Effect of Capital Expenditure, Investments and Human Development Index to Gross Regional Domestic Product Provinces in Sumatera-Indonesia

Didik Susetyo, Zunaidah, Anna Yulianita and Wulan Lestari

Department of Economics Faculty, Sriwijaya University

Keywords: Capital Expenditure, Investments, Human Development Index, GRDP.

Abstract: The purpose of this study is to analyze the effect of capital expenditure, investment (domestic and foreign) and the human development index to GDP provinces in Sumatra Island. This study uses data 2007-2016 period were sourced from the official website of each relevant institutions namely the Directorate General of Fiscal Balance, the Central Bureau of Statistics and the Investment Coordinating Board. The analytical method used is the panel data regression and statistical tests. Based on panel data regression test results, it is known that the effect of capital spending, investment, and human development index to GDP province is simultaneous positive and significant effect. While the individual test result showed that capital spending is positive but not significant effect; the Investment is significant and positive effect; and the human development index is positive and significant impact.

1 INTRODUCTION

1.1 Background

Among the five biggest islands in Indonesia, one of which is the island of Sumatra. Through policies and programs of the government, every province in Sumatra Island continue development ranging from repair of roads, construction of bridges, construction of school buildings and other public facilities. Construction of this growing encouraging increased government spending while also attracting investors to make investment. If the construction is already well underway, the human development index numbers will also increase along with the welfare of society has also increased so that it will encourage economic growth.

Economic growth is defined as a long-term increase in the ability of a country to provide more and more kinds of economic goods to its citizens, this ability to grow in accordance with the advancement of technology, institutional and ideological adjustments are needed (Jhingan, 2007: 57).

The relationship between economic growth and government spending, or more generally the size of the public sector, is government spending can boost economic growth in the long term (Sodik, 2007: 27).

Budget areas listed in the Regional Budget (APBD) portrait reflect local governments to determine priorities related to programs and activities that will be implemented in a budget year (DJPK, 2015).
Figure 1 illustrates the realization of capital spending by province in Sumatra Island. The highest capital expenditures made by Riau Province in 2012 amounted to 1961.67 billion rupiah and the lowest capital expenditure undertaken by the Riau Islands province of 262.34 billion rupiah. From the picture above we can see that capital expenditures fluctuates.

These data relevant to result study of local government district-city in Sumatra of (Susetyo et al., 2017) that the influence of regional spending to gross regional domestic product districts-cities is positive and significant. The bigger local spending will increase the gross regional domestic product regencies-cities. Local spending is one form of government investment to stimulate the local economic growth.

According Sodik (2007: 8) the portion of capital expenditures in the budget is a very important component of expenditures for capital expenditures will have a multiplier effect in moving the economy of the area. Therefore, the higher the number the better the ratio is expected to impact on economic growth. Conversely, the lower the number, the less the impact on economic growth.

In macroeconomic theory, in terms of expenditure, gross regional income is the sum of many variables including the investment. There are some things that actually affect in terms of this investment. Investment itself affected by foreign and domestic investment. Investments are happening in the area consists of public investment and private investment. Investment from the private sector can come from domestic and overseas (foreign). The government investment is done in order to provide public goods. The amount of government investment can be calculated from the difference between total government budget by shopping routine. While private investment consists of the Domestic Investment (DCI) and Foreign Direct Investment (FDI), which helps speed development.
Figure 2 illustrates the condition of private investment by the Province in Sumatra fluctuation. The realization of domestic investment projects (Domestic Investment) were highest in 2015 owned by the Province of North Sumatra with a total project cost of 193 units valued at 4.28 trillion rupiah and the second largest is owned by Riau Province for 187 projects worth 9.94 trillion rupiah.

![Figure 2](image)

Source: Central Institution of Statistics, BPS, 2017

Project realization foreign investment (PMA) were highest in 2015, is owned by Riau Islands province units as many as 594 projects worth 640 million US dollars later in the second position held by North Sumatra province units as many as 438 projects worth 124.6 million US dollars.

![Figure 3](image)

Source: Central Institution of Statistics (BPS), 2017.

