/IPM) is comparative measurement of life expectancy, literacy, education and living standards for all countries throughout the world in Indonesia (Certain Score).

= Special Autonomy Fund (DOK) s the funds allocated to finance the implementation of a region's special autonomy in Indonesia (Million Rupiah).

= Special Allocation Fund (DAK) is the fund allocation from the State Budget to certain provinces/districts/cities with the aim of funding special activities which are the affairs of the Regional Government and in accordance with national priorities.in Indonesia (Million Rupiah).

= General Allocation Fund (DAU) is the fund allocation from the State Budget to certain provinces/districts/cities with the aim of funding special activities which are the affairs of the Regional Government and in accordance with national priorities.in Indonesia (Million Rupiah).

= Local Own Revenue (PAD) is revenue from sources within the territory of a certain region, which is levied according to applicable Laws in Indonesia (Muda and Hutapea, 2018) (Million Rupiah).

= Revenue Sharing Fund (DBH) is funds sourced from State Budget that are allocated to regions based on certain percentage figures to fund regional needs in the context of decentralization (Muda et al., 2014). (Million Rupiah).

= Special Autonomy (OTSUS) is special authority recognized and given to the Provinces of Aceh and Papua.

= Capital Expenditure (BM) is budget expenditures for the acquisition of fixed assets and other assets that provide benefits over one accounting period in Million Rupiah (Muda and Naibaho, 2018).

= Open Unemployment Rate (TPT) is percentage of unemployment to total labor force.

= Shop for Goods and Services (BBJ) is Expenditures to accommodate the purchase of consumable goods and / or services to produce goods and / or services that are marketed or not marketed.

= Goods and Services Expenditure (GRDP) is procurement of goods intended to be delivered or sold to the community/Regional Government.

= Product Domestic Regional Bruto (PDRB) is the total gross value added arising from all economic sectors in the area in Trillions Rupiah.

= The regency/city special autonomy fund for the 1st year (Million Rupiah).

= The i-t regency (city) special allocation fund for the t-year (Million Rupiah).

= The i-t district/city general allocation fund (t. Million Rupiah).

= The regency/city revenue sharing i-t year (Million Rupiah)

= The 1st year original regency/city revenue of the year (Million Rupiah).

= District/city capital expenditure for year i (Million Rupiah).

= District/city expenditure of goods and services for year i (Million Rupiah).

= Natural logarithm (LN) of regency/city PDRB in the t-year (Million Rupiah).

= Regency/city poor population/poverty (POV) i-th year (percent).

= Regency/city Human Development Index i year t.

= Percentage of district/city open unemployment i-t year (percent).

= Percentage of labour force employed by the district/city in the first year (percent).

= Formation of regency/city gross fixed capital i year t (Million Rupiah).

D   = Special Autonomy Dummy, D = 0 (for 2000-2007) and D = 1 (for 2008-2016)

      = *Lag the previous year*

The independent variables in this study are DOK, DAU, DAK, DBH, and PAD. The dependent variables are poverty, HDI and unemployment while the intermediate variables used are capital expenditure and expenditure on goods and services. Analysis of the data used the Eviews 9.0 program. The research framework, the income block consisting of DOK, DAK, DAU, DBH and PAD will influence the expenditure block (capital expenditure and goods and services expenditure). Furthermore, capital expenditure and spending on goods and services will have an effect on poverty, HDI and unemployment.

Results and Discussion

Results

Several researchers have previously conducted research on the effects of fiscal denaturalisation on economic development. Research shows a negative and unreal relationship between fiscal decentralisation and poverty and HDI and unemployment. Among others, Xie et al (1999) examined fiscal decentralisation with economic development. According to research conducted in many countries, developing countries have a negative relationship and developed countries do not have a real relationship between fiscal decentralisation and economic development.

