

## Public Expenditure on Education in Liberia: Assessing Efficiency, Adequacy and Educational Outcomes.

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### **Abstract**

Education is a fundamental pillar of development, playing a crucial role in transforming a nation from underdevelopment to prosperity. Every country must therefore be deliberate and strategic in their investment in education. Despite high-profile reforms in Liberia, like the Education Reform Act of 2011 and the strategy of the Sector Plan Get to Best Education (2017-2021), significant gaps persist in both funding adequacy and expenditure efficiency. This study analyses the adequacy and efficiency of education spending in Liberia between 2012 and 2023, and its impacts on education outcomes specifically using primary school completion rates in Liberia. The analysis draws on secondary time-series data sourced from UNESCO, World Development Indicator and the Ministry of Finance and Development Planning. Findings reveal that Liberia's education sector remains heavily dependent on donor financing and disproportionately skewed toward recurrent expenditures. Public education spending falls substantially below benchmarks established by global frameworks and lags behind comparable Sub-Saharan African and low-income countries. The study further demonstrates that GDP per capita exerts a statistically significant positive effect on primary completion rates, confirming that macroeconomic growth and household welfare are more reliable structural determinants of educational attainment in the Liberian context. The study concludes that education expenditure, in the absence of allocative and technical efficiency, is insufficient to improve education outcomes. Policy recommendations for government actors and development partners include conducting public expenditure reviews, strengthening domestic resource mobilization, and adopting results-based financing mechanisms as complementary pillars of education sector reform

**Keywords:** Public education expenditure, adequacy, efficiency, education outcome, primary school completion rate, GDP per capita.

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### **I. Introduction**

Education has been recognized as a fundamental human right and strategic stimulus towards sustainable development in all parts of the world. Education has been at the centre of international development agendas because of the global frameworks, specifically Education for All (EFA) Goals (2000), the Millennium Development Goals (MDGs, 2000-2015), and the Sustainable Development Goals, which informed the Education 2030 Framework for Action. In these frameworks, SDG 4 directly demands inclusive and equitable quality education and encouragement of the opportunities of lifelong learning to all. This commitment by the world highlights the importance of education in alleviating poverty, promoting social equity and developing the human capital that is necessary in economic development.

In Sub-Saharan Africa, though, lack of funding, poor governance systems and institutionalized inequalities in access and learning achievement have continued to hinder SDG 4 realisation. The Africa Economic Outlook (2020) reports that, despite rising investments in education, sub-Saharan African countries continue to exhibit the lowest efficiency in education spending. According to GEM Report SCOPE 2022, in Sub-Saharan Africa, government spending on education accounts for 3.5% of GDP but 15.5% of overall public spending. On the other hand, while Europe and North America exceed the criterion in terms of GDP (4.8%), they only devote a small portion of their overall spending to education (10.9%). Interestingly, one third of the total countries in the world yet to achieve either of the financial benchmarks recommended in the education 2030 framework for action (GEM Report SCOPE. 2026).

The case of Liberia is more specifically severe. Despite after high-profile reforms as the Education Reform Act of 2011 and the strategy of the Sector Plan Get to Best Education (2017-2021), there are still serious gaps in both funding and effectiveness. Spending on education is lower than universal standards. International declarations and treaties have encouraged nations to allocate the recommended benchmark of 4–6% of GDP or 15–20% of total public expenditure to education (UNESCO, 2015). A government spending level within this threshold indicates compliance with the SDG 4 target, and when spending is broken down by education level, it

reflects policy commitment across the entire education system (UNESCO Institute for Statistics, 2025). Unfortunately, Liberia has not been able to meet these benchmarks over the years.

Although Liberia has not yet met this target, the country has shown a steady increase in education spending as a percentage of GDP over the last decade. The Liberian government spending increase from 1.7% in 2013 to 2.3% in 2023 as percent of the GDP (UNESCO Institute for Statistics, 2025). Notwithstanding, Liberia still remain far below the recommended threshold.

In addition, the expenditure is skewed towards the recurrent expenditure with insufficient funds to develop infrastructures, train teachers, and improve their quality. Therefore, the disconnection between inputs and outcomes limits the ability of Liberia to use education as a channel of promoting sustainable development.

