

The impact of foreign investment in financing sustainable development in Sub-Saharan African countries

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Abstract

This study outlines the features of financing investment development in Sub-Saharan African countries. Using the financial determinants of GDP, a model was developed based on the method of least squares employing data covering 2004–2018. It was revealed that a positive correlation exists between economic growth and bank loans as well as official development assistance. The results of the model indicate that bank loans and remittances significantly increase economic growth. However, both foreign direct investment and official development assistance (ODA) were found to be ineffective in promoting development, and this is attributable to its investment model (resource-seeking) and the conditions under ODA financing, respectively, in the region. Bank loans were found to be the most influential in promoting sustainable growth in the region. Hence, it is instructive that the reforms are needed and incentives are to be developed to improve the level of the region's financial and banking sector development and facilitate the sustainable socioeconomic development of these economies.

Keywords: Sub-Saharan Africa, funding, investment, foreign direct investment, special economic zones, grants, foreign capital flow, domestic resources, investment development.

JEL classification: E01, E22, G10, O11.

1. Introduction

Since gaining their independence, Sub-Saharan African nations' general economic situation has left a lot to be desired in terms of development. African

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countries have been facing acute joblessness and an exponential increase in poverty despite the several political, economic, and social interventions that have been embarked on by these economies. Despite the various measures or policies developed to alleviate poverty and unemployment in the region, lack of funding has remained the major problem, as the constant budget constraints in these countries do not allow for socio-economic development. For example, the African Development Bank (AfDB) has estimated the infrastructural investment in Africa to be around \$130–\$170 billion annually, and the gap in funding stands around \$67–\$107 billion (AfDB, 2018, p. 64). Thus, the inability to raise the necessary financial resources leads to low infrastructural development in African countries, which cuts across various sectors such as health, security, education, and administrative capacity, and this tends to undermine the continent's efforts to unleash its sustainable development potential.

Although African governments have been trying to take a cue from the successful policies of the Asian Tigers, this may not promote the necessary economic transformation required. This is due to overreliance on primary commodity production and export raw materials (without value addition), which undermines these development efforts (ACET, 2022). Thus, the need to change is caused by re-defining proactive solutions to the African problem through the African way. By African problem and African way, we mean the leaders must adopt indigenous ways of addressing the current challenges of the continent. Merely adopting and using strategies that have been successful in other nations but are not well tailored to the indigenous African contexts would not produce the intended outcomes for the economic development of these nations. Thus, leaders of these African countries need to comprehensively set out and define their development objectives that are tailored to the indigenous problems of the people in a way that can help root out the fundamental causes or obstacles to investment development in Africa.

To do so, the investment potential of these countries must clearly be assessed and defined with the help of their institutional and innovation capacity, political framework and stability, natural and human resources, financial-economic potential, and so on. Understanding the possibilities for investment and the obstacles would assist in developing the necessary investment development policies capable of solving the fast-expanding poverty gap and the huge unemployment bubble among the youth. Hence, using the African ways (defined measures backed by scientific research and empirical data) could help the countries tackle the development problems head-on and remedy the development situation. Although there has been a plethora of studies relating to the investment needs of Sub-Saharan Africa (Ekpo, 1992; Agyapong, 2014; Ekpo and Afangideh, 2011; Seck, 2020) no research, to the best of our knowledge, has been done to evaluate and identify the most promising funding mechanisms and sources suitable (effective) for the investment development needs of the region.

This study intends to highlight how a lack of funding impedes growth in the Sub-Saharan African region. The region's governments have a hard time attracting effective sources of financial instruments to support and enhance regional economic activity. This situation continues to expand the poverty and inequality gaps in the region, especially in these perilous times where the global pandemic (COVID-19), coupled with the political instability in Europe, has

undermined economic cooperation among countries. This article therefore seeks to determine the effective and suitable ways of financing development in African countries.

This paper consists of four sections: the literature review studies relevant literature in the field of financing investment development in African countries, while the results and discussion section describes the study's findings and its conclusion. It also summarises the research results and opens other relevant related fields for further studies.

2. Literature review

The economy of Sub-Saharan Africa is seen to be experiencing its slowest growth and greatest recession since the 1960s, as output declined by close to 2.5% in 2020 due to the COVID-19 pandemic (World Bank, 2021). The trend of economic growth in Sub-Saharan Africa is presented in Fig. 1. The slowdown of economic growth in these countries has derailed the successes gained through the implementation of previous development programs. It is estimated that the region is growing slightly higher than projected, thus making the effects of the pandemic milder than expected. The growth is attributed to the positive spill-over effects of the consolidation of world economic performance and the rise in oil and mineral prices. However, the pandemic has exacerbated budget constraints in the region, which has always remained the major challenge for Sub-Saharan African countries, by widening budget deficits and increasing government borrowings.

The growth of Sub-Saharan African countries has been fluctuating over the years since the 1960s (see Fig. 1). The region experienced its worst growth in 1983 and 2020. While the poor growth in 1983 was caused by high oil prices that led to the tightening of monetary policies in developed countries, the economic recession in 2020 obviously stemmed from the COVID-19 pandemic, which put many economic activities at a standstill, thereby slowing global economic growth.

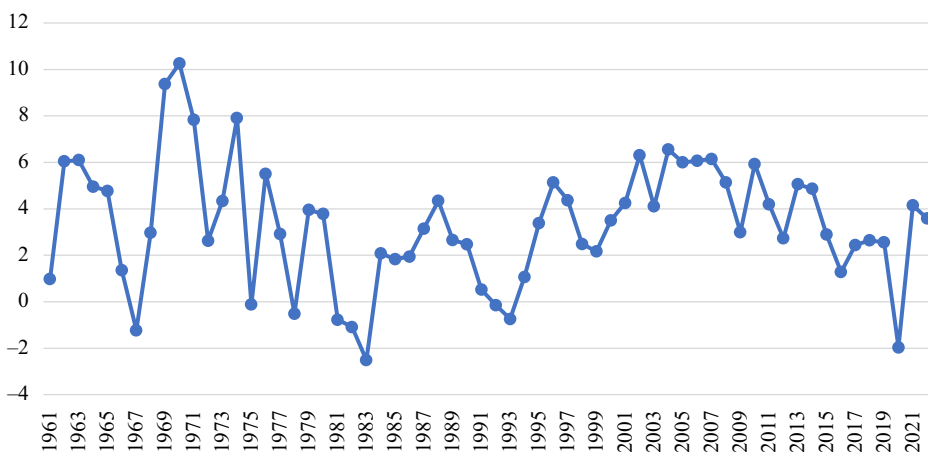


Fig. 1. Trend of growth rate of GDP in Sub-Saharan African countries, 1961–2022 (%).

