

Human Capital Development and Economic Growth in Nigeria

Babatunde O. Binuyo¹, Feyisayo, O. Ogunrinde² and Adekunle, O. Binuyo³

^{1&2}*Economics Department, Veronica Adeleke School of Social Sciences, Babcock University, Ilishan-Remo Ogun State, Nigeria*

³*Department of Business Administration & Marketing, School of Management Sciences, Babcock University, Ilishan-Remo, Ogun State, Nigeria*

Abstract: - This study investigated the impact of human capital development on economic growth in Nigeria from 1988 to 2017. Secondary data sourced from Central Bank of Nigeria Statistical Bulletin covering a scope of 30 years (1980-2017) were used and the Ordinary Least Square Technique was used to analyse the data for purposes of testing the hypothesis. The study adopted real gross domestic product as the dependent variable while recurrent expenditure on health and recurrent expenditure on education were the independent variables.

The Augmented Dickey-fuller and Phillips-Perron unit root tests were adopted to obtain the stationarity of the variables and the results showed all the variables were stationary at first difference.

In conclusion, the study showed that recurrent expenditure on health had a positive effect on economic growth while recurrent expenditure on education had a positive relationship on economic growth in Nigeria.

The study therefore recommends that policy makers should strive to create institutional framework that increases school enrolment and improves basic healthcare services by strengthening the infrastructure of educational and health institutions that produce quality manpower.

Keywords: Economic Growth, Economy, Human Capital Development, Real Gross Domestic Product and Recurrent Expenditure

I. INTRODUCTION

The quality and composition of human resources available to a nation is crucial in its plans for economic growth and development. Human beings now have a greater role to play in development of their communities because of their creative abilities. All existing technologies, innovations and inventions were birthed by the ideas of people. The contemporary age requires creative thinking and innovation to drive development and this can only be done by humans.

The development and progression of human capital has been a major focus for modern economists and policy makers due to the fact that human beings drive productive activities in an economy and the human factor can be found in both labor and entrepreneurial factors of production. The reality is that no country can achieve sustainable economic growth and or development without developing and investing in its human capital.

Therefore, human capital is the most powerful resource available to a country and it needs to be powerfully mobilized for socio-economic development. In order to improve human capital, the current stock of human capital has to be wholly assessed and based on the result of this assessment, plans and policies should be put forward to develop the necessary manpower that will drive growth in the economy (Adelakun, 2011). In the context of this study, human capital can be defined as the totality of human skills, education, competencies, innovations and technical know-how available for use in an economy.

Human development generally is believed to be one of the major objectives of economic growth development. Human development has been defined as enlarging people's choices in a way which enables them to lead longer, healthier and fuller lives (Ranis and Stewart, 1994). The Human Development Index is generally agreed to be a suitable measure for human development because it captures the level of education, standard of living and health of humans in a country (Adediran, 2014). These three measures are suitable to capture the goodness of life and living of people in a particular region.

Adelakun (2011) is of the opinion that human capital is an important factor used in converting all resources to mankind's use and benefit. The relevance of human capital to economic growth and development can't be overly emphasized. According to Wikipedia, economic growth is the increase in the inflation-adjusted market value of the goods and services produced by an economy over time. For the purpose of this research work, economic growth is said to be the increase in the real GDP of an economy over time as a result of increase in economic activities in the form of production of goods or rendering of services.

The original concept of human capital can be traced back to the classical economist – Adam Smith in his book “The Wealth of Nations. Human capital as talents, education and apprenticeship which costs a real expense to the acquirer but would always repay that expense with a profit (Smith, 1776). Smith also postulated that improved skill and dexterity in labor was as a result of division labor.

The widely accepted view of human capital was postulated by Theodore Schultz in an article- Investment in Human Capital

which he published in 1961. Prior to his postulations, the term “human capital” was yet to be fully researched upon by prior economists. I propose to treat education as an investment in man and to treat its consequences as a form of capital Schultz(1960). The ground breaking research done by William Schultz in 1960 in which he viewed capital formation from the angle of education formed the basis for modern research on human capital. Other pioneer works done by Mincer(1981) and Becker(1975), who viewed human capital as a resource that can be invested in through education and training helped to shed more light on human capital as a key focus area in the field of economics. Modern researchers have now made use of different techniques like Ordinary Least Squares, Co-integration and causality tests in determining the relationship between human capital development and economic growth.

