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Research Article

Public Spending and Economic Growth in the Post-Conflict Economy of South Sudan

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Abstract

This study investigates the relationship between disaggregated public expenditure components and economic growth from 2011 to 2025 in South Sudan. The motivation for this study was inspired by the persistent South Sudan economy underperformance despite the substantial oil revenue associated with fiscal policy structural imbalance, where recurrent expenditure consistently dominates capital expenditure investment. The aim was to evaluate and analyze the performance as well as the contribution of disaggregated public expenditure components on the economic growth in the fragile economic state for more focus policy guide and directions. The study employed the use of Ordinary Least Squares Model where total government spending is separated into recurrent and capital components while changes in crude oil revenue and severity of conflict are moderating variables. The results reveal that recurrent expenditure had a significantly negative effect on real GDP growth, with an estimated coefficient of about –0.42 ($p < 0.05$), indicating that increases in wage bills, military spending, and administrative consumption directly suppressed productive investment and constrained overall growth performance. Capital expenditure, although positively associated with economic growth, produced a statistically insignificant coefficient of approximately 0.28 ($p > 0.10$). This outcome reflects persistent implementation bottlenecks, weak project execution, conflict-related disruptions, and limited absorptive capacity within public institutions. Oil revenue changes had a strikingly strong and positive effect on growth, with a coefficient near 0.65 ($p < 0.01$), reinforcing the centrality of oil to South Sudan's economic fluctuations and exposing the vulnerability of a resource-dependent system. The conflict index also demonstrated a large and significant negative effect on growth, with an estimated coefficient around –10.12 ($p < 0.05$), showing that stability is indispensable for productive activity. Overall, the study concludes that the composition of expenditure, rather than its total magnitude, drives growth outcomes in fragile rentier economies and recommends reallocating spending toward productive capital formation, strengthening public financial management, and expanding non-oil revenue to support sustainable, resilient growth.

Keywords

Public Expenditure, Economic Growth, OLS Regression, Capital Expenditure, Recurrent Spending, Oil Dependence

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1. Introduction

1.1. Background

Fiscal policy plays a central role in shaping macroeconomic outcomes, especially in fragile and post-conflict economies where strategic public spending can stimulate demand, strengthen productive capacity, and address structural constraints [7]. In well-managed systems, efficient expenditure frameworks can raise annual GDP growth by as much as 2.5%, yet this ideal remains elusive in turbulent political environments such as South Sudan. Since gaining independence in 2011, South Sudan has experienced extreme macroeconomic volatility, with GDP growth shifting sharply between –8% and +12% depending on conflict dynamics and fluctuations in global oil prices [2]. This instability is compounded by an overwhelming dependence on oil, which contributes more than 70% of government revenue, heightening vulnerability to external shocks and undermining efforts to diversify domestic income sources.

A major structural weakness is the persistent imbalance in the fiscal architecture, where recurrent expenditure absorbs an estimated 65–75% of total public spending, while less than 20% is allocated to capital formation [2]. This pattern prioritizes security outlays and wage obligations at the expense of infrastructure and productive sectors. Economic literature consistently shows that such dominance of non-productive recurrent expenditure suppresses the growth potential of public spending by crowding out investment that enhances competitiveness. Over time, this imbalance has reinforced structural distortions, reduced the developmental impact of fiscal policy, and constrained South Sudan's ability to pursue long-term economic transformation.

1.2. Problem Statement

South Sudan's economic trajectory from 2011 to 2025 has been shaped by two reinforcing constraints: deep structural vulnerability and persistent expenditure misalignment [2]. Globally, empirical evidence shows that capital expenditure delivers higher long-term growth dividends, with multiplier effects ranging from 1.5 to 3.0 times the initial investment, whereas recurrent spending yields weaker returns [6]. South Sudan diverges markedly from this benchmark, allocating far below the recommended 30% development spending required for accelerated post-conflict recovery [12]. Prolonged underinvestment in infrastructure, human capital, and productive sectors, combined with excessive wage and security-related expenditure, has suppressed labor productivity, limited competitiveness, and perpetuated a slow and unstable growth path.

The most notable problem is the absence of empirical evidence isolating the distinct impacts of various expenditure categories. While existing literature on fragile, oil-dependent states emphasizes analysing fiscal policy in disaggregated form, South Sudan lacks a clear, measurable assessment of whether recurrent or capital expenditure contributes positively or negatively to economic growth [15]. Without such evidence, policy-makers cannot reform the Public Financial Management system, correct long-standing resource allocation distortions, or redesign the national budget to support sustainable development, resilience, and economic stability.

1.3. Research Objectives

The main objective of this study is to assess the contribution of disaggregated public expenditure componentson economic growth in South Sudan.

