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ARTICLE

Moderating Effect of Governance on the Nexus of Tax Policy and Economic Welfare in Sub-Saharan Africa

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Abstract
Sub-Saharan Africa (SSA) has demonstrated slow progress in enhancing sustainable economic welfare, evidenced by growing economic inequalities and disparities. This raises concerns regarding the efficacy of existing economic strategies and governance frameworks. Furthermore, there is a paucity of literature on the role of governance in understanding the nexus between tax policy and economic welfare. The study utilized data available from 1996 to 2022 for 36 SSA countries obtained from World Development Indicators (2022) and World Governance Indicators (2022). The data were analyzed using the System-Generalized Method of Moments (GMM). The study concluded that for the well-being of individuals and communities to be enhanced in SSA, tax policy must be optimized in a way that maximizes benefits or minimizes liabilities within the legal framework. Therefore, we recommend that by addressing governance challenges and promoting good governance practices, policymakers can create an enabling environment for the effective design and implementation of tax policies that contribute to sustainable economic development and welfare.
Keywords*:* Economic welfare, Governance, Sustainable welfare, Tax revenue

JEL Classification: D60, E21, H31.

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1. Introduction

The well-being, happiness, and prosperity of individuals and communities within an economic system are generally referred to as economic welfare. It encompasses various factors such as reduced income inequality, employment, access to basic needs and services, improved standard of living, environmental preservation, and carbon emission control. The attainment of these goals is expected to promote sustainable economic welfare. However, in recent years, many countries in Sub-Saharan Africa have pursued various economic advancement policies aimed at improving citizens' sustainable economic welfare. These policies often target multiple sectors and encompass a range of strategies, including but not limited to diversifying their economies beyond traditional sectors such as agriculture and extractive industries. Governments have implemented policies to promote the growth of sectors like manufacturing, technology, and services, which can create more diverse job opportunities and higher value-added economic activities (**Ajeigbe et al., 2023**; **Rufai et al., 2022**).

It was revealed by **Usman et al. (2022)** that despite the economic policies of governments in SSA to improve living standards, the region is part of over 15% of the global population that lives in extreme poverty and hunger, lack of access to quality education, clean water, and healthcare. This is because SSA economies have faced substantial financial deficits in the past ten years, impeding essential public investments in infrastructure and services necessary to improve the well-being of people and align with Sustainable Development Goal Eight (SDG-8) (**Mpofu, 2022; Zickafoose et al., 2024**). This goal was established in September 2015 in New York by United Nations member states. For instance, SDG-8 encompasses endeavours to promote enduring social inclusion and meaningful employment opportunities for all, alongside fostering economic growth objectives aiming for an annual growth rate of at least 7% which can translate into sustainable economic welfare, among other targets (**Barbier & Burgss, 2021**; **Robra & Hrikkurinen, 2020**; **Zimm et al., 2018**).

Consequently, the socio-economic issues faced by Africa are attributed to the region's low capacity to generate extra revenue for funding sustainable development, research by **Mpofu (2022)** reveals that SSA exhibits the lowest average tax capacity worldwide, representing a mere 20% of the GDP, this is further exacerbated by the existence of a significant and growing informal sector in the region (**Mpofu, 2022; Sebele-Mpofu et al., 2021**). Improving economic welfare in Sub-Saharan Africa (SSA) requires tackling specific challenges to promote sustainable economic growth and achieve development goals. This endeavour mandates collaborative efforts among governments, international organizations, civil society, and the private sector. These efforts must be customized to effectively address the distinct challenges and opportunities within the region.

More so, three key areas outlined in demonstrating a significant relationship between governance and taxation are state capacity, collective action, and distributive justice. State capacity, involving the establishment of effective institutions to drive governance, is essential for the development of formations (**Kifordu et al.,2020; Mkandawire 2010**). Notably, taxation is widely recognized as playing a critical role in governance precisely because of this regulatory function. It's crucial to highlight that the way governance is structured significantly impacts the transformation of economic growth and well-being into sustainable, enduring processes. Governance also plays a vital role in shaping socio-economic well-being. Countries with more effective governance typically experience greater wealth, satisfaction, and encounter fewer societal and environmental challenges (**Kyriacou, 2019**). Thus, creating an enabling environment for achieving macroeconomic objectives is central to sustainable economic welfare and governance. Within this framework, a study of this nature becomes highly relevant.

The remaining sections of the study consist of the followings: Section 2 conducts an in-depth review of the literature, encompassing theoretical frameworks and empirical findings. Section 3 elaborates on the data sources and methodology utilized in the research. In Section 4, the study presents and analyzes the obtained results. Finally, Section 5 concludes the study, emphasizing its policy implications.

2. Literature Review

2.1 Conceptual Review

2.1.1. Economic Welfare Indices in Sub-Saharan Africa

Given the diversity within SSA, economic welfare can vary significantly from one country to another. Africa faces a range of socio-economic issues, including poverty, inequality, limited access to education and healthcare, inadequate infrastructure, environmental degradation, and high unemployment rates. Improving economic welfare in Africa involves addressing these challenges and promoting sustainable economic development. It is noteworthy that economic welfare is a multifaceted concept, and its realization requires the collaboration of governments, civil society, the private sector, and international organizations to address the specific challenges and opportunities in the African context (**Li et al., 2021**).

