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NEOCLASSICAL GROWTH MODEL APPLICATION TO THE ANALYSIS OF HUMAN CAPITAL FOR REGIONAL DEVELOPMENT

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Abstract

Human resource development has a strategic meaning for the development progress of a nation. Countries that succeed in its national development factually give great attention to human resource development. Some studies suggest the importance of externalities and human resources factors to spur economic growth. The indications of human resources have a role in smoothing the process of technology transfer and creation, the idea that high investment in human capital is a prerequisite that must be done in advance, in the process of economic growth, to support investment in physical capital. This paper aims to discuss the neoclassical growth model providing a basis for understanding the differences among the interregional growth related factors that affected of different growth in economic development.

Keywords : Human Resource Development, Economic Growth, Neoclassical Growth Model

JEL Classifications: R11, R58, O15, O43

1. Introduction

As an archipelago of 17,508 islands with a coastline of 81,000 km, Indonesia actually can not deny the fact that this country has tremendous potential for marine. Moreover, the data indicate that the area around the waters of Indonesia reached 5.8 million km^2, or about 75% of the entire territory of Indonesia. All waters of the vast archipelago consist of marine waters of the archipelago area of 2.8 million km^2, sea waters 0.3 million km^2 area, and the EEZ of 2.7 million km^2. In addition, the strategic position of Indonesia is located in the tropics—between the Pacific and Indian Ocean, providing uniqueness in the potential of natural resources in the ocean. All of them are great potential along with maritime culture potential tribes which live on the coast. Unfortunately, the entire potential marine in Indonesia has yet to make a significant contribution to the development of economic life. The choice of development policies pursued by the government so far has not seen the maritime sector as a strategic contributor to Indonesian economy. As a result, resources and development policies pursued so far were not devoted to the maritime sector, thus, there is no incentive for industrial and economic development in the marine sector. With all the potentials, efforts, and existing constraints, presently Indonesian

fishing industry creates income contribution of US $ 1.76 billion/year, or only 2% of the total gross domestic product.

The policy options that do not favor for the development of the maritime sector make this sector run so slow due to solely relying on the initiative of the community (Muda *et al*. 2014*a*; Suriadi *et al*. 2015; Sadalia *et al*. 2017; Sirojuzilam *et al*. 2018), in which small-scale artisanal fisheries industries develop in relatively few numbers (Muda, 2018a). In addition, the choices of development strategies result in the development of human resources in the maritime field. Furthermore, the development of human resources in the field of fisheries and marine use is still not optimal. As the impact in midst of scarcity of qualified human resources fishery, there is a new trend in the form of shift work areas fishery school graduates to other sectors outside of fisheries. Reflecting on the progress of other nations, human resource development has strategic significance for the progress of a nation. Countries that succeed in its development give great attention to human resource development. World Bank (1991) states that in ten countries with the highest real growth rate of GNP per capita between 1960 and 1977, the literacy rate in 1960 averaged 16 percent higher than other countries that have high levels of the same income.

In the late seventies, economic growth had been widely studied by numerous economists, but there is no consensus about the causes of this growth. Some follow the flow Neoclassical economists, with emphasis on the provision of labor, capital stock, and technological change in the process of economic growth. This approach is based on the assumption that the market can allocate resources efficiently and the differences in regional growth as a result of the allocation of resources that meet the criteria of Pareto optimal. Other economists follow Keynesian flow and isolate the factor demand. This Keynesian flow approach put a central issue in regional exports as a driver of economic growth. The most interesting part of the regional growth theory is the principle cause of persistent (persistence) as a growth factor for explaining differences in regional growth (Armstrong and Taylor, 1993).