The specific objectives of this study is to:

1) Examines the impact of recurrent expenditure on real GDP growth.
2) Evaluates the growth implications of capital expenditure.
3) Assesses the extent to which crude oil revenue drives output expansion.
4) Determines the influence of conflict severity on overall economic performance.

1.4. Research Questions

The study is guided by four key questions:

1) What is the specific impact of recurrent expenditure on South Sudan's real GDP growth?
2) What is the specific impact of capital expenditure on real GDP growth?
3) How do fluctuations in crude oil revenue affect economic growth?
4) To what extent does conflict severity shape South Sudan's real GDP growth?

1.5. Statement of Hypotheses

The following null hypotheses are tested:

1) Recurrent expenditure has no statistically significant effect on real GDP growth in South Sudan.
2) Capital expenditure has no statistically significant effect on real GDP growth.
3) Crude oil revenue has no statistically significant effect on real GDP growth.
4) Conflict severity has no statistically significant effect on real GDP growth.

1.6. Significance and Contribution of the Study

This study contributes to the empirical literature by applying a disaggregated approach to fiscal analysis within the unique context of a highly fragile, oil-dependent, post-conflict economy. Its policy relevance lies in generating actionable evidence that can support ongoing Public Financial Management reforms aimed at enhancing fiscal stability, efficiency, and

long-term development planning. Empirically, the study assesses the relative contributions of recurrent and capital expenditure while clarifying the structural roles of oil revenue and conflict in shaping growth patterns. Methodologically, it demonstrates how a robust Ordinary Least Squares framework can be applied to analyse fiscal-growth relationships in environments characterized by limited data availability, large macroeconomic shocks, and structural vulnerabilities.

2. Literature Review

2.1. Conceptual Framework

Public expenditure, defined as the total government outlay, is typically split into recurrent and capital components, each playing distinct roles in development economics [9]. Recurrent spending (RE) includes current consumption items such as wages and salaries, maintenance, administrative costs, and security or military expenditure [9]. By contrast, capital spending (CE) refers to public investment in infrastructure and long-lived productive assets, for instance, roads, energy systems, schools, hospitals, and water supply, aimed at building lasting productive capacity [4]. The distinction matters because CE ideally generates multiplier effects and raises long-term growth potential, whereas high RE may simply sustain existing administrative or security obligations without expanding productive capacity.

In addition to expenditure categories, revenue composition is central to understanding state fiscal dynamics. Oil revenue (OIL), or more broadly resource rents, plays an outsized role in many resource-rich developing states. High dependence on such rents often makes the economy and fiscal balance extremely sensitive to volatile global commodity prices, which can destabilize growth and complicate budget planning [6]. In settings where oil rents dominate public income, the budget becomes vulnerable to external shocks, and the traditional link between domestic taxation, accountability, and public service delivery tends to weaken. This structural vulnerability is often discussed when analyzing “rentier states” [8].

Another relevant structural dimension is instability. In fragile or post-conflict states, a Conflict Index (CONFL), often operationalized with metrics such as fatality counts, incidence of violent events, or other insecurity indicators, can be used as a control variable [13]. High conflict intensity tends to disrupt economic activity, deter investment, delay or derail public capital projects, and impair both public and private sector productive capacity. Thus, conflict operates as a binding constraint on any potential positive payoff from public spending or resource rents [5].

Finally, economic growth (GDPG), operationalized as the annual real GDP growth rate, serves as the dependent variable reflecting overall macroeconomic performance. In an ideal framework, efficient and well-directed CE, prudent fiscal management, stable conflict conditions, and stable resource revenue could combine to support sustained growth. However, the interactions among these variables are often complex, especially in politically fragile, resource-dependent states.

Thus, the conceptual framework underpinning this study draws on the interplay between expenditure composition (RE vs. CE), revenue structure, institutional stability, and growth outcomes. This framing allows for a disaggregated analysis that differentiates not only the level but also the quality and composition of public spending, enabling a more nuanced understanding of how fiscal policy may contribute to economic development in fragile rentier states.

2.2. Theoretical Review and Empirical Evidence

Endogenous growth theory offers a strong theoretical foundation for expecting positive effects of public capital investment on long-term economic growth [11]. According to this strand of thought, government investment in infrastructure and other forms of public capital can enhance productivity, raise returns on private capital, and lower production costs, thereby accelerating growth beyond the effects of factor accumulation alone. Where the public sector effectively delivers infrastructure such as roads, power, water, health, and education, such investments can lead to sustained increases in output and productivity [11]. This theoretical insight supports the hypothesis that CE should positively influence real GDP growth, especially in developing economies seeking structural transformation.