Economic welfare consists of two key dimensions: economic growth and a reduction in income inequality. This categorization stems from **Heys' (2019)** proposal, which challenges the notion of relying solely on gross domestic product (GDP) as the measure of economic well-being. In his influential work, which underpins this study, economic welfare is defined as the amalgamation of market sector GDP and income inequality, which is represented by disposable income (**Aitken, 2019**).

The United Nations Sustainable Development Goals (SDGs) serve as a framework for evaluating and promoting sustainable economic well-being. However, to achieve the highest possible level of satisfaction from the available resources, Pareto efficiency, and locative efficiency are used to measure and analyze economic efficiency. Economic efficiency is concerned with the allocation of resources to maximize overall welfare. It takes into account not only income and material possessions but also non-economic factors such as health, education, work-life balance, and environmental conditions (United Nations Development Programme [UNDP], 2023).

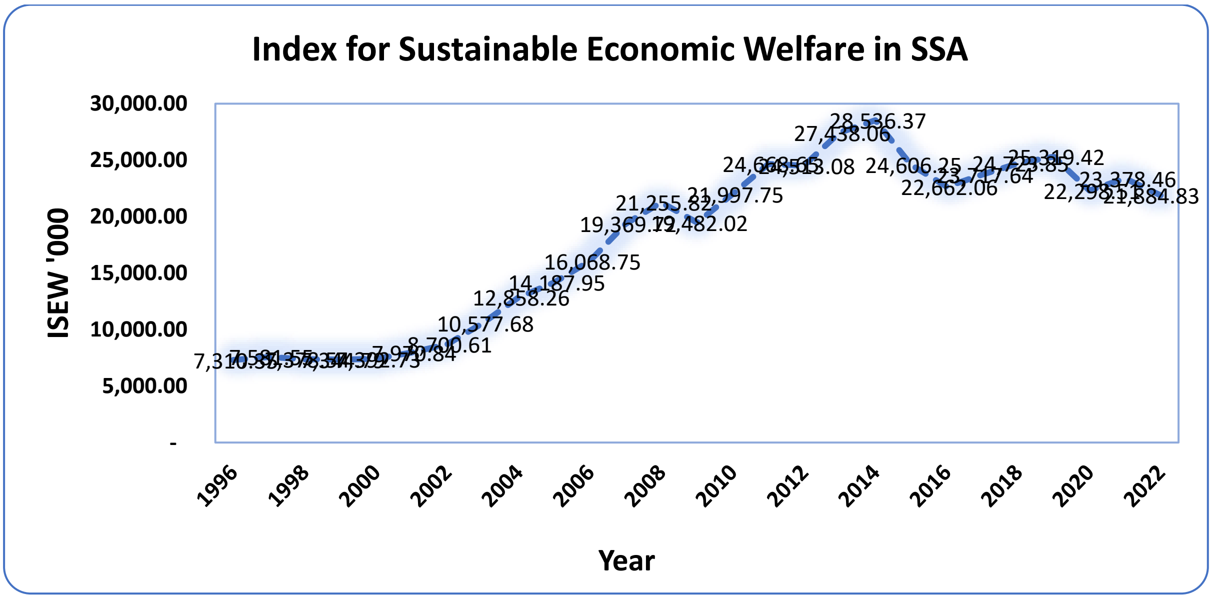
2.1.2. Tax policy-Governance nexus in Sub-Saharan Africa

Taxation, as a longstanding economic tool, has been consistently employed by states. Kotler (1975) posits that governments utilize taxation to tap into the income or wealth of individuals and corporate entities for the collective benefit. This perspective underscores the idea that individuals and corporations operating within a state have a responsibility to contribute a portion of their profits as they thrive within its boundaries. Taxes are obligatory charges imposed by the government on citizens and businesses, providing the government with significant revenue to facilitate governance. It serves as a means for the government to directly or indirectly allocate resources within the economy to foster development. Notably, alongside other state initiatives, government operations are partly funded by tax proceeds (**Kifordu et al., 2020**).

According to **Tagem and Morrissey (2022)**, effective governance serves as a link between governance structures and society, prioritizing overall societal progress. This idea is based on the belief that good governance entails government accountability to society and meeting society's welfare, which are considered the primary objectives of government, rather than the mere reinforcement of governmental institutions. Sub-Saharan African nations are commonly associated with insufficient delivery of public goods, considerable debts, and significant dependence on external assistance. Consequently, responses to external debt often led to further borrowing, resulting in escalating debt levels. Moreover, institutional challenges hinder the generation of sufficient public revenue in these countries. While immediate government intervention in improving tax efforts may be challenging due to structural constraints, adjustments in economic policies, corruption control, and tax management standards are feasible (**Fagbemi et al., 2021**).

