A STUDY ON THE IMPACT OF GOVERNMENT COMPLEXITY AND REGIONAL GOVERNMENT'S SIZE ON HUMAN DEVELOPMENT INDEX IN NORTH SUMATERA, INDONESIA

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ABSTRACT. *This study aims to determine the impact of the government complexity and regional government's size on the human development index in North Sumatera province. This is an explanatory research survey. The variables used in the study are, namely; the government complexity, size of regional government and human development index. Meanwhile, the population involves all the 33 districts/cities in the North Sumatera with a sample taken from a period of 2005-2012 derived using the purposive sampling approach. In addition, The respondents of this study is on the government apparatus who represent the human development programs' planners in several offices involved in the Tanjungbalai city and Asahan, South Labuhan Batu, North Labuhan Batu and Batubara districts with the number of 88 people selected as the sample using the purposive random sampling method. The returned questionnaires were 62 questionnaires. This study is a mixture of quantitative and qualitative studies. The result of the study has revealed that simultaneously and partially that the government complexity and the regional government's size variables simultaneously affect the human development index in North Sumatera.*

KEYWORD: Human Development Index, Government Complexity, Purchasing Power Parity, Population Density and Regional Government's Size.

INTRODUCTION

Two important factors that are considered to be able to build the human development effectively, are education and health. Both factors are as a basic human need where they can develop the potential in an individual. The achievement of good human development must be accelerated to enable each of the regional governments to obtain optimal results. In addition, the residents should have the opportunity to realize the knowledge and skills to the availability of jobs, so it can be reflected in productive activities that generate revenue. With the income gained, people can meet their needs by increasing their purchasing power which is then followed with the expectation to improve the quality of life and achieve a decent standard of living. These are related to the human development that is further associated with other terms such as economic development and growth, human resource development, welfare and basic human needs approach. The model of economic growth refers to an increase in the income and national product (GNP); human resources puts human development as the inputs of the production process; welfare approach sees human beings as beneficiaries, rather than as the object of basic changes, that focuses on the provision of needs of goods and services. The human development as a subject and object in life functions to improve the quality of life and this is termed human

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construction. The physical and mental development of human resources implies an increase in the capacity of the population base which will then increase the opportunity to participate in the development process.

One way to measure the success or performance of a country or region in the field of human development is by using the human development index (HDI). Both human development and economic growth are closely related. The achievement in human development requires an improved economic development that will support the increased productivity by engaging employment opportunities with productive efforts so as to create the increase in income. However, it should be noted that the concept of human development is different from the development attended, particularly for economic growth with the assumption that the economic growth will eventually benefit the human beings.

A study conducted by Georgiou (2008) who examined the entrepreneurship and human development index with a panel data analysis for Western Europe, Japan and the United States of the 1980-2006, reveals that the development of the human development index in Europe and Japan is predominantly driven by the creative industries, economic growth, promotion of exports, improvised education, meeting the needs of customers as well as the provision of better health. The panel data show the dominant influence of the variables' components of the human development index. Meanwhile, Haveri (2006) in his study of complexity in the regional government change finds that the government complexity is the dominant characteristics of the regional government changes and this complexities exist in the setting-up of the limits for the rational reform process and political leadership. The issue of complexity emerges as a major issue in the regional government in Finland. The practical steps are often difficult to be undertaken by government planners for inter-organizational actions. In a complex situation, there are issues that are constantly changing and are inter-dependent. Further circumstances arise due to the differences of preferences. In the regional government change, the complexity, paradox and uncertainty tend to reduce the managerial candidates and expert knowledge, as the rational calculation does not provide any definitive support for decision-making. Rationally from this perspective, the presence of a bright spot where the changes occur depends on the emergence of political leaders who are willing and able to take responsibility for the reform.

A study on the impact of the regional government size is done by Trueblood and Honadle (1994). They have found that the political process plays a major role in the preparation of planning related to the issue of the development of human resource. Unfortunately, some political parties have emphasized on their own interests rather than to include the human resource factor in the planning preparation of the regional government. In addition, it is revealed that the elements of regional government services are absolutely crucial; the more widened the regional government, the higher form of public service should be provided.