The ability of a country to seize the competitive advantage that technology offers will go a long way in determining its prospects for growth and development. Technological advancement has been a problem in most developing economies. Advancements in technology can be accelerated through investments in the most valuable resource- human capital. The rationale being that the human factor, being the only resource with creative ability and innovations, can come up with new technology and ideas. The reality about the Nigerian situation is that the government is yet to fully explore the transforming power of technology in different sectors of the economy. This has led to slow pace of economic growth as the country is currently experiencing.

Another contribution to the theory of human capital was from Gary Becker in 1962. His theory emphasizes investments in human capital in the form of education, employee trainings and health. These investments have varying effects on the industry profits and the entire economy as a whole. Investment in functional education is one of the bedrocks of modern growth and development Iyoboyi & Olarinde(2014).

Human capital was viewed as the totality of any stock of knowledge or the particular attributes of the individual worker or collection of workers that is acquired through academic institutions and, or innately endowed, that enhances and contributes to the worker’s productivity Adeyemi & Ogunsola(2016). Adediran (2011) opined that human capital is an important factor used in converting all resources to mankind’s use and benefit. Enefiok and Sunday(2014) viewed human capital as the abilities and skills of the human resources of a country. Mincer(1981) is of the opinion that human capital analysis deals with acquired capacities which are developed through formal and informal education at school and at home, and through training, experience, and mobility in the labor market. As it was defined in the previous chapter, human capital refers to the totality of human skills, technical know-how, competencies, capabilities and innovations that are available for engagement in the economic activities of a country.

Human capital development, as can be defined literally, is the development and progression of human capital in a country to better prepare it for future tasks. Iyoboyi & Olarinde(2014) argued that human capital development spurs economic growth through many factors like enhanced employment opportunities, improved health facilities, reduced fertility and poverty level, improved technological development and source of political stability. Enefiok & Sunday(2014) viewed human capital as a continuing process from childhood to old age that is crucial for any society or enterprise that wishes to survive and take on the complex challenges of a dynamic world. In the words of Adediran (2014), human capital development increases the number of knowledgeable workers by improving their skills and enabling them to take on new challenges. Human capital development signifies an improvement in the quality of the workforce of a country thus leading to economic growth. Human capital development entails the holistic development and upliftment of the human factor in a country, improving their ability to create, invent and innovate. Humans have the ability to think, analyze and solve problems and efforts to ensure the betterment of human capital will result in a smarter and more efficient society that can collectively yield the desired growth and development.

II. LITERATURE REVIEW

Adediran(2011) evaluated human capital development and economic growth in Nigeria from 1985-2009 by adopting the theoretical and ordinary least squares (OLS) to analyze the relationship using the GDP as proxy for economic growth; total government expenditure on education and health, and the enrolment pattern of tertiary, secondary and primary schools as proxy for human capital. His results confirmed that there is strong positive relationship between human capital development and economic growth.

Osoba and Tella (2017) in their work examined the interactive effect of the relationship between education and health as measures of human capital and economic growth in Nigeria between 1986 and 2014 using the Fully Modified Ordinary least Squares Technique. Their results showed a positive and significant relationship between the interactive effects of human capital components and growth in Nigeria, whilst recommending that government should improve and increase health care facilities in the country and improve the standard of education in the country.

Oluwatobi and Ogunrinola (2011), in their research sought to find out the impact of government recurrent and capital expenditures on education and health in Nigeria and their effect on economic growth from 1980-2014. They used the level of real output as the dependent variables and government capital and recurrent expenditures on education and health, gross fixed capital formation and the labor force as the explanatory variables in their model. Their results showed a statistically significant negative relationship exists between the stock of human capital and the level of real output. They

further concluded that there is a long run relationship between human capital development and economic growth in Nigeria.

Ogujiuba (2013) examined empirically the relationship between economic growth and human capital development for the period 1970-2013 using Ordinary Least Squares estimation technique. He selected real GDP as the dependent variable and capital and recurrent expenditure on education; real gross capital formation; primary education enrolment, post-primary education enrolment and tertiary education enrolment as the independent variables. The results posited that investment in human capital in the form of education and capacity building at the primary and secondary levels impact significantly on economic growth while capital expenditure on education was found to be insignificant to the growth process. He concluded that Nigeria can only reposition herself as a potent force through the quality of her products from all levels of education including (primary, secondary and tertiary schools) as well as making her manpower relevant in the highly competitive and globalized economy.