## **II. Literature Review**

### **Review of relevant theories**

The research on the topics of public spending on education is based on a number of theoretical approaches. The concept of the Production Function Theory turns the concept of education into an input-output process where financial resources (inputs) get transformed by the governance and distribution processes into the tangible output. That is, schools built, teachers trained, and students enrolment, attainment, and the broader output, like literacy rate, skills development, and equity (Yele, W. B., & Specioza, A. 2024). Education Production Function is the theoretical basis of analyzing the expenditure on public education in Liberia. It is a systematic relationship between different inputs in education, such as public spending, teacher quality, and infrastructure, and the outputs of school education, usually in the form of student achievement or the literacy level (Durrani, 2016). According to functionalism, education is a means of stability and integration in society, which brings about cohesiveness and skills required in economic development (Gbollie, C & David, N. M. 2014). Conflict Theory, in its turn, argues that the unequal financing and access keep the classes polarized and in structural inequalities (Yele, W. B., & Specioza, A. 2024). Furthermore, Sustainable Development Theory highlights the intersection between the state spending and the long-term results of development, with education investment being the key to poverty alleviation, the establishment of human capital, and equity (Abera et al., 2025). Human capital theory explains that capital does not only mean bank accounts, investments or shares in company, but capital also mean investment in human (Becker, 1964). The same way investments or shares in company yield income and other useful outputs, investment in human also lead to productive output. This theory is supported by both the World bank and United Nation Development Program. These global institutions maintain that governments must increase investment in education which ultimately lead to invest in people, (World Bank 2020, as cited in Hinneh & Mao, 2023). When applied to Liberia, this theory assumes that expenditure on government education is an investment in the human resource base of the country, the expenditure that can trigger the growth of the economy in the long-term, decrease poverty and decrease income disparities. Additionally, public expenditure theory describes that government spending is directly proportional to economic growth and development. As the economy grows, demand for public expenditure services, such as education, infrastructure, health and security increases (Wagner, 1893 cited in Kónya, L., & Abdullaev, B. 2018). Tanzi and Zee (1997) pointed out that the success of the public expenditure is based on the amount of resources allocated as well as the institutional capability to convert the spending into outcomes of service delivery. In the Liberian case, this theory poses the question of adequacy. Is the government spending enough and efficient of national income on education? Linking this in the context of this study, Liberia, like other developing countries with rapid economic growth rate are expected to expand public expenditure on education. Increase in productivity eventually lead to demand for individuals with skills and knowledge. Globally, public education spending has expanded mostly due to economic growth. However, the nations that saw the biggest and fastest gains in public education spending did so by combining solid economic growth with increases in overall government revenues and a higher budgetary priority for education (Al-Samarrai et al., 2019).

### **Empirical Studies related to public education expenditure**

Education is a key driver of development that is given priority in the world. UNESCO and the World Bank suggest that countries should spend no less than 4-6% of the GDP or 15-20% of national budget on education (Hinneh J. T., and Mao, Q. 2023). Al-Samarrai et al., (2019) revealed that spending on education globally has risen significantly in the last 20 years, but has been unevenly distributed and spending as a percentage of GDP has remained fairly constant at around 4.5%. In absolute terms of education expenditure as a percentage of GDP, low-income countries saw the largest gains while their expenditure in absolute terms was still low when compared to other countries. In Latin America and Africa, education spending as a share of GDP rose sharply while in the Middle East and North Africa it fell sharply. In developing countries, India for example, the trend of increased public spending in education has been pronounced in the recent decades which is based on the change in demographics and economic changes. In low-income countries, the majority of public expenditure is on

elementary education, where increases in funding are typically used to increase access to education instead of spending more on education per student (Al-Samarrai et al., 2019). Despite the increased allocations to the primary, secondary, and higher education, there are still issues regarding equitable distribution, quality assurance, and efficient use (Guleria, et al., 2025). These trends help to emphasize that even though it is imperative to increase spending, the results are largely dependent on efficiency and focused distribution.

The Sub-Saharan Africa is characterized by a low level of public expenditure that is below the international standards even as the population pressure increases. The area is struggling with poor governance, misappropriation of resources and inefficiencies in their expenditure (Abera et al., 2025). As an illustration, Ghana spends about 6.16 % of the GDP on education; however, its results are lower than those of the world (Yele, W. B., & Specioza, A. 2024). The free and compulsory education program of Sierra Leone, with a large GDP expenditure, has difficulty in enrolment due to the high dropout rates and a manual of cost (Waydon, et al., 2016). There are also significant inequalities in Nigeria, where the completion rates in primary and secondary education amount to 55.1% and 39.4%, respectively, and the number of out-of-school children is over 10.2 million (Yele, W. B., & Specioza, A. 2024). Therefore, fundraising issues in the area are indicative of not just lack of adequacy, but also efficiency. Also, in Nigeria, public education spending significantly and positively affects educational outcomes. Although they are not significant in determining education result, public health spending and urban population expansion were also found to have positive influence on education outcomes (Obi et al., 2016). Additionally, Idrees, M. et al., (2021) argued that government spending and national income have a positive impact on school enrolment, meaning that when these factors rise, the nation's school enrolment eventually rises as well. Despite these findings, Al-Samarrai et al., (2019) found that, in general, average educational outcomes did not significantly improve when public education funding increased.