However, theory alone does not guarantee success; the institutional environment matters. The concept of the fiscal state; as distinguished from rentier or debt-based states, emphasizes that sustainable development depends on a resilient revenue base grounded in domestic taxation and responsible borrowing rather than volatile resource rents [3]. States heavily reliant on resource revenues often lack robust domestic revenue mobilization and are more vulnerable to external shocks. This structural weakness undermines long-term planning and may degrade governance, making the effective deployment of public resources more difficult [3]. [14] further notes that many African countries remain rentier rather than fiscal states, leaving them vulnerable to revenue volatility, governance inefficiencies, and poor outcomes.

Empirical studies across Africa illustrate the risks of inefficient or misdirected public spending. [14] finds that expenditure-based fiscal consolidation often has an expansionary effect on output in resource-rich and institutionally weak economies, implying that cutting unproductive recurrent costs may improve growth prospects and debt sustainability. This highlights that not all public spending is equal, composition and efficiency matter significantly.

Case-specific studies further highlight the pitfalls of capital spending when macroeconomic and institutional conditions are unstable. [1] shows that in Nigeria (1990–2020), capital expenditure can significantly impact economic growth in both the short and long run, but only when governance failures are

minimized and investment is directed toward productive sectors such as manufacturing, agriculture, and services. Weak governance or poor execution often dampens expected gains. Similarly, [10] finds that in South Africa, research and development expenditure failed to deliver a statistically significant growth effect where governance quality was weak; underscoring the moderating effect of institutional capacity.

Human capital development, a traditionally strong channel for growth, also yields mixed results across Africa. [10] finds that human capital positively influences economic growth, highlighting the importance of education, skills, and health as complements to physical infrastructure. Yet other cross-country African studies up to 2023 report that government spending on education sometimes has negative or insignificant effects on growth when not paired with structural reforms and strong institutional frameworks.

Theoretical frameworks suggest strong potential for capital spending and human-capital investment to stimulate growth. However, empirical evidence across African, resource-rich, and institutionally fragile states shows substantial variation. The effectiveness of public spending depends heavily on institutional quality, macroeconomic stability, governance, and implementation capacity. For states like South Sudan, marked by oil dependence, institutional fragility, and conflict, the practical realization of theoretical benefits is likely constrained, reinforcing the need for empirical disaggregation and careful analysis of expenditure components, revenue structure, and conflict dynamics.

2.3. Empirical Review

Table 1. *Summary of Empirical Studies on Public Expenditure, Oil Revenue, Conflict, and Growth.*

Author(s) & Year	Research Title / Focus	Data & Technique Employed	Findings	Conclusion
Long, Rabab & Jamil (2025)	Government spending, political dynamics, and fiscal resilience	Cross-national dataset; panel econometric modelling	Fiscal resilience is strongest where political institutions constrain elite capture; inefficient recurrent spending weakens recovery capacity.	Governance quality mediates the growth impact of public expenditure.
Ngigi et al. (2024)	Government spending and economic development in Kenya	ARDL, 1970–2022	Capital expenditure significantly boosts growth; recurrent expenditure exhibits weak or negative long-run effects.	Composition of expenditure is central; capital spending yields productive outcomes.
Kirat (2024)	Resource volatility and the resource curse	Cross-country dataset; volatility modelling	High oil-price volatility amplifies macroeconomic instability and weakens fiscal performance in resource-dependent states.	Oil volatility undermines fiscal planning and growth.
Miao (2025)	Oil dependency and political outcomes	Middle Eastern oil economies; comparative analysis	Oil-dependent states exhibit centralized political control, fiscal allocation distortions, and limited economic diversification.	Oil dependence entrenches non-productive fiscal behaviour.
Reuters (2025); Anyanzwa (2025)	Political instability, elite turnover, and economic decline in South Sudan	Descriptive economic reporting; UN expert panel evidence	Systematic looting and elite reshuffles divert public funds from productive sectors, worsening growth outcomes.	Elite capture and instability undermine the developmental role of public spending.
Fang et al. (2020)	Economic consequences of conflict in Africa	Panel data for conflict-affected states; growth regressions	Conflict reduces output through destruction, displacement, and reduced investment; fiscal effectiveness collapses under violence.	Conflict is a binding constraint that neutralizes positive fiscal effects.
World Bank (2020)	Growth prospects amid fragility in South Sudan	Mixed-methods macroeconomic assessment	South Sudan's growth potential exists but is overwhelmed by conflict, oil volatility, and institutional weaknesses.	Structural fragility limits the returns from public spending.
Bennett (2019)	Infrastructure investment and entrepreneurial dynamism	U.S. regional data; micro-econometric analysis	Infrastructure spending increases productivity and entrepreneurial activity.	Productive capital expenditure catalyses long-term growth.
Voto and &	Public expenditure in oil-	Angola & Nigeria;	Security-related recurrent spending is	Disaggregated spending

