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Analysis of Human Capital Investment on Economic Growth in South Sumatra

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Abstract: Economic growth in South Sumatra is fluctuated caused by many factors. One of the problems is the regional population, in terms of quality and quantity. As an effort to improve the quality of Human Capital therefore it is important to improve the human skills, education, and health which can be called as Human Capital Investments. In this study, Human Capital Investment had been implemented through the labor force working, unemployment and transmigration. The purpose of this study is to analyze the influence factors of Human Capital Investment on economic growth in Central Java province. The data used in this study has the time series interval start from 2000 until 2014. Analysis method used in this study is Regression Model. The variables in this study included the dependent variable (PDRB) and the independent variables consisting of workers, unemployment and transmigration. A result obtained that with the same economic growth is influenced by the Human Capital Investment. Among the three variables in Human Capital Investment, working labor force variables gives significant influence to economic growth (GRDP) at level of 1 percent, while the unemployment variable and transmigration has no significant effect on economic growth at the significance level of 10 percent. Quality of labor affects the real positive output per capita in positive growth, significant and long-term human capital has a positive and significant impact on output and technical progress.

Keywords: Human Capital, Employeed, Unemployeed Transmigrant, GRDP

I. INTRODUCTION

There is a many of literature, that has revealed that one of the most important factors of economic growth is human capital (Riley, 2012 Lucas, 1988, Mankiw *et al.*, 1992, De la Fuente and Doménech, 2000, 2006) with regard to both the effect of level (so called level effect) by its decisive influence on production through labor productivity (Romer, 1990; Mankiw, Romer and Weil, 1992) and the rate effect by contributing to increased competitive advantage through innovation and diffusion technology (Pistorius, 2004 Siggel, 2000, 2001, Horwitz, 2005).

Economic growth is a long-term economic problem and it is always experienced by a nation. In terms of economics, economic development raises two important effects, namely prosperity or standards of living increases and the creation of new employment opportunities, because of the increasing number of population. For countries - developed countries, they could rely on the production of goods and services, but did not rule out also their lending they are doing as well as their investment. But for the country - a country that is growing will of course be difficult or can be not easy if it should rely on the factors of production of goods and services, and therefore factors - other factors is crucial, as well as loans and investments. Sukirno (2004) in macro analysis, the rate of economic growth achieved by a country is measured from the development of real national income reached a country / region.

Indonesia is inseparable from the global and regional economic development and progress in improving the investment climate, infrastructure, productivity and competitiveness (the supply side) in the country. The world economy has been able to grow above 4% in the last five years, higher than the historical average. Robust economic growth, coupled with world trade volume also grew higher than long-term trends.

On the domestic front, although the macro-economic stability can be maintained, however structural problems, climate, investment, infrastructure, productivity and competitiveness (the supply side) still overshadow the achievement of faster growth and quality. This is because a post-crisis economy of the structure is sustained by consumption and exports, while investment has not shown a significant role. The investment will affect the economic growth of a country. A country will develop dynamically if the investment made much greater than the value of depreciation factors of production. Countries that have a smaller investment than depreciation factor of production will tend to experience economic stagnation. One investment that supports economic growth of a country is an investment in human capital.

De la Fuente and Doménech (2000, 2006) studied the relationship between production and human capital, both in level and in first-order differences, shows a positive and significant statistical correlation (demonstrated by the Temple, 1999).

South Sumatra is one Province in Republic ofn Indonesia. It has a capital city named Palembang. Geographically, it is situated between 1 degree to 4 degrees south latitude and 102 degrees to 106 degrees East Longitude with an area of 87.017.41 km² entirely consists of 13 counties and four cities that have a background in different regions. These differences include the geographic characteristics, social, cultural, economic, and natural resources. Besides South Sumatra is a province that occupies the fifth position as the richest provinces in Indonesia, but was ranked as the top ten poorest provinces (Census 2013), which is accompanied by the development of economic activity and mobility of both the formal or informal sectors.

