THE EFFECT OF FISCAL POTENTIAL AND NEEDS ON REGIONAL BOTTOM AID MODEL (BDB) IN NORTH SUMATERA PROVINCE

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ABSTRACT: *The purpose of this study is to analyze and determine the influence of fiscal potential and needs in the model of allocation formulation of regional bottom air (BDB) in North Sumatra province. The variables used in this study are the performance of the regional bottom aid (Y) as dependent variable while is total population (X_1), poverty index (IKR) (X_2), size of region (X_3), construction cost index (CCI) (X_4), gross domestic product (GDP) (X_5), regional revenue (PAD) (X_6), balances of fund (X_7) and income per capita (X_8) as independent variables. The data analysis used in this study is structural equation models, while the population is all the 33 districts/cities in North Sumatera province, and the sampling technique is using purposive sampling method with consideration of specific criteria. The findings concluded that the dominant variable in determining the allocation of the regional bottom aid (BDB) in North Sumatra is the total population, construction cost index (CCI), the financial fund balance and income per capita.*

KEYWORD: Regional Bottom Aid, Population, Construction Cost Index, Financial Balance Fund and Income Per Capita.

BACKGROUND

In Indonesia, the potential revenue derived from each regions will be redistributed to the various components of the tax as well as a variety of other results. In a certain period will be returned back to the regions in proportion to their needs. The distribution patterns are created by the central government, while some derived from the province which called with the term of "system of equalization grants" (Ahmad et al., 2002).

Regional Bottom Aid (BDB) is a financial assistance of the province, in this case North Sumatra to the districts/cities. BDB legally designated by the Governor's regulation No. 60 of 2010. Further it refined again with the creation of Governor's regulation No.14 of 2013 on BDB with criteria considering the variables of regional income, population, the number of poor people, size of region and GDP per capita. BDB is derived from regional revenue (PAD) of North Sumatra province that been returned to districts/cities in the province. The current problem refers to the budget allocation to the districts/cities that does not have the format and certain variables considered to allocate the budget proportionately. Based on the phenomenon of the presented data, it demonstrates the occurrence of inequality and lack of clarity in the allocation aid of province to districtss/cities. For example, Medan city which has a high potential for fiscal, financial performance and good economic performance but has unstable provincial aid allocation. In 2006, it obtained Rp.30.4 billion of BDB, Rp.34.61 billion of BDB in 2007 and in 2008 decreased to Rp.20.40 billion. The decrease can not be described in detail. Another phenomenon of huge gap that occurs in Deli Serdang district which has BDB of Rp.15.54 billion in 2008 and North Tapanuli district which earn of BDB for Rp.17.78 billion and also compared with Simalungun district that earn the BDB of Rp. 16.78 billion.

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The higher allocation of provincial aid that allocated to districts/cities, it give more better to the independency of financial side of a region which also strengthen the regional budget. This does not describe and reflect the potential fiscal and economic performance of each of the regions because of the absence on a fix formula in allocating the financial aid fairly according to the conditions and potential of each regions. Based on these data explained, the pattern distribution of BDB tend to inequal, therefore, it needs an idea and formula to be considered with the components of the potential fiscal and fiscal needs in the preparation of the regional bottom aid allocation model in North Sumatera province. In preparing the necessary BDB allocation, it needs to initiate an allocation scheme based on fiscal gap and basic. The gap on fiscal and basic allocation has been used in the allocation of the general allocation fund (DAU). The gap on fiscal refers to the fiscal needs deducted by the regional fiscal capacity. The needs of fiscal consist of needs for regional funding to carry out basic public services such as provision of health care, education, infrastructure, and alleviation of poverty. Every needs for funding measured by total of population, size of region, construction cost index, gross domestic product, income per capita. Feryawan (2011) states that the human development index and the poverty rate is one of the indicators of social welfare which is a variable of fiscal needs that must be considered.

The regional fiscal capacity is a local sources of funding derived from the regional revenue and fund of profit sharing. The data for calculating the fiscal needs and capacity obtained from government statistical agencies and/or government agency authorized to issue such accountable data. While, the basic allocation is calculated based on the number of regional civil servant salaries. The proportion of DBH between provincial and districts/cities determined by the financial balance between provincial and districts/cities. DBH based on fiscal gap for a province which is calculated by multiplying the weight of the respective district/city with the number of provincial DBH. The weight of the district/city is the fiscal gap of the district/city with the total provincial fiscal gap. DBH based on fiscal gap for a district/city is calculated based on the multiplication of weight of the district/city with the amount allocated provincial DBH.

The role of North Sumatera province is needed to support the government's efforts in maintaining the harmony and balance between growth and equity. Moreover, in maintaining alignment with national priorities, local governments must consider regional development priority of poverty alleviation (pro poor), creating jobs (pro-job), and maintain environmental sustainability (pro-environment). With such, each region can best contribute to the achievement of national development goals while maintaining the independence of the region in the financial management measured by the regional fiscal potential. Given the phenomenon and background of the problems above, the formulated question is "Which component of fiscal potential and needs be the determinant model for the regional bottom aid (BDB) in North Sumatra province"?