Many economists are interested in returning to study in the field of economic growth. It is caused by the presence of a theory that predicts the importance of incorporating the externalities in the form factor of technological innovation and human resources (HR) as a factor of economic growth (Maksum *et al*. 2014; Muda *et al*. 2014b; Marhayanie *et al*. 2018; Nasution *et al*. 2018). Based on this theory, economists had been carried out studies in various countries and show that the baseline characteristics of the economic system of a country can lead to differences in per capita income growth. Several empirical studies further explain the factors that cause the differences for other good growth for regional and city levels (Bradley and Gans, 1998; Dalimunthe and Fadli, 2015; Lubis *et al*. 2018; Agustina *et al*. 2018; Erlina *et al*. 2018c).
Regional growth is an interesting topic of study since it is the smallest unit that already has the form of an open economy and there is often a non-economic factors that contribute to economic growth, for example: the diversity of ethnic, cultural, financial systems and political systems (Muda, 2017a). Based on the premise that the process of the formation of human capital is a determinant factor of the development process, then the product of education can not be separated from its function as a supporter of the development process and economic growth expected by a nation. Economic growth is the growth rate formed from a variety of economic sectors that do not directly describe the level of economic growth that occurred (Muda, 2018b; Muda and Ridha, 2018; Sihombing *et al*. 2018). For the area, this indicator is important to know the success of development in the future. Growth is the primary measure of success of development, and economic growth result can also be enjoyed by the public until the bottom layer, either by itself or with government intervention. Growth should be run in parallel and planned, it means creating equal opportunities and sharing the results with a more equitable development.

2. Literature Review

2.1. Neoclassical Growth Theory

According to the theory of Neo Classical Traditional growth, growth in output (production) is always derived from one or more of the three (3) factors that increase in the quality and quantity

of labor, additional capital (savings and investments) and the improvement of technology (Todaro and Smith, 2000). Aggregate production function is a key to the neoclassical growth model. In an economy with no technological growth, income can be determined from the amount of capital and labor. Based on the variables in the production function, there are two models of growth; one is a model of growth without development of technology and growth models with technological developments.

2.2. Model Growth Without Development Technology

In this model, the general production function can be written as follows:

$$Yt = f\ (Kt, Lt) \tag{1}$$

where: Y = real income; K = capital stock; L = labor; t = subscript for time.

Specific form of this relationship is known as the Cobb-Douglas production function. By taking α and β respectively as the income elasticity of capital and labor, the production function can be written as:

$$Y_t = AK_t^{\alpha} L_t^{\beta} \tag{2}$$

Revenues will increase when any labor gets more capital equipment and the process is called 'capital deepening' (Muda *et al*. 2014c). But it can not be continuously increased in the absence of technology for capital growth (as well as labor) will eventually increase with the growth of diminishing returns (diminishing return).

2.3. Growth Models with Technology Development

Neoclassical Model with no technological developments is less realistic to make an analysis, to make more realistic then the added factor of the technological developments that may affect revenue growth. The most common way is to put in the development of technology as an element in the production function. Capital and labor are assumed to be able to take advantage of the development of technology. The new production function becomes:

$$\mathrm{Y_t} = f\,(A_t\,, K_t\,,\, L_t) \tag{3}$$

Variable A is the development of technology. Technological development can be said to be inherent in the model because it does not depend on the inputs of capital and labor. Assuming the development of improved technology refined over time (fixed growth rate), the Cobb-Douglas production function becomes:

$$Y_t = Ae^{gt}\, K_t^{\alpha} L_t^{\beta} \tag{4}$$

The variable *g* is the technological developments growth per time period *t*. This representation is often simplified by ignoring the possibility of the development of technology through investment. In addition, workers may also become more skilled in order to increase the efficiency and in this case, it is considered to be not homogeneous. Other assumptions used in this model is the economic system based on perfect competition market with flexible pricing factors and resources at full employment. By taking the natural logarithm (*ln*) Equation 4 and then differential to time, thus, the importance of the growth in revenue and is expressed as follows:

$$Y_t = g + \alpha kt + \beta l\mathrm{t} \tag{5}$$

where: *y* = the growth of income (e.g. within a period of one year); *k* = growth of capital stock; and *l* = labor force growth.