Meanwhile, the findings by Thomas and Boonyapratuang (1993) which discuss that the complexity of the regional governance toward the regional receipts on 14 regions in the state of Texas, establish the results which reveal the insignificant difference in the configuration of the regional government between types of cities and districts. The decision of the regional receipts is

also influenced by the configuration of the government type between cities and counties. Such findings have created the policy that is executed in the field of budgeting by the official planners. Thus the governance characteristics play a role in shaping the complexity of the regional government.

A study conducted by Vegirawati (2012) on the effect of the direct spending allocation on the human development quality in cities and districts government of South Sumatera) shows that the direct spending cannot predict the human development index. The results of this study differ from those of the previous study by Christy and Adi (2009) revealing that the capital spending is part of the direct spending that has a significant influence on the HDI. The regional governments should choose programs and activities that can be used as a tool to improve the quality of human development through the HDI indicators. The direct spending is incurred for programs and activities to encourage the improvement of the quality of human development, while the indirect spending is not directly related to development activities where its allocation is widely used in financial-oriented development activities such as doctor and teachers' salaries and other forms of governance administration. Moreover, a study by Badruddin and Khasanah (2011) concludes that indirect spending has no significant effect on the HDI in the city of Yogyakarta. This phenomenon raises the question on the amount of the indirect spending allocated, whereby the average is more than 55% of the overall budget.

The first two indicators of the HDI measure longevity and health, then the next two indicators measure the level of knowledge and skills, while the third one measures the ability to access economic resources in a broad sense. The third indicator is used as the basic component in the preparation of the HDI. Based on the argument mentioned above, the problem formulation in this study revolves around whether or not the government complexity and size of regional government have an impact on the Human Development Index in North Sumatera province. Therefore, the research is expected to provide some benefits such as:

    a. As a means of analysis of the government complexity and size of regional government which at a certain extent would leave an impact on the human development.
    b. For the regional government in the long run, this analysis can be used as an evaluation tool to assess the effectiveness of the efforts made in the Human Development Index.
    c. For the researchers, it is used as an input for further research, particularly with regard to the supporting factors associated with the HDI that in turn can contribute to the development of the human resource management.

The motivation of this study is expected to provide advice and recommendations regarding efforts to increase the effectiveness of the Human Development Index (HDI) in order to support the implementation of good goverment system.

LITERATURE REVIEW

Human Development Index (HDI)
According to Georgiou (2008), the Human Development Index (HDI) is a comparative measure of life expectancy, literacy, education and standard of living for all countries around the world. HDI as a classification is used to assess the status of a country; developed, developing or

underdeveloped as well as to measure the impact of economic policies on the quality of life. This index was developed in 1990 by a Nobel Prize winner Amartya Sen and Mahbub ul Haq, a Pakistani economist assisted by Gustav Ranis from Yale University and Lord Meghnad Desai from the London School of Economics, which had further been used by the United Nations Development Program in its annual HDI reports. The HDI has been described as a "vulgar measure" by Amartya Sen due to limitation it sets. This index is more focused on things that are more sensitive and useful than just the per capita income which has been used. The index is also useful as a bridge for the researchers to know the matters in more detail in the human development reports.

The HDI measures the average achievements in a country in three basic dimensions of human development (Ranis and Frances, 2002) as given below:
- Healthy life and longevity as measured by life expectancy at birth.
- Knowledge, that is measured by the literacy rate in adults (two-thirds weight) and a combination of primary and secondary education on the gross enrollment ratio (one-third weight).
- A standard of living measured by the GDP per capita in the purchasing power parity of purchasing power parity in the US dollar.

The Regional Government Size
In a study of the regional government management revolving aspects like regional finance, political budgets, public service, government investment, development planning, public policy, and social and cultural issues the types of regional governments as a variable is also often included. The type of the regional government itself consists of a provincial government, district, city and village whereby each has given a different impact towards the social phenomenon (Prud'homme, 1995).

The districts and cities have some different characteristics, including:
1. From a regional size aspect, a district of the regional government is relatively wider than the city of teh regional government. Thus, there are many underdeveloped villages found in a district, while to reach equitable development across the regional bigger budget would be essential.
2. From the population aspect, the density of the population in the district is lower than that of the city. This population density creates some problems for regional governments when it comes to the provisions of employment, education, health and the prevention of social issues.
3. With regard to the people's livelihood, the district population is engaged in agriculture, while the urban population is engaged in trade and services. In the regional policy development, the priority of the district government will be different from the city government.
4. From the governance structure aspect, the urban area consists of sub-districts and villages, while the districts can be divided into sub-districts, villages or small communities. The sub-districts and villages are part of a city or district regional government, which converges in terms of policy-making and regional government budget, while the village is an

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autonomous region in a district which it has its own budget, including sources of income allocated from the district regional budget.

