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TESI DI LAUREA

"TITOLO"
THE COST OF EARLY SCHOOL LEAVING IN AFRICA (Gambia,Ghana,Nigeria and Chad)

RELATORE:

CH.MO PROF..Giorgio Brunello

LAUREANDO/A: Adama Sohna

MATRICOLA N... 2043862

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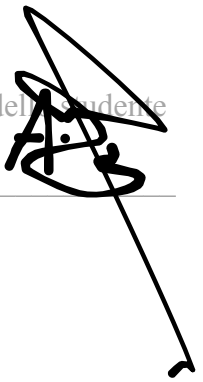

DEDICATION

My Thesis is Dedication to my Parents, my beloved husband and dearest Twin sister.
To my Parents,
Throughout my academic path, your everlasting love, unending support, and infinite encouragement have been my guiding lights. Your confidence in me and your willingness to make sacrifices have motivated me to accomplish my goal. I owe all I am today to your commitment and sacrifice. I appreciate you teaching me the importance of tenacity, resiliency, and hard work.
To my loving husband,
Through the highs and lows of pursuing this goal, your tolerance, comprehension, and unwavering support have been my pillar of support. Your unfailing faith in my ambitions has given me the willpower to get over every challenge. My inspiration has come from your love, which has inspired me to pursue perfection at every turn.
To my cherished Twin Sister,
Our common childhood has been filled with many memories, hopes, and goals. My greatest blessings have been your constant friendship, understanding, and support. We've overcome obstacles and celebrated successes together, and I will always be appreciative of having you in my life.
This thesis is dedicated to all of my brothers and sisters; you are my greatest gifts, my inspiration, and my pillars of strength. I am grateful for your unwavering love and support.

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ABSTRACT

The statistics on early school leaving among adults in Africa indicate a wide gap compared to the rest of the world which could undermine the economic growth of Africa. Hence, among other factors, this study assesses the cost of early school leaving on economic growth of Africa. Furthermore, it examines how factors such as birthrate, population growth, unemployment, education expenditure, dependency ratio affects early school leaving in Africa.

A panel data was used in this study comprising Chad, Gambia, Ghana and Nigeria. Data collected for the study are gathered from World Development Indicator (WDI), UN SDGs, UNESCO, PROPERTY RIGHT INDEX WEB PAGE, HARVARD Dataverse and the OECD for the period of 1990 -2022.

To analyze the data, an Ols regression was performed for the period 1990-2022 and descriptive analysis 1990-2020.

The study found that there is no significant between lag GDP and lag ESL, with variables like population dynamics and birth rates also showing no significance. External shocks like wars and political turmoil do not immediately impact GDP, and changes in socioeconomic factors do not affect financial performance in the short term. This emphasizes the need for long-term policies to address educational and demographic issues. Long-term coefficients for GDP, ESL, and population dynamics were also found to be insignificant, suggesting that these do not have a lasting impact on future GDP dynamics. Control variables like education costs and maintenance rates were still significant, indicating the government's potential role in promoting sustainable economic growth through educational and social security programs. Policies focusing on reducing dropout rates, increasing education spending, and creating job opportunities can lead to stronger human capital and boost economic growth in African countries

Findings of factors influencing early school leaving show that Between 1990 and 2020, Chad's GDP averaged 9.67 billion dollars, with a comparatively low standard deviation of 0.41, indicating some degree of economic production stability. The standard deviation of 14.41 and the mean early school leaving rate of 36.33% show significant variability. Of the four countries, Chad has the highest mean dependency ratio (103.29), birth rate (7.00), and poverty rate (41.77). In addition to having a mean unemployment rate of 0.94%, the nation spends $135.70 per person on education. For the years 1990 through 2020, the population mean is 10,619.83 thousand.

Compared to Chad, the Gambia has a lesser economic output, with a mean GDP of 9.02 billion dollars. The nation's early school departure rates had a greater standard deviation (10.81), indicating possible issues with schooling. Comparing the Gambia to Chad, the country has a lower mean dependence ratio (94.63), birth rate (5.63), and poverty rate (37.04). Among the four nations, it has the highest mean unemployment rate (7.74%). The population mean is 1,753.09 thousand, and per capita education spending is lower at 19.65 dollars.

Out of the four countries, Ghana has the largest economic production, with a mean GDP of 10.26 billion dollars. The nation has a higher average rate of early school leaving (67.77%) and a noteworthy standard deviation (13.92), suggesting that there may be educational differences. Out of all the countries, Ghana has the lowest mean dependence ratio (80.07), birth rate (4.50), and poverty rate (42.52). With 1,794.09 dollars spent on education per person, the average unemployment rate is 5.62%. The mean number of people is 23,297.19 thousand.

Nigeria has the greatest economic production out of the four, with a mean GDP of 11.31 billion dollars. The nation has a moderate standard deviation of 10.35 and a mean early school leaving rate of 61.28%. In comparison to Gambia, Nigeria has a lower poverty rate (41.51), birth rate (5.97), and mean dependence ratio (88.87) than Chad. The average unemployment rate in the nation is 4.18%, while each person in the nation spends a substantial 187.02 dollars on schooling. Nigeria, with 146,917.80 thousand people, has the greatest mean population of the four countries.

Improving on the following were put into consideration building comprehensive policies aimed at reducing the percentage of early school dropouts, increasing funding for education, and promoting job creation will significantly increase productivity, foster innovation, and fortify human capital all of which will support economic growth. Prioritizing education and specialized skills is crucial for a competent and skilled workforce in a rapidly expanding economy. Governments can assist citizens in pursuing higher education and acquiring specialized skills, ensuring they are well-equipped to succeed in today's competitive labor market.

Chapter 1: INTRODUCTION

1.0 Background

Even though early school departure is widely acknowledged as a problem in many African nations, education is nevertheless a crucial instrument for achieving economic growth and development. Low levels of educational achievement are commonly accepted to entail significant financial implications for individuals, taxpayers, and society as a whole. In this thesis, The Gambia, Chad, Ghana, and Nigeria are the four African nations we are looking at to determine the economic effects of early school leaving by analyzing how does the following socio and economic factors affect early school leaving example economic growth (GDP), birth rate, dependency ratio, population, poverty, unemployment property rights index, inflation rate, interest rate, imports and exports, tropical of land, colonization, Government consumption to GDP and government expenditure on Education. Building on recent research that emphasizes the enormous economic benefits of higher education levels, our focus will be on assessing the costs associated with low levels of several educational attainments.

Education benefits people in many ways, including improving their ability to make wise decisions about their health, marriage, parenting, and retirement, as well as increasing their chances of landing a good job, earning more money, and being more satisfied with their work. Education also affects people's non-cognitive skills and attitudes, such as patience, motivation, and risk aversion, which can affect their financial decisions. The decision to continue one's education has societal repercussions, which affect both government finances (by increasing tax collection and lowering welfare spending).

In Africa, the expense of early school exit is a significant problem. UNESCO reports that sub-Saharan Africa has the highest proportion of out-of-school children globally, with 244 million children between 6 and 18 not attending school in 2021. This can negatively impact their financial prospects and the economy, affecting both individuals and society.

An outline of the theoretical and empirical research on the connection between economic development and education will be given in Chapter 2 of this thesis. We'll go over how education may support economic development and growth by boosting entrepreneurship, productivity, and

innovation. We will also look at the causes of early school abandonment in Africa, such as insufficient educational systems, gender inequality, and poverty.

The approach for estimating the economic consequences of early school leave in the four nations under study is covered in Chapter 3. We'll go over the econometric methods applied to assess the economic benefits and costs of schooling, along with the data sources we used for our analysis.

The findings of our analysis will be presented in Chapter 4, emphasizing the financial consequences of early school dropout.

1.1 Analysis of the level of education for the four african countries (gambia,ghana,nigeria and chad)

The figures below shows two table for each country (1) completion rate (2) out of school children from unesco satistic. While comprehensive data is available for all countries, data for Nigeria out of school children is missing.These tables include information about educational achievement as well as percentage of children who dropout of school at a very early age from 2013 to 2023

GAMBIA LEVEL OF EDUCATION

Table 1A. GAMBIA COMPLETION RATE, BOTH SEXES (%)

	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Primary education	62.0	63.3	64.4	65.4	66.4	65.5	68.3	63.8	70.3	71.3	72.4
Lower Secondary Education	48.3	46.1	47.2	48.3	49.4	45.8	51.7	48.6	53.7	54.7	55.7

Upper Secondary Education	30.2.	26.8	27.3	27.9	28.4	26.4	29.3	28.8	30.7	31.4	32.2

GAMBIA LEVEL OF EDUCATION

Table 1B. OUT OF SCHOOL RATE RATE BOTH SEX (%)

	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2021**	**2023**
lower secondary Education	34.1	35.8	34.0	33.9	32.4	28.8	28.3	26.8	25.4	24.1	19.6
primary school Education	37.5	38.2	33.2	32.1.	29.8	28.3	25.1	23.0	23.3	22.9	22.9
upper secondary Education	57.8	56.0	56.6	56.6	54.2	51.3	51.7	50.3	48.6	48.8	45.4

According to UNESCO statistics Gambia has a Gross national income per capital (2022) equivalent to $2470.00. A Population of 2.7million by 2022. Poverty head count ratio at $3.65 a day (2020) 47%(2011)

As shown on the table above, Even though the country may have made slow progress, the Gambia saw an improvement in the percentage of its citizens who completed their education during this time. It's likely that efforts were made to lower dropout rates and expand educationalopportunities. Enhancing completion rates may have been made possible by initiatives like the offering of scholarships, school food programmes, and infrastructure improvements. There may be differences between urban and rural places, too, with rural areas perhaps having lower completion rates because of things like less access to education, poverty, and cultural obstacles.

