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Fiscal policy, sustainable development and economic growth in Sub-Saharan Africa

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Abstract

This study aims to examine the impact of fiscal policy on sustainable development in Sub-Saharan Africa. Fiscal policy, economic growth, sustainable development, and its determinants have come under scrutiny in Sub-Saharan Africa over the years due to the delicate nature of the concepts to the region's development. This study sought to examine the impact of fiscal policy on sustainable development. The study used causal research design and quantitative approach, the population comprised of 34 countries in Sub-Saharan Africa, 21 years of panel data was utilized by the study sourced from the world databank. There are four macroeconomic variables used, which are global uncertainty, fiscal policy, sustainable development, and economic growth. Government expenditure, government revenue, inflation, foreign direct investment, and external debt is used to represent fiscal policy. Gross domestic product is also used to represent economic growth. In assessing sustainable development, sustainable development goal index was used to measure. Data analysis technique used Feasible Generalized Least Square method through fixed and random estimations. Findings showed a negative association between fiscal policy and economic growth. Notwithstanding, the study found positive relationship between fiscal policy and sustainable development. Finally, there was a negative relationship between world uncertainties and sustainable development. The study implies that government should implement measures to reduce its borrowing to minimize its adverse impact on economic growth. It is recommended that Governments and policy makers should pay close attention to fiscal policy variables as it has a negative impact on economic growth. All efforts should be made to ensure that a balance will be reach in terms of fiscal policy to ensure economic growth. The novelty of the study is that it has unveiled the relationship between world uncertainties and sustainable development.

Keywords: Fiscal Policy, Sustainable Development, Economic Development.
Jel codes: O4, E63.

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1. Introduction

In developing countries, the most challenges faced is to be sustainable and stabilize macroeconomic variables such as inflation, exchange rate, interest rate, unemployment and economic growth and development. Many economic experts have shared their take and tried to find out ways to sustain economic development in these developing countries. The concept of development in the lay man's view is the advancement in the standard of livings in a country through improving human and environment conditions. Sustainable development however, has been described as such development that meets the needs of the present without compromising the availability of the future generation to meet their needs but sustainable economic development is that economically sustainable system that is able to produce goods and services on a continuing basis, to maintain manageable levels of government and external debt and to avoid extreme sectoral in-balances which change agricultural and industrial production. The economic perspective of sustainability from neoclassical economic theory is the maximization of welfare overtime. The impacts of sustainable economic development are felt when government structures and policies are in existence (Adefaso, 2015). The development of Sub-Saharan Africa countries at a crucial stage, considering the rapid population growth being experienced, especially in urban areas and the greater youthful labour. Some countries in the Sub-Saharan Africa are having rapid economic growth whose benefits are inappropriately disbursed. According to the international monetary fund (IMF) fiscal policy is the use of government spending and taxation to influence the economy. Fiscal policy is normally used to strengthen sustainable growth and improve the standard of living of citizens. The use of fiscal policy has become a critical issue to handle during these economic crisis period. Governments have stepped in to support financial systems facilitate growth and try to reduce the impact of the crisis on vulnerable groups. Governments have played a significant role in the economy by actively setting fiscal policies. According to William (1993), when governments want to influence the economy, they have two options. Policy makers can use monetary policy or fiscal policy. Central banks try to target money supply through adjustment to interest rates, bank reserves requirements and the purchase and sale of government securities. On the other side, government influence the economy by changing the levels and types of taxes, the structure and composition of spending and the rate and size of public debt. Through this process the result expected will be dependent on the fiscal space a government has for new spending initiatives or tax reduction. This is where we analyse whether additional financing is necessary, or government could reorder existing expenditure. However, the macroeconomic objectives of fiscal and economic policies are the same is true of monetary policy. In other words, controlling the trend of inflation, improving unemployment, poverty reduction, and the international wage balance Increase revenue and drive economic growth. If the government wants Increasing the number of economic activities in the country can stimulate consumption. They need to spend more through tax cuts and increased government spending (Havi & Enu, 2014). Fiscal policy is how governments can control and regulate the level of spending. Affect the economy of the country. Fiscal policy is generally understood to be related to growth. More precisely, it presupposes that the correct tax measures are taken under 3 certain conditions. Stimulate economic growth and development (Khosravi & Karimi , 2010). Government supporter Interventions in economic activity argue that such interventions can promote long-term Growth. You mentioned the role of government in maintaining the efficiency of resource allocation, regulating markets, stabilizing the economy and reconciling social conflicts Some of the way's states can boost economic growth. As part of endogenous the role of the state in stimulating growth, knowledge accumulation and research and development Spirit, productive public investment, human capital development, law and order Short-term and long-term growth ((Osuala & Jones, 2014). At the end of the paper, we will be able to understand how governments impact economies and the outcome of such decisions on the development of the country.

Statement of Problem

Fiscal policies pursued by various central government in the sub-region has received public outcry by investing community and other concerned development agencies like the world bank (Berg, et al., 2009); (Gupta, et al., 2022); (Lledó & POPLAWSKI-RIBEIRO, 2013). Compared to the large empirical literature on the effects of fiscal policy on economic activity, fiscal policy has received less attention, a feature that contrasts with the public debates on its role.

There have been a lot of crises over the decisions and leadership styles of government of countries in Sub Saharan Africa during developmental challenges and less resources allocation is an important concept taken into consideration ((Dele'chat, et al., 2018); (Diallo, 2009). During times of economic hardships from the impact of COVID-19 and Russia-Ukraine war some economists have critics about the policies and decisions set by political leaders (Drummond, et al., 2012). Economic growth in the sub-region has been slowed in recent time due to unstableness in the determinant of economic growth coupled with daunting task faced by government in sub-Saharan Africa (Drummond, et al., 2012). Questions have been asked about how effective policies of government can change the standard of living of countries in the sub-Saharan Africa. None of these studies ((Drummond, et al., 2012); (Ouedraogo & Sourouema, 2018) (Dele'chat, et al., 2018)) considered a comprehensive variable as considered by this study. Again, to the best of my knowledge no study has considered span of data considered by this study. This shows a gab in the identified that ought to be filled thus giving room for this study. Fiscal policies are taken into consideration finding out the important decisions to be made, analysing the kind of government spending and expenditure financing decisions. In this study the researcher wants to analyse the relation between fiscal policy and sustainable development, the researcher wants to know how fiscal policy can change the livelihood of citizens. The researcher would try to ascertain the right fiscal policies needed to assist governments to improve the standard of living of the countries in the sub-Saharan Africa. The researcher wants to know the impact of fiscal policy on the stability and sustainability of macro-economic variables and the improvement in the standard of living in Sub Saharan Africa.

Purpose of Study

To know the impact of fiscal policy on sustainable development

Research objectives

Investigate the effect of the components of fiscal policy on economic growth.

Investigate the effect of the components of fiscal policy on sustainable development

To assess the effects of global uncertainties on sustainable development and economic growth in Africa.

Research Questions

What is the relationship between fiscal policy and sustainable development in sub-Saharan Africa?

What effect does fiscal policy instruments have on economic growth in sub–Saharan Africa?

What is the effect of global uncertainty on sustainable development in sub-Saharan Africa?

Research Hypothesis

H1: There is a relationship between fiscal policy macroeconomic variables and economic growth of developing countries in Sub Saharan Africa.