Source: Compiled by the authors based on World Bank (2022).

The frequent fluctuation in growth rate has always been attributed to the high dependency on commodities and other raw materials, whose prices are volatile. Thus, African economies tend to do well when prices are stable, and vice versa. The overdependence on the mining and extraction sectors over the years has therefore not been able to solve Africa's fundamental socio-economic challenges, such as the high infrastructural gap, high unemployment rates, and wide poverty gap. The inability of the mining and extraction sector to propel or drive the needed socio-economic growth in African countries has made the industry outlive its usefulness in terms of investment development since the methods used in funding these activities, such as Production Sharing Contracts (PSC), are ineffective.

The PSC scheme of financing the mining and extraction industry tends to deprive the region of the core benefits from its natural resources due to the sharing ratios, which mostly favor the contractor more than the host country. Aside from that, the perceived corruption and mismanagement of resources accruing from the sector prevent or make it impossible to promote growth as public officials take advantage of the broken system or peculiar loopholes to siphon or divert government revenue. These corrupt activities affect these countries by constraining their budgets, thereby making it impossible to finance necessary projects, increasing the infrastructural gap, and exacerbating inequality in the region. Other major challenges causing the low performance of the extraction industry sector are: (1) the ecological problems as extraction companies contribute the highest emissions of carbon dioxide (CO₂); and (2) the high capital flight associated with the sector, which tends to affect the currency of the host countries, hence leading to a volatile exchange rate that consequently affects other sectors by stagnating their growth. The above-mentioned issues limit the mining industry's ability to drive investment development in the region, therefore the need for these countries to take pragmatic steps in developing their manufacturing and agro-industrial complexes.

However, the region could only develop these industries if it fosters a conducive investment environment and builds the necessary infrastructure to support the development of both domestic and international companies. Funding the needed investment development that can drive sustainable socio-economic growth through manufacturing and agricultural industries requires these economies to explore various financial instruments such as special economic zones, manufacturing and agricultural foreign direct investment (FDI), development finance institutions (DFIs), and so on, since the financial markets of these countries lack the capacity (are underdeveloped) to catalyze their economic development.

Since the debate on finance and economic growth is not new, there are several works (Schumpeter, 1954; Shaw, 1973; Lucas, 1988) on this topic, albeit with varied results and conclusions. It is worth mentioning that financial instruments play, as far as this paper is concerned, a crucial role in driving sustainable growth. Thus, access to financial instruments such as bank loans (Timsina and Pradhan, 2016), grants (Mah and Yoon, 2020), official development assistance (Tekin, 2012), and foreign direct investment (Ram and Zhang, 2002) can catalyze the sustainable development of African countries if they develop and implement policies that are tailored to indigenous issues as well as apply the resource-based view theory in their investment development programs. The relationship

between finance, particularly foreign investment instruments, and sustainable development has been extensively studied, although with varied findings. For instance, although FDI is found to promote growth through investment in human capital development, information and communication technology (ICT), and so on, some scholars argue that such investments tend to cause pollution to develop since FDI is mostly invested in the extraction and mining industries (Gholami et al., 2005). Also, it is believed that official development assistance (ODA), grants, and other sources of funding are essential financial instruments to catalyze the achievement of sustainable development,¹ hence the need to evaluate their level of effectiveness in the context of funding sustainable growth in Africa. The investment development policies will enable African countries to mobilize the necessary financial resources for their structural transformation, which is the gateway to sustainable development. Past evidence indicates the vital role of structural transformation in economic growth (Kuznets, 1966; Chenery and Syrquin, 1975). Structural transformation is the major driver that can reduce unemployment, eliminate poverty, and improve the wellbeing of people (Barrett et al., 2010). Hence, the roadmap to socioeconomic development that is sustainable is to improve the investment development.

3. Financing sustainable development: Theoretical framework

We conceptualize the achievement of investment potential and sustainable growth on the generation of effective financing mechanisms and expect the following: first, improved and effective internal resources support rapid sustainable growth, hence growth in developing countries; second, the flow of foreign capital complements the investment capital available for sustainable development and expedites the achievement of investment development; and finally, tailoring the investment needs to the indigenous challenges helps in rooting out certain development problems, thereby making it sustainable. Thus, to justify these three sets of expectations, we review existing literature to get insights on formulating our predictions on the role of foreign capital in funding sustainable development in general.

The role of finance in economic development cannot be overemphasized, as finance influences both the growth process and income distribution. Financial expansion can lead to higher income inequality as few individuals from the higher income class may have access to credits and so on. Thus, resilient capital buffers as well as ways of reducing explicit and implicit subsidies for bigger financial institutions are required to ensure a healthy income distribution (Cournede et al., 2015). However, the role of finance differs from country to country due to several factors, such as the size of the financial institutions and markets, the financial depth, the level of access, the degree of efficiency, and the level of stability (Čihák et al., 2012). In developing economies, banks are mostly predominant financial institutions, as financial markets are less developed and fragmented. Thus, bank lending remained one of the major sources of funding for both the household and private sectors in many developing countries (Group of Thirty, 2013). For instance, Beck et al. (2012) analyzed the impact

¹ FOCUS2030. <https://focus2030.org/Understanding-development-aid>

of bank lending in 45 developing states and concluded that enterprise credits rapidly reduce income inequality and positively influence sustainable growth. Kurronen (2015) analyzed the data of 12 resource-dependent countries and showed that overdependence on resources (commodities) tends to hinder the domestic banking sector; thus, a financial sector formed under such a narrative may have unfavorable business growth, thereby obstructing the diversification of the economy. Thus, developing countries, especially those in Sub-Saharan Africa, must take measures to improve their financial development, which Sahay et al. (2015) argue has the capacity to promote an economy's resilience and facilitate sustainable economic growth as it improves resource distribution, diversification, and risk management.