Letter *y, k*, are here show the growth rate of *Y, K* and *L*. Beside, the constants α and β declare the income elasticity of capital and labor as mentioned earlier. Based on the

neoclassical growth model, technological developments provide sufficient basis to indicate the presence of factors that play a role in explaining differences in regional growth. By changing Equation 5 into regional growth model, it will be seen that the difference may be due to:

- Differences in technological development between regions.
- The growth of the capital stock may differ among regions.
- Employment growth may also differ between regions.

If we omit the subscript of time (*t*), the equation for the growth of each region can be expressed as:

$$Y_t = g_t + \alpha kt + \beta lt \quad (5)$$

The variable *r* denotes a particular region. So *g* can be read as the level of technological development in the region r that cost can be different for each region (at least for the short term), mainly caused by differences in employment growth and further by differences in capital stock growth (Khaldun and Muda, 2014; Mahdaleta *et al*. 2016; Muda, 2017b). The influence in the development of technology, the growth of capital stock, and labor in determining regional differences in growth have been investigated in 9 regions in the United States (Armstrong and Taylor, 1993). The revenue growth in the manufacturing sector with three main factors, namely: the growth of labor, capital stock growth, and a residual component that declared the development of technology. It should be noted that the residual component should not be construed as merely technological development, because such interpretation would assume that there is no inherent technological developments in capital and labor throughout the study period. One of the important findings of the Armstrong and Taylor (1993) was that in the sun path area (Sunbelt), a revenue growth rate was faster than in the lane snow (snowbelt) and there was no difference between the growth of productivity in the region.

2.4. Regional Growth Factor

Current growth theory has undergone many developments. Several growth factors other than labor and capital have been tried to be included in the study by extending the notion of technological developments. Besides, some assumptions changed to make it more realistic. In the current growth theory, both capital and labor in a country considered to be free to move from one area to another, so that growth in an area not only lies within the region due to the level of savings and labor endowment. Other causes of significant growth differences are that there are two kinds of factors: the growth of marginal product and marginal dis-utility work. Two factors are often called factor productivity and quality of life factors (Sihombing *et al*. 2015). Productivity and quality of life can be different from one region to another because of differences in the baseline characteristics of the region. These characteristics can be grouped into five kinds: The increase in the economic activity in a region can be associated as a decrease in productivity and quality of life. Population growth, for example, can add complexity that would eventually raise the rent (land or home) and travel costs for labor. Furthermore, very large urban areas will face problems such as increasing pollution and crime so that the area can be considered to have a low quality of life.

Currently economists' view about the agglomeration has undergone many changes. An economic agglomeration is externalities in economic activity geographically. Greater economic activity in a particular location will make the industry or labor move to that location because the activity at that location can improve the productivity and quality of life. This view is contrary to the view based on the presence of clutter effect. Agglomeration is generally grouped into two, namely the localization and urbanization. Grouping various companies in the same industry in one location is called agglomeration localization. By being in one location, it is expected that productivity can be increased through the availability of specialized inputs, then labor quality of life is good, and where the transaction or integrated bargaining. This agglomeration would be interesting both for users and suppliers of intermediate inputs and are often associated with footloose industries. Agglomeration is recognized by a wide variety of industrial places in the

same location. It will cause the concentration of labor who has numerous qualified skills and thus, it will be easy for the transfer of knowledge (knowledge spillover). Industry will exploit economies of scale in the procurement of goods and services.