LITERATURE REVIEW

Regional Bottom Aid (BDB)
Regional bottom aid is a source of revenue comes from the budget to support the implementation of local authorities in achieving the objective of granting regional autonomy which is primarily done by an increase better in services and public welfare. According to

Elmi (2002), the general purpose of the central government to transfer funds to local governments is:

1. As a concrete action to reduce inequality in the distribution of "national portion", both vertically and horizontally.
2. An attempt to improve the efficiency of government spending by delegating some authority in the financial management that benefited and enjoyed the people in the regions concerned.

The provincial government allocates financial ais to local government of districts/cities that will be a source of revenue for those local governments which been budgeted with other incomes as the legitimate sources of financial assistance or known as the regional bottom aid (BDB). While, the financial aid expenditure refers as the expenditure that is used to allocate financial assistance of the province to the districts/cities, sub-districts, or villages in the context of equity and/or improvement of financial capability.

Basically, the policies implementation namely the allocation of funds in the regional budget of North Sumatra province is based on the proposals of district/city to the provincial government, especially for the priority programs that are not accommodated in terms of funds. The said proposal is supported by members of the regional legislative council which to be discussed and evaluated that associated with the annual program of public policy in the regular budget of the provincial government. This pattern inconsistently appear in the financial aid at the district/city.

In the policy of aid allocation, the variable has not describe the characteristics of the district/city in determining the necessary aid which need to handle wisely on each different characteristics of the regions. The BDB patterns in 2006 are inconsistent in terms of:

1. The amount of weight to the total population, the contribution of PAD and size of region.
2. The unknown formula of BDB.
3. Determination of the weight index on each variable included the formula of BDB.
4. The result of the calculation for the basis of the ranking or revenue contribution receipts should be segregated to each district/city.

The Fiscal Needs

According to Ilahi (2005), ideally the fiscal needs of a region should be calculated based on the minimum service standards (SPM) for each region and standard analysis of expenditure (SAB) or standard spending assessment (SSA), so that the size of the fiscal needs are real and leads to an efficient use of funds. However, the SPM and SAB/SSA still undeveloped accordingly due to the measurement constraint. Therefore in the DAU formula, the fiscal needs are not measured as the real amount but an approximation (proxy) of fiscal needs based on the non-fiscal variables. These priorities are done to create a simple and easy formula calculated by the region to accommodate the regional fiscal needs variable that is used to finance regional programs and facilities development. The construction of the regional facility include educational facilities, health, infrastructure and other basic needs.

A. Total Population

The population of a region reflects the needs of the service required. These services may include several aspects such as: education, health, and transportation. To distinguish the fiscal needs of a region to another is based on the total of population.

B. Relative Poverty Index (IKR)

The implementation of regional development aims to achieve prosperous society adequately. The more the number of people below the poverty line, more funds are needed to improve people's lives. The different in poverty gap between regions is used as a measure of poverty. The poverty gap gives an overview of the distribution of income of the poor from the poverty line. The greater the poverty gap was, the higher the poverty level. In fact, if its poverty gap can not be calculated as $q = 0$, then a region can be declared not to have poor people.

C. Size of Region

The region with wide area coverage requires a larger financing, then it was formed an index to distinguish the size of the region. This justifies to use the size of the region as a variable. The data for size of region taken from Kepmendagri (Ministry of Home Affair's regulation, regional establishment Act, and BPS (Central Statistics Agency).

D. Construction Cost Index (CCI)

To improve government services, it neededs infrastructure such as buildings, roads, bridges, and irrigation. The geographical condition of Indonesia caused the financing gap to build these facilities. The higher the difficulty level geographic region, the higher the price level in the region. This is the background for the use of the building as a differentiator price index of fiscal needs of a region that seen from the construction sector.

E. Gross Domestic Product (GDP)

The economic growth is often measured by gross domestic product (GDP). The GDP is basically the amount of value added generated by all business units in a particular region, or a total value of final goods and services produced by the entire units of economy. The presentation of figures in GDP can be divided into two, namely the GDP at current prices and at constant prices (Central Bureau of Statistics, 2014). The GDP at current prices illustrates the added value of goods and services calculated using the prices prevailing in the current year, while the GDP at constant prices shows the added value of goods and services calculated using the prices prevailing in a given year as the basis. The GDP at current prices can be used to see the shifts and economic structure, while the GDP at constant prices used to determine growth economy from year to year. In calculating the GDP figures, there are three general approaches that can be used; production, income approach and expenditure approaches.

In the production approach, GDP used as the total value added of goods and services produced by various production units in a region within a specified period (usually a year). In the income approach, GDP used as the amount of remuneration received by the factors of production that participate in the production process in a region within a specified period (usually a year). Remuneration factors of production refer to wages and salaries, rent, capital interest and profit; all of them calculated before income tax and other direct taxes. Therefore, the definition of GDP includes depreciation and net indirect taxes. Finally, in the expenditure approach, GDP used as the final demand components consisting of; i) household

consumption expenditure and private non-profit institutions; ii) government consumption; iii) gross domestic fixed capital formation; iv) changes in the stock; and v) net exports.