The situation in Liberia is quite difficult. The Education Reform Act (2011), the Free and Compulsory Primary Education policy, and the Getting to Best Education Sector Plan (2017-2021) policies were to be in line with the global objectives. Nevertheless, results are below average. Over 60 percent of school-going children of the primary school are not in school yet the free education policy is available (Waydon, et al., 2016). Most schools are private and this aspect restricts equitable access because the tuition fees are high (Wehye, & Asiimwe, 2023). Despite the increase in the number of institutions of higher learning since three to more than thirty, inefficient quality-assurance systems lead to overcrowding, lack of adequate infrastructure and inadequate research facilities (Gbollie, C & David, N. M. 2014). In general, the education sector of Liberia is limited by a lack of funding, ineffectiveness, and inequality (Yele, W. B., & Specioza, A. 2024).

Liberia spends 2.2% to 3.4 % of GDP on education, which is much lower than the suggested amounts (Hinne and Mao, 2023). The spending is highly biased towards recurrent spending like salaries and little spending is done on infrastructural development, training of the teachers or innovation. In that regard, any increases in education expenditure have not been accompanied by the corresponding enhancement in performance. The enrolment and completion rates are low, the level of literacy is low, and learning achievements are low (Wehye, & Asiimwe, 2023). Research suggests that there is a modest relationship between expenditure and enrolment on the bottom basic level, but none or weak relationships on the rest of the levels (Hinne & Mao, 2023). This trend is inefficiency of resource allocation and utilisation.

The level of education spending has a direct effect on the process of achieving SDG 4 in Liberia and an indirect impact on the reduction of poverty, equity, and inclusive development. To be productive, innovate and stable in governance, it is important to invest in human capital through education (Gbollie and David, 2014). However, the widespread weakness and ineffectiveness of the government spending in Liberia limit the transformational nature of education to the sustainable development. Without changes in the allocation and use of resources, education will continue to be a poor performing sector, which negatively affects the development agendas of a country and the world at large (Wehye, & Asiimwe, 2023).

### **Research Objectives**

1. To examine whether public education spending in Liberia is adequate and efficient in improving educational outcomes.
2. To assess the effect and investigate the relationship between public education spending, GDP per capita and education outcomes in Liberia with specific focus on upper secondary education completion rates.
3. To compare Liberia's educational spending with those of comparable Sub-Sahara countries.

### **Research Hypothesis**

Two sets of null and alternative hypotheses are formulated to guide the empirical analysis. These hypotheses are tested using multiple linear regression in IBM SPSS Statistics Version 21 at the conventional significance level of  $\alpha = .05$ . The hypotheses are presented in Table 1.1

	Model	Null Hypotheses H <sub>0</sub>	Alternative Hypotheses H <sub>1</sub>
1.	Model	Government education expenditure (% of GDP) in Liberia do not predict educational outcome (Primary education completion rate)	Government education expenditure (%of GDP) in Liberia predicts educational outcome (Primary education completion rate)
2.		Government education expenditure (%of GDP) no significant effect on GDP per capita in Liberia.	Government education expenditure (%of GDP) has significant positive effect on GDP per capita in Liberia.

### Research Gap

While many studies provide important descriptive and diagnostic insights, they do not systematically analyze the relationship between public education expenditure levels and educational outcomes through econometric or efficiency analysis frameworks. There is a lack of research on disaggregation of expenditure patterns by primary, secondary, and higher education and a lack of efficiency analysis on if Liberia's education budget is funded by national revenue or donor fund.

## III. Methodology

### Research Design

Quantitative research design was selected to for the research. The time-series secondary data from 2012 to 2023 were collected from internationally recognized sources such as WDI, and UNESCO to conducted statistical analysis. Data from the national approved budget of Ministry of Finance Development Planning of the Republic of Liberia was also collected analyze the pattern and trend of resource allocation to the education sector. The study encompasses of both descriptive analysis and statistical approach. The descriptive analysis explains the trend of funds allocated to education in Liberia. The quantitative approach is appropriate as it enables the estimation of causal relationships between expenditure variables and outcome indicators using econometric techniques. To assess both the adequacy and efficiency of public education spending, the study specifically employs Ordinary Least Squares (OLS) regression and descriptive analysis in SPSS and Excel.

