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#### Article

# The impact of foreign financial inflows on the economic growth of sub-Saharan African countries: An empirical approach

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### GENERAL & APPLIED ECONOMICS | RESEARCH ARTICLE

# The impact of foreign financial inflows on the economic growth of sub-Saharan African countries: An empirical approach

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economics & finance

Belesity Bekalu Ayenew<sup>1</sup>\*

Abstract: The impact of foreign financial inflows on the economic growth of recipient countries is a controversial issue in many empirical studies. The majority of the previous studies use one variable as an indicator of foreign financial inflows: they fail to incorporate many variables. The study fills this gap by using remittance inflows, foreign direct investment, official development assistance, and external debt as an indicator of foreign financial inflows. This study investigates the impact of foreign financial inflows on the economic growth of 31 sub-Saharan African countries over the period 2009 to 2019. The study employed a two-step system GMM due to its practical advantage on the dynamic panel data set. The finding shows that only foreign direct investment has a significant and positive contribution to economic growth. Official development assistance and external debt affect economic growth negatively, and they are statistically significant. Remittance inflow affects economic growth negatively, but it is statistically insignificant. The study suggests that policymakers should work on the way that remittance inflow promotes investment and reduce dependency on official development assistance. In addition, external borrowing should be used for productive purposes.

#### Subjects: Economics and Development; Economics; Finance

Keywords: Foreign direct investment; economic growth; remittance; official development assistance; external debt; sub-Saharan Africa

JEL classification: F02; F15; F24; F35; F41; O55

#### 1. Introduction

The role of saving in achieving improved economic growth is critical, as more saving leads to increased investment and output (Romer, 1986; Solow, 1956). According to Bacha (1990), developing countries may have three gaps: saving-investment, foreign exchange, and fiscal. As a result, these countries expose their economies to an external source of finance to bridge the gap. Migrant remittances are a steadily growing external source of capital for developing countries. Remittance has significant direct and indirect macroeconomic effects on the recipient countries (Rao & Hassan, 2012). Foreign direct investment is also an important external source of capital due to technology spillovers, assists human capital formation, contributes to international trade integration, helps create a more competitive business environment, and enhances enterprise development (OECD, 2002). In addition, developing countries received a significant amount of official development assistance from developed countries to fill the saving-investment gap, foreign exchange gap, and fiscal gap. If no other options are available, nations turn to external borrowing to bridge the gap between government spending and revenue.





## Figure 1. Financial inflows to SSA (2009–2019).

Source: world development indicator database, World Bank<sup>1</sup>



Over the study period (2009–2019), Figure 1 depicts the trend of GDP per capita growth, foreign direct investment, remittance inflows, official development assistance, and external debt in Sub-Saharan Africa (SSA). Since 2014, remittance inflows, official development assistance, and external debt to SSA countries have increased, but foreign direct investment inflow shows a reduction. GDP per capita growth rate shows higher fluctuation from year to year, and it becomes negative in 2016, 2017, and 2019. Even though sub-Sahara African countries received significant external finance, their economic performance is not improved as expected. This outcome motivated the researcher to conduct this study in sub-Saharan African countries.

The impact of foreign financial inflows on the economic growth of the recipient country is a controversial issue in many empirical studies. Abduvaliev and Bustillo (2019), Adjei et al. (2020), Depken et al. (2021), and Olayungbo and Quadri (2019) made a study on the role of remittance inflow on economic growth. Their finding concludes that the increase in remittance inflow improves the economic growth of the recipient country. While the result of Chami et al. (2003) and Sutradhar (2020) shows that remittance inflow retards economic growth. Jugurnath et al. (2016), Nguyen (2020), Dinh et al. (2019), and Joshua et al. (2021) conducted a study on the effect of foreign direct investment on economic growth, and the finding shows foreign direct investment boosts economic growth. The result of Katerina et al. (2004) and Louzi and Abadi (2011), on the other hand, suggest that foreign direct investment and economic growth have an insignificant relationship.

Regarding the effect of official development assistance on economic growth, Yiew and Lau (2018), Kargbo and Sen (2014), and Moolio and Kong (2016) made a study. Their finding shows the increase in official development assistance improves the economic growth of the recipient countries. But according to Adedokun (2017), Sothan (2017), and Yahyaoui and Bouchoucha (2021), the increase in official development assistance retards the economic growth of the recipient countries. Joshua et al. (2020) and Jayaraman and Lau (2009) conducted a study on the effect of external debt on economic growth. Their finding shows external debt improves economic growth. In contrast, the result of Kharusi and Ada (2018), Senadza et al. (2018), and Onakoya and Ogunade (2017) indicate that the increase in external debt hurts economic growth.

