

Effect of Public Education Spending on Pupils' Enrolment in Nigeria (1980–2024)

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Abstract

The study investigated the effect of public education spending on student enrolment in Nigeria from 1980 to 2024. It was guided by two specific objectives, along with corresponding research questions and hypotheses. Annual time series data for the period were obtained from secondary sources. An ex post facto research design was adopted for the study. To test the null hypothesis, simple linear regression analysis was conducted using the Statistical Package for the Social Sciences (SPSS). The results revealed that education spending is a strong and highly significant positive predictor of student enrolment in Nigeria ($B = 7,665.26$, $p < 0.001$), suggesting that increased expenditure on education leads to substantial rises in student enrolment. Based on these findings, it was recommended, among other measures, that the government should enhance student enrolment and reduce dropout rates by providing free and compulsory primary education.

Keywords: Public Education, Pupils' Enrolment, Nigeria

INTRODUCTION

Nigeria, the most populous country in Africa and the seventh largest globally, spans 923,768 square kilometres with a population of over 200 million people from more than 250 ethnic groups. Nigeria consists of 36 states and the Federal Capital Territory, organized into six geopolitical zones, each characterized by unique cultural and economic attributes (World Bank, 2023).

The Nigerian education system begins with primary school at age six, followed by junior secondary at eleven and senior secondary at fourteen. Both public and private schools operate within this framework. In the 2021–2022 academic year, there were more than 115,000 registered primary schools with 28 million pupils and 824,000 teachers, though dropout rates remain high, with over 250,000 pupils leaving school during that period (Nigeria Education Digest, 2022).

A functional educational system—including kindergarten, primary, secondary, and tertiary levels—provides the foundation for national development by supplying essential human capital (Simeon & Igbogidi, 2021). Education enhances health, agriculture, and economic systems while

improving labour market outcomes. Higher education attainment is linked with greater productivity, higher earnings, and national economic growth (Atikur, 2023).

Education is also considered a productive investment in human capital, essential for innovation, competitiveness, and sustained economic growth (Egounleti, 2022). Accordingly, public expenditure on education is seen not just as a cost but as a strategic investment that yields long-term societal benefits (Ajayi & Ekundayo, 2006). In Nigeria, such expenditure includes recurrent costs like salaries and wages and capital investments in infrastructure (Siyan, 2002; Nurudeen & Usman, 2010).

Despite government spending, challenges persist. Nigeria has about 20 million out-of-school children—the highest in the world—with over 90% concentrated in the North (Alabi, 2022). Poverty, insecurity, insurgency, and nomadic lifestyles hinder school attendance, especially among girls (World Bank, 2018). Against this background, the present study examines the effect of public education spending on student enrolment in Nigeria (1980–2024).

Objective

The specific objective of the study is as follows:

1. To assess the relationship between public education spending and student enrolment in Nigeria from 1980 to 2024.

Research Question

The following research question guided this study:

1. What is the relationship between public education spending and student enrolment in Nigeria from 1980 to 2024?

Research Hypothesis

The study was guided by the following null hypothesis

H₀₁ (Null Hypothesis): There is no significant relationship between public education spending and student enrolment in Nigeria from 1980 to 2024.

CONCEPTUAL CLARIFICATIONS

Concept of Education

Education is the process of facilitating learning and acquiring knowledge, skills, values, morals, beliefs, and habits. It also serves as a means of imparting general knowledge, fostering reasoning and judgment, and preparing individuals intellectually, socially, and psychologically for a mature and responsible lifestyle (Omodero & Azubike, 2016). Education helps individuals

develop intellectually and socially to contribute meaningfully to society (Creswell & Creswell, 2023).Ovosadova, Gulece and Piskunowicz (2012), formal education is typically provided by formal education institutions and is sequentially and hierarchically structured leading to certification.

Government Expenditure and Education Sector

The education sector is crucial to economic growth as it provides the human capital needed for development (Eweniyi, 2018). Government expenditure on education includes capital costs like infrastructure and recurrent costs such as salaries. Nigeria’s earliest recorded spending on education was in 1925, when £116 was allocated to school construction (Obi et al., 2016). Education equips individuals with skills that boost performance, foster growth, reduce inequality, and promote technology and entrepreneurship (Omolehinwa, 2016). Overall, government expenditure reflects fund allocation across sectors, including education, based on policy priorities (Akpan & Ihendinihu, 2023).

