Jurnal Ekonomi dan Studi Pembangunan, 10(2), 2018
ISSN 2086-1575 E-ISSN 2502-7115

Secondary School Enrollment Impact on the Economic as An Essential Input of Civilization

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Received: March 25, 2018; Accepted: July 14, 2018; Published: November 2, 2018
Permalink/DOI: http://dx.doi.org/10.17977/um002v10i22018p202

Abstract

The study aims to examine the impact of education on the economy as an essential input of civilization by comparing the two major groups of countries in the world, Islam and the West. These two major groups of countries that are often opposed, including in terms of the economic system implemented in both groups of countries. Since it is argued that Islamic nations apply a specific system of financial in the economy, namely the Islamic financial system, hence this research investigated the effect of both group nations (Islamic or non-Islamic) comparatively to the economy. The research method used in this research is quantitative approach by using statistical analysis, multiple linear regression, as the method of data analysis, in order to obtain results that can be drawn conclusions as a result in this study. Based on the findings, it can be concluded that education has a positive and significant impact to the economy, as an input of civilization, although there are no different economic conditions between the Islamic (OIC member) Countries and non-Islamic one.

Keywords: education, economics, civilization
JEL Classification: H52; Z13

INTRODUCTION

The economic growth is an essential input to civilization, as economic growth spreads civilizations in various dimensions, in the sense of civilization as the liberation of people from their brute physical needs, giving them the opportunity to develop their individuality, their minds, and the quality of their lives (Caplan, 2015). The economy of a country is influenced by many factors, one of the important factors is education (Akareem & Hossain, 2016). Islam is a religion that is very concerned about the problem of education, it is supported by the fact that the first verse revealed to the Prophet Muhammad was: *'iqra'*. Education, including increasing the number of students at the secondary school level, is one of the policy focus taken by the government especially in developing countries, one of which is Indonesia, that is also a country with the majority Muslim population.

Through the Nine Years of Compulsory Education Program, the Government of Indonesia has shown its concern for Education at the secondary school level, although in practice it has not shown satisfactory results, especially in terms of its contribution to the country's economy through labor productivity. This was evidenced by the data of working population in Indonesia is still dominated by the population with the level of Primary School Education down (Ridho, 2016).

Education is associated with positive affects to the economy (Hanusek, 2013; Kim & Hagiwara, 2010), some previous studies examined the long-term relationship of education and the economy (Babalola, 2011), due to the contribution of education to the economy (Nowak & Dahal, 2016).

Therefore, this study aims to examine the impact of education on the economy as an essential input of civilization, by comparing the two major groups of countries in the world, Islam and the West. Islam and the West are two major groups of countries that are often opposed, including in terms of the economic system implemented in both groups of countries. Since it is argued that Islamic nations apply a specific system of financial in the economy, namely the Islamic financial system, hence this research investigated the effect of both group nations (Islamic or non-Islamic) comparatively to the economy.

In addition to the education, life expectancy is considered to be related to the economy (Boucekkine, Croix, & Licandro 2002; Kunze, 2014), as it is considered to have a major influence in the economy or able to improve the economy (Acemoglu & Johnson, 2007) economy (Cervellati & Sunde, 2011), therefore life expectancy was also studied in this study. In addition to life expectancy and education, which is also studied in this study as also associated with the economy is a demographic factor (population growth) and savings (Bloom & Williamson, 1998).

This research different with the previous studies, since it examined and compared specifically two major groups of civilization in the world, which distinguishes this research to others. In addition, this study is focused on education at secondary level, since it is needed to evaluate the importance of The Nine Years of Compulsory Education Program. This research also was a further or research of the study which investigate the relationship of civilization, economics, and education (Ridho, Razzaq, & Dina, 2017). In this study, it is used a difference model by reducing the population aged 15-64 years and the age population of 65 years variables.

METHOD

The research method used in this research was quantitative approach, since data processing this research is done in the form of numbers. Based on the research method used, data analysis in this study applied statistical analysis, multiple linear regression, to obtain results that can be drawn conclusions as a result in this study. One of this research independent variables is the secondary school enrollment ratio (SSER) as the measurement of education variable. Based on UNICEF Definition of Indicators, secondary school enrollment ratio is the number of children enrolled in the secondary level, regardless of age, divided by the population of the group that officially corresponds to the same level. Other variables are population growth, savings, life expectancy, and dummy variable in purpose of comparing between two groups of countries that are considered to represent two different civilizations, the group of countries that are members of the OIC (Organization of Islamic Countries) and non-member countries. While the dependent variable in this study is the economy as an essential input of civilization, that measured by per capita Gross Domestic Product (GDP).

RESULTS AND DISCUSSION

This study applied secondary data with steps, as the following: first of all, before the instrument used as a test tool of research, it must be tested classical assumptions first. For validation process, use Goodness-od-fit measure that is coefficient of determination (R^2) and Mean Square Error (MSE). Based on the classical assumption test conducted in this study, shows that in general, the regression model that has formed residual model that is normal distribution, no multicollinearity, no heteroscedasticity, and no autocorrelation. Second, after testing the classical assumption, the next step is to answer the hypothesis testing that there are concurrent/joint effects of Population Growth, SSER, Life Expectation, OIC, and Gross Saving on ln GDP per Capita as an economic indicator. This test is expected to have a simultaneous/joint effect of predictor variables on response variables based on concurrent testing of regression coefficients. This test is satisfied when the value of P-value (Sig.) ≤ α with α is set at 5 per cent.

Table 1. F test results for significance of regression model coefficients.

