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RESEARCH ARTICLE

Economic Freedom and Education in Sub-Saharan African Countries

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Abstract

This study examined the impact of economic freedom on education in sub-Saharan countries from 1995 to 2020. This work focused on human capital investment using some education performance indicators: secondary school enrolment rates and tertiary school enrolment rates. The empirical model of the study was analyzed within the framework of pooled mean group (PMG) estimator given that the variables had mixed order of integration. The first empirical model of the study showed that there was evidence that all the economic freedom indicators except tax burden and business freedom had positive relationship with secondary school enrolment rates in the long run. Also, the result showed that in the short-run, only trade freedom, property rights, and investment freedom had negative but insignificant with secondary school enrolment rates. The model of the second objective of the study showed that there was evidence that all economic freedom indicators except investment freedom had positive relationship with tertiary school enrolment rates in the long run. On the other hand, the result showed that in the short-run, economic freedom measures had heterogeneous effect on tertiary school enrolment. Therefore, government can improve human capital investment through tertiary school education and other post-secondary school education, as well as the well-trod road between them as these factors played dominant role in most developing economies. Hence, SSA countries should create conducive educational investment climate, lessen tax burden, strengthen the financial system and promote free trade to enhance educational performance in SSA.

Keywords: Economic Freedom, Human Capital Investment, Secondary School Enrolment, Tertiary School Enrolment, SSA countries.

1. Introduction

The idea of human capital investment (HCI) gradually came into economic literature when Pigou (1909) identified with the term – investment in human capital, as well as investment in material capital. Smith (1776) also emphasized the significance of HCI in his definition of capital as 'the acquired and useful abilities of all the inhabitants or members of the society'. Thereafter, the term 'human capital investment' was popularized in the 1960s when Economist from the Chicago School, Schultz (1961) pointed out that the need for education and training as sources of investments that could add to productivity of both the individual, firms and nations of the world.

The transition from the subsistence economy to the traditional economy which was based on production and now to the knowledge economy, which used ideas and innovation as driving force, required to maximize human capital. Romer (1990) used human capital as a key factor in his modeling work to establish the value of human capital in the modern innovation-driven approach to understanding economic growth dynamics. Thereafter, greater emphases have been placed on increasing importance of human capital investment in realizing global economic sustainability, as some International Financial Organizations such as the World Bank and International Monetary Fund are leading these campaigns.

In 2018, the World Bank launched the Human Capital Project to accelerate human capital accumulation by encouraging developing countries to formulate, implement and evaluate more effective policies that enhance human capital investments (World Bank, 2018). Hence, the theme of the 2019 World Development Report (World Bank, 2021) is 'the changing nature of work,' which focuses more on using public policy to address the need for more investment in terms of acquiring new skills and knowledge in line with the new business models dictated by accelerated innovations in technology.

To provide a baseline, the World Bank's human capital index focused on how human capital can increase the productivity of the work force for the next generation in a country. The human capital index includes: Survival (will children born today survive to school age)? School (how much school will children complete and how much they will learn), Health (will they leave school in good health, ready for future learning and/or work)?

On the variables of school enrolment rates, World Bank (2020) reported that enrolments in the secondary schools were far lower than in primary schools in sub-Saharan Africa. Only in Congo and Mauritius, did more than half of the secondary school age groups attended secondary schools in the mid- 80s while less than 20% of the youth population in most sub-Saharan African countries completed secondary school education. While Burundi, Malawi

and Tanzania were recorded less than 5% secondary school enrolment rates since 1960. However, in Botswana, Lesotho, Mauritius and Swaziland, female secondary school enrolment rates were equivalent or almost greater than male secondary school enrolment rates (World Bank, 200).

UNESCO (2011) reported some growth in enrolment in the 2000s with primary enrolment increasing from 82.2% to 101.6% and the number of primary school students increasing from 87 million to 129 million between 2000 and 2008.

With reference to female enrolment rates, Salami, Isaac, Habila, Salami, and Abutu (2019) observed that 50% of the World's population are women and girls but are most times subjected to arbitrary deprivation in many countries. The most common discrimination relates to access to education and gender discrimination in developing countries.