### Model Specification

#### Model: Adequacy and Efficiency Model

The model investigates whether the level of public spending on education is sufficient and efficient to improve educational outcomes. Government education expending as percentage of GDP is used as dependent variable to predict the impact on education outcome with specific focus on completion rate for primary education.

$$COMP_t = f(GEE_t, GDP_t, \varepsilon_t)$$

Linear econometric form:

$$COMP_t = \beta_0 + \beta_1 GEE_t + \beta_2 GDP_t + \varepsilon_t$$

Final model after computation in SPSS to address autocorrelation and multicollinearity.

$$InCOMP_t = \beta_0 + \beta_1 InGEE_t + \beta_2 InGDP_t + \varepsilon_t$$

#### Variables Definition:

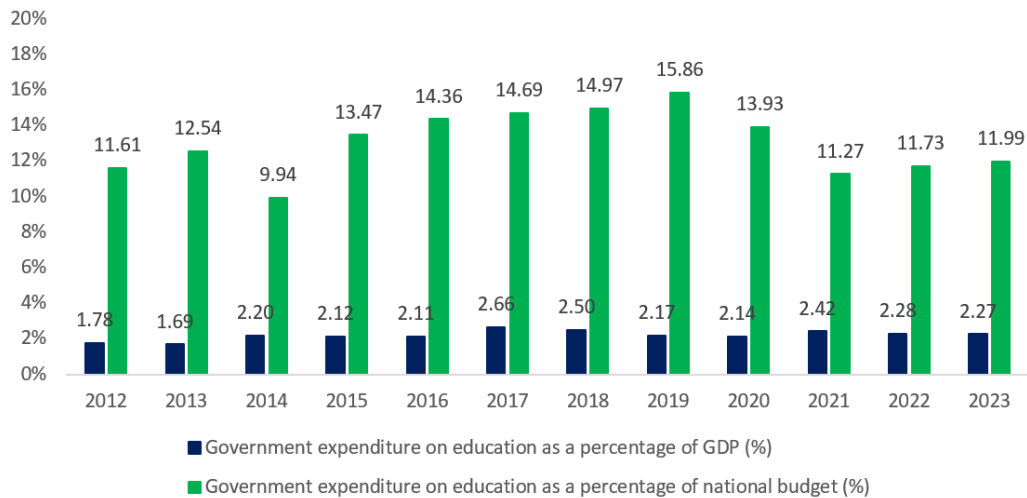
- GEE<sub>t</sub>: Government Education Expenditure (% of GDP)
- In GDP<sub>t</sub>: GDP per capita in log form
- COMP<sub>t</sub>: Upper secondary completion rate
- ε<sub>t</sub>: Error term

## IV. Results and Discussion

### Trend of Government Spending on Education (% of GDP and Total Spending), 2012–2025

#### FIGURE 4.1: Government Spending on Education (% of GDP and Total National Spending), 2012–2023

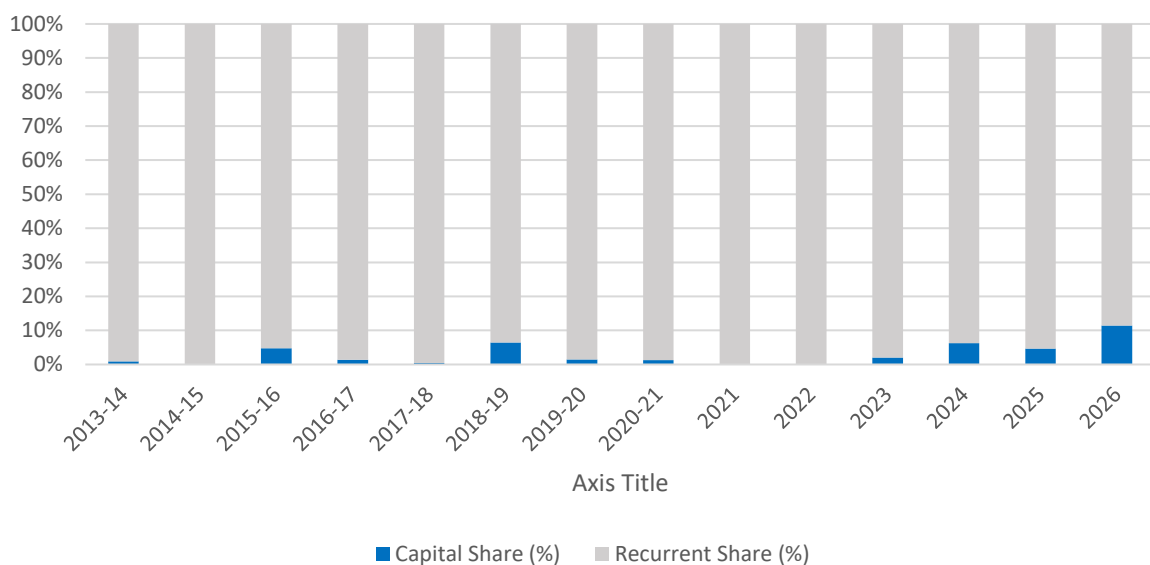
### Public Education Expenditure in Liberia



Source: UNESCO Institute for Statistics (UIS) and Approved National Budget, Ministry of Finance Development Planning (MOFDP), RL.