The Gambia probably still had problems with out-of-school youth during this time despite its advancements.

It's possible that attempts were undertaken to pinpoint and resolve the root reasons of children missing school, which include gender inequality, child labour, poverty, and early marriage. Aiming to make education more inclusive and accessible, legislation changes, community outreach initiatives, and awareness campaigns can have all been used as interventions.

Working together with donors and international organisations may have been essential to putting measures in place to lower the number of children who are not in school.

GHANA LEVEL OF EDUCATION

Table 2A. GHANA COMPLETION RATE, BOTH SEXES (%)

	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Primary Education	70.9	65.8	72.7	73.5	71.0	71.0	76.1	76.9	77.8	78.6	-
Lower secondary education	52.0	50.1	52.1	52.2	47.4	53.0	53.0	53.6	54.2	54.8	-
Upper secondary education	-	35	-	-	35.7	35.7	-	-	-	-	-

GHANA LEVEL OF EDUCATION

Table 2B. OUT OF SCHOOL CHILDREN BOTH SEX (%)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
lower secondary Education	-	17.25	15.38	18.23	8.17	9.44	6.93	11.96	11.34	-	-
primary school Education	36.4	42.9	37.	38.5	39.	34.9	31.2	28.6	33.4.	-	-
upper secondary Education	12.5	16.9	13.0	15.9	16.6	20.6	16.1	13.4	8.7	-	-

UNESCO statistics Ghana show a Gross national income per capital (2022) equivalent to $6380 middle income jully 2023.00. A Population of 33.5million by 2022. Poverty head count ratio at $3.65 a day (2016) 48.8%(2011)

The table above show the primary, lower secondary, and upper secondary completion rates have shown variations during the examined time. But a general pattern shows that completion rates appear to be rising gradually. This points to a promising trend whereby basic education is becoming more widely available or effective, maybe as a result of different educational programmes or

upgrades to the infrastructure of educational institutions.

There is considerable variation in the proportion of elementary school-age children who are not enrolled in school. Though there have been occasional fluctuations, there has generally been a downward trend in out-of-school rates throughout time. This decrease shows that initiatives to improve primary school enrollment and accessibility which are essential for guaranteeing children's basic learning are making success.

NIGERIA LEVEL OF EDUCATION

Table 3A. NIGERIA COMPLETION RATE, BOTH SEXES (%)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Primary education	68.4	-	-	73.7	-	70.6	78.7	-	73.1	-	-
Lower secondary education	51.7	-	-	67.4	-	62.6	72.6	-	67.8	-	-
Upper secondary education	49.7	-	-	49.4	-	49.2	57.4	-	53.7	-	-

UNESCO statistics show that Nigeria has a Gross national income per capital (2022) equivalent to $5650 middle income jully 2023.00. A Population of 218.5million by 2022. Poverty head count ratio at $3.65 a day (2018) 63.5%(2011)

As shown on the table above, During this period, the proportion of citizens in Nigeria who finished their schooling increased. It's probable that initiatives to increase educational opportunities and reduce dropout rates were undertaken.
Initiatives like providing scholarships, school feeding programmes, and infrastructural upgrades

may have contributed to higher completion rates.

There could also be disparities between rural and urban locations; for example, poverty, cultural barriers, and limited access to education could all contribute to lower completion rates in rural areas.

CHAD LEVEL OF EDUCATION

Table 4A. CHAD COMPLETION RATE, BOTH SEXES (%)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Primary education	26.7	27.3	27.8	28.3	28.9	29.5	26.9	31	31.9	32.9	33.9
Lower secondary education	-	13.9	-	-	-	-	23.2	-	-	-	-
Upper secondary education	-	9.8	-	-	-	-	-	-	-	-	-

CHAD LEVEL OF EDUCATION

Table 4B. OUT OF SCHOOL CHILDREN BOTH SEX(%)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023

lower secondary Education	20.	-	20.7	27.2	33.2	27.	28.4	-	25.8	25.7	-
primary education	-	-	81.9	78.9	80.2	78.13	77.	-	75.4	-	-
upper secondary school Education	-	-	60.6	59.	64.9	59.6	61.8	-	58.7	-	-

UNESCO statistics show that chad has a Gross national income per capital (2015) equivalent to $1760 low income jully 2023.00. A Population of 17.7million by 2022. Poverty head count ratio at $3.65 a day (2018) 64

UNESCO statistics from 2013 to 2023 shows that Ghad's rates of educational completion have increased significantly. This increasing tendency suggests that the nation's educational system is making progress, maybe as a result of increased outreach, quality, and accessibility initiatives. The variation in the number of children not attending school, however, indicates that obstacles to guaranteeing universal access to education still exist. Different circumstances, such economic instability, violence, or inadequate infrastructure, might cause fluctuations. Even with advancements, managing these oscillations is still essential to attaining sustainable development in education. Targeted measures, such as increased access to education, community involvement programmes, and legislation addressing socioeconomic impediments to education, may be necessary in an effort to stabilise out-of-school rates.

1.2. Problem statement

The habit of students leaving school before completing their education, or early school departure, is a major issue in inclusive education. In The Gambia, Ghana, Nigeria, and Chad, it is a major issue.

This problem has a significant negative influence on individuals who leave school early as well as the cultures in which they live. According to Eric, et al., (2011), fewer possibilities, and difficulties in obtaining universal basic education are some of the effects of early school dropout, further discussed by Yokozeki, (1997). Limited employment possibilities and gender disparity in enrollment, retention, and economic activity are two effects of early school dropout, achievement and fewer prospects for progress in society.

Numerous economic, social, cultural, and educational factors that hinder the attainment of a quality education and restrict personal and societal growth are among the many and varied underlying reasons for this tendency.

The issue must be resolved holistically, taking into consideration economic disparities, cultural norms, and educational quality, in order to guarantee that everyone has equitable access to high-quality education and, in doing so, fosters both individual development and society advancement.

1.3 Research questions

- How do the socioeconomic factors (poverty, dependency ratio, and birth rate) contribute to early school leaving in Africa?
- What is the effect of macroeconomic factors (unemployment rate and government expenditure on education) on early school leaving in Africa?
- How does early school leaving affect the economic growth of Africa?

1.4 Objective of the study

Consequently the specific objectives of the study are highlighted as follows:

- Examine the effect of socioeconomic factors (poverty, dependency ratio, and birth rate) on early school leaving in Africa;
- Assess the effect of macroeconomic factors (unemployment rate and government expenditure on education) on early school leaving in Africa;

- Determine the effect of early school leaving on the economic growth of Africa.

1.5 Research Hypotheses

This study seeks to empirically verify the following assumptions:

Hypothesis One

H_1: Socioeconomic factors (poverty, dependency ratio, and birth rate) do not influence early school leaving in Africa;

Hypothesis Two

H_2: Macroeconomic factors (unemployment rate and government expenditure on education) do not influence early school leaving in Africa;

Hypothesis Three

H_3: Early school leaving do not influence the economic growth of Africa

1.6 Scope of the study

The likelihood of social, economic, and educational achievement for individuals and society is negatively impacted by early school desertion. It hinders people from developing the human resources necessary for a nation to succeed, keeps them mired in a cycle of poverty, and limits their access to favorable economic opportunities. By examining the unique social, economic, and educational contexts of the Gambia, Ghana, Chad, and Nigeria, this study aims to shed light on the causes of early school leaving and the variances in its frequency in these countries.

In this study, we will use panel data databases extracted from the World Development Indicator (WDI), and the United Nations Educational, Scientific and Cultural Organization (UNESCO).

1.7 Significant of the study

It is essential to comprehend the reasons why children in the Gambia, Ghana, Chad, and Nigeria drop out of school early in order to develop targeted interventions and policy changes. Participants, particularly authorities, schools, NGOs, and global organizations, can develop thorough plans to keep kids and teenagers in school and provide universal access to high-quality education by addressing these reasons. In turn, this will enable people to escape the cycle of poverty, support national growth in the economy, and promote social cohesiveness, finally resulting in the general advancement in these African nations.

CHAPTER 2 : LITERATURE REVIEW

2.1. Introduction

Learning is an intrinsic human right as well as an essential component of individual and economic development. However, early school abandonment is a serious issue that millions of children in Africa face and has a financial impact on individuals, taxpayers, and society. In order to make policy changes and promote sustainable development, it is essential to look into the financial costs of early school abandonment in Africa. Below we will look at the definition of early school leaving then go through the factors that cause early school leaving, its relation to economic growth, then its consequences to society and individuals.

Definition of early school leaving

Dropouts refer to those who quit attending school without finishing their fundamental educational level. According to Pandolfi (2016). According to the European Union, Early School leavers are those between the ages of 18 and 24 who have completed little more than lower secondary school and are not currently enrolled in any type of training or education.

2.2 Conceptual Review

What are the contributing factors to early school leaving in Africa?

2.2.1 Poverty:

Early school departure is significantly influenced by poverty in Africa. The difficulties that come with a lack of financial means can significantly affect a child's ability to enroll in and complete their education. The high dropout rates in African schools are caused by a number of poverty-related causes, the study of Dakwa, et al2 (2014) analyzed teachers' and heads' views on the poverty-related causes of school early school leaving. A sample was selected from 40 teachers and 5 leaders from schools took part in the study. An open-ended questionnaire was run to the teacher sample while heads were questioned. The results show that poverty appeared as the underlying cause of school dropout According to Lloyd, & Mensch, (2008). The investigation of the connection between early marriage, childbirth, and school dropout rates in sub-Saharan Africa was the main goal of this study. The researchers used statistical methods and analyses to look into the relationship between early marriage, having kids, and dropping out of school. The study's findings demonstrated how early marriage and childbearing in sub-Saharan Africa affected girls' education.