Revenue and Expenditure Regional Budget

Mardiasmo (2004, p. 59) states that the primary objective of regional autonomy is to improve public services and promote the local economy. The Act No. 17 of 2003 Section 16 on the state of finance stated that:

1. The budget is the regional financial management set each year by the regional regulation.
2. The regional budget consists of revenue, expenditure and finance budgets.
3. Regional income derived from the regional revenue.
4. Regional expenditure specified by the organization, function and type of expenditure.

According to Halim (2001, p.245), the regional budget is a regional work plan that realized in the form of money (Rp.) during a specified time period (one year) which used as one of the main policy instrument in improving public services and regional social welfare. The regional budget is used as a tool to determine the amount of income and expenditure, helping decision-making and planning, authorizing expenditures in times to come, the source of the development of standard measures for performance evaluation, a tool to motivate employees, and coordination tool for all the activities of the various units. While Erlina (2008, p. 23) posited that the budget realization report presents an overview of resource allocation and use of economic resources that are managed by the central government/regional, which illustrates the comparison between the budget and its realization in the reporting period.

The traditional theory of public finance is a major role in fiscal decentralization. The four basic elements of regional governments using regional income sources. First, regional government provides better public services; second, regional government provides public service delivery in accordance with the needs of the community; third, regional government uses the budget to provide an efficient service delivery; and fourth, decentralization can encourage innovation to public policy. The fiscal decentralization is the transfer of power from central government to regional governments which have special functions, administrative authority and fiscal income. The economist generally focus on efficiency and equity, while the public administration tends to focus on power and central accountability. The government gives responsibility and authority to regional governments in determination of any regional program or activity. The determination of the regional output with a centralized system occurs through the decision of the central legislature. Moreover, the fiscal decentralization resulted the welfare where the cost of providing public services varies with the given demands, different costs will show differences in efficient level at the output. Measuring well-being of fiscal decentralization by maximizing the amount of the surplus of the provision of public services are good.

The reason form of fiscal decentralization, among others; to build the capacity of regional, central government delegate responsibilities to regional governments. Regional government assists the central government in regional development, and regional leaders are demanding greater autonomy and powers of taxation along with regional expenditure responsibilities. In establishing accountability for spending, regional governments must control its own source of income sufficiently to allow some of the considerations in matching the needs of the region.

Regional Revenue (PAD)

According to Minister of Home Affair's regulation No. 32 of 2008, in an effort to increase revenue and as not to establish policies that burden on businesses and society, such measures are taken by simplifying system administration and tax collection procedures and levies, increase taxpayer compliance and paying levies as well as improve the control and supervision of collecting revenue, followed by an increase in quality, convenience, accuracy and speed of service.

Theoretically, the measurement of regional independence is measured from the regional revenue. In accordance with the Law No. 33 of 2004 stated that the regional revenue consists of; regional taxes, levies, wealth management incomes were separated, and other legitimate regional revenue. But in subsequent developments, among all components of revenue, taxes and levies are the biggest contributors, so there is the assumption that the regional revenue is synonymous with taxes and levies. Halim (2007, p. 96) states that regional revenue is all regional revenues derived from the original source regional economy. While, Yani (2008, p. 44) explains that the source of the original income derived from regional taxes, levies, wealth management incomes, and other legitimate regional revenue.

Fund Balance

According to Regulation No. 32 of 2008, in the context of decentralization, the Head of a region awarded the funding through the state budget balance, the money is transferred with money follows function principle. One purpose of the balance fund is to reduce the fiscal gap between the government and the regions and between regions, as well as increasing the capacity of the region in exploring the economic potential of the region. In the aspect of central and regional government relations, Elmi (2002, p. 55) revealed that the presence of the policy is expected to have a fair and rational of financial division. This means that for those regions that have a wealth of natural resources will receive the larger amount of income while other regions will put part of the general allocation fund (DAU) and special allocation fund (DAK).

General Allocation Fund (DAU)

DAU used for a regional allocation on the basis of the fiscal gap and basic. The fiscal gap is the fiscal needs deducted by the regional fiscal capacity. The regional allocation is calculated based on the amount of the salaries of civil servants. The total of civil servants salaries consist of basic salary plus family benefits and designation allowances. The DAU is distributed by the transfer of general treasury account from the general state account to the regional account. The distribution of DAU held every month, each for 1/12 of regional DAU are regulated by the Minister of Finance's regulation.

Special Allocation Fund (DAK)

Special allocation fund (DAK) is funds sourced from the revenue of regional budget that allocated to a particular region with the aim to give funds to regional special activities in accordance with national priorities. Yani (2008, p. 172) states that DAK is allocated to certain regions to fund specific activities as part of the regional priority program. DAK allocated to help financing of the region on physical infrastructure as a national priority in the field of education, health, infrastructure (roads, irrigation, and water), marine and fisheries, agriculture, infrastructure, local government and the environment. DAK allocation prioritize to certain regions that have low fiscal capacity or below the average for the national's fiscal

rate. The ability of regional fiscal based on the difference between the realization of the regional general admission with civil servants budget on the yearly fiscal budget.

