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Effect of Human Development Index Fund on Economic Growth Through a Special Autonomy

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Abstract

This study aims to determine the human development index on economic growth through the provision of special autonomy. The method used is research development with panel data analysis in 23 districts / cities. The results showed that the moderation between the human development index through special autonomy fund a significant negative effect on economic growth. It indicates the use of special autonomy funds for the human development index is still up, so the future is expected to need to be allocated according to the needs in the region, so that the special autonomy funds can effectively and efficiently.

Keywords: economic growth, human development index, the special autonomy funds.
JEL Classification: O4, I250, H770

1. Introduction

The United Nations Development Programme (UNDP) human development as formulated as a process of expanding human choices in improving their opportunities for education, health care, income and employment. One measure or indicator that can be used to see the development of human resources capable of carrying on the condition of successful development is the Human Development Index (HDI) or the Human Development Index (HDI).

The 2016 Human Development Index ranking report in Stockholm, has been officially released independently by UNDP. The report issued is the result of HDI in 2015. Indonesia is ranked 113th by 2015. Previously, HDI ratings for Indonesia in 2014 was the 110th. In 2014, Paraguay is ranked one under Indonesia and in 2015 Paraguay follows one rank above Indonesia. Under Indonesia there is currently Palestine which is ranked 114th. The dynamics on Indonesia's HDI components between 2014-2015 are visible, some of which are: Healthcare spending fell by 2% from 3.1 to 1.1 (% of GDP). Education expenditures fell 0.3% from 3.6 to 3.3 (% of GDP). Adult literacy skills (age 15+) rose 1.1% from 92.8% to 93.9%. The number of students dropped out of school dropped from 11% to 18.1%. Education gap remains at 20.8%. The 2016 HDI report for 2015 is a condition of Indonesia's human development index in the early days of Jokowi's reign. It is expected that in the future the government will need to evaluate the existing weaknesses and design various strategies to bring Indonesia to a better, more advanced direction.

What about the economic growth in Aceh. The potential of natural resources in Aceh province is abundant, derived from forest products, plantations, agriculture, fisheries, and mining. The mining sector has been able to contribute approximately 10.83 percent of the economy in Aceh with oil and gas commodities. In addition to the mining sector, the community's economic activities are dominant in agriculture, plantation and forestry sectors. Aceh economic growth continues to increase in the period 2011 - 2012, then decline in the year 2012-2014. During the period of 2011-2014 Aceh Province's economic performance has an average growth rate of 2.90 percent, Aceh's economic growth from 2012-2014

slowed due to the declining production of mining activities and the manufacturing industry, as indicated by the growth of both sectors is negative.

In addition, during that period also per capita income in Aceh Province tended to increase, but lower than per capita national income. The high per capita income in Aceh Province can not be used to measure the amount of income in the field. Income support from the mining sector affects the increase in per capita income in Aceh Province. If in 2010 the ratio of GRDP per capita of Aceh Province and National GDP is 78.01 percent, then in 2014 the ratio decreased to 62.65 percent. This shows the effect of the mining sector began to decline for the increase in per capita income in this province (BPS Aceh, 2015)

Jhingan (2010), states that economic growth is a long-term increase in a country's ability to provide more and more kinds of economic goods to its citizens. This ability to grow in accordance with advances in technology, and adjustment of institutional and ideological needs.

This economic growth, will be the basis for sustainable development. The government can improve people's welfare by increasing economic growth, prioritizing: infrastructure improvements; improving education; health services; build a facility that can encourage foreign and local investment; providing housing at low cost; environmental restoration and strengthening in the agricultural sector (Saad, 2009).

Aceh also has a great opportunity to catch up with development through special autonomy fund. Since 2008 until 2015, Aceh has special autonomy received funds amounting to Rp 41.49 trillion and has become the main source of revenue for the development of Aceh, with an average increase of in revenue to grow by 11 percent per year. For 20 years the period of validity of special autonomy funds, Aceh is expected to receive Rp 163 trillion. This provides a golden opportunity for Aceh to spur development in the future.