Capital has an important role in economic growth, including physical capital (physical capital), human capital (human capital) and natural capital (natural capital) (Dixon, 1988). Formation of Human Capital is defined as a process of increasing knowledge, skills and abilities of all the people of a country (Harbinson and Meyers, 1964). Human is an important factor in development. In addition to natural resources, capital and technology, economic growth was also influenced by the human factor. The higher the education or knowledge of human beings, the human ability to use technology and the factors - factors of production will be more efficient. This is particularly important given the unlimited human needs while resources are limited. Based on this background, the study aims to analyze the influence factors of Human Capital

Investment on economic growth in South Sumatra. Summary population of South Sumatra in the last 5 years is shown in Table 1 and the number of Working Population, Unemployed Population, Transmigrants and GRDP in South Sumatera 2000-2014 shown in table 2.

Table 1
Population of South Sumatera Province By Years

	2010	*2011*	*2012*	*2013*	*2014*
Population of South Sumatera	7.481.600	7.598.529	7.714.326	7.828.740	7.941.495

Source: The Central Statistics Agency of South Sumatra 2015

Table 2
Number of Working Population, Unemployed Population, Transmigrants and GRDP in South Sumatera Province 2000-2014

Years	*Working Population*	*Unemployed population*	*Transmigrant*	*GRDP*
2000	3226724	183958	2500	4868099
2001	2698211	101519	2300	6276077
2002	2761197	316047	2000	7251985
2003	2842963	303549	1290	8104894
2004	3091740	282255	3304	9703582
2005	3021021	297847	1493	12068194
2006	3021938	310851	2718	13902937
2007	3057518	314814	2495	15654739
2008	3191355	280657	4101	18725472
2009	3196894	263471	3215	18736159
2010	3421193	243851	1332	194012974
2011	3553104	217569	2436	226662934
2012	3532932	213441	2722	253265125
2013	3464620	182376	1558	281996531
2014	3692806	192868	550	308406840

Source: Central Statistics Agency of South Sumatra In 2003-2014

II. LITERATURE REVIEW

According to classical economics of Adam Smith, economic growth is affected by two aspects, namely the growth of total output and population growth (Arsyad, 2004). According to Kuznets in Todaro (2004) economic growth is increasing in long-term capacity of the countries concerned to provide a variety of economic goods to its citizens. Economic growth can be reflected in the increment of production of industrial goods, infrastructure development and breadth of the production of regional economic activity. The ability of an area to grow and produce goods and services affect the use of factors of production in quantity and quality.

With high economic growth is expected to have a multiplier effect, known as tricle down effect or dripping down the greater. One important indicator to determine the condition of the economy in a region or area in a given period is shown by the data of Gross Regional Domestic Product (GRDP). The GRDP shows several derived indicators that reflect more detailed economic developments, among others, economic structure, income per capita, and the rate of economic growth (Machmud, 2002: 25). The high value of per capita income reflects the prosperity of a region, the better, so that Local Generated Revenue will receive a region will also increase.

The key elements of the production system of a country that are natural resources, human resources, and capital goods stocks. Natural resources or factors of production land is the most fundamental container of a society, in which the natural resources that are available has a maximum limit to the economic growth. While the human resources or the number of the population has a passive role in the process of growth of output, means the population will adapt to the labor requirements of a society.

The theory of economic growth Neo-Classical explain that economic growth depends on the supply growth of production factors (population, labor, and capital accumulation) and the rate of technological progress. The views of this theory is based on the assumption underlying the classical analysis, that the economy will continue to experience levels of craftsmanship (Full Employment) and the capacity of capital equipment will be used all the time (Suryana, 2007). In other words, the degree to which the economy will evolve is depend on population growth, capital accumulation, and technological advances. Solow- Swan explained that the Capital Output Ratio (COR) is subject to change and dynamic. To produce a certain amount of output should be use a number of different capital as needed. If the capital is used more, therefore a little labor required, and if capital is less spend then the labor needed more.

This flexibility had led to an economy that is infinite freedom in determining the combination of capital and labor in producing a specific output. Investment in human capital with regard to human capital formation is the process of obtaining and increasing the number of people who have the skills, education and experience, which is crucial to economic and political development of a country (Jhingan, 1975). In broad terms means that the investment in human capital expenditures in health care, education, and social in general and in the narrow sense is spending in education and training. Human capital or labor covers residents who have or are working, that looking for work, and doing other activities such as going to school and taking care of the household. Practically speaking workforce and labor not be distinguished by the age limit. Indonesia has labor force population aged 15-64 years. The number of people who work depends on the size of the request or demand in the community. The demand is influenced by economic activity and the level of wages. In Neo-Classical economics assumed that the provision or supply of labor will increase if the level of wage increases. Migration is one of the basic factors besides birth and death factors affecting population growth.