Other Legitimate Regional Revenue

Other legitimate regional revenue is a regional income not included in the group of regional revenues and fund balance. Yani (2008, p. 211) states that the scope other legitimate regional revenue consists of:

1. Grants from the central government, other local governments, agencies/institutions/local private organizations, community groups/individuals and unbound foreign institutions.
2. Emergency aid from the government in order to response the victim/damage to natural disasters.
3. Tax revenue-sharing from province to districts/cities.
4. Funds adjustments and special autonomy fund determined by the government.
5. Financial aid from the province or from other regional governments.

According to Law No. 32 of 2004 Section 164, states that the other legitimate regional revenue is an entire regional income other than the regional revenue (PAD) and fund balance, which includes grant, emergency fund, and other revenues set by the government.

REVIEW OF PREVIOUS RESEARCHES

According to a simulation by Gervais (2010) using the population as a major determinant of DAU and DAK, excluded DBH, it found the equality is needed to be improved significantly. By calculating the Lorenz curve where the horizontal axis represents the transfer (DAU, DBH, DAK) for 411 district/city, and the vertical axis is the population, while the line 1 (blue) represents the allocation in year 2009, line 2 (green) represent simulations with fixed DBH and DAU + DAK reallocated according to the population of each district/city, and the third line represents the total reallocation according to population. Ruggeri et al. (1993) provides a definition of vertical fiscal imbalance (VFI) as the mismatch between actual revenues and expenditures for all levels of government. To perform the analysis of the vertical financial imbalance between the central government and regional governments, it can be used an illustration as follows:

Table 1. A Measurement of Financial Imbalance between Central and Regional Government

Level	Revenue	Expenditure	+/-
Central	30 %	20 %	+ 10 %
Province	30 %	30 %	0
District/City	40 %	50 %	−10 %
Total	100 %	100 %	

In Table 1 above, it illustrated the vertical financial imbalance condition that occurs between the financial of central government and regional financial government. It gives examples of financial imbalances that occur at the central government, district/city levels.

Bahl and Linn (1992) recommends an analytical tool to allocate various types of aid from regions to centers as how to determine the amount of the total allocation for each type of aid as well as how to allocate these funds to the regions. For allocation as special allocation fund (DAK), the experiences in several countries showed that the amount is determined based on political decisions (ad hoc), but some of them defined by a reimbursement system which was approved by parliament. This means that the amount of DAK to the regions is determined earlier (subject to a cap) or open ended. Meanwhile, such DAK in the regions of other countries can be done through several mechanisms based on a formula like been practiced in Indonesia which is the replacement costs incurred (reimbursement) mechanism. In United States, approximately 60% of special aid require matching rate in the range of 5% to 50% or more. The percentage of matching rate funds can be uniform for all funds, or may vary according to the number or regional characteristics' receipts, for example based on the level of income per capita.
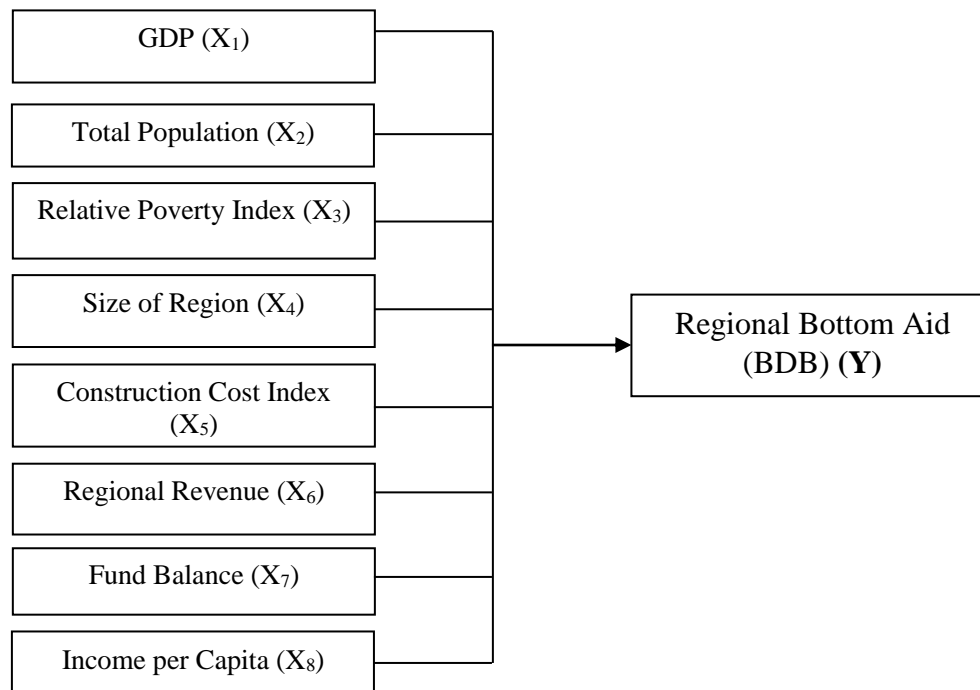
Conceptual Framework

Figure 1. Conceptual Framework

Hypothesis
The hypothesis in this study is "Potential Fiscal (regional revenue, fund balance and other legitimate income) and fiscal needs consisting of the population, size of region, the human development index, construction cost index and gross domestic product (GDP) per capita affect the the allocation of the regional bottom aid (BDB) in North Sumatera province."