Figure 4.1 illustrates trends in government spending on education as a percentage of GDP and as a percentage of national budget between 2012 and 2023. Overall, both indicators show moderate fluctuations. Education expenditure as a percentage of GDP remains fairly stable throughout the period and generally ranging between approximately 1.7% and 2.3%. This is below what universal treaties and declarations encouraged countries to allocate the recommended benchmark of 4–6% of government spending education as a percentage of GDP (UNESCO, 2015). On the other hand, education spending as a percentage of national budget exhibits greater variability. It rises steadily from around 11.6% in 2012 to a peak of approximately 16% in 2019, indicating an increased prioritization of education within government budgets during this period. However, a decline is observed between 2020 and 2022, likely reflecting fiscal pressures due to the Covid-19 epidemic. It has recovered in 2023. This is also below what universal treaties and declarations encouraged countries to allocate the recommended benchmark of 15–20% of government spending education as a percentage of government expenditure (UNESCO, 2015).

Figure 4.2: Trend of Capital and Recurrent Shares of Public Education Expenditure in Liberia (FY 2013–2026)

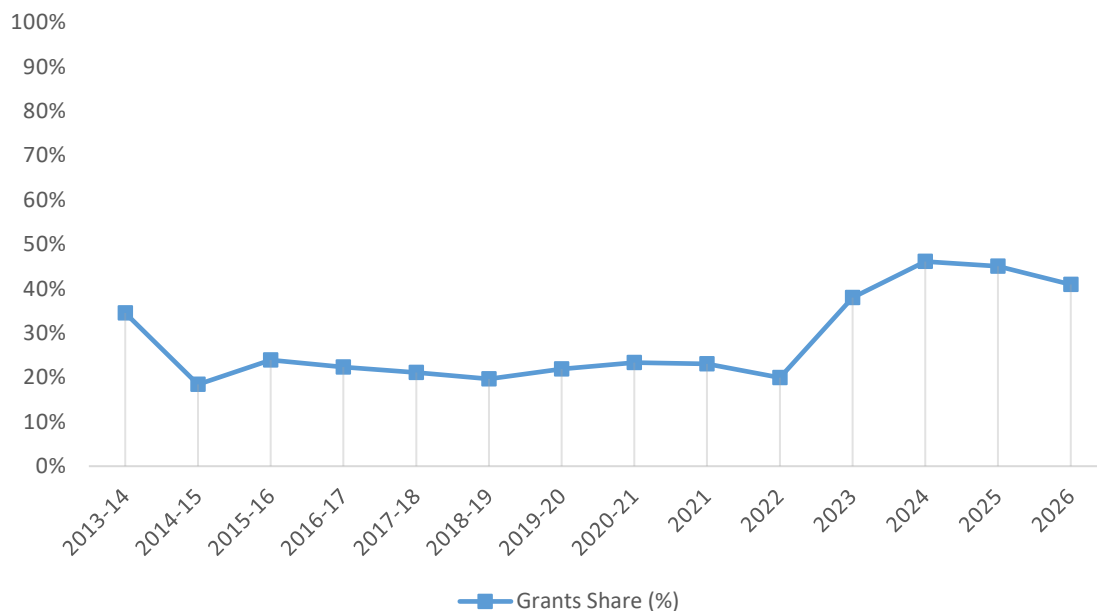


Source: Author’s computation based on data from Approved National Budget, Ministry of Finance Development Planning (MOFDP), Republic of Liberia.

**Figure 4.2** shows a chronic recurrent expenditure dominance. The results indicate that Liberia’s education budget is heavily skewed toward recurrent expenditure. Across all fiscal years is consistently above 88% and often near 100%. Capital expenditure even in the best year (2026), is only 11.42%. In several fiscal years (2014/15, 2020/21, 2021, and 2022), capital spending was recorded at zero which mean the government did not allocate anything for capital expenditure. However, since 2023, there has been impressive upward trend in capital share. It rose from 0% in 2022 to 2.07% in 2023, then 6.31% in 2024, 4.63% in 2025, and massively, 11.42% in 2026. According to Education Sector Analysis report (2016), revealed that in 2015/16, salary expenditures accumulated approximately 80% of the MoE's budget, leaving only marginal resources for instructional materials, infrastructure, monitoring, and quality assurance. This is a meaningful deviation from the historical pattern and it indicates policy shift toward investment.

