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Analysis Effect of Household Consumption, Investment and Labor to Economy Growth In Sumatera Utara

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***Abstract* - Economic growth is related to the process of increasing the production of goods and services in the economic activities of society which is expected to increase the income of the community. The economic growth in Province of North Sumatera in the periode of 2006 to 2016 underwent fluctuating changes, so that it is necessary to be further studied on such the causing factors.**

This study aims to: identify the effect of household consumption on economic growth, identify the effect of investment on economic growth, identify the influence of Labor on economic growth, and identify the effect of interest rate on economic growth . The data used in this research is secondary data in 2006-2016 in Province of North Sumatera. Data obtained from various agencies, namely: Department of Labor and Transmigration, Central Statistics Agency of Province of North Sumatra, some other sources such as journals and relevant research results. Methods of analysis using Two Stage Least Square method (TSLS).

The results of the study found that: Household consumption has a positive and significant effectto economic growth, Investment has positive and significant effect to economic growth, Labor has positive and significant impact to economic growth, and interest rate has a negative and significant effect on economic growth.

Keywords : Household Consumption Expenditure, Investment, Labor, Interest Rates, Economic Growth.

I. INTRODUCTION

Economic development is essentially a business undertaken by the government with the goals of the community of a region has a level of welfare of life and a better economy. In achieving economic development, there are three macro indicators that serve as a measure of development progress. The three indicators are growth rate, employment and price stability (Mankiw, 2006). Economic development and economic growth are inseparable entities, as economic development can promote economic growth, and vice versa. One of the indicators of successful implementation of macro development is economic growth. Economic growth seen through increased output over time is an important indicator in measuring the success of a country's development (Todaro, 2005).

One of the targets of regional economic development is to increase the regional economic growth rate. Regional economic growth is measured by the growth of Gross Regional Domestic Product (GRDP) at constant prices. GDP growth rate will show a long-term increase in output per capita.

TABLE 1. Household Consumption, Investment, Labor and Economic

Year	Household Consumption	Investment	Labor	Economic Growth
2006	123.006	1.202.857,89	8.208.651	6,18
2007	179.993	2.544.693,52	8.378.148	6,90
2008	195.472	779.301,89	8.919.973	6,39
2009	432.389	1.476.252,62	9.108.738	5,07
2010	499.694	2.024.885,56	9.520.274	6,42
2011	532.228	2.662.522,50	8.759.321	6,63
2012	599.060	3.615.486,19	8.834.317	6,22
2013	623.705	5.956.333,40	8.931.423	6,08
2014	699.267	5.782.740,95	9.351.041	5,23
2015	775.189	5.533.513,50	9.498.974	5,10
2016	853.756	5.060.627,43	9.641.892	5,18

Growth in North Sumatera Year 2006-2016

The economic growth rate in Province of North Sumatera has fluctuated from 2006 to 2016. This is because economic growth is influenced by many factors, such as public

consumption, investment and labor in North Sumatra. The development of public consumption expenditure has increased from year to year, the cause is the increase in people's income. Investments in North Sumatra have increased in the past few years, but economic growth has declined during the year, increasing investment rates have resulted in the number of unemployed workers absorbing and increasing the number of unemployed. Labor as one of the factors of production plays an important role in increasing the economic growth of a country that can affect the high level of national income. However, there are two main problems facing Labor in Indonesia, namely low employee wage and high unemployment rate (Sumarsono, 2003).

II. LITERATURE

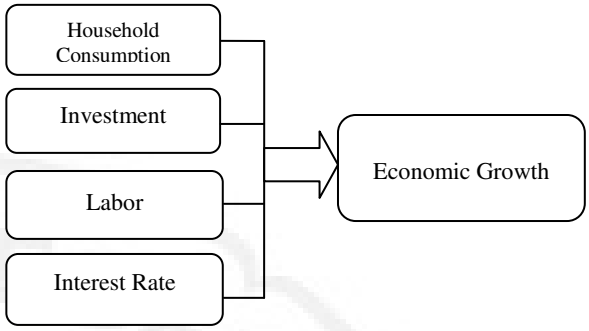
The Economic growth is defined as the development of activities in the economy that cause goods and services produced in society increases and the welfare of society increases (Sukirno, 2000). Economic growth can stem from growth on the aggregate demand side and the aggregate supply side (Tambunan, 2011). According to Classical Economic Growth Theory, economic growth depends on factors of production (Sukirno, 2004). Meanwhile, according to Neo-Classical Economic Growth Theory, economic growth depends on the development of factors of production, namely: capital accumulation, Labor and population (Sukirno, 2001).

Consumption can also be interpreted as a share of household income used to finance the purchase of various services and other needs. The amount of consumption is always changing according to the rise and fall of income, if income increases then consumption will increase. Conversely, if income falls then consumption will fall (Partadireja, 1990). The consumption of households is the value of the household purchases to buy their share of needs within a certain year (Sukirno, 2001).