Economic freedom is a critical aspect of human well-being and an important characteristic of any free civil society. The Frasier Institute defined economic freedom as a term composed of personal choice, voluntary exchange, freedom to compete, and property protection. The Heritage Foundation defined economic freedom as the absence of coercion from the government as well as the absence of production, distribution or consumption constraints beyond the extent necessary for citizens to protect and maintain liberty itself (Beach and Kane, 2008).Thus, the definition of Economic Freedom (EF) comprises all forms of material autonomy that give birth to human and national liberty. Economic freedom encompasses freedom of choice enjoyed by individuals in acquiring and using economic goods and resources. Advancing economic freedom entails developing growth-inducing pro-market policies that will benefit the most significant possible number of people rather than the selected few.

The remainder of the paper is divided into the following parts; Section 2 discusses the literature on economic freedom and human capital investment; Section 3 presents the methodology while Section 4 presented the empirical results of the estimated model and Section 5 concludes and recommends policies.

2. Literature Review

This study considered secondary school enrolment rate and tertiary school enrolment rate as measures of human capital investment, rather than primary school enrolment rate because primary education has been made compulsory in many countries. Secondary school enrolment is commonly used as a proxy for human capital investment (Bashir, Lockheed and Tan (2018); Feldmann, 2017, 2021; Fors, 2016; Imtiaz, 2017; Kolawole, 2016; Mushtaq and Khan, 2018; Saha, Su, and Campbell, 2017). This study also incorporated another proxy to explain the dependent variable known as tertiary enrolment rates.

Bashir, Lockheed and Tan (2018) used gross secondary school enrolment ratio as a proxy for human capital when they investigated economic freedom and foreign direct investment in South Asian countries. They asserted that human capital (gross secondary school enrolment ratio) has a positive and significant relationship with foreign direct investment (FDI). Thus, the availability of a skilled workforce with significantly high gross secondary school enrolment rate plays important role in attracting FDI stock in South Asia.

Feldmann (2017) also used secondary school enrolment rate as a proxy to measure human capital investment when he examined the impact of economic freedom on human capital investment in 109 countries including both developed and developing countries with some SSA countries. He however included several demographic variables in explaining his choice of secondary school enrolment as the proxy for human capital investment. He suggested that lower population growth could lead to higher secondary school enrolment. Furthermore, available literature added that higher urbanization rate is related to higher rate of secondary school enrolment. Indeed, Feldmann (2017) investigated the direction of causality between economic freedom and secondary school enrolment, wherein the results of his empirical tests does not provide any evidence of economic freedom on secondary school enrolment in some of the countries selected for this study. He thereafter concluded that the secondary enrolment rate is substantially higher in economically-freer countries than the less-free ones.

While investigating the relationship between globalization and school enrolment, Fors (2016) utilized three alternative dependent variables: net secondary school enrolment, gross primary school enrolment, and gross secondary school enrolment rates. It asserted that there was a negative significant relationship between the dependency ratio and secondary school enrolment rates but a positive relationship existed between the dependency ratio and primary school enrolment rates. Also, social globalization had a weak but positive effect on net secondary school enrolment rates in some selected countries in Western and Eastern Europe; Latin America and the Caribbean; Middle East and Africa, including some Asian countries.

Mushtaq and Khan (2018) probed the effect of economic freedom on sustainable development in 58 countries from 2000 to 2015 where the researchers used primary, secondary and tertiary enrolment to capture gross education enrolment as one of the explanatory variables to explain sustainable development. They concluded in their study that economic freedom (bureaucratic quality, democratic accountability, and law and order) have positive impact on sustainable development (as indicated by the growth rate of gross education enrolment rates and other variables). Dianda, Ouedraogo & de dieu Goumbri (2021) examined the need to close the gender gap in secondary school enrolment in sub-Saharan Africa by investigating whether women's political empowerment matter in this case?

They asserted that women's political empowerment has a positive and significant effect on female secondary school enrolment in the selected SSA countries used in their study. Furthermore, Okunlola and Ayetigbo (2021) while examining the economic freedom impact on human development in ECOWAS countries used secondary school enrolment rates to measure literacy. The researchers used life expectancy, secondary school enrolment rates and GDP per capita as robustness check on human development index. Thus, this study incorporated secondary school enrolment rates as one of the proxies for measuring human capital investment.