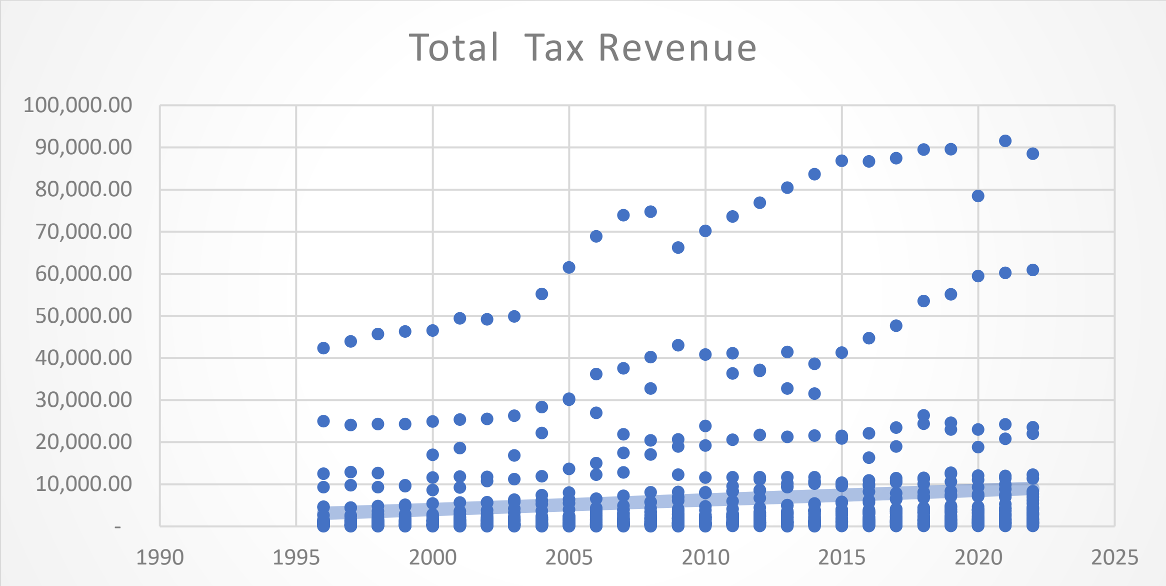
To enhance tax efforts and promote economic growth, it is crucial for governance standards to be upheld, including measures to combat corruption and strengthen tax systems in developing countries, especially in Sub-Saharan Africa (**Epaphra & Massawe, 2017**). The quality of governance significantly influences tax efforts in these nations. Notably, corruption stands out as a primary obstacle, limiting public service delivery; for instance, healthcare and education suffer from diminished public funding (**Gupta et al., 2000**). Moreover, tackling corruption in developing nations encounters obstacles, including shielding illicit earnings and requiring sophisticated technology for detecting tax evasion. Hence, elements such as political stability, competent governance, and public trust are essential for establishing a just, functional, and proficient taxation framework (**Günay & Topal, 2021**).

Figure 1: Trend of Index for sustainable economic welfare is Sub-Saharan Africa



Authors' Computation 2024
Source: World Development Indicators (2022)

Figure 2: Total tax revenue trend in SSA (1996-2022)



Source: World Development Indicators (WDI) 2022.

Figure 1 illustrates the observed trend in the Index of Sustainable Economic Welfare (ISEW) over the years, showcasing both cyclical patterns and notable fluctuations that reflect the evolving dynamics of sustainable economic development. From 1996 to 2008, the ISEW displayed a generally upward trajectory, indicating an improvement in overall sustainable economic welfare. During this period, there was a steady rise in the index, peaking at 21,255.82 in 2008. However, the subsequent years saw a decline in the ISEW, reaching its lowest point in 2009 at 19,482.02, attributed to the global financial crisis and its adverse effects on economic and social indicators.