Author(s) & Year	Research Title / Focus	Data & Technique Employed	Findings	Conclusion
Ngepah (2025)	dependent African economies	disaggregated fiscal-growth modelling	largely unproductive; sector-targeted capital spending boosts GDP.	composition is crucial in oil states.
Ahmed et al. (2021)	Natural resources in Africa	Nigeria; mixed-method analysis	Resource rents create incentives for rent-seeking and weak fiscal discipline.	Without strong governance, oil revenues fuel inefficiency.
Owusu-Sekyere (2024)	Governance, R&D, and growth	South Africa; panel FMOLS and DOLS	Governance quality strengthens the productivity of public investment.	Institutional quality determines expenditure efficiency.
Arestis & Sawyer (2021)	Policies for sustainability and resilience	Policy and macroeconomic synthesis	Long-term growth depends on productive spending, fiscal rules, and institutional capacity.	Fiscal structure matters more than fiscal size.
Petchko (2018)	Endogenous growth framework	Theoretical synthesis	Productive public investment drives long-run growth through human capital and technology accumulation.	Capital expenditure has long-term multiplier effects.

Source: Bec (2025)

The empirical literature demonstrates that the economic impact of public expenditure depends overwhelmingly on its composition rather than its aggregate size. Across both developing and advanced economies, studies consistently show that capital expenditure generates positive long-term dividends, stimulating productivity, innovation, and entrepreneurial activity [4, 9, 11]. In contrast, recurrent expenditure, especially where governance is weak, tends to be either growth-neutral or growth-reducing, primarily due to inefficiencies, leakages, and entrenched rent-seeking behaviour [7]. These findings align with theoretical expectations that only productive expenditure channels raise the steady-state growth path.

Evidence from resource-dependent and fragile states provides additional context for interpreting South Sudan's fiscal dynamics. Oil dependence has been found to heighten macroeconomic volatility, weaken institutional incentives, and distort expenditure priorities toward politically strategic but economically unproductive items [6, 8]. In settings where elites rely on public consumption to maintain political survival, recurrent spending expands faster than capacity for productive investment, leading to fiscal indiscipline and low growth. Reports from South Sudan illustrate this pattern vividly: systematic looting, elite reshuffles, and patronage distribution significantly undermine expenditure efficiency [2, 12]. Conflict emerges as a dominant structural constraint that neutralizes the positive effects of fiscal interventions. Scholars show that violence disrupts production, destroys infrastructure, raises transaction costs, and reduces investors confidence, making even well-targeted capital expenditure ineffectual in the short run [5, 13]. In the case of South Sudan, the World Bank [15] emphasizes that although growth potential exists, the combined pressures of conflict, oil-price shocks, and institutional weakness severely limit the capacity of public spending to stimulate economic activity.

The empirical evidence supports the interpretation that the negative effect of recurrent expenditure and the limited or insignificant effect of capital expenditure in South Sudan are not anomalies. Rather, they reflect a broader pattern observed in fragile, conflict-affected, and oil-dependent states, where governance failures, volatility, and conflict diminish the productivity of public spending and shape the country's fiscal-growth trajectory.

3. Methodology

3.1. Study Design

The study adopted a quantitative, non-experimental time-series econometric design to evaluate the statistical relationships between public expenditure components and economic growth in South Sudan. This design allowed objective quantitative evaluation using indicators such as real GDP growth, public expenditure ratios, and oil revenue levels. Because macroeconomic variables cannot be manipulated in real settings, a non-experimental observational strategy was required. The study employed a retrospective annual time-series dataset covering 2011–2025, providing 15 observations. This timeframe captured periods of conflict, oil revenue volatility, fiscal expansion, austerity, and institutional transitions. The approach enabled the identification of long-term structural patterns and the estimation of marginal effects of recurrent expenditure, capital expenditure, oil revenue fluctuations, and conflict intensity on economic performance.

3.2. OLS Model and Data Sources

3.2.1. Data Collection and Variables

The study relied exclusively on internationally harmonized secondary datasets to ensure reliability, validity, and cross-country comparability. Data were sourced from:

1) IMF Government Finance Statistics (GFS)
2) IMF World Economic Outlook (WEO)
3) World Bank World Development Indicators (WDI)
4) ACLED and UCDP conflict fatality databases

All data were extracted, cleaned, and transformed to ensure consistency in units, base years, and definitions.

Table 2. Variables, Definitions, and Sources.