The study of Ntuli, et al. (2020) investigates the mental well-being of orphans in South Africa's poor Mpumalanga Province. The study most likely used a quantitative research design and used a variety of data collection techniques to get pertinent information. The study's findings highlight the importance of policymakers in improving the lives of orphans and vulnerable youth in the South African province of Mpumalanga.

Cairns, & Neckerman, (1989) drew up a sample assessment between boys and girls that were seen first when they were in the seventh grade the school status was determined for all subjects and an interview was made for the 99% for the fifth annual wave. The result shows that 40% have dropped out of school before completing the 11^{th} grade. According to Christle, et al (2007) early high school leaving terminates a Continuous educational disengagement and has serious social and economic

repercussions for learners, their relatives, and communities. Students who leave school at an early age are compared to those who graduate, receive aid from the government, and go to jail, have a higher probability of being jobless and make a lower income.

Highlights from Cardoso & Verner (2006) early parenthood, child labor, and poverty as factors to gather and analyze data, the researchers probably employed a mix of quantitative and qualitative research techniques. Early childbearing, child labor, and poverty substantially impact Brazil's school dropout rates, according to a study, underscoring problems in all areas and demographic groups. Education is a crucial indicator of health globally, but only 52% of South Africans are enrolled by Grade 12. A study using longitudinal data found that factors like being male, living with a mother, smoking, and lower leisure-related intrinsic drive significantly predict dropout rates. Sabates, et al (2010).

According to Nortje, (2017) an extensive analysis of the research on how poverty affects education in South Africa is presented in this article. To ascertain how poverty affects education, secondary data were employed in a qualitative research manner. According to the findings of this study, South Africa is now experiencing significant levels of poverty. The research of Jones, & Chant, (2009) shows that in spite of continued attempts to promote young women's enrollment in schools and access to jobs, gender inequities have not yet been completely eliminated, as this article examines crucial gender characteristics of work and education among low-income urban adolescents. The approach taken was to investigate these problems within the framework of primary fieldwork in Greater Banjul and Accra. The overall consequence is that men end up with more school credentials, more skills, and higher-paying jobs, even while youth unemployment, in general, and continues to be a significant issue.

Another article, Chant, and Jones, (2005) discussed preliminary fieldwork on the interrelationships between youth, gender, and livelihoods that were done in Ghana and The Gambia. They studied how policies in developing nations, which are often categorized as being concerned with child labor or education, need to emphasize the connections between many processes that have an impact on young people. They argued that giving young people a voice to discuss the connections between

labor, education, social networks, and culturally constrained concepts of responsibility as well as how they see the opportunities and limitations on their "life chances" can enhance policy.

According to Hamadou (2020), the battle undermines the local economy, jeopardizes living conditions, and exacerbates conflicts between local populations and governmental authorities, according to this briefing's analysis of Boko Haram's political economy. Many people are forced to reside in encampments, where poor living circumstances are a daily struggle and confrontations between the local governments, local groups, and refugees are common. The conflict destroys the development of the Lake Chad Area sector centered on international trade in seafood and produce from agriculture.

2.2.2 Gender discrimination

When men and women do not have equal access to opportunities and resources, this is known as gender discrimination. Half of the population, women, are excluded from resources and opportunities due to gender inequality, which results in resource misallocation. Education discrimination is one of the many gender-based kinds of discrimination, and it has a significant impact on social welfare, employment, and health.

The study of Ombati, & Ombati, (2012) emphasizes gender disparities in schooling in sub-Saharan Africa and argues that these disparities result in high illiteracy rates for both boys and girls. This question must be resolved for the development of the person, the nation, and the evolution of society.

The results of this study, which looked at African American eighth-graders who were asked about their experiences with racial and gender discrimination at school, showed that both ethnic and sex-unfair treatment was linked to higher levels of signs of depression in both boys and girls, while school importance and racial discrimination were associated with higher levels of self-esteem. According to the findings, it's important to consider cultural and gender experiences when seeking to comprehend academic and psychological adjustment in teenage African Americans. Cogburn, et al.(2011).

According to Tuwor, & Sossou, (2008) in several African countries, the proportion of females enrolling in primary schools has dramatically increased and is now equal to that of boys. The paper examines some factors that contribute to the persisting differences among men and women in different African countries. The outcomes It is said that unless such social notions and views are changed and mandatory measures, including making families liable and accountable, are put in place, gender parity and great education for all, particularly females, will not be attained in Africa. The study of Nargis, (2012) examined the situation of girls' education beginning in early childhood to upper grades. To compare some enrollment ratios of men and women at various levels of schooling to look into how gender bias plays a part in education at different levels. The district of Swat in Pakistan provided the data for the current study. Information was gathered from the office of the local school inspector Swat. Findings showed that as students move from primary to higher secondary education, the proportion of female pupils rapidly declines.

In the research of Shepherd, (2008) empirically evaluates the degree and change in gender discrimination in the South African labor market across the post-apartheid period using relevant econometric techniques and 11 representative household surveys. Results utilizing Juhn, Murphy, and Pierce's technique (1991, 1993) point to a sticky floor for African women in the South African labor market. According to Nikpei, & Elmi, (2014) who examined the impact of several Middle Eastern and North African countries, development is hampered by disparities between sexes in schooling. between 1990 and 2010. Gender inequality is measured using the gross enrollment ratio of boys to girls in primary and secondary schools. Panel data estimates reveal that Disparities between the sexes in educational attainment hinder the development of a number of Middle Eastern and North African nations.

Khanal, (2018) investigates how these preferences affect Nepali parents' spending on their children's education in this study. The study used a variety of decomposition techniques to analyze longitudinal data from three Nepal Living Standards Surveys to assess the extent of bias parents exhibit when allocating funds for their kids' schooling. In both rural and urban parts of Nepal, the study discovered that parents do indeed spend more money on males than on girls. The fact that boys enroll in private schools at a higher rate than girls does, in my opinion, further demonstrates this bias. The study by Steyn, & Jackson, (2015) determined whether gender-based differences in Instead of other numerical reasons that might explain these inequalities, post-grading and payment for male and female exist. Biographical information was provided for a sampling of many employees from several different companies. Males reported greater salary and post-grading than

females, but these differences were not statistically significant, and their practical importance was rather marginal.

According to the study of Midya, & Islam (2022) ethnic minorities are more likely to experience gender discrimination in the educational setting. This study on Muslims in the country reveals that the literacy rates of religion practices have historically lagged behind those of Hindus and that the gender gap in literacy rates is growing. It also demonstrates that discrimination results from a community's demographic environment, especially with regard to a hamlet, and that religious women encounter inequality in the educational system as a consequence of their parents' absence of resources, ignorance of the issue, and other factors, conservatism, the girls' sense of social insecurity, and their early marriage. Highlighted by Eboiyehi, et al. (2016) in three selected institutions in Southwestern Nigeria, the study looked at factors that contribute to gender imbalance in university management. Both primary and secondary sources were used to gather the data. The results showed that women were underrepresented in senior management positions compared to men in the chosen universities.

2.2.3 Inadequate education systems: According to Shah, et al. (2022) inadequate period's hygiene and knowledge have an impact on girls' educational achievement and participation at school. This study intends to investigate the effects of menstrual hygiene management methods and associated variables on primary and secondary schoolgirl dropout rates and absence from class in rural Gambia. From July 2015 to December 2017, mixed-method investigations were done with students and important informants from 19 schools. Findings indicate that while cultural norms, fear of classmates finding out about one's period, and inadequate school WASH facilities all contributed to absenteeism, school drop-out was unaffected. Casey, (2014) studied this issue further. To better comprehend the traits, reasons for, and effects of primary school dropouts among low-income households in rural locations. The study's foundation is a qualitative fieldwork investigation. The findings show that situations of acute income poverty combined with external variables that lead to precarious livelihoods and low educational quality are what define dropouts.

In another study highlighted by Touray, and Adesopo, (2022), the National Development Plan 2018–2021, which made reference to the higher education reform in 2018, was the context for this analysis of the Gambia's public higher education system. Out of the 391, study's target population, 239 staff members served as its sample. The results showed that all of the sampled institutions performed poorly in terms of governance, staffing, instructional quality and relevance, research

and development, and funding. Further discussed by Vidal, et al. (2017) with the help of this survey, there can be better understanding of the neighborhood risk factors that contribute to youth dropout rates and how the school can help. Utilizing the ethnographic approach, the findings imply that educational institutions and community educational groups should work together to address low educational expectations, a lack of support systems, and a lack of academic assistance as a method to lower dropout rates. Small rural schools play an important part in the Chinese educational system.

Dan and Parolin (2011) examined this role, as well as the context and effects of SMR on these schools in terms of quality, cost, and access indicators, and they highlight some of the major challenges these schools face in the newly reorganized educational system. The author stated in his conclusion: Rethinking the delivery of basic education in remote rural communities may help hasten the journey toward Education for All (EFA), according to recent education planning projects in West and Central Africa. Also, Galimaka, (2008) conducted a study to determine the role that policy gaps have in school dropout. The findings of this research, that is basically preliminary as well as relies on additional information gathered through the university guidelines, different Department of Education and Recreation news reports, and other pertinent research on the university and elementary school abandonment in Uganda as a whole demonstrate that the primary factors contributing to dropout include secondary school expenses, an unwelcoming educational atmosphere, the union of spouses and unplanned pregnancies for girls in specific.