Iyoboyi and Olarinde (2014) assessed human capital development in Nigeria through the lens of education. The study used education as proxy to capture human capital, recurrent expenditure on education as the dependent variable and real GDP as the independent variable. The study emphasized the need to commit more resources to education and recommended massive investments in science and technology.

Odo, Eze, & Onyeisi (2016) examined the effect of human capital development on the growth of the Nigerian economy. The objectives of the study were to: determine the extent to which significant long-run relationship exist among the human capital development and economic growth in Nigeria; determine if expenditure on education has significant effect on economic growth in Nigeria and investigate if expenditure on health has significant effect on economic growth in Nigeria. They made use of Johansen's co-integration techniques and Vector Error Correction Model to estimate their model. Their findings showed that government expenditure on education and health had a significant effect on economic growth, with government expenditure on education having a positive relationship with GDP. They further recommended that efforts should be made to harmonize the activities in the health and education sector with much attention on funding.

Adediran (2014) in his contribution to literature used data on Nigeria between 1961 and 2012 to conduct a regime shift analysis of the empirical relationship subsisting between public investment in human capital and economic growth. He used as his dependent variables: federal recurrent and capital expenditure on human capital and the 36 states' (FCT included) expenditure on human capital; introducing three dummy variables for civilian regime, military regimes and period of agricultural dominance in the economy. Real GDP served as his independent variable and he used Error Correction Model as his estimation technique. The empirical

results showed that public expenditure of federal and states governments on human capital exhibits positive long run relationship with economic growth in Nigeria, whilst recommending that that agriculture should be emphasized in contrast to the current reliance on oil and that the years of active development planning should be brought back into the current democratic government.

Ali, Zalina, and Maiza (2014) examined human capital factors that contribute to the growth rates of Nigerian regional growth rates. The study made use of panel data from 1998 to 2008 and three panel data estimation techniques- pooled OLS regression, fixed effect panel model and dynamic panel model. The results put forward by them showed that initial human capital stock has had an influence on the GDP per capita growth rate; Southern regions with higher levels of schooling have a significant impact on the GDP per capita growth rate and Northern regions had lower technical abilities as only primary school education has a significant impact on the GDP per capita growth rate.

Isola and Alani (2013) examined the contribution of different measures of human capital development to economic growth in Nigeria. They used data from Nigeria from 1980-2010 and adopted a modified version of Solow's growth model, specifying the growth of GDP as a function of labour and capital. The results showed that public expenditure on education and health has a significant impact on economic growth.

Arabi and Abdalla (2013) empirically analysed the impact of human capital on economic growth in Sudan for the period 1982-2009 by using a simultaneous equation model that links human capital to economic growth. Human capital was proxied by school attainment; and investment in education and health to economic growth, total productivity, foreign direct investment, and human development index and economic growth was based on Solow's growth model. Using a three-stage least squares technique, the empirical results of the paper showed that quality of the education has a determinant role in the economic growth; health quality factor has a positive impact on economic growth and total factor productivity which mainly represents the state of technology has adverse effect on economic growth and human development due to the obsolete technology.

Bokhari(2017) tried to examine the relationship between investment in human capital and economic growth in the Kingdom of Saudi Arabia for the period 1970-2014. He employed the Granger causality approach and error correction model in his estimation. Human capital was proxied using expenditure on health and education while economic growth was proxied using per capita GDP. The results indicated that there was neither a longrun nor shortrun causality between expenditure on education and economic growth and expenditure on education and fixed capital formation were found to have an insignificant impact on GDP. However,

expenditure on health was observed strongly correlated with per capita GDP in the long-run and short-run.

Ogunleye, Owolabi, Sanyaolu, and Lawal (2017) studied the effect of human capital development on economic growth in Nigeria using data for the period 1980-2012. He employed techniques such as Ordinary Least Squares and Johanson's Cointegration Test to examine the long-run relationship between human capital development and economic growth. The results showed that a long-run relationship exists between human capital and economic growth and the human capital development is significantly and positively related to economic growth.