4. Internal revenue mobilization

The IMF (2020) estimates that the region has seen a sharp rise in the debt-to-GDP ratio, which stood at 70% in 2020, and this represents an average of 8 p.p. rise from the previous year. The excessive borrowing, which is currently sending debt distress signals, is caused by the inability of African economies to mobilize enough domestic revenue to fund their development goals. African countries are unable to raise funds or meet their revenue target for development due to several reasons: (1) the huge informal sector tends to reduce the tax net as many businesses are unregistered or semi-formal, thus making them avoid taxes; (2) corrupt activities of government officials and state enterprises through the diversion or inflation of contract prices tend to constrain their budgets. While informal businesses avoid regulations and tax payments due to perceived corruption and the opulent lifestyle of politicians, public officials tend to get rich faster and make a good living. This is to the detriment of a larger section of the population who live in abject poverty or are faced with chronic economic challenges like unemployment and low access to finance, thereby making some entrepreneurs avoid registering or under-registering their companies to avoid paying taxes or to pay them insufficiently; and (3) the use of tax havens or the avoidance of taxes by multinational corporations through shifting their profits to low-tax countries, debt shifting, patent reallocation, and transfer pricing. On the other hand, multinational businesses tend to evade taxes through debt shifting, patent reallocation, and transfer pricing, which all form the act of profit shifting from host countries to tax havens (countries with low taxes), thereby depriving developing countries, and for that matter African countries, of the full tax revenues from these businesses. Multinational firms, which make up most FDI in Africa, have been found to use tax havens to avoid paying taxes, and AfricaFocus (2019) posited that mineral and oil extraction businesses are particularly effective in avoiding taxes in Sub-Saharan Africa, and it was estimated that this accounted for overall losses of about 6% of African GDP annually.

Although the amount of revenue lost to the acts of tax evasion and tax avoidance by multinational companies varies based on various estimations, these amounts remain significant. For instance, whereas the OECD (2019) estimates that about \$50 billion is evaded annually, UNECA stated that about \$100 billion of tax revenues are avoided annually (Antonio, 2021). As a result, the evasion and

avoidance of taxes by both domestic and foreign corporations lower the amount of overall revenue mobilization in these countries, which consequently affects the financial capacity of governments in the provision of crucial services and infrastructure such as healthcare, education, roads, and so on. It is important to note that the overall amount of money lost to tax avoidance far exceeds the amount of foreign aid that African nations get. For example, whereas about \$44 billion is provided in foreign aid to these countries, the minimum amount per the estimations is \$50 billion. Thus, this reduces the capability of African economies to mobilize domestic revenue to meet the tax-to-GDP ratio of 15% recommended by the World Bank (2019). Hence, this exacerbates the budget constraints' challenges of most countries, which further pushes them to explore other means such as the issuance of bonds and the use of other forms of borrowing to finance their investment in human capital, healthcare, infrastructure, and so on.

5. External sources for financing investment development in Sub-Saharan African countries

Given the challenges encountered in generating funds internally for investment development in African states, these countries tend to attract external resources to finance their socio-economic objectives through various sources. Some of these sources include special economic zones (SEZs), FDI, remittances, development finance institutions (DFIs), grants and aids, etc. that come in the form of foreign capital to complement the domestic revenue at the disposal of governments.

5.1. Remittances

Empirical research on the impact of remittances on financial development and economic growth is inconclusive and contradictory, which complicates the role of remittances for developing nations. For example, Feeny et al. (2014) argued after studying small developing states, including those in Sub-Saharan Africa, that no correlation exists between remittances and financial development as well as economic development. Akonji and Wakili (2013), as well as Sobiech (2015), in their studies on Nigeria and 60 developing economies, respectively, argued that remittances offer an alternative means of funding investment development. The authors reveal that remittances prevent liquidity constraints, especially in economies with a well-functioning financial system, thereby promoting both financial development and economic growth.

Despite the opposing views on the role of remittances, however, it must be noted that the flow of these additional financial resources to developing countries boosts the overall access to finance for small businesses in the form of seed capital and positively affects household income (De Haas, 2007), which supports their purchasing power. This paper takes the position that remittances serve as a means of attracting extra foreign capital, and their flow drives investment potential as well as development by providing and improving household income and reducing poverty. This consequently supports businesses by boosting demand for their products and services. Sub-Saharan African countries are among the major beneficiaries of remittances (Fig. 2).

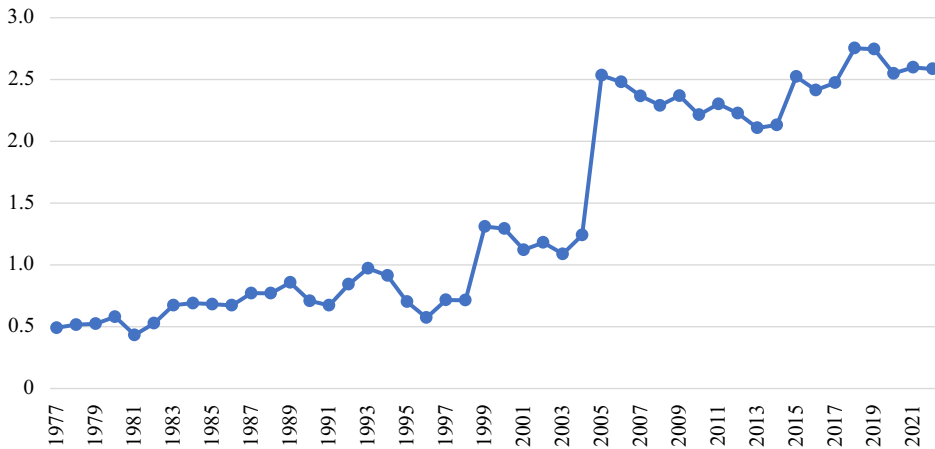


Fig. 2. The flow of remittances to Sub-Saharan African countries, 1977–2022 (% of GDP).

Source: Compiled by the authors based on World Bank (2022).

As seen in the Fig. 2, remittances flowing to Sub-Saharan Africa since 2005 have been above 2% of GDP. And this makes the flow of remittances highly significant in both the gross capital formation (investment potential) as well as the general economic development of these economies. The percentage of remittance flow stood close to 2.5 in 2020 after a decline of more than 13% from the value in 2019 because of the global economic slowdown caused by the COVID-19 pandemic.

Thus, it is worth mentioning that remittances are crucial to the region's investment development as they improve the investment potential through gross capital formation, support liquidity by boosting household income, and reduce poverty.