H2: There is a relationship between global uncertainties on sustainable development H3: There is a relationship between global uncertainties on economic growth. Significance of the Study

The study would be beneficial in three perspectives. In the first place the conclusions of the study would guide policy makers on the kind of policy to be pursued during different economic periods. Again,

business and institutions that are directly affected by government's actions and inactions regarding the economy. The study would as well serve as precedence for future research by academia and industrial players. Thus, the study would enrich literature on the concept under discussion. Moreso, study is going to improve the insight of political leadership and decision making about fiscal policies in development in Sub Saharan Africa.

Limitations of the Study

The main limitations of this study were constraints of resources, access, and time. The finance and material resource needed for a sample size for this study were inadequate. Even though the financial sector would have been more appropriate, there are constraints of financial resources and unavailability of data as well as materials which made it not possible to undertake nationwide study.

2. Literature Review

Fiscal policy and sustainable growth (Khosravi & Karimi, 2010) empiricism too shows that effective monetary and fiscal policies can bring stability to the financial world. Fiscal policy can help to maintain the balance of payments, curb inflation, accelerate the process of unemployment and ultimately economic growth and development. Tax authorities should focus on adopting prudent tax policies, it is a reliable stabilization tool available to policy makers, ensuring stability and stability. Still productive finances consistent with sustainable economic prosperity. These include managing infrastructure development, increasing budget deficits, create jobs and create an enabling environment for work and capital-Intensive projects in the SADC economy are successful. Empirical literature on the effects of fiscal policy is particularly relevant to developing countries and countries in transition are much sparser than those focused on the west nation. (Hemming, et al., 2002)provides a useful summary of the experimental results includes the most recent work in the field. (Gupta, et al., 2022) reports the results a study on the impact of budget adjustments and spending structures on short-term growth using data from 39 developing countries. He thinks so • Deficit-to-GDP ratio decreased by 1 percentage point leading to average increase • real growth per capita in the short term from 0.25% to 0.5%; • Consolidation based on reduction in current spending has larger impact on growth then those based on increased income and decreased capital expenditure; • The adjustment resulted in a decrease in domestic financial resources by about 1.5 times the impact on growth than the effect on reduction domestic funding; • The typical Keynesian effects of fiscal policy are dominant. Fiscal policies contribute positively to the economic development of BRICS-T economies. This is because increased government spending leads to positive changes in economic development in the long run. However, monetary policy does not have a significant long-term impact on economic development in Pandemic, as the results show that the coefficient estimates of interest rates are not statistically significant. (Junfeng, et al., 2022) (Mengistu, 2022), showed fiscal policy instruments are highly relevant in the discussion of Ethiopia's economic performance. overall research finding evidence strongly 21 supporting endogenous growth model predictions, economic growth is positively affected by productive spending. indicates that governments are more likely to meet deficit targets than debt targets. However, according to (Akanbi, 2015) the situation is different in the non-oil segment, as government fiscal measures have not consistently met deficit or debt targets. Against this backdrop, while the broader economy and oil segment have shown strong fiscal sustainability over the years, non-oil segment fiscal policies are unsustainable. (Nuru & Gereziher, 2022), The negative effects of changes in government spending on economic growth outweigh the positive effects of changes in government spending. The real effective exchange rate has been found to have a large positive impact on economic growth in both the short and long term. Inflation, on the other hand, has a negative impact on economic growth in the short and long term. According to (Arestis & Sawyer, 2010), Instead of focusing on gross debt, you should consider your net balance sheet position. Budget deficits are often said to put upward pressure on interest rates. In the context of using "functional funding," we argue that the deficit itself can be financed, thus removing potential upward pressure on interest rates. (Ćorić, et al., 2015) in attempt to compare monetary policy and fiscal policy effects on sustainable development using Croatia in context Suggests

Only Coordinated Monetary and Fiscal Expansion Can Provide Stimulus Croatia's economic growth without compromising exchange rate stability. Policies have a positive impact on economic activity, but the impact on economic activity is Nominal exchange rates are in the opposite direction. These results are in line with the theoretical framework of the Mundell-Fleming model, where coordinated expansion of monetary and fiscal policy leads to the increase of national income, while keeping interest rate 22 and thus exchange rate stable. Although these results can be encouraging in the recessionary conditions, there are important limitations to such coordinated action. As for the fiscal policy, it should be noted that the Croatian fiscal situation can be described as unstable given the size of the deficit, public debt, credit risk and interest expenditures so any expansionary measures would lead to increased fiscal uncertainty and instability, thus putting additional pressure on financing costs and government credibility. Moreover, Croatia is the first EU country that entered the Excessive Deficit Procedure in the first year of the membership so the fiscal consolidation is a condition sin aqua non for absorption of EU funds which are seen as the most important source of public investments financing in following years So, in current conditions, fiscal policy is seriously limited but our results can be seen as a call for policymakers to implement more prudent fiscal policy in the expansionary phase of the business cycle so they could stimulate growth in future economic slowdowns. In the monetary policy context, the monetary transmission mechanism in Croatia is specific and, in current institutional framework, the national bank cannot directly stimulate economic growth. Also, many indicators show that previous monetary policy measures (reduction and suspension of various reserve requirements) resulted with abundant liquidity in banking sector, but credit growth is still negative, which implies that Croatian firms and households are still in the phase of deleveraging and bank surveys show that the credit growth is still subdued by low demand. So, we can conclude that the manoeuvring space of Croatian national bank is also limited, and we expect the monetary policymakers to mostly focus on its active role on the foreign exchange market and manage exchange rate fluctuations, especially after the Croatian entry to ERM II mechanism. Thus, with pronounced fiscal instability and limited scope of monetary policy, Croatian policymakers should put more effort on the structural reforms front, as many indicators show that business climate, product and labour market rigidities and institutional (administrational) quality are one of the main constraints to economic growth in Croatia. Also, structural reforms could mitigate negative effects of necessary fiscal consolidation and induce stronger demand for bank loans in the private sector, thus enabling monetary sector to indirectly stimulate economic growth. Empirical results showed that growth responded asymmetrically to changes in recurring spending in the long and short run. Economic growth has responded symmetrically to changes in petroleum business income taxes, tariffs and excise taxes, which are important in both the long and short term. Fluctuations in domestic and external debt have uneven effects on economic growth in the long run and are balanced in the short run. Fiscal improvements broaden the revenue base through efficient tax administration and collection systems, increase spending on critical infrastructure, eliminate unnecessary deficit spending, and invest productively in government debt to free private investment. and used to stimulate inclusive growth (Yusuf & Mohd, 2021) (Bedhiye & Singh, 2022), showed that fiscal policy measures have multiple implications for private investment. Government tax reform and import tariffs have been shut out, and capital spending, current spending and budget deficits have been shut out. They suggested that the state should rethink capital and current expenditures in a way that positively contributes to the development of private investment. Institutional quality and sustainable growth (Ahmed, et al., 2022) examine the impact of institutional quality on long-term development in ten Arab countries from 1995 to 2019. The deterioration of institutional environment indicators remains the most significant impediment to achieving development goals, limiting the effectiveness of economic reforms. The empirical study revealed that capital per capita, oil rents, per capita, and trade openness have a positive significant effect on sustainable development (expressed as adjusted net saving), whereas gross national income and total natural resource rents have a negative significant effect. Using data from 1991 to 2019, the (Kamalu & Ibrahim, 2022) examined the impact of institutional quality on human development in 14 developing countries.