To investigate the impact of foreign financial inflow on the economic growth of the recipient country, the majority of previous empirical studies like Kargbo and Sen (2014), Adedokun (2017), Dinh et al. (2019), Adjei et al. (2020), and Kharusi and Ada (2018) focus on a single indicator variable for inflows. This study employed four indicators as proxies for foreign financial inflows to fill the gap in the literature. The inclusion of more variables helps to give a complete picture of the

impact of foreign financial inflows on the economy of the recipient countries. Therefore, this study investigates the impact of foreign financial inflows on the economic growth of sub-Saharan African countries by using remittance inflows, foreign direct investment, official development assistance, and external debt as a proxy of financial inflows. The study used balanced panel data of 31 sub-Saharan African countries by covering a time from 2009 to 2019. This study employed a two-step system GMM estimator due to its practical advantage for dynamic panel data studies.

The remainder of the paper is structured as follows. Section two is the literature review part, and section three is the methodology part. In section four, there is a discussion on the estimated results. Finally, section five includes the conclusion and recommendations.

#### 2. Literature review

External finances are significant for the domestic economy to fill the saving, foreign exchange, and fiscal gap (Bacha, 1990). Inflows in the form of foreign direct investment can benefit the domestic economy through technology spillovers, human capital development, international trade integration, and it creates a competitive environment (OECD, 2002). According to Addison and Tarp (2014), foreign aid can improve investment through infrastructural facility, and it improves human capital through healthcare, education, safe water, and sanitation. Remittance inflow can promote investment, and it increases consumption which has a multiplier effect on aggregate demand and output (Pradhan et al., 2008). External borrowing is also seen as capital helping to fill the financing gap in developing countries to promote growth (Eaton, 1992).

However, the foreign financial inflow may not always have a beneficial effect. Foreign direct investment may crowd out domestic investment (Markusen & Venables, 1999). Foreign aid may create a dependency mindset, and it may not be successful due to the mismanagement of the recipient countries (Niyonkuru, 2016). Remittance inflow may create moral hazard problems, which hurt the labor force participation rate (Chami et al., 2003). External debt may also hurt economic growth because of the debt service obligation (Krugman, 1988).

Different scholars conducted various empirical investigations in various countries. However, the results were mixed. Jugurnath et al. (2016) conducted a study on the relationship between foreign direct investment and economic growth in sub-Saharan African countries from 2008 to 2014. By employing static and dynamic panel estimation techniques, their finding concludes that foreign direct investment improves the economic growth of SSA countries. Nguyen (2020) found a positive and significant relationship between foreign direct investment and economic growth in Vietnam from 1997 to 2018. Dinh et al. (2019) conducted a study in 30 developing countries from 2000 to 2014 by employing Vector Error Correction Model (VECM) and Fully Modified Ordinary Least Square (FMOLS). Their long-run result concludes that foreign direct investment boosts economic growth, but in the short run, it retards economic growth. Using the Autoregressive Distributed Lag (ARDL) approach for data covering 1990–2018, Joshua et al. (2021) made a study in sub-Saharan African countries. Their finding shows foreign direct investment plays a significant role in the economic growth of sub-Saharan African countries.

However, the findings of Katerina et al. (2004) and Louzi and Abadi (2011) demonstrate that foreign direct investment and economic development have an insignificant relationship. Katerina et al. (2004) make a study on foreign direct investment and economic growth in transition economies. According to their findings, the relationship between foreign direct investment and economic growth is insignificant. Louzi and Abadi (2011) examined the impact of foreign direct investment on economic growth in Jordan over the period 1990 to 2009. Their finding shows foreign direct investment does not exert an independent influence on economic growth.

Previous studies on the impact of official development assistance are also debatable. Yiew and Lau (2018) investigate the effect of official development assistance on economic growth using 95 developing countries by employing pooled OLS, random effect, and fixed effect. Their findings show

that while foreign aid initially hurts economic growth, it eventually has a favorable impact. Kargbo and Sen (2014) make a study in Sierra Leone over the period 1970 to 2007 by employing a bound test approach. Their result concludes that foreign aid has a positive contribution to the pro-poor growth in the country. Moolio and Kong (2016) conducted a study in the Association of Southeast Asian Nations (ASEAN) region by taking four countries as a sample over the period 1997 to 2014. Their FMOLS and Dynamic OLS (DOLS) result concludes that foreign aid has a favorable impact on economic growth.

