

IMPLICATIONS OF EDUCATIONAL ATTAINMENT ON ECONOMIC WELFARE IN CAMEROON

OFEH EVINA ANCHI
FUEIN VERA KUM

University of Bamenda- Cameroon

ABSTRACT

In developing countries and Cameroon in particular, more and more people are willing to lay aside their comfort while using the limited means available just to achieve a higher level in education. In the context of an increasingly more knowledge economy based, education becomes the means of ensuring the welfare of a nation. This study investigates the effect of educational attainment on economic welfare in Cameroon, while considering aspects of gender, location and sector of activity. Using household survey data from the fourth Cameroon household survey, an index for economic welfare was built and we proceeded with linear regression (OLS) to estimate the result. The results confirm a positive significant and relatively high expectation of increased economic welfare as households move from primary through secondary to higher education. While the female headed households contributed more to economic welfare at higher levels of education, economic welfare is prone to increase more in an urban area as households attained a higher level. This is observed in their significant p-values and coefficients of 0.469, 0.952 and 1.641 respectively. The informal sector seems more appealing for increased economic welfare though not progressive with attainment. The formal sector is significant when other variables are associated to it. Thus in effect, higher education should be promoted more equitably for all and in all areas so as to improve equity in attainment and ensure progress in the economic welfare for households in Cameroon.

Keywords: *Educational attainment, gender, rural-urban and economic welfare, Cameroon*

OBJECTIVES

1. Studying the impact of educational attainment on economic welfare in Cameroon following different sectors.
2. Suggesting policy measures to help Cameroon improve welfare through education.

INTRODUCTION

In the development literature, the relationship between education and economic development has long been established. Through economic growth, improved health, institutional development, and trade, to name a few, education is seen as a dual-product, one that both contributes to the development

International Journal of Economic Development Volume 17,
Number 1, pp. 28-45, 2024

process, and yields outputs from the same process. According to Hussein (2021), the need for education has significantly increased, and many graduates and others are applying for admission to various levels in order to reap the full benefits of a degree. Hence, investment in education and human capital formation are both imperative for economic growth and welfare (Abdulahi et al., 2014). Educational attainment and its role in human capital building adds greatly to the productive part of a society.

Adam Smith's investigation into the wealth of nations sparked an interest in the growth-enhancing effects of education. However, according to Saxton (2000), economists started attempting to research the connection between education and economic growth in the 1960s. A new connection between education and economic growth was established by the ground breaking works of Schultz (1961, 1988). Early estimates of economic growth using growth accounting frequently produced a large residual, indicating a change in output not explained by the explanatory variables.

It is said that education opens up opportunities for people to earn more money which will have positive effects on their communities. An individual's highest level of education that they have successfully completed is considered their educational attainment. Since educational attainment categories can be arranged hierarchically, it distinguishes people on a vertical scale. As opposed to input (such as effort and cognitive ability), process (such as the educational pathway chosen, full-time or part-time study), or indirect outcomes of education (such as income), attainment refers to an important direct outcome of education (Jenkins and Sabates, 2007). A higher level of education is a reliable predictor of financial security and upward social mobility. This is in line with the fourth Sustainable Development Goal which seeks to ensure that there is inclusive and equitable quality education and also to promote lifelong learning opportunities for all. The importance of education in general and educational attainment has been specifically captured in the Poverty Reduction Strategy Paper (PRSP) of the World Bank, and a worldwide concern for all people to get the required level of education to enhance better living and eradicate extreme poverty by 2030.

An individual's level of educational achievement and economic welfare are directly related in this regard because, according to UNESCO (2008), the inability to access formal education is one of the major predictors of poverty which is easily passed down from generation to generation (Hussein, 2021). Additionally, by reducing early school exit and fostering a knowledge-based economy, the Europe 2020 strategy for growth enables individuals' skills and education to be changed into elements that improve the nation's economic performance (Dumciuviene, 2015).

When Cameroon gained its independence in 1960, higher education was seen as a panacea necessary to develop highly skilled labour among its citizens. This was believed to help the young country solidify its independence and propel its economic development according to George and Augustine (2009). The expansion of education, including higher education, received a significant amount of funding from the Cameroonian Government in order to meet these objectives. This expansion came from the belief that Higher Education was a benchmark for the training of labour at lower levels of education and the fact that it is a significant driver of economic growth. Education in so-called “traditional societies” primarily refers to the dissemination and reception of information, the shaping of public opinion, and the preservation of a strong social consensus. During the crisis and adjustment decade of the mid-1980s to 1993, which was marked by reductions in government spending that led to shortages in resources available for investment in education, the Cameroonian government's desire to expand higher education waned. The decline in system internal efficiency and the general decline in standards were caused by a lack of sufficient resources to invest in the sector and by inefficient resource allocation (Esongo, 2017).