There are several studies that add to this grouping with specialization agglomeration (Bradley and Gans, 1998). This specialization related to the sectorial composition of the economy. In Los Angeles, for example, agglomeration has specialization in the field of defense, electronics, and multimedia, while agglomeration of Yogyakarta has specialized in the field of tourism and education. The positive influence of the quality of human resources for economic growth had been found in various studies (Muda *et al.* 2014c; Rasdianto and Muda, 2014). Investment in human resource development can be seen by the presence of knowledge spillovers that may lead to the growth of productivity. Qualified human resources can be reduction in crime rates and improved quality of life. The influence of government policy on economic growth is still debatable. At the regional level it can be positively or negatively correlated (Muda *et al*. 2014a). Several studies have agreed that there is potential for correlated if the policy can be more efficient in the provision of public goods. Through the efficiency of the provision of public goods, it will affect the growth of productivity and quality of life. Agglomeration theory has always been associated with the history of the growth of a region. The growth of a region is strongly influenced by the growth in the past. In an empirical studies, to analyze the effect that this persistence must use time series data for a long period of time. Capital market investment cannot be separated from the influence of global exchanges. However, how to maintain stock growth continues to create a stable and conducive investment climate and economy. The stock profits are not just from capital inflow, but based on the company's real performance and economic fundamentals that continue to improve (Muda, 2017c).

2.5. Knowledge exchange (Knowledge Spillover)

Some economists have conducted studies of agglomeration that can facilitate the flow of knowledge between companies and ultimately can lead to diffusion of innovation. As well as industry, the region is also growing on the interactions between people and they will learn from each other. The exchange of knowledge is not always to be paid by the recipient that are external, and as noted previously called knowledge spillover. The divided regional growth theory are divided into three groups (Sjoholm, 1999), namely:

- The theory is based on the study of (hereinafter referred to as the study MAR).
- The theory is based on studies and
- The theory is based on the study

All the above theories argue that knowledge spillover is an important factor in the growth. In general, knowledge spillovers can occur through inter-company competition, diversification of products, and also specializes in companies, as well as through investment from abroad which typically uses a better technology. The influence of the above factors on the growth of these theories is briefly shown in Table 1.

Table 1. Variables Knowledge Spillover Effect on Productivity Growth

Variable	Measurement	Effect on Productivity
Specialization	The share of gross revenue regional specialties	MAR – positive Porter –
Diversification	Diversification regional	Jacobs -
Competition	Competition regional industry	MAR – negative ;
DFI-sector	Share of foreign ownership in the region	Positive
DFI-other	Foreign ownership share in other regions	Positive

2.6. Diversification and Specialization

Companies often diversify the product to maintain its dominance in the market. This diversification can influence the occurrence of knowledge spillover. Knowledge held by the

company can be used by division of the newly formed so as to shorten the learning curve and can improve productivity, while specialization may have positive and negative effects for the flow of knowledge.

2.6.1. Competition

Knowledge spillover theoretically depends on the characteristics of the region. For example, the existence of competition between companies can be expected to have any impact on the transfer of knowledge and growth. But the effect of this competition can be positive or negative value. If many competitors do innovation, it will be as positive influence. This competition also encourages companies to use more efficient production process by using new technology.

2.6.2. Direct Foreign Investment (DFI)

Knowledge can also be spread through foreign companies to invest in a region, and are often referred to foreign investment directly or DFI. DFI is an important tool to be able to transfer the knowledge from multi-national companies as investors to local firms that act as a partner in the industry. The presence of DFI in the region is due to the policies of the government to bring in foreign capital.

2.7. Empirical Study

2.7.1. Model by Mankiw *et al*. (1992)

To determine the effect of education on economic growth between regions in Indonesia, we use Human Capital Model (Human Capital Model) that is formulated as follows (Romer, 1996):

$$Y(t) = K(t)^{\alpha}\mathrm{E(t)}^{\beta}[A(t)L(t)]^{1-\alpha-\beta} \quad (7)$$