Adeyemi and Ogunsola (2016) examined the impact of human capital development on economic growth in Nigeria using time series data from 1980 to 2013. The study employed ARDL Co-integration analysis to estimate the relationship among the variables used in the study. Human capital was proxied by public expenditure on health and education; primary, secondary and tertiary enrolment and life expectancy rate; whilst GDP was proxied by real Gross Domestic Product. The results showed there is negative relationship between primary school enrolment, tertiary school enrolment, public expenditure on health and economic growth in Nigeria. They recommended that the government should commit more funds to health sector in order to enhance human capital development.

Shuaibu and Popoola (2016) tried to investigate the determinants of human capital development in 33 African countries over the period 2000 to 2013. The study made use of panel co-integration, panel unit root and panel causality tests for its estimation procedures. The determinants of human capital were public expenditure on education and health, institutional quality and infrastructure, whilst Human Development Index was used as the proxy for human capital development. The empirical results showed that all the variables significantly influence human capital development in the long run.

Ogunleye, et al. (2017) tried to examine the human capital development on economic growth of Nigeria, using annual time series data from 1981 to 2015 using ordinary least squares regression analysis. The human capital development indicators used were primary school enrolment, secondary school enrolment, tertiary school enrolment, total government expenditure on health, total government expenditure on education and life expectancy while economic growth was proxied by GDP. The results showed that these human capital development indicators have a positive and significant impact on economic growth of Nigeria. However, life expectancy and primary school enrolment exhibited a negative and statistically insignificant impact on economic growth of Nigeria.

Eigbiremolen and Anaduaka (2014) made use of the augmented Solow growth model to analyse the effect of human capital development on national output, a proxy for

economic growth, using quarterly time-series data from 1999-2012. Their results revealed that human capital development had a significant positive impact on output level, with a relatively inelastic relationship existing between them. Their conclusion was that human capital development is vital for sustainable economic development, whilst recommending that the government should intensify efforts in building and developing human capacity through adequate educational funding across all levels.

Adnane and Abdelmounaim (2015) in their research, analysed the relationship between human capital development and economic growth in Morocco, an African nation, by using ordinary least square method. Their study was justified as it was the first in Morocco that dealt with economic growth while focusing on human capital development as "a key for the growth of the economy". Their main objective was to analyze the relationship using total government expenditure on health and education, and the enrolment data of tertiary, secondary and primary schools as proxy for human capital. Their results established that human capital development has a significant positive effect on the growth of the Moroccan economy.

Mathew (2011) tried to examine the role of education and health in human capital investment and how this can translate into economic growth in a country like Nigeria. This study made use of the Unit Root and Augmented Dickey Fuller (ADF) tests and found out that a positive relationship exists between government expenditure on education and economic growth while a negative relationship exists between government expenditure on health and economic growth. The study therefore recommended that the Government should increase not just the amount of expenditure made on the education and health sectors, but also the percentage of its total expenditure accorded to these sectors.

Adejumo and Akintoye (2017) tried to examine the direction of causality between human capital and productivity growth in Nigeria based on endogenous growth model using Engle-Granger's Causality Tests. The results put forward by them showed that while productivity growth caused human capital development, human capital development did not cause productivity growth.

They therefore recommended that the educational system should find a balance between process-based education and technical or theoretical aspects of education.

III. METHODOLOGY AND MODEL SPECIFICATION

This study employed the time series annual secondary data. The choice of the time series is premised on the fact that the data used in this study was gathered over a period of time and aims at investigating the effect of human capital development on economic growth in Nigeria between 1980 and 2017. The ordinary least squares regression (OLS) was used to examine the impact of human capital development on economic growth in Nigeria. The study used Real Gross Domestic Product as

the dependent variable while recurrent expenditure on health and recurrent expenditure on education were the independent variables

Data on total government expenditure on health, and total government expenditure on education were obtained from the Central Bank Statistical Bulletin while data on real gross domestic product was obtained from World Bank World Development Indicators

Endogenous growth theory will form the basis for the specification of the model. A functional relationship between economic growth and human capital development will be established. The dependent variable is Real Gross Domestic Product which is used as a proxy for economic growth and the explanatory variables are public expenditure on health, public expenditure on education and tertiary school enrolment.

For the purpose of the research, the following model is thus specified to examine the impact of human capital development on economic growth. In functional form,

$$Y = f(x) \dots\dots\dots (1)$$

$$RGDP = f(REOH, REOE) \dots\dots\dots (2)$$

In a linear econometric form, the model can be expressed as

$$RGDP = b_0 + b_1 REOH + b_2 REOE + \mu_t \dots\dots\dots (3)$$

where b_0 is the intercept, b_1 and b_2 are the parameters to be estimated and μ_t signifies error term with respect to time period t .