METHODOLOGY

Research Design and Sampling

This study uses a causal design that useful for analyzing the relationship between one variable with other variables. The data consist of quantitative data taken from the published reports of budget realization for the year 2005 to 2013. Meanwhile, the population is the report of budget realization of the district/city in North Sumatera province; there are 33 districts/cities. The sampling technique uses a purposive sampling method with the observation of 4 years (2005- 2013). Specifically, the sampling criteria used by researcher are:

1. The regional districts and cities in North Sumatra province that publishes reports on budget realization consistently from year 2005 to 2013.
2. The local government districts and cities that have not bloomed in the period 2005-2013.

Data Collection Method

The data used in this research is secondary data of time series on the reports of budget realization in the districts/cities of North Sumatra province which obtained from the Central Statistics Agency (BPS) of North Sumatra and Financial Statement Audit of Audit Board (BPK RI). The data used are the fiscal needs, PAD, DBH Other local legal revenuel, financial performance and expenditure of local government in the reports of budget realization for fiscal year 2005-2013. Meanwhile, there are additional data employed such as fiscal potential data on construction cost index, total population, size of region, income per capita of the city/district in North Sumatera province.

Operationalization of Variables

Table 2. Operationalization of Variables

Variable	Definition of Operasionalization	Indicator	Scale Measures
Dependent Variable			
Regional Bottom Aid (Y)	The allocation of financial aid from the provincial to the districts/cities underneath as a form of fiscal allocations.	Total of Regional Bottom Aid.	Ratio
Independent Variable			
Total population (X$_1$)	Total population live in a region	Total population in a region	Ratio
Relative Poverty Index (IKR) (X$_2$)	Distribution of income of the poor from the poverty line.	Poverty index in a region.	Ratio
Size of Region (X$_3$)	The extensive land and sea in a city/district	Size of per km^2	Ratio
Construction Cost Index (IKK) (X$_4$)	An index to measure the general price to provide infrastructure such as buildings, roads, bridges, and irrigation	Index by BPS Central Statistics Agency)	Ratio

	in a region		
Gross Domestic Products (GDP/PDRB) (X_5)	Total value added generated by all business units in a particular region, or a total value of final goods and services produced by all economic units	GDP/PDRB annually	Ratio
Regional Revenue (X_6)	PAD is the total actual revenue sourced from the region consisting of local taxes, levies, revenue of wealth management and other legitimate local revenue.	Regional taxes, levies, wealth management and other legitimate regional revenues.	Ratio
Fund Balance (X_7)	Fund balance is the total realization of funds from revenue consists of sharing revenue, DAU and DAK.	Revenue-sharing, DAU and DAK.	Ratio
Income per capita (X_8)	The per capita income of each individual society based on both total GDP at current prices and constant prices divided by the population in a region.	Both total GDP at current prices and constant prices divided by the population in a region.	Ratio

Data Analysis Method

The hypotheses were tested using Structural Equation Modeling (SEM) with AMOS software tools version 22. The equation is formed as follows:

$$Y = \alpha + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + e$$

Where:
Y = Regional Bottom Aid (BDB)
X_1 = Total of population
X_2 = Relative Poverty Index (IKR)
X_3 = Size of Region
X_4 = Construction cost index (IKK)
X_5 = Gross domestic product (PDRB)
X_6 = Regional revenue (PAD)
X_7 = Fund balance
X_8 = Income per capita
b1, b2, …. b8 = Regression coefficient
α = Constant
e = Error

Structural Equation Modelling (SEM) Analysis

Data analysis techniques in this study using Structural Equation Model Analysis (SEM). Ferdinand (2007, p.7) reveals that the SEM allows able to answer the research that is regressive and dimensional and also be used simultaneously to measure the effect or the degree of relationship among the factors where its dimensions have been identified. In the procedure of the measurement model, there are three stages that must be done through

comfirmatory factor analysis namely; overall model fit analysis, factor analysis of loading, and reliability analysis (Hair, 1998).

Overall Model Fit (Goodness-of-Fit Index) Analysis
This phase is done to test the suitability of the model to evaluate the goodness-of-fit index. Analysis using SEM requires some suitability index to measure the correctness of data and models to be filed. According Ghozali and Ferdinand (2008), goodness-of-fit of a model can be assessed based on some measure of fit as follows:

Table 3. Evaluation of Goodness of Fit Index Criteria

Goodness of Fit	Cut Off Value
Chi – Cquare	Expected Small
Probability	≥ 0.05
RSMEA	≤ 0.08
GFI	≥ 0.90
AGFI	≥ 0.90
CFI	$0 < GFI < 1$
TLI	≥ 0.95
CMIN/DF	≤ 2.00

Source: Ferdinand (2008).