If the above equation is divided by the variable equation, AL will be obtained in the form of effective labor follows (Mankiw *et al*. 1992):

$$y(t) = k(t)^{\alpha}e(t)^{\beta} \quad (8)$$

where:

$$y(t) = \frac{Y}{AL}; \quad k(t) = \frac{K}{AL}; \quad e(t) = \frac{E}{AL}$$

By following the Source of Growth Model, equation (8) can be restated in the form of the production function (Effendi and Sumantri, 2003):

$$y = f(k, e, t) \quad (9)$$

where: y = GDP per worker; k = capital per worker; E = Education per worker and t = time showing changes in technology in conjunction with the production function that has changed with time. Further to the equation (9) can be differentiated in total to t as follows:

$$\frac{dy}{dt} = \left(\frac{\partial f}{\partial k}.\frac{dk}{dt}\right) + \left(\frac{\partial f}{\partial e}.\frac{de}{dt}\right) + \left(\frac{\partial f}{\partial t}.\frac{dt}{dt}\right) \quad (10)$$

When equation (10) is manipulated by means divided by y and pasted k and e, it will obtain the following equation:

$$\frac{1}{y}.\frac{dy}{dt} = \frac{1}{y}\left(\frac{\partial f}{\partial k}.\frac{dk}{dt}.k.\frac{1}{k} + \frac{\partial f}{\partial e}.\frac{de}{dt}.e.\frac{1}{e} + \frac{\partial f}{\partial t}\right) \quad (11)$$

Equation (11) reformulated into:

$$\frac{dy/dt}{y} = \left(\frac{(\partial f/\partial k)k}{y}.\frac{(dk/dt)}{k}\right) + \left(\frac{(\partial f/\partial e)e}{y}.\frac{(de/dt)}{e}\right) + \left(\frac{(\partial f/\partial t)}{y}\right) \quad (12)$$

where:

$\frac{(dy/dt)}{y}$ = rate of growth of GDP per worker
$\frac{(dk/dt)}{k}$ = growth rate of capital per worker
$\frac{(de/dt)}{e}$ = rate of growth of education per worker
$\frac{(\partial f/\partial k)k}{y}$ = elasticity of GDP to capital (per worker)
$\frac{(\partial f/\partial e)e}{y}$ = elasticity of GDP to education (per worker)
$\frac{(\partial f/\partial t)}{y}$ = change paddling output due to changes in capital and education.

Based on the equation (12), the relationship among capital, education and GDP can be seen. Thus, we can understand the relationship between economic growth and the variables that influence it. The Model is as follow:

$$gy = \alpha_0 + \alpha_1 gk + \alpha_2 ge \quad (13)$$

where:

$gy = \frac{(dy/dt)}{y}$ = rate of growth of GDP per worker
$\alpha_0 = \frac{(\partial f/\partial t)}{y}$ = addition output is not due to the additional capital and education
$\alpha_1 = \frac{(\partial f/\partial k)k}{y}$ = sticity of PDRB to capital (per worker)
$gk = \frac{(dk/dt)}{k}$ = growth rate of capital per worker
$\alpha_2 = \frac{(\partial f/\partial e)e}{y}$ = elasticity of PDRB to education (per worker)
$ge = \frac{(de/dt)}{e}$ = rate of growth of education per worker

Furthermore, by including dummy variables crisis (dcrises) before the crisis and after the crisis; and *Error Term (ε).* The final model can be formulated as follows:

$$gy = \alpha_0 + \alpha_1 gk + \alpha_2 ge + \alpha_3 econcrisis + \varepsilon \quad (14)$$

where:
gy = Regional economic growth (GDP)
gk = Growth factors of physical capital
ge = growth factor of human capital (Human Capital Growth)
econcrisis = Variable Economic Crisis
ε = Error term