Overall, although recurrent expenditure guarantees system continuity, but it limits growth and quality improvement. A system that focuses on paying administrators or teachers, but cannot build new schools or improve classrooms, is structurally adequate in one dimension only. On the efficiency side, this indicates that spending skewed toward consumption rather than productivity. Productive efficiency in education requires corresponding balance spending between human capital and physical capital.

**Figure 4.3: Trend of Grants Shares of Public Education Expenditure in Liberia (FY 2013–2026)**

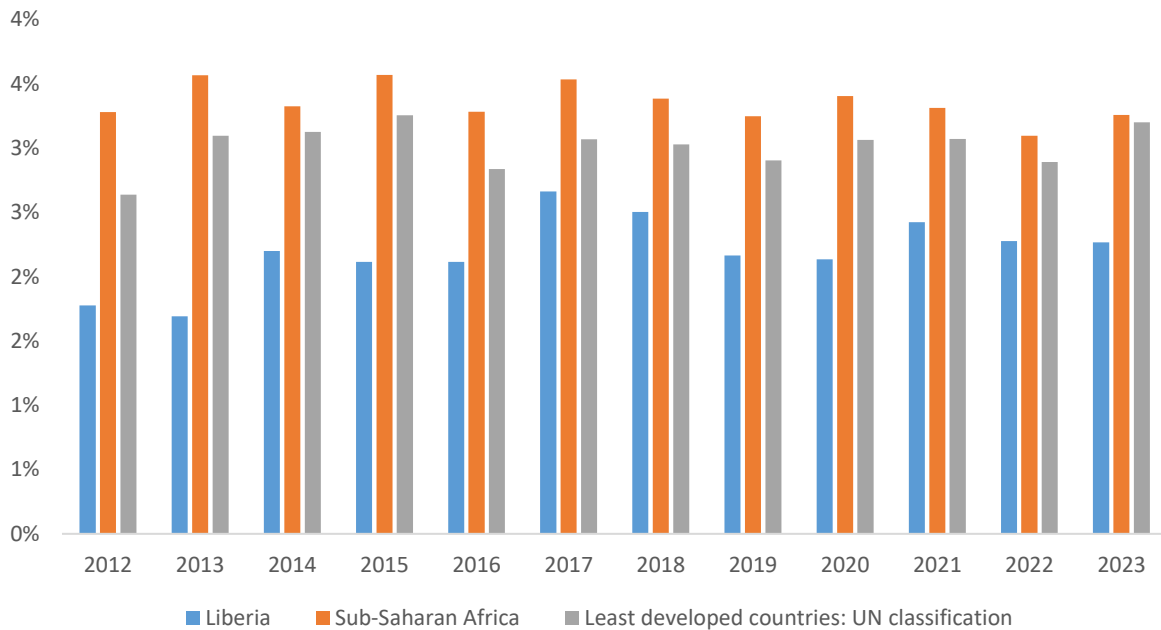


**Source:** Author’s computation based on data from *Approved National Budget, Ministry of Finance Development Planning (MOFDP), Republic of Liberia.*

**Figure 4.3** The grants share explains a high dependency on external donors. From 2013 to 2022, it slightly fluctuated in range of 18–35%, with a notable drop in 2014/15. However, from 2023 onwards, the grants share surges dramatically 37.98% in 2023, then 46.11% in 2024, 45.06% in 2025, and 40.95% in 2026. This means that from 2024 to present, nearly half of Liberia's education budget is externally financed by donor’s funding.

From efficiency prospective, heavy reliance on grants raises questions about allocative efficiency. Donor-funded expenditure may sometimes misalign with national priorities. Development partners may insist that donor fund should spend on specific project that misaligns with the country’s development agenda. On the adequacy side, donor funding is a double-edged situation. It may help to temporarily boost funding but undermine long-term sustainability. External grant is inherently fragile. Donor priorities can shift at any time and grant cycles can also end and there may arise a global donor fatigue due to crisis. An education budget that is almost 50% of grants share is not structurally adequate in the long-run sense.

**Figure 4.4: Comparison with Sub-Saharan Africa (SSA) regional average and the Least Developed Countries (LDC) group average of government expenditure on education, total (% of GDP).**



**Source: World Bank, *World Development Indicators (WDI)*: Government expenditure on education, total (% of GDP) for Liberia, Sub-Saharan Africa, and Least developed countries: UN classification (2012–2023).**

Figure 4.4 explains comparison with Liberia, the Sub-Saharan Africa (SSA), and the Least Developed Countries (LDC) over the period 2012 to 2023 as it relates to government expenditure on education, total (% of GDP). The figure indicates, despite a steady increase in education spending for Liberia, the country still falls below both the SSA regional average and the LDC group average. Liberia’s education spending ranged from 1.69% recorded as the lowest in 2013 and 2.69% as the highest in 2017, and the average 2.19%. These amount fall flat below the recommended threshold by UNESCO and broadly adopted in international education financing frameworks, including the Education 2030 Framework for Action (UNESCO, 2015). Interestingly, even measure with the modest standard, in context of low-income countries, Liberia still fails to get on path with comparable developing countries. The Sub-Saharan Africa and Least Developed Countries average 3.36% and 3.02% respectively, while Liberia’s average 2.19%.