5.2. Foreign direct investments

Globalization, which has accelerated the integration of the world economy and markets, is causing the world's borders to vanish, particularly in terms of trade and business, which has simplified the transfer of capital from one country to another. This has put FDI at the center of research to assess its level of impact on host countries. Additionally, developing countries have higher expectations for the FDI flow, especially Sub-Saharan African governments, who see this financial instrument as a way of solving the infrastructural gap, low socio-economic development, huge unemployment, and high rates of poverty in their countries. Also, attracting FDI could facilitate technology transfer as well as other best practices that can drive the economic development of their economies. Despite the aggressive initiatives by developing countries to attract more FDI, scholars are yet to put to rest the debate on FDI's impact on sustainable development. Several studies have posited that FDI promotes development; for example, Joshua et al. (2020a) on South Africa, Joshua (2019) on Nigeria, Tsaurai (2018), Sunde (2017), and so on espoused that FDI induces and facilitates economic transformation, promotes stock markets, and supports economic growth. However, it was established in studies like Joshua et al. (2020b) on Nigeria that no causality exists between foreign direct investment flow and economic transformation,

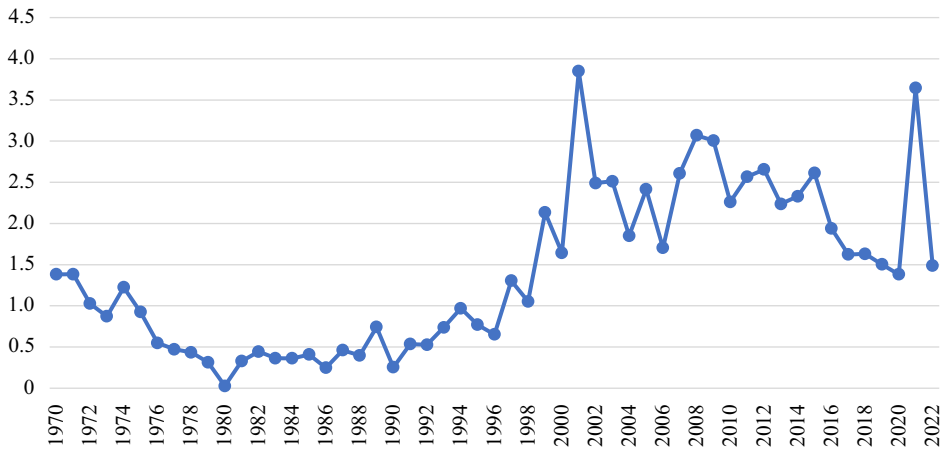


Fig. 3. The net FDI flow to Sub-Saharan African economies, 1970–2022 (% of GDP).

Source: Compiled by the authors based on World Bank (2022).

while Khobai et al. (2018) revealed in their study that FDI flow negatively affects the economic development of South Africa.

Despite the varying empirical evidence, however, it is important to note that FDI inflows to Sub-Saharan Africa play a crucial role in the development of investment given the massive infrastructure, limited access to finance, and weak domestic revenue accumulation in these nations. Thus, the flow of FDI tends to boost the overall liquidity and foreign exchange that directly and indirectly influence the African economy. The major controversy surrounding FDI is its volatility, relatively high capital flight, and environmental or ecological effects associated with mining and extraction multinational companies (MNCs). The flow of FDI to African countries is presented in Fig. 3.

The region experienced its highest-ever FDI inflows (% of GDP) in 2001, which can be attributed to the fact that several African governments had only started to clean up their economies, integrate processes, and open their economies to global markets. Based on Fig. 3, although it can be concluded that the flow of FDI fluctuated from year to year, these activities boosted general investment confidence in 2001, which led to the flow of foreign businesses to the region.

However, the scenario has changed since the year 2002, as FDI inflows declined by 55% in that year and the foreign direct investment flow (% of GDP) plummeted by about 128% in the year 2019 as compared to the value in the year 2001. Despite the relevance attached to the flow of FDI by African countries, however, Sub-Saharan Africa receives the least FDI compared to other developing regions; this is partially a result of the low level of regional market integration or fragmentation, the underdeveloped capital markets, political unrest, and other factors that affect the investment climate and raise the risks associated with investing in the region. However, the establishment of the African Continental Free Trade Area (AfCFTA) is expected to boost the level of regional integration by reducing market fragmentation, which would help make Sub-Saharan Africa attractive and friendly for investments, thus increasing the flow of FDI and other foreign capital. To achieve the investment development of the region, it would be

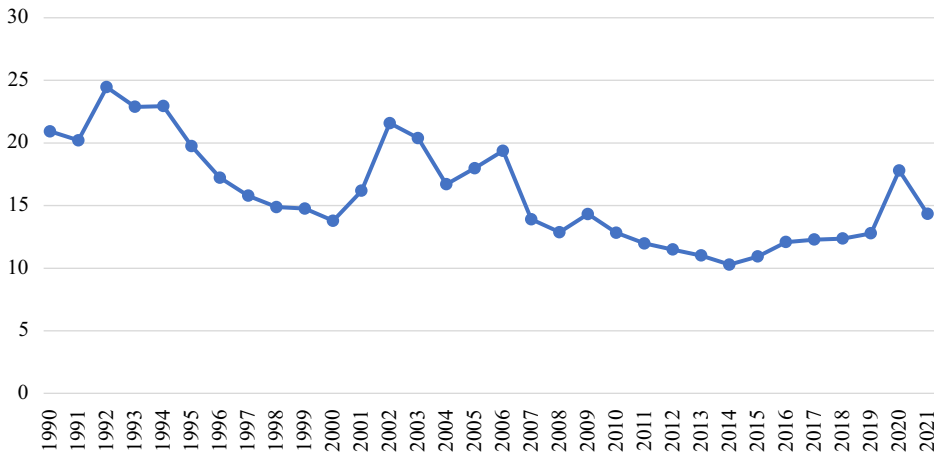


Fig. 4. The net flow of official development assistance (ODA) to Sub-Saharan Africa, 1981–2022 (% of GCF).

Source: Compiled by the authors based on World Bank (2022).

imperative for these economies to be more proactive in attracting large manufacturing and agricultural FDI, which, as far as this paper is concerned, fall in line with the social, political, and economic development goals of African countries. The flow of manufacturing and agricultural FDI, if tailored to the local economic settings, could catalyze the needed investment development capable of reducing the infrastructural deficits, creating jobs, providing employment, facilitating business growth, and alleviating poverty in the region.

5.3. Grants and financial aids

Grants and ODA are one of the major sources of foreign capital, and their role in financing development in several developing countries, particularly those in Africa, cannot be overemphasized. The flow of ODA to Sub-Saharan Africa is presented in Fig. 4. Although the amounts received by these countries are inconsistent and vary from year to year, as illustrated above, this capital leverages the budgets of Sub-Saharan African states. To determine how ODA affects economic development, scholars have formulated different models; however, the nexus of ODA and economic growth is still far from being settled.

For instance, Ji et al. (2014) posit after analyzing the data from 1996 to 2012 from 73 recipient economies that the extent of ODA's impact on economic growth is dependent on the recipient country's level of development. Kim and Jang (2012) found in their assessment of the role of ICT ODA in 51 African countries that although this type of capital tends to encourage growth in the short term, its level of influence decreases with time. Similarly, Moreira (2005) established that the effect of ODA on economic development diminishes in the long run. Some scholars also argue that the flow of foreign aid tends to make small countries largely rely on ODA, which affects their overall development. Mah and Yoon (2020) examined using data between 1994 and 2015 the impacts of grants on economic growth in Sub-Saharan Africa, and it was found that grants had a favorable and significant impact on economic growth.