Adedokun (2017), on the other hand, uses the Generalized Method of Moments (GMM) approach to conduct a study in Sub-Saharan African countries from 1996 to 2012. The result shows foreign aid has an insignificant negative relationship with economic growth. Governance and size of foreign aid are essential to the effectiveness of foreign aid in sub-Saharan African countries. Sothan (2017) discovered, using the ARDL bound testing approach, that foreign aid has a beneficial impact on economic growth only in the short term in Cambodia between 1980 and 2014. In the long-run, foreign aid hurts Cambodia's economic growth. Yahyaoui and Bouchoucha (2021) conducted a study in 48 African countries from 1996 to 2014 by applying DOLS and FMOLS techniques. Their findings suggest that foreign aid has a detrimental impact on economic growth, but this effect is alleviated when interacting with institutional quality.

Abduvaliev and Bustillo (2019) examined the impact of remittance on economic growth and poverty reduction in Commonwealth of Independent States (CIS) countries over periods 1998–2016. Their finding shows remittance has a positive and significant effect on economic growth. By employing VECM and GMM, Adjei et al. (2020) conducted a study in West Africa over periods 2004–2018. Their finding concludes that remittance inflow improves the economic growth of sampled countries. In Croatia, Depken et al. (2021) investigated the causality between foreign remittances and Croatia's economic growth. The finding demonstrates a causal link between remittance and economic growth, indicating that remittances play an important role in Croatia's economic growth. Olayungbo and Quadri (2019) found the same conclusion in a study conducted in 20 sub-Saharan African countries from 2000 to 2015. According to their PMG results, remittance has a beneficial and considerable effect on economic growth in both the short and long run.

In contrast with the positive effect of remittance, Chami et al. (2003) conducted a study by taking 113 countries from 1970 to 1998. Their finding shows remittance hurts economic growth due to moral hazard problems. Sutradhar (2020) investigates the impact of remittance on economic growth in Bangladesh, India, and Sri Lanka from 1977 to 2016. The findings reveal that remittances hurt the economic growth of the investigated countries using pooled OLS, fixed effect, random effect, and dummy variable interaction models. Oshota and Badejo (2014) also perform a study in Nigeria. Their short-run result concludes that remittance inflow retards economic growth.

The impact of external debt on economic growth is also another controversial issue. By employing the ARDL approach, Joshua et al. (2020) conducted a study in South Africa from 1981 to 2018. Their finding shows that external debt has a positive impact on economic growth. Jayaraman and Lau (2009) also made a study in six pacific island countries from 1988 to 2004 to investigate whether external debt improves economic growth or not. Their FMOLS results reveal that external debt has a favorable impact on economic growth and is statistically significant.

However, other's finding shows that external debt hurts economic growth. Kharusi and Ada (2018) examined the relationship between external debt and economic growth in Oman for the period 1990–2015. Using the ARDL method, they found that foreign debt hurts economic growth and it is statistically significant. Senadza et al. (2018) investigated the effect of external debt on economic growth in sub-Saharan African countries by using a panel of 39 countries over the period 1990–2013. Their GMM output shows external debt retards economic growth. Onakoya and Ogunade (2017) used the ARDL approach to conduct a study in Nigeria from 1981 to 2014.

According to their findings, external debt has a detrimental and significant influence both in the short and long run. The above empirical studies used foreign direct investment, remittance, official development assistance, and external debt separately, and the results are mixed. This study investigates the impact of foreign financial inflow on economic growth by considering all four types.

#### 3. Methodology

#### 3.1. Data type and source

The study used balanced panel data to investigate the impact of foreign financial inflow on economic growth. The study employed GDP per capita growth rate as a dependent variable, with remittance inflow, foreign direct investment, official development assistance, external debt, gross fixed capital formation, inflation, trade openness, and population growth serving as independent variables. The source of the annual data for all variables was the world development indicator 2021 database, World Bank. The study takes 31 SSA countries by covering a period from 2009 to 2019. The study selected these countries based on the availability of necessary data. Thus, countries included in this study are; Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Democratic Republic of Congo, Côte d'Ivoire, Eswatini, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Sudan, Tanzania, Togo, Uganda, and Zambia.