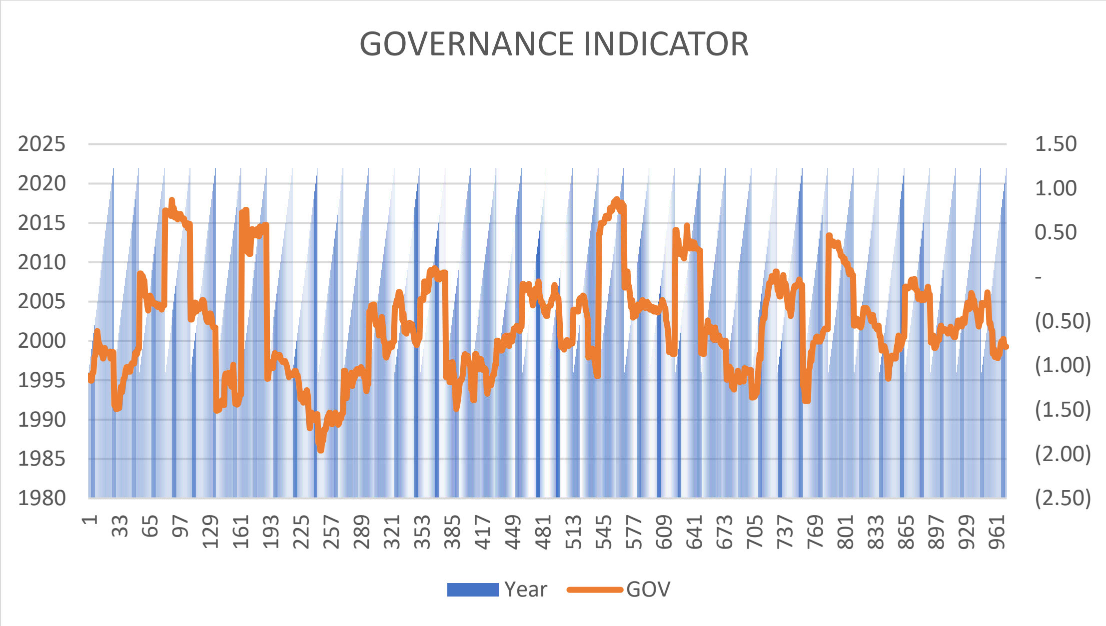
Following 2009, the ISEW demonstrated a recovery and growth pattern until 2015, reaching 24,606.25. Nonetheless, the trend reversed in the subsequent years, with a noticeable decline in 2016 and 2017. Although there was a partial recovery in 2018 and 2019, the ISEW witnessed a significant drop in 2020, possibly influenced by the economic repercussions of the COVID-19 pandemic. In conclusion, the trend in the ISEW reflects the complex interplay of economic, environmental, and social dimensions, while its higher volatility suggests sensitivity to external factors impacting economic sustainability.

Figure 2 illustrates the observed trend in Total Tax Revenue over the years, showcasing both cyclical patterns and noteworthy fluctuations. Between 1996 and 2004, there was a decrease in tax revenue mobilization. Notably, total tax revenues exhibited significant variation among the selected countries.

For instance, Morocco and Tunisia had the highest share, with Morocco accounting for 23.3% and Tunisia for 30.9% of total tax revenues, respectively. Conversely, Cabo Verde had the lowest share, with less than 0.2% of total tax revenues, while Mali had the highest share at 14.8%. Furthermore, eight countries, including Chad, Côte d'Ivoire, The Republic of the Congo, Ghana, Kenya, Mauritania, Sierra Leone, and Uganda, had a higher proportion of tax revenue from other taxes on goods and services.

On the other hand, Botswana, Lesotho, and Namibia received less than 7.0% of their total tax revenues from other taxes on goods and services. Moreover, eight countries, namely Botswana, Chad, Equatorial Guinea, Eswatini, Lesotho, Namibia, Nigeria, and South Africa, primarily relied on taxes related to income and profits as their primary source of total tax revenues. These nations had a larger proportion of total tax revenues originating from income and profits compared to the averages observed in the OECD and Latin American and Caribbean (LAC) regions (OECD/AUC/ATAF, 2021).

Figure 3: Governance Indicator for SSA (1996-2022)



Authors' Computation (2024)
Source: World Governance Indicator (WGI) 2022.

Governance in Sub-Saharan African (SSA) nations is a multifaceted issue, encompassing political, economic, and institutional dimensions. Critical metrics with substantial economic consequences include corruption, which involves the exploitation of public office for personal benefit; governmental efficacy, which pertains to the standard of public policies and services; regulatory excellence, referring to the government's capacity to devise and enforce business-supportive policies and regulations; integrity of legal systems, which involves adherence to contract enforcement, property rights, and law enforcement; and civic engagement and transparency, which encompass the degree to which citizens engage in governmental selection processes, alongside freedoms of expression, association, and media (**Kaufmann et al., 2010**).

Figure 3 illustrates patterns of governance structure in the selected 36 countries of SSA, showcasing both cyclical patterns and fluctuations over the years. According to **Newiak et al. (2022)**, several SSA countries, such as Botswana, Rwanda, and Seychelles, have emerged as leaders in efforts to improve governance. Each of these countries has utilized its distinct blend of societal inclinations and accessible resources to formulate a vision aimed at better managing public resources. For instance, Botswana has developed a sound policy framework for the prudent management of wealth generated from its mining resources, while Rwanda has adopted advanced institutional models to rebuild itself after a devastating conflict.

However, it's crucial to note that these countries still fall below global average standards in terms of perceptions of corruption and have a significant journey ahead to match the average performance of the sub-Saharan Africa region in government effectiveness, regulatory quality, and adherence to the rule of law. When it comes to governance reforms, a thorough comprehension of the political-economic environment is crucial for achieving success, especially in fragile states and resource-rich nations. In these contexts, the stakes are elevated due to either extreme scarcity or abundance of resources.

2.2 Theoretical Review

2.2.1 Pareto Efficient Tax Structure Atkinson - Stiglitz (1976)

It was explained that a common utility function for income applies to all individuals, with the recognition of diminishing marginal utility. This concept gives rise to the notion that, in terms of societal well-being, extracting a dollar from a wealthier person results in a relatively smaller decrease in overall welfare compared to taking a dollar from someone with lower wealth. The determination of who can bear higher tax burdens involves considering factors such as income and consumption. The selection of a tax structure that achieves Pareto efficiency is grounded in a utilitarian approach to social welfare.