DISCUSSION

Descriptive Analysis

Table 4. Descriptive Statistics
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pend_X1	200	34542.00	2121053.00	475995.2300	497088.90970
Miskin_X2	200	5240.00	217300.00	59291.8000	49556.09444
LW_X3	200	10.77	12163.65	2508.2137	2448.90245
IKK_X4	200	81.05	235.01	119.6074	35.36989
PDRB_X5	200	826.00	105400.00	8375.5100	15223.80310
PAD_X6	200	156.00	1416229.00	46900.3050	138782.42633
DP_X7	200	61230.00	1494581.00	443964.0500	248968.17345
Income_X8	200	3142591.00	49886522.00	12875833.6300	7213678.83923
BDB_Y	200	1110720000.00	1695900000.00	16989961334.54	23062056979.48
Valid N (listwise)	200				

Source: Output Result SPSS 22 (2014)

The descriptive statistics above is explained as follows:

1. Total of Population variable (X_1), it shows the average number of population in 2005-2012 is 475,995 people, with the highest population in the Medan city of 2,121,053 people and the lowest of 34,542 people in Pakpak Bharat district with the standard deviation of 497,088.

2. Population poverty variable (X_2), it shows the average number of underprivileged population in 2005-2012 is 59,291 people, with the highest number is in Medan city of 217,300 and the lowest of 5,240 people in Pakpak Bharat district, with the standard deviation of 49,556 people.

3. The size of a region (X_3), it shows the average districts/cities of 2508.21 km^2, with the least amount of 10.77 km^2 and the widest of 12163.65 km^2 with a standard deviation of 2448.90 km^2.

4. The construction cost index (X_4) illustrates the construction cost rate of a district/city or province to the national average index. The calculation of the construction cost index is by entering the price of construction including price for equipment rental, wholesalers, construction activities, the level of construction cost, and diagrams stations. The highest CCI in North Sumatra at 235.01 points, the lowest at 81.05 points, while the average is 119.61 points with a standard deviation of 35.36 points.

5. The magnitude of economic growth proxied by GDP at current prices (X_5) at the districts/cities in North Sumatra with an average growth of Rp. 8375 trillion. The highest growth of GDP reached Rp. 105.400 trillion and the lowest GDP declined to Rp.826 billion. The decline in GDP due to the expansion of the main district, thus the dynamic growth in the districts/cities taken place. The average of standard deviation on GDP is illustrated the high economic growth of inter-regional disparities in districts/cities in the province, means dispartitas difference is not too huge compare of an average growth. Thus, economic growth can be maintained and pursued increasingly that can exceed the national economic growth.

6. The regional revenue variable (X_6) which is local revenue derived from the local tax, regional fees, other regional legitimate wealth and local revenues. It shows that the average of local revenue is Rp.46.9 with the highest amount of Rp.1.42 trillion and lowest by Rp.156 million.

7. Fund balance variable (X_7) shows the total funds received from the central government transfers to the regions consisting of the DAU, DAK and DBH. From the samples obtained that the average fund balance for the year 2005-2012 is Rp.443.96 billion with the highest amount of Rp.1.49 trillion and the lowest of Rp.61.23 billion. The average of standard deviation is Rp. 243.97 billion.

8. Income per capita (X_8) is the result of total GDP divided by average total of population. The average of income per capita is Rp.12,875,833 where the highest annually is Rp.49,886,522 and the lowest is Rp.3.142.591.

9. The amount of sample (N) is 200, where the average number of provincial allocation aid ratio (BDB) (Y) of the districts/cities in North Sumatra is Rp.16,989.962,387,55. It means the realization of BDB acquisition is distributed in the districts/cities in North Sumatra reached an average of more than an average of regional revenue of the districts/cities. The lowest and highest provincial BDB (Y) are Rp.169,589,928.000 and Rp.1,110,720.000 respectively-with a standard deviation of Rp. 23,062,059,353.07.

RESEARCH ANALYSIS

Outlier Detection

To detect the outliers, it uses the Mahalanobis distance test which found that the d-squared Mahalanobis has a maximum value of 53.091 which appears in the sample of 100 and a minimum value of 6.875 which appears in the sample of 103. Thus the Mahalanobis distance value has 8 observations that are at a level of significance below 0.001, shows there is multivariate outliers.
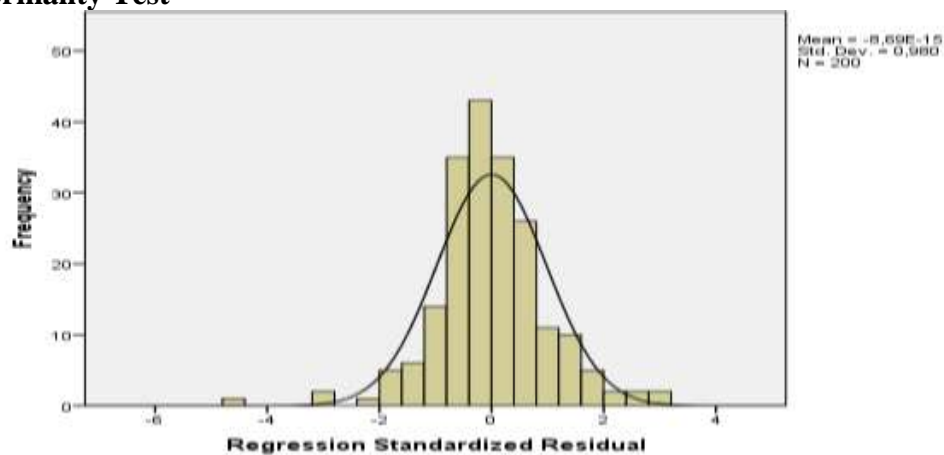
4.2.2 Normality Test

Figure 2. Data Normality Graph

Based on Figure 2, Ghozali (2005) stated if the data distribution is normal, then do not pass the curve either left or right. The output can be seen that the data are normally distributed.