#### 3.2. Theoretical framework, model specification, and estimation technique

According to Romer (1986) and Solow (1956), saving plays a critical role in economic growth since more saving leads to improve investment and output. The theoretical framework for this study is based on the two-gap model as discussed by Todaro and Smith (2012) and the three-gap model as discussed by Bacha (1990). The primary premise of the two-gap model is that most developing countries either lack domestic savings to match investment opportunities or lack foreign exchange to finance needed capital and intermediate goods imports. The national income identity in the case of an open economy is given as:

$$Y = C + I + G + X - M \tag{1}$$

Where Y is the national income, C is consumption, I is investment, G is government expenditure, X is export, and M is import. By rearranging equation (1);

$$I - S = M - X \tag{2}$$

The left-hand side of equation (2) shows the saving gap, and the right-hand side shows the foreign exchange gap. Bacha (1990) also discussed the three-gap model by including the fiscal gap. The government revenue may not be sufficient to cover its expenditure. If the domestic resources are not enough to fulfill the needed investment and import capital and intermediate goods, external finance plays a significant role in the domestic economy (Bacha, 1990; Todaro & Smith, 2012). Therefore, this study includes four types of external finance. These are; foreign direct investment, remittance inflows, official development assistance, and external debt.

The study used the GDP per capita growth rate as a measure of economic growth. As an indicator of foreign financial inflows, the study employed four variables; foreign direct investment, remittance inflows, foreign aid, and external debt. The study used gross fixed capital formation, inflation, trade openness, and population growth as control variables. These variables are used by most previous empirical studies, such as Olayungbo and Quadri (2019), Adedokun (2017), and Yahyaoui and Bouchoucha (2021). Table 1 shows description of variables and their measurement. The model to estimate the effect of foreign financial inflows on economic growth is specified as;

$$GDPPGR_{it} = \beta_0 + \beta_1 GDPPGR_{it-1} + \beta_2 REM_{it} + \beta_3 FDI_{it} + \beta_4 ODA_{it} + \beta_5 ED_{it} + \beta_6 GFCF_{it} + \beta_7 INF_{it} + \beta_8 TOP_{it} + \beta_9 POP_{it} + \varepsilon_{it}$$
(3)

Where the subscript i and t stands for the country and time, respectively. GDPPGR is GDP per capita growth rate, GDPPGR<sub>it-1</sub> is the lagged GDP per capita growth rate, REM is remittance inflows, FDI is foreign direct investment, ODA is official development assistance, ED is external debt, GFCF is gross fixed capital formation, INF is inflation rate, TOP is trade openness, POP is population growth, and  $\varepsilon_{it}$  is the stochastic error term.

The study employed the GMM estimator for the dynamic panel data as proposed by Arellano and Bond (1991), Arellano and Bover (1995), and Blundell and Bond (1998). The GMM estimator has two types; difference GMM and system GMM. Difference GMM has the advantage of controlling countryspecific effects and simultaneity bias. But it has one shortcoming if the lagged dependent and the explanatory variables are persistent over time; the lagged levels of these variables are weak instruments for the regressions in differences. Thus, it might lead to biased parameter estimates (Blundell & Bond, 1998). To overcome the problems of difference GMM, Arellano and Bover (1995) and Blundell and Bond (1998) proposed an alternative method known as system GMM. The system GMM estimator is significantly better in terms of bias and precision, especially when the series is persistent. The system GMM combines both the first difference and level equations with the lagged levels of the explanatory variables serving as the instruments for the level equations. Thus, this study employed the system GMM since it has lower bias and high efficiency. The system GMM has two types one-step and two-step system GMM. The study used a two-step system GMM since it is more efficient than a one-step system GMM.

#### 4. Results and discussions

#### 4.1. Descriptive analysis

Table 2 shows the descriptive statistics. It includes the mean, standard deviation, minimum, and maximum values of the variables used in this study. For the studied countries, the average GDP per capita growth rate is 1.78. Remittance inflows and foreign direct investment have a mean value of 3.84 percent and 4.89 percent, respectively. The mean value of official development assistance, the proxy of foreign aid, in the selected sub-Saharan African countries is 7.39%. In addition, the mean value of external debt is 32.51%. Table 3 shows the correlation matrix. It helps to check whether there is a strong or weak correlation among variables. The result shows all variables are strongly correlated with themselves. The off-diagonal result shows the correlation between variables. The correlation matrix result concludes a weak correlation between the variables employed in the model.