To exemplify the core principles, let's examine a basic economic model featuring two distinct types of individuals and a sole produced commodity. In this model, it is assumed that type 2 individuals exhibit higher productivity than type 1 individuals, implying that they generate more output per unit of time devoted to work. All individuals in this model adhere to the same utility function:

$$U = f\left(C_1, L_1\right) \qquad (1)$$

In this context: C denotes the consumption of individuals belonging to type 1. **L** signifies their labour supply, and individuals of type 1 possess a productivity level (output per hour) denoted as **w**. Without the imposition of taxes, an individual's budget constraint is straightforward:

$$C = Y \qquad (2)$$

Where **Y** stands for the income of the individual. Upon the introduction of lump-sum taxes (or subsidies) labelled as M individuals categorized as type I, their budget constraint undergoes:

$$C = Y - M = wL \qquad (3)$$

This means that the tax revenues collected from one group are redistributed as lump-sum payments to the other group:

$$M_1 N_1 + M_2 N_2 = 0 \qquad (4)$$

Where **N** represents the number of individuals of type 1.

The optimal redistributive tax policy depends on the chosen social welfare function. Two commonly used social welfare functions are the utilitarian function:

$$W\left[u\left(C_i\right), U_i\right] = u\left(C_1\right) - v\left(L\right) \qquad (5)$$

$$\frac{\partial C_i}{\partial L_i} = \frac{\left[\partial u \big/ L\right]}{\left[\partial u_i \big/ \partial c_i\right]} = W^I \qquad (6)$$

The individual maximizes his utility subject to his budget constraint:

$$max: \ \left\{CC_{ii}, YY_{ii}\right\}$$
$$UU_1\left(CC_1\right) ss.tt CC_{ii} \leq ww_{ii} L_{ii} - TT\left(ww_{ii} LL_{ii}\right) \qquad (7)$$

2.2.2 Public Choice Theory

The public choice theory introduced by **Buchanan and Tullock (1962)** proposes that economic policies should aim to maximize the overall happiness or well-being of society. In this context, economic welfare is enhanced when policies improve the quality of life for most of the population. Vilfredo Pareto asserts that an economic change is beneficial if it makes at least one person better off without making anyone worse off, a concept known as Pareto efficiency, which is a central objective in economic welfare analysis.

The theory applies economic principles to the examination of political decision-making and government behaviour, as discussed by Buchanan and Tullock in 1962. Public Choice Theory provides a framework for comprehending how political and governmental decisions are influenced by self-interest, incentives, and the pursuit of individual and group goals. It offers insights into the complexities of the governance process and its potential consequences for economic welfare, while also emphasizing the potential impact on the broader public interest and societal well-being. Public Choice Theory underscores the significance of well-designed constitutional rules and constraints on government authority. These rules can help limit the potential for abuse and promote better governance by restraining tax and spending policies, among other things, as Buchanan explained in 1975.

Buchanan and Tullock's 1962 work, "The Calculus of Consent," highlights how self-interest influences tax policy decisions, with politicians favouring tax cuts or deductions that appeal to voters. Anne Krueger's 1974 research explores how interest groups expend resources to influence tax policies in their favour, leading to distortions in tax codes. These findings indicate that policies that may benefit specific groups can harm overall economic welfare. Niskanen's 1971 analysis delves into bureaucratic behaviour within tax agencies, revealing that bureaucrats may have incentives to maximize budgets and power, which can potentially affect the efficiency and fairness of tax collection and enforcement.

2.2.3 Theory of Optimal Taxation

The conventional theory of optimal taxation (**Mirrlees, 1971, Ramsey, 1927**) posits that a tax system should be chosen to maximize a social welfare function, accounting for various constraints like elasticity, fiscal externalities, distribution, and societal preferences. In this body of literature, the social planner is usually treated as a utilitarian, with the social welfare function grounded in the well-being of individuals across society. In more intricate analyses, this literature employs a social welfare function that isn't simply a linear function of individual well-being, allowing for a social planner who values, for example, greater equity in well-being. Nevertheless, some studies in this field presume that the social planner is primarily concerned with average well-being, resulting in a social welfare function that is linear concerning individual well-being. For this essay, these distinctions are of secondary importance, and one can envision the social planner as a classic "linear" utilitarian. To streamline the social planner's task, it's often assumed that all members of society hold identical preferences concerning, for instance, consumption and leisure. Occasionally, this assumption goes even further, positing that all individuals in the economy are indistinguishable. The social planner's objective is to pick a tax system that maximizes the welfare of a representative consumer, recognizing that the consumer will adapt their behaviour in response to the incentives presented by the tax system.