Ludovic et al. (2018), similar to other southern nations, the sub-prefecture of Lame in Chad is not an exception when it comes to school abandonment; poverty, which is closely correlated with parent statuses and socio-demographic circumstances, is the main factor causing school abandonment in the sub-prefecture of Lamé in Southwest Chad.

2.2.4 Cultural norms and Traditions

According to Hareer (2013), female literacy in Afghanistan is facing a significant difficulty as a result of girls dropping out of school. Semi-structured discussions were examined using the Cultural Dimensions of Hofstede's Model and Existentialist Feminism as theoretical frameworks. According to the results, ways to communicate in the district should have an impact on the informal communication networks that support parents'/guardians', particularly male ones, the propensity to keep their daughters out of school as a way to deal with the issue of girls' departure coming from school in Khinjan.

Further discussed by Mlambo, et al. (2019), marriages between children have persisted, particularly in remote rural communities where traditional beliefs are still prevalent. In order to conduct a systematic evaluation of the available literature on marriages between children and their effects, the study employed a method based on qualitative research. The findings indicate that premature pregnancy, early school abandonment, and a higher probability of domestic abuse are all consequences of marriage between children.

Katundano, (2020) investigates a few of the social norms that persist in preventing girls from receiving schooling in Africa. These consist of premature marriage, disco manga, and female genital mutilation or cutting. The goals and objectives of the article are to demonstrate how educating girls benefits them personally, improving the status of women, their families, communities, and nations all over the world. To do this, the paper conducts a systematic assessment of recent literature.

According to (Mthalane) in his study to examine problems experienced by South African students in higher education institutions, notably by female students. An approach to qualitative research using interviews that are semi-structured, According to the study's findings, Black female students are significantly more marginalized than Black male students. In order to be viewed as valued in the Black culture and neighborhoods they live in, individuals must adhere to specific cultural standards and values.

Kainuwa, and Yusuf, (2013) identifies the social norms of families in the research region that prohibit them from putting their girl children to school, cultural customs In Nigeria's Zamfara nation, and parenting practices were investigated as potential obstacles to girls' schooling. The study demonstrates how cultural norms prevent females from attending school and how not having access to education puts girls at risk for illnesses like AIDS and HIV, marriage before they are 18, restriction of freedoms, and labor as children. The study draws on various literature reviews on parental cultural behaviors.

Further analyzed by Arafat, et al. (2021) is the complex relationship between gender standards and the economic hardship faced by households living in rural Bangladesh. Five rural high school dropout females were the subjects of in-depth qualitative interviews. According to the study, discriminating gender norms and practices, socioeconomic realities, hardship, and poverty operate as hurdles to girls' education prospects by limiting their possibilities and social mobility.

2.2.5 EARLY PREGNANCY A young childbirth frequently ends a girl's schooling. In this research, a group of teenage mothers in South Africa's Eastern Cape Province were asked questions. The findings revealed that nearly half of young girls who were enrolled in school discontinued their studies during their pregnancies, many of them beginning as soon as the initial month Jochim, et al. (2021).

Accordingly, Grant, and Hallman, (2006) assessed the risk of school dropout as well as the factors that influence teen pregnancies. The data gathered from birth histories were triangulated for this research. We discover that a young woman's risk of getting impregnated when registered at college, quitting college when she gets pregnant, or never going back to school after a pregnancy-related dropout is strongly correlated with her prior academic achievement or early school leaving.

While Rosenberg, et al. (2015) investigated the relationship between school enrollment and teenage pregnancy in South Africa. Utilizing ongoing information gathered through remote Agincourt, which subdivision demographic surveillance. The findings showed that enrollment in school was linked to lower teen pregnancy rates. This correlation was strong enough to detect possible enrollment incorrect classification, Pregnancy happened fewer times during the academic year for those who had been enrolled in school than it did over the summer.

In a longitudinal, mixed-methods study of Honduran girls, this article explores the connections between education, child marriage, and adolescent pregnancies. We discover that initial teenage home income impacts premature marriage, premature pregnancy, and dropping out of school. Instead of because they got married or became parents, most girls withdrew from school because they had limited resources or because they no longer wanted to be students. Just a tiny proportion of pupils go back to college Murphy-Graham, et al., (2020),

Comprehensive surveys and interviews on the topic of early childbirth in Ghana were conducted. Insufficient parental responsibility, Deficiency of opportunities, and pressure from peers were discovered to be the leading causes of adolescent pregnancies in the study area. Furthermore, restricting teenagers of gender knowledge and schooling renders them more inquisitive and vulnerable Donkor, & Lariba, (2017)

Adam, et al. (2016) state that the goal of the study was to identify the key determinants of primary school failure in rural Ghana. Methods of qualitative as well as quantitative research were used in

the study. According to the report, the main factors contributing to dropout in the Asunafo South District are hardship, labor for children, teenage pregnancy, and a long commute to school.

2.3 Theoretical Framework

RELATIONSHIP BETWEEN EDUCATION AND ECONOMIC DEVELOPMENT

Education is one of the primary drivers of growth in a number of ways. Ongoing prosperity is impossible until a nation invests considerably in human capital. People with greater education have a better understanding of the world and of themselves. Their level of living improves, which helps both them and society as a whole. Education advantages include technological improvement, better production, and enhanced creativity. It is also important for improving income distribution and ensuring social and economic prosperity. Ozturk, (2008).

In the study of Gyimah-Brempong, et al. (2006) where they investigated the impact of university education on human resources and on the economic expansion in African nations using panel data from 1960 to 2000, a modified neoclassical growth equation, and a dynamic panel estimator. According to our findings, every type of learning, including higher education, has a positive and statistically significant impact on the rate of increase in average incomes in African countries.

Raifu (2019) studied how gender education relates to African economic development. The study includes both males and females across various levels of schooling and human capital pools. The methodology used was datasets from 1960 to 2010 from Barro & Lee (2013) and Lee and Lee (2016). It has been discovered that human capital stocks and educational attainment are essential for economic development in Africa, both for men and women. In particular, it is found that the human capital stock and educational attainment of males both contribute more to economic growth than those of women.

Yearly time-series information from 1986 to 2017 was used. Odhiambo (2020) explored the dynamic causal relationship between education and economic growth in South Africa. The Granger causality model and ARDL bounds testing approach are used in the study to investigate this relationship. According to the study, the causal relationship between economic growth and education is stronger than the relationship between education and economic growth.

Eloundou-Enyegue, et al. (2020) conducted an analysis of Sub-Saharan Africa's educational growth from 1965 to 2010 and its effects on regional economic disparity. The paper employs a decomposition technique to respond to two queries: (1) During the study period, did education serve as an economic equalizer? (2) If so, which factor—quantity vs. quality—had the most impact? For their investigation, the authors used data from Sub-Saharan Africa between 1965 and 2010. It was discovered that one important factor influencing disparity was education.

Nabaho and Turyasingura (2019) posit that assurance of the quality of higher education in Africa is a significant priority for the region's growth. The Africa Union Commission is putting the African Quality Rating Mechanism (AQRM) into practice in response to the need to improve the standard of higher education. The results showed that the AQRM's conceptions of quality in higher education are remarkably suitable for this purpose.

According to Bloom et al. (2014), this region of Africa has the world's poorest higher learning enrolment rates. However, the global community of developers has encouraged African countries to overlook higher education due to conventional thinking that tertiary education is less vital for poverty reduction. Examining fresh data on the benefits of higher education and the relationship between higher schooling and economic expansion are two of the methodologies employed in this study. We uncover proof that postsecondary education enhances technological catch-up, which may help to maximize Africa's ability to achieve more rapid economic growth given current limits.

Dafa'Alla et al. (2017) used a generic model to examine how education contributes to sustainable development and whether there is reason to believe that it will help alleviate Africa's current underdevelopment situation. The study concludes that high-quality education and sustainable development are mutually reinforcing. Education promotes innovation, which promotes economic growth and sustainable development, as shown in many developing nations throughout the world.

Lin (2004) studied the impact of higher education courses on Taiwan's labor force and subsequent economic growth from 1965 to 2000 and Taiwan's higher education system choosing four academic fields. According to the findings, technology and natural sciences majors had the most important role in Taiwan's economic growth, despite higher learning as an entire providing an advantageous and substantial influence. Using cross-country and panel regressions, this article investigates the link between gender disparity in schooling and long-term economic development. It is discovered that such disparity has an impact on economic growth that is resistant to changes in specifications

and endogeneity restrictions. The findings imply that, by lowering the average level of human capital, gender inequality in schooling has a direct impact on economic growth.

Klasen, (2002) in the paper The Role of Higher Education in Sustainable Economic Development in Nigeria. The study's analysis was built around the functionalist theoretical viewpoint. According to the report, higher education is a crucial component of sustainable economic growth and development because it produces qualified workers and instills in people a sense of the importance of achievement.

2.4 Empirical Review

How do early school leaving in Africa affect private individuals, taxpayers, and society?

As stated by Popovici (2019) early school abandonment has long-term effects on individuals, increasing their chances of unemployment and poverty. Background research and surveys, two of which were conducted as part of an Erasmus+ project in six different European countries, are used in the study. Findings indicate that although factors causing early school leaving are spread thin by various priority or order levels, they do not differ considerably between nations. While some elements may be different or even opposing, others may have values and desires that are comparable throughout participating nations.