#### 4.2. Estimation results and interpretations

Table 4 shows the estimation result. The study estimated the model by using one-step and two-step system GMM. Since two-step system GMM is more efficient than one-step system GMM, the study discusses the results of two-step system GMM. The study employed two specification tests to check the consistency of the GMM estimator. These are the over-identification test and serial correlation test. The study used the Sargan over-identification test to know the validity of instruments under the null hypothesis of no over-identification. The Sargan test result (p-value of 0.360) shows accepting the null hypothesis. The result concludes that instruments employed in the model are not over-identified. The study used the first and second-order serial correlation tests under the null hypothesis of no serial correlation. The insignificant p-value of AR (2) shows accepting the null hypothesis. The second-order serial correlation. Since the two-step system GMM passes the required tests, the results reported in Table 4 are unbiased estimates.

Table 1. Variable desci	Table 1. Variable description and their measurement				
Variables	Description	Measurement	Expected sign		
GDPPGR	GDP per capita growth rate	%			
REM	Remittance inflows	% of GDP	±		
FDI	Net foreign direct investment inflows	% of GDP	+		
ODA	Net official development assistance received	% of GNI	<u>+</u>		
ED	External debt	% of GNI	<u>+</u>		
GFCF	Gross fixed capital formation	% of GDP	+		
INF	Inflation	%	-		
ТОР	Trade openness	% of GDP	+		
POP	Population growth	%	<u>+</u>		

Source: Author

Table 2. Descriptive statistics					
Variables	Obs	Mean	Std. Dev.	Min	Max
GDPPGR	341	1.781637	3.341752	-22.3121	18.05331
REM	341	3.838442	5.084404	0	31.47492
FDI	341	4.889055	10.29076	-6.369877	103.3374
ODA	341	7.391513	7.527496	.0604877	77.86814
ED	341	32.5054	20.37783	4.950817	141.9754
GFCF	341	22.24879	7.126161	5.885067	52.41832
INF	341	6.907847	7.842286	-3.233389	63.29251
ТОР	341	66.32581	27.40568	16.14108	158.9001
POP	341	2.622585	.7128962	.1511089	3.974067

Source: Author's computation

The two-step system GMM result shows foreign direct investment, official development assistance, and external debt are statistically significant. But remittance inflow has a negative coefficient and is statistically insignificant. The insignificant result of remittance inflow is contradicting the finding of Abduvaliev and Bustillo (2019), Adjei et al. (2020), and Olayungbo and Quadri (2019), and Depken et al. (2021), in which their study concludes that remittance inflow has a positive and significant effect on economic growth.

Foreign direct investment is statistically significant at a 1% significance level. The positive coefficient of foreign direct investment (0.0483) shows a one percent increase in foreign direct investment results in a 0.048% increase in the economic growth of the selected sub-Saharan African countries. The positive coefficient of foreign direct investment could be the positive spillover channels through technology transfer, human capital development, and increasing employment opportunities. The positive and significant coefficient result of foreign direct investment goes in line with the findings of Jugurnath et al. (2016), Nguyen (2020), and Joshua et al. (2021) and contradicting the findings of Katerina et al. (2004) and Louzi and Abadi (2011) in which their findings conclude that there is insignificant relationship between foreign direct investment and economic growth.

As a proxy for foreign aid, the study used official development assistance. The two-step system GMM result shows that official development assistance is statistically significant at

Table 3. Corre	lation matrix								
	GDPPGR	REM	FDI	ODA	ED	GFCF	INF	тор	РОР
GDPPGR	1								
REM	-0.0480	1							
FDI	0.141	0.247	1						
ODA	-0.0249	0.299	0.535	1					
ED	-0.112	-0.0303	0.106	0.166	1				
GFCF	0.106	-0.0165	0.128	-0.174	0.0595	1			
INF	-0.0786	-0.0953	0.0133	-0.0122	0.170	-0.0833	1		
TOP	0.0371	0.468	0.334	0.148	0.128	0.289	-0.0783	1	
РОР	-0.0360	-0.309	0.0971	0.211	0.0658	0.128	-0.0232	-0.420	1
Source: Author's	computation								

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### Table 4. Estimation results

Dependent vallable: abi i a		
Variables	One-step system GMM	Two-step system GMM
L.GDPPGR	0.236***	0.259***
	(0.0492)	(0.0369)
REM	-0.0368	-0.0289
	(0.0507)	(0.0311)
FDI	0.0526***	0.0483***
	(0.0141)	(0.00862)
ODA	-0.0553*	-0.0547**
	(0.0308)	(0.0250)
ED	-0.0201**	-0.0231***
	(0.00836)	(0.00593)
GFCF	0.0806**	0.0887***
	(0.0375)	(0.0214)
INF	-0.0415	-0.0407**
	(0.0286)	(0.0175)
ТОР	0.000256	0.00359
	(0.0136)	(0.00726)
POP	-0.418	-0.192
	(0.388)	(0.256)
Year dummies	Yes	Yes
Observations	310	310
Number of countries	31	31
Number of instruments	28	28
P-value of AR(1)	0.007	0.006
P-value of AR(2)	0.340	0.384
P-value of Sargan	0.360	0.360