5.   From the socio-cultural aspect, residents of the cities have high level of education and better health than those living in the districts. The public service facilities in the cities are also better than the facilities provided in the districts.

6.   From the economic aspect, the average GDP in the district is lower than that in the city. This relates to the proportions of regional receipts which can be levied by regional governments. Meanwhile, the economic activities and income in the cities are also greater than those in the districts (Prud'homme, 1995).

All the sixth characteristics stated above certainly do not include all the differences in the two types of regional governments; cities and districts.

The Regional Government Size may indicate the size of the state Local Government. A large number of residents in an area may reflect budget allocation from the central government for each region in order meet the needs of their respective regions. Local Government which has number of people required to do a lot of good control as accountability to the public (Hartono et al, 2014)

The Government Complexity

The complexity of the government with the indicator is the number of population. The higher the number of the population, the more important it is to address the needs of the population, with regard to their health facilities, education and employment preparation (Ingram, 1984; Robbins and Austin, 1986). Meanwhile, the greater complexity of government (the population) resulted in the greater push towards the government on the sufficient facilities to improve the people's quality of life. Furthermore, the government has attempted to increase the amount of spending in order to meet the needs of the community and have an impact on increasing the Human Development Index (HDI). The complexity of the government with the population indicators has been mentioned by Ingram (1984) and Robbins and Austin (1986).

From the regional aspect, a regional district government is relatively wider than the city regional government. Therefore, in many districts there are underdeveloped villages, while to reach equitable development across the regions a bigger budget would be needed. The higher the direct budget is allocated in a region, the better the level of the infrastructure in that region. The sufficient educational and health facilities results in the quality of life for the region. In regard of the population aspect, the density of the population in the district is lower than the population density in the city. This population density becomes a constraint for the regional governments as the provision for employment, education, health and the prevention of social problems has to be laid out. Thus, the allocation of the indirect spending planned by a region is higher especially the amount of allowances given to paramedics and doctors from the budgeted indirect spending or the amount of allowances of teachers in charge of various activities to improve the quality of human resources in a region.

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Conceptual Framework

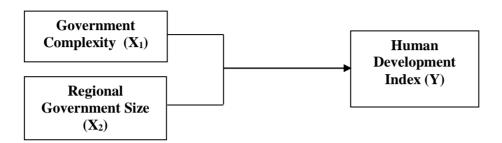Below is the proposed model of the study:

Figure 1. Conceptual Framework

Hypothesis

The hypothesis of this study is " The Government Complexity and Regional Government Size affect the Human Development Index in North Sumatera province".

METHODOLOGY

This study uses an associative-typed research aiming to determine the relationship between two or more variables, where the relationship between the variables analyzed using relevant statistical measures on the testing the hypothesis. Meanwhile, the population in this study includes all the 33 regional government cities/districts in North Sumatera province with a sample taken from a period of years of 2005-2012. Sampling method using purposive sampling criteria.

Data Collection Method

The data used in this research is to use primary data and secondary data. Tests conducted with the primary data where to look perception planners related government programs The Government Complexity and Regional Government Size Affect the Human Development Index. In addition, secondary data testing with secondary data indicator. Thus researchers tested mixtures. Secondary data sourced from the websites of the Director General of Fiscal Balance of Regional Government (www.depkeu.djpk.go.id). Meanwhile, the data on the Human Development Index of North Sumatera and government complexity were obtained from the BPS (Central Agency on Statistics) of North Sumatera Province. In addition there was a survey and interviews with respondents representing a number of planners of the human development programs in several offices in the Tanjungbalai city, South Labuhan Batu, North Labuhan Batu and Batubara districts totaling 88 (22 x4) people.