The results that show a negative relationship are also the same as the results of research by Adefeso (2015), who examined African countries using panel data. In a sample of 5 countries

from 2009-2014, the results obtained showed the negative effects of decentralisation of autonomy. This implies that the spread of the extent of corruption in Africa weakens the impact of fiscal decentralisation development for present and future generations in Africa. This is due to corruption in the decentralisation expenditure component. Nevertheless, it also results in the positive effects of decentralisation (that regional autonomy can enhance African economic development).

Furthermore, research that shows a positive relationship between the impact of fiscal decentralisation and human development, among others, includes research conducted by Lessman (2006). It shows that poor countries are less able to compete in terms of fiscal mobilisation compared to rich countries. Therefore, if not assisted, poor countries will remain poor. Lessman, in his research, proved the impact of fiscal decentralisation on regional disparity using panel data for 17 developing countries from 1980-2001. The results show that high levels of fiscal decentralisation show lower regional differences. This is in line with the results of a study by Sepulveda et al (2011), which conclude that the policy of fiscal decentralisation autonomy significantly reduces poverty, increases human development and reduces unemployment.

Freinkman and Plekhanov (2010) examined 73 regions in Russia, concluding that regional autonomy can increase education spending so that it can improve the quality of education, improve HDI and create employment. Faridi et al (2012) examined the State of Pakistan, concluding fiscal decentralisation through autonomy policies can encourage employment opportunities. Martinez and Yao (2009) examined vulnerable developing countries from 1985 to 2005, concluding fiscal decentralisation increased economic development, encouraged employment opportunities, and reduced the poor population. The results of this study are the same as Faridi's (2011), which used a sample of provinces in Pakistan from 1972-2009. They found that indicators of fiscal decentralisation, such as expenditure and income autonomy, have a significant positive effect on economic growth. They recommended the federal government to delegate fiscal policy to the provincial governments and districts to promote the growth and prosperity of the people of Pakistan and reduce poverty. This is also in line with research by Chu and Yang (2012). They found that fiscal decentralisation in China can increase economic growth and improve people's welfare.

The same research results were also examined by Badruddin (2011), who concluded that fiscal decentralisation in Central Java did not show a significant effect on capital expenditure. However, fiscal decentralisation could significantly influence economic growth and improve the welfare of the people in Central Java.

Murdiansyah and Ikhsan (2016) stated that of the five independent variables, only two variables, namely PAD and DBH, had a significant influence on economic growth. The effect

of economic growth on the dependent variable is significant for all variables. This means that if the regression results show that economic growth rises, then unemployment and poverty also increase. This opposes the theory indicating if the economy grows, unemployment and poverty will decrease. This is different from the research of Zulham et al (2015). It states that before otsus, the exogenous variable that had a positive and significant influence on the conditional convergence of regional economic growth in Aceh was regional income, while the negative and significant correlation was the balancing fund variable. In other words, the balance funds received by Aceh have not been able to increase economic growth, creating regional economic employment in Aceh.

Targeted governance will be a key requirement in maximising the use of SAF. As required by law, the program of activities funded by the SARET must have a significant, measurable, and beneficial impact on the community and have a driving force that has a long-term impact on Aceh's development. Systems, mechanisms, planning, implementation and supervision as well as periodic evaluations must be developed as a necessity (Yahya et al., 2018). The master plan regarding the use of SAF and various regulations and technical guidelines in the management of SAF (which is a reference), must continue to be refined to ensure the effectiveness of development.

The DOK allocation is intended to finance the acceleration of development in Aceh. The people of Aceh also consider that the administration and implementation of development in Aceh has not been able to fully realise the people's welfare, justice, fulfillment, and protection of human rights. These considerations imply that the receipt of the DOK by Aceh is so the special development needs of Aceh can be met, especially the problems of poverty, HDI and unemployment rates.