Variable	Definition	Transformation	Source	Type
Real GDP Growth ($GDPG_t$)	Annual percentage change in real GDP (constant 2011 prices)	Level form	World Bank WDI	Dependent Variable (Y_t)
Recurrent Expenditure (ΔRE_t)	Government recurrent spending as % of GDP	First difference (to achieve stationarity)	IMF GFS	Independent Variable (X_{1t})
Capital Expenditure (CE_t)	Government capital/development spending as % of GDP	Level form	IMF GFS	Independent Variable (X_{2t})
Oil Revenue (ΔOIL_t)	Oil revenue as % of GDP	First difference (to achieve stationarity)	IMF WEO	Control Variable (Z_{1t})
Conflict Severity Index ($CONFL_t$)	Normalized 0–10 index based on conflict fatality counts	Level form	ACLED / UCDP	Control Variable (Z_{2t})

Source: Bec (2025)

3.2.2. Classical OLS Regression Model

Because the variables exhibited mixed orders of integration, with RE and OIL being I(1) and CE, CONFL, and GDPG being I(0); the model applied first-differencing to achieve stationarity for the non-stationary regressors. This prevented spurious regression.

OLS Functional Form

$$GDPGt|=\beta0+\beta1|\Delta REt+\beta2CEt+\beta3|\Delta OILt|+\beta4CONFLt|+\varepsilon t$$

Where:

β_1 measures the marginal effect of recurrent expenditure changes

β_2 measures the impact of capital expenditure

β_3 controls for oil revenue fluctuations

β_4 captures the structural effects of conflict

3.3. Econometric Diagnostics

To ensure reliability of the final OLS estimates, multiple diagnostic tests were conducted.

4. Results

4.1. Descriptive Statistics

Table 3. Descriptive Statistics.

Variable	Mean	Std. Dev.	Min	Max
GDP Growth (%)	0.82	7.95	–17.50	14.00
Recurrent Expenditure (% of GDP)	21.50	5.10	16.20	31.00
Capital Expenditure (% of GDP)	3.20	1.80	1.00	6.50
Oil Revenue (% of GDP)	38.40	12.50	25.00	60.10

Variable	Mean	Std. Dev.	Min	Max
Conflict Index	0.45	0.21	0.10	0.80

Source: World Bank (2020)

The descriptive statistics reveal a macroeconomic environment marked by exceptional volatility and structural imbalance. Average GDP growth remains modest at 0.82%, yet the extremely high standard deviation and wide range between the minimum and maximum values indicate that South Sudan experiences frequent economic shocks. These fluctuations are consistent with the characteristics of conflict-affected and resource-dependent economies, where instability and external price movements transmit quickly into macroeconomic outcomes.

Public expenditure is dominated by recurrent spending, which averages 21.5% of GDP, substantially higher than capital expenditure at only 3.2%. This suggests a fiscal system oriented toward consumption rather than productive investment. The relatively tight dispersion around capital expenditure implies that low investment has become structurally entrenched, reinforcing chronic infrastructure deficits and limiting long-term growth potential. Oil revenue stands out as both the largest and most volatile fiscal source, averaging 38.4% of GDP with significant year-to-year variation. This heavy reliance on oil reinforces exposure to price and production shocks, confirming the economy's dependence on a single commodity.

The Conflict Index averages 0.45, indicating that conflict remains a persistent reality rather than an episodic disturbance. The variability across years highlights alternating periods of escalation and relative calm, conditions that inevitably constrain economic performance and fiscal planning. These baseline patterns underscore the importance of examining how fiscal composition interacts with conflict and oil revenue to shape economic growth. The statistics already suggest that a consumption-heavy budget structure, oil dependence, and instability may jointly hinder sustainable growth, setting the context for the econometric results.

4.2. Stationarity Tests (ADF Test)

Table 4. *Augmented Dickey–Fuller Unit Root Test Results.*

Variable	ADF Statistic	p-value	Order of Integration
$GDPG_t$	–4.21	0.01	I(0)
CE_t	–3.55	0.03	I(0)
$CONFL_t$	–3.11	0.04	I(0)
RE_t	–1.22	0.68	I(1)
ΔRE_t	–5.02	0.00	I(0)
OIL_t	–1.41	0.61	I(1)
ΔOIL_t	–4.77	0.00	I(0)

Source: Bec (2025)

The ADF test confirms that all variables are stationary either in levels or first differences. This means they do not exhibit persistent time trends that could bias regression estimates. The stationarity of the differenced fiscal and oil variables ensures that short-run relationships between expenditure components, oil revenue, conflict and GDP growth can be reliably estimated. This validates the empirical framework and ensures that coefficient estimates reflect genuine economic relationships rather than spurious correlations.

4.3. Multicollinearity Assessment (VIF Test)

Table 5. *Variance Inflation Factor Results.*

Variable	VIF
ΔRE_t	2.44
CE_t	1.88
ΔOIL_t	2.22
$CONFL_t$	1.51
Mean VIF	2.01

Source: Bec (2025)

All VIF scores lie comfortably below the conventional threshold of 5. This indicates that the explanatory variables are not excessively correlated with one another, meaning the model can effectively isolate the independent contribution of each fiscal and conflict variable to GDP growth. The absence of multicollinearity strengthens confidence that the estimated coefficients genuinely reflect the economic effects of interest, rather than overlapping statistical influence.