(Mussida, et al. (2016) go on to say that early school leaving limits the building of human capital and is probably linked to worse economic performance, especially in nations where the need for skilled labor has increased significantly. However, there is still debate on how early school leaving affects employment opportunities. Their research reveals that early school exit increases the likelihood of self-employment and unpaid work, as well as the likelihood of employment after endogeneity is taken into consideration.

According to Rajaonarivony, et al. (2020), maternal mortality in Madagascar is still very high. The level of education among women is also low. The purpose of this study is to ascertain how a mother's educational attainment affects obstetrical and neonatal outcomes. This research compares patients with less than seven years of education to those with greater education at the Zafisaona Gabriel Mahajanga University Medical Center. Low birth weight was the main contributing factor to newborn morbidity, and prematurity was more common in low-grade patients. The two groups had equal rates of pregnancy screening, maternal morbidity, cesarean section, neonatal death, and

fetal intrauterine death. Maternal health is improved by education. Pregnancy outcomes should be taught in schools.

Early school leaving has significant economic costs for private individuals, taxpayers, and society. For private individuals, early school leaving can limit their employment opportunities, decrease their earning potential, and reduce their quality of life UNESCO, (2017). Individuals with low educational attainment are less likely to secure well-paying jobs and more likely to be unemployed or underemployed, leading to decreased lifetime earnings and lower retirement savings OECD, (2015).

For taxpayers, early school leaving results in increased public spending on social welfare programs, crime prevention, and healthcare. Individuals with low educational attainment are more likely to rely on public assistance programs, such as unemployment benefits, housing subsidies, and healthcare services Heckman & Lafontaine, (2010). Additionally, individuals with low educational attainment are more likely to engage in criminal activities, resulting in increased public spending on law enforcement and incarceration.

For society, early school leaving has significant economic costs, including decreased economic growth, reduced innovation, and increased income inequality. Individuals with low educational attainment are less likely to be productive members of society, resulting in decreased economic growth and innovation OECD, (2015). Additionally, income inequality is exacerbated by differences in educational attainment, resulting in social and economic disparities.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter describes the methodological procedures to be used in this study, which comprises a number of sections as follows: The chapter begins by presenting types of data and their sources, population and study sample, model specifications, preliminary assessment of data, and method to be employed in the estimation of the economic growth model. These procedures are in line with

the specified objectives of the study and mainly involve the assessment of the determinants of early school dropout and its impact on the economic growth of Africa.

The methodology chapter is also detailed based on the specific objectives of the study, which are to (1) Understand socio-economic factors contributing to early school leaving in Africa (poverty, dependency ratio, and birth rate); (2) Understand macroeconomic factors contributing to early school leaving in Africa (unemployment rate, Population and government expenditure on Education); (3) To determine the relationships between early school leaving and economic growth in Africa.

3.2 Types of Data and Sources

The study involves an analysis of the determinants of early school leaving and its effect on the economic growth of Africa. Given the nature of the data required for this research, substantial data was drawn from secondary sources. Therefore, annual data for all variables, that is, economic growth (GDP), early school leaving (Percentage of adults without primary Education), birth rate, dependency ratio, population, poverty, unemployment property correct index inflation rate interest rate, imports and exports, tropical of land, colonization, Government consumption to GDP and government expenditure on Education were extracted from databases of the World Development Indicator (WDI), UN SDGs, UNESCO, PROPERTY RIGHT INDEX WEB PAGE, HARVARD Dataverse and the OECD.

The type of data used to be used in this investigation is panel data. Panel data combines the characteristics of time series and cross-sectional data into one, making it a multidimensional dataset. As such, essential aspects of panel data include the number of observations (n) on differing individuals (ranging from i=1,…,n) observed over the same time at equal intervals, with T denoting the times the data set is observed. Unfortunately, some countries have incomplete data for some of the variables used in this analysis, making this panel unbalanced. In order to resolve this issue, some variables have been excluded from the analysis. Some gaps in the data have been interpolated, by which a gap of one or two data points has been filled by the previous year's figure in order to prevent the software (STATA) from excluding that particular variable or Country from the analysis on the grounds of incompleteness.

Another characteristic of this dataset is that it follows the same countries, making it a fixed panel. As such, the dataset under investigation is a fixed and balanced (if interpolated) set of panel data (Greene, 2011). This particular dataset comprises data from 4 countries over over 32 years, from

1990 to 2022. As this study investigates the long-run relationship between education spending, early school leaving, birth rate, dependency ratio and economic growth, a data panel of a long time series is imperative in order to make any proper investigation into the long-run relation. This prerequisite forms a restriction on the countries that can be investigated, as data is not available for the different variables fundamental to this investigation for every Country. As such, the selection of countries is primarily based on the availability of the relevant data. The 4 countries evaluated in this study are Chad, Gambia, Ghana, and Nigeria.

Table 5.

Table Definition of Variables

Variables	**Symbol**	**Units**	**Description**
Early school leaving	**ESL**	Percentage of adult population without primary school	The adult population that is without primary Education
Economic growth	EG	Per Capita GDP	The gross domestic product per capita
Population	Pop	Number	The total population of the Country.
Poverty	POV	Percentage of Pop below the poverty line	Proportion of the population earning less than 1.9 USD per day
Unemployment	Une	Percentage	Total population unemployed in the Country
Exp. on Education per capita	EE	Currency (Dollars)	Expenditure on Education: Expenditure on Education refers to spending per person on educational goods and services, such as teaching staff, school buildings, school books and teaching materials, and peripheral educational

			goods and services, such as ancillary services, general administration, and other activities.
Birth rate	BR	Number of births per 1000 woman	Indicates the total number of births per woman, assuming that she was to live until the end of her childbearing years. A lower fertility rate usually reflects a more economically developed society, where cultural, socio-economic and religious changes have caused a decrease in the rate of children born.
Dependency ratio	DR	The ratio of working to a non-working household member	The ratio of the population that is not working depends on income from others.
GDP/Capital	GDP/CAPITAL	Economic output of a country per person	It gains by dividing the Country's total GDP by its population
Government Consumption to GDP	GOV CON/GDP	The proportion of a country's GDP that is spent on goods and services	Government intervention in the economy and its role in providing public goods and services such as Education
International property right index	IPRI	Degree of protection	A numeric score for each Country indicating the level of property right protection

Degree of openness	Degree of openness	Measure by the ratio of imports to exports	extend countries' engagement in international trade
Share of tropical land	Share of tropical land	Percentage covered by the tropical region	Percentage covered by the tropical region
Colonize	Colonize	Control by foreign power	Control by foreign power

3.3Methods

3.3.1 Descriptive Statistics:

Descriptive statistics were calculated for each variable to gain insights into their distributions and central tendencies. This included computing measures such as the mean, median, standard deviation, minimum, and maximum values.

3.3.2 Correlation

The analysis that followed the descriptive statistics was correlation analysis, which was used to establish the level of strength, directionality, and likely absence of multicollinearity issues between pairs of variables. The method was mainly applied to examine the linkage between school dropout and these socio-economic and macroeconomic factors, including poverty, unemployment, public spending on Education, and economic growth. Pearson's correlation coefficient was derived in order to identify the existence of the linear relationship between a pair of variables considered to be continuous that indicated the nature as well as the intensity of the relationship.

The correlation coefficients estimated the extent of association between the two variables, varied from -1 to 1. An observed positive relationship implied that an increase in one variable generally meant an increase in the other variable, and a negative one indicated that a decrease in the other one often accompanied a rise in one variable. The correlation resulted in the absolute value of the correlation coefficient, which made it possible to measure the strength of the relation, where a value of 1 indicated a stronger relationship.

This kind of analysis is of utmost importance in revealing the interplay of different factors, detecting any high correlations between independent variables that may suggest multicollinearity, and assuring the reliability and validity of the subsequent regression analysis. This analysis gave rise to potential associations. The variable selection was made by identifying those with significant correlations with the dependent variable but with low correlations with the other independent variables, and the initial insights into the relationships between the variables were provided.

3.4 Model Specification

3.4.2 Ordinary Least Square (OLS)

Ordinary least squares (OLS) regression analysis was carried out to examine the links between the dependent variable and the independent variables after accounting for potential confounders and Country and time-specific factors.

Ols Model

$$\Delta lnGDP_{it} = \beta_0 + \beta_1 lnGDP_{it-1} + \beta_2 ESL_{it-1} + \beta_3 lnPOP_{it-1} + \beta_4 BR_{it} + \beta_5 X_{it} + \alpha_i + \alpha_t + \varepsilon_{it}$$

Where:

$\Delta\ln(GDP)$ represents the change in the natural logarithm of real GDP per capita for Country I at time *t*.

$\ln(GDP)_{(it-1)}$ is the natural logarithm of real GDP per capita lagged by one period.

$ESL_{(it-1)}$ is the percentage of the population leaving school early lagged by one period.

$\ln(POP)_{(it-1)}$ is the natural logarithm of population lagged by one period.

BR_{it} is the birth rate for Country *i* at time *t*.

X_{it} is a vector of control variables, including the ratio of government consumption to GDP, the degree of openness, the log of the international property rights index, a binary variable indicating colonization status, and a binary variable measuring the share of land in tropical or sub-tropical areas.

α_i and α_t are country and time-fixed effects, respectively.

ϵ_{it} represents the error term.

Short-term and Long-term Relationships

The OLS regression was decomposed into short-term and long-term relationships to distinguish the immediate and persistent effects of the independent variables on the dependent variable.

I Short-term Relationship

Within the short-term regression analysis, the coefficients helped in deducing the immediate effects that some variables, such as early school leaving, population, birth rate, and other control variables, had on the dynamics of GDP. This analysis provided insights into the immediate impact of these variables on real GDP per capita within the same period.