Also, according to Blattman et al. (2016), recipient countries have a good return on investment for grants, and grants in the form of loans have a modest effect on growth (Banerjee, 2015). Nevertheless, no matter the amount received in the form of ODA, it is still relevant to developing countries, particularly Sub-Saharan economies, where there are a huge infrastructural gap and budget constraint in funding vital services like healthcare, education, etc. The major challenges associated with the flow of ODA include the lack of transparency in their disbursement as well as the conditions tied to foreign aid, which tend to influence the sovereignty of these recipient countries as these factors determine the level of ODA effect on development. Hence, there is a need to tailor this capital to the investment development goals of Sub-Saharan Africa by channeling it to the most rational industries with the capacity to promote sustainable economic growth to solve socio-economic challenges such as high unemployment and huge poverty gap faced by the region.

5.4. Foreign capital flow via special economic zones

The establishment of SEZs has facilitated the flow of capital from overseas, which tends to complement the existing investment potential for sustainable growth in host countries. Place-based policies such as SEZs, Free Zones, etc. have gained increased popularity in both developed and developing countries. While developed countries tend to adopt SEZs to target low-developed areas or communities, developing countries are adopting SEZs to boost their export diversification and attract foreign capital. However, the role of SEZs in causing the needed socio-economic development, especially in Sub-Saharan African countries, has not yet been determined. Some scholars have given various mechanisms through SEZs that could facilitate investment development in the host country, as SEZs are seen to be capable of improving employment, providing income, and boosting infrastructure growth in low-income nations.

For instance, it is estimated that Morocco witnessed an increased improvement in its industrial sector (as a result, SEZs), which contributed over 25% of the country's GDP in 2017, and this represents over 31% of the annual average between 1985 and 2016. Also, Rwanda, which had its first SEZ established in 2013, witnessed that SEZs contributed about 2% of its total employment in 2016 (Anass, 2021). The adoption of SEZs in Africa, which started in the 1970s in Mauritius, Senegal, and Ghana, gained prominence in the 1990s as African countries began to replicate the accelerated economic development of East Asian countries; thus, there are now more SEZs in the area because of this. There are currently thought to be 200 single business zones and 230 SEZs in 38 out of the 54 states on the continent, with Kenya, Nigeria, and Ethiopia recording the highest number of SEZs at about 61, 38, and 18, respectively. Currently, the SEZs in Africa consist of 1% logistics, 89% multi-activity, and only 10% of SEZs in Africa targets are industry-specific, but unfortunately, no innovation-driven SEZ exists on the continent.

The development SEZs in the region are faced with challenges such as poor regulatory frameworks, bad infrastructure network, inadequate development in the financial and banking sectors, inadequate collaboration with local businesses due to the large informal sector, and a lack of or poor policy directions on the generation, implementation, and development of SEZs, which make

them less effective and threaten their growth in the region. Sub-Saharan African countries could use SEZs to finance their investment development by adopting and tailoring best practices to their economic setting, such as those from China, where Wang (2013) established that FDI has had substantial knock-on impacts on local economies, wage growth, productivity, and exports. This could help the region achieve the needed sustainable development and ensure long-term socio-economic growth by reducing poverty and inequality through the creation of jobs and the provision of employment.

5.5. Development finance institutions

By investing in both public and private projects, DFIs contribute to the growth of the global economy because the resources they offer frequently go beyond what the market can provide and encourage more investment activity. The kinds of projects supported by DFIs create jobs, promote access to finance, and support the growth and adoption of green energy, which in total support socioeconomic development and poverty reduction. For instance, aside from the overall commitment of DFIs in the provision of the \$100 billion climate change finance under the Paris climate change agreement of 2015,² these institutions are increasingly becoming relevant in macro-financial terms and provide resources through private public partnerships in both developing countries and Sub-Saharan African economies.

The combined portfolio of European Development Finance Institutions (EDFIs) increased by over 204% between the period 2005 and 2014, that is, from €10.9 billion to €32.9 billion, and this is averagely about 13% annual growth. EDFIs usually invest in financial services and infrastructure, which are the two major areas that affect the growth of African nations through low access to finance as well as poor infrastructural development. For instance, more than €7.9 billion, or 24% of the whole portfolio, was invested in infrastructure, while almost €16.3 billion, or 50%, was invested in the financial industry. Furthermore, the total recent EDFI investments in Sub-Saharan nations have expanded three-fold, from €0.9 billion in 2005 to €2.3 billion in 2014. The EDFI investment formed about 5% of the FDI and 7% of aid in these African nations. The total investments of EDFIs represented 16% and 22% of FDI and aid from multilateral DFIs such as the International Finance Corporation, the European Investment Bank, and the African Development Bank. It must be noted that some DFIs are more structured towards the economies of Sub-Saharan African countries: for example, Swedfund and Sofid invested 64% and 58% of their overall portfolio in the region, and Norfund and Finnfund invested 47% and 44% in these countries (Massa et al., 2016).

The financial instruments analyzed above are major sources that could provide additional investments in what the domestic markets have to offer. However, the development of these financial tools encounters several challenges that tend to affect their overall effect on the economies of these nations. Some of the challenges that these financial instruments faced are summarized in Table 1.

² https://unfccc.int/sites/default/files/english_paris_agreement.pdf

Table 1

The problems of funding development in Sub-Saharan African countries.

Financial instrument	Challenges	Recommendations
Remittances	The state of the global economy directly affects this source of funding because when advanced economies' economies slow down, less money is sent abroad.	The countries must develop investment schemes that migrants could invest in to safeguard their welfare. By setting such schemes people in diaspora would be able to contribute directly to national development through the token they remit.
Foreign direct investments (FDI)	Ecological problems as most these investments are channelled to the extraction and mining industries, which represent the major source of CO ₂ emissions. Also, the unstable economic situation in these economies makes the FDI flow volatile.	Developing nations, especially Sub-Saharan economies must take the necessary steps to diversify their economies and reduce the dependency on natural resources to finance their budgets. Thus, governments must attract FDI to other industries to facilitate their development.
Special economic zones (SEZs)	Weak roadmaps and mechanisms used in attracting SEZs due to lack of national and strategic plans or these SEZs policies do not support local economic needs.	To ensure that investment development required to support the sustainable growth in their countries is achieved, governments need to tailor their investment and sustainable development goals to the local economy such that the benefits derived therein directly influence the local sector (through employment, poverty reduction, increased demand, etc.).
Development finance institutions (DFIs)	Misuse of public funds through corruption and bad governance tend to scare institutional investors. Some aids come with conditions on where and how these funds should be spent.	Development partners could implement strict control of how financial aids are used and could permit grants to be spent on areas that are deemed as economically viable for the development of the local sector.
Grants, official aid	Inconsistencies in terms of amount and time.	Early negotiations for grants without strict conditions.
Internal resource mobilization	Nonregistration of businesses leads to tax avoidance by informal firms and profit-shifting performed by MNCs causes poor revenue generation for investment development.	Sub-Saharan African countries could reduce the bureaucratic processes involved in registering businesses and develop workable incentives that would attract SMEs to the formal sector. Also, tax experts must be trained, and special regulations enacted to oversee the profit-shifting by MNCs.