They used the Dynamic Common Correlated Effect method, which accounts for panel data heterogeneity and cross-sectional dependency due to unobserved common factors. The findings showed that institutional quality has a positive and statistically significant long-run effect on human development. Furthermore, financial development was found to promote human development, whereas higher military expenditure had a negative long-term impact. The findings indicate that institutional quality promotes long-term human development. Policymakers should foster and develop high-quality institutions, such as those that combat corruption, improve quality regulation, and uphold the rule of law. However, the institutional indexes have a positive and insignificant impact, indicating that Arab societies have a weak political structure and lack political awareness. In addition, (Asghar, et al., 2020) used the Panel ARDL to examine the impact of institutional quality on economic growth in Asian developing economies 25 from 1990 to 2013. Their findings demonstrated that institutional quality has a positive influence on economic growth, as well as a causal relationship between institutional qualities and economic growth. Again, (Grabowski & Self, 2020)investigated the impact of various factors on the quality of governance institutions in 11 developing Asian countries from 1996 to 2015. They contended that institutional change is frequently a slow, piecemeal process, and that policy can play an important role. Many developing countries have weak states, and the strength or weakness of the ruling elite varies dramatically by geography. Thus, policy direction can change the incentives that bureaucrats and economic actors face, resulting in small changes in the formal and informal rules (institutions) that govern economic activities. (Alam, et al., 2017)examined the impact of government effectiveness on economic growth in a panel of 81 countries using the system GMM method. The study discovered that government effectiveness has a significant impact on economic outcomes. The study's policy recommendation was to focus on good governance for better economic outcomes. The study, however, fails to demonstrate the impact of other indicators of good governance. Using Generalized Methods of Moment (GMM), Fixed Effects (FE), and Random Effects (RE) models, Epaphra and Kombe (2018) investigated the effect of institutions on economic growth in Africa from 1996 to 2016. Their findings revealed that institutional quality indicators and political stability appeared to be the most important factors in explaining African real GDP per capita growth. Furthermore, (Bolen & Sobel, 2020) used GMM system methodology to investigate the balance between areas of Institutional Quality and its impact on economic growth. They recommended that broad reforms that lift all areas slightly will generally produce more growth than a large reform to only one area, even if the overall average score changes the same. Even if they have the same impact on the overall average score, improving the weakest areas will contribute more to growth than improving already strong areas. In a similar study (Alonso, et al., 2020) used the GMM method to investigate the determinants of institutional quality and discovered that income per capita (growth) and tax revenue appear to be reliable predictors of institutional quality. Development makes it easier to build good institutions, and because the opposite appears to be true, a virtuous circle of growth and institutional quality emerges. A strong fiscal covenant, on the other hand, promotes institutional quality. In terms of inequality, redistribution (rather than simple inequality) appears to be an important determinant of institutional quality, as it captures the state's active role in this regard. Yang et al. (2014) also investigated the impact of institutional quality on actual savings in 189 countries from 1980 to 2010. The variables were the Kauffman average governance index, the WGI index, the ICRG International Country Risk Guide Indicator, a database of political systems, a World Bank institutional database, corruption perceptions index, per capita share of GDP, population density, draining energy, religion, eventual life at birth, and the school enrolment rate. They concluded that institutional quality indicators (each governance and corruption perceptions index, as well as the type of political systems) have a significant and positive influence on the rate of actual savings, whereas constitutional constraints (proportional representation in parliament and pluralism) do not. Global uncertainty and sustainable growth (Nguyen, et al., 2022)examined the effects of global uncertainty indicators volatility on domestic socioeconomic and environmental vulnerability in a sample of 54 developing countries. To deal with autoregression and endogeneity in their dynamic panel data, they use the two-step system generalized method of moments estimator. Seven different global uncertainty indicators (US trade uncertainty, global trade uncertainty, economic policy uncertainty,

global commodities and oil prices, the geopolitical risk index, and the world uncertainty index) have been mobilized and compared for their empirical impact on nations' economic (growth and GDP), social (misery index and income inequality), and environmental (CO2 emissions) vulnerabilities. Their empirical estimates indicate that the socioeconomic and environmental vulnerabilities cannot be addressed in the same way: any reduction in one aspect will inevitably come at a cost and have an opposite effect on at least one of the other aspects of the nation's vulnerability. (Asafo-Adjei, et al., 2021) the study aimed to shed new light on the lead-lag relationships between the financial sector and economic growth for developing economies in the face of global economic policy uncertainty. In the medium and long term, the impact of global uncertainty on financial sector and economic growth is the worst for South Africa in four cases. South Africa's financial markets and economic growth are thus vulnerable to global uncertainty. However, in the pre-COVID analysis conducted with the WMCC, the impetus for global uncertainty to drive movements between the financial sector and economic activity was less pronounced. Both the supply-leading and demand-following hypotheses are supported by the findings. Their findings also highlight the importance of policymakers, investors, and academics constantly 28 monitoring the dynamics of finance and growth over time and space, while also considering adverse shocks from global economic policy uncertainty. In an alternative study (Chen, et al., 2019), the researchers investigated the links between oil price shocks, global economic policy uncertainty (GEPU), and China's industrial economic growth. Based on monthly data from 2000 to 2017, they find that GEPU and world oil prices jointly cause China's industrial economic growth; world oil prices have a positive effect, while GEPU has a negative effect. Further studies investigate the asymmetry effect of oil prices and discover that the negative component has a greater impact on China's industrial economic growth. The findings are robust to various oil price and EPU proxies. Despite the weaker global economic environment, Sub-Saharan Africa continues to experience strong economic growth. Regional output increased by 5% in 2011, with growth expected to pick up slightly in 2012, aided by still-high commodity prices, new resource exploitation, and improved domestic conditions that have supported several years of solid trend growth in the region's low-income countries. However, performance varies across the region, with output in middle-income countries closely tracking the global slowdown and some sub-regions adversely affected, at least temporarily, by drought. The risk of intensified financial stresses in the eurozone spilling over into a further slowing of the global economy, as well as the possibility of an oil price surge triggered by rising geopolitical tensions, are both threats to the outlook Dept., I.A. (2012). In addition, (Balfoussia & Louzis, 2021) provided estimates of global economic uncertainty and inflation uncertainty for the Greek economy, and their time-varying impact on the corresponding macroeconomic variables is considered. Its impact on the 29 underlying variable varies and is statistically significant and negative during the global financial crisis, the Greek sovereign debt crisis, and the COVID-19 pandemic. As a result, uncertainty weighs on the economy's fundamentals during these periods. Our findings have several policy implications, including that the extraordinary policy measures implemented to mitigate the economic impact of the COVID-19 pandemic should be phased out gradually and cautiously, as any increase in uncertainty may have a negative impact on economic activity and a deflationary impact on prices. Fiscal policy and sustainable development in Sub-Saharan Africa and impact the article by (Gupta, et al., 2022) investigates the determinants of tax buoyancy in sub-Saharan African countries, finding that institutional quality, trade openness, and economic diversification are significant factors affecting the responsiveness of tax revenues to economic growth. The study highlights the need for policy reforms to strengthen tax systems and enhance revenue mobilization. (Berg, et al., 2009) examine the fiscal policy responses of sub-Saharan African countries to the global financial crisis, emphasizing the importance of timely and well-targeted measures to mitigate the impact of external shocks on economic growth and poverty.