Meanwhile, all the variables were logged in the model to prevent the regression from having a spurious result due to the large values of the three variables (in billions). Thus, we have the equation as

$$\text{Log } RGDP = b_0 + b_1 LREOH + b_2 LREOE + \mu_t \dots\dots\dots (4)$$

Where

Log RGDP= Log of Real GDP

LREOH= Log of Recurrent Expenditure on Health

LREOE= Log of Recurrent Expenditure on Education

IV. ANALYSIS, FINDINGS AND DISCUSSION

The results of the unit root tests employed- Augmented Dickey-Fuller and Phillip-Perron, showed that all the variables were stationary at first difference. The calculated R^2 is 0.853287 which implies that approximately 85.32% of the variation in dependent variable RGDP is explained by the independent variables (recurrent expenditure on health and recurrent expenditure on education) while the remaining 14.68% are other factors affecting real gross domestic product but were not captured in the model. Lastly, the Granger's causality tests revealed a series of causal relationships between the variables.

The ordinary least squares technique was used to run this regression. The results above portray the negative relationship of recurrent expenditure on education with the dependent variable- Log RGDP. This was not in conformation with a priori expectation stated in the previous chapter. Its probability value (0.1013) shows that the variable is statistically insignificant at 5% level. There is a positive relationship between recurrent expenditure on health and Log RGDP with the probability value being statistically significant. The positive relationship conformed to the a priori expectation in the previous chapter. The constant value or the intercept was positive with a value of 16.98522, implying that there would have been some level of economic growth in the absence of recurrent expenditure on health and education.

The objective of the study was achieved through the application of various tests. The result of the analysis in the research paper concluded that all the variables, recurrent expenditure on health, recurrent expenditure on education and real gross domestic product have a long run relationship

The unit root test was done using the Augmented Dickey fuller test and Phillips-Perron test. Both tests revealed that all the variables were stationary at first difference. Also, the Granger's causality tests revealed two causal relationships. The first was between real GDP and recurrent expenditure on health as the results showed that real GDP causes changes in recurrent expenditure on health. Also, it was discovered that real GDP causes changes in recurrent expenditure on education.

The ordinary least squares technique was used to run this regression. The results above portray the negative relationship of recurrent expenditure on education with the dependent variable- Log RGDP. However, there was a positive relationship between recurrent expenditure on health and Log RGDP with the probability value being statistically significant.

The post estimation tests carried out were the Breusch-Godfrey Serial Correlation Lm Test, Durbin-Watson test, Histogram Normality Tests and Breusch-Pagan-Godfrey Heteroscedasticity tests. The Breusch-Godfrey Serial Correlation Lm test for autocorrelation revealed the presence of positive autocorrelation in the model. The Breusch-Pagan-Godfrey heteroscedasticity tests revealed the absence of heteroscedasticity in the model. The normality tests revealed that the variables were not normally distributed.

V. CONCLUSION AND RECOMMENDATIONS

The impact of human capital development on economic growth has been examined in this study using a time series data from 1988 to 2017. There was a negative impact of recurrent spending on education on economic growth for the period of study. Conversely, recurrent expenditure on health had a positive impact on economic growth. Nigeria has by far failed to invest in the health sector, hence the result of this

research. Nigeria is a developing nation that has low levels of human development, as expenditure on education is still far below 15% to 20% of annual Gross Domestic Product as recommended by UNESCO. In conclusion, Nigeria can strengthen its economic fortunes by investing massively in its greatest assets- human capital, through a mix of transformational health and education policies.

Following the results of this research work, the following recommendations have been put forward:

1. There should be establishments of special agencies with the responsibility of improving the skills and capabilities of human capital.
2. The Nigerian government needs to increase its investments in the educational sector from the current 7.04% up to the UNESCO benchmark of 15 to 20% of annual gross domestic product.
3. Policy makers should strive to create institutional capacity that increases school enrolment and improves basic healthcare services by strengthening the educational and health sector