Table 1: Human Development Index by Province in Sumatra 2011-2015 Year

<table>
<thead>
<tr>
<th>Provinsi</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aceh</td>
<td>72.16</td>
<td>72.51</td>
<td>73.05</td>
<td>73.16</td>
<td>74.28</td>
</tr>
<tr>
<td>Sumatera Utara</td>
<td>74.65</td>
<td>75.13</td>
<td>75.55</td>
<td>76.28</td>
<td>76.75</td>
</tr>
<tr>
<td>Sumatera Barat</td>
<td>74.28</td>
<td>74.70</td>
<td>75.01</td>
<td>75.25</td>
<td>76.15</td>
</tr>
<tr>
<td>Riau</td>
<td>76.53</td>
<td>76.90</td>
<td>77.25</td>
<td>77.56</td>
<td>78.65</td>
</tr>
<tr>
<td>Jambi</td>
<td>73.30</td>
<td>73.78</td>
<td>74.35</td>
<td>74.75</td>
<td>75.13</td>
</tr>
<tr>
<td>Sumatera Selatan</td>
<td>73.42</td>
<td>73.99</td>
<td>74.36</td>
<td>74.56</td>
<td>75.25</td>
</tr>
<tr>
<td>Bengkulu</td>
<td>73.40</td>
<td>73.93</td>
<td>74.41</td>
<td>74.25</td>
<td>75.16</td>
</tr>
<tr>
<td>Lampung</td>
<td>71.94</td>
<td>72.45</td>
<td>72.87</td>
<td>73.35</td>
<td>73.13</td>
</tr>
<tr>
<td>Kep. Bangka Belitung</td>
<td>73.37</td>
<td>73.78</td>
<td>74.29</td>
<td>74.85</td>
<td>75.35</td>
</tr>
<tr>
<td>Kep. Riau</td>
<td>75.78</td>
<td>76.20</td>
<td>76.56</td>
<td>77.24</td>
<td>77.65</td>
</tr>
</tbody>
</table>

Source: Central Institution of Statistics (BPS), 2017.

Human Development Index is one measure that can be used to assess the quality of human development, both in terms of its impact on the physical condition of the human being (health and welfare) as well as non-physical (education), because in the calculation of life expectancy index, education index, and the index of decent living standards involving components of economic and non-economic quality of education, health and population, the HDI deemed relevant to be the benchmark in determining the success of development (Melliana and Zain, 2013: 237).

1.2 Research Problem

Based on the background description can be formulated research problem as the following issues: How does the effect of capital expenditure, investment (domestic and foreign), and the human development index to GDP provinces in Sumatra Island?
The purpose of this study is to analyze the effect of capital expenditures, investment (domestic and foreign) and the human development index to GDP provinces in Sumatra Island.

1.3 Benefits Research

This study is expected to provide of theoretical and practical benefits as follows:

a. Theoretical Benefits: These results are expected to enrich the research and can be used as a benchmark for future studies both in the way of analysis and the results of its analysis. As well as for other students who may be learning and assessment process by using disciplines have been studied which can be used as a source of data, information, as well as writing and literature for further research activities.

b. Practical benefits of this research to provide feedback or information materials for relevant agencies for consideration or to contribute to studies related to the effect of capital expenditure, investment and human development index on economic growth.

1.4 Theoretical Framework

Economic growth explain or measure the achievement of economic development of something. In economic activities, in fact, economic growth means development of the physical production of goods and services existing in the country, such as increasing and the amount of production of industrial goods, development of infrastructure, increase the number of schools, the increase of the production of the service sector and an increase of the production of capital goods (Sukirno, 2010: 423).

To explain the requirements that must be met for a perokonomian can achieve steadfast growth or steady growth in the long term, the analysis of the Harrod-Domar use the analogy-analogy follows: (i) capital goods has reached full capacity, (ii) savings is proportional to the national income, (iii) capital-output ratio(capital-outputratio)value, and (iv) the economy consists of two sectors.

Harrod-Domar theory did not notice requirements to reach full capacity when the economy consists of three sectors or four sectors. However it is based on the theory above can easily be concluded things that need to apply if the aggregate expenditure includes more components, which include government spending and exports. In such circumstances, capital goods that increase can be fully used if the $AE_1 = C + I + G_t + (XM)_t$ where $I + G_t + (XM)_t$ is equal to $(1+\Delta)$. Through analysis of the Harrod-Domar can be seen that (i) the long-term growth of aggregate expenditure prolonged need to be accomplished to achieve economic growth, and (ii) economic growth firm would only be possible if $I + G + (XM)$ continuously increases with the level of encouraging (Sukirno, 2010: 435).