The authors recommend fiscal stimulus packages, including infrastructure investment and social safety nets, while also cautioning against excessive debt accumulation and inflationary pressures. (Kind & Koethenbuerger, 2018) examine the taxation of digital media markets and argue that policymakers need to adjust their tax systems to account for the increasing digitalization of the economy. They highlight the challenges of taxing digital goods and services, which often do not have a physical presence, making them difficult to track and tax. The authors suggest that policymakers should consider new approaches to 30 taxations that account for the unique characteristics of digital markets. This research is relevant to SSA, as the region is experiencing a rapid increase in digitalization, with many people using digital platforms for both formal and informal economic activities. (Kitsios, et al., 2019) explore the role of digitalization in reducing tax evasion from cross-border fraud. The authors argue that digitalization can help prevent tax evasion by increasing transparency and enabling tax authorities to monitor and track cross-border transactions more effectively. The study focuses on the European Union (EU) and finds that digitalization has a positive impact on reducing tax evasion. Although the study is not specific to SSA, it provides insights into the potential of digitalization to improve tax compliance and reduce tax evasion, which could be relevant for policymakers in SSA. (Lakemann & Lay, 2019) examine the impact of digital platforms on informal work in Africa, using the case of Uber. The authors argue that digital platforms can help to formalize informal work by providing a platform for workers to access customers and build a reputation. However, they also highlight the challenges of regulating digital platforms and ensuring that workers are protected. The study is relevant to SSA, where many people work in the informal sector, and digital platforms are increasingly being used to access customers. (Lledó & POPLAWSKI-RIBEIRO, 2013) focus on the challenges of fiscal policy implementation in sub-Saharan Africa, emphasizing the importance of political commitment, institutional capacity, and stakeholder engagement in ensuring effective policy outcomes. The authors argue that successful fiscal policy requires a comprehensive and integrated approach, including revenue mobilization, expenditure management, and debt sustainability. (Diallo, 2009) analyses the difficulties of implementing countercyclical fiscal policy in democratized sub-Saharan African countries, identifying political constraints, weak institutional capacity, and limited fiscal space as major obstacles. The author recommends strengthening democratic institutions, improving public financial management, and enhancing regional cooperation to overcome these challenges. (Dele'chat, et al., 2018), the authors emphasize the importance of fiscal policies and institutions in promoting economic stability and resilience in fragile sub-Saharan African countries. They argue that sound fiscal management, including effective revenue mobilization, expenditure prioritization, and debt sustainability, is essential for promoting sustainable development and reducing vulnerability to external shocks. The study highlights the need for policy reforms to enhance fiscal management in the region, including improving tax administration, reducing tax exemptions, and prioritizing spending on social services and infrastructure. (Drummond, et al., 2012)investigate the determinants of revenue mobilization in sub-Saharan African countries, finding that institutional quality, economic structure, and political stability are significant factors affecting the effectiveness of tax systems. The study emphasizes the importance of policy reforms to enhance revenue collection, including improving tax administration, expanding the tax base, and reducing tax exemptions. (Ouedraogo & Sourouema, 2018) focus on the pro-cyclicality of fiscal policy in sub-Saharan African countries, highlighting the role of export concentration in exacerbating the impact of external shocks on government revenue and expenditure. The authors suggest that diversifying the export base, strengthening social safety nets, and improving public financial management can help mitigate the impact of pro-cyclical fiscal policies on economic growth and poverty reduction. (Afful & Asiedu, 2014) examine the role of business regulations, governance, and fiscal policy in stock market development in sub-Saharan Africa. The study finds that sound fiscal management, including effective tax policies and debt management, is essential for promoting sustainable economic growth and attracting foreign investment.

The authors suggest that improving business regulations and governance can enhance the effectiveness of fiscal policy in supporting stock market development and economic growth. (Ndulu, et al., 2021) focus on the digital transformation in sub-Saharan Africa, emphasizing the role of fiscal regimes in promoting innovation and sustainable development. The authors argue that sound fiscal management, including effective tax policies and public investment in digital infrastructure, is essential for unlocking the potential of digital technologies to promote economic growth and reduce poverty in the region. The study highlights the need for policy reforms to enhance fiscal management and promote digital transformation in sub-Saharan Africa. (Ndambiri, et al., 2012) investigate the determinants of economic growth in sub-Saharan Africa, finding that institutional quality, human capital development, and macroeconomic stability are significant factors affecting the effectiveness of fiscal policies in promoting sustainable development. The study emphasizes the importance of policy reforms to enhance fiscal management, including improving tax administration, reducing tax exemptions, and prioritizing spending on social services and infrastructure. The (Pathways for Prosperity Commission, 2018) notes that digital technology can help governments to improve revenue mobilization, reduce corruption, and enhance public service delivery. (Rukundo, 2020) highlights the challenges that African countries face in taxing the digital economy and suggests that there is a need for greater cooperation between African countries to address the issue. (Onyima & Ojiagu, 2017) examine the impact of digital technology on the formalization of informal businesses in sub-Saharan Africa, using the case of traditional spiritualists. The authors argue that digital technology can facilitate the formalization of informal businesses by enhancing trust, promoting transparency, and facilitating transactions. (Sarkar, et al., 2015) note that the digital divide in sub-Saharan Africa remains a significant obstacle to the region's development. The authors argue that policies that promote greater access to digital technologies, particularly in rural areas, can help to bridge the divide and promote sustainable development. (Rappoport, et al., 2003) examine household demand for wireless telephony in sub-Saharan Africa and find that factors such as income, education, and urbanization are significant determinants of demand. The authors suggest that policies that promote greater access to wireless telephony can help to bridge the digital divide and enhance economic development. (Rohatgi, 2005) examines the principles of international taxation and highlights the importance of effective tax policies in promoting sustainable development. The author argues that tax policies that promote investment, innovation, and entrepreneurship can help to stimulate economic growth and reduce poverty. (Ndulu, et al., 2021) examine the impact of fiscal regimes on digital transformation in sub-Saharan Africa. The authors argue that effective fiscal policies can help to promote digital transformation by providing incentives for investment in digital infrastructure, promoting innovation, and enhancing access to finance. The article by (Afful & Asiedu, 2014) explores the impact of business regulations, governance, and fiscal policy on the development of stock markets in SSA. The authors argue that a sound regulatory environment, transparent governance, and effective fiscal policies are crucial for developing robust stock markets that can promote sustainable economic growth. However, the study did not specifically discuss the role of digital technology in promoting fiscal policy and sustainable development in SSA. In contrast, (Ndulu, et al., 2021) examine the impact of fiscal regimes on digital transformation in SSA. The authors argue that digital technology has the potential to transform the SSA economy by increasing productivity, creating new jobs, and boosting economic growth. However, they note that effective fiscal regimes are required to promote investment in digital infrastructure and support the growth of digital businesses. Therefore, fiscal policies that encourage investment in digital infrastructure and businesses can promote sustainable development in SSA. The report by (Pathways for Prosperity Commission, 2018) emphasizes the importance of digital technology in promoting inclusive growth in SSA. The report notes that digital technology can increase access to essential services, create new jobs, and improve economic productivity. However, the report also highlights the challenges faced by many SSA countries in adopting digital technology and promoting inclusive growth.