Operational Definitions and Methods of Variables' Measurement

Below is a summary of the Definitions of the operationalization as follows:

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Table 1. Variables Operationalization

Variable	Definition	Indicator	Measurement Criteria	Scale
Human Development Index (Y)	A single composite indicator of human development, but emphasized on three most important things such as life expectancy at birth, literacy rate and the average length of the schools as a measure of educational attainment as well as consumption expenditure reflects the purchasing power affordability.	A composite index that includes three fundamental areas of human development; age of life, knowledge, and a decent standard of living.	HDI Point	Ratio
Government Complexity (X₁)	The total population who inhabit in a region. The population is a proxy of the government complexity	The total population in a period of time	Total population in a region	Ratio
The Size of Regional Government (X₂)	The size of government in terms of aspects of land area, population, livelihoods, governance structures, social culture and economy over a territory.	Land area, population, livelihoods, governance structures, social culture and economy	Land area, population, livelihoods, governance structures, social culture and economy	Ratio

Analysis of the Model

The specification of the model used in this study was adapted from several previous studies by making adjustments that are considered able to provide better results to explain the determinants of human development in North Sumatra province. The model constructed is a mathematical function as follows:

IPM = f (The Size of Regional Government/SRG) and Complexity of Government /CoG)..... (1)

From function (1), it can be modified into a multiple regression analysis using the generalized linear regression method with the consideration that the object of the cross data is greater than the number of coefficients.

$$Y_1 = a + b_1X_1 + b_2X_2 + \varepsilon .... (2)$$

Where:

Y	=	Human Development Index
X_1	=	The Size of Regional Government
X_2	=	Complexity of Government
b_1,b_2	=	Regression Coeffecient
ε	=	*Error Term*

The model is applied to the SPSS Version 21. The test aims to check whether or not a violation of the classical assumptions in the model has occurred, which is used as the basis of the multiple linear regeression. This is done prior to the hypothesis testing.

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FINDINGS AND DISCUSSION

Description of Data
The respondents scattered in the Tanjung Balai city government total 15 respondents, Asahan District has 11 respondents, Batubara District has 12 respondents, South Labuhan Batu District has 10 respondents and North Labuhan Batu District has 12 respondents.

The Analysis of Instruments Measures
The Variable of Government Complexity (X_1)
The results of the questionnaire's validity and reliability of the government complexity variable (X_1) can be seen in Table 4 below:

Table 4. Validity Test for Government Complexity Variable (X_1)

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
kp1	12.5000	2.254	.641	.594
kp2	12.3548	2.888	.569	.642
kp3	12.2097	3.119	.460	.703
kp4	12.3387	3.375	.440	.713

Source: Data Output, 2014. KP is government complexity indicators.

Table 4 shows that the 4 items' questions of the variable are valid and can be used for the analysis if the value of *Corrected Item-Total Correlation* is greater than r *product moment* (60-2 = 58) of 0.250. Thus the items' questions of 1 to 4 all are all valid questions.

The Variable of Regional Government's Size (X_2)
The results of the questionnaire's validity and reliability of the variable the regional government's size (X_2) can be seen in Table 5. below:

Table 5. Validity Test for Regional Government's Size Variable (X_2)

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
upd1	11.5484	4.121	.389	.706
upd2	11.6774	4.288	.513	.645
upd3	11.6774	3.304	.563	.599
upd4	11.9355	3.537	.539	.615

Source: Data Output, 2014. UPD is Regional Government's Size indicators.

Table 5 shows that the 4 items' questions of the variable are valid and can be used for the analysis if the value of *Corrected Item-Total Correlation* is greater than r *product moment* (60-2 = 58) of 0.250. Thus the items' questions of 1 to 4 all are valid questions.

The Variable of Human Development Index (Y)
The results of the questionnaire's validity and reliability of the variable, the human development index (Y) can be seen in Table 6 below:

Table 6. Validity Test for Human Development Index Variable
Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
psdm1	15.9839	3.754	.422	.514
psdm2	16.0968	3.236	.574	.418
psdm3	16.0806	4.141	.254	.603
psdm4	16.0323	3.966	.420	.521
psdm5	16.0000	4.328	.168	.649

Source: Data Output, 2014. Psdm is Human Development Index indicators.

Table 6 shows that the 5 items' questions of the variable are valid and can be used for the analysis if the value of *Corrected Item-Total Correlation* is greater than r *product moment* (60-2 = 58) of 0.250. Thus items of 1 until 4 are valid, while the item 5 is invalid because its product moment r value is lower than 0.250. The questionnaire is designed in the Likert scale form. which consists of 5 questions with 5-point interval scale ranging from strongly disagree (1) to strongly agree (5). The variable measured using an instrument that was adopted and developed from Prud'homme (1995) and Trueblood et al (1994).