Wagner put forward a theory about the development of greater government spending in the percentage of the GNP which is also based on the observation well in European countries, the USA and Japan in the 19th century. Where is Wagner is the development of government spending in relative terms, the law of Wagner is in an economy, when per capita income increases, in relative terms in government spending will increase (Mangkoesoebroto, 2001: 171).

Another thing with the theory of Peacock and Wiseman, the theory is based on an analysis of government expenditure reception. The government always tries to enlarge its expenditure by relying on increase tax revenue, but people do not like paying taxes to finance government expenditures are growing. Increased tax revenues caused government spending also increased. Under normal circumstances the increase in GNP led to greater government revenues, as well as government spending becomes larger (Mangkoesoebroto, 2001: 173).

Government spending is one component of expenditure, then the higher government spending will result in planned expenditures were higher for all income levels. If the government spending rises, the planned expenditure curve shifts upward. The increase in government spending to encourage the increase in revenue is greater. Fiscal policy has a multiplier effect against earnings due according to the consumption function $C = C (Y - T)$, the higher incomes lead to higher consumption. When the increase in public spending increase revenues, it also increases consumption, which in turn increases income, and increase consumption, and so on. Therefore, the increase in government spending lead to a larger income (Mankiw, 2006: 277).

Empirical study has been done of capital expenditure district-city in Sumatra by Susetyo et al., (2018) that the influence of local public utility of capital expenditures toward GRDP districts-cities is positive and significant. The greater the capital expenditures for local public utilities will increase the GRDP districts-cities in Sumatra. Capital expenditure for public utility districts and cities into...
one form of government investment can stimulate local economic growth.

Human Development Index (HDI) is a measure for the impact of development performance area that has a very large dimensions, because it shows the quality of the population of a region in terms of life expectancy, education and decent living standards. HDI is a composite index calculated as the average of the three indices that describe the basic human capacity to expand the choices, the life expectancy index, education index, and a decent standard of living index (CBS, 2008).

Education and health are fundamental development objectives; health education and each also has an important meaning. Health is very important for well-being, and education are essential for a satisfying and rewarding life; both are fundamental in relation to the broader notion of the improvement of human capability as the core meaning of the actual construction. At the same time, education plays an important role to improve the ability of developing countries to absorb modern technology and develop the capacity for the realization of sustainable growth and development. Moreover, health is a prerequisite for increasing productivity, and educational success is also dependent on adequate health. Thus, health and education can also be seen as a component of a vital growth and development as an input for the aggregate production function. Their dual role as input and output at the same time make the health and education is very important in economic development (Todaro, 2009: 445).

2 RESEARCH METHODS

The scope of this study to discuss the effect of capital expenditure, investment (domestic and foreign) and the human development index to GDP provinces in Sumatra Island. The study covers ten provinces, such as Nangro Aceh Darussalam, North Sumatra, West Sumatra, Riau, Kepulauan Riau, Jambi, Bengkulu, South Sumatra, Bangka Belitung, and Lampung. The data used in this research is panel data which is time series and a cross-section 2007 to 2016 period.

2.1 Types and Sources of Data

The data used in this research is quantitative data by category of secondary data. The panel data are combined between time series and cross-section data of the years 2007-2016. The sources of secondary data were obtained from website of the official the Statistic Central Institution, the Directorate General of Taxation and Finance, and Investment Coordinating Board of Indonesia.

2.2 Method of Analysis

Regression analysis with panel data can be done in several steps (Yamin, et.al.2011: 200): (a) Pooled Least Squares Models; (b) Fixed Effects Model (Least Squares Dummy Variables); c) Random Effects Model (REM).

Selection of model estimation approaches use the data panel is determined by using two ways: (1) Chow test, can be used to decide to use Pooled OLS Model or Fixed Effects Model (FEM). If the p-value F test <0.05, H0 is rejected. (2) Hausman test, can be used to decide using the Fixed Effects Model (FEM) or Random Effects Model (REM). If the p-value Chi-square cross section <0.05, H0 is rejected.