As time passes after DOK acceptance, there are several indicators of development targets: economic growth, poverty, unemployment and inflation. The unemployment indicator data shows that before the DOK in 2006, the unemployment rate in Aceh Province was 14 percent. Then the unemployment rate showed a decrease in 2008 to 9.56 percent at the beginning of the DOK. This was also the case in 2010; the percentage of unemployment in Aceh Pronsi decreased to 8.37 percent and continued to show a decline in 2016 to 6.8 percent. In general, the inflation indicator also shows a declining trend; in 2006 inflation in Aceh reached 9.98 percent. However, at the beginning of the DOK in 2008, the inflation rate increased to 11.92 percent. Over time (i.e. after the DOK had been running for two years in 2010), the inflation rate continued to decline to 5.86 percent. In 2012, the inflation rate continued to show a decline to 3.4 percent. However, in 2013, the inflation rate showed an increase to 7.8 percent. In 2014, it also continued to increase to 8.9 percent. However, in 2016 (with the DOK), the inflation rate also continued to decline until 2016 to 5 percent.

Figure 2

Macro achievement indicators and development targets for Aceh Province from 2005-2017
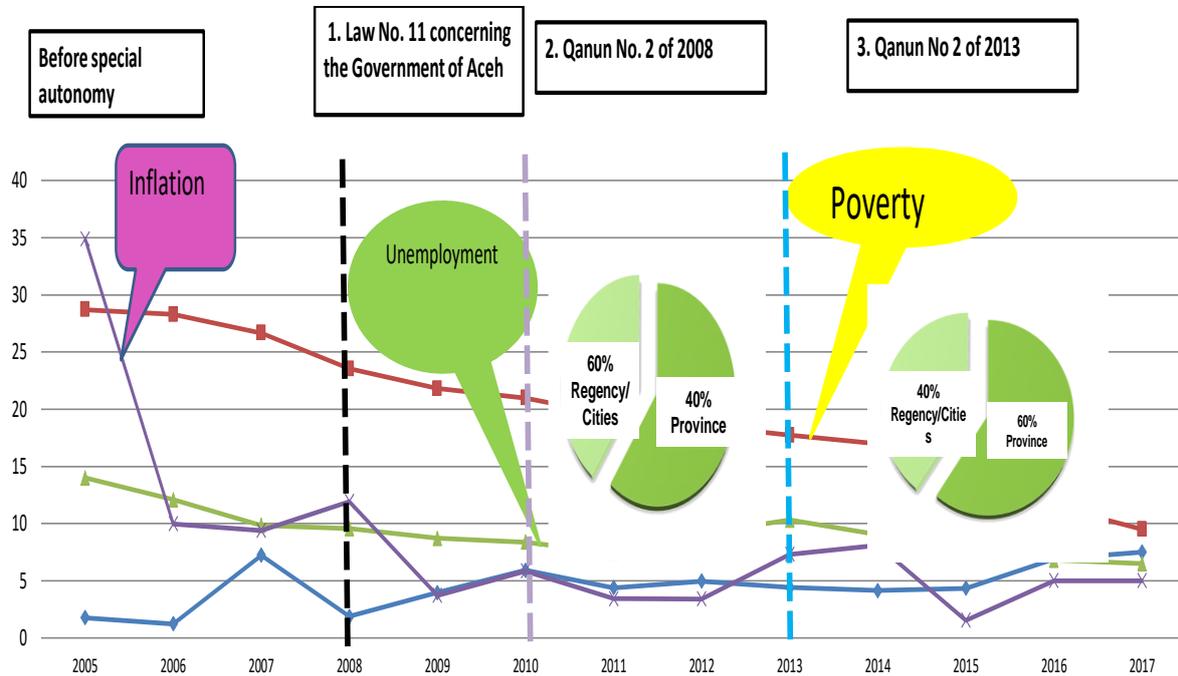
Source: Aceh Provincial Development Planning Agency