Higher education's value and relevance have come under scrutiny due to the rise in the number of unemployed graduates and the underdeveloped professionalism of the system nationwide. In comparison to some sub-Saharan African nations that made significant progress in enhancing educational opportunities, such as Burundi and the United Republic of Tanzania, the Cameroonian educational system still faces numerous difficulties in providing all children with high-quality education. Children suffer as a result of gender, rural-urban, and formal-informal disparities, which also put vulnerable groups at risk of dropping out of school and experiencing further disadvantages in life opportunities. Nearly 250,000 children of primary school age do not attend school, either because they never enrolled, dropped out due to unfavourable rural-urban conditions, or are tardy enrollees (Vandemoortele, 2002). Poor children are five times more likely to be out of school than children from wealthy households, and living in a rural area doubles the risk of not attending school or reaching a higher level.

Education in Africa can be roughly divided into pre- and post-colonial periods. Since the introduction of formal education to Africa by European colonists, African education, particularly in West and Central Africa, is characterised by both traditional African teachings and European-style schooling systems (Moyo, 2022). The state of education reflects not only the effects of colonialism, but instability resulting from and exacerbated by armed conflicts in many regions of Africa as well as fallout from humanitarian crises such as famine, lack of drinking water, and

outbreaks of diseases such as malaria and Ebola, among others (Herbst, 2020). Although the quality of education and the quantity of well-equipped schools and teachers have steadily increased since the onset of the colonial period, there are still evident numerous inequalities in the existing educational systems based on region, economic status, and gender (Moyo, 2022).

In Cameroon, inequitable learning environments in schools are also reflected in unequal learning outcomes. Some youths have lower chances of finishing basic education, depending on their household income, where they lived, or their gender. In the Far North, primary school completion rate for girls stands at about 36% whereas in the Littoral, the rate stood at 88% (Tafah, 1989). Due to this, some kids are still unprepared for transition to secondary school, let alone to the workforce. Five ministries oversee the decentralized system of education in Cameroon. MINEDUB is centered on nursery, primary, and teacher preparation education, while MINESEC is for general and technical secondary education. MINESUP on its part is for University and professional higher education, MINEFP for vocational training, and MINSEP for all youths sporting events. Given that youth make up more than 50% of the population and that urban populations are expanding quickly, there will likely be a rise in demand for education (Fondong, 2022)

The population pressure means that educational system must accommodate a rising demand for all forms of instruction. The gross pre-school enrolment rate in basic education increased to 36.8% in 2018. The cycle's completion rate in primary education increased from 73% in 2012 to 76.7% in 2017 (NDS,2020). Due to the security crisis in some regions of the country, particularly in the North-West, South-West, and Far North Regions, the admission rate to the first year of secondary education in secondary education increased almost linearly from 52.4% in 2011 to 69.7% in 2016, before sharply declining to 55.4% in 2017. Technical and vocational education's proportional weight decreased from 22.2% in 2014 to 18.81% in 2017. Last but not the least, since 2000, higher education has seen significant growth overall - the number of students enrolled in higher education increased from 196,461 in 2010/2011 to 353,840 in 2016/2017 (NDS, 2020).

Transdisciplinary education becomes the means of ensuring a nation's welfare in the context of an increasingly knowledge-based economy. Some questions aimed at addressing some economic benefits of education include: how much more do tertiary graduates earn? what is the incentive for investment in education by individuals or a society? and how does education affect employment in any sector and subsequently income? The putting in place of an almost free primary education and the creation of new State universities in Cameroon to enable regional balance, the inter-urban and inter-regional migration of pupils, students and families from crisis areas of the country to seek for

a peaceful and sound environment of education, and the increasing number of graduates from the so many schools, higher institutes and universities across the country, gives further evidence of the need to enjoy the benefits of education. Can our numerous and high scale educational attainments therefore address the new economic challenges we face pertaining to welfare? The main objective of this paper is to explain the effect of educational attainment on economic welfare in Cameroon while considering existing arguments in the current literature and laying emphasis on the aspects of gender, location and the sector of activity.

REVIEW OF LITERATURE

As far as the theoretical literature is concerned, we have the human capital theory and the Signalling theory. The human capital theory holds that education is essential for economic development. People can acquire the useful skills needed by a contemporary, complex economic system through education. Education is a wise investment because it pays off financially. Such a strategy is found in the design of formal educational systems. The approach, on the other hand, in terms of human development and educational capabilities, in Sen's opinion, assigns three roles: the instrumental role, the role of empowerment, and the redistributive role. Critical thinking is strengthened by education, and a strong democracy is closely related to it (Lanzi, 2007). Although research on macroeconomic development and welfare has given education more attention, she did not fully articulate the characteristics of an engine of the national economic success.