Hypothesis testing is done to see the significance of parameters by using: (1) F-test or simultaneously test used to prove the hypothesis that the overall coefficient simultaneously regression significant influence in determining the value of the dependent variable. If the entire value of the regression parameter is equal to zero, it can be said that there is no linear relationship between the dependent variable and independent variables. (2) t-test or test each partial variable. Testing using t-test aims to see the level of significance of the effect of each independent variable assuming the other independent variables held constant. If the value of the t statistic < t table, then the zero hipotesis is accepted. This means between independent and dependent variables did not affect significantly. Conversely, if the value of the t statistic> t table, then hipotesis is rejected, in other words, the alternative hypothesis is accepted, which means significant independent variable on the dependent variable.

3 RESULT AND DISCUSSION

There are three techniques fundamental approach used in estimating the regression model with panel data, namely: (a) Model Pooled Least Square; (b) Fixed Effect Approach Model and (c) Random Effect Approach Model.
Estimation Results Regression with Method

Pooled Least Square

The calculation results using a panel data regression modeling techniques Pooled Least Square as the following.

Table 2: Estimation Results Regression with Method Pooled Least Square

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-1546084.</td>
<td>354489.5</td>
<td>-4.361439</td>
<td>0.0000</td>
</tr>
<tr>
<td>BM</td>
<td>39.37229</td>
<td>12.05299</td>
<td>3.266600</td>
<td>0.0015</td>
</tr>
<tr>
<td>I</td>
<td>8.755284</td>
<td>1.308530</td>
<td>6.690932</td>
<td>0.0000</td>
</tr>
<tr>
<td>IPM</td>
<td>21655.37</td>
<td>4828.812</td>
<td>4.484617</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-squared 0.651486  Mean dependent var 138859.9
Prob(F-statistic) 0.000000

Based on estimates presented in Table 2 can be seen that the Capital Expenditure (BM) has a coefficient value of 39.37229 and the probability of 0.0015. It is claimed that there is positive and significant, while Investment (I) have a coefficient of 8.755284, which means positive and significant impact with the probability 0.0000. From the estimation can also be seen that the Human Development Index (IPM) has a coefficient value of 21655.37 and probability of 0.0000, which means positive and significant impact. With a coefficient value of -1546084 which assumes that the value of the intercept between individuals are considered equal where this is the assumption that severely limit, so the methods Pooled Regression can not catch the real picture on the relationship between the dependent variable with independent and too simple to describe the phenomenon which exists. Therefore thing to do is to process the data using Fixed Effect.

Estimation Results Regression with Method

Fixed Effect

Panel regression output results with Fixed Effect methods can be seen in the Table.

Table 3: Estimation Results Regression with Method Fixed Effect

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-2332434.</td>
<td>374835.0</td>
<td>-6.222562</td>
<td>0.0000</td>
</tr>
<tr>
<td>BM</td>
<td>19.28110</td>
<td>15.66544</td>
<td>1.230805</td>
<td>0.2217</td>
</tr>
<tr>
<td>I</td>
<td>3.773998</td>
<td>1.265323</td>
<td>2.982636</td>
<td>0.0037</td>
</tr>
<tr>
<td>IPM</td>
<td>32858.29</td>
<td>5157.132</td>
<td>6.371426</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Effects Specification
Coeficient Capital Expenditure (BM) of 19.28110 showsthatthereis a positive correlation to the GDP with a probability value of Capital expenditure amounted to 0.2217 where 0.2217 is greater than alpha 5 percent so that the independent variable is not significant to the GDP. Investment (I) is also a positive influence on the GDP with a coefficient of 3.773998 and probability of 0.0037, which means investing significantly affects the GDP due to the probability value is greater than alpha 5 percent. Similarly, the HDI has a coefficient of 32858.29, meaning IPM positive effect on the GDP. HDI has a probability of 0.0000. This indicates that the HDI significantly affects the GDP.

R-squared value of 0.837207 indicates that the variable Capital Expenditure (BM), investment (I) and HDI are able to influence the GDP amounted to 83.72 percent and the remaining 16.28 percent is explained by other variables.