Multicollinearity Assumption

The multicollinearity assumption was tested to determine whether there is a strong correlation between variables' measurements and latent variables. If there is a perfect correlation between the variables, then the parameter of measurement and structural models can not be estimated because the correlation matrix will be positive so that the inverse of the correlation matrix can not be calculated. Based on the observation of a correlation matrix, the correlation coefficients are not found greater than 0.80, so that concluded there is no multicollinearity problem between measurement and latent variables.

Goodness of Fit Model Result

Test of model fit (goodness of fit) was conducted to determine whether the model obtained was right in describing the relationship between the variables being studied so that it can be categorized into a good model. Testing the model in SEM aims to look at the suitability of the model. The suitability of the proposed hypotheses are as follows:

- The null hypothesis
  There is no difference between the sample covariance matrix and estimated population covariance matrix.
- Alternative Hypothesis
  There are differences between the sample covariance matrix and and estimated population covariance matrix.

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The goodness of fit model in structural equation models analyzed based on several criteria of testing as presented in the following table:

Table 5. A Summary of Goodness of Fit Model

Goodness Index	Estimation Values	GOF Test Criteria	Test Results
CFI	0,113	0.96	Fit
AGFI	0,166	> 0.90 (marginal fit)	Fit
RMR	0.000	< 0.05 (fit)	Fit
RMSEA	0,515	< 0.08 (fit)	Not Fit
CMIN/DF	0,000	< 2 (marginal fit)	Fit
p-value	<0.001	p>0.05 (fit)	Fit
CMIN	1704,952 (DF=47,360)		Fit

Based on the test results, it concluded that the model estimation results are acceptable, meaning that the empirical model obtained is in accordance with theoretical models.

Measurement Model
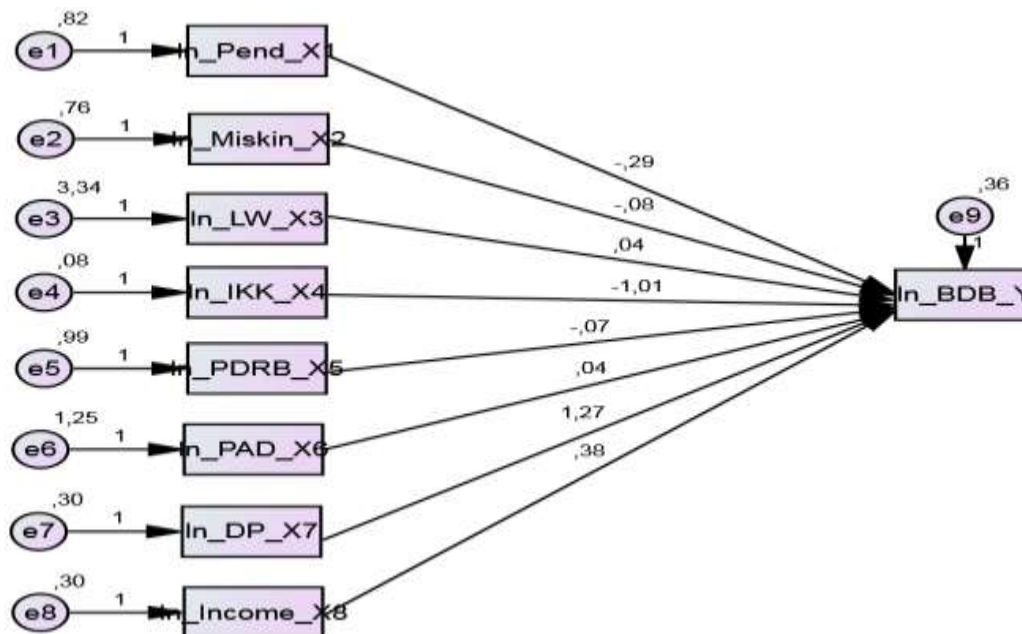The measurement model links between latent variables with manifest variables as follows:

Figure 3. Standardization Coefficient of Full Model

Evaluation of Regression Weight for Causality Test
The processing of data with analysis structural equation model using the AMOS tool obtained the results of the analysis on the relationship between variables as listed in the following table:

Table 6. Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
ln_BDB_Y	<---	ln_Pend_X1	-.287	.047	-6.110	***	par_1
ln_BDB_Y	<---	ln_Miskin_X2	-.081	.049	-1.668	.095	par_2
ln_BDB_Y	<---	ln_LW_X3	.037	.023	1.602	.109	par_3
ln_BDB_Y	<---	ln_IKK_X4	-1.015	.153	-6.629	***	par_4
ln_BDB_Y	<---	ln_PDRB_X5	-.072	.043	-1.696	.090	par_5
ln_BDB_Y	<---	ln_PAD_X6	.039	.038	1.033	.302	par_6
ln_BDB_Y	<---	ln_DP_X7	1.269	.078	16.265	***	par_7
ln_BDB_Y	<---	ln_Income_X8	.377	.078	4.858	***	par_8

An evaluation of regression weight for causality is using the value of CR. The test results show that all the regression coefficients are significantly different from zero, therefore the null hypothesis that the regression weight is equal to zero is rejected, and accept the alternative hypothesis that each indicator has a causal relationship which means that the model can be accepted.