Several research works has been done using tertiary school enrolment rate as a proxy for measuring higher educational performance in different economic settings (Gumus and Kayhan, 2012; Okuneye and Adelowokan, 2014; Angulo-guerrero, Pérez-moreno, and Abad-guerrero, 2017; Zaman, Saleem, Ahmad and Khan, 2017) to mention but a few. There is an agreement in the literature that there exists a significant relationship between economic freedom and tertiary school enrolment rates. However, these studies were limited in scope.

Kayhan (2012) examined the causal relationship between school enrolment rates at primary, secondary and tertiary level and changes in GDP per capita in turkey. He alluded to the assertion that there exist a significant statistical relationship between primary and secondary school gross enrolment rates and GDP per capita. However, he reported that there is no significant relationship between tertiary enrolment rates and GDP per capita during the period from 1980 to 2008 in Turkey.

Furthermore, Okuneye and Adelowokan (2014) investigated the nexus between tertiary school enrolment and economic growth in Nigeria. They confirmed that tertiary enrolment exhibited a strong predictive power to explaining variations in economic growth in Nigeria from 1980 to 2010. Thus, tertiary enrolment rate is positively related to economic growth in Nigeria. However, this study further investigated the impact of economic freedom on tertiary enrolment rates in sub- Saharan Africa. Eravwoke and Esiti (2019) confirmed this assertion when they observed that tertiary school enrolment and government recurrent expenditures determine economic growth in Nigeria.

Angulo-guerrero, Pérez-moreno and Abad-guerrero (2017) investigated how economic freedom affects opportunity and necessity entrepreneurship in the OECD countries. They considered both percentages of secondary and tertiary education amongst other explanatory variables to measure economic freedom and its impacts on opportunity and necessity entrepreneurship. They found that improvement in secondary and tertiary enrolment rates and economic liberalization in the long run, tend to affect opportunity and necessity entrepreneurship in the OECD countries.

While examining the nexus between economic freedom indicators and higher education reforms in some selected SAARC countries, Zaman, Saleem, Ahmad and Khan (2017) posited that "freedom from corruption" increased higher education expenditures and literacy rate in Bangladesh. Trade freedom and government expenses increased higher education expenditures and per capital gross domestic product in India, Nepal, Pakistan, and Sri Lanka. They also found a positive relationship between government spending and Research and Development expenditures. Korle*et al.* (2020) found that interacting FDI with disaggregated economic freedom measures such as investment freedom, business freedom and financial freedom had a positive effect on human development in 32 African countries. However, Nenbee and Danielle (2021) contended that despite increase in school enrolments and public expenditure in Nigeria, their effects were less impactful on economic growth.

3. Methodology

This study examined the effect of economic freedom on education in sub- Saharan Africa. This work focused on human capital investment using some education performance indicators: secondary school enrolment rates and tertiary school enrolment rates. On the other hand, economic freedom indicators used in this study includes: trade freedom, property rights, tax burden, investment freedom, business freedom, government integrity and financial freedom. The study focused on twenty (20) SSA countries, selected based on data availability. The data used in the study covered the period from 1995 to 2020 as a result of the period when publication of disaggregated data on economic freedom began.

The study examined the effect of economic freedom on human capital investment (HCI) using two empirical models. The measures for HCI, namely secondary and tertiary school enrolment rates, were premised on the fact that it captured access to knowledge (Nikolaev, 2014).

The first empirical model examined the relationship between economic freedom and secondary school enrolment rate in sub-Saharan African countries and the model was given as:

$$SSE_{it} = \alpha_0 + \alpha_1 TF_{it} + \alpha_2 PR_{it} + \alpha_3 TB_{it} + \alpha_4 IF_{it} + \alpha_5 BF_{it} + \alpha_6 GI_{it} + \alpha_7 FF_{it} + U_{it} \quad (1)$$

Where SSE = Secondary School Enrolment, TF = Trade Freedom, PR = Property Rights, TB = Tax Burden, IR = Investment Freedom, BF = Business Freedom, GI = Government Integrity and FF = Financial Freedom. $\alpha_0 - \alpha_7$ represents the estimates, U is the error term, and *it* is the cross section and the time series.