### Results Regression Estimation Method with Random Effect

Table 4: Estimation Results Regression with Method Random Effect

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-2154363.</td>
<td>352822.1</td>
<td>-6.106089</td>
<td>0.0000</td>
</tr>
<tr>
<td>BM</td>
<td>27.53116</td>
<td>14.05931</td>
<td>1.958215</td>
<td>0.0531</td>
</tr>
<tr>
<td>I</td>
<td>4.691863</td>
<td>1.209599</td>
<td>3.878858</td>
<td>0.0002</td>
</tr>
<tr>
<td>IPM</td>
<td>30295.58</td>
<td>4835.968</td>
<td>6.264636</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Effects Specification

S.D. Rho
Cross-section random 54301.61 0.4918
Idiosyncratic random 55195.33 0.5082

Weighted Statistics

R-squared 0.583770  Mean dependent var 42492.87
Adjusted R-squared 0.570763  S.D. dependent var 85657.94
S.E. of regression 56119.82  Sum squared resid 3.02E+11
F-statistic 44.88059  Durbin-Watson stat 0.932240
Prob(F-statistic) 0.000000

Unweighted Statistics

R-squared 0.605792  Mean dependent var 138859.9
Sum squared resid 6.42E+11  Durbin-Watson stat 0.523153

Based on estimates using \textit{Random Effect} method, it is known that the R-squared value of 0.583770, meaning that 58.37 percent of the GDP variable is affected by the variable \textit{Capital expenditure} (BM), investment (I) and IPM and the remaining 41.63 percent is influenced by other variables.

In the method of \textit{Random Effect}, \textit{Capital Expenditure} (BM) has a coefficient of 27.53116, meaning \textit{capital expenditure} to GDP has a positive relationship with probability equal to 0.0531. The probability that results from \textit{method Random Effect} showed that the relationship between \textit{capital expenditure} in the GDP is not significant.

In contrast to the investment (I) which has a coefficient of 4.691863 and probability of 0.0002, meaning that the investment has a positive and significant relationship to GDP. Likewise with HDI, the results of estimation using \textit{method Random Effect} resulting HDI coefficient of 30295.58, meaning that there is a positive correlation to GDP with a probability of 0.0000 which indicates that the relationship is significant.

\textbf{Chow Test (Common Effect vs. Fixed Effect)}

Model selection with \textit{Common Effect} or \textit{Fixed Effect} can be done by testing \textit{Likelihood Ratio Test} provided that if a significant probability value generated by the $\alpha$ (alpha) then the decision could be made by using a model \textit{Fixed Effect}. Selection of panel data model using the Chow test, by comparing the $p$-value \textit{Chi-square cross section} of the significance level of 0.05. Chow test in this study carried out by mean test \textit{Likelihood} available on the program

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|}
\hline
Test cross-section Fixed Effects & Equation: ESTIMASI & Redundant Fixed Effects Tests \\
\hline
\end{tabular}
\end{table}

Table 5: Regression Results with Chow Test
Based on test results known that the probability of a Chi-square cross section of 0.0000 while significant value $\alpha$ is 5 percent so that $H_0$ rejected and $H_1$ accepted.

**Hausman Test (Fixed Effects vs Random Effect)**

This test aims to compare methods *Fixed Effect* and methods *Random Effect*. Hausman test is done by comparing the p-value random cross section of the significance level of 0.05. Hausman test on the research carried out by means Hausman test available. The test results can be seen in the following table:

**Table 6: Results of the Hausman Test**

<table>
<thead>
<tr>
<th>Correlated Random Effects - Hausman Test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Equation: ESTIMASI</strong></td>
</tr>
<tr>
<td><strong>Test cross-section Random Effects</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test Summary</th>
<th>Chi-Sq. Statistic</th>
<th>Chi-Sq. d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section random</td>
<td>6.242794</td>
<td>3</td>
<td>0.0104</td>
</tr>
</tbody>
</table>

From Hausman test known that probability random cross section of 0.0104 and less than the significance level $\alpha$ which is 5 percent, so that the decisions taken at this Hausman test is $H_0$ rejected and $H_1$ accepted. Thus the election decision making model estimation method used is the method *Fixed Effect*.

The estimation result of the fixed effect model as follow:

\[
\text{GDP} = -2332434 + 19.28110 \text{ BM} + 3.773998 \text{ I} + 32858.29 \text{ IPM} + e
\]

\[
(-6.222562) \quad (1.230805) \quad (2.982636) \quad (6.371426)
\]

\[
\text{R-squared} = 0.83720 \quad \text{Mean dependent var} = 138859
\]

\[
\text{Adjusted R-squared} = 0.81475 \quad \text{S.D. dependent var} = 128240
\]

\[
\text{S.E. of regression} = 55195.3 \quad \text{Akaike info criterion} = 24.795
\]

\[
\text{F-statistic} = 37.2851 \quad \text{Durbin-Watson stat} = 1.0009
\]

\[
\text{Prob(F-statistic)} = 0.0000 \quad 1.0009
\]

**Hypothesis Test**

The F-test is a hypothesis test equipment to see if together (simultaneously) the regression coefficient of the independent variables affect the dependent variable. F test can be seen by comparing the value
of the F-statistic with the F-table or by comparing the F-statistic probability with a significance level ($\alpha = 5\%$).