DOK is intended to finance development programs and activities that are strategic and have a strong driving force in achieving community welfare. The use of SAF, as mandated in the law and qanun to finance the seven development sectors, involves infrastructure, the economy, poverty, education, health, social issues and the implementation of Aceh privileges. Appropriate development financing for the entire sector is expected to be a strong impetus for Aceh to spur development. Some key areas, such as infrastructure and education, get a sizable allocation compared to other sectors. The infrastructure sector received the largest allocation since 2008, accounting for Rp. 13.7 trillion until 2015. Infrastructure allocations are recorded at an average of 36 percent annually, reflecting Aceh's development priorities in addition to education. Both of these sectors had a portion of 50 percent of the overall DOK allocation in 2015. The economic sector and economic alleviation accounted for 34 percent of the total allocation. Regression estimation results show each of the effects of DOK and other transfers on the variables of poverty, HDI and unemployment through capital expenditure and goods and services expenditure. The influence is as follows:

1. Effects of DOK, DAK, DAU, DBH, and PAD on capital expenditure and goods and services expenditure:

Table 1

The effects of funds transfers on capital expenditure and expenditure on goods and services before DOK

Independent Variable	Dependent Variable			
	LN_BM	P_Value	LN_BBJ	P_Value
Constanta	4.134	0.0003	8.523	0.0000
LN_DAK	0.194	0.0000	0.024	0.2531
LN_DAU	0.332	0.0078	0.167	0.0111
LN_DBH	0.073	0.1154	0.023	0.3166
LN_PAD	0.073	0.0000	0.003	0.6741
Observations	391		391	
R-squared	0.793		0.875	

Source: Processed Data (2018).

In determining the model used, a model selection test was carried out using the Chow test and the Hausman test. The Chow test can determine whether the model chosen pooled a least square model or fixed effect model. A rejected H0 means the value of probability for F is smaller than Alpha (0.05). Hence, it can be concluded that the model used is the fixed effect model. The first test can determine whether the model chosen is a random effect model or fixed effect model. A rejected H0 means the value of probability for F is smaller than Alpha (0.05). Hence, it can be concluded that the model used is the fixed effect model. The research model that uses the fixed effect model can be explained through the equation before the presence of DOK as follows (Table 1):

Equation effect of funds transfers on capital expenditure before special autonomy funds:

$$LN\_BM_{it} = 4.134 + 0.194\ LN\_DAK_{it} + 0.332 LN\_DAU_{it} + 0.073\ LN\_DBH_{it} + 0.073\ LN\_PAD_{it} + e_{it} \tag{6}$$
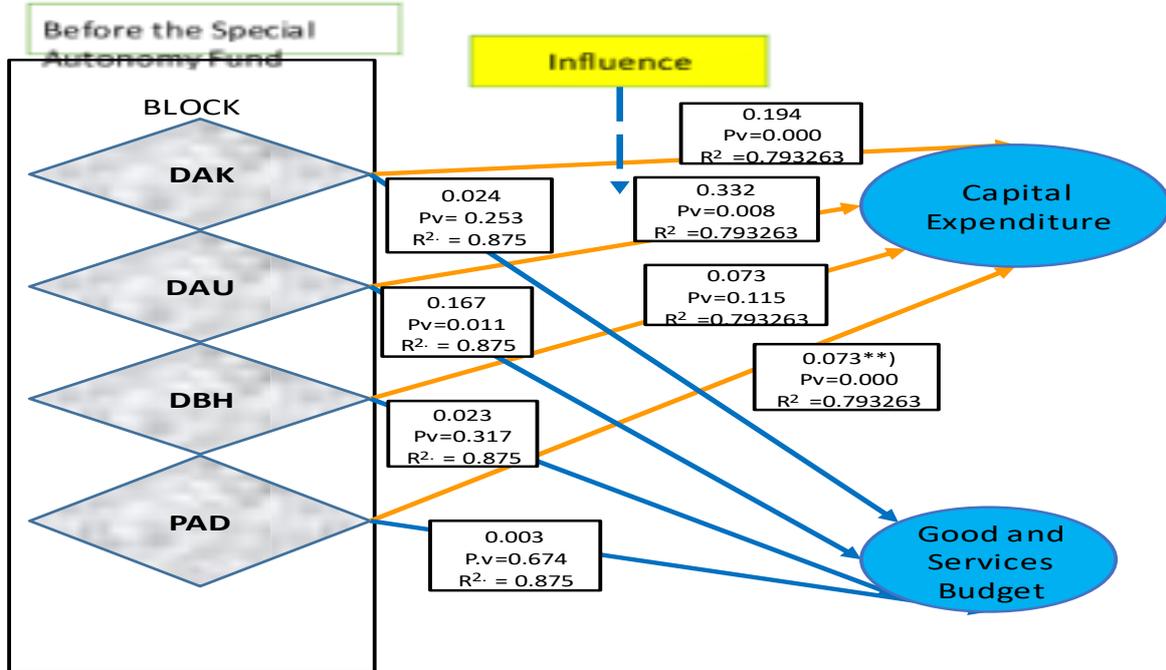
The equation of the effect of funds transfers by spending on goods and services before the special autonomy fund:

$$LN\_BBJ_{it} = 8.523 + 0.024\ LN\_DAK_{it} + 0.167 LN\_DAU_{it} + 0.023 LN\_DBH_{it} + 0.003\ LN\_PAD_{it} + e_{it} \tag{7}$$

Based on Table 1, it can be explained that the DAK, DAU and PAD variables significantly influence capital expenditure, while the highest elasticity is DAU of 0.332 percent. This means that if DAU funds increase by 1 percent, then capital expenditure will increase by 0.332 percent (ceteri paribus). Based on the value of R2 (0.79), it can be seen that the above model can explain the diversity of capital expenditure variables by 79 percent. For the allocation of goods and services expenditure, the most influential is the DAU variable only. The other variables do not have a significant effect on the coefficient of determination by 0.011 percent.

Figure 3

The direct schematic effect of DAK, DAU, DBH and PAD on capital expenditure and goods and services expenditure before DOK

Research models that use the Fixed Effect Model to explain the equation after DOK are as follows (Table 2):

Table 2

The effect of funds transfers on capital expenditure and expenditure on goods and services after DOK

Independent Variable	Dependent Variable			
	LN_BM	P_Value	LN_BBJ	P_Value
Constanta	0.740	0.000	3.644	0.000
LN_DAK	0.488	0.000	0.164	0.001
LN_DAU	0.339	0.008	0.485	0.002
LN_DBH	-0.072	0.115	-0.233	0.000
LN_PAD	0.123	0.000	0.210	0.000
LN_DOK	0.072	0.595	0.017	0.792
Observations	391		391	
R-squared	0.793		0.875	

Source: Processed Data (2018).

Equation of the effect of funds transfers on capital expenditure after DOK

$$LNBM_{it} = 4.134 + 0.194\ LNDAK_{it} +\ 0.332\ LNDAU_{it} + 0.073 LNDBH_{it} + 0{,}0073 LN\ PAD_{it} + e_{it} \tag{7}$$

Equation of the effect of funds transfers on goods and services spending after DOK

$$LNBBJ_{it} = 8.523 + 0.024\ LNDAK_{it} +\ 0.167\ LNDAU_{it} + 0.023 LNDBH_{it} + 0{,}003\ LN\ PAD_{it} + e_{it} \tag{8}$$

The results of Table 2 provide an explanation that there is an effect of DAK after DOK on capital expenditure. This can be seen in the results of interactions after the DOK variable. DAK has an elasticity value of 0.498 percent, meaning it has an increase of 0.296 compared to before DOK. These results are consistent with previous studies conducted by Putra (2011), Hamdani (2012), Surakarta (2015, 2015), and Juanda (2017). They show that DAU has a positive and significant effect on the allocation of capital expenditure. Meanwhile, the influence of DBH on capital expenditure has decreased compared to before the DOK. This was caused by the growth of DBH, which was negative after DOK. PAD contribution has increased after the DOK of capital expenditure to 0.122 percent. PAD has a significant effect on capital expenditure, but before DOK the PAD variable did not have a significant effect, and DOK did not have a significant effect on capital expenditure (ceteris paribus). Based on the value of $R^2 = 0.875$, it can be concluded that this model can explain the diversity of the dependent variable by 87.5 percent.