II Long-term Relationship

In the long-term cointegrating relationship regression, the coefficients provided information on the long-term relationships between the variables across the entire period. We used lagged variables to find out the long-term relationships among the variables. Overall, this analysis revealed the cumulative and enduring impact of early school leaving, population, birth rate and other control variables on economic growth, which was a great source of information about the sustained effect of these variables on real GDP per capita over time.

3.5 Summary chapter

The methodology chapter provides a complete guide to the research on the linkages between early school leaving, population dynamics and economic growth in African countries. It starts with descriptive statistics to know the data distribution, and then it proceeds to the correlation analysis to examine the relationships between variables and if any multicollinearity is present.

The OLS model is the next step in measuring long-term relationships while controlling for confounding factors. It is additionally split into short-term and long-term relationships to separate short-term and long-term effects. This multi-method approach guarantees that the research questions are considered from various angles, thus providing a robust and comprehensive analysis.

CHAPTER 4: RESULTS

4.0 Introduction

The Results section begins with descriptive statistics to outline the variables' central tendencies and distributions. Correlation analysis identifies relationships between key factors, highlighting significant associations and potential multicollinearity. The core findings utilize The Ordinary Least Squares (OLS) regression to uncovers long-term relationships while accounting for confounders, further decomposed into short-term and long-term components to offer insights into immediate and sustained impacts on early school leaving and economic growth in African nations, among them Chad, Nigeria, Gambia and Ghana from 1990-2022.

Table 6: Observations by Country

ID	COUNTRY	OBSERVATIONS
1	CHAD	33
2	GAMBIA	33
3	GHANA	33
4	NIGERIA	33

Above is an overview of observations by Country. From the observation results, there were 33 observations for each Country, with ID 1 representing Chad, 2 Gambia, 3 Ghana and 4 Nigeria. The observation results by Country give a clear picture, which is paramount in producing robust results. As well it also ensures non-biasedness in any particular country during analysis, ensuring statistical comparability. This ensures that meaningful conclusions are drawn from the data. The four countries are representative of early school departure in Africa. The equal distribution of the data in the four countries gives a comprehensive overview of how early school departure occurred in African countries.

4.2 Descriptive Statistic Result

In this section, by way of a descriptive analysis such as mean, standard deviation, minimum and maximum, the study presents a descriptive account of the variables included in this study. The descriptive results are presented in Table 4.1. This was used to achieve the first objective of the study, that is to describe the different factors affecting early school leaving, including; GDP, birthrate, population growth, unemployment, education expenditure, dependency ratio affects early school leaving.

Table 7

Descriptive Analysis Result

	Variable	GDP (billion us$)	Early Scool leaving both sexes (%)	Dependency ratio(%)	Birt Rate births per woman)	Poverty rate (% of population)	Unemployment (% of labour force)	Education expenditure us$ (millions)
Chad	Mean	9.67	36.33	103.29	7.00	41.77	0.94	135.70
	Std. Dev.	0.41	14.41	2.30	0.32	14.17	0.24	118.18
	Min	9.07	14.50	98.73	6.26	30.90	0.66	28.77
	Max	10.14	55.80	107.50	7.34	57.80	1.65	369.27
Gambia	Mean	9.02	57.81	94.63	5.63	37.04	7.74	19.65
	Std. Dev.	0.19	10.81	3.55	0.40	25.32	1.65	12.09
	Min	8.50	34.35	84.98	4.68	13.40	4.13	5.99
	Max	9.34	75.22	97.99	6.22	74.10	9.61	39.56
Ghana	Mean	10.26	67.77	80.07	4.50	42.52	5.62	1794.09
	Std. Dev.	0.45	13.92	9.31	0.59	17.38	2.12	958.82
	Min	9.70	55.80	68.72	3.56	25.20	2.17	284.58
	Max	10.90	93.67	97.54	5.71	64.20	10.46	3268.37
Nigeria	Mean	11.31	61.28	88.87	5.97	41.51	4.18	187.02
	Std. Dev.	0.36	10.35	1.52	0.34	11.14	0.67	149.84
	Min	10.72	55.80	86.11	5.24	30.90	3.70	43.90

	Max	11.76	89.19	92.15	6.46	58.40	6.00	554.41

Table 4.1 provides a comprehensive overview of key factors related to the four African countries: Chad, Gambia, Ghana, and Nigeria. These indicators span a wide spectrum, including Gross Domestic Product (GDP), early school leaving rates, dependency ratio, birth rate, poverty rate, unemployment, education expenditure, and population. Analyzing the descriptive statistics allows for a comparative assessment of the socioeconomic characteristics of these nations.

Chad exhibits a mean GDP of 9.67 billion dollars between 1990 to 2020, with a relatively low standard deviation of 0.41, suggesting a certain degree of stability in its economic output. The mean early school leaving rate is 36.33%, with a standard deviation of 14.41, indicating considerable variability. Chad has the highest mean dependency ratio (103.29), birth rate (7.00), and poverty rate (41.77) among the four countries. The mean unemployment rate is 0.94%, and the country spends an average of 135.70 dollars on education per capita. The population mean is 10,619.83 thousand for the period between 1990 to 2020.

Gambia, with a mean GDP of 9.02 billion dollars, has a lower economic output compared to Chad. The country faces a higher standard deviation in early school leaving rates (10.81), suggesting potential challenges in education. Gambia has a lower mean dependency ratio (94.63), birth rate (5.63), and poverty rate (37.04) compared to Chad. However, it has the highest mean unemployment rate (7.74%) among the four countries. Education expenditure is lower at 19.65 dollars per capita, and the population mean is 1,753.09 thousand.

Ghana, with a mean GDP of 10.26 billion dollars, has the highest economic output among the four countries. The country exhibits a higher mean early school leaving rate (67.77%) and a notable standard deviation (13.92), indicating potential disparities in education. Ghana has the lowest mean dependency ratio (80.07), birth rate (4.50), and poverty rate (42.52) among the countries. The mean unemployment rate is 5.62%, and education expenditure is relatively high at 1,794.09 dollars per capita. The population mean is 23,297.19 thousand.

Nigeria, with a mean GDP of 11.31 billion dollars, has the highest economic output among the four countries. The mean early school leaving rate is 61.28%, and the country faces a moderate standard deviation of 10.35. Nigeria has a higher mean dependency ratio (88.87), birth rate (5.97), and poverty rate (41.51) compared to Gambia but lower than Chad. The mean unemployment rate is

4.18%, and the country allocates a significant 187.02 dollars per capita to education. Nigeria has the highest population mean among the four countries at 146,917.80 thousand.

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4.3 Correlation

From the results, a positive correlation of 0.1117 between GDP and ESL indicates a weak association, suggesting that nations with higher GDPs might experience slightly elevated rates of early school leaving. Conversely, the robust negative correlation of -0.7199 between BR and ESL underscores that as birth rates rise, early school leaving rates tend to decline.

Table 8.: Correlation matrix

Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) GDP	1.000							
(2) ESL	0.112	1.000						
(3) BR	0.020	-0.720	1.000					
(4) POV	-0.080	-0.328	0.405	1.000				
(5) UNE	-0.484	0.386	-0.437	0.067	1.000			
(6) POP	0.878	0.101	0.217	0.050	-0.278	1.000		
(7) Dependecy_rate	-0.415	-0.623	0.816	0.210	-0.222	-0.175	1.000	
(8) Education_Expe~e	0.207	0.432	-0.597	-0.171	-0.049	0.007	-0.523	1.000

Furthermore, the moderate negative correlation of -0.3281 between POV and ESL implies that areas grappling with poverty exhibit lower early school leaving percentages, possibly pointing to poverty as a motivator for educational participation. The positive correlation of 0.3858 between UNE and ESL highlights that regions with increased unemployment rates see a corresponding uptick in early school leaving. Additionally, the strong positive correlation of 0.8778 between GDP and POP reveals that economic prosperity is closely tied to population size.

The negative correlation of -0.6227 between Dep_rate and ESL indicates that regions having higher dependency rates in population education are given first place, by which the early leaving school is reduced. Lastly, the positive association having a value of 0.4324 between

Education_Expenditure and ESL may seem like a contradiction. Still, more educational spending might be targeted at students who are more likely to leave school early. These correlations, in fact, give good ideas of the possible relationships; it's, however, vital to remember that correlation does not equal causality. As such, the dissection of the relationships between these variables is essential in order to understand the main cause-effect direction

4.4 Ordinary Least Squares (OLS) Model

Ordinary Linear Square (Decomposed in both short-term and long-term Relationships)

Short-term

Within the short-term regression analysis, the coefficients help deduce the immediate effects that some variables have on the dynamics of GDP. Firstly, the coefficient (dlnGDP_L) associated with lagged first-differenced GDP denotes the short-term effect of the previous GDP changes on the current GDP. Nevertheless, the coefficient is not statistically significant (p-value = 0.515), suggesting that the immediate impact of lagged GDP on current GDP is not statistically significant, implying that its recent past performance might not strongly influence short-term changes in GDP.

The coefficient that is associated with lagged early school leaving (dESL_L) shows the short-term effect of earlier school dropout rates on the current GDP. Although it is accounted for in the model, the coefficient is also insignificant statistically (p-value = 0.246), which means that the short-term GDP variations are not significantly influenced by the previous levels of early school leaving rates. In addition, the coefficient associated with the lagged first-differenced population (dlnPOP_L) denotes the immediate effect of past population changes on the current GDP. This coefficient fails to attain statistical significance (p-value = 0.170), suggesting that short-term fluctuations in population dynamics do not exert a statistically significant influence on current GDP.