Investments can be made by private, government or government-private partnerships. Investment is a way that can be done by the government to increase economic growth and for the long term can raise the standard of living community (Mankiw, 2003). Foreign investment or commonly referred to as Foreign Investment (PMA) is one of the efforts to increase the amount of capital for economic development that is sourced from abroad.

In the production process as the basis of economic activity, Labor is a very important factor because Labor acts as an economic agent. Labor capable of active action, able to influence and manage management of other production factors involved in the production process. Indirectly the number of Laborers working is a description of the conditions of available employment. The greater the available employment, the more workforce will be absorbed. With the absorption of Labor then the total production in an area will increase.

Theoretically, the relationship between independent variable and dependent variable in this research is depicted in the following chart:



III. METHODOLOGY

Structural Equation:

$Y^d = C + I$ ..... (1)

$C = c_0 + c_1 Y + v_1$ ..... (2)

$I = i_0 + i_1 Y - i_2 R + v_2$ ..... (3)

$Y^s = \beta 0 + \beta 1 I + \beta 2 TK + v_3$ ..... (4)

Substitute equation (2) into (1), to obtain:

$C = c_0 + c_1 (Y) + v_1$

$C = c_0 + c_1 (C + I) + v_1$

$C = c_0 + c_1 C + c_1 I + v_1$ ..... (5)

Equations (5) and (3) substitute into equation (1), so that it is obtained:

$Y = C + I$

$Y = c_0 + c_1 C + c_1 I + v_1 + i_0 + i_1 Y - i_1 R + v_2$

$Y - i_1 Y = c_0 + i_0 + c_1 C + c_1 I - i_1 R + v_1 + v_2$

$(1 - i_1) Y = c_0 + i_0 + c_1 C + c_1 I - i_1 R + v_4$ ..... (6)

To obtain a balance between aggregate demand and aggregate supply can be done by changing equation (6) and equation (4) into implicit form that is:

$(1 - i_1) Y - c_0 - i_0 - c_1 C - c_1 I + i_1 R - v_4 = \beta_0 + \beta_1 I + \beta_2 TK + v_3$

$(1 - i_1) Y = c_0 + i_0 + c_1 C + c_1 I - i_1 R + v_4 + \beta_0 + \beta_1 I + \beta_2 TK + v_3$

$(1 - i_1) Y = (c_0 + i_0 + \beta_0) + c_1 C + (c_1 + \beta_1) I + \beta_2 TK - i_1 R + v_5$

The reduced form can be written as follows:

$Y = \pi 0 + \pi 1 C + \pi 2 I + \pi 3 TK - \pi 4 R + \mu$

IV. RESULT

The results of the study will see the positive and negative effects between household consumption, investment, labor and interest rate on the economic growthin North Sumatra. Data processing assisted by using eviews 6.

Based on the data obtained, the data were first analyzed by model testing. The data is processed by using *Eviews 6*. The result is as follows:

TABLE 3. Estimation of Household Consumption Equation

Dependent Variable: LOGCR

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8.848739	2.460383	3.596489	0.0058
LOGY	0.810715	1.331670	8.869092	0.0000
R-squared	0.897332			
AdjustedR-squared	0.885924			
Prob(F-statistic)	0.000010			

From the estimation that has been done got the model of household consumption equation that is: Log (CR) = -8.848739 + 0.810715 log (Y). Estimation results show that income has a positive effect on household consumption in North Sumatra Province with estimated coefficient of 0.810715. Income contribution to consumption is influenced by 89.73% of the remaining 10.27% influenced by other variables that are outside the model.

TABLE 4. Estimation of Investment Equation

Dependent Variable: LOGI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.392042	15.61670	0.217206	0.8335
LOGY	0.494457	4.922742	1.522415	0.0166
LOGR	-1.194593	3.525020	-1.338890	0.0434
R-squared	0.889707			
Adjusted R squared	0.862134			
Prob (F-statistic)	0.000148			

From the estimation that has been done got the equation model of investment that is: Log (I) = 3.39204 + 0.494457log(Y) – 1.194593 log (R). The estimation result shows that income has a positive effect on investment in North Sumatra Province with estimated coefficient of 0.494457 and the interest rate negatively affect investment in Province of North Sumatera with the estimated coefficient of 1.194593. Contribution of interest rate to investment equal to 88,97% and the rest 11,03% influenced by other variable outside model.

TABLE 5. Estimated Equation of Agregat Supply

Dependent Variable: LOGY

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.250349	3.761523	-1.129954	0.2912
LOGI	0.068715	0.024375	2.819126	0.0225
LOGTK	0.316532	0.253040	2.150918	0.0463
R-squared	0.846348			
Adjusted R-squared	0.807935			
Prob(F-statistic)	0.000557			

From the estimation that has been done got model equation of Labor that is: Log (Y) = -4.250349 + 0.068715 log (I) + 0.316532 log (TK). Estimation results show that Labor has a positive effect on investment in North Sumatra Province with an estimated coefficient of 0.068715. Contribution of investment and Labor constant economic growth of 80.79% and the remaining 19.21% influenced by other variables outside the model.

