

Financial stability and the foreign direct investment – growth nexus

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Abstract

The role of financial stability in the relationship between foreign direct investments (FDI) and economic growth is examined to provide an understanding of the level of financial stability required for sub-Saharan Africa (SSA) economies to benefit from FDI. Both stocks and annual inflows of FDI are used in establishing the relationship between FDI and Growth, while assessing the moderating effects of financial stability in that relationship. The two-step system generalized method of moments (SGMM) estimator is used to analyse annual data for thirty-four (34) SSA economies from 2002 to 2021. The study reveals that FDI causes SSA economies to grow only in the presence of stable financial systems. FDI stocks and annual inflows tend to only drive economic growth in the presence of financial stability. The place of stable financial systems in ensuring sustained economic growth in SSA cannot be overemphasized, as its absence may cause other factors such as FDI which would have otherwise been beneficial, to rather be a curse.

Article History: Received 20 March 2025

Accepted 24 January 2026

Keywords: Economic Growth, Financial Stability, Foreign Direct Investments, sub-Saharan Africa (SSA)

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Introduction

Attempts by governments of emerging economies to woo foreign investors have become a common phenomenon. This is apparently due to the expectation that, theoretically, economies experiencing constant inflow of capital would see non-trivial benefits from the same. Foreign direct investments (FDI) form a major part of such capital flows and are therefore expected to contribute to capital accumulation of economies by enhancing the introduction of new technologies, improving management techniques and kindling productivity spillovers (Organisation for Economic Co-operation and Development (OECD), 2002). The protracted debate about whether these theoretical prescriptions hold or not has not seen much consensus in the literature. Meanwhile, recent evidence seems to converge towards the view that FDI does impact growth through some specific channels and in settings with some characteristics (Agbloyor et al., 2016; Ausloos et al., 2019; Iamsiraroj, 2016).

The extant literature presents a set of very intricately connected concepts that are highly relevant in determining whether FDI will be a blessing or a curse to host economies. In the present wake of Sub-Sahara African (SSA) governments vigorously seeking to draw the interest of investors to their countries, the pronounced need to ascertain which factors enhance the impact of FDI has become extremely crucial to policy. These factors include issues regarding the financial system, particularly its stability, along with other absorptive capacities. A clear understanding of this will help policymakers understand whether the efforts put into attracting foreign investors are worth it, considering their present financial and macroeconomic circumstances. This paper therefore investigates how financial stability influences the impact of FDI on economic growth in the SSA region.

Presently, there is evidence that FDI promotes growth only under conditions such as an economy's level of human capital development, financial development, trade openness, and institutional quality. An important gap which has, however, been left unattended to in the literature is the role of financial stability within the FDI-growth nexus. The abundant evidence suggesting that finance promotes growth – and is thus not merely a passive response to growth as established by Levine (1997) – does point to the fact that the presence of any system-wide episodes that lead to improper functioning of the entire financial infrastructure of an economy have the potential to directly upset the growth of that economy. We therefore hypothesize that such episodes could also potentially influence the economic effects of foreign capital flows adversely. While the extant empirical literature is almost silent on how financial stability moderates the relationship between FDI and growth, we posit that it may very well be the explanation for why some economies have not benefited much from FDI as suggested in theory.

It is important to highlight the fact that financial development does not necessarily imply financial stability. Available evidence suggests that a more developed financial system is not necessarily more resilient to system stress, and in some cases, may prove

to even be more prone to dysfunction when subjected to stress tests. A case in point is presented by Batuo et al. (2018) who in studying the interconnections between financial development, instability, liberalization and economic growth in Africa show that financial development and financial liberalization have positive effects on financial instability. Thus, it will not be accurate to assume that financial stability affects the FDI-Growth relationship in the same way financial development does. We can also think of this in terms of the financial trilemma concept advanced by Schoenmaker (2011) which explains why it is impossible for policymakers to simultaneously achieve the three goals of financial stability, financial integration, and national financial policies. The concept accounts for why economies which maintain open financial markets while pursuing national policies jeopardize stability, whereas those that want both integration and stability are compelled to shift policy authority to supranational levels. Likewise, for those who wish to retain national control with stability, financial integration is hindered.

This study contributes to existing knowledge by addressing a part of the debate on whether FDI enhances economic growth. We do this by establishing a causal link between both the stocks and annual net inflows of FDI and economic growth in SSA, while exploring the role of financial stability within that relationship. A two-step system generalised method of moments (SGMM) estimator is used to analyse data from thirty-four (34) SSA countries spanning from 2002 to 2021. The study presents evidence that FDI only impacts the growth of SSA economies positively in the presence of stable financial systems. The results show that SSA economies are required to have a level of financial stability above the regional mean to be spared the significant negative effects of accumulated FDI on their economies' growth.

This section of the paper is immediately followed by a comprehensive review of extant literature. Following that is a description of the research methodology employed in the study, the results of which are subsequently presented and discussed in the sections that follow. The findings of the study are then summarized, based on which conclusions and recommendations are made in the final section.

Literature review

The stability of a financial system has been shown in the literature to impact growth while at the same time affecting the prospects of future FDI inflows. Many past studies on the subject focus on determining whether financial development affects FDI flows, and whether it has any implications on an economy's capacity to properly absorb potential benefits of FDI to fuel growth. It is well attested in the empirical growth literature that finance has a direct bearing on economic growth. Previous studies on the long-run relationship between finance and growth suggest a highly positive and statistically significant impact of finance on economic growth. This position dominates in the classical literature right from the seminal work of Schumpeter (1911) through to what seems to be a summary by Levine (1997).

The discussion on the impact of the financial system on economic growth, as well as the role of finance in the relationship between FDI and growth is prevalent in the extant literature. Findings from studies like Lee and Chang (2009) underscore the probable benefits associated with FDI when coupled with financial development in an increasingly global economy. Hermes and Lensink (2003