2.3 Empirical Review

In several nations of Sub-Saharan African, the tax landscape has traditionally been shaped by various factors, and foreign trade taxes have been a prominent source of revenue due to their ease of collection and alignment with national objectives like supporting domestic employment and industry. Indirect domestic taxation, particularly excise taxes, has also played a significant role, while income taxes have been less dominant and often applied to a limited number of large corporations, their employees, and government workers (**Tanzi et al., 2021**). However, governance stands out as one of the primary factors responsible for explaining variations in performance among nations, and the effectiveness of various policy instruments relies on the efficiency of the public sector's operations. While emphasizing the importance of governance structure in SSA **Li et.al (2021)** asserted that for nations grappling with political turmoil, the establishment of stable governance forms the foundation for all development endeavours. Consequently, as economic and income levels attain a certain threshold, governments in SSA countries ought to prioritize sustainable development across public life, education, and welfare initiatives.

To ensure public value and achieve enhanced socio-economic outcomes through an efficient public sector, governance must be implemented in a manner that promotes these objectives.

The importance of strong governance in achieving favourable economic outcomes and citizens' well-being is well-documented in international pieces of literature. Research has shown that countries with weak governance often suffer from poor economic performance. On the contrary, nations with high levels of governance tend to exhibit higher labour productivity, leading to more efficient economic systems and better overall well-being for their citizens (**Gunay &Topal, 2021**).

The International Monetary Fund (IMF) in 2020 and the United Nations (UN) in 2019, through their respective publications, confirmed that the adoption of effective governance principles within revenue administration involves the presence of clear regulations, strong risk management, comprehensive audit procedures, and the integration of digital technologies. When nations embrace transparent regulations and establish robust revenue administration practices, they can significantly improve their revenue generation capabilities, thereby contributing to the realization of their development goals. Clear, well-communicated, and understood tax payment rules create an environment where tax obligations are perceived as fair, leading to improved compliance and facilitating more efficient revenue collection (**IMF, 2020**).

3. Methodology

3.1 Design and Data Sources

For this study, we adopted an ex-post-facto research design, utilizing a dataset spanning from 1996 to 2022 encompassing all 36 countries in SSA. Our selection of countries was based on data availability for the variables under examination. The datasets were sourced from the World Development Indicators (**WDI, 2023**) online databases. The Index for Sustainable Economic Welfare (ISEW) data was computed by the authors using indicators such as weighted consumption, non-defensive public (government) expenditure, net capital growth, unpaid work benefits, and the cost of environmental degradation, sourced from the World Development Indicators. This computation employed principal component analysis. The Governance (GOV) data, obtained from the World Governance Indicators (WGI) compiled by the World Bank, comprises six indices, namely Voice and Accountability, Political Stability, Regulatory Quality, Rule of Law, and Control of Corruption.

3.2 Model Specification

This section delved into the methodological approach and model specifications utilized to evaluate the impact of tax policy on economic welfare while taking into account the moderating role of governance in Sub-Saharan Africa. Accordingly, our study employed an extended neoclassical model, which builds upon the framework initially proposed by **Mankiw et al. (1992)** while incorporating the variable arrangement inspired by the works of **Yusuf et.al (2017)**, and **Olaleye et al. (2022)**. This adaptation enables us to empirically examine the complex interactions among tax policy, governance, and economic welfare in the selected SSA nations.

Following the theoretical framework presented in equation (8) viz

$$C = f\left(y, r, z\right) \qquad (8)$$

where **z** is a vector of other variables that affect economic welfare, tax revenue (TR), consumer price index (CPI), and Governance (GOV) were introduced into the equation. Therefore, the functional economic model for this study is specified as follows:

$$ISEW = f\left(TR, RIR, CPI, GOV\right) \qquad (9)$$

The link between fiscal instruments (specifically taxation), government impact, and economic well-being is rooted in the concept of a Pareto-efficient tax structure as proposed by Atkinson and Stiglitz in 1976. ISEW in equation 9 is a representation of the sustainable economic welfare index.

The estimation method involved the System-Generalized Method of Moments originally developed by **Arellano and Bond (1991)**. This method is more robust than static models because it effectively addresses endogeneity issues.

$$InISEW_{it} = \delta_0 + \delta_1 InTR_{ijt} + \delta_2 InRIR_{ijt} + \delta_3 InCPI_{ijt} + \delta_4 InGOV_{ijt} + \mu_{ij} + \varepsilon_{ijt} \quad (10)$$

Equation (10) is a modification to the model of **Olaleye et al. (2022)** by integrating governance indicator (GOV) into the model. Where $InISEW_{jt}$ represents the log of sustainable economic welfare index, TR is the vector of tax revenue, lnRIR$_{ijt}$ represents real interest rate, lnGOV$_{ijt}$ represents a vector of governance and $lnCPI_{ijt}$ represents the changes in the prices of a basket of goods and services that are purchased by households, μ_{ij} represents the region-specific effect, and ε_{ijt} represents the error term, time t for country i and region j.

3.3 Estimation Method

The study will begin the analysis of the result with a preliminary test. Where the series will be subjected to a descriptive statistics test to determine the appropriateness of the data in the analysis and eliminate any form of outlier in the data. For the estimation proper, the study will employ a system General Method of Moment for the analysis of the relationship largely for its numerous advantages (**Joseph & Obikaonu, 2021**).