Concept of School Enrolment

Carsamer and Ekyem (2015) School enrolment refers to the total number of pupils, regardless of age or gender, admitted to educational institutions for learning. Also called the school enrolment ratio, it represents the proportion of a nation’s population attending school. Specifically, it is the ratio of enrolled students, regardless of age, to the population within the official age group for that education level (Akpan & Ihendinihu, 2023). School enrolment is a critical indicator used to assess access to education, monitor educational participation rates, and evaluate progress towards universal education goals. It reflects both initial entry into the education system and the retention of students within schools (World Bank, 2023).

Government Expenditure on Education Sector and School Enrolment

School enrolment rates are significantly shaped by government spending on education. Sufficient finance guarantees the availability of necessary resources, including infrastructure, educational materials, and skilled staff, which promotes a favourable learning environment. Insufficient funding, on the other hand, can result in overcrowded classrooms, subpar infrastructure, and a lack of teaching personnel, all of which might discourage students from enrolling and staying in school (World Bank, 2023).

Government spending and school enrolment are positively correlated, according to recent studies. For example, Hajebi, et al. (2023) discovered that in OECD nations, higher government spending considerably raises enrolment rates at the basic, secondary, and postsecondary

education levels. In a similar vein, increased educational financing supports both higher school enrolment and general economic growth, according to a study conducted in Anambra State, Nigeria, by Nwuzor, et al (2025). Additionally, states with higher per-pupil spending typically produce better educational outcomes, including higher enrolment rates, according to the Education Law Centre's Making the Grade 2024 study (Education Law Center, 2024).

EMPIRICAL REVIEW

Akpan and Ihendinihu (2023) investigated educational expenditure by government on the enrolment of students in public schools in Nigeria. Using an ex-post facto design and data from 1981 to 2020 sourced from the Central Bank of Nigeria, the study found that both capital and recurrent expenditure had no significant effect on school enrolment. The authors recommended increased investment in education to improve enrolment outcomes.

Similarly, Isiaq et al. (2020) analyzed government spending and school enrolment in 24 Sub-Saharan African countries (2000–2016) using the System GMM method. The results showed a significant positive relationship between education spending and primary school enrolment ($p \leq 0.05$), highlighting the need for sustained investment in education.

Elham (2023) explored the effect of secondary education costs on school attendance across Iranian provinces from 2006 to 2019 using the Panel Pooled Mean Group (PMG) estimation. The findings indicated that public expenditure on secondary education, household income, urbanization, and the student–teacher ratio significantly influenced school attendance. The study recommended increased education funding to reduce dropouts and repetition rates.

THEORETICAL FRAMEWORK

The Human Capital Theory, developed by Schultz (1961) and later expanded by Becker (1964), posits that investment in education enhances individuals' skills, knowledge, and productivity, much like investments in physical capital. The theory assumes that both individuals and governments invest in education to improve economic outcomes, as better-educated individuals are more productive and earn higher incomes. In the context of this study, public education spending is viewed as a form of human capital investment by the government. Increased spending on education enhances school infrastructure, availability of qualified teachers, and provision of learning materials, which in turn improves the learning environment and encourages higher student enrolment. Therefore, the theory provides a strong foundation for understanding the positive relationship between government expenditure on education and school enrolment in Nigeria.

METHODOLOGY

The study utilized annual time series data spanning 1980 to 2024. The data were sourced secondarily from the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2024). An ex post facto research design was adopted, which is suitable for analysing historical data and examining existing relationships without manipulating any variables (Creswell & Creswell, 2023). To test the null hypothesis and answer the first research question, simple linear regression analysis was employed to examine the relationship between government expenditure on education and school enrolment in Nigeria. The model and variable selection was guided by the recent study of Obi et al. (2016), with some modifications. The empirical specification of the model is presented as follows:

$$SE_t = \beta_0 + \beta_1(PESt) + \beta_2(PGR_t) + \epsilon_t$$

SE_t = Student Enrolment at time *t* (dependent variable)

PESt = Public Education Spending at time *t* (primary independent variable)

PGR_t = Inflation Rate at time *t* (control variable)

B₀ = Constant term (intercept)

B₁+β₂ = Coefficients representing the impact of education spending and inflation respectively

ε_T = Error term signified variables that are not included in the model.

The model examines the effect of public expenditure on education on student enrolment in Nigeria, while controlling for the role of population growth.