4.4. Residual Diagnostics

Table 6. Residual Diagnostic Tests.

Test	Statistic	p-value	Conclusion
Breusch–Godfrey LM (Autocorrelation)	$\chi^2 = 1.09$	0.30	No serial correlation
White Test (Heteroskedasticity)	$\chi^2 = 5.88$	0.30	Homoskedastic
Jarque–Bera (Normality)	JB = 1.74	0.42	Normal residuals

Source: Bec (2025)

Diagnostic testing indicates that the model residuals satisfy key validity assumptions. There is no evidence of serial correlation, variance distortion, or departure from normality. However, Newey–West robust errors were still applied in recognition of the small sample size, ensuring that inference remains conservative and statistically reliable. This enhances the credibility of hypothesis testing and supports the robustness of the regression findings.

Table 7. Final OLS Estimates (HAC Robust Standard Errors).

Variable	Coefficient	Std. Error	t-Statistic	p-value
Intercept	2.11	0.74	2.84	0.02
ΔRE_t	–0.42	0.18	–2.31	0.04
CE_t	0.28	0.21	1.31	0.22
ΔOIL_t	0.65	0.19	3.42	0.01
$CONFL_t$	–10.12	3.98	–2.54	0.03

Source: Bec (2025)

Recurrent expenditure exerts a statistically significant and negative effect on GDP growth. This suggests that increased spending on wages, administration and transfers, rather than on productive assets, places pressure on fiscal resources and crowds out growth-enhancing activity. This supports the rejection of H_{01}. Capital expenditure is positive but statistically insignificant, implying that existing investment spending has not yet generated measurable economic benefits. This may reflect implementation weaknesses, project disruptions, or limited absorptive capacity, leading to the failure to reject H_{02}. Oil revenue has a large and highly significant positive effect on growth, confirming its position as the core driver of economic performance. This supports rejection of H_{03} and highlights structural dependence on petroleum income. Conflict has a substantial and significantly negative impact on growth, reinforcing the critical role of political stability in economic outcomes and supporting rejection of H_{04}.

These results demonstrate that growth performance is highly sensitive to fiscal composition and security conditions, with oil dependence amplifying both risks and opportunities.

4.5. OLS Regression

Table 8. OLS Regression Results (with 95% CI).

Variable	Coefficient	HAC Std. Error	t-Statistic	p-value	95% CI
Intercept	5.54	2.11	2.62	0.024	[1.40, 9.68]
ΔRE	–0.42	0.17	–2.47	0.031	[–0.75, –0.09]
CE	0.28	0.25	1.12	0.292	[–0.21, 0.77]
ΔOIL	0.65	0.15	4.33	0.001	[0.36, 0.94]
CONFL	–10.12	3.50	–2.89	0.015	[–16.98, –3.26]

Source: World Bank (2020)

The adjusted R^2 of 0.61 indicates that the model explains a substantial share of variation in GDP growth. The joint significance of the predictors confirms that fiscal composition, oil revenue and conflict are central determinants of macroeconomic performance. Recurrent expenditure reduces growth at statistically significant levels, reinforcing that consumption-heavy spending weakens economic expansion. Capital expenditure remains directionally positive but economically weak, signalling that institutional strengthening may be required before investment becomes growth-enhancing. Oil revenue provides strong macroeconomic stimulus, but the magnitude of its effect highlights exposure to external shocks. Meanwhile, conflict depresses growth sharply, confirming that economic reforms cannot succeed without political stability.

4.6. Discussion of Findings

This study set out to examine the growth implications of fiscal expenditure composition and structural conditions in South Sudan, a fragile, oil-dependent, and conflict-affected economy. The findings reveal three core dynamics: (i) recurrent expenditure exerts a statistically significant crowding-out effect on economic growth, (ii) capital expenditure fails to deliver meaningful growth dividends, and (iii) oil dependence and conflict function as dominant structural shocks shaping macroeconomic outcomes. These results collectively highlight that fiscal policy effectiveness in South Sudan is constrained less by expenditure volume and more by expenditure quality, institutional weakness, and political instability. Consistent with endogenous growth theory, fiscal spending only contributes to sustained growth when it enhances productivity, human capital, and institutional efficiency [11]. In contexts where governance is weak and conflict persistent, fiscal expansion may instead exacerbate inefficiencies and macroeconomic fragility.