**Results of the Statistical Analysis**

TABLE 1 explains the Descriptive Statistics of the variables used in the study.

**Table 1: Descriptive Statistics**

	N	Min	Max	Mean	Std. D	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Completion rate, primary education	12	3.35	3.38	3.3634	.00889	.606	-.826
GDP per capita	12	6.42	6.68	6.5419	.06866	.292	.764
Government expenditure on education (% of GDP)	12	.53	.98	.7785	.12883	-.639	.532
Valid N (listwise)	12						

From a descriptive statistical standpoint, the mean primary education completion rate is 3.3634 with a very small standard deviation (0.00889). This indicates limited variation across the study period. GDP per capita had a mean of 6.5419 and a standard deviation of 0.06866, suggesting relatively stable economic performance. Government expenditure on education as a percentage of GDP recorded a mean of 0.7785 and the highest standard deviation (0.12883), reflecting greater fluctuations in education spending. Furthermore, the skewness and kurtosis values for all variables were within acceptable ranges, indicating that the variables do not substantially violate normality assumptions.

Table 2 presents the correlations matrix among the variables used in the study.

**Table 2: Correlations Matrix**

		Correlations		
		Completion rate, primary education	GDP per capita	Government expenditure on education (% of GDP)
Completion rate, primary education	Pearson Correlation	1	.541	-.498
	Sig. (2-tailed)		.070	.099
	N	12	12	12
GDP per capita	Pearson Correlation	.541	1	.193
	Sig. (2-tailed)	.070		.548
	N	12	12	12
Government expenditure on education (% of GDP)	Pearson Correlation	-.498	.193	1
	Sig. (2-tailed)	.099	.548	
	N	12	12	12

The Pearson correlation analysis revealed a moderate positive relationship between GDP per capita and primary education completion rates ( $r = 0.541$ ). This indicates that improvements in income levels are associated with higher completion rates. However, the relationship was not statistically significant at the 5% level ( $p = 0.070$ ).

Government expenditure on education as a percentage of GDP showed a moderate negative relationship with completion rates ( $r = -0.498$ ), though this relationship was also not statistically significant at the 5% level ( $p = 0.099$ ). Furthermore, the correlation between the independent variables was weak ( $r = 0.193$ ), indicating the absence of multicollinearity problems.

Overall, the correlation analysis shows that, GDP per capita is moderately and positively associated with primary education completion rates. Government expenditure on education is moderately and negatively associated with completion rates. Neither relationship is statistically significant at the 5% level, likely due in part to the small sample size ( $N = 12$ ). The independent variables are not strongly correlated with each other, suggesting no multicollinearity concern.

Table 4.3 explains the coefficients

**Table 4.3: Coefficients**

Predictors Variables	Coefficients <sup>a</sup>		Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
	Coefficients					Tolerance	VIF
	B	Std. Error					
(Constant)	2.837	.164		17.313	.000		
GDP per capita	.086	.025	.661	3.383	.008	.963	1.039
Government expenditure on education (% of GDP)	-.043	.013	-.626	-3.201	.011	.963	1.039

a. Dependent Variable: Completion rate, primary education

**Model Statistics**

Statistic	Value
R	.818 <sup>a</sup>
R Square	.669
Adjusted R Square	.595
Std. Error of the Estimate	.00566
Durbin-Watson	1.719
N	12

a. Predictors: (Constant), Government expenditure on education as a percentage of GDP (%), GDP per capita

b. Dependent Variable: Completion rate, primary education

Table 4.3 shows that the overall model fit is significant and statistically significant. The multiple correlation coefficient ( $R = .818$ ) shows that there is a high level of linear relationship between the two predictors together with the primary school completion rate. The  $R^2$  value of 0.669 indicates that the total variance in the log of the primary completion rates is about 66.9 percent that is explained by the sum of the effects of government education spending as a ratio of GDP and GDP per capita. The adjusted  $R^2$  of 0.595 is the product of the number of predictors and the sample size ( $N = 12$ ), which provides an estimate of the explanatory power of the model that is more conservative and more accurate. The small downward revision of the predictors between .669 and .595 indicates that both predictors are significant to the model and there is no significant overfitting. This is significant considering the relatively small sample used in the time-series analyses when dealing with countries. The value of Durbin-Watson = 1.719 lies in the acceptable range of 1.5 to 2.5 implying that no first-order autocorrelation is significant in the residuals.