After the DOK, the increase in the DAU, DAK and PAD variables significantly affected the expenditure of goods and services, while the DOK did not affect the expenditure of goods and services. The results show that the variable with the biggest influence on the increase in goods and services expenditure after the SARET is the DAU variable. Each DAU increase of 1 percent will increase goods and services expenditure by 0.31 percent. When the PAD variable increases by 1 percent, it will increase the expenditure of goods and services by 0.21 percent. Each DAK increase of 1 percent will increase spending on goods and services by 0.16 percent, while DBH has no significant effect (ceteris paribus).

2. Effects of capital expenditure and goods expenditure on poverty, HDI and unemployment.

Table 3

Coefficients of the influence of capital expenditure, goods and services expenditure and GRDP on poverty, HDI, and Unemployment

Independent Variable	Dependent Variable						
	Pov	P Value	Independent Variable	LN_IPM	P Value	TPT	P Value
CONSTANTA	1,489	0,000	CONSTANTA	3,438	0,000	9,700	0,160
LN_BM(-1)	0,006	0,148	LN_BM	0,014	0,0000	-0,302	0,509
LN_BBJ	-0,060	0,000	LN_BBJ	0,014	0,0000	0,611	0,608
LN_PDRBK(-1)	-0,046	0,000	LN_PDRBK	0,036	0,0752	-0,282	0,999
DOK	-0,211	0,000	DOK	-0,274	0,0000	2,308	0,383
LN_BM(-1)*DOK	-0,026	0,006	LN_BM*DOK	0,009	0,0007	-0,724	0,207
LN_BBJ*DOK	0,051	0,000	LN_BBJ*DOK	0,006	0,0068	0,587	0,950
LN_PDRBK	-0,008	0,001	LN_PDRBK	0,009	0,0116	-0,102	0,673
Observations	391		Observations	391		391	
R-squared	0,947		R-squared	0,975		0,957	

Source: Processed Data (2018).

Table 3 regards the equation of the influence of capital expenditure and goods and services expenditure as well as GRDP on poverty, HDI and unemployment before and after DOK as follows:

The equation of the effect of capital expenditure and expenditure on goods and services and GRDP on poverty before DOK.

$$Pov_{it}=1.489+0.005LNBM_{it-1}-0.059LNBBJ_{it}-0.046LNPDRBK_{it-1}+e_{it} \qquad (9)$$

The equation of the effect of capital expenditure and goods and services expenditure as well as GRDP on poverty after DOK.

$$Pov_{it}=1.278-0.019LNBM_{it-1}-0.0089LNBBJ_{it}-0.0545LNPDRBK_{it-1}+e_{it} \qquad (10)$$

The equation of the effect of capital expenditure and goods and services expenditure as well as GRDP on HDI before DOK.

$$LN\_IPM_{it}=3.438+0.014LN\_BM_{it}-0.014LN\_BBJ_{it}+0.036LN\_PDRBK_{it}+e_{it} \qquad (11)$$

The equation of the effect of capital expenditure and goods and services expenditure and GRDP on HDI after DOK.

$$LN\_IPM_{it}=3.165+0.023LN\_BM_{it}-0.021LN\_BBJ_{it}+0.045LN\_PDRBK_{it}+e_{it} \qquad (12)$$

The equation of the effect of capital expenditure and goods and services expenditure and GRDP on unemployment before DOK.

$$TPT_{it}=2.997-0.031LN\_BML_{it}-0.042LN\_BBJ_{it}+0.0001LN\_PDRBK_{it}+e_{it} \qquad (13)$$

The equation of the effect of capital expenditure and goods and services expenditure and GRDP on unemployment after DOK.

$$LN\_TPT_{it}=3.964-0.095LN\_BM_{it}-0.047LN\_BBJ_{it}-0.025LN\_PDRBK_{it}+e_{it} \qquad (14)$$