Reliability test results of the research instruments as follows in Table 7 below:

Tabel 7 : Reliability test with *Cronbach's Alpha*

No	Variabel	Cronbach' Alpha	Keterangan
1	(Y)	,603	Reliable
2	(X1)	,730	Reliable
3	(X2)	,708	Reliable

Source: Data Output, 2014.

Based on the results of the reliability test on the variable Y to 5 items obtained Cronbach's Alpha question of 0.603 or 60.3% so that all questions relating to the Y otherwise reliable. For variable X1 reliability test results in the appendix shows that Cronbach Alpha was 0.730 or 73% so that four (4) questions relating to the X1 otherwise reliable. Further to the reliability test results in Appendix X2 is obtained that the magnitude of Cronbach Alpha is 0.708 or 70.8% thus four (4) questions relating to the X2 otherwise reliable.

Primary Data Analysis
Classical Assumption Analysis
The classical assumptions analysis consists of normality, multicollinearity and heteroscedasticity tests.

Normality Test
Based on the test results for normality using the Kolmogorov Smirnov test and by looking at the graph, it is concluded that the residuals were normally distributed. If the probability value Asymp. Sig (2-tailed) on the Kolmogorov Smirnov test is greater than 0.05, it can be stated that the data were normally distributed, otherwise if the probability Asymp. Sig (2-tailed) less than 0.05, thus the data were not normally distributed (Ghozali, 2005).
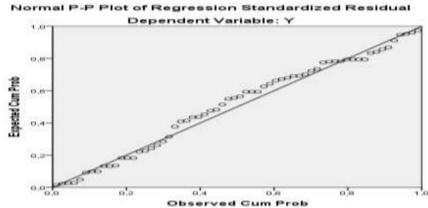
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Figure 2. Normal P-Plot of Regression Standardized Residual
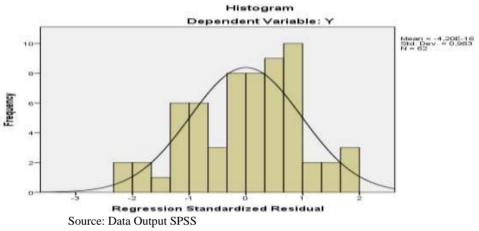

Source: Data Output SPSS

Figure 3. Histogram

By looking at the graphs displayed in Figure 2, it can be concluded that the data spread around the diagonal line, and follow the direction of the corresponding diagonal line. This shows that the data residuals were normally distributed. Similarly, with the results of the histogram graph in Figure 3, it shows that the data residuals were normally distributed, as seen from the picture in a bell form that is almost perfect (symmetrical).

Multicollinearity Test

The multicollinearity test aims to see if there is a correlation (or otherwise) between the independent variables in the regression model. A good regression model should not exhibit any multicollinearity. One way to detect it is by looking at the value of the Variance Inflation Factor (VIF). According to Santoso (2002), if VIF> 10, the variable has a problem of multicollinearity with other independent variables.

Table 7. Multicollinearity Test

Coefficients^a

		Collinearity Statistics	
Model		Tolerance	VIF
1	X1	.878	1.139
	X2	.878	1.139

a. Dependent Variable: Y

Source: Output Result SPSS 21.

As depicted in Table 7, it appears that the independent variables of government complexity (X_1) and the government size (X_2) have VIF below 10 (Ghozali, 2005). This means, the regression that is used for the two independent variables establishes that there is no multicollinearity problem.

Heteroscedasticity Test

The test result concludes that the heteroscedasticity does not occur in the regression model. It can be seen from the scatterplot in which the points are spread randomly or that they do not form a specific pattern clearly, and scattered both above and below the 0 on the Y axis (Ghozali, 2005).
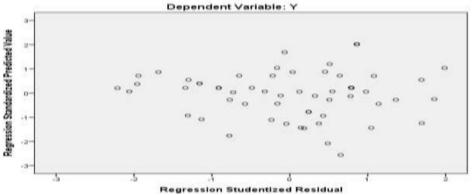

Figure 4. Scatterplots Graph

Goodness of Fit Model Test

The Goodness of fit testing is done to determine the feasibility of a regression model. Having the two variables, the feasibility can be seen from the value of Adjusted R Square.