With the advancement of empirical research using economic models, it was gradually realized that education was a crucial component of economic growth and welfare. Solow's model, which is adjusted for human capital, is an exogenous growth model in neoclassical theory, whereas the new theories of growth are exogenous decreasing models (Lucas Romer's models from 1988 and 1990). Children suffer as a result of regional, financial, and gender disparities, which also put vulnerable groups at risk of dropping out of school and experiencing further disadvantages in life. Inequitable learning environments in Cameroonian schools are also reflected in unequal learning outcomes. Some youths had lower chances of finishing basic education, depending on their household income, where they lived, or their gender. In the Far North, girls' primary completion rates were around 36%, whereas in the Littoral, they were 88% (Zhao, 2019).

Despite the important role that education plays in the development process, most studies on the subject of education and African development seem to focus only on how education

affects income growth. The key component of human capital, particularly in the areas of education and health, is stressed by modern theories of economic growth. However, the connection is not just between rates of income growth. An individual's income is correlated with his or her level of education, according to the proponents of the human capital theory, so the higher their educational attainment, the more they will earn. However, a number of academics, including those who support signalling theory, have criticized this theory of a direct relationship.

Human capital theory versus signalling theory

Education and employment are two intertwined ideas. An individual's productivity is influenced by the knowledge and skills he or she has acquired through formal education. Consequently, the proponents of the capital theory think education gives students the ability to perform difficult tasks at work, which help boosts income. According to the Bureau of Labour Statistics (2012), increased productivity results in higher earnings. Accordingly, having more education may increase the likelihood of finding employment, which also increases the likelihood of earning more money (Mejia & St-Pierre, 2008; Moriguchi & Saez, 2008).

However, according to the signalling theory, education alone may not have a significant impact on the individual's ability to earn money; rather, it only serves to signal or communicate an individual's ability to perform their tasks properly to potential employers. Students may choose a very lengthy course of study to signal or advertise their educational qualification to the potential employer while the employer may need a minimum level of schooling, as opposed to simply increasing individual productivity.

Conceptually, household standard of living refers to the level of wealth, comfort, material goods and necessities available to some socioeconomic class in a certain geographic area. According to Olofin et al., (2015), a number of variables affect standard of living, such as education level, access to basic social and economic services, industry of employment, sex and ethnicity of the household head, and rural vs. urban location. The three main theoretical literatures on the standard of living are behavioral/decision-based theory, neoclassical theory, and classical theory. According to Amartya Sen's capability approach, poverty is a relative lack of resources, income, and goods (Sen, 1983).

From the perspective that education investment increases the skills and productivity of poor households, the connections between education and welfare can be seen. It raises both the overall standard of living and the income level (Masood et al., 2011). At the individual level, education serves as the cornerstone of one's professional career and has an impact on factors such as lifetime income, health, socialization, and overall

wellbeing (Oshewolo, 2010). Education influences how women behave when making decisions about having children and family planning, as well as how they use health care services and access to shelter, all of which are basic human needs (Jeffery and Basu, 1996). According to Masood et al., (2011), increasing earnings/income (wages) has a direct impact on reducing poverty. The theoretical effects of illiteracy include low earning potential and the transmission of poverty from one generation of the household to the next (Masood et al., 2011).

With regards to empirical literature, topic of education is contentious and of great interest to experts from many different fields, including economists, politicians, and ordinary people. Numerous empirical studies that tried to emphasize the significance of education have shown that it has positive effects on both the individual and society.

Carlson and McChesney (2015) examined the sustainability of income, as it relates to educational attainment, from the two recent decades, which includes three significant economic downturns. By separating the data by educational level and gender, trends in the wealth gap were examined. The wealth gap and standard of living as they relate to educational attainment were predicted to change through the year 2030 using data from 1991 through 2010. Independent of American economic conditions, the research supported a positive correlation between education levels and salaries. Thus, the higher the level of education attained, the higher the earnings, and the less volatile the stock market is during recessionary times. The authors conclude that the buying power and standard of living in the United States is declining for all education levels below a Bachelor's Degree.