For instance, a Generalized Method of Moments (GMM) approach is particularly suited for examining the moderating effect of governance in the nexus of tax policy and economic welfare in Sub-Saharan Africa due to its ability to handle endogeneity and unobserved heterogeneity issues inherent in panel data. Given the diverse governance structures across countries in the region, GMM allows for the incorporation of time-varying governance indicators as instruments to address potential biases in the estimation of the relationship between tax policy and economic welfare (**Joseph & Obikaonu, 2021**).

Moreover, GMM offers flexibility in modelling dynamic panel data, enabling the analysis of lagged effects and the dynamic interplay between tax policies, governance quality, and economic outcomes over time. By employing GMM, researchers can obtain consistent and efficient estimates while capturing the complex and evolving nature of the relationship between tax policies, governance quality, and economic welfare in Sub-Saharan Africa.

4. Results and Discussion of Findings

4.1 Summary Statistics

Table 1 provides a comprehensive overview of economic welfare, tax policy, governance indicators, and control variables across selected countries in Sub-Saharan Africa. The variables considered include consumption expenditure (CE), tax revenue (TR), real interest rate (RIR), consumer price index (CPI), and governance indicator (GOV). With 972 observations representing 36 countries, the table offers insights into the mean, standard deviation, minimum, and maximum values for each variable. The ISEW demonstrates a mean of 17,897.21, reflecting the average sustainable economic welfare index for the selected SSA countries. However, the substantial standard deviation of 42,908.27 suggests a significant dispersion of ISEW values around the mean, possibly due to diverse economic conditions or practices among the SSA countries.

Table 1: Summary Statistic

Variable	N	mean	Sd	min	Max	skewness	Kurtosis
ISEW	972	17,897.21	42,908.27	190.33	422,136.29	5.59	39.39
TR	972	6,063.58	13,513.75	6.80	91,549.69	3.97	20.22
RIR	972	3.91	13.28	(62.28)	62.62	(1.00)	11.06
CPI	972	104.64	59.15	0.03	583.68	2.30	13.03
GOV	972	(0.54)	0.59	(1.96)	0.88	0.33	2.71
No. of Country	36	36	36	36	36	36	36

Source: Authors' Compilation

Note: CE is Consumption Expenditure, TR is tax revenue, RIR is the real interest rate, CPI represents the prices of a basket of goods and services that are purchased by households and GOV represents governance indicator.

Tax revenue (TR) averages $6,063.58 across the chosen countries, indicating the typical income from taxes. With a sizable standard deviation of $13,513.75, there's notable diversity in tax revenue levels. Real Interest Rate (RIR) averages 3.91%, but its standard deviation of 13.28 reveals significant fluctuation. Negative minimum values (-62.28%) suggest instances of negative real interest rates, reflecting complex economic conditions. The skewness of 1.00 indicates a balanced distribution, while the kurtosis of 11.06 signifies heavy-tailed leptokurtic distribution, possibly due to unconventional monetary policies. Furthermore, the consumer price index (CPI) averages 104.64 with a standard deviation of 59.15. The broad ranges from 0.03 to 583.68 reflects diverse price levels. Positive skewness (2.30) indicates higher-than-average prices, while kurtosis (13.03) suggests heavy-tailed distribution, possibly due to inflationary pressures. Also, the governance indicator (GOV) has a negative mean (-0.54), suggesting a governance deficit. Negative values indicate suboptimal governance conditions. Positive standard deviation (0.59) suggests variability among countries. The skewness (0.33) suggests a rightward skew, while kurtosis (2.71) indicates slightly heavier tails than normal. Negative values imply countries may perform below the reference level for good governance.

4.2 GMM Estimations

Focusing on the Autocorrelation Test results, the p-values in both models for the AR (1) test are above 1%, indicating first-order serial correlation in the errors. This suggests correct model specification with first-order autocorrelation. For the AR (2) Test, the p-values are above 1%, indicating no second-order serial correlation in the errors. The model is correctly specified with no second-order autocorrelation. In both models, the Hansen test p-values are above 1%, indicating the validity of the instruments employed in the estimation. The System GMM model, with a higher p-value of 1.289, reinforces the robustness of the instruments. While the Sargan test has p-values below the 1% significance level in both models, the Hansen test is preferred. In the System GMM model, the Hansen test p-value (1.289) is notably higher than the Sargan test (0.057), further supporting the appropriateness of instruments. Regarding the Number of Instruments against the Number of Countries, both models adhere to the rule that the number of instruments is less than or equal to the number of countries, ensuring the validity of the estimation. Overall, the diagnostic tests confirm the adequacy of the model specifications, with the Hansen test supporting the validity of the instruments.