Table 8. Feasibility Model Test

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.760^a	.577	.563	2.36644	1.237

a. Predictors: (Constant), X2, X1

b. Dependent Variable: Y

Source: Data Output SPSS, 2014.

As depicted in the Table above, the Adjusted R-square value is 0.563. This shows that 56.3% of government complexity and regional government size variables affect the human development index in North Sumatera. The remaining amount of 34.7% affected by other variables are not explained by the model of this study.

Hypothesis Test Model
Simultaneous Significance Test (F Test)
The government complexity and regional government size variables simultaneously affect the human development index. The significance of the indicator parameter of coefficient Adjusted R^2 can be tested with the help of the statistical methods of Fisher's test (F test) with a level of confidence of 95%. The criteria apply when the F> F_{table} then Ho is rejected; and if F $\leq$ F_{table} then Ho is acceptable. This is shown in:

Table 9. Result of Regression (F Test)
ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	450.840	2	225.420	40.253	.000[b]
	Residual	330.402	59	5.600		
	Total	781.242	61			

a. Dependent Variable: Y
b. Predictors: (Constant), X2, X1
Source: Data Output SPSS.

As depicted in Table 9, it shows that F value is 40.253 while the F_{table} at the 99% confidence level (α = 0.01) is 5.80. This means that the value of F> F_{table} (40.253> 5.80). Thus the Ho rejected, while H1 is accepted.

Partial Significance Test (t Test)
Partially, both variables of government complexity (X_1) and regional government size (X_2) which affect the human development index in North Sumatera is acceptable, as stated in the following Table:

Table 10. t Test
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.662	2.593		-1.412	.163
	X1	.435	.148	.265	2.928	.005
	X2	.901	.130	.626	6.926	.000

Source: Data Output SPSS, 2014.

Based on the Table 10 above, the multiple regression is formulated as follows:
Y = - 3.662 + 0.435X₁ + 0.901X₂ + e

The multiple regression model means are as follows:

1. A constant value of -3.662, means that if the values of government complexity and regional government size variables are zero, then the dependent variable of human development index will decrease by 3.66 units.
2. The variable of government complexity (X_1) positively affects the human development index with the coefficient value of 0.435, meaning that for every 1 unit increase in government complexity, it will raise the human development index by 4.35 units.
3. The variable of regional government size (X_2) positively affects the human development Index with the coefficient value of 0.901, meaning that for each increase of 1 unit of the regional government size, then it will increase the human development index by 9.01 units.

As represented in Table 9, it shows that the variable of government complexity (X_1) (2.928> t_{table} 1.980) affects significantly the human development index where the value of t> t_{table}. Thus H0 is rejected and H1 accepted. In addition, the variable of regional government size (X_2) with a positive direction (6.926> 1.980) significantly affects the human development index in North Sumatera where the value of t> t_{table}. Thus H0 is rejected and H1 accepted.

Description of Data
Based on the results of the data processing, the statistical description can be seen in Table 11 as follows:

Table 11. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
X1	200	34542.00	2121053.00	475995.2300	497088.90970
X2	200	10.77	12163.65	2508.2137	2448.90245
Y	200	63.20	78.27	73.0784	2.78794
Valid N (listwise)	200				

Source: Data Output SPSS Versi 21, 2014.

The table shows the variable of government complexity (X_1) with an indicator of the large number of residents. Based on 200 observations from year 2005 to 2012 in 25 districts/cities, the maximum value reached 2,121,053 people and the lowest minimum population of 34,542 people. The average value reached 475,995 people with an average of standard deviation of 497,088 people. The results show a population imbalance occurring among the districts/cities. For the variable of regional government size (X_2) the maximum regional size is indicated to be 12,163 km^2 and the smallest regional size is 10,77 km^2. The average of regional size is 2,508.21 km^2 with an average of the standard deviation of 2,448.90 km^2. Meanwhile, for the variable of the Human Development Index (Y), the highest HDI was 78,27 points, the lowest was 63,20 points and the average HDI was 73,07 points with a standard deviation of 2,78 points.