REFERENCES

- [1]. Adediran, I. A. (2014). Public investment in human capital and economic growth in Nigeria: analysis on regime shifts. *Journal of Economics and Development Studies*, 2(2), 213-231.
- [2]. Adejumo, O. O., & Akintoye, A. V. (2017). An analysis of human capital development and productivity growth- case study, Nigeria. *Journal Of Business Management*, 61-84.
- [3]. Adelakun, O. J. (2011). Human capital development and economic growth in Nigeria. *European Journal of Business and Management*, 3(9), 29-37.
- [4]. Adeyemi, P. A., & Ogunsola, J. A. (2016, March). The impact of human capital development on economic growth in Nigeria: ARDL approach. *Journal Of Humanities And Social Science*, 21(3), 1-7.
- [5]. Adnane, H., & Abdelmounaim, L. (2015, July). Human capital development and economic growth in Morocco. *International Journal of Education and Human Developments*, 1(1), 49-73.
- [6]. Ali, I. G., Zalina, M. D., & Maiza, H. A. (2014). Human capital dynamics of regional growth in Nigeria: dynamic panel data approach. *Sains Humanika*, 2(2), 1-9.
- [7]. Arabi, K. A., & Abdalla, S. Z. (2013). The impact of human capital on economic growth: empirical evidence from Sudan. *Research in World Economy*, 4(2), 43-53.
- [8]. Becker, G.S (1975) Human Capital: A theoretical and empirical analysis, with special reference to education. 2nd Edition. New York: Columbia University Press
- [9]. Bokhari, A.H (2017) Human Capital Investment and Economic Growth in Saudi Arabia: Error Correction Model *International Journal of Economics and Financial Issues*, 7(4)
- [10]. Eigbiremolen, G. O., & Anaduaka, U. S. (2014, April). Human capital development and economic growth: the Nigeria experience. *International Journal of Academic Research in Business and Social Sciences*, 4(4), 25-35.
- [11]. Enefiok, E. I., & Sunday, E. I. (2014, September). The impact of human capital development and economic empowerment on the socio-economic development of Akwa Ibom state, Nigeria. *Global Journal of Human Resource Management*, 2(3), 37-44.
- [12]. Isola, W. A., & Alani, R. A. (2013). Human capital development and economic growth: empirical evidence from Nigeria. *Asian Economic and Financial Review*, 2(7), 813-827.
- [13]. Iyoboyi, M., & Olarinde, M. (2014). An assessment of human capital development in Nigeria through the lens of education. *International Letters of Social and Humanistic Sciences*, 35, 1-14.
- [14]. Matthew, A. O. (2011). Human capital investment and economic growth in Nigeria: the role of education and health. *Knowledge Management, Information Management, Learning Management*, 266-277.
- [15]. Mincer, J. (1981). Human capital and economic growth. *National Bureau of Economic Research*, 8(11), 1-28.
- [16]. Odo, S. I., Eze, O. R., & Onyeyisi, S. O. (2016). Analysis of the relationship between human capital development and economic growth in Nigeria. *European Journal of Accounting, Auditing and Finance Research*, 4(3), 56-71.
- [17]. Ogujiuba, K. (2013). The impact of human capital formation on economic growth in Nigeria. *Journal of Economics*, 4(2), 121-132.
- [18]. Ogunleye, O. O., Owolabi, O. A., Sanyaolu, O.A., and Lawal, O.O (2017) Human Capital Development and Economic Growth in Nigeria *IJRDO-Journal of Business Management*.3(8)
- [19]. Oluwatobi, S. O., & Ogunrinola, O. I. (2011). Government expenditure on human capital development: implications for economic growth in Nigeria. *Journal of Sustainable Development*, 4(3), 71-82.
- [20]. Osoba, A.M, and Tella, S.A. Human Capital Variables and Economic Growth in Nigeria: An Interactive Effect, *EuroEconomic*, 36 (1)
- [21]. Ranis, G., & Stewart, F. (1994). Decentralization in Indonesia. *Bulletin of Indonesian Economic Studies*, 3(5), 19-31
- [22]. Shuaibu, M., & Popoola, O. T. (2016). Human capital development dynamics in Africa: evidence from panel cointegration and causality in 33 countries. *Applied Econometrics and International Development*, 16(1), 116-131.
- [23]. Theodore, W. Schultz. (1960). Capital formation by education. *Journal of Political Economy*, 68(6), 571-583. Retrieved from <https://www.jstor.org/stable/1829945>
- [24]. Adam Smith (1776) Wealth of nations *A Translation into Modern English, Industrial Systems Research, 2015 ISBN 978-0-906321-70-6[1]*