Under the Difference GMM, as shown in Table 1, the coefficients of lagged lnISEW and lnCPI exhibit significant negative and positive impacts on the current lnISEW, respectively. Meanwhile, lnTR and lnGOV suggest an insignificant positive relationship with lnISEW, while lnRIR depicts an insignificant negative association. Under the System GMM model, the coefficient of lnISEW is depicted as a significant negative association with its lagged value, establishing a negative relationship between past economic welfare and the present. The lnTR coefficient is positively significant, suggesting a positive impact of tax revenue on economic welfare. Also elucidated in Table 2, the lnRIR significantly relates to the economic welfare index positively; however, caution is warranted due to the economic significance. The CPI coefficient further exhibits a positive significant influence on the economic welfare index, indicating a marginal positive impact of changes in prices. Finally, governance has a highly significant negative coefficient on the economic welfare index, signifying a complex relationship.

In conclusion, the System GMM results are deemed more robust due to its unique advantages over the Difference GMM, including improved efficiency in the presence of unobserved heterogeneity. The findings suggest that governance plays a crucial role in moderating the relationship between tax policy and economic welfare in SSA countries. A significant negative coefficient on *ln*GOV in the System GMM indicates that an increase in governance is associated with a substantial decrease in economic welfare. The study underscores the need for policymakers in SSA countries to consider governance factors when formulating tax policies to ensure sustainable economic welfare.

This finding suggests that historical economic conditions may have enduring consequences on the region's well-being. Incorporating social and environmental factors into an indicator measuring the economic success of countries reflects the achievement of the well-being of its inhabitants. This underscores the importance of addressing long-term economic challenges to promote sustained welfare improvements. Also, the positive and statistically significant coefficient associated with Tax Revenue (*ln*TR) implies that an increase in tax revenue positively influences the Index of Sustainable Economic Welfare. This result is consistent with the theoretical expectation that a well-designed tax policy can contribute to economic growth and improved welfare. It suggests that tax revenue when utilized efficiently, could be a vital source of funding for public goods and services that enhance overall well-being. This conforms to the findings of **Crentsil (2023)**, **Ajaz and Ahmad (2010), Ajibola and Olowolaju (2017)**, **Bird et al. (2014)**, **Dumitrescu and Hurlin (2012)**, **Emara and Jhonsa (2014)**, **Fagbemi et al. (2021), Günay and Topal (2021)**, **Mazenda and Cheteni (2021)**, **Olaleye et al. (2022)**. This is contrary to the findings of the study of **Adoho and Gansey (2019),** Crentsil (2023) and Li and Lin (2023) as their study established a non-significant association between tax policy and economic welfare.

Table 2: Tax Policy and Governance on Consumption Expenditure in SSA Countries

Variables	Difference GMM.	System GMM
L.lnISEW	-0.1041** (0.0484)	-1.4741*** (0.2820)
lnTR	0.0610 (0.1711)	1.8703*** (0.3043)
lnRIR	18.05 (13.68)	57.64** (28.02)
lnCPI	0.5317*** (0.1917)	0.0393 (0.2243)
lnGOV	1.2787 (2.7448)	-5.3660*** (1.2707)
Constant		-465.07* (231.14)
Model Diagnostics		
Observations	900	936
No of Country	36	36
Hansen_test	8.504 [0.131]	1.289 [0.732]
Sargan_test	10.740 [0.057]	19.190 [0.000]
AR(1)_test	0.402 [0.687]	2.049 [0.040]
AR(2)_test	-1.223 [0.221]	0.779 [0.187]
No. of Instr.	10	9

Source: Authors' Computation

Note: lnISEW, lnTR, lnRIR, lnCPI and lnGOV represent the log of sustainable economic welfare index, tax revenue, real interest rate, changes in the prices of a basket of goods and services that are purchased by households and governance, respectively. ***,** and * indicate significance at 1%,5% and 10%, respectively. The values in parentheses are the standard errors. [ ] indicate respective probability values.

5. Conclusion and Policy Implications

The study also analysed the moderating effect of governance indicators among tax policy and sustainable economic welfare. The findings suggest that governance plays a crucial role in moderating the relationship between tax policy and economic welfare in SSA countries. A significant negative coefficient on GOV in the System GMM indicates that an increase in governance is associated with a substantial decrease in economic welfare. For example, an increase in governance may lead to bureaucratic inefficiencies, including red tape, corruption, and rent-seeking behaviour. Bureaucratic hurdles can slow down decision-making processes, delay projects, and increase transaction costs for businesses, ultimately undermining economic efficiency and welfare. Heightened governance, especially in environments characterized by political instability, corruption, or authoritarianism, can create uncertainty for businesses and investors. Political instability can undermine property rights, the rule of law, and contract enforcement, discouraging investment and economic activity, ultimately leading to a decrease in welfare. The study underscores the need for policymakers in SSA countries to consider governance factors when formulating tax policies to ensure sustainable economic welfare.

Overall, the policy recommendation for the moderating effect of governance between the nexus of tax policy and sustainable economic welfare emphasizes the need for governance reforms that foster transparency, accountability, capacity building, stakeholder engagement, and international cooperation. By addressing governance challenges and promoting good governance practices, policymakers can create an enabling environment for the effective design and implementation of tax policies that contribute to sustainable economic development and welfare.

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