Therefore, fiscal policies that address the barriers to digital adoption can help promote sustainable development in SSA. (Rukundo, 2020) focuses specifically on the challenges of taxing the digital economy in SSA. The author notes that the digital economy poses unique challenges for tax 35 authorities in SSA, including difficulties in identifying taxable income, enforcing compliance, and determining the value of digital transactions. Therefore, Rukundo argues that effective fiscal policies are required to address these challenges and ensure that digital businesses contribute their fair share of taxes to support sustainable development in SSA. Finally, the reports by the (OECD, 2016) (OECD, 2018) discuss the challenges of measuring GDP and taxing digital businesses in the digital economy. The reports note that digital businesses can operate across multiple jurisdictions, making it difficult to determine their taxable income and value creation. The reports suggest that international cooperation and coordinated fiscal policies are required to ensure that digital businesses pay their fair share of taxes and contribute to sustainable development in SSA and other regions. Digital technology has become an essential factor in driving sustainable development in SSA. (Ndulu, et al., 2021) provide insights into the digital divide in South Africa and its impact on sustainable development. The authors argue that digitalization could be a crucial driver of inclusive growth and poverty reduction. Additionally, (Onyima & Ojiagu, 2017) demonstrate how digital technology can facilitate the formalization of informal businesses, promoting sustainable economic growth. However, the adoption and use of digital technology require a conducive policy environment, particularly in the areas of taxation and regulation. Taxation is another critical policy instrument that could impact sustainable development in SSA. (Matheson & Petit, 2021) examine the taxation of telecommunications in developing countries, and they argue that it could contribute to increasing revenues and achieving sustainable development. The authors note that taxes on telecommunications could help to bridge the digital divide and expand access to 36 communication services. However, the effectiveness of taxation policies depends on various factors, including the level of tax compliance, the tax administration capacity, and taxpayer education. Taxpayer education could be an essential determinant of fiscal policy effectiveness and its impact on sustainable development in SSA. (Mascagni & Santoro, 2018) examine the role of taxpayer education in Africa, and they argue that it could contribute to increasing voluntary tax compliance and improving the quality of public services. The authors note that taxpayer education could help to create a more informed and engaged citizenry, which is essential for promoting good governance and sustainable development. Similarly, (Ndung'u, 2017) and (Ndung'u, 2019) examine the use of mobile phone transactions in taxation and highlight the importance of taxpayer education in promoting voluntary compliance and enhancing revenue collection. Taxation policies in the digital economy have also become increasingly relevant in SSA. (Olbert & Spengel, 2019) examine recent policy developments in taxation in the digital economy, and they argue that the question of value creation has become central to tax policy debates. The authors note that digital technologies have transformed the ways in which economic value is created and exchanged, requiring new tax policy approaches. (Okunogbe & Pouliquen, 2018) examine the introduction of electronic tax filing and highlight its potential for promoting transparency, reducing corruption, and improving tax compliance. In conclusion, the literature reviewed in this study suggests that digital technology has the potential to promote sustainable development in SSA by increasing productivity, creating new jobs, and improving access to essential services. However, effective fiscal policies are required to address the unique challenges posed by the digital economy, 37 including difficulties in measuring value creation and enforcing compliance. Therefore, fiscal policies that promote investment in digital infrastructure, address the barriers to digital adoption, and ensure that digital businesses pay their fair share of taxes can help promote sustainable development in SSA.

3. Methodology

Population and Sample Size

Sixteen countries in the economic community of west African states are chosen for this study. These countries were mainly chosen because it has an emerging economy and there is a high chance of fiscal policy and global uncertainty to affect sustainable development and economic growth. Gross Domestic Product (GDP), employment, public debt and government spending is for the period of 2000 to 2021.

This is because there has not been much research done about the topic in the west African territory and partly due to availability of data. Most empirical studies focus on either one country or just a few countries than expected. Panel data approaches are used in the study for sub-Saharan African nations.

Research Variables

The study has four variables which are global uncertainty, fiscal policy, sustainable development and economic growth. Government expenditure [GEXP], government revenue [GREV], inflation [INF], foreign direct investment [FDI], and external debt [LEXDBT] is used to represent fiscal policy. Gross domestic product [GDP] is also used to represent economic growth. In assessing sustainable development, I used sustainable development goal index [SDGI] to measure. In representing global uncertainty covid-19 is used which is a dummy variable that is equal to 1 when there is covid-19, otherwise it is 0. The various variables will serve as control variables in each model that is used to assess a particular objective.

Research Method

The study will make use of quantitative analysis approach to find out the effect of fiscal policy on sustainable development. The study will use a panel regression model to estimate the effect and correlation between these variables. To achieve its main goal, this study used a panel vector autoregressive (PVAR), fixed effects (FE), and random effects (RE) model. The theoretical underpinnings and literature supporting the relationship between the economic variables under consideration served as the basis for the careful selection of all macroeconomic variables used in the empirical study. According to earlier studies, the macroeconomic factors considered are employment, government spending, public debt, and gross domestic product (GDP). Other empirical studies made use of the Ricardian or non-Ricardian approach; this is where they analyse the effect of fiscal policy on economic development taking into consideration the government constraints. Government constraints that do not allow implementation of fiscal policy flow. Under the Ricardian system of fiscal policy, the monetary authority controls the quantity of money, which affects price level. To guarantee fiscal solvency for any actual government liabilities, or alternatively for any price level, primary balances (set) are endogenous and shift naturally. Technically, Pt increases or decreases real government liabilities when it enters the left-hand side (LHS) of the intertemporal budget constraint. In response, the fiscal authority modifies the right-hand side (RHS) with an appropriately larger or lower primary balance. If economic agents assume that their government is Ricardian when generating their expectations (i.e., there are expectations for a Ricardian fiscal policy regime), then if the government runs a primary deficit in the current year, agents anticipate it to respond in the future by hiking taxes (Olegs, 2006). But in this literature, we are going to focus on the Keysian approach, making good use of a panel vector auto regression model (PVAR). As a theoretical rationale for empirical modelling, the study expands the theoretical model put forth in the Keynesian method. According to the Keynesian view, fiscal policy is the primary factor influencing output growth. According to the Keynesian school of thought, fiscal policy is crucial in fostering and stabilizing the economy by enacting expansionary and contractionary measures on aggregate demand to direct sustainable economic activity at various stages of the business cycle (Makhoba & Kaseeram,2022).

Empirical Framework

To investigate the issue of interest, a Panel Vector Autoregressive (PVAR) model is estimated. This takes the following form:

In a second instance the following Fixed Effects Panel Regression (FEPR) model is considered:

The fixed effects model: $Yit = \beta li + \beta x \times 2it + \beta 3x3it + eit$

Yit is Annual GDP Growth

βli is the intercept/constant

$x2$ it is Log (Public Debt) with coefficient $\beta 2$

$x3$ it is government spending with coefficient $\beta 3$

eit is the error term

Method using panel vector autoregression (PVAR) The aim of this study is to examine the interaction between fiscal policy, public debt and economic growth in Sub-Saharan Africa by using PVAR method. developed by (Holtz-Eakin, et al., 1988). The PVAR method, which combines the characteristics of panel data with VAR analysis, is one of the most advanced and attractive panel data estimation methods. In panel settings, PVAR can solve problems of heterogeneity and endogeneity. By treating all variables as endogenous and allowing for heterogeneity and unobserved indigenousness in the panel setup, this approach combines the features of VAR with the panel data approach (Love & Zicchino, 2006). FE and RE estimates are performed to check the certainty of the experimental results from the PVAR output. Fixed effects (FE) and random effects (RE) models are frequently used in economic modelling to analyse empirical relationships between economic variables. EF explores the relationship between predictor and outcome variables in a panel setup. Panel individuals have unique characteristics that may or may not affect predictors, for example, different countries' political systems have different effects on economic performance. economy of different countries (Torres-Reyna, 2007). Therefore, FE assumes that there are some latent factors within individuals that could influence or cause bias in the endogenous or explanatory variables, and that they therefore need to be considered and adjusted accordingly. fit.