In contrast, human development in the province of Aceh in 2016 is indeed progressing marked by the increasing Human Development Index (HDI). In 2016, Aceh Provincial HDI reached 70.00. This number increased by 0.55 points compared with the Year 2015 which amounted to 69.45. However, distribution still needs to be done, because there are still 14 districts are still medium status, 8 districts / cities high status and 1 city status is very high.

In theory, the economic growth is often associated with human development. High economic growth is targeted in development. Ginting et. all (2008), stating that the conditions of developing countries until the late 1999's indicated resources the role of human development is determined by economic growth. Although empirically, studies on the effect of economic growth on human capital is still lacking (Ramirez, et al, 1998). Nevertheless, this study is more focused Observe the effect of human capital on economic growth.

A number of studies about human resources disclosed in Gherghina (2013), states that one of the main factors that Determine the GDP per capita is the level of training of the labor input factors. Ramos, Surinach, and Artist (2012) Analyzed the relationship between human capital and economic growth in european union. They found an increase is in over-education (education is higher than the needs of the job) will have an impact on the economic development of the regions in Europe.

Furthermore, Tsamadias and Prontzas (2012) suggests that the rate of economic growth by up to 66% are influenced by physical capital, human capital, and labor. When the coefficient of education is estimated using the time lag, contributing an annual difference of human capital growth to the difference in annual GDP growth Reached 0.64% to 0.81%. This is Also in line with research Yuhendri (2013) the which states that economic growth is influenced by education in West Sumatra.

Previous research that is relevant to this study, Dewi and Sutrisna (2014); Nazamuddin (2013), Amaliah (2006), and Brata (2002). This study aims to examine statistically the relationship between phenomena Certain items,

namely Whether there is influence human development index on economic growth through the provision of special autonomy. The difference of this study with previous studies is that this study incorporate special autonomy funds. Therefore, this study is the development of previous research.

This is illustrated briefly in the frame of mind in Figure I.

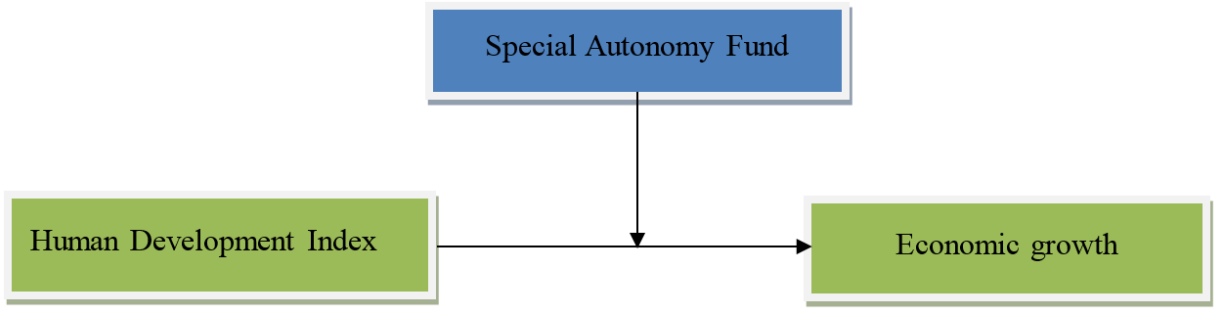

Figure 1. Framework

2. Research Method

The data used in this research is secondary data in the form of quantitative data that includes indices of human development, the special autonomy fund, and economic growth. The data in this study were obtained through the relevant department or agency, the Central Bureau of Statistics of Aceh Province and Regional Development Planning Board of Aceh Province.

The population in this study are all districts / cities in Aceh province. The reason is because the province has its own uniqueness, namely of specificity provided by the government to implement the local government, which is different from other regions in Indonesia. Especially with the inclusion of special autonomy funds as income areas specifically regulated in Law Number 11 Year 2006 concerning the Government of Aceh.

Special Autonomy Fund valid for a period of 20 (twenty) years, with details for the first year until the fifteenth year in the amount equivalent to 2% (two percent) ceiling National General Allocation Fund and for the sixteenth to the twentieth year that the amount equivalent to 1% (one percent) of the National General Allocation Fund ceiling.