RESULTS

Table 1: Descriptive Statistics of Education Spending and School Enrolment Trends in Nigeria (1980–2024)

Variable	Mean	Standard Deviation	N
Number of students enrolled	6,437,893.73	3,945,684.74	45
Amount spent on education	686.93	491.27	45
Population growth rate	2.65	0.15	45

Source: UNESCO, 2024

The average number of students enrolled over the observed period is approximately 6.44 million, with a high variability reflected by a standard deviation of about 3.95 million, indicating wide fluctuations across years. The mean amount spent on education is 686.93 units, with moderate variation (standard deviation of 491.27). The population growth rate averages

around 2.65%, with relatively low variation, suggesting a fairly stable population growth rate across the time span considered.

Table 2: Regression Coefficients Estimating the Effect of Education Spending and Population Growth on Student Enrolment in Nigeria (1980–2024)

Predictor	B	Std. Error	Beta	T	Sig.	95% Confidence Interval for B
(Constant)	2,345,565.31	3,312,976.26	—	0.708	0.483	-4,340,291.46 to 9,031,422.07
Amount spent on education	7,665.26	373.45	0.954	20.53	0.000	6,911.61 to 8,418.92
Population growth rate	-443,303.79	1,207,331.77	-0.017	-0.367	0.715	-2,879,797.96 to 1,993,190.37

Source: UNESCO, 2024

Dependent variable: Number of Students enrolled

Reject the null hypothesis if p-value < 0.05; otherwise, do not reject it.

In this regression model predicting student enrolment, the amount spent on education is a highly significant and strong positive predictor (B = 7,665.26, p < 0.001), indicating that increases in education expenditure are associated with substantial increases in student enrolment. The population growth rate was included as a control variable to adjust for demographic changes but was not a significant predictor (B = -443,303.79, p = 0.715), suggesting that population growth did not have a measurable impact on enrolment levels in this analysis. The tolerance (0.831) and VIF (1.203) values suggest no serious multicollinearity issues between the predictors. Overall, the model suggests that increasing educational spending is strongly associated with higher enrolment figures, while population growth appears unrelated to enrolment changes in this dataset.

DISCUSSION OF FINDINGS

The study revealed that educational spending is a highly significant and strong positive predictor of student enrolment in Nigeria (B = 7,665.26, p < 0.001), indicating that increases in education expenditure are associated with substantial increases in student enrolment.

This finding aligns with several previous studies. For instance, Ohn and Andrew (2023) reported that government expenditure on education significantly and positively impacts both primary and secondary school enrolment, with Nigeria showing the greatest influence among SANE countries. Similarly, Isiaq et al. (2020) found that government spending had a statistically significant (p ≤ 0.05) and positive effect on primary school enrolment across Sub-Saharan Africa.

Adesiyani (2017) also observed a significant positive relationship between per capita income, government spending, and primary school enrolment rates. Elham (2023) found that public expenditure on secondary education, along with household income, urbanization, and health spending, significantly affected school attendance. Naapa, et al. (2020) confirmed that secondary education spending, household incomes, and urbanization were statistically significant in explaining variations in school attendance in South Africa. According to Devi and Devi (2014), an increase in government spending corresponds with higher school enrolment. Carsamer and Ekyem (2015) concluded that educational expenditure increases school enrolments at both primary and secondary levels, with greater effects at the secondary level. Longe and Omitogun (2017) found that government spending on education and health positively influences school enrolment in Ghana. Anyanwu and Erhijakpor (2007) also confirmed that government education spending has a positive and statistically significant impact on enrolment at both primary and secondary levels.

CONCLUSION

This study investigated the Effect of Public Education Spending on Student Enrolment in Nigeria (1980–2024). It utilized time series data spanning from 1980 to 2024 and employed various regression techniques to achieve its objectives. The findings revealed that educational spending is a highly significant and strong positive predictor of student enrolment in Nigeria, indicating that increases in education expenditure are associated with substantial increases in student enrolment. Two null hypotheses were tested using simple linear regression analysis and a line graph was used to visually analyse trends. Based on the findings, the following recommendation was made among others: the government should increase student enrolment and reduce dropout rates by ensuring free and compulsory education at the primary and secondary levels.

RECOMMENDATIONS

1. Government should Increase funding for education to boost student enrolment and reduce dropout rates through free and compulsory primary and secondary education.
2. Government should Scale up public funding for basic education and encourage private sector investment to expand access.
3. Government should Engage religious institutions, civil society groups, and media to raise public awareness about the importance of education.

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