2.7.2. Model by Sjoholm (1999)

Empirical studies by Sjoholm (1999) observed about productivity growth in Indonesia, both nationally and regionally. Productivity growth theory used in this study is based on empirical Sjoholm MAR study. The model used is the neoclassical model of the production function as in Equation (5). In his study, Sjoholm (1999) used terminology the growth of operational can use Equation (6) and *g* is considered as knowledge spillover. Because the data for Indonesia's capital stock is not available, the total investment *I* is used to replace *dK*, so Equation (6) (by removing the subscript *r*) becomes:

$$y = g + \alpha(\mathrm{I/Y}) + \beta l \quad (15)$$

The lowercase states of growth, while the value of investments and *Y* represents the value of income. While *α* reinterpreted as the marginal physical product of capital. To determine the effect of knowledge spillover variable g broken down into a function that has 5 factors as below.

$$\mathrm{g} = \mathrm{f}(\mathrm{Specialization}, \mathrm{Diversification}, \mathrm{Competition}, \mathrm{DFI\_\ other\ Sector\ DFI}) \quad (16)$$

When Equation (16) is inserted into Equation (15), the equations used for regression is:

$$\mathrm{y} = \gamma 1 + \gamma 2 \mathrm{S\ pesification} + \gamma 3\ \mathrm{Diversification} + \gamma\ 4\ \mathrm{Competecy} + \gamma 5\ \mathrm{DFI\_\ Sector} + \gamma 6 \mathrm{DFI\_others} + \alpha(\mathrm{I/Y}) + \beta \mathrm{l} + \varepsilon \quad (17)$$

ε is the regression error factor. Revenue growth is calculated based on the value added in 1980 and 1991.

3. Methods

This type of research is quantitative. Quantitative research is a method known as giving an image of an object through certain analytical techniques (Erlina *et al*. 2018a; Tambunan *et al*. 2018; Yahya *et al*. 2018 and Muda *et al*. 2019). The type of data used is secondary data. Secondary data is data obtained or collected by researchers from various existing sources (researchers as second hand). Secondary data can be obtained from various sources such as the Central Bureau of Statistics (BPS, 2008). Secondary data is data that is already available so that we just have to find and collect; while the primary data is data that we can only obtain from the original or first source. Data collection is one of the important stages in research activities and is carried out after the researcher has completed the research design according to the problem to be studied (Dilham *et al*. 2018; Erlina *et al*. 2018b; Kesuma *et al*. 2018; Sofiyah *et al*. 2018). In theory, the data retrieval process plays an important role in determining the validity of the results of the study. The data used in this empirical study were data from the Industrial Statistics Bureau of Statistics (BPS, 2008). Industries surveyed by BPS (2001) include companies that employ more than 20 workers. To consider the regional effect, the data were grouped into three different levels, namely: aggregate national, provincial, and district. The data sample is taken for 1980 and 1991. The data consists in 1980 and 8,086 corporate data for 1991 consists of 16,382 corporate data according to the ISIC classification.

4. Result and Discussion

4.1. Result

By this year, the samples could be measured. Each data for the national aggregate, provincial and district levels can be determined in the grouped average (means) and standard deviation. Based on Table 2, 3 and 4 shows the national aggregate, the provincial level and more districts.

Table 2. Descriptive Statistics

Variable	Average	Standard Deviation	Minimum	Maximum
y	63.0	131.3	-700.2	1,103.0
I	23.03	71.44	-328.1	521.5
I/Y	9.8	63.8	0	1,636.6
Specialization	2.1	3.08	0	24.3
Competition	8.9	11.2	1.2	83.0
DFI-sector	12.6	16.8	0	78.8

Table 3. Average and Province Standard Deviation (%)

Variable	Average	Standard Deviation	Minimum	Maximum
Specialization	273.3	1,239.9	0	25,983.3
Diversification	58.9	15.5	12.2	100.0
Competition	413.0	562.0	11.5	8,170.0
DFI-sector	65.0	129.2	0	1,116.7
DFI-other	105.2	117.7	0	899.3

Table 4. Average and District Standard Deviation (%)

Variable	Average	Standard Deviation	Minimum	Maximum
Specialization	4,757.7	20,334.2	0	257,402.8
Diversification	63.3	21.0	0	100.0
Competition	1,013.2	1,579.3	0	16,355.8
DFI-sector	67.4	324.9	0	8,302.8
DFI-other	66.9	97.4	0	718.5