1. ln_Pend (education) (X_1) significantly affects the regional bottom aid (Y) with the value of the critical ratio is 6.110.
2. ln_Miskin (poverty) (X_2) insignificantly influences the regional bottom aid (Y) of -0.081.
3. ln_Luas Region (size of region) (X_3) did not significantly influence the Regional Assistance Bottoms (Y) equal to 1.602.
4. ln_IKK (CCI) (X_4) significantly affects the regional bottom aid (Y) of -6.629.
5. ln_PDRB (GDP) (X_5) insignificantly affects the regional bottom aid (Y) of -1.696.
6. PAD (X_6) insignificantly influences the regional bottom aid (Y) of 1.033.
7. Fund Balance (X_7) significantly affects the regional bottom aid (Y) of 16.265.
8. Income per capita (X_8) significantly affects the regional bottom aid (Y) of 4.858.

The strength of the dimensions that make up the latent factors can be tested using the Critical Ratio (CR) of the regression weight generated by the model. CR identity is seen by t value in the regression analysis. CR greater than 2.0 showed that the variables significantly the factors of dimension. It is also indicated by the results of the AMOS output with *** signs, indicate the probability of below 5% alpha (0.000).

The results indicate that the dominant variables in determining the allocation of the regional bottom aid (BDB) is the total population, construction cost index (CCI), the financial balance fund and income per capita.

Discussion
The dominant variables in determining the allocation of the regional bottom aid (BDB) is the total population, construction cost index, financial fund balance and income per capita. The results are consistent with the findings by Muda (2014) and Ramli (2008). The regional bottom aid associated with the granting of central transfers to regions other than intended to address the horizontal disparity due to the fiscal gap which also intended to ensure the achievement of public service standards. Halim Abdullah (2006) suggests that 90-95% of the

local government revenue in the budget comes from the fund balances. This shows the high fiscal dependence of regional governments on the central government.

The fund balance of the central government to the regions in the short term serves to overcome the region's fiscal unpreparedness in various regional financing. The fund balance is expected to encourage regions to thrive and in the long term, those regions able to create an advanced economy. The regional economic growth of various sectors will be able to create local economic independence that does not rely on central government. The fund balance of the central government to the regions consist of; i) general allocation fund; ii) special allocation fund; iii) DBH.

The taxes and levies which became a major component of the regional revenue are also affected by the economic crisis. The decline in economic activity due to the economic crisis led to the disruption of public acceptance that then affect the acceptance of regional revenue resulted in lower income and erratic. With the state government experiencing financial pressures, this resulted uncertain in the preparation of the budget, causing the possibility of a shift in the components of income and expenditure. Financial pressures resulting instability and the city/district government readiness, especially in terms of financial performance. The financial performance is one measure of the readiness of a region in facing the regional autonomy. Walidi (2008) examined individually that DAU has a positive and significant impact on income per capita, while the capital expenditures has a positive and significant effect on the allocation of the regional bottoms aid (BDB).

The construction cost index (CCI) variable affect the human development index (HDI) in the district/city in North Sumatera caused by a phenomenon that the CCI used as an index shows the prices' comparison of building materials/construction between different locations in the same period. Thus, the calculation of CCI must be made in comparable and representative. CCI is calculated according to the type of groups of goods/commodities. Meanwhile, the income per capita of the people in North Sumatera able to affect the allocation of the regional bottom aid because the higher vintensity of regional economic activity reflected in sector 9 of GDP of the districts/cities in North Sumatera that if it is will be shared with the production approach to the population, the community's income will increase proportionately according to the growing sectors in the community.

CONCLUSION AND RECOMMENDATION

Conclusion
The conclusions of this study are:
1. The dominant variable in determining the allocation of the regional bottom aid (BDB) in North Sumatera is the total population, construction cost index (CCI), financial balance fund and income per capita.
2. Function BDB as a stimulus to the regional budget of districts/cities will reduce the fiscal gap, overcoming inequality fiscal ability and the inequality level of regional fiscal efficiency.

Recommendation
The suggestions in this study are:

1. For the policy makers in the province, this study is expected to be used as input and revision of refinement towards the governor's regulation No.14 of 2013 on regional allocation of bottom air criteria (BDB) with the consideration of regional income variable, population, population poverty, size of the region and GDP per capita paired with other variables of construction cost index and the amount of fund balance obtained from the central government.
2. The variable element of allocation policy, allocation aid for districts/cities, districts/cities' weights based on the needs and potential index should be discussed further by task force units in districts/cities in North Sumatera province, so that the weight being agreed completely describing the actual conditions.
3. The next researchers is to justify the form of income per capita with consideration of disparity in the distribution of income of the population in North Sumatera that describe the real impact of the role of fund balance allocation and regional revenue on income per capita.

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