FE seeks to remove the effect of time-invariant properties to test only the net effect of the explanatory variables on the endogenous variable. EF further assumes that time invariant characteristics are variable across countries and should not be correlated with other individual characteristics (Makhoba & Kaseeram, 2022).

4. Data and Results

Data Descriptions

To determine if fiscal policies have an impact on development, the study relied on secondary data, including official data from the World Data Index, International Monetary Fund, and other internet data sources. We predicted connections between fiscal policies, macroeconomic results, and societal satisfaction. As a theoretical rationale for empirical modelling, the study expands the theoretical model put forth in the Keynesian method. According to the Keynesian view, fiscal policy is the primary factor influencing output growth. Data will be collected from 2000 to 2021 to be able ascertain the actual effect and correct regression estimates

Pre-Estimation Diagnostic

In statistics, estimation diagnostics are statistical tests performed to ascertain the appropriateness of estimations techniques adopted in empirical studies. Again, these tests are also adopted to assess the fitness of a model for a data under consideration. Some of these tests can be performed before the estimation termed as pre-estimation diagnostics such as stationarity checks, normality test, cointegration test, effect test whilst those performed after the estimation are termed post estimation diagnostics such as autocorrelation checks, model significance test through the f-statistics, r-squared among others.

Stationarity test A test of stationarity is a statistical method used to determine whether a data is stationary or non-stationary. A data is considered stationary if its statistical properties, such as the mean and variance, do not change over time. A non-stationary data, on the other hand, has a mean or variance that changes over time. There are several tests that can be used to test for stationarity, including the Augmented Dickey-Fuller test (ADF), the Kwiatkowski-Phillips-Schmidt-Shin test (KPSS), and the Phillips-Perron test (PP). These tests compare the time series to a random walk or a trend-stationary process, and they provide a p-value that can be used to determine whether the time series is stationary or non-stationary. It is important to note that most real-world data are non-stationary and need to be

transformed to be used in statistical models. If a data is nonstationary, techniques such as differencing or the use of a trend-removing model, such as a moving average or exponential smoothing, can be used to make the data stationary. To achieve the stated objective of this study ADF and PP test is going to be used to test the stationarity of the data. These tests belong to a category called Unit Root Test which is the proper way of checking stationarity in a data. When there is an existence of unit root it indicates that the data is not stationary. ADF assumes the null hypotheses that there is a presence of root unit, and the p-value need to be greater than the significant value which is 5% before it can be rejected and concluded that the data is stationary.

Variable	**ADF**	**PP**
FDI	177.491	186.555
GEXP	100.155	100.199
GREV	191.811	139.249
INF	191.568	250.993
SDGI	284.309	332.184
LGDP	151.485	270.336
EXDBT	294.927	333.613

Source: Author's Construct data from world bank data (selected years)

All the variables are stationary at level and as such there was no first difference, and the model is good.

Cointegration test

As for the cointegration test, it is used to check if two or more non-stationary time series are cointegrated. Cointegration means that the series move together in the long run, meaning that if one series increases (decreases) the other series also increases

(decreases) in the long run.

Kao Residual Cointegration Test

	t-Statistic	Prob.
ADF	-7.657253	0.0000
Residual variance	0.013731	
HAC variance	0.018040	

Source: Author's Construct data from world bank data (s elected years)

Augmented Dickey-Fuller Test Equation for cointegration

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID (-1)	-0.330852	0.028179	-11.74090	0.0000

R-squared	0.218061	Mean dependent var	0.019285
Adjusted R-squared	0.218061	S.D. dependent var	0.125627
S.E. of regression	0.111088	Akaike info criterion	-1.554748
Sum squared resid	5.503913	Schwarz criterion	-1.545570
Log likelihood	348.4862	Hannan-Quinn critter.	-1.551130
Durbin-Watson stat	1.609995		

Source: Author's Construct data from world bank data (selected years)

The cointegration in the variables shows that there is a stable long run relationship between the variables.

Regression of Fiscal Policy Macroeconomic Variables on Economic Growth

To test the first hypotheses which is fiscal policy macroeconomic variables on economic growth a panel estimated generalized least squares regression was employed and the estimates are presented in Table. Since the p value is less than 0.05 the alternative hypothesis is accepted and concluded that there is significant negative relationship between fiscal policy macroeconomic variables on economic growth. The fixed effect model also indicated a positive significant relationship between fiscal policy macroeconomic variables on economic growth. However, the Hausman test indicated that the random effect model is appropriate for this study and as such the random effect model will be used for this study. The result from the random effect shows that macroeconomic variables have a considerable explanatory negative power in predicting economic growth in Sub-Sahara Africa.

Regression of Fiscal Policy on Economic Growth (Random Effect)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-9.80E+11	5.42E+10	-18.09365	0.0000
FDI_IN	-2.55E+09	5.58E+08	-4.569103	0.0000
INF	-1.46E+08	1.13E+08	-1.285308	0.1993
GEXP	-4.96E+08	6.59E+08	-0.752848	0.4519
LEXDBT	4.90E+10	2.83E+09	17.32790	0.0000
COVID_19	-1.69E+10	1.00E+10	-1.683419	0.0929
SDGI	-8.44E+08	6.13E+08	-1.377329	0.1690

Weighted Statistics			
R-squared	0.462339	Mean dependent var	4.89E+10
Adjusted R-squared	0.456014	S.D. dependent var	9.57E+10
S.E. of regression	7.06E+10	Sum squared resid	2.54E+24
F-statistic	73.09219	Durbin-Watson stat	0.090762
Prob(F-statistic)	0.000000		

Source: Author's Construct data from world bank data (selected years)

Correlated Random Effects - Hausman Test

Null: random effect is appropriate

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	7.105856	5	0.2129

Source: Author's Construct data from world bank data (selected years)

The Hausman test has the null hypothesis that the random effects are appropriate. If the estimated parameters are not statistically different between the two estimation procedures, the null hypothesis cannot be rejected. This makes the random effect model the preferred model. On the other hand, if the p value of the test statistic is less than 0.05, we reject the null and accept the fixed effect model as our preferred model. The p value of the test statistic of is greater than 0.05, therefore, the null hypothesis is accepted and concluded that random effect model is appropriate.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.67E+11	8.98E+10	1.860341	0.0680
FDI_IN	1.99E+09	2.88E+08	6.908865	0.0000
INF	-1.49E+08	1.25E+08	-1.195486	0.2368
GEXP	3.52E+09	7.44E+08	4.737338	0.0000
LEXDBT	-2.15E+10	5.66E+09	-3.796408	0.0004
COVID_19	5.87E+09	2.07E+09	2.836836	0.0063
SDGI	5.49E+09	7.47E+08	7.351761	0.0000