Callander and Schofield (2012) look at education attainment impact on an individual's capacity to engage in the labour force, their living standards and hence their poverty status in modern Australia. What constitutes a sufficient level of education for a respectable standard of living is unknown, though. As such, education should be included in measures of poverty. The relationship between various levels of educational attainment and labour force participation and income was examined using data from the 2003 Survey of Disability, Ageing, and Carers. This led to the conclusion that Year 12 or higher is a necessary level of education attainment for people between the ages of 15 and 64, and Year 10 or higher for those over the age of 65. This is in line with current government policies to improve Year 12 completion rates. Knowing what a 'sufficient level of education attainment is, allows education to be included in multidimensional measures of poverty that view education as a key dimension of disadvantage.

Shabi et al. (2022) make use of annual time series data sourced from the world bank development index (WDI) covering the period of 1981 to 2017 to examine the relationship between

educational attainment and living standards in Nigeria. The pre-test was conducted using the Jarque-Bera normality test, the unit root test, the test for multi correlation, and the cointegration test, and the estimation was conducted using the Fully Modified Ordinary Least Squares (FMOLS) method. The finding that formal education and complementary skills have a significant positive impact on household standard of living in Nigeria highlights the need to find employment for secondary school dropouts, some of whom might not be interested in pursuing higher education, in order to encourage secondary school dropouts to return to school.

Using data from the first Cameroon household survey, Fonkeng and Ntembe (2009) examine the actual and potential effects of higher education on the development of Cameroon. They examine the relationship between educational attainment and private returns to education. The econometric work estimates the earning equations for full-time employees across educational levels using Ordinary Least Squares (OLS). The findings support the relatively high value placed on a college degree. In essence, an extra year in school is expected to increase earnings, suggesting that investing in one's own education is worthwhile. Men, however, benefit more privately from post-secondary education than do women. Next, we estimate the social returns to investments in higher education using the shortcut method. The findings also demonstrate that social returns to higher education are substantial but also favour women more than men. The study comes to the conclusion that higher education plays a significant role in Cameroon's development process and that this role can be strengthened provided that steps are taken to increase the system's effectiveness, increase equity in access, and ensure greater professionalism of academic programs.

Njong (2010) used the 2001 household survey to see how different levels of education among workers affected poverty in Cameroon. Using cross-sectional data, a logistic regression model with sample-selectivity correction was estimated, with the likelihood that a person will be poor being the dependent variable and a range of educational and professional experience as the explanatory variables. The findings show that a person's likelihood of being poor decreases with increasing experience and educational attainments, and that a male's educational level reduces poverty more than their female counterpart.

Using cross-sectional data from the fourth Cameroon Household Survey (ECAM IV), Angyie et al. (2022) examine the impact of education on employment status and employment options for young people in Cameroon. They first examine the impact of education type and educational attainment on the employment status of 14459 young people in Cameroon using a binary logistic regression, and then they use a multinomial logistic model to look at the impact of education type on the employment option of a different sample of 13589 young people

in Cameroon who are employed. While educational attainment only affected employment status, the type of education had a significant impact on both employment status and employment options. This demonstrated that the likelihood of employment decreases with higher educational levels and that young people with technical qualifications had greater employment chances than their general education counterparts. Similar to the formal self-employed sector, technical education was found to lower the likelihood of employment in the public and informal sectors.

Hussein (2021) examined the inter linkage between educational attainment, individual earnings and social class movement with individual qualification of being once employed. The results showed that the higher the educational attainment, the higher the individual earnings, purchasing power, income level, and standard of living which also results in a hierarchically upward mobility to the next social class with a significant degree of status and influence. A quantitative design was used, and data were gathered via scholarly article review and actual observation records.

METHODOLOGY

Educational level is a proxy representing different educational attainment (EDA), namely: primary, secondary and tertiary education, with no education being the reference. In the current study, following from the theoretical framework of Ogundari et al. (2014) we model the relationship between educational attainment and economic welfare such that an index is created for Economic Welfare (EWL) using private consumption expenditure or household consumption per unit, savings, credit or loan facility and the price index. Based on the work of Sharimakin et al. (2015), urban area and gender (female) are used as explanatory control variables of the study.

The model is specified as follows:

$$EWL = f(EDA, Urban, Female, Form sec) \quad (1)$$

The transformation of the above functional relationship into an econometric model yields;

$$EWL_norm = \beta_0 + \beta_1 edup_i + \beta_2 educs_i + \beta_3 educt_i + \beta_4 Urban_i + \beta_5 Female_i + \beta_6 Form sec_i + ut_i \quad (2)$$

The same model is applied while considering gender, location and the sector of activity.

$$EWL_norm = \beta_0 + \beta_1 edup_i + \beta_2 educs_i + \beta_3 educt_i + \beta_4 Urban_i / rural_i + \beta_5 Female_i / male_i + \beta_6 Form sec_i / inForm sec_i + ut_i \quad (3)$$

Where *EWL_norm* = Economic welfare Index (created using the Principal Component Analysis by putting together credit, savings, unit consumption expenditure and the price index), *EDA* = Educational Attainment is expressed under primary (*educp*), secondary (*educs*) and tertiary (*educt*). The three other control variables bring out the aspect of gender (female and male), location (rural and urban) and sector of activity (formal and informal).