This research was conducted census with secondary data in the form of time series from 2009 to 2013. Data cross section consists of 23 districts / cities, so it is a pooled the data that a combination of time series data (years 2009-2013: 5 years) with the data cross section 23 districts / cities. In econometrics, the process of unification of data over time (time series) and data among individuals (cross section) called a pooling and data generated from this study is called the pooled data or panel data.

Methods of data analysis used in this research is multiple regression analysis (multiple regression). A multiple regression analysis using more than one independent variable. Multiple regression is used to fulfill the purpose of research in proving the hypothesis outlined below in the form of equations.

The model equations used in this study follows the model used Dewi and Sutrisna (2014). This study uses a log linear specification and the model is then specified in the model as follows:

$$EG_{it} = \beta_0 + \beta_1 HDI_{it} + \beta_2 \log SAF_{it} + \beta_3\{(HDI_{it})x(Log\,SAF_{it})\} + e_{it} \quad (1)$$

wherein, EG is economic growth, HDI is a human development index, LogSAF is a special autonomy fund, HDILogSAF (Z1) is the interaction HDI and LogSAF depicting LogSAF variable moderating effect on the relationship between HDI and EG.

The reason for using regression with moderating variable model to find out whether the allocation of special autonomy funds is capable or not able to support HDI so as to increase or decrease economic growth.

3. Results and Discussion

3.1 Testing Model

The use of panel data in this study, at least three analytical techniques that can be used, namely; 1) OLS also known as a method common effect or coefficient fixed across time and individuals, 2) Fixed effect method or constant slope but different intercepts between individuals, 3) Method known as random effect or interference variable (error terms) are used in case of reduction of degrees of freedom (degree of freedom), which in turn reduces the efficiency parameter (Gujarati and Porter, 2012). Gujarati and Porter, 2012, suggests there is a fundamental difference to make a choice between the FEM (Fixed Effects Model) and ECM (Error Component Model) are as follows; If T (the number of time series data) is large and N (the number of unit cross-section) is small, the difference between the FEM and the ECM is very thin; When N is large and small T, estimates obtained by the two methods may differ significantly; Components error individuals and one or more regressors are correlated; and If N is large and small T, and if the assumptions for the ECM are met, then the ECM estimator is more efficient than FEM estimator.

Based on the three models discussed above, which then selected the most appropriate model used in the study. Formally, this study used a model FEM (Fixed Effects Model) because the sample used is not random. Model selection is done formally by considering certain things.

Research conducted empris study with analysis of data obtained from the data source (see Table 1). The analysis will be done is the influence of variables related to factors that affect economic growth in the 23 districts / cities in Aceh province. The results of the analysis are in Table 1.

Table 1. Fixed Effect Estimation Results: Economic Growth Model

Panel Model	District / City
	EGLS (Cross-section weights)
Intercept	-37.22936 (-7.321685)*
HDI	0.605915 (8.135472)*
LOG (SAF)	13.71970 (4.807609)*
LOGZ1	-0.202170 (-4.814944)*
R^2	0.809332
F-statistics	15.11124
Probability (F-Stat)	0.000000

Source: Results of data processed, Eviews 8 (processed)

(*) Respectively significant at the 5% critical value

3.2. Effect of HDI on Economic Growth in Aceh Province

Based on Table 1, it can be seen that the HDI has a probability value (t-statistic) of 0.0000 which value <0.05, so it can be concluded that the HDI significant effect on economic growth. This study are consistent with previous studies conducted by Dewi and Sutrisna (2014).

A positive and significant relationship is consistent with the hypothesis at the beginning of the study stating that the HDI variable has a positive and significant relationship to economic growth. The existence of positive and significant correlation between HDI and economic growth can occur due to the increase in the HDI. HDI development in Aceh province has always increased from year to year.

Based on data from BPS Aceh (2015) showed that human development in Aceh province continues to progress, visible from the Human Development Index which has risen steadily since 2004 to 2013. HDI Aceh has experienced an increase of 4.35 points in the span of a decade. Achievement of HDI continues to increase is a positive indication that the human quality in Aceh from the aspect of health, education, and the economy has improved.