R-squared	0.926342	Mean dependent var	4.38E+10
Adjusted R-squared	0.918588	S.D. dependent var	9.19E+09
S.E. of regression	2.62E+09	Akaike info criterion	46.31429
Sum squared resid	3.92E+20	Schwarz criterion	46.55042
Log likelihood	-1475.057	Hannan-Quinn critter.	46.40731
F-statistic	119.4739	Durbin-Watson stat	0.321630
Prob(F-statistic)	0.000000		

Source: Author's Construct data from world bank data (selected years)

The general observation is that there is a significant negative relationship between fiscal policy macroeconomic variables and economic growth. A negative significant relationship between fiscal policy and economic growth means that as the government increases its spending or lowers taxes (expansionary fiscal policy), economic growth may decrease. This can happen if the government's spending is not targeted towards productive investments or if the increased borrowing to finance the spending leads to higher interest rates and inflation. On the other hand, contractionary fiscal policy, which involves decreasing government spending or raising taxes, may lead to an increase in economic growth, as it can help reduce inflation and stabilize interest rates.

However, it also can slow down economy by decrease in consumption and investment. Another factor is the lack of fiscal transparency and accountability in many ECOWAS countries. This can lead to poor decision-making and inefficiency in the use of government resources, which can limit the effectiveness of fiscal policy in promoting economic growth. It can also be observed with that apart from external debt, the other macroeconomic variables have a negative relationship with economic growth. A 1% increase in fiscal policy will cause a decrease of 9.8% in economic growth. A negative relationship between inflation and economic growth is also observed which means that as the rate of inflation increases, economic growth decrease. A negative FDI was also witnessed which might be caused by an excessive inflow of FDI which can lead to overinvestment in certain sectors, causing an imbalance in the economy and reducing overall economic growth. FDI can also lead to increased competition for resources, such as labour and capital, which can cause domestic firms to cut back on investment and hiring, resulting in reduced economic growth. A negative GEXP may cause an increase in fiscal deficit which is an increase in government spending that can lead to higher levels of government debt and

budget deficits, which then leads to higher interest rates and inflation, which can negatively impact economic growth. EXDBT on the other have a positive relationship with economic growth and indicates that as the level of external debt increases, economic growth may also increase. This may occur by an increase in investment, increase in consumption, access to international markets and access to knowledge and technology since government have access to additional funds to support its activities.

Regression of World Uncertainties on Sustainable Development

To test the second hypotheses which is world uncertainty on sustainable development a panel estimated generalized least squares regression was employed and the estimates are presented in Table. The random effect model shows a p value which is less than 0.05, the alternative hypothesis is accepted and concluded that there is negative significant relationship between world uncertainty and sustainable development. The fixed effect model also indicated a positive significant relationship between world uncertainty and sustainable development. The random effect model is going to be use for the analysis since it was deemed as appropriate for the study by the Hausman test. The result from the random effect shows that world uncertainty has a considerable explanatory negative power in predicting sustainable development.

Effect of the Components of Fiscal Policy on Economic Growth and Sustainable Development

Variable		**Random**			**Fixed**	
Specification						
1(economic growth)	5.23	4.74	9.80	5.23	4.691142	1.67
Constant	(0.00)	(0.00)	(0.0000)	(0.00)	(0.00)	(0.0680)
GREV	-2.10	0.002756 (0.00)	4.23	-1.79	-	-2.63
	(0.00)		(0.1562)	(0.00)	0.002682	(0.0001)
					(0.00)	
LEXDBT		0.852010 (0.00)	4.90		0.854330 (0.00)	-2.15
			(0.0000)			(0.0004)
GEXP		0.007857 (0.14)	4.96		-	3.52
			(0.4519)		0.008050	(0.000)
					(0.13)	
FDI-IN			-2.55			1.99
			(0.000)			(0.0000)
INF			-1.46			-1.49
			(0.1993)			(0.2368)
COVID-19			-1.69			5.87
			(0.0929)			(0.0063)
SDGI			-8.44			5.49
			(0.1690)			(0.0000)
r-square	0.0220	0.8283	0.4623	0.0337	0.8380	0.9263
Specification (sustainable development)	2					
Constant	55.41066 (0.00)	50.52686 (0.000)	50.86463 (0.0000)	55.05783 (0.00)	50.52686 (0.000)	50.98589 (0.0000)
GREV	0.028355 (0.00)	0.013836 (0.0002)	0.015733 (0.0010)	0.022187 (0.00)	- 0.013836	0.016246 (0.0007)
					(0.0034)	
GEXP		0.200334 (0.0001)	0.216319 (0.0001)		0.200334 (0.0001)	0.215639 (0.0001)
EXDBT		1.02	1.05		1.02	1.07
		(0.000)	(0.0000)		(0.0000)	(0.000)
INF			0.027956 (0.1490)			0.024139 (0.2115)

FDI-IN			0.097386 (0.0338)			0.098652 (0.0321)
COVID-19			1.852777 (0.0729)			
r-square	0.059255	0.256440	0.265914	0.114397	0.279453	0.260922

Correlated Random Effects - Hausman Test

Null: random effect is appropriate

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	7.105856	5	0.2129

Source: Author's Construct data from world bank data (selected years)

The Hausman test has the null hypothesis that the random effects are appropriate. If the estimated parameters are not statistically different between the two estimation procedures, the null hypothesis cannot be rejected. This makes the random effect model the preferred model. On the other hand, if the p value of the test statistic is less than 0.05, we reject the null and accept the fixed effect model as our preferred model. The p value of the test statistic of is greater than 0.05, therefore, the null hypothesis is accepted and concluded that random effect model is appropriate

Regression of World Uncertainties on SDGI (Random Effect)

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-3.363890	4.877301	-0.689703	0.4907
COVID_19	1.466737	0.948605	1.546204	0.1227
LGDP	-0.779806	0.445451	-1.750600	0.0807
FDI_IN	-0.176804	0.043234	-4.089431	0.0001
INF	-0.042423	0.017833	-2.378924	0.0178
GEXP	0.327189	0.050106	6.529888	0.0000
GREV	-0.008383	0.004700	-1.783494	0.0751
LEXDBT	3.244088	0.412203	7.870115	0.0000

Weighted Statistics			
R-squared	0.388070	Mean dependent var	53.85568
Adjusted R-squared	0.379014	S.D. dependent var	6.458399
S.E. of regression	5.089391	Sum squared resid	12251.60
F-statistic	42.85202	Durbin-Watson stat	0.087935
Prob(F-statistic)	0.000000		

Source: Author's Construct data from world bank data (selected years)

Correlated Random Effect- Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	8.989246	6	0.1742

Source: Author's Construct data from world bank data (selected years)

The Hausman test statistic has a p value of 0.1742 which is greater than 0.05 therefore the null hypothesis is accepted and concluded that random effect model is appropriate.