Based on prior knowledge from economic theories the expected relationship among the variables is summarized as follows: the theoretical expectations require that there should be a positive relationship between educational attainment and Economic Welfare. It is expected that there should be a positive relationship between formal education, urban area and household economic welfare. The study used cross-sectional data from the 4th Cameroon household survey (ECAM 4).

RESULTS

Using a sample size of 11,391 households, the standard deviations are not large with respect to their respective means thus giving a low variability with respect to educational attainment. Most variables used are binary that is varying between zero and one, but for 02 which are price index and private consumption which are continuous.

4.1 Synopsis of Economic Welfare – Principal Component Analysis

In order to capture the variable Economic Welfare, an index was built in order to depart from the usual income-standard of living used by several authors. Here, aspects of income and standard of living are put together. The four components extracted from the dataset are credits of the household, savings, price index and per unit consumption expenditure. The dataset has 11,391 observations and the trace represents the total variance captured by the extracted components. Here, the trace is 4, which is the number of components you have. The rotation on its part indicates how much the principal components are correlated with the original variables. A value of 1.0000 suggests that the components are unrotated (aligned with the original variables).

Looking at each principal component, the eigenvalue for Component 1 is 1.375. The "Difference" indicates the difference between the eigenvalues of Component 1 and Component 2, which is 0.304. The "Proportion" is 0.344, which means that Component 1 captures 34.4% of the total variance in your data. The "Cumulative" proportion is the cumulative sum of the proportions, indicating that Components 1 and 2 together capture 61.2% of the variance. Component 3 captures 19.9% of the variance in the data, and Component 4 captures 18.9% of the

variance thus making 100%. The eigenvalues represent the amount of variance explained by each principal component. Typically, components with higher eigenvalues are considered more important in terms of capturing variance in the original data. In this case, the first two components are more significant, as they explain a substantial portion of the total variance. This can be seen from Table 1.

Table 1. Synopsis of Economic Welfare (Principal Component Analysis)

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	1.375	0.304	0.344	0.344
Comp2	1.071	0.276	0.268	0.612
Comp3	0.796	0.038	0.199	0.811
Comp4	0.758	.	0.189	1.000
No of Observations			11, 391	
Number of Components			4	
Trace			4	
Rho			1.0000	

Source: Authors using Stata 14

4.2 Pairwise Correlation

With regards to correlation, all the variables used have a perfect correlation on the leading diagonals with themselves. However, the primary level of education (education) has a negative and significant correlation with the dependent variable economic welfare (EWL_normalised) at all levels (female, male, urban, informal and formal) but for the rural sector. All other variables have a positive correlation at the different levels of comparison with the dependent variable but for 'educations' with a negative significant correlation in the formal sector and the variable of being a female which is insignificant at all levels except the formal sector.

Table 2: Pairwise correlations with dependent variable

Variables	(1) If male	(1) If female	(1) If rural	(1) If urban	(1) If informsec	(1) If formsec
(1) EWL_norm	1.000	1.000	1.000	1.000	1.000	1.000
(2) educp	-0.134 (0.000)	-0.065 (0.000)	0.051 (0.000)	-0.171 (0.000)	-0.032 (0.003)	-0.221 (0.000)
(3) educs	0.201 (0.000)	0.288 (0.000)	0.196 (0.000)	0.149 (0.000)	0.298 (0.000)	-0.089 (0.000)
(4) educt	0.324 (0.000)	0.294 (0.000)	0.170 (0.000)	0.305 (0.000)	0.161 (0.000)	0.323 (0.000)
(5) female	(.)	(.)	0.006 (0.655)	-0.004 (0.768)	0.008 (0.468)	0.060 (0.006)
(6) urban	0.364 (0.000)	0.369 (0.000)	(.)	(.)	0.334 (0.000)	0.287 (0.000)
(7) formsec	0.316 (0.000)	0.287 (0.000)	0.186 (0.000)	0.276 (0.000)	(.)	(.)