Source: Compiled by the authors.

6. Empirical review and hypotheses

Despite mixed findings on the effect of finance on economic development, it has been extensively studied. The works of Schumpeter (1934, 1954), McKinnon (1973), Shaw (1973), and more recently Lucas (1988) can be used to trace the theoretical foundation of the function of bank lending. However, this controversial economic topic is still a research gap in Sub-Saharan African countries, as the ex-

act impact of the various sources of investment like FDI, official development assistance, grants, remittances, and bank lending remains undefined to assist in policymaking. For instance, Fosu (2013) found that growth and financial development are causally related in both directions. Similarly, Yazdi and Khanalizadeh (2013) argued that bidirectional causality exists between agricultural-induced growth and financial development. Beck et al. (2005) showed that bank loans to the private sector promote economic growth more than bank lending to the public sector. Timsina and Pradhan (2016) espoused in their study that the development of an efficient banking sector for bank lending promotes economic growth in Nepal. Thus, this leads to the first hypothesis (H1).

ODA, which is a major source of funding for developing nations each year, has a controversial reputation among academics because of its effects on recipient nations, mostly developing nations and particularly in Sub-Saharan African nations. Kim and Jang (2012) revealed that, based on data from 51 African countries between 1995 and 2010, it was found that ODA had a short-term positive influence on economic growth but a long-term negative impact. Hwang et al. (2016) found using panel analysis that the effect of ODA inflow on economic development was robust. Yoon (2018) examined the impact of Korean ODA on development in Asian, African, and South American economies, and a significant time lag was established, which indicates that the Korean ODA boosts economic growth in recipient economies. However, the results of the causality analysis in Tekin (2012) reveal there is no significant impact of ODA on economic growth. The impact of ODA, according to Burnside and Dollar (2000), is influenced by the policies of the recipient nation. This research examines the Sub-Saharan African economies to evaluate the hypothesis (H2).

It is well known that developing nations seek FDI as a means of raising additional funds as well as a strategic means of acquiring foreign know-how and expertise capable of accelerating their economies. This is done to reduce their enormous budget deficits. Thus, attracting additional foreign capital, know-how, and expertise should help reduce the low access to finance and improve production and employment. However, the real extent of the effect of FDI on economic development in general is dependent on country-specific features. FDI provide additional capital for the recipient economy, which increases its competitiveness in the global market (Ram and Zhang, 2002) and prepare the economy to access foreign capital (Dondeti and Mohanty, 2007). As a result, numerous empirical studies have been conducted to evaluate the impact of FDI on the economy. For example, Borensztein et al. (1998) revealed that FDI has a favorable impact on economic growth, although it has been suggested that the degree of that benefit depends on the level of human capital. Similarly, Alfaro (2003) posits that FDI affects economic growth differently depending on the beneficiary sector; hence, the third hypothesis (H3) was developed to assess the real effect of FDI on Sub-Saharan African economies.

A study by Sobiech (2015), which examined the impact of remittances in 60 developing economies, revealed that they offer alternative means of financing development. This study supports Akonji and Wakili (2013), who analyzed the role of remittances in Nigeria. The authors argued that remittances support households' income and savings, hence increasing their investment capacity and purchasing power. Thus, it is believed that remittances tend to reduce liquidity constraints as well as prevent challenges associated with foreign exchange in these countries.

The fourth hypothesis (H4) was included to help explain how remittances affect the economic growth of Sub-Saharan African nations. The following hypotheses were generated considering the empirical research mentioned above regarding the role of various financial instruments in their respective economies:

H1: The Sub-Saharan region's GDP growth is favorably impacted by the provision of bank loans. This suggests that a boost in financial development, particularly in access to financing, would make it easier for firms to expand, which in turn might boost economic activity overall, notably in the production of goods and services. Bank loans, whether in the form of personal or business loans, increase liquidity, which improves investment and production processes as well as employment in the economy, hence promoting economic growth.

H2: The expansion of the national economies of the Sub-Saharan countries is a result of the provision of ODA. The region frequently experiences budget deficits, which can hinder the progress of important infrastructure projects that could further the growth of these nations; thus, the receipt of funds from development partners should help change the narrative by narrowing the gap between financial and infrastructural deficits.

H3: The influx of FDI influences the economic growth of Sub-Saharan African nations in a beneficial way.

H4: The flow of remittances to Sub-Saharan African economies leads to economic growth. It is expected that the influx of foreign capital will increase the investment potential of these nations, improving the purchasing power of the residents of these economies as well as promoting savings and investment, which could help launch significant development initiatives capable of generating the essential sustained economic growth.

7. Data and methods

Secondary data on the financial factors of GDP, such as remittances, ODA, FDI, and bank loans (BL), were used for this study. Capital stock as well as real government credit claims were included as control variables. The databases of the World Bank and International Monetary Fund (IMF) on Sub-Saharan African nations for the years 2004 to 2018 were collected and analyzed. The descriptive data is presented in Table 2. The data was run, analyzed, and interpreted using

Table 2
Summary statistics.

Indicator	ODA	FDI	Remittances	Bank loan	Capital stock	Real gross government credit claims
Count	15.000000	15.000000	15.000000	15.000000	15.000000	15.000000
Mean	14.651690	2.303617	2.298756	46.951262	0.584646	6.238780
Std	2.313580	0.469953	0.339704	5.482829	0.014024	2.698863
Min	11.274214	1.630536	1.239341	40.649672	-14.693812	1.235416
25%	13.343944	1.897217	2.224704	41.876366	-2.639311	5.022617
50%	14.046135	2.330128	2.367877	45.927692	1.335598	5.547557
75%	15.372767	2.615523	2.482271	51.064323	5.170666	8.674155
Max	18.972085	3.071434	2.764065	56.121254	16.861358	11.674155

Source: Authors' calculations using data from World Bank (2022) and IMF Datasets (<https://data.imf.org/?sk=388DFA60-1D26-4ADE-B505-A05A558D9A42&slId=1479329132316>).

the least squares regression model to ascertain the correlation between the variables and the causal effects of remittances, ODA, FDI, and BL (which formed the independent variables) on the dependent variable, GDP growth. Extending the research by Alhassan et al. (2021) on the relationship between financial development and growth, which found that the remittance of foreign capital supplements countries' investment capacity and increases enterprises' access to financing, the data for the various variables were expressed in current US dollars. The authors concluded that financial development enhances a country's investment capacity, which benefits economic growth (Alhassan et al., 2021).