Table 5. Regional Characteristic and Productivity Growth

	National Aggregate	Province Level	District Level
Constant	38.387	43.68	70.14
	(13.42)***	(5.50)***	(10.83)***
Worker growth	1.092	1.091	1.072
	(30.07)***	(29.81)***	(29.28)***
Investment	0.113	0.116	0.positive
	(3.03)***	(3.12)***	(3.31)***
Specialization	-1.371	-0.002	-0.0002
	(2.09)**	-1.5	(2.50)**
Diversification	...	-0.119	-0.486
		-0.89	(5.27)***
Competition	0.133	0.002	-0.001
	-0.74	-0.53	-1.22
Adjusted R^2	0.36	0.36	0.367
Total	2892	2892	2892

Note: *t* statistics in parentheses. *, ** and *** represent 10%, 5% and 1% significance level respectively.

Indonesia in this study was composed of 27 provinces with 298 districts; it has very different broad areas. Based on the Table 5 above shows the variable and selected provincial disparities that have the largest industrial sectors gross revenues, the lowest as well.

4.2. Discussion

Empirically, the condition of human resources in developed countries is different from the one in developing countries both in terms of quality and quantity. Developing countries are faced with a reality that the productivity of their workforce is low. This is because the quality of human resources is still low. In the meantime, in developed countries, education can be a human capital investment. As a result, the quality of HR is high so that the productivity of the workforce is also high. Development requires quality human resources. This HR can act as a factor of labor production that can master technology so that it can increase the productivity of the economy.

To achieve high-quality human resources, human capital is needed. The formation of human capital is a means to obtain a number of people who have strong character that can be used as important capital in development. This character can be in the form of skill level and level of education of the community (Tripriyono *et al*. 2018). The neoclassical growth theory assumes that two countries with the same technology level will have the same steady state level of per capita income growth. This causes countries with a lower capital / labor ratio to have a higher level of per capita income growth compared to countries with a higher ratio of labor capital. Conditional convergence is a situation where a country that has a higher growth rate has a lower level of initial per capita income relative to the long term or steady state position. Prediction from this conditional convergence has been widely used as an empirical hypothesis with mixed results. Therefore, developing countries that have little capital, but the same savings rate and technological level as developed countries, in a certain period of time will be able to pursue the level of income of developed countries. Conceptually, a country's economic growth shows a development of economic activity from one period to the next. The economic activity in question will produce output (income), so that economic growth basically shows the development of output from the period to the next period. Economic growth is a process of increasing output per capita or revenue in the long run produced by the economy of a region (Muda, 2010).

Based on this understanding, there are three aspects that need to be considered in economic growth, namely the process of growth, output per capita and a long period of time in economic growth. Economic growth is a process that takes place dynamically and not an economic picture at a time. The second aspect is per capita output which shows total output compared to population. While the third aspect shows that an economic growth can occur if the increase in per capita output occurs in a long period of time. To achieve the level of economic growth as expected, there are three things that need to be considered, namely: the presence of capital accumulation, population growth; specifically the growth of the workforce and the existence of technological advances.

5. Conclusion

Neoclassical growth model provides a basis for understanding the differences in growth among the regions related factors that influence the differences in economic growth in the region, namely: the growth of labor, capital stock growth, the growth of human capital and technological development. With 27 provinces with 298 districts in Indonesia, it has very different broad areas.

The variable and selected provincial disparities that have the largest industrial sectors gross revenues, the lowest as well based on some research using the neoclassical model, the quality factor of human resources (human capital) has significant positive role in economic growth. The indications of human resources have a role in smoothing the process of technology transfer and creation, the idea that high investment in human capital is a prerequisite that must be done in advance, in the process of economic growth, to support investment in physical capital.

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