Secondary Data Analysis
Classical Assumption Analysis
The classical assumptions analysis consists of normality, multicollinearity and heteroscedasticity tests.
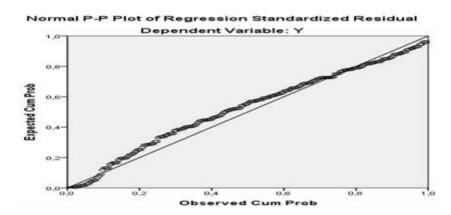
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Normality Test.

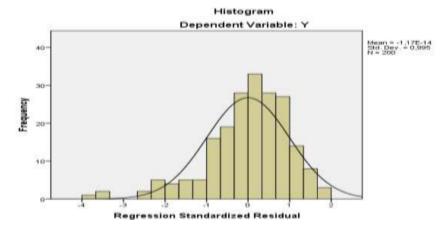**Figure 5. Normal P-Plot of Regression Standardized Residual**

Figure 6. Histogram

By looking at the graphs displayed in Figure 5, it can be concluded that the data spread around the diagonal line, and follow the direction of the corresponding diagonal line. This shows that the data residuals were normally distributed. Similarly, with the results of the histogram graph in Figure 6, it shows that the data residuals were normally distributed, as seen from the picture in a bell form that is almost perfect (symmetrical).

Multicollinearity test.

Table 12. Multicollinearity Test
Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	X1	,956	1,046
	X2	,956	1,046

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Coefficientsª

Model		Collinearity Statistics	
		Tolerance	VIF
1	X1	,956	1,046
	X2	,956	1,046

a. Dependent Variable: Y

Source: Result Output SPSS 21.

As depicted in Table 12, it appears that the independent variables of government complexity (X_1) and the government size (X_2) have VIF below 10 (Ghozali, 2005). This means, the regression that is used for the two independent variables establishes that there is no multicollinearity problem.

Heteroscedasticity Test.

The test result concludes that the heteroscedasticity does not occur in the regression model. It can be seen from the scatterplot in which the points are spread randomly or that they do not form a specific pattern clearly, and scattered both above and below the 0 on the Y axis (Ghozali, 2005).
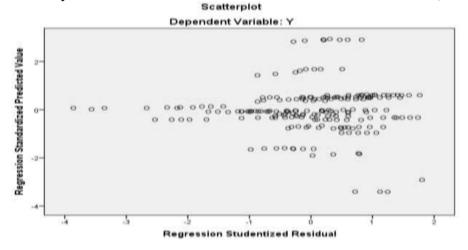

Figure 7. Scatterplots Graph

Goodness of Fit Model Test

The Goodness of fit testing is done to determine the feasibility of a regression model. Having the said two variables, the feasibility can be seen from the value of Adjusted R Square.

Table 13. Feasibility Model Test

Model Summaryᵇ

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,384ª	,148	,139	2,58689	1,496

a. Predictors: (Constant), X2, X1

b. Dependent Variable: Y

Source: Data Output, SPSS. 2014.

As depicted in the Table above, the Adjusted R-square value is 0,139. This shows that 13,9% of government complexity and regional government size variables affect the human development index in North Sumatera. The remaining amount of 86.1% affected by other variables are not explained by the model of this study.

Hypothesis Test Model

Simultaneous Significance Test (F Test)
The government complexity and regional government size variables simultaneously affect the human development index. The significance of the indicator parameter of coefficient Adjusted R^2 can be tested with the help of the statistical methods of Fisher's test (F test) with a level of confidence 99%. The criteria used are when the F> F_{table} then Ho is rejected; and if F $\leq$ F_{table} then Ho is acceptable. This is shown in Table 14:

Table 14. Result of Regression (F Test)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	228.419	2	114.210	17.067	.000[b]
	Residual	1318.327	197	6.692		
	Total	1546.746	199			

a. Dependent Variable: Y
b. Predictors: (Constant), X2, X1
Source: Data Output, SPSS.

As depicted in Table 14, it shows that the F value is 17.067 while the F_{table} at the 95% confidence level (α = 0.001) is 5.80. This means that the value of F> F_{table} (17.067> 5.80). Thus the Ho is rejected, while H1 is accepted.

Partial Significance Test (t Test)
Partially, both variables of the government complexity (X_1) and regional government size (X_2) affecting the human development index in North Sumatera are acceptable as stated in the following Table:

Table 15. t Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	73,434	.297		247.280	.000
	X1	1.367E-006	.000	.244	3.623	.000
	X2	.000	.000	-.352	-5.238	.000

Source: Data Output, SPSS. 2014.