The regression results indicate that GDP per capita has a positive and statistically significant effect on primary education completion rates ( $B = 0.086$ ,  $p < 0.05$ ). Specifically, holding other factors constant, a 1% increase in GDP per capita is associated with approximately a 0.086% increase in primary completion rates. On the contrary, government expenditure on education as a percentage of GDP has a negative and statistically significant relationship with completion rates ( $B = -0.043$ ,  $p < 0.05$ ). This suggests that increases in education expenditure were associated with lower completion rates during the study period. This observation directly answers the main research question of the study on whether current amounts of public education expenditure in Liberia are being effectively spent and the evidence is solid in the current institutional structure showing that the response is no. The VIF values (1.039) indicate the absence of multicollinearity among the explanatory variables.

### **The Positive Role of GDP per Capita**

The positive and high coefficient of GDP per capita ( $=0.086$ ,  $p = .008$ ) validates that macroeconomic development has a positive and quantifiable effect on enhancing primary school completion rates in Liberia. This observation is well-founded in the human capital theory of Becker (1964) and Schultz (1961), that the increasing incomes decrease the direct and opportunity costs of education to families, boosts individual demand to educate, and expands the fiscal capacity of the state to provide quality public services.

### **The Efficiency Paradox: Negative Effect of Education Expenditure on Completion Rates**

The most important and policy-relevant implication of this research is the statistically significant negative value of the percentage of GDP spent on government education funding ( $= -.043$ ,  $p = .011$ ). This negative correlation, higher fiscal investment in education correlating with lower primary school completion rates is what this paper has christened the Liberian Education Efficiency Paradox, and is an interesting empirical example of the difference between expenditure adequacy and expenditure efficiency.

Overall, findings suggest a structural limitation to education outcomes in Liberia. Although the total amount of public spending may rise, overall macroeconomic environment as captured by per capita income plays a major mediating role in determining the effectiveness with which such resources are converted into higher rates of completion. This suggests that education spending efficiency would be partly dependent on the overall economic growth.

## **V. Conclusion**

Liberia's public education expenditure remains substantially below the levels recorded in comparable Sub-Saharan African and low-income countries. The data presented in this study indicates that government spending on education is inadequate and falls below international acceptable standards. Findings show that Liberia spends on average 2.19% of the GDP and 13.02% of national budget on education during the study period. Furthermore, the results indicate that despite Liberia's education spending has grown steadily from 1.7% of GDP in 2013 to 2.3% of GDP in 2023, but it remains below the recommended benchmark of 4%-6% of GDP and 15%-20% of the national budget.

Liberia education expenditure is heavily skewed toward recurrent expenditure. Nearly, all funding toward education end up with salary payments, purchase of goods and services, subsidies, and social benefits. There is also a chronic dependency on donor funding to finance the education budget. Findings show that Liberia's education sector is heavily dependent on donor funding, with grants accounting for nearly half of the total education budget.

Based on the empirical data and the discussion above, the study concludes there is severe efficiency deficit with the public education spending in Liberia. The statistically significant negative correlation between government expenditure on education as a proportion of GDP and the primary school completion rate is strong evidence that the Liberian education system is not transforming the amount of fiscal resources it receives in the form of government expenditure into the associated educational results. Increased expenditure without attempting to correct the structural, institutional, and governance factors that contribute to this inefficiency will not enhance attainment of education. The positive influence of GDP per capita on the completion levels is significant, which proves that changes in household and national income form the enabling conditions to education.

### **Policy Recommendations**

1. Reinvest Education Expenditure in Quality-Enhancing input – the current education expenditure system in Liberia is so skewed towards recurrent expenditure. The Ministry of Education in collaboration with the Ministry of Finance and Development Planning (MFDPP) ought to carry out a thorough review of the public expenditure with the view of redistributing the resources that are spent in administration overhead to the classroom level quality inputs.
2. Embrace an Education Expenditure Efficiency Framework - Liberia does not have a clear system of measuring the payback on education investment whether on the school level or the system level. The

Ministry of Education must establish and systematize an Education Expenditure Efficiency Framework (EEEF) monitoring cost-per-learner indicators, aligning budgetary allocations with quantifiable outcome goals.

3. Transition from donor dependency toward national resource mobilization – Liberia’s education sector is heavily dependent on donor funding. The Government of Liberia must focus on national resource mobilization because high and rising dependency on grants indicates uncertainty in education development and shows weak domestic resource mobilization. Despite grants increase resources, but it reduces autonomy and predictability.

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