TABLE 6. Estimated Equation of Economic Growth

Dependent Variable: LOGY

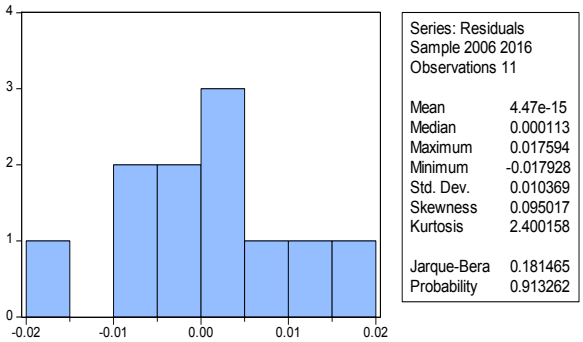
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.700877	6.631526	0.859663	0.4184
LOGCR	0.141739	0.167694	1.858488	0.0009
LOGI	0.080831	0.067693	2.819126	0.0266
LOGTK	0.447653	0.176023	2.543153	0.0385
LOGR	-0.558069	0.191552	-2.913404	0.0226
R-squared	0.961274			
Adjusted R-squared	0.935457			
Prob(F-statistic)	0.000226			

From the estimation that has been done got the equation model of Labor is: Log (Y) = 5.700877 + 1..141739 log(Y) + 0.080831log(I) + 0.447653log(TK) - 0.588069log(R). The estimation result shows that the household consumpton has a positive affect the economic growth in Province of North Sumatera with the estimated coefficient of 1.141739. Investment has a positive effect on economic growth in North Sumatra Province with an estimated coefficient of 0.080831. Labor has a positive effect on economic growth in Province of North Sumatera with an estimated coefficient of 0.447653. The estimation result shows that the interest rate negatively affect the economic growth in Province of North Sumatera with the estimated coefficient of 0.588069

Based on adjusted R-squared value from the equation of economic growth shows the contribution of interest rate, investment and Labor to economic growth together influenced by 96.12% the remaining 3.88% influenced by other variables that are outside the model.

The results of normality test data conducted by Jarque-Bera test analysis (with *Eviews 6*) can be seen in the following chart.

Chart 2. Residual Data Normality Test



Based on Table results of data obtained results that the data of three equations in this study spread normally at significant level> α = 0.05. This shows that the data of economic growth equation, household consumption, investment and labor are all normally distributed.

V. DISCUSSION

The results showed that all independent variables individually or jointly affect the dependent variables, namely household consumption, investment and labor significantly influence the economic growth in North Sumatra. Household consumption decisions are influenced by both long-term and short-term behavior. This is in line with the results of the Xi-xiang and Ling-li (2013) studies that found that there is a stable relationship between household consumption and economic growth in the run, the relative relationship between them presents positive correlation.

The greater the household income a person has, the greater the level of consumption expenditure, and if the level of consumption expenditure increases, it will also have a positive effect on economic growth. Mankiw (2003) who discloses that consumption decisions are essential for short-term analysis because of their role in determining aggregate demand.

Economic growth of North Sumatra Province is also influenced by the development of investment. An increase in capital investment or capital formation will result in an increase in the production of goods and services within the economy. Increased production of goods and services will lead to an increase in economic growth.

The findings of this study are in line with Jhingan (2004) assertion that investment plays a role in creating revenue and is able to expand the production capacity of the economy by increasing stocks of capital. On the other hand, Silvia, Wardi and Aimon (2013) finds that investment has a significant and positive effect on economic growth in Indonesia. Similarly, Nwakobyang Bernard (2016) finds that there is an effect of private sector investment on economic growth in Nigeria.

Economic growth in North Sumatra Province is also significantly influenced by the workforce. According to Todaro (2000) population growth and Labor force growth (AK) is traditionally regarded as one of the positive factors that spur economic growth. The results of this study are in line with Shahid's (2014) study which found that there is a short run and long relationship between the economic growth and Labor force participation.

VI. CONCLUSION

Based on the results of this study, it can be concluded that:

1. Household consumption has a positive and significant effect toeconomic growth in North Sumatra Province. These results indicate that rising household consumption causes economic growth in North Sumatra Province will also increase.
2. Investment has a positive and significant effect toeconomic growth in North Sumatra Province. These results indicate if investment increases the economic growth of North Sumatra Province will also increase.
3. Labor has a positive and significant effect toeconomic growth in Sumatra Province. These results indicate that if Labor increases, then economic growth in North Sumatra Province will also increase.
4. Interest rates have a negative and significant effect to economic growth in North Sumatra Province. These results indicate if interest rates rise then the economic growth of North Sumatra Province will decline.

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