Equation results (9) and (10) show that the variable expenditure on goods and services significantly influences poverty reduction before and after the special autonomy fund.
Capital expenditure and GRDP do not affect poverty, but if using lag from the previous year (t-1), both variables show a significant effect. The variable coefficient of capital expenditure is 0.019 percent and GRDP is 0.0545 percent. This means that any increase in the allocation of capital expenditure in the previous year after the special autonomy fund reached 1 percent can reduce poverty by 0.019 percent. The same thing is shown by the variable and GRDP growth, which has a negative influence on poverty. Every increase of economic growth in the previous year by 1 percent will reduce poverty in the coming year by 0.0545 percent. Every increase in the allocation of spending on goods and services by 1 percent can reduce poverty by 0.0089 percent.

The scheme of the effect of budget allocation before DOK indicates an increase in the amount of DAU by 1 percent is expected to be able to contribute to poverty reduction in Aceh by 0.0012 percent through spending on goods and services. Allocations through capital expenditure have not been able to show a real change in poverty. Likewise, a DBH increase of 1 percent can affect poverty reduction in Aceh by -0.0014 percent through spending on goods and services. DAK and PAD funds have not been able to show a significant effect on poverty.

These results are in line with the results of the study of Wan and Sebastian (2011), who examined the Asia Pacific region using the poverty lines of the US ($1.25 per day and US $2 per day). Their research shows that the elasticity of poverty in relation to economic growth in Aceh is relatively low compared to other countries. The poverty line of $1.25 per day gives the value of Indonesia's poverty elasticity of -0.88. This means that in the case of economic growth of 1 percent, the poverty rate decreases by 0.88 percent (ceteris paribus). If the poverty line is raised to $2 per day, then each increase in economic growth by 1 percent only reduces the poverty rate in Aceh by 0.34 percent. Furthermore, the lagging economic growth variable of the previous year (t-1) prior to the availability of DOK can also affect the decline poverty. With an increase in economic growth of 1 percent, the impact on poverty reduction is 0.046 percent.

In terms of the influence of budget allocation after DOK, it can be seen that all determinant variables can influence poverty reduction after the availability of DOK. An increase in the amount of DAK by 1 percent is expected to reduce poverty in Aceh by 0.0009 percent if

including lag fr0m the previous year (t-1) through capital expenditure and 0.002 percent through goods and services spending, or with a total DAK against poverty reduction of 0.011 percent. The increase in DAU is also expected to be able to influence poverty reduction in Aceh through capital expenditure and goods and services expenditure. A 1 percent increase in DAU can reduce poverty by 0.006 percent through capital expenditure if including lag from the previous year (t-1) and 0.005 percent through goods expenditure and services, or the overall total impact of the DAU on poverty reduction of 0.012 percent.

While an increase in PAD also has an impact on poverty reduction, an increase in PAD of 1 percent can affect poverty reduction in Aceh by 0.0023 percent both through capital expenditure and through goods and services spending. As a result, the total effect due to an increase in PAD of 1 percent can reduce poverty by 0.05 percent. The special autonomy fund and DBH have not been able to show a real effect on poverty. Economic growth before the special autonomy fund could also affect poverty reduction, with an increase in economic growth lag from the previous year (t-1) of 1 percent, the impact on poverty reduction was -0.0545 percent. All determinant variables can show a greater influence on poverty reduction after fiscal decentralisation through special autonomy. These results are in line with the results of a study by Sepulveda, Martnez and Yao (2009). Their research shows that fiscal decentralisation policies can show a significant influence on the reduction of poverty in developing countries in Africa.