Source: Authors from Stata 14

4.3 Estimate of Educational Attainment on Economic Welfare in Cameroon

Primary education (educp): The coefficient of 0.396 indicates that, while holding other variables constant, a one-unit increase in the variable "educp" is associated with an increase of approximately 0.396 units in economic welfare. This variable is statistically significant. A male headed household contributes more to EWL at the primary level (0.420 units) than the female (0.344 units). With respect to their setting, households at the primary level of education in an urban setting will increase their economic welfare by 0.469 points, while those in a rural setting will do so by 0.382. The primary attainment statistically increases economic welfare in the informal sector, than the formal sector which is statistically insignificant. *(see table 3 below)*

Secondary attainment (educs): With a coefficient of 0.776, the variable "educations" is also statistically significant. This implies that for a one-unit increase in "educations," EWL is expected to increase by approximately 0.776 units, holding other factors constant. The contribution to EWL if a male or female, or households headed by males or females is slightly different (0.781 and 0.786 respectively). However, those at this level are bound to increase EWL more in the urban area (0.952 units) than those in the rural area (0.595 units). The formal sector remains statistically insignificant for those at this level. *(see table 3 below)*

Table 3: Estimate of Educational Attainment on Economic Welfare in Cameroon

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	EWL_ normalised	EWL_ normalised	EWL_ normalised	EWL_ normalised	EWL_ normalised	EWL_ Normalised	EWL_ normalised
		If male	If female	If rural2	If urban2	If informal	If formal
Primary Education	0.396** (0.0214)	0.420** (0.0258)	0.344** (0.0388)	0.382** (0.0255)	0.469** (0.0372)	0.410** (0.0225)	0.358 (0.157)
Secondary Education	0.776** (0.0242)	0.781** (0.0281)	0.786** (0.0488)	0.595** (0.0309)	0.952** (0.0373)	0.834** (0.0267)	0.818 (0.152)
Higher Education	1.464* (0.0563)	1.465* (0.0633)	1.493 (0.126)	1.060* (0.0851)	1.641* (0.0682)	1.373 (0.104)	1.590 (0.164)
Female	0.158** (0.0212)			0.147** (0.0247)	0.154** (0.0325)	0.149** (0.0226)	0.124* (0.0806)
Urban	0.550** (0.0181)	0.564** (0.0211)	0.509** (0.0353)			0.487** (0.0204)	0.797* (0.0514)
Formal	0.362** (0.0303)	0.363** (0.0323)	0.343* (0.0835)	0.255** (0.0449)	0.389** (0.0377)		
o.female		-	-				
o.urban2				-	-		
o.formal						-	-
Constant	-0.934** (0.0180)	-0.953** (0.0206)	-0.741** (0.0257)	-0.862** (0.0204)	-0.511** (0.0310)	-0.916** (0.0190)	-0.813 (0.150)
Observations	11,391	8,350	3,041	5,026	6,365	8,265	3,126
R-squared	0.280	0.282	0.275	0.123	0.194	0.217	0.188

*** $p < .01$, ** $p < .05$, * $p < .1$

Source: Authors, Stata14

Higher or tertiary education (**educt**): The coefficient of 1.464 for "educt" indicates that a one-unit increase in this variable is associated with an increase of about 1.464 units in the dependent variable. This variable is highly significant ($p < 0.01$). However, being a female insignificantly contributes to EWL at this level unlike their male counterparts. The services of those at this level of attainment tend to have their EWL increased more if in an urban setting (1.641), than in a rural setting (1.060). The formal and informal sectors at this educational level are insignificant (see Table 3). While controlling for other variables, being a female is expected to significantly increase EWL by 0.158 units, and being in an urban area helps increase economic welfare more than the reference category (0.55). Generally, the formal sector contributes is more appealing as attainment in education increases (Table 3).

The different R-squared values as shown on table 3 below, indicates approximately that 28% of the variance in the dependent variable is explained by the independent variables. It becomes 28,2% when the male headed households are considered and 27.5% for the female. In the case of rural and urban areas, we have 12.3% and 19.4% respectively. A Post-test of Variance Inflation Factor to detect the severity of multicollinearity was done and a value of 1.4 indicates

that the variance is 40% higher than what could be expected if there was no multicollinearity between the independent variables. Thus moderately correlated. Equally a control was done for heteroscedasticity and the results are robust