Linear regression equation below was developed to examine the research hypotheses by specifically defining:

$$y_i = \alpha_0 + \alpha_1 G_i + \alpha_2 FDI_i + \alpha_3 BL_i + \alpha_4 ODA_i + \varepsilon_i, \quad (1)$$

where y denotes GDP growth rate, whereas G , FDI , BL , and ODA represent grants, foreign direct investment, bank loans, and official development assistance, respectively. All the variables are measured in U.S. dollars.

The analysis of effective mechanisms for funding sustainable development in Africa was based on resource-based view (RBV) theory. RBV theory indicates that an institution can gain a competitive advantage (Barney, 1991; Barney and Clark, 2007) over others if it has a unique way of doing things, which could involve up-to-date and sustainable means of funding economic growth. This makes their strategies of development more unique and valuable as they are tailored to their indigenous problems, which could include political, environmental, innovation, human, and investment policies. The role of investors is important in deciding how an institution or country acts. When an institution or a country is recognized and accepted by investors, it effortlessly gains more investment confidence and is likely to get access to both domestic and foreign capital. The resources of the country or institution are all the things (both tangible and intangible) that are available or at their disposal. Thus, African countries can leverage their abundant mineral resources, human capital, and others to become very competitive on the global financial market, which enables countries in the region to finance their investment development. By investment development, we mean the establishment and improvement in areas such as infrastructure, innovation, education, and so on. These elements can boost the sustainable development goals of eradicating child labor, reducing poverty, providing employment, promoting gender equality, etc. Chen et al. (2005) posit that RBV emphasizes the involvement of resources like natural resources as well as human capital to adjust to various challenges effectively and with great results.

8. Results and discussion

To test the hypotheses, the dataset described in the data and methodology section was examined using a linear equation regression model developed based on the method of least squares, which describes the solution by reducing the sum of the deviations or errors of a set of data. Pearson's correlation was used to assess the interdependence between the variables, and the results thereof are shown in Table 3. The Pearson's correlation results below demonstrate that a high

association (beyond 0.7) exists between GDP and bank loans only, and the correlation between ODA and capital stock is 0.49 and 0.5, respectively. The rest of the independent variables as well as real government claims have negative correlations except FDI, which recorded a positive correlation but as low as 0.1. It must be noted that remittances and bank loans have a negative correlation, which indicates that as remittances increase, bank loans, especially for consumers and small businesses, will decline, and vice versa. Also, it is assumed that capital stock and FDI do not have a positive correlation because the nature of FDI (natural resource seeking) makes it irreproducible.

The results above indicate a strong relationship between the independent and dependent variables of the model. The multicollinearity statistics and goodness of fit test are presented in Table 4. It is worth mentioning that in cases where there are less trustworthy probabilities based on the effects of the variables, multicollinearity statistics reveal the level of confidence and could enhance the confidence intervals.

As can be seen in the goodness of fit section of Table 3, the *R*-squared and adjusted *R*-squared recorded 0.862 and 0.758, respectively, and this indicates

Table 3
Pearson's correlation results.

	ODA	FDI	Remittances	Bank loan	Capital stock	Real gross government credit claims	GDP growth
ODA	1.00						
FDI	-0.24	1.00					
Remittances	-0.14	0.02	1.00				
Bank loan	0.81***	0.11	-0.21	1.00			
Capital stock	0.48	-0.47	0.10	0.34	1.00		
Real gross government credit claims	0.24	-0.68	-0.27	-0.19	0.05	1.00	
GDP growth	0.49*	0.06	0.46*	0.74***	0.50**	-0.19	1.00

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Authors' calculations.

Table 4
Multicollinearity statistics and goodness of fit test.

Indicator	Bank loans (BL)	ODA	FDI	Remittance
Tolerance	0.143	0.311	0.716	0.153
VIF	6.993	3.215	1.398	6.531

Goodness of fit test

Statistic	Training set	Statistic	Training set
Observations	15	DW	1.826
Sum of weights	15	Cp	7.000
DF	8	AIC	-0.857
<i>R</i> -squared	0.862	SBC	4.099
Adjusted <i>R</i> -squared	0.758	PC	0.381
MSE	0.696	Q ²	46.674
RMSE	0.834	Press	-0.160
MAPE	14.379		

Source: Authors' calculations.

the level of reliability of the model. The results of the analysis of variations, which indicate the overall level of reliability and suitability of the model, are presented in Table 5.

As can be seen from Table 5, the model's p -value is 0.004, which supports its degree of appropriateness, reliability, and importance. Considering the variables and dataset used in this paper, it demonstrates that the model findings established (as given in Table 6) and inferences drawn therefrom are trustworthy and appropriate.

Based on the model results in Table 5, the following conclusion can be drawn. (1) Given the R -squared value of 86.2% of the variability of the GDP variable is explained by the 4 explanatory and the 2 control variables. (2) Given the p -value of the F -statistic computed in the analysis of variations table, and given the significance level of 5%, the information brought by the explanatory variables is significantly better than the results that may be brought by using a basic mean. (3) Based on the results, the variables bank loans (BL), remittances as well as capital stock provide important information to explain the variability of the dependent variable (GDP). (4) Per results of the sum of squares, the ODA,

Table 5
Analysis of variations.

Source	DF	Sum of squares	Mean squares	F	$Pr > F$
Model	6	34.664	5.777	8.296	0.004
Error	8	5.571	0.696		
Correct. Total	14	40.235			

Source: Authors' calculations.

Table 6
Model parameters.