The secondary empirical model is analysed for the impact of economic freedom on tertiary school enrolment rates in sub-Saharan African countries and the desired model is given as;

$$TSE_{it} = \alpha_0 + \alpha_1 TF_{it} + \alpha_2 PR_{it} + \alpha_3 TB_{it} + \alpha_4 IF_{it} + \alpha_5 BF_{it} + \alpha_6 GI_{it} + \alpha_7 FF_{it} + U_{it} \quad (2)$$

Where TSE = Tertiary School Enrolment, TF = Trade Freedom, PR = Property Rights, TB = Tax Burden, IR = Investment Freedom, BF = Business Freedom, GI = Government Integrity and FF = Financial Freedom. $\alpha_0 - \alpha_7$ represents the estimates, U is the error term, and *it* is the cross section and the time series.

To achieve the major objective of this study which is to investigate the effect of economic freedom on education in sub-Saharan African countries, the study examined the time series properties of the data using Panel unit root test, the long-run co-integrating relationship will also be examined using the Panel co-integration techniques and the dynamic heterogeneous panel pooled mean group (PMG) was estimated to elucidate the short run and long run relationship between the dependent and independent variables.

In this study, the PMG model was adopted since the study investigated the dynamics of economic freedom and human capital investment in sub-Saharan Africa. The PMG technique is applicable even when variables have different order of integration. It is also applicable in the presence of endogeneity (Pesaran, Shin & Smith, 1999).

Empirical Results

This section discussed the panel data regression results used to examine the effect of economic freedom on education in sub-Saharan African countries. First, it presented and discussed the descriptive statistics of the variables. This was followed by the unit root tests and co-integration. Finally, the panel pooled mean group (PMG) was estimated to examine the short run and long run effect of economic freedom on education in sub-Saharan African countries.

The result of the descriptive analysis showed that all the variables have positive mean values which indicated that the variables increase over time. Also, the maximum and minimum values of the variables show that the variables change over time. Meanwhile, the standard deviation which measures the dispersion of the variables from their means showed that only tertiary school enrolment rate was less susceptible to change over time. Finally, the normality test based on the Jacque-Bera statistics showed that only financial freedom was normally distributed.

Table 1: Descriptive Statistics of Economic Freedom and Education in SSA

Variables	Mean	Max	Min	Std. Dev.	Jarque-Bera	Prob	Obs.
SSE	47.02	109.44	5.28	25.35	19.04	0.00	520
TSE	9.49	44.39	0.49	8.83	291.88	0.00	520
PR	42.20	76.50	10.00	15.50	12.96	0.00	520
GI	32.65	70.00	7.00	13.78	10.99	0.00	520
TB	72.74	92.70	41.00	10.03	19.62	0.00	520
BF	57.86	85.00	26.80	11.40	8.91	0.01	520
TF	62.70	89.00	20.00	13.91	85.57	0.00	520
IF	50.25	90.00	10.00	15.00	6.37	0.04	520
FF	45.56	70.00	10.00	14.60	1.94	0.38	520

Source: Researcher`s computation (2022)

The variables used to examine the effect of economic freedom on education in selected twenty sub-Saharan African countries were subjected to panel unit root testing because the dynamic heterogeneous panel estimators required the stationarity of the series. Two panel unit root tests of Levin, Lin and Chu test and Im, Pesaran and Shin test were employed. The unit root tests result reported in Table 2 shows that Secondary School Enrolment Rates (SSE), Tertiary School Enrolment Rates (TSE), Property Right (PR), Tax Burden (TB), Investment Freedom (IF), Business Freedom (BF), Government Integrity (GI), and Financial Freedom (FF) were stationary in their first differences I(1) except for Trade Freedom (TF) which was stationary at levels I(0). Arising from the panel unit root test where there is mixed order of integration, this further alluded that the PMG methodology is appropriate.