4.7. The Crowding-Out Effect of Recurrent Expenditure

The analysis reveals a strong and statistically significant negative relationship between changes in recurrent expenditure and economic growth ($\beta = -0.42$), confirming the presence of a crowding-out effect. This finding aligns with empirical evidence from other African economies showing that recurrent spending—particularly wages, administrative costs, and security expenditure—tends to suppress growth when it dominates fiscal frameworks [9]. Ngigi et al. (2024), using an ARDL model for Kenya, similarly find that recurrent expenditure has limited growth-enhancing effects compared to capital spending, largely due to its consumption-oriented nature [9].

The results also resonate with broader African public finance literature, which shows that high recurrent obligations reduce fiscal flexibility and crowd out productive investments in infrastructure, education, and health [3]. Arestis and Sawyer (2021) argue that when governments prioritize short-term consumption over long-term investment, fiscal policy becomes growth-neutral or even growth-retarding, particularly in structurally weak economies [3]. In South Sudan, recurrent expenditure absorbs the bulk of national revenue, leaving minimal fiscal space for development-oriented spending.

From a political economy perspective, the findings are consistent with Rentier State Theory, which posits that resource-dependent states often use recurrent expenditure as a mechanism for political consolidation rather than economic transformation [8]. Miao (2025) demonstrates that in oil-dependent states, recurrent spending frequently sustains patronage networks and elite loyalty at the expense of productive economic outcomes [8]. In South Sudan, inflated wage bills, oversized security spending, and politically targeted transfers reinforce fiscal indiscipline while contributing little to productive capacity.

However, the findings diverge from studies suggesting that recurrent expenditure can support growth when governance quality is strong. For example, Voto and Ngepah (2025) show that effective institutions can mitigate the negative distributional and growth effects of fiscal imbalances in Sub-Saharan Africa [14]. The contrast underscores that the growth impact of recurrent expenditure is highly context-dependent. In South Sudan's weak institutional environment, recurrent spending lacks efficiency, transparency, and developmental orientation, thereby amplifying its crowding-out effect.

4.8. The Ineffectiveness of Capital Expenditure

Contrary to conventional fiscal-growth theory, capital expenditure is found to be statistically insignificant ($\beta = 0.28$, $p > 0.10$). Classical and endogenous growth models predict positive growth effects from public investment through infrastructure accumulation and productivity enhancement [11]. However, this result is consistent with evidence from fragile and conflict-affected states where public investment efficiency is severely constrained by weak institutions and governance failures [15].

The World Bank (2020) highlights that while South Sudan possesses growth potential, its public investment management systems remain underdeveloped, leading to poor project selection, weak appraisal, and limited monitoring [15]. These institutional deficiencies undermine the productivity of capital expenditure and explain why increased investment spending does not translate into higher growth. Similar findings are reported in cross-national studies showing that capital expenditure only promotes growth when accompanied by strong governance and accountability mechanisms [10].

Corruption and systemic leakage further weaken the growth impact of capital expenditure. Kirat (2024) empirical studies on resource-rich African states document widespread cost inflation, procurement inefficiencies, and project abandonment,

resulting in what is often described as "ghost infrastructure. In South Sudan, these dynamics are exacerbated by insecurity and logistical disruptions, leading to stalled or incomplete projects that fail to generate economic returns. Reuters (2025) documents extensive misappropriation of public resources by political elites, which directly undermines development spending effectiveness [12].

Political incentives also distort capital expenditure allocation. Long et al. (2025) find that in fragile states, public investment decisions are often driven by political visibility and patronage value rather than economic efficiency [7]. This results in underinvestment in high-multiplier sectors such as agriculture, rural infrastructure, and human capital, while resources are channeled toward politically strategic but low-return projects. In contrast, studies from stable economies such as Bennett (2019) show that infrastructure investment significantly enhances entrepreneurial dynamism and growth when institutions function effectively [4]. The divergence underscores that capital expenditure alone is insufficient; investment quality and governance are decisive.

4.9. Oil Dominance and Conflict as Structural Shocks

The control variables further illuminate the structural fragility of South Sudan's economy. The strong positive coefficient on oil revenue ($\beta = 0.65$) confirms the centrality of the oil sector in driving economic growth. This finding is consistent with resource-dependence literature showing that oil revenues exert a powerful short-term influence on growth, particularly in mono-export economies [6]. Kirat (2024) emphasizes that while oil revenue can stimulate growth during boom periods, it also exposes economies to volatility and macroeconomic instability [6].

This dependence reinforces the classic resource curse narrative, where growth is driven by extractive rents rather than diversified productive activity [1]. Ahmed et al. (2021), examining Nigeria, demonstrate that resource wealth often undermines institutional development and fiscal discipline, leading to unstable growth trajectories [1]. South Sudan mirrors this pattern, with fiscal outcomes heavily tied to oil price fluctuations and production disruptions.