Robust standard errors in parentheses

Note: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1 indicates 1%, 5% and 10% significance level respectively. Source: Author's computation

a 5% significance level, but the coefficient is negative. The negative coefficient of official development assistance shows that a higher inflow of foreign aid retards the economic growth of selected sub-Saharan African countries. The negative result could be poor domestic policy, reduction of labor supply due to more leisure time, and encouraging import and appreciation of currencies. The result supports the findings of Adedokun (2017), Sothan (2017), and Yahyaoui and Bouchoucha (2021), whose findings conclude that the increase in official development assistance inflow affects economic growth negatively. The negative coefficient of ODA in this study contradicts the findings of Yiew and Lau (2018), Kargbo and Sen (2014), and Moolio and Kong (2016).

The other variable of interest is external debt. As shown in Table 4, external debt is statistically significant at a 1% significance level, and the coefficient is negative. The negative coefficient of external debt (-0.0231) shows the increase in external debt by one percent results in retarding the economic growth of SSA by 0.023%. The negative effect of external debt on economic growth could arise from poor public debt management, poor institutional quality, and failure to use the money for productive purposes. The negative and significant result of external debt goes in line with the findings of Senadza et al. (2018) and Onakoya and Ogunade (2017), whose findings

conclude that higher external debt affects economic growth negatively. However, the result contradicts the findings of Joshua et al. (2020) and Jayaraman and Lau (2009), whose result shows external debt improves economic growth.

The study employed gross fixed capital formation, inflation, trade openness, and population growth as control variables. The result of Table 4 shows that gross fixed capital formation and inflation are statistically significant, but trade openness and population growth failed statistical significance. Gross fixed capital formation affects the economic growth of SSA countries positively. The positive coefficient of gross fixed capital formation (0.0887) shows a one percent increase in gross fixed capital formation results in a 0.089% increase in the economic growth of the selected sub-Saharan African countries. Inflation hurts SSA countries' economic growth, and it is statistically significant at a 5% level. The negative coefficient of inflation (-0.0407) shows a one percent increase in inflation hurts the economic growth of SSA countries by 0.041%.

#### 5. Conclusion and recommendation

This study examined the impact of foreign financial inflows on the economic growth of sub-Saharan African countries. This study covered 31 countries in Sub-Saharan Africa from 2009 to 2019. The study employed remittance inflows, foreign direct investment, government development assistance, and external debt as proxies for foreign financial inflows. This study employed the two-step system GMM since it has a practical advantage to the dynamic panel data set. The Sargan over-identification test and second-order serial correlation test was used in the study to improve model estimates. Results show instruments are not over-identified, and there is no serial correlation.

The finding of this study shows that the results proxies of foreign financial inflows are mixed. Foreign direct investment, official development assistance, and external debt are statistically significant. Different from other variables, remittance inflow lacks statistical significance. The two-step system GMM result concludes that the increase in foreign direct investment improves the economic growth of the selected SSA countries. According to the estimation result, the official development assistance and external debt have negative coefficients.

The increase in official development assistance and external debt retards the economic growth of SSA countries. The negative coefficient of official development assistance and external debt could be due to poor institutional quality, poor public debt management, and poor effectiveness of domestic policies. Gross fixed capital formation and inflation are statistically significant control variables, whereas trade openness and population growth is statistically insignificant. The finding demonstrates that while gross fixed capital formation boosts economic growth, higher inflation impedes it in sub-Saharan African countries.

The study concludes that remittance inflows, official development assistance, and external debt have no favorable effect on the economic growth of sub-Saharan African countries. Such an effect might be due to poor domestic policies. The study suggests that policymakers should work on the way that remittance inflow promotes investment and reduce dependency on official development assistance. In addition, external borrowing should be used for productive purposes since it helps to build repayment capacity and improve domestic output. The finding of this study shows that foreign direct investment has a positive effect on economic growth. Thus, policymakers should design policies that attract foreign direct investment and work on positive spillover channels. Finally, the study recommends that further research should be performed on the role of institutional quality and financial sector development by considering foreign portfolio investment.

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#### Note

1. The data of external debt is for 43 countries, since data for some countries are missed.

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