Table 2: Panel Unit Tests

Variables	LLC	IPS	Remarks
BF	-0.101	-0.036	
ΔBF	-8.883***	-10.246***	I(1)
FF	0.015	-0.618	
ΔFF	-8.076***	-11.396***	I(1)
GI	-1.153	-1.724	
ΔGI	-10.946***	-12.396***	I(1)
IF	2.248	2.203	
ΔIF	-5.934***	-8.213***	I(1)
PR	2.937	2.488	
ΔPR	-9.343***	-10.684***	I(1)
SSE	0.847	0.157	
ΔSSE	-8.498***	-12.466***	I(1)
TB	0.077	-0.553	
ΔTB	-8.097***	-9.713***	I(1)
TF	-1.024	-2.449**	I(0)
ΔTF	-10.591***	-13.361***	
TSE	1.399	1.323	

ΔTSE	-11.443***	-8.743***	I(1)

Source: Researcher`s computation (2022)
Note:*, **,and *** indicates 10, 5, and 1 per cent level of significance

Upon the confirmation of presence of mixed integration of the series, the study examined the possibility of long-run co-integrating relationship between economic freedom and secondary school enrolment rates using four different versions of Pedroni residual co-integration test. The results in Table 3 showed that the null hypothesis of no co-integration is rejected at the 1% significance level.

Table 3: Economic Freedom and Secondary School Enrolment Rates in Sub-Saharan African

Pedroni Residual Panel Co-Integration Test		
Statistic	**t-statistics**	**Prob**
Panel PP-Statistic	-5.076	0.000
Panel ADF-Statistic	-4.855	0.000
Group PP-Statistic	-9.589	0.000
Group ADF-Statistic	-7.105	0.000

Thus, there was evidence of a long-term equilibrium between economic freedom and secondary school enrolment rates of selected sub-Saharan African countries. The result is in conformity with the findings of prior studies (see for example Bashir, Lockheed, Ninan and Tan (2018); Feldmann, 2017, 2021; Fors, 2016; Imtiaz, 2017; Kolawole, 2016; Mushtaq and Khan, 2018; Saha, Su, and Campbell, 2016) that considered the relationship between economic freedom and secondary school enrolment rates.

From the results in Panel A of Table 4, there was evidence that trade freedom, property right, investment freedom, government integrity and financial freedom have a positive relationship with secondary school enrolment rates, while tax burden and business freedom have negative relationship with secondary school enrolment rates. Furthermore, there was evidence that property right, investment freedom, government integrity and financial freedom have significant relationship with secondary school enrolment rates of the selected sub-Saharan African countries. Conversely, there was evidence that the trade freedom, tax burden, and business freedom do not have significant relationship with the secondary school enrolment rates of the selected sub-Saharan African countries.

Table 4: Panel Pooled Mean Group for Economic Freedom and Secondary School Enrolment Rates
Dependent Variable: Secondary School Enrolment Rates (SSE)

Panel A: Long-Run Estimates				
Variable	**Coefficient**	**Std. Error**	**t-Stat**	**Prob**
TF	0.139	0.077	1.808	0.072
PR	0.264	0.119	2.219	0.027
TB	-0.146	0.181	-0.808	0.420
IF	0.333	0.117	2.839	0.005
BF	-0.160	0.137	-1.174	0.241
GI	0.397	0.135	2.935	0.004
FF	0.455	0.092	4.956	0.000
Panel B: Short-Run Estimates				
Variable	**Coefficient**	**Std. Error**	**t-Stat**	**Prob**
C	-10.057	4.004	-2.512	0.013
D(TF)	-0.029	0.215	-0.136	0.892
D(PR)	-0.304	0.261	-1.165	0.245
D(TB)	0.265	0.527	0.503	0.616
D(IF)	-0.071	0.160	-0.444	0.657
D(BF)	0.024	0.332	0.073	0.942
D(GI)	0.167	0.301	0.554	0.580
D(FF)	0.132	0.351	0.376	0.707
ECM	-0.415	0.102	-4.063	0.000
Panel C: Diagnostic test	**Statistic**	**Prob**		
Wald Test	13.003	0.000		

Source: Researcher`s computation (2022)

In addition, the result showed that in the short-run tax burden, business freedom, government integrity, and financial freedom have positive but insignificant relationship with secondary school enrolment rates, while trade freedom, property rights, and investment freedom had negative but insignificant with secondary school enrolment rates. Also, the estimated coefficient for the ECM_{t-1} reported in Panel B of 4 is negative and statistically significant (ECM= -0.415, t-test = -4.063, $p<0.05$). This implied that deviations from secondary school enrolment rates equilibrium path are corrected by nearly 42 per cent over the following year. In other words, the adjustment process is relatively slow in the selected sub-Saharan African countries. The statistical significance of the ECM_{t-1} confirmed the presence of long-run equilibrium relationship between economic freedom and secondary school enrolment rates from the Pedroni residual co-integration test reported in Table 3. Finally, the Wald chi-Square Statistic of 13.003 with a probability value of 0.000 is statistically significant at 5 percent level, this implies that the null that economic freedom has no effect on secondary school enrolment rates in selected countries of sub-Saharan Africa was rejected and that the alternative hypothesis that economic freedom has significant effect secondary school enrolment rates in Sub-Saharan African countries was accepted.