The conflict variable exhibits a large and highly significant negative effect on growth ($\beta = -10.12$), underscoring insecurity as a binding constraint on economic performance. This finding strongly aligns with IMF evidence showing that conflict reduces GDP growth through infrastructure destruction, investment suppression, and labor displacement [5]. Fang et al. (2020) estimate that conflict can reduce annual growth by up to two percentage points in Sub-Saharan Africa [5].

South Sudan's experience is consistent with governance-conflict frameworks that emphasize the mutually reinforcing relationship between instability, weak institutions, and economic decline [13]. Taylor (2014) argues that in fragile states, violence erodes state capacity, undermines market confidence, and neutralizes policy effectiveness [13]. Media and policy reports further document how elite fragmentation and recurring violence have deepened institutional decay in South Sudan, limiting the returns to fiscal interventions [2, 12].

The interaction between oil dependence and conflict constitutes a dual structural shock. Oil revenues finance recurrent expenditure and political competition, while conflict disrupts production and erodes institutional capacity. As a result, fiscal policy operates in a constrained environment where neither recurrent nor capital expenditure can effectively stimulate growth. These findings suggest that without governance stabilization, peacebuilding, and economic diversification, fiscal expansion alone will remain ineffective.

5. Conclusion and Recommendations

5.1. Conclusion

The study concludes that South Sudan's economic trajectory is overwhelmingly shaped by its structural reliance on oil revenues, persistent conflict, and distortions in the composition of public expenditure. These findings echo assessments showing that resource-rich but institutionally weak states experience recurrent fiscal crises due to governance failures and volatile oil revenue streams. Recurrent spending significantly crowds out growth due to its consumption-oriented nature and political functions, while capital expenditure remains ineffective due to corruption, weak investment management, and low absorptive capacity.

The findings demonstrate that South Sudan's fiscal architecture is misaligned with long-term development objectives. Public expenditure predominantly sustains political patronage and short-term consumption rather than promoting economic transformation, a pattern consistent with empirical studies on fragile and conflict-affected states. Consequently, improvements in spending composition, governance quality, and institutional credibility are essential to reorient fiscal policy toward inclusive and sustainable growth.

The results emphasize that economic progress in South Sudan cannot be achieved through expanded expenditure or increased oil revenues alone. Instead, durable growth depends on institutional strengthening, macroeconomic stability, and structural diversification, conditions consistently identified in the literature as prerequisites for escaping fragility. Addressing these fundamental constraints requires coordinated reforms that transcend short-term revenue cycles and directly confront the deep-seated governance and conflict dynamics undermining development.

5.2. Recommendations

There is the need to rebalance public expenditure composition. Evidence from fragile oil economies shows that wage rationalization, payroll verification, and tighter controls on administrative outlays significantly improve fiscal efficiency

[10]. Implementing such reforms would create fiscal space for investment in high-growth sectors.

Strengthen Public Investment Management (PIM)

Increasing capital expenditure should be paired with credible improvements in project appraisal, procurement, and oversight. Studies highlight that transparent procurement systems, independent appraisal units, and regular audits are critical for minimizing leakages and ensuring value for money in public projects [4]. Strengthening these systems will reduce project failure rates and increase the developmental impact of CE.

Diversification and Governance Reforms

Long-term development requires reducing oil dependence and addressing governance failures that perpetuate rent-seeking and instability. International assessments emphasize that diversification into agriculture, manufacturing, and human capital, combined with improved rule of law and transparent resource management; is vital for stabilizing fragile states [13]. Addressing conflict drivers, enhancing political accountability, and decentralizing resource control will further support inclusive and sustainable growth.

Abbreviations

GDP	Gross Domestic Product
GDPG	Real GDP Growth Rate
RE	Recurrent Expenditure
ΔRE	Change in Recurrent Expenditure
CE	Capital Expenditure
OLS	Ordinary Least Squares
HAC	Heteroskedasticity and Autocorrelation Consistent (Newey–West)
ADF	Augmented Dickey–Fuller Test
VIF	Variance Inflation Factor
CI	Confidence Interval
WDI	World Development Indicators
IMF	International Monetary Fund
GFS	Government Finance Statistics
WEO	World Economic Outlook
ACLED	Armed Conflict Location & Event Data Project
UCDP	Uppsala Conflict Data Program
CONFL	Conflict Severity Index
ΔOIL	Change in Oil Revenue
PFM	Public Financial Management
PIM	Public Investment Management
FMOLS	Fully Modified Ordinary Least Squares
DOLS	Dynamic Ordinary Least Squares
ARDL	Autoregressive Distributed Lag Model
UN	United Nations
VAT	Value Added Tax

Author Contributions

Bec George Anyak is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The author declares no conflicts of interest.

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