Achievement of HDI Aceh was under 70, which is for 3 years (2004-2006). The rapid development of structures and infrastructure rehabilitation and reconstruction phases results in post-tsunami Aceh began perceived by society after 2007. Since then, with the development of education development (new school buildings, etc.), health care (hospitals and new health facilities and more adequate) as well as the improvement and progress of some sectors of the economy (trade, hotels, restaurants, etc.), then the province of Aceh were able to maintain the achievements of its HDI value above the figure of 70 for the last 7 years. Aceh HDI value in 2013 amounted to 73.05, up 0.54 points from the previous year.

However, when viewed from the side of human development achievements in the development of the district / city will be found a difference. This is due to the growth or development of the region would also be influenced by other factors, such as local government policy.

The pattern of increase in human development at the provincial level in general is seen as the achievement of human development on at the district / city. HDI in each district / city also increased from 2005 until 2013. Only when considered in ranking, there are variations of increases and decreases in some districts / cities.

Human capital (human capital) is one of construction is an important factor in the economy. With the quality of human capital, economic performance is believed to also be better, so that his name will be achieved "social development is economic development". According to Mirza (2012), the human resources of a nation is the biggest factor determining the character and pace of social and economic development of the nation concerned. The relationship between economic growth and human development can be explained by two (2) lines as illustrated in Figure 2. The first path is through the policies and government spending. In this case, the decisive factor is the government spending on social summarized in the sub-sector capital spending. The amount of expenditures indicates the magnitude of the role of government to human development.

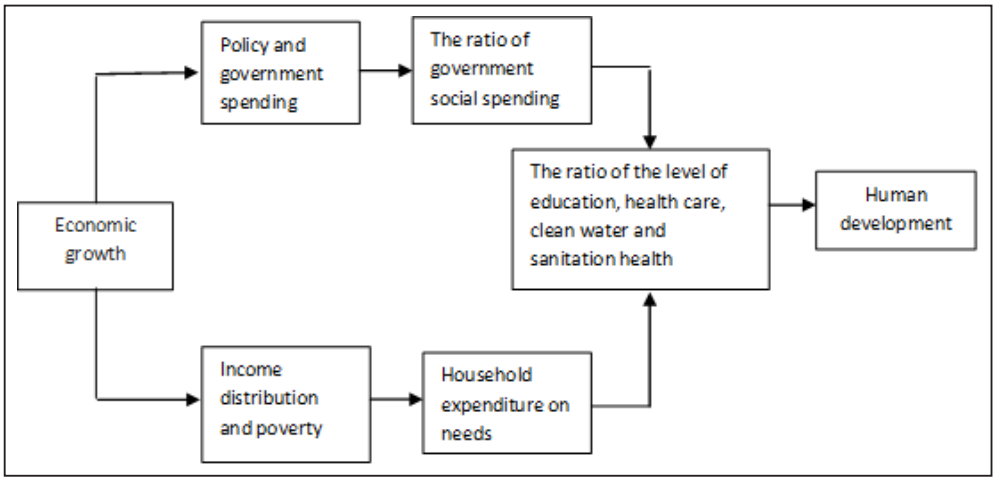

Figure 2. Flow The relationship between economic growth and development
Source: Mirza, 2012

3.3 Moderation between HDI with Special Autonomy Fund (SAF) to the Economic Growth in Aceh Province

Based on Table 1, it can be seen that the SAF has a probability value (t-statistic) of 0.0000 which value <0.05, so it can be concluded that the special autonomy funds have a significant effect on economic growth.

Special autonomy fund, could be called special grants are the type of transfer that has certain

requirements are related in such assistance. This assistance is provided to encourage the local government to add certain public goods and services. Thus, the special autonomy funds can guarantee that the government will provide public services according to the program by the Law No. 11 Year 2006 concerning Aceh Government, namely the development and maintenance of infrastructure, economic empowerment, poverty alleviation, as well as funding for education, social, and health.

This means that the higher the SAF to local governments, hence increasing the value of GDRP of the local governments. This is because the role is very significant SAF and SAF received every local government will be aimed at local government spending, one of which is for capital expenditure. It is not much different from the role of PAD is the development of infrastructure and infrastructure by local governments will have an impact on economic growth.