The coefficient for the current period variable (BR) signifies the short-term impact of the variable on current GDP. However, like the preceding coefficients, it is not statistically significant (p-value = 0.860), implying that short-term variations in this variable do not have a significant immediate effect on GDP.

The coefficient for education expenditure is positive (0.0021174), although it is not statistically significant (p-value = 0.766). This suggests that, on average, an increase in education expenditure

is associated with a slight increase in GDP growth. However, since the coefficient is not statistically significant, we cannot conclude with confidence that there is a genuine relationship between education expenditure and GDP growth in this model.

The coefficient for the dependency rate is negative (-0.0028115), but like education expenditure, it is not statistically significant (p-value = 0.620). This implies that, on average, a higher dependency rate is associated with a slight decrease in GDP growth. However, again, the lack of statistical significance indicates that this relationship may not hold in the population, and further analysis is needed to determine if there is a meaningful connection between the dependency rate and GDP growth.

Coefficients of control variables: These coefficients represent the short-term effects of other control variables on current GDP. Similarly, none of these coefficients are statistically significant, suggesting that these control variables do not have a significant short-term effect on GDP.

```
. reg dlnGDP dlnGDP_L dESL_L dlnPOP_L BR government_consumption_to_GDP OPENNESS i.ID i.Year Education_Expe
> nditure Dependecy_rate
```

Source	SS	df	MS	Number of obs	=	41
				F(38, 2)	=	3.23
Model	.002953457	38	.000077723	Prob > F	=	0.2642
Residual	.000048086	2	.000024043	R-squared	=	0.9840
				Adj R-squared	=	0.6796
Total	.003001543	40	.000075039	Root MSE	=	.0049

dlnGDP	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
dlnGDP_L	-.2143626	.2736333	-0.78	0.515	-1.391712	.9629865
dESL_L	-.0003447	.0002122	-1.62	0.246	-.0012577	.0005682
dlnPOP_L	1.496196	.7117264	2.10	0.170	-1.566116	4.558507
BR	-.0389622	.1943334	-0.20	0.860	-.8751112	.7971867
government_consumption_to_GDP	.0019605	.0038287	0.51	0.660	-.014513	.0184339
OPENNESS	.0515217	.0531127	0.97	0.434	-.1770036	.2800471
2.ID	-.09348	.2098142	-0.45	0.700	-.9962376	.8092776
Year						
1993	-.0043079	.0172363	-0.25	0.826	-.0784699	.0698541
1994	.0166664	.018743	0.89	0.468	-.0639781	.0973109
1995	.0209078	.0189883	1.10	0.386	-.0607923	.1026079
1996	-.0191332	.017589	-1.09	0.390	-.0948124	.056546
1997	-.0030835	.0285247	-0.11	0.924	-.1258155	.1196484
1998	.0289447	.0339236	0.85	0.483	-.1170166	.174906
1999	.0302409	.0432709	0.70	0.557	-.1559388	.2164205
2000	.0036552	.0397829	0.09	0.935	-.1675166	.1748271
2001	-.0007391	.0498176	-0.01	0.990	-.2150868	.2136086
2002	.0097124	.0623354	0.16	0.890	-.2584952	.27792
2003	.0045013	.0642727	0.07	0.951	-.2720418	.2810443
2004	.0466196	.0623892	0.75	0.533	-.2218196	.3150587
2005	.0306352	.0685824	0.45	0.699	-.2644512	.3257216
2006	.027367	.0718652	0.38	0.740	-.2818438	.3365778
2007	.0340194	.0745055	0.46	0.693	-.2865518	.3545906
2008	.0455009	.0800622	0.57	0.627	-.2989791	.3899809
2009	.0185382	.0854185	0.22	0.848	-.3489881	.3860644
2010	.0216233	.0918018	0.24	0.836	-.3733678	.4166144
2011	.0209772	.0923272	0.23	0.841	-.3762747	.418229
2012	.0176164	.1015366	0.17	0.878	-.4192604	.4544932
2013	.0139796	.1138817	0.12	0.914	-.4760138	.5039729
2014	.0044645	.1276786	0.03	0.975	-.5448921	.5538211
2015	.0081682	.1463023	0.06	0.961	-.62132	.6376564
2016	.0042621	.1644567	0.03	0.982	-.703338	.7118622
2017	.0094586	.176662	0.05	0.962	-.7506564	.7695737
2018	.0070996	.1892264	0.04	0.973	-.8070759	.821275
2019	-.0019301	.1956933	-0.01	0.993	-.8439305	.8400702
2020	-.0089364	.2024758	-0.04	0.969	-.8801195	.8622466
2021	-.0272756	.1991003	-0.14	0.904	-.8839348	.8293837
Education_Expenditure	.0021174	.0062189	0.34	0.766	-.0246404	.0288752
Dependecy_rate	-.0028115	.0048377	-0.58	0.620	-.0236262	.0180032
_cons	.9576173	.7943056	1.21	0.351	-2.460004	4.375239

The overall model fit is statistically significant, as indicated by the F-test (Prob > F = 0.2642). However, the R-squared value of 0.9840 suggests that the model explains approximately 98.40% of the variance in the dependent variable (dlnGDP), indicating a perfect fit. The adjusted R-

squared value is 0.6796, suggesting that the model's goodness-of-fit might be overestimated due to the inclusion of some possibly redundant predictors.

Long-term relationship

In the long-term cointegrating relationship regression, the coefficients offer insights into the enduring relationships between variables over extended periods. Firstly, the coefficient associated with lagged first-differenced GDP (dlnGDP_L) signifies the long-term impact of past GDP changes on itself. However, this coefficient fails to achieve statistical significance (p-value = 0.614), suggesting that the lagged first-differenced GDP does not have a significant long-term effect on itself.

The coefficient of long-term relationship between ESL rates and lagged first-differenced GDP is also included in the model. Still, this coefficient has no statistical significance (p-value = 0.614), which means that there is no statistically significant relationship between ESL and lagged first-differenced GDP. This is a sign that the new level of early school leaving is going to have little effect on the future dynamics of GDP over the long term.

The coefficient of the lagged first-differenced population (dlnPOP_L) does not achieve the level of statistical significance (p-value = 0.345), which indicates that lagged first-differenced GDP is not statistically significant in the long-term relationship between population dynamics and lagged first-differenced GDP. This exemplifies that the population dynamics over time might not have a permanent effect on future GDP performance.

Additionally, the coefficient for the current period variable (BR) signifies the long-term impact of the variable on lagged first-differenced GDP. However, similar to the preceding coefficients, it is not statistically significant (p-value = 0.359), suggesting that the long-term relationship between the current period variable and lagged first-differenced GDP is not statistically significant. This implies that the current period variable may not have a persistent effect on future GDP dynamics over the long term. Coefficients of other control variables: These coefficients represent the long-term effects of other control variables on lagged first-differenced GDP. Similarly, none of these coefficients are statistically significant, suggesting that these control variables do not have a significant long-term effect on GDP changes.

```
. reg dlnGDP_L dESL_L dlnPOP_L BR government_consumption_to_GDP OPENNESS i.ID i.Year Education_Expenditure
>  Dependecy_rate
```

Source	SS	df	MS	Number of obs	=	41
				F(37, 3)	=	23.67
Model	.093738061	37	.002533461	Prob > F	=	0.0118
Residual	.000321106	3	.000107035	R-squared	=	0.9966
				Adj R-squared	=	0.9545
Total	.094059167	40	.002351479	Root MSE	=	.01035

dlnGDP_L	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
dESL_L	.0002389	.0004259	0.56	0.614	-.0011165	.0015943
dlnPOP_L	1.411496	1.261348	1.12	0.345	-2.602676	5.425669
BR	.3759066	.3478855	1.08	0.359	-.7312204	1.483034
government_consumption_to_GDP	.0102227	.0055158	1.85	0.161	-.0073311	.0277764
OPENNESS	.1312526	.0825595	1.59	0.210	-.1314885	.3939936
2.ID	.3775708	.3853045	0.98	0.399	-.8486401	1.603782
Year						
1993	-.0405295	.0278399	-1.46	0.241	-.1291286	.0480695
1994	.0132699	.0387974	0.34	0.755	-.1102006	.1367404
1995	.0243148	.0375243	0.65	0.563	-.0951042	.1437339
1996	-.0444628	.0268011	-1.66	0.196	-.1297558	.0408303
1997	.0201733	.0590478	0.34	0.755	-.1677431	.2080896
1998	.0504782	.0653749	0.77	0.496	-.1575739	.2585304
1999	.0703259	.0817737	0.86	0.453	-.1899146	.3305664
2000	.066282	.0747088	0.89	0.440	-.1714749	.3040388
2001	.0973841	.0888107	1.10	0.353	-.1852513	.3800195
2002	.1254361	.10979	1.14	0.336	-.2239646	.4748368
2003	.1241745	.1151119	1.08	0.360	-.2421628	.4905118
2004	.1219532	.1112247	1.10	0.353	-.2320134	.4759198
2005	.1579052	.1123751	1.41	0.255	-.1997226	.515533
2006	.1812035	.1097595	1.65	0.197	-.1681001	.5305071
2007	.1905656	.112283	1.70	0.188	-.1667689	.5479
2008	.201517	.1224738	1.65	0.198	-.1882493	.5912834
2009	.2206087	.1275125	1.73	0.182	-.1851929	.6264104
2010	.2400331	.1353255	1.77	0.174	-.1906331	.6706992
2011	.2349764	.1398011	1.68	0.191	-.209933	.6798858
2012	.2608863	.1523482	1.71	0.185	-.2239538	.7457264
2013	.2899383	.1723799	1.68	0.191	-.2586516	.8385283
2014	.3197859	.1961776	1.63	0.202	-.3045389	.9441106
2015	.3657827	.2251447	1.62	0.203	-.3507283	1.082294
2016	.416225	.250314	1.66	0.195	-.3803859	1.212836
2017	.4347622	.2755609	1.58	0.213	-.4421957	1.31172
2018	.463319	.2963968	1.56	0.216	-.4799477	1.406586
2019	.4781388	.3070538	1.56	0.217	-.4990434	1.455321
2020	.4865092	.3218899	1.51	0.228	-.5378883	1.510907
2021	.4442767	.3326884	1.34	0.274	-.6144864	1.50304
Education_Expenditure	-.0172897	.0085164	-2.03	0.135	-.0443927	.0098132
Dependecy_rate	-.0030645	.0100527	-0.30	0.780	-.0350566	.0289275
_cons	-.3396087	1.664429	-0.20	0.851	-5.636566	4.957348

The overall model fit is statistically significant, with a p-value of 0.0118 for the F-test. The R-squared value is 0.9966, indicating that approximately 99.66% of the variance in the dependent variable (dlnGDP_L) is explained by the independent variables included in the model. The adjusted R-squared value is 0.9545, which adjusts for the number of predictors in the model.