From Table 15 above, the formulated equation of the multiple regression is as follows:
$$Y = 73.434 + 1.367E\text{-}006X_1 + .000X_2 + e$$
The multiple regression model means are as follows:

1. A constant value of 73,434, means that if the values of the government complexity and regional government size variables are zero, then the dependent variable of the human development index will decrease by 73.44 units.
2. The variable of government complexity (X_1) positively affects the human development index with the coefficient value of 1,367E-006, meaning that for every 1 unit increase in the government complexity, then it will raise the human development index by 0.136 units.
3. The variable of the regional government size (X_3) positively affects the human development Index with the coefficient value of 0,000, meaning that with each increase of 1 unit of the regional government size, it will increase the human development index by 0,00 units.

As depicted in Table 15, it shows that the variable of government complexity (X_1) (3.623> t_{table} 1.980) affects the human development index significantly where the value of t> t_{table}. Thus H0 is rejected and H1 accepted. In addition, the variable of the regional government size (X_2) with a negative direction (-5.238> 1.980) significantly affects the human development index in North Sumatera where the value of t> t_{table}. Thus , H0 is rejected and H1 accepted.

DISCUSSION

Based on the primary and secondary data, the hypothesis states that the government complexity and size of the regional government affect the Human Development Index in North Sumatera. The results of this study are consistent with the results found by Thomas and BoonyApratuang (1993); Trueblood and Honadle (1994); Haveri (2006) and Georgiou (2008).

In planning its program, the regional government has considered the performance achievement of minimum service standards established in accordance with the legislation. If the human development index is low, it will determine the level of individual well-being, which in turn also determines the level of social welfare in general. The HDI is a way to measure the level of physical and non-physical qualities of the population.

The extent and magnitude of the regional government influences the shape of the public services provided. The coverage of the physical qualities is reflected in life expectancy; while the non-physical qualities are shown through the length of the average population education and literacy rate. The level of human development achievements has gained the attention of the state officials where the development outcomes can be measured and compared. The index has also been used by the United Nations in setting up a standard measure of human development internationally. This composite index is formed by four component indicators namely; life expectancy, literacy rates, average length of the education and the purchasing power parity (PPP). The indicators of life expectancy reflect the dimensions of healthy living and longevity; the indicators of the literacy rate and the average length of the schools represent the output of the education dimension; the purchasing power affordability indicator describes the dimensions of a decent life. Thus, it has made the HDI to be used as a manifestation in human development whereby it can be interpreted as a success in improving abilities and expand human choices. Contribution of this research are (a) as a means of analysis of the complexity of the Government and the Regional Government size how its impact on human development. (b) for local

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governments, in the long term, this analysis can be used as an evaluation tool assessing the effectiveness of efforts to improve the Human Development Index (HDI) and (c) this study suggests that further research, particularly with regard to the Human Development Index research on the factors that support for the development of the Human Development Index and thus contribute to the development of Science in Human Resource Management and Public Sector Government.

CONCLUSION AND RECOMMENDATION

The conclusions of this research are as follows:
1. Simultaneously, the government complexity and regional government size affect the Human Development Index in North Sumatera.
2. Partially, the government complexity and regional government size affect the Human Development Index in North Sumatera.
3. The results of this study are consistent with the results found by Thomas and BoonyApratuang (1993), Trueblood and Honadle (1994), Haveri (2006) and Georgiou (2008).

Meanwhile, this study has several recommendations which can be considered as follows:
1. The variables' elements of entrepreneurship, advertising-marketing, economic growth, unemployment rate, welfare, living standards, education, health, life expectancy as well as the form of capitalistic system may be worth to be considered in the future on determining the variables of human development.
2. As this study has focused on the problems of the Human Development Index in the East Coast of North Sumatera, we can probably expand the research object to the West Coast of the Northern Sumatera.

The limitations and future directions of this study are:

1. This research was not conducted a study to incorporate elements of variable Entrepreneurship, advertising-marketing, economic growth, unemployment rate, welfare, living standards, education, health, life expectancy, as well as the form of capitalistic system that plays a major role in determining the level of human development.
2. The next model can be compiled with the data panel models (time series cross-sectional).

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