The impact of capital expenditure, goods and services expenditure and GRDP growth on HDI is shown in equations (11) and (12). All independent variables before DOK had a positive effect on HDI. The effect of capital expenditure allocation on HDI before the presence of DOK was 0.014 percent, but after the DOK it was 0.023 percent (showing an increase in coefficient of 0.009 percent). This means that each increase in capital expenditure by 1 percent will increase the HDI by 0.023 percent. The same thing is shown by the variable expenditure allocation for goods and services; each increase in goods and services expenditure by 1 percent will cause an increase in HDI of 0.020. GRDP growth can increase HDI; each increase of 1 percent causes an HDI increase of 0.045 percent (ceteris paribus). The results show that fiscal decentralisation through DOK policy can show a more real influence on the improvement of HDI in Aceh Province. This is in line with the results of studies conducted by Freinkman (2010) in 73 regions in Russia, Sepulveda et al (2011), and the results of Soejoto et al (2015).

Discussion

The impact of DAK, DAU, DBH, and PAD through capital expenditure allocations, goods and services expenditure allocations as well as GRDP growth cannot significantly explain unemployment prior to the DOK. Before the DOK, there were no determinant variables that could show a real effect on unemployment. After the DOK, there was a different effect on

unemployment. This was after the implementation of fiscal decentralisation in the presence of DOK. The results can explain the significant effect on unemployment reduction in Aceh Province. This is in line with the results of Faridi (2011), who examined the relationship between fiscal decentralisation and employment opportunities in Pakistan. The results of his research found that the effect on unemployment varies greatly depending on fiscal policy and the distribution of income and expenditure of each province. It can significantly influence employment opportunities. This is in line with the results of research conducted by Faridi et al (2012), who examined the relationship between fiscal decentralisation and employment in Pakistan. They found the effects of fiscal decentralisation differ depending on the share of income and expenditure of each province. It significantly encourages employment opportunities.

This is also in line with the results of the study of Martinez and Yao (2009) and Amagoh and Amin (2012). They concluded that in addition to economic growth, the impact of the success of fiscal decentralisation was also shown to increase local people's participation in development and economic activities. They developed a model to analyse the relationship between decentralisation and employment opportunities in the public sector. They found that decentralisation of expenditure significantly boosted employment opportunities (reduced unemployment). The results of the study conclude that the impact of fiscal decentralisation is very different among some regions and is strongly influenced by the income and expenditure allocation of each region so that it can actually encourage job creation.

Conclusion

The special autonomy fund for the Aceh government is still a large source of revenue (50% of the APBD) in Aceh Province. Before the special autonomy fund, DAK, DAU, and PAD showed a real influence on capital expenditure, but after the special autonomy fund, only DAK showed an increase in influence on capital expenditure. Furthermore, the influence on spending on goods and services prior to the special autonomy fund is only the case for DAU. It shows a real effect. After the special autonomy fund, DAK, DAU, and PAD show effects of increasing in spending on goods and services.

Regarding the influence on poverty, HDI and unemployment before the special autonomy fund, DAK, DAU, DBH, and PAD variables have a significant influence on poverty reduction, increase HDI through capital expenditure and cannot show a real effect on unemployment. Through the allocation of goods and services spending, only the DAU has a significant influence on reducing poverty and increasing HDI. Unemployment also cannot show a real impact. However, after the introduction of special autonomy funds, DAK and DAU were able to show a greater significant effect on reducing poverty, increasing HDI and reducing unemployment. They do so through capital expenditure (compared to spending on goods and

services). PAD had a significant effect on reducing poverty and increase HDI only through spending goods and services. These results show that the special autonomy fund has not been able to show a real influence on increasing poverty reduction, increasing HDI, and reducing unemployment both through capital expenditure and through spending on goods and services. However, after the existence of special autonomy funds, DAK, DAU, DBH, and PAD can show a more significant increase in their influence on poverty reduction, HDI, and reduction of greater unemployment through capital expenditure than their influence on goods and services expenditure. Local governments should prioritise capital expenditure from special autonomy funding sources so that they can reduce poverty, increase HDI and reduce unemployment. Local governments must harmonise regulations that govern regional development planning, management of regional finances and evaluation of regional development performance. In addition, increasing the ability of a local government apparatus and the active role of the community is needed to encourage increased regional development performance.

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