With the above explanation, it can be seen that the SAF is well managed will boost economic growth. But when moderated, SAF aid actually cause the relationship between HDI and negative economic growth. This means SAF aid with good governance have not been able to boost economic growth. This indicates the existence of programs and activities are still not on target, especially in efforts to increase HDI or HDI components.

Central Bureau of Statistics (2015) argues that human development formation consists of components of the welfare of society, it can be said there is a link indirectly to economic growth. Calculation of Gross Domestic Regional Product (GDRP) of a region that describes the rate of economic growth is formed on the growth sectors of the economy which are run either by the public, government and private sectors. Economic potential are included in the GDRP-forming sectors in a district / city is not always hand in hand with human development.

The relationship between HDI and the GDRP can be seen in Table 2 below. The table explains there are some areas still show similarities between the GDRP rankings with its HDI, the city of Banda Aceh and Lhokseumawe. This is indicated by the difference between the two ratings are not too far away, or even the same. In addition, Table 1 shows the economic potential of an area as measured by the GDRP per capita in comparison to the conditions of human development achievements. Nagan Raya and Aceh Barat with the GDRP per capita ranked respectively ie 3rd and 4th was only able to build on the human quality is ranked 17th and 13th.

In contrast, Aceh Utara regency and Pidie Jaya with the GDRP per capita of each was ranked 17th and 18th turned out to be the level of human development achieved quite high, respectively in the 9th and 8th.

In addition, the relationship between the GDRP and HDI can weaken the various opinions that connects between economic growth always directly proportional to the growth of human development. This means that there will be a false assumption that the GDRP fails to be an indicator of economic progress. Though a success can be achieved through equitable development as mandated in the formulation of the Constitution and Pancasila. One aspect of the fulfillment of the mandate is through the improvement of Indonesian human development is equitable to the smallest level of coverage.

Equitable development not only give priority to macro but also micro sector eg by encouraging SMEs, traditional markets, and the development of rural industries in various fields, so as to be able to encourage the improvement of human development achievements not only at the provincial level but also to the level of district / city.

Table 2. HDI and the GDRP per capita by district/city in 2013

Number	District / city	HDI	GDRP (million)	Ratings HDI	Ratings GDRP
1	Simeulue	70.76	8.41	20	22
2	Aceh Singkil	69.79	9.32	22	21
3	Aceh Selatan	71.18	14.40	18	14
4	Aceh Tenggara	72.81	10.54	11	19
5	Aceh Timur	71.79	13.71	16	15
6	Aceh Tengah	75.04	19.67	5	7
7	Aceh Barat	72.24	20.76	13	4
8	Aceh Besar	74.51	19.99	6	6
9	Pidie	73.32	15.31	10	11
10	Bireuen	74.03	19.14	7	8
11	Aceh Utara	73.51	12.76	9	17
12	Aceh Barat Daya	72.07	15.19	14	12
13	Gayo Lues	69.09	13.23	23	16
14	Aceh Tamiang	72.04	9.82	15	20
15	Nagan Raya	71.50	22.20	17	3
16	Aceh Jaya	71.00	15.44	19	10
17	Bener Meriah	72.39	18.27	12	9
18	Pidie Jaya	73.69	11.47	8	18
19	Banda Aceh	79.00	49.21	1	1
20	Sabang	77.23	20.58	3	5
21	Langsa	75.10	14.81	4	13
22	Lhokseumawe	77.84	36.09	2	2
23	Subulussalam	70.60	6.58	21	23

Source: BPS, 2015

Nonetheless, the issue of human development achievement gap between districts / cities remains a challenge still to be faced by the government, such as the district / city with the lowest HDI performance is Gayo Lues, Aceh Singkil, Subulussalam, and Simeulue. It has been mentioned that the development of IPM Aceh during the period 2004-2013 showed an upward trend. But there is no denying that the increase in human development in Aceh also illustrates the gap between districts / cities. This is because the speed difference IPM components increases achieved by the district / city.