Variable	coef	Std err.	t	$P > t $	[0.025	0.925]
const	-0.8873	4.678	-0.190	0.854	-11.675	9.900
ODA	-0.4274	0.255	-1.677	0.132	-1.015	0.160
FDI	0.6967	0.851	0.819	0.437	-1.266	2.659
Remittances	-1.8841	0.776	-2.427	0.041	-3.674	-0.094
Bank loan	0.2901	0.104	2.791	0.024	0.050	0.530
Capital Stock	0.1228	0.041	2.973	0.018	0.028	0.218
Real gross government credit claims	0.0817	0.171	0.479	0.645	-0.312	0.475

OLS regression results

Dep. Variable	GDP growth	R -squared	0.862
Model	OLS	Adj. R -squared	0.758
Time	23:06:26	F -statistics	8.296
No. Observations	15	Log-likelihood	-13.855
Df Residual	8	AIC	41.710
Df Model	6	BIC	46.670
Covariance Type	Nonrobust		
Omnibus	1.334	Durbin-Watson	1.826
Prob (Omnibus)	0.513	Jarque-Bera (JB)	0.808
Skew	0.552	Prob (JB)	0.668
Kurtosis	2.726	Cond. No.	1.10e+03

Source: Authors' calculations.

FDI and real government credit claims variables do not significantly contribute to the understanding of the variability of the GDP dependent variable.

Based on the model results presented in Table 6, the following conclusion can be drawn. (1) Given the *R*-squared value of 86.2% of the variability of the GDP variable is explained by the 4 explanatory and the 2 control variables. (2) Given the *p*-value of the *F*-statistic computed in the analysis of variations table, and given the significance level of 5%, the information brought by the explanatory variables is significantly better than the results that may be brought by using a basic mean. (3) Based on the results, the variables BL, remittances as well as capital stock provide important information to explain the variability of the dependent variable (*GDP*); and 4) Per results of the sum of squares, ODA, FDI and real government credit claims variables do not significantly contribute to the understanding of the variability of the GDP dependent variable.

Therefore, it is proven that among the independent variables, FDI and ODA do not provide enough information to explain their impact on the economic development of Sub-Saharan African nations. However, bank loans and remittances play a significant and influential role in fostering the sustainable growth of Sub-Saharan nations.

The financial sector, particularly the banking sector, plays a significant role in the sustainable development of Sub-Saharan African economies through various mechanisms, as it represents the heart where individual savings are converted into investments in the form of loans to either consumers or the private sector. Bank loans to individuals increase their purchasing power, thereby raising their demand for products and services that consequently promote business activities. Contrarily, loans to the private sector encourage investment and business expansion. To increase the production and consumption of products and services (demand and supply), as well as their overall supply, bank loans are essential. This directly increases the GDP of the economy. An increase in demand for products as well as investments may translate into a rise in employment, which remains one of the major ways of reducing poverty. Besides, businesses tend to engage in innovation and development by developing new technologies for their growth, and this requires large investments, of which bank loans and other forms of lending remain the most important. Thus, bank loans promote sustainable development in Sub-Saharan African economies by increasing the purchasing power of consumers and the investment potential of firms, and this supports an earlier study on the same region by Ntarmah et al. (2022).

Although external capital like remittances can sometimes be used as seed capital for startups and businesses, aside from that, a higher flow of remittances could increase the purchasing power of residents, and this may foster economic development through demand-push growth. Thus, these activities inject finance into the economy and also create jobs for the populace, which helps reduce unemployment and related socioeconomic challenges. This supports the findings of De Haas (2007), Akonji and Wakili (2013), and Sobiech (2015) that remittances promote development through various channels like improving purchasing power, providing business capital, and so on.

The nature of FDI in the region, on the other hand, prevents it from promoting economic progress in Sub-Saharan Africa. The FDI companies in the region are mostly natural-resource-seeking, as they tend to engage in mining activities

and so on; thus, their activities are not well integrated into local development projects, unlike other forms of FDI (market-inducing and efficiency-inducing) that engage in the production of competitive products for export. Aside from that, FDI companies not only expatriate their profits and earnings, which puts pressure on the local currency of these economies, but they also engage in tax evasion activities such as profit shifting, which prevents Sub-Saharan African countries from getting the full benefits of this mode of financing development. Although Sub-Saharan African countries are faced with rising unemployment, given the level of technical expertise required by these natural-resource-seeking FDI companies, they create very few jobs in these countries. The results of the model herein confirm this conclusion, which is that FDI influx to the region does not create the desired spill-over effect needed to promote sustainable economic development. This deviates from the findings of Yusuf et al. (2020) in their study of the role of FDI in West African countries.

9. Conclusion

The role of external sources of finance, including foreign direct investment, official development assistance, grants, and bank loans (which were used as a stand-in for internal resources), on investment development is examined in this paper, with a focus on their effects on the long-term sustainability of economic growth in Sub-Saharan African nations. The correlation results demonstrate that a high association (beyond 0.7) exists between GDP and bank loans only, and the correlation between ODA and capital stock is 0.49 and 0.5, respectively. The rest of the independent variables as well as real government claims have negative correlations except FDI, which recorded a positive correlation but as low as 0.1. It must be noted that remittances and bank loans have a negative correlation, which indicates that as remittances increase, bank loans, especially for consumers and small businesses, will decline, and vice versa. It was revealed that a positive correlation exists between economic growth and bank loans as well as official development assistance. The results of the model indicate that bank loans and remittances significantly increase economic growth. However, both FDI and ODA were found to be ineffective in promoting development, and this is attributable to its investment model (resource-seeking) and the conditions under ODA financing, respectively, in the region. Bank loans were found to be the most influential in promoting sustainable growth in the region. Foreign direct investment and economic growth in Sub-Saharan African countries have not been linked, despite bank loans and official development assistance being determined to have a major positive causal effect on sustainable development. Since this type of capital is primarily channeled to the mining and extraction industries, there may be no direct causal relationship between foreign direct investment and economic development. However, in previous research by Alhassanz (2021), using partial least squares (PLS) to analyze data for the years 2011–2017, it was discovered that there was a strong correlation between FDI and economic growth. It is important to note that bank loans were identified as the region's most significant source of finance for sustainable growth.

However, these nations' banking and financial sectors are not strong enough to encourage the necessary investment growth and support the region's sustain-

able economic growth. Thus, this paper recommends that policies tailored to local economies be developed to stimulate and promote the banking industry with fintech, such as the widely used mobile money banking and payment system in the area. Policymakers should implement practical growth strategies. For instance, a study by Alhassan et al. (2021) posits that the official banking system might incorporate mobile money operations, which could help residents who don't have bank accounts combine their resources for investment purposes. As a result, these measures could enhance both access to, and the level of, financial inclusion, which is now one of the main challenges for regional firms. This study encounters a few limitations, such as limited access to comprehensive data and the diversity of foreign investments. Thus, this paper calls for further discussion of foreign investments like ODA, FDI, etc. and their impact on promoting sustainable development in Sub-Saharan Africa and generally in other developing economies. Research in this area can help in revealing invaluable insights, identifying effective strategies for economic growth, and ensuring long-term sustainability.

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