These findings conformed with the study of Feldmann (2017); Fors (2016);Dianda and Ouedraogo (2021) and Okunlola and Ayetigbo (2021).

For the case of the relationship between economic freedom and tertiary school enrolment rate, the study examined the possibility of long-run co-integrating relationship between economic freedom and tertiary school enrolment rates using four different versions of Pedroni residual co-integration test. The results in Table 5 showed that the null hypothesis of no co-integration was rejected at the 1% significance level. Thus, there was evidence of a long-term equilibrium between economic freedom and tertiary school enrolment rates of selected sub-Saharan African countries. The result was in conformity with the study of Okuneye and Adefolowokan, 2014).

Table 5 Economic Freedom and Tertiary School Enrolment Rates in sub-Saharan African

Pedroni Residual Panel Cointegration Test		
Statistic	**t-statistics**	**Prob**
Panel PP-Statistic	-3.938	0.000
Panel ADF-Statistic	-6.924	0.000
Group PP-Statistic	-11.503	0.000
Group ADF-Statistic	-8.411	0.000

From the results in Panel A of Table 6, there was evidence that trade freedom, property right, tax burden, business freedom, government integrity and financial freedom had positive relationship with tertiary school enrolment rates, while investment freedom had negative relationship with tertiary school enrolment rates. Furthermore, there was evidence that trade freedom tax burden, business freedom, and government integrity have significant relationship with tertiary school enrolment rates of the selected sub-Saharan African countries. Conversely, there was evidence that the property right, investment freedom, and financial freedom do not have significant relationship with the tertiary school enrolment rates of the selected sub-Saharan African countries.

Table 6: Panel Pooled Mean Group for Economic Freedom and Tertiary School Enrolment Rates

Dependent Variable: Tertiary School Enrolment Rates (TSE)

Panel A: Long-Run Estimates				
Variable	**Coefficient**	**Std. Error**	**t-Stat**	**Prob**
TF	0.057	0.012	4.947	0.000

PR	0.025	0.014	1.797	0.073
TB	0.065	0.024	2.761	0.006
IF	-0.001	0.016	-0.084	0.933
BF	0.031	0.014	2.235	0.026
GI	0.070	0.013	5.172	0.000
FF	0.012	0.011	1.090	0.276
Panel B: Short-Run Estimates				
Variable	**Coefficient**	**Std. Error**	**t-Stat**	**Prob**
C	-2.989	1.274	-2.346	0.020
D(TF)	-0.084	0.043	-1.953	0.052
D(PR)	0.021	0.063	0.334	0.739
D(TB)	-0.063	0.096	-0.664	0.507
D(IF)	-0.008	0.039	-0.213	0.831
D(BF)	-0.125	0.056	-2.221	0.027
D(GI)	-0.002	0.067	-0.024	0.981
D(FF)	0.030	0.029	1.034	0.302
ECM	-0.291	0.119	-2.442	0.015
Panel C: Diagnostic Test	**Statistic**	**Prob**		
Wald Test	15.894	0.000		

Source: Researcher`s computation (2022)

The result showed that in the short-run property right and financial freedom had positive but insignificant relationship with tertiary school enrolment rates, while trade freedom, tax burden, investment freedom, and government integrity have negative but insignificant with tertiary school enrolment rates, however, business freedom has negative and significant impact on tertiary school enrolment rates. In addition, the estimated coefficient for the ECM_{t-1} reported in Panel B of 6 is negative and statistically significant (ECM= -0.291, t-test = -2.442, $p<0.05$). This implied that deviations from tertiary school enrolment rates equilibrium path are corrected by nearly 29 per cent over the following year. This shows that the adjustment process is slow in the selected sub-Saharan African countries. Finally, the Wald Chi-Square Statistic of 15.894 with a probability value of 0.000 is statistically significant at 5 percent level, this implies that the null economic freedom has no effect on tertiary school enrolment rates in selected countries of sub-Saharan Africa was rejected and that the alternative hypothesis that economic freedom has significant effect tertiary school enrolment rates in Sub-Saharan African countries was accepted. These findings corroborated with the result of Gumus and Kayhan (2012).