Summarily, it is noticed that as an individual moves up the ladder of educational attainment, the tendency to have his or her Economic welfare status increased is so eminent. This is evident from the increase in the units of coefficients from primary to secondary, and then to higher (0.396, 0.776, and 1.464 respectively). These results are in conformity with those obtained by Carlson and McChesney (2015) in the case of the United States though the females were seen to contribute more than the male counterparts. This is justified by the fact that, the higher you get, the wider the possibilities to be gainfully employed, get to higher income scale and can sustain the price index of almost any basket of goods, with unit consumption increasing and the ability to have increased savings and credits just to improve welfare. This is the argument of the Human Capital investment approach where more investment in education to get to a higher level, will lead to higher productivity and subsequently higher earnings. However, according to the signaling theory, education alone may not have a significant impact on the individual's ability to earn money; rather, it only serves to signal or communicate an individual's performance abilities to potential employers. Only then do we start realizing the contribution to EWL through the aforementioned benefits the higher level of attainment brings. Such is the case for Cameroon that has more of the credential based or screening hypothesis as far as economics of education is concerned (Angrist and Guryan, 2008; Labaree, 1997). This is evident from the certificates required to get into a higher core of employment and the basic salary differences and advantages that only get better as we climb the educational ladder.

The same analysis goes for educational attainment and being in an urban area on economic welfare. Investing and attaining higher heights in education while in an urban area is expected to increase economic welfare as compared to the rural area. This could be seen from the coefficients of 0.469, 0.952 and 1.641, which were all significant. This is evident from the fact that we have more employment facilities, social amenities and more accessibility as far as infrastructure is concerned (road and network) in the urban than in the rural areas. As far as gender is concerned and the female headed households are expected to increase EWL than the male at the secondary and tertiary level of education. This contradicts the results obtained by Njong (2010) in the case of Cameroon, on income.

CONCLUSION

In developing nations, primary education has significantly greater social benefits than secondary education

(Chimombo, 2005). Perhaps by allocating a significant portion of public funds to it, this will help to justify the widespread provision of primary education in the majority of developing nations. According to Unterhalter (2017), achieving the Millennium Development Goals or achieving universal primary education cannot be done by merely doing so. Because of the lack of an updated curriculum and a lack of managerial and administrative skills, the provision of primary education without proper consideration for secondary and higher education will impede development and the improvement of economic welfare.

The economic welfare of households are expected to increase progressively with a higher educational attainment as the results demonstrate. The Anglophone and Francophone sub-systems of the Cameroonian educational system, which reflect the colonial histories of Britain and France, make it somehow unique in Africa. However, there are significant regional and gender differences in the level of education achieved across the nation. Ages 6 to 14 had a net enrolment rate in schools of 79% nationwide, 90% in urban areas, and 70% in rural areas in 2001 (INS, 2001). The economic downturn that the nation experienced as a result of the drop in commodity prices on the global market, however, put these educational accomplishments in jeopardy. The government decreased her spending on social services, including education, as a result. For instance, from 1995 to 1999, public spending on education decreased from \$309 million to \$223 million (UNDP, 2003).

Education helps to unleash the productive potential of the poor. If there is greater equity in the distribution of educational opportunities and facilities that go with it in both rural and urban areas, for both male and female, and creating employment opportunities in all these areas and for all, then can we generally improve the economic welfare of the different households in Cameroon.

REFERENCES

- Abdulahi, A., Samadi, B., & Gharleghi, B. (2014). A study on the negative effects of social networking sites such as Facebook among Asia Pacific University scholars in Malaysia. *International Journal of Business and Social Science*, 5(10).
- Angrist, J. D., & Guryan, J. (2008). Does teacher test raise teacher quality? Evidence from state certification requirements. *Economics of Education Review*, 27(5), 483-503.
- Angyie, E. A., Daniel, T., & Martin, N. (2022). Education and Youths Employability in Cameroon. *African Journal of Emerging Issues*, 4(5), 96-110.

- Awan, M. S., Malik, N., Sarwar, H., & Waqas, M. (2011). Impact of education on poverty reduction.
- Callander, E. J., & Schofield, D. J. (2015). Multidimensional poverty and health status as a predictor of chronic income poverty. *Health Economics*, 24(12), 1638-1643.
- Carlson, R., & McChesney, C. (2015). Income sustainability through educational attainment. *The Exchange*, 4(1).
- Chimombo, J. P. (2005). Issues in basic education in developing countries: An exploration of policy options for improved delivery. *Journal of international cooperation in education*, 8(1), 129-152.
- Dumciuviene, D. (2015). The impact of education policy to country economic development. *Procedia-Social and behavioral sciences*, 191, 2427-2436.
- Esongo, N. M. (2017). Correlation between the Availability of Resources and Efficiency of the School System within the Framework of the Implementation of Competency-Based Teaching Approaches in Cameroon. *Journal of Education and Practice*, 8(2), 82-92.
- Fondong, J. (2022). *Renewing the Promise: A Treatise on the Refoundation of the Cameroon Nation*. Spears Books.
- Fonkeng, E. G., & Ntembe, A. N. (2009). Higher education and economic development in Africa: The case of Cameroon. *Educational Research Review*, 4(5), 231–246.
- George, E., & Augustine, N. (2009). Higher education and economic development in Africa: The case of Cameroon. *Educational Research and Reviews*, 4(5), 231.
- Herbst, J. H. (2020). Controversies on Public Religious Pedagogy: religious education in times of post-democratic populism, global warming and economization of education. *Journal of Religious Education*, 68(1), 29-41.
- Hussein, A. (2021). The Impact of Educational Attainment on Individual Earning and Social Class Mobility. *British Journal of Education*, 9(4), 45-54.
- Institut National des Statistiques (INS) (2001). Living Conditions and Poverty Profile in Cameroon, MINFI, Yaoundé, Cameroon.
- Jeffery, R., & Basu, A. M. (1996). Schooling as contraception. *Girls' schooling, women's autonomy and fertility change in South Asia*, 15-47.
- Jenkins, A., & Sabates, R. (2007). The classification of qualifications in social surveys.
- Labaree, D. F. (1997). *How to succeed in school without really learning: The credentials race in American education*. Yale University Press.
- Lanzi, D. (2007). Capabilities, human capital and education. *The Journal of Socio-Economics*, 36(3), 424-435.