Item	Value
Statistics F	84.33
P-value	0.0000*
Root MSE	0.67929

Source: Authors (2018)
Note: * Significant for significant level (α) of 5%.

From the result of output, the result of F test statistic value equal to 84,33 and P-value (Prob > F) equal to 0,0000, hence, based on that result test, it can be concluded that there are concurrent/joint effects Population Growth, SSER, Life Expectation, OIC, and Gross Saving on ln GDP per Capita. (due to P-value < 0.05). To measure Goodness-of-fit, this research used the Root Mean Square Error (RMSE) size where the model is good value if the RMSE size is small. From the results of F test output, the size of RMSE (or Root MSE) is obtained at 0.67929, this value means that the regression model formed is considered good.

Furthermore, hypothesis testing is done to test individual regression coefficients with t test, in order to prove that there is partial influence Population Growth, SSER, Life Expectation, OIC and Gross Saving on ln GDP per Capita, then are tested to determine whether there is a significant influence each predictor variable to the response variable. This test shows a significant influence when the value of P-value (P> | t |) ≤ α where α equal to 5 per cent.

Table 2. t test results for significance of regression model coefficients.

Independent Variable	Coefficient	Standard Error	t Statistic	P-value
Population Growth	0.1451502	0.06877	2.11	0.037*
SSER	0.0264021	0.0044706	5.91	0.000*
Life Expectation	0.091881	0.0143307	6.41	0.000*
OIC	-0.2269042	0.1797629	-1.26	0.210
Gross Saving	-0.0009864	0.0033185	-0.30	0.767
Konstanta	-0.3241616	0.8146458	-0.40	0.692

Source: Author (2018)
Note: * Significant to significant level (α) of 5%.

Table 2 provides information about the test result. P-value value for Population Growth variable is obtained 0.037 (P-value < 0.05), it can be concluded that there is significant influence of Population Growth variable to ln GDP per Capita variable 0.145150 (positive impact), meaning that if there is an increase of 1 unit of variable Population Growth then variable GDP per Capita will multiply by exp (0.145150) = 1.1562130; and vice versa if there is a decline of 1 unit of the Population Growth variable then GDP per Capita variable will be divide by exp (0.145150) = 1.1562130. P-value value for SSER variable is obtained 0.000 (P-value < 0.05), it can be concluded that there is significant influence of SSER variable to ln GDP per Capita variable 0.0264021 (positive influence), meaning that, if there is an increase of 1 unit of variable SSER then the GDP per Capita variable will be multiplied by exp (0.0264021) = 1.0267537; vice versa if there is a decrease of 1 unit of the SSER variable then the GDP per Capita variable will be divide by exp (0.0264021) = 1.0267537.

P-value value for Life Expectation variable is obtained 0.000 (P-value <0.05), it can be concluded that there is positive significant influence of Life Expectation variable to GDP per Capita variable 0.091881, meaning that, if there is an increase of 1 unit of the Life Expectation variable then the GDP per Capita variable will be multiply by exp (0.091881) = 1.0962344; and vice versa if there is a decrease of 1 unit of Life Expectation variable then GDP per Capita variable will be divided by exp (0.091881) = 1.0962344. P-value value for OIC variable is obtained 0.210 (P-value > 0.05), it can be concluded that there is no significant influence of OIC variable to ln GDP per Capita variable, meaning that, there is no difference of GDP per Capita variable for OIC and Non-OIC respondents. P-value value for Gross Saving variable is 0.767 (P-value> 0.05), it can be concluded that there is no significant influence of Gross Saving variable on ln GDP per Capita variable, meaning that, if there is an increase/decrease of 1 unit each variable Gross Saving then the GDP per Capita variable will not be affected.

Regression model with involving all variables formulated below:

ln GDP per Capita =-0.3241616 + 0.1451502 Population Growth + 0.0264021 SSER + 0.091881 Life Expectation – 0.2269042 OIC – 0.0009864 Gross Saving + e

Previously, it has been discussed that in the study used a model which is the difference to the prior research (Ridho, Razzaq, & Dina, 2017) by reducing of the aged population 15-64 years and the age population of 65 years variables, and the results of this research showed a greater impact for education variables and life expectancy. In the other words, the model used in this study proves the impact or greater impact of the education variable, the secondary school enrollment ratio to the economy which is an essential input of civilization.

Education has a positive and significant impact in research, since education is a human capital that affects the productivity in terms of knowledge, as well as life expectancy, impact on the duration or sustainability of productivity. In addition to education and life expectancy, population growth also has a positive impact on the economy, as noted earlier that economic growth is positively associated with population growth. Population growth especially productive aged population increases the productivity, which is a key element of the economy.

CONCLUSION

Based on the findings, it can be concluded that education which represented by the secondary school enrollment ratio (number of children enrolled in secondary level, regardless of age, divided by the population of the age group that officially corresponds to the same level) has positive and significant impact to the economy, as an input of civilization, although there was no different economic condition between Islamic (OIC member) Countries and non Islamic one. Given the importance of the number of children enrolled in the secondary level, it becomes an important recommendation for the government to better empower or manage graduates from schools at that level. Among other is by improving the quality of vocational schools and expanding employment opportunities for secondary school graduates. The absence of differences in the economic condition between Islamic (OIC member) countries and non-Islamic one, made it is necessarily for Islamic groups to strengthen their distinctive economic based on sharia system, which is different from the western economy. For further research, it also needs to conduct the research using different variables such as the use of education variables by comparing various levels of education as well as a system or in a model to obtain results that can enrich knowledge-based research in education.

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