Effect of World Uncertainties on SDGI (Fixed Effect Estimation)

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
COVID_19	0.176905	0.114530	1.544615	0.1243
LGDP	1.132146	0.220929	5.124474	0.0000
FDI_IN	0.019913	0.020189	0.986305	0.3254
INF	-0.019326	0.014209	-1.360091	0.1756
GEXP	-0.527016	0.068951	-7.643376	0.0000
GREV	-0.081587	0.006980	-11.68816	0.0000
LEXDBT	3.761310	0.194858	19.30286	0.0000
C	-43.70971	6.886643	-6.347027	0.0000

R-squared	0.983893	Mean dependent var	53.72947
Adjusted R-squared	0.983238	S.D. dependent var	1.840258
S.E. of regression	0.238257	Akaike info criterion	0.012497
Sum squared resid	9.763856	Schwarz criterion	0.154406
Log likelihood	6.875311	Hannan-Quinn critter.	0.070035
F-statistic	1500.955	Durbin-Watson stat	0.170516
Prob(F-statistic)	0.000000		

Source: Author's Construct data from world bank data (selected years)

The general observation from the results is that there is negative significant relationship between world uncertainty and sustainable development which means that as the level

of world uncertainty increases, sustainable development may decrease. A 1% increase in world uncertainty will cause a decrease of 3.36% in sustainable development. Uncertainty has a negative impact on sustainable development in sub-Saharan Africa by hindering the ability of governments and businesses to plan and make long-term investments. For example, increased uncertainty in global markets can make it more difficult for businesses to access capital and investment, which can limit the ability of businesses to invest in sustainable development projects, such as renewable energy and infrastructure. Additionally, increased uncertainty can lead to decreased foreign aid and investment in Sub-Saharan Africa, which can limit the ability of governments to invest in sustainable development projects. This is particularly relevant for countries that rely heavily on foreign aid and investment to support their development efforts. Furthermore, political and economic instability in sub-Saharan Africa can exacerbate the negative effects of world uncertainty on sustainable development. Instability can lead to decreased foreign investment, decreased economic growth, and increased poverty, all of which can limit the ability of governments and businesses to invest in sustainable development projects.

Regression of World Uncertainties on Economic Growth

The third hypothesis which is world uncertainties on economic growth in Sub-Sahara Africa is tested using a panel estimated generalized least squares regression. The random effect model shows a p value which is less than 0.05, the alternative hypothesis is accepted and concluded that there is positive significant relationship between world uncertainty and economic growth. The fixed effect model also indicated a positive significant relationship between world uncertainty and economic growth. The random effects model provides the best estimates according to the Hausman test which has a p value greater than 0.05. the results from the random effect model indicates that world uncertainty has a positive explanatory power in predicting economic growth.

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C				
	5.322903	0.427170	12.46087	0.0000
COVID_19	-0.170892	0.130229	-1.312240	0.1901

FDI_IN	-0.027783	0.004246	-6.543574	0.0000
INF	-0.003540	0.001791	-1.976201	0.0487
GEXP	-0.010429	0.005210	-2.001461	0.0459
GREV	-0.003412	0.000449	-7.600533	0.0000
LEXDBT	0.858349	0.021607	39.72518	0.0000
SDGI	-0.008525	0.004609	-1.849509	0.0650

Weighted Statistics

R-squared	0.840123	Mean dependent var	16.95701
Adjusted R-squared	0.837757	S.D. dependent var	1.264494
S.E. of regression	0.514364	Sum squared resid	125.1418
F-statistic	355.0747	Durbin-Watson stat	0.250019
Prob(F-statistic)	0.000000		

Source: Author's Construct data from world bank data (selected years)

Correlated Random Effect – Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	15.354873	6	0.1077

Source: Author's Construct data from world bank data (selected years)

Regression of World Uncertainties on Economic Growth (Fixed Estimation)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.401775	0.436325	12.38017	0.0000
COVID_19	-0.169079	0.097537	-1.733475	0.0837
FDI_IN	-0.026747	0.004356	-6.139958	0.0000
INF	-0.003466	0.001839	-1.884640	0.0601
GEXP	-0.010800	0.005361	-2.014645	0.0445
GREV	-0.003389	0.000460	-7.374836	0.0000
LEXDBT	0.854217	0.022195	38.48771	0.0000
SDGI	-0.008294	0.004726	-1.754702	0.0800

R-squared	0.837217	Mean dependent var	23.51832
Adjusted R-squared	0.834808	S.D. dependent var	1.291364
S.E. of regression	0.524860	Akaike info criterion	1.565120
Sum squared resid	130.3009	Schwarz criterion	1.634573
Log likelihood	-368.4114	Hannan-Quinn critter.	1.592418
F-statistic	347.5303	Durbin-Watson stat	1.625492
Prob(F-statistic)	0.000000		

Source: Author's Construct data from world bank data (selected years)

The observation from the results shows a positive significant relationship between world uncertainty and economic growth in sub-Saharan Africa. A positive significant relationship between world uncertainty and economic growth in sub-Saharan Africa, means that an increase in world uncertainty is associated with an increase in economic growth in the region. This is likely due to increased foreign investment in the region during times of uncertainty as investors seek out less risky markets. For example, during times of economic uncertainty in developed countries, investors may seek higher returns in emerging markets like sub-Saharan Africa. This increased investment can drive economic growth in the region. Similarly, increased uncertainty in developed countries can lead to increased demand for African exports, which can also boost economic growth. However, it's important to note that high levels of uncertainty can also have negative effects on economic growth if it leads to a decrease in consumer and business confidence, or if it results in a disruption of trade.

5. Conclusion

The first objective of this study is to investigate the effect of fiscal policy macroeconomic variables on economic growth. Analysing fiscal policy macroeconomic variables on economic growth have received considerable attention in the literature. The results from the study showed that there is a significant negative relationship between fiscal policy macroeconomic variables on economic growth. it also showed that that apart from external debt, the other macroeconomic variables have a negative relationship with economic growth. This may be cause when government's spending is not targeted towards productive investments or if the increased borrowing to finance the spending leads to higher interest rates and inflation. The second objective is to assess the effects of world uncertainties on sustainable development and economic growth in sub-Saharan Africa. The first hypotheses that was develop for this objective is to assess the effects of world uncertainty on sustainable development.

The results showed that there is significant negative relationship between world uncertainty on sustainable development. Its negative impact is by hindering the ability of governments and businesses to plan and make long-term investments. It also leads to a decreased in foreign aid and investment in sub-Saharan Africa, which can limit the ability of governments to invest in sustainable development projects. The second hypotheses for this objective are to assess the effects of world uncertainty on economic growth. The results showed that there is significant positive relationship between world uncertainty on economic growth. It is likely due to increased foreign investment in the region during times of uncertainty as investors seek out less risky markets.

Recommendation

The findings of this paper have important policy implications for investors, policy makers, literature and governments. The findings of these results will add to the extent literature that exist on this research area. Governments and policy makers should pay close attention to fiscal policy variables as it has a negative impact on economic growth. All efforts should be made to ensure that a balance will be reach in terms of fiscal policy to ensure economic growth. Policy makers should also look at how world uncertainty affect sustainable development and structure policies that will be able to solve problems of world uncertainty. Government and policy makers should also pay key attention to world uncertainty even though results show that it has a positive effect on economic growth it can affect it negatively in the long run.

Recommendation for further research

Researchers can also research on specific country instead of Sub-Sahara Africa. They can also assess the relationship between fiscal policy and economic growth in different continents.

Researchers can also increase the number of world uncertainty and sustainable development variables that where not captured in this study.

Researchers can also study the short and long run effect of world uncertainty on economic as this will help to determine if it changes over time.

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