Todaro (1985: 71) formulated that growing migration is due to the difference between the expected income to the income earned in rural and urban areas. Besides migration, there is also other factor related to human capital, named unemployment. Unemployment is people who entered the age of labor force that looking for but does not get a job because of the unavailability of jobsthe limited job vacancy. Tarmizi Abbas (2010) in his research entitled "Human Capital and Economic Growth", explaining that the quality of the labor force affect the real output growth per capita is positive and significant and long-term human capital has a positive and significant impact on output and technical progress. Daryono Soebagyo et al, in his research entitled "Analysis of Human Capital needs in DATI 1 of South Sumatra", explaining that DATI 1 of South Sumatra, has less Human Capital, which is indicated a large difference between general Human Capital and working Human Capital.

III. RESEARCH METHODOLOGY

Region that made the object of this study is the province of South Sumatra. The data used in this research is quantitative data while the source of the data is secondary data that has the time series period 2003-2014. The data used includes Gross Regional Domestic Product (GRDP) of South Sumatra, the labor force working, transmigration and unemployment. The variables used in this study consisted of dependent and independent variables. The dependent variable in this economic growth research that was the GRDP of South Sumatra the independent variable was the implementation of the Human Capital Investment. The analysis tool used in this study was multiple regressions (multiple regressions) with a single equation (single equation regression models). The first step of regression analysis is to establish an econometric model of one or more hypothetical relationship. Based on an econometric model of data collection all the variables included in the model to be estimated by using multiple linear regression analysis. The regression results must pass the classic test to confirm the proof of the classical assumption that a decent used as the basis for decision-making and have an adequate power-tellers. Classic assumption test includes multicolinierity test, heteroscedasticity test, autocorrelation test, normality test and test specification models. Upon fulfillment of the classic assumption test, then researcher test the goodness models include T test and F test.

IV. RESULT

By using SPSS Version 20 there are no issues in the model assumptions of classical test and regression estimation results were obtained as follows:

Table 3
Model Summary

Model	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*
1	.893[a]	.797	.741	.35236

a. Predictors : (Constant), LOG (X3), LOG (X2), LOG (X1)

Table 4
Anova

Model		*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
1.	Regression	5.353	3	1.784	14.370	.00[a]
	Residual	1.366	11	.124		
	Total	6.718	14			

Table 5
Coefficient

Model		*B*	*Std. Error*	*Beta*	*t*	*Sig.*
1	(Constant)	–77.917	16.610		–4.691	.001
	LOG (X1)	13.727	2.382	.815	5.762	.000
	LOG (X2)	–3.62	.712	–0.70	–.508	.622
	LOG (X3)	–.574	.454	–.180	–1.265	.232

In the results obtained from the equation linear as follows:

$$\text{LOG (Y)} = - 77.917 + 133.727 \text{ LOG (X1)} -0.362 \text{ LOG (X2)} \ 0.574 \text{ LOG (X3)}$$

Human Capital Investment, which is implemented through the labor force working, unemployment and transmigration were influence the economic growth in South Sumatra with regression coefficient 0797, or 79.7%. From the results above, working labor gave a significant effect on economic growth (GRDP) with a regression coefficient of 133.727. It can be concluded that every 1 percent increase in the labor force working variables result in increasing the GRDP amounted to 133.727% variable. For the unemployment and transmigration variable gave no effect on economic growth at a significance level of up to 10%. In accordance with the classical economic theory of Adam Smith who explained that economic growth is influenced by the growth of total output and the population growth. Population is an important factor in the economy as the supply of labor force. The more labor force that works will increase the production levels and lead to economic growth. Quality of labor affects a positive output growth per capita and significant and long-term human capital has a positive and significant impact on output and technical progress.

V. CONCLUSION

Human Capital Investment was implemented through the working labor force, transmigration and unemployment. Those factors have a strong effect to the economic growth in South Sumatra with regression coefficient 0797, or 79.7 percent. But only working labor force that gave a significant effect on the degree of significance of 10% to the coefesien 133.727, which means that every 1% changes in the variables of the working labor force leads to economic growth by 133.727 percent, while the unemployment and transimgration variable has no effect significant. Government of South Sumatra expected to increase the availability of jobs to absorb working labor force, because it gives positive influence to the economic growth.

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