By the estimation results indicate that the probability of an F-statistic showed a value of 0.000000, this means that the probability F-statistic is less than 0.05 then $H_0$ is rejected. That is, it can be concluded that the variable capital expenditure, investment, and human development index significantly affect the GDP provinces in Sumatra Island.

The student t-test a hypothesis test to see whether partial regression coefficients of independent variables affect the dependent variable. The t-test can be seen by comparing the value of t-statistic with t-table, or comparing the t-statistic probability with a significance level ($\alpha = 5\%$).

By the estimation results indicate that the t-statistic variable capital expenditure amounted to 1.230805, where the value of t-statistic is smaller than t-table(1.230805 $< 2.353$), then $H_0$ is received, which means that the variable capital expenditure does not significantly influence the GDP provinces in Sumatra Island. In addition, the probability of a t-statistic on the t-test is at 0.2217, where the value is greater than 0.05 (t-statistic $0.2217 > 0.05$).

Investment variable has a value of t-statistic of 2.982636, where the value of t-statistic greater than t-table (2.69763 $> 2.353$), then $H_0$ is rejected, which means that the investment variables significantly influence the GDP provinces in Sumatra Island. In addition, the probability of a t-statistic on the t-test is at 0.0037, where the value is less than 0.05 (t-statistic $0.0037 < 0.05$).

From the estimation, it is known that the human development index variable has a value of t-statistic of 6.371426, where the value of t-statistic greater than t-table (6.371426 $> 2.353$) then $H_0$ is rejected, it means a significant effect on the human development index to provinces in Sumatra Island. It can also be seen from the t-statistic probability of 0.0000 which is smaller than the significance level of 0.05.

The result of the study has some implications related to the theory of regional growth. Based on the estimated model which the effect of the capital expenditure, investments, and human development index has significant to gross domestic product province in Sumatra. The coefficient determination of fixed effect models about 83.72 percent. It means all variable independent can explain significantly to the dependent variable and the residual explained by others variables about 16.28 percent such as improving public facilities in infrastructure, education, and health expenditure will improve human quality.

Some of implications on the policy by maintaining the stability of the economy, politics and security in the country, improve the facilities and infrastructure which support the projects, and making simplify the rules in investing program. For the purposes of further research is that the study should be extended by using proxy of variables so that the estimation model can be used to advance the provinces in Sumatra.

4 CONCLUSIONS ANDRECOMMENDATIONS

Based on the analysis and discussion above, it can be taken some conclusions such as:

1. The effect of capital spending, investments, and human development index to GDP province is simultaneously positive and significant effect.
2. The partial estimation that capital expenditures have a positive relationship to the GDP but partially no effect significantly to GDP province. Investment (domestic and foreign) have a positive relationship to the GDP provinces in Sumatra Island. Human development index has a positive relationship to the GDP provinces in Sumatra Island.
3. Coefficient of determination of fixed effect method showed that capital spending, investment, and human development index explained significantly to the GDP province in Sumatra. The residual explained by others variables such as improving public facilities, regional investment climate, education, and health expenditure will improve human quality.

Based on the analysis, discussion, and conclusions that have been presented, the recommendation as follow:

1. The capital expenditure should be allocated appropriately and proportionately to investment projects whose benefits could be felt by the people so that they can provide significant impact on the growth of regional gross domestic product.
2. The local government is expected to increase investment Domestic Investment (DCI) through a policy of maintaining the stability of the economy, politics and security in the country, improve the facilities and
infrastructure which support and simplify the rules in investing so as to increase the GDP provinces in Sumatra Island.

3. The local government is expected to attract foreign investment by creating a climate conducive to investment, simplification of the licensing process, as well as improving the quality of human resources so that the expected value of Foreign Direct Investment (FDI) can be increased and can push the GDP provinces in Sumatra Island.

4. Government policies should be oriented towards social welfare. By improving public facilities in infrastructure, education and health will improve human quality that the human development index numbers will increase which in turn will push the GDP provinces in Sumatra Island.

REFERENCES