The policy implications of this finding corroborate the need for governments in SSA to re-enact the legal system of education in their countries. For example, the 6-3-3-4 system practiced in Nigeria will help to improve secondary school enrolment in SSA. Also, access to

loanable funds will greatly increase secondary school enrolment rate. More so, the level of transparency of government in fulfilling their electoral promises of providing basic education for their citizenry will enhance secondary school enrolment and completion rate in SSA. Hence, functional and effective banking system will support prospective investment in secondary school education in sub-Saharan Africa.

The implications of these findings further exposed the reality that opening the market for tertiary education will increase tertiary school enrolment. Hence, creation of more institutions of higher learning that offer specialized courses will help to produce middle-level and high level manpower to achieve better economic freedom. Also, reducing the cost of governance can provide more funds for funding the established tertiary institutions and prevent incessant industrial actions that disrupt the running of the academic calendar. Furthermore, reducing regulatory bureaucracies in administration of tertiary institutions, will improve tertiary school enrolment rates, as more students will gain admission into various tertiary institutions.

4. Conclusion

The empirical construct of this study examines the impact of economic freedom on human capital investment of sub-Saharan countries from 1995 to 2020. This work focuses on human capital investment using some education performance indicators: secondary school enrolment rates and tertiary school enrolment rates. The study focused on twenty (20) SSA countries, selected based on their income group. There are six upper-middle-income countries, seven lower-middle-income countries and seven low-income countries. The countries are Namibia, Botswana, Gabon, Mauritius, Equatorial Guinea, South Africa, Angola, Nigeria, Ghana, Kenya, Senegal, Eswatini, Lesotho, Togo, Rwanda, Uganda, Tanzania, Ethiopia, Burkina Faso, and Benin. The empirical model of the study is analyzed within the framework of pooled mean group (PMG) estimator given that the variables have mixed order of integration. The findings of the first empirical model of the study shows that there is evidence that trade freedom, property right, investment freedom, government integrity and financial freedom have a positive relationship with secondary school enrolment rates, while tax burden and business freedom have negative relationship with secondary school enrolment rates in the long run. In addition, the result shows that in the short-run tax burden, business freedom, government integrity, and financial freedom have positive but insignificant relationship with secondary school enrolment rates, while trade freedom, property rights, and investment freedom have negative but insignificant with secondary school enrolment rates. The model of the second objective of the study shows that there is evidence that trade freedom, property right, tax burden, business freedom, government integrity and financial freedom have a

positive relationship with tertiary school enrolment rates, while investment freedom have negative relationship with tertiary school enrolment rates in the long run. On the other hand, the result shows that in the short-run property right and financial freedom have positive but insignificant relationships with tertiary school enrolment rates, while trade freedom, tax burden, investment freedom, and government integrity have negative but insignificant with tertiary school enrolment rates, however, business freedom has negative and significant impact on tertiary school enrolment rates.

These implications alluded to the necessity of endogenous growth theory as applied to human capital investment. The relevance of the endogenous growth theory to this study is its emphasis on the reality that countries that are economically free, generates their extent of freedom from endogenous factors that strengthens their systems and processes, rather than relying on exogenous (external) forces of economic development. These endogenous factors include the quality of government policies that enhance the potency of the educational sector, health care system, nutritional values and internally generated economic activities that strengthen human capital investment. Following the empirical evidence, the study therefore concluded that economic freedom had significant effect on secondary and tertiary school enrolment rates in sub-Saharan African countries. In addition, the study recommends that free access to engage in economic activities brings in wealth into the economy, thus, it is required of government to judiciously finance education of secondary schools because individuals at this stage are the future of the country that will later carry out economic transactions that will bring prospect to the nation. Also, in thinking about human capital investment, tertiary school education and other post-secondary school education, as well as the well-trod road between them, play a dominant role. Thus, a free economy improves the income of households which allows them to cover average cost of schooling, such as tuition, fees, books, supplies, uniforms, and private tutoring.

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