- Mejía, D., & St-Pierre, M. (2008). Unequal opportunities and human capital formation. *Journal of Development Economics*, 86(2), 395-413.
- Moriguchi, C., & Saez, E. (2008). The evolution of income concentration in Japan, 1886–2005: evidence from income tax statistics. *The Review of Economics and Statistics*, 90(4), 713-734.
- Moyo, Z. (2022). Confronting Gender Inequalities in Education Leadership: A Case of Zimbabwe. *Gender Questions*, 10(1). National Development Strategy for Cameroon, 2020.
- Njong, A. M. (2010). The effects of educational attainment on poverty reduction in Cameroon. *Journal of education administration and policy studies*, 2(1), 1-8.
- Ogundari, K., & Aromolaran, A. B. (2014). Impact of education on household welfare in Nigeria. *International Economic Journal*, 28(2), 345-364.
- Olofin, O. P., Adejumo, A. V., & Sanusi, K. A. (2015). Determinants of poverty level in Nigeria. *Journal of Sustainable Development*, 8(1), 235.
- Oshewolo, S. (2010). Galloping poverty in Nigeria: an appraisal of government interventionist policies. *Journal of Sustainable Development in Africa*, 12(6), 264-274.
- Saxton, J. (2000). Investment in education: Private and public returns.
- Schultz, T. P. (1988). Education investments and returns. *Handbook of development economics*, 1, 543-630.
- Schultz, T. W. (1961). Investment in human capital. *The American economic review*, 51(1), 1-17.
- Sen, A. (1983). Development: Which way now? *The economic journal*, 93(372), 745-762.
- Sequeira, T. N., & Ferreira-Lopes, A. (2010). On the welfare properties of the Lucas and Romer endogenous growth models. *Economics Bulletin*, (3), 2143-2150.
- Sharimakin, A., Oseni, M. S., & Adegboye, A. C. (2015). Education, labour productivity and income inequality in Nigeria. *Annals of the University of Petroșani. Economics*, 15, 295-306.
- Surat, S. O., Ofodile, M. C., Toriola, A. K., Adelaja, A. O., & Salami, L. (2022). Educational Attainment and Household Standard of Living in Nigeria. *Indonesian Journal of Contemporary Education*, 4(1), 34-42.
- Tafah, E. E. O. (1989). *The Economics of Educational Investment in Cameroon* (Doctoral dissertation, University of Lagos).
- Tanase, A. (2001). An Estimation of the Relationship Between the Private and Public Returns to Education in Latin America. *The UWCAd Economics Society, Economic Restructuring In Latin America*.

- UNDP (2003). Human development report; Oxford University Press 198 Madison Avenue, New York, New York, 10016.
- Unterhalter, E. (2017). Measuring education for the Millennium Development Goals: reflections on targets, indicators, and a post-2015 framework. In *The MDGs, Capabilities and Human Rights* (pp. 80-91). Routledge.
- Vandemoortele, J. (2002). Are the MDGs feasible? *Targeting Development: Critical Perspectives on the Millennium Development Goals and International Development Targets*. London: Routledge.
- Wotipka, C. M., Rabling, B. J., Sugawara, M., & Tongliemnak, P. (2017). The worldwide expansion of early childhood care and education, 1985–2010. *American Journal of Education*, 123(2), 000-000.
- Zhao, T. (2019). An investigation into gender differences in participation in higher education among final year secondary school students in Cameroon (Doctoral dissertation, University of Warwick).