Central Bureau of Statistics (2015) explains also that fluctuations disparity HDI value certainly is an aggregate of the rise and fall of HDI disparities forming component. For the educational component, namely the average Old School, the data in 2013 suggested a disparity of 4.61 points. Ie the difference between the average old school which counted in Banda Aceh (12.27 years) with performance Subulussalam (7.66 years). One proof of the difference picture of Banda Aceh as its capital with Subulussalam which is the new expansion.

Observing the condition a few years ago, in 2009 up to 2012, the average disparity widening old school so it can be said during the period of human development gaps in the education sector more visible. However, in 2009 it was noted that differences in the average length of achievement among school districts amounted to only 4.10 years, the gap is smallest for the last 5 years.

Components of decent living standards can be viewed from the large regional disparities in per capita expenditure indicators adjusted (PPP). The diversity of development or growth sectors of the economy that occurred in the district / city that has led to the economic conditions are not the same level. The disparity in purchasing power of the population in Aceh in 2013 amounted to 44.56 thousand. This is the range difference between regions that have the highest PPP Banda Aceh (643.83 thousand rupiah) with Aceh Timur district, which reached its lowest PPP (599.27 thousand rupiah).

Unlike the other HDI components experiencing widening range / disparity from year to year, on the dimensions of the standard of living would indicate an increasingly narrow range from 2010 to 2013. Even disparity PPP achievements in 2013 was the smallest during the last 5 years.

The results of this study are also consistent with PPKD (2015) which states that the proposed programs and activities in the planning of special autonomy has not fully address the challenges of development. Particularly in the sectors of education, health and infrastructure, seen some spending patterns are not appropriate. This looks at the programs in the education office in recent years has been prioritized for infrastructure development, particularly school buildings and classrooms despite the availability of school buildings and classrooms at that time is sufficient. In 2011, 51 percent of the education of special autonomy funds allocated for the construction of schools and classrooms. The pattern of the same allocations were repeated in 2013, the budget allocation for the construction of school buildings and classrooms by 31 percent and the construction of school facilities represented 34 percent of total special autonomy fund education. Meanwhile, Aceh is still lagging in terms of quality and competitiveness of education, many schools at the elementary and secondary levels who need quality support facilities such as the provision of books, laboratories, libraries, props and so on.

Furthermore, the programs and activities of the special autonomy fund health sector is also not yet fully based on need. Although the data shows the distribution of health care centers in Aceh are not evenly distributed, but the allocation of special autonomy funds for the construction of new health centers to district/city looks different needs, such as Simeulue district which has the average distance between the population and health facilities was 11.3 kilometer has a budget allocation of Rp. 2 billion, while the Aceh Timur has a higher budget allocations, despite having closer proximity. On the average the shortest distance from the residence of the population in Aceh to the nearest public health facility is 8 kilometers.

The results above show that this study supports previous research as investigated by Dewi and Sutrisna (2014), Nazamuddin (2013); Ramos, Surinach, and Artist (2012); Tsamadias (2012); Amaliah (2006); and Brata (2002) who stated that the human development index consisting of life expectancy, old school expectations, average length of school and per capita expenditure figures or one of which has a good tendency, will lead to increased economic growth.

The difference of this research with previous that this research include special autonomy fund as moderating variable to see its ability in increasing HDI. The results are very different, because the inclusion of variable special autonomy funds turned out to cause a decline in HDI, causing economic growth to decline. This indicates that the special autonomy fund that has been received is still not utilized optimally to improve the human development index so that it will have a negative impact on economic growth.

4. Conclusion and Policy Implication

This study intends to examine statistically the relationship between phenomena in the human development index influences on economic growth through the provision of special autonomy. The difference of this study with previous studies

lies in the special autonomy fund. Therefore, this study is the development of previous research.

From the above description, it appears that the management of special autonomy funds still are not running optimally supports HDI to boost economic growth. This is because since the local government is still the focus of school physical development, compared to the quality of education quality and competitiveness. Therefore, to anticipate it, is necessary to the development of quality human development through the placement of budget allocations in education, health and infrastructure according to the needs, priorities and supported with appropriate programs and activities; and developed the concept of governance of special autonomy funds effectively and efficiently through the selection criteria of program / activity through the regulation of such bylaws. Both of these efforts are expected to reduce the achievement gap and its components HDI between districts / cities.

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