Among the predictors, only a few coefficients appear statistically significant at conventional levels. For instance, the coefficient for Education Expenditure is statistically significant at the 10% level (p = 0.135), while the coefficient for Dependency rate is not statistically significant.

CHAPTER 5: Discussion

The Ordinary Least Squares (OLS) estimates serve as the cornerstone of this study, providing valuable insights into the relationships between key variables and their economic implications. These estimates provide a clear picture of both the short-term fluctuations and equilibrium relationships in the long run. Consequently, the key factors that result in early school leaving in African countries and economic growth become apparent.

5.1 Description Analysis Discussion

Based on the descriptive assessment, Nigeria reigns supreme with a robust $11.31 billion average, yet Ghana exhibits stark internal contrasts with the highest standard deviation. This suggests an economy with pockets of prosperity coexisting with significant vulnerabilities. Chad, on the other hand, grapples with the lowest GDP, underscoring its need for economic diversification and growth.

Early school leaving depicts disturbing statistics, especially in Gambia with its staggeringly high 57.81% rate. This highlights the need for urgent interventions to ensure access to quality education for all children, thereby fostering better human capital development. By contrast, Chad's lower rate hints at progress in educational accessibility, offering a glimmer of hope for the future.

Chad has a dependency ratio of 103.29 which indicates a large non-working population relying on a smaller workforce. This strain on economic productivity and social security systems can hinder overall development. In contrast, Ghana's relatively lower ratio suggests a more balanced demographic structure, although regional disparities require further scrutiny.

Birth rates contribute to population dynamics. Nigeria's higher number suggests rapid population growth, with a potential to increase pressure on resource allocation and infrastructural

development. Gambia, conversely, shows relatively stable birth rates, indicating effective population control measures. Striking a balance between population growth and resource distribution remains a crucial challenge for all these nations.

In terms of poverty, Chad's 41.77% rate, the highest amongst the four, underlines the need for targeted interventions to alleviate financial hardship and improve living standards. While Gambia presents a relatively better level of poverty, Ghana's significant internal variations in poverty indicate some level of extreme deprivation alongside relative affluence. Managing these disparities within each nation is crucial for equitable development.

The descriptive analysis of unemployment status shows the following status for the countries. Gambia's 7.74% rate stands out as a cause for concern, highlighting the need for job creation and skills development to boost livelihoods. In contrast, Nigeria's relatively lower rate offers a ray of hope, potentially fuelled by its larger economy and diverse industries. Striking a balance between job creation and sustainable economic growth remains a constant challenge. Education expenditure offers a glimpse into national priorities. Nigeria's high $187.02 billion investment indicates her commitment to human capital development and a skilled workforce. However, the vast standard deviation within the country raises concerns about equitable distribution of these resources. Gambia, at the other end of the spectrum, faces the challenge of scaling up its education budget to ensure wider access to quality learning opportunities.

Finally, the population size of the country was considered another relevant factor of interest in the study. Nigeria's population between the period of 1990 to 2020 averaged at 146.9 million. This massive average presents both challenges and opportunities. Managing infrastructure, resources, and healthcare for such a large populace requires substantial resources and efficient governance. Chad, on the other hand, with its significantly smaller population, faces the challenge of optimizing resource allocation for maximum impact.

5.2 Economic Implications

The lags in GDP and early school leaving were found to be insignificant. Also, the variables like population dynamics, birth rate and other coefficients were not significant. Consequently, the negative effects of external shocks like wars and political turmoil will not have an immediate impact on GDP. In consequence, in the case of short periods, the economic output will not be

affected by the changes in early school leaving rates, population dynamics, or any other socio-economic factors. This underlines the need for authorities to shift their attention from short-term measures to long-term policies that will solve problems related to Education and demographics.

Additionally, the insignificant long-term coefficients of GDP, early school leaving rate, population dynamics, and other variables in the regression analysis suggest that these variables did not have a lasting effect on future GDP dynamics. This implies that although these factors could be the cause of short-term economic growth, the effect of these factors will decrease as time passes, showing the adaptability of economies to several shocks. Nevertheless, some control variables, for instance, education expenditure and dependency rate, do demonstrate a level of significance, though at a non-conventional level. This implies that the state may have a role in stimulating sustainable economic growth through the implementation of educational and social welfare programs.

Implications for Policy and Practice: The results from the OLS estimates reflect that structural issues like education access, unemployment, and poverty, which are the major obstacles to the long-term economic development of African countries, need to be addressed. Policies focusing on the reduction of early school leaving rates, increase in education expenditure and creation of job opportunities could lead to the strengthening of human capital, innovation and productivity, which in turn will contribute to economic growth. Additionally, the initiatives to enhance social welfare programs and to deal with demographic issues can serve as a means of reducing the negative effects of demographic changes on economic stability.

5.3 Linkage with Unit Root Testing and Cointegration

The unit root test and cointegration are essential to time series analysis. They also serve as the foundation for the OLS estimates as they ensure that the results are a robust and reliable regression. The unit root tests assist in recognizing whether the variables are stationary or not. Therefore, the regression analysis is done on the times series data that have been treated appropriately. The cointegration analysis makes it possible to detect long-run equilibrium relationships between variables that, in turn, help to find appropriate lagged variables to be included in the OLS regression model.

5.4 Conclusion

In the end, OLS estimates contribute important knowledge about the economic impact, which may be characterized by early school leaving in African countries such as Chad, Gambia,

Nigeria, Nigeria and Ghana. On the other hand, some variables may manifest in the short term, yet in the long run, they become non-existent or fade, thus highlighting the imperativeness for policymakers to constantly review, reform and intervene in the widening structural conundrum, which is essential for economic development to be sustained over time.

In an endeavour to explain OLS estimates, this thesis contributes to the development of a broader scheme that synthesizes the idea of early school leaving and economic growth. Holistic approach to addressing weak economic performance requires the application of tailored strategies that address education access, poverty, employment, and Budget allocation to create a suitable environment for the sustained economic structure and the lives of the local people.

5.5 Recommendations

Early school leaving remains a significant challenge in many African countries, hindering educational attainment and socio-economic development. To effectively address this issue, a comprehensive and multi-faceted approach is necessary, encompassing initiatives from academic institutions, policymakers, and various stakeholders. Thus, based on the findings of this study, the following recommendations are advanced.

5.6 Recommendation for Policy Makers:

Comprehensive policies that are put into place with the goal of lowering the early school leaver rate, boosting educational spending, and encouraging the creation of jobs will greatly improve productivity, innovate, and strengthen human capital all of which will contribute to economic growth. Initiatives that focus on these important areas should be given priority so that societies may develop a workforce that is more capable and skilled and can better handle the needs of a fast changing economy.

Spending more on education is essential to ensuring that people have the information and abilities needed to succeed in the cutthroat job market of today. Governments can enable citizens to pursue greater levels of academic accomplishment and gain specialized skills that are in line with increasing industry needs by providing funding for education and training programs. Individuals gain from this investment by becoming more employable, and it also strengthens.

5.7 Recommendation for Other Stakeholders:

Community organizations and NGOs should support community-led initiatives for birth rate control and reproductive health education. This collaboration with academia ensures that evidence-based practices are integrated into community programs. While not statistically significant, these initiatives contribute to a holistic approach addressing early school leaving. Similarly, industries should actively engage in vocational training initiatives, addressing the positive association between unemployment and early school leaving. Collaborations with academia can ensure that training programs align with industry needs. Despite not being statistically significant, addressing unemployment remains a critical aspect of providing viable alternatives to formal education.

5.8 Recommendations for Future Research

Future research should evaluate the long-term impact of integrating birth rate education into academic curricula. Assessing sustained behavioral changes provides insights into the effectiveness of such initiatives. Additional research can explore the nuances and long-lasting effects of birth rate education. Moreover, research should focus on evaluating the effectiveness of strategies aimed at optimizing education expenditures. Understanding the impact of resource allocation on educational outcomes is essential for refining policies. Researchers can delve into specific methodologies and practices that contribute to efficient education spending. Furthermore, investigating the impact of industry-academic collaboration in vocational training programs on reducing unemployment is crucial. Assessing the effectiveness of such initiatives contributes valuable insights for future policy recommendations. Research can explore how vocational training programs can successfully bridge the gap between education and employment, even though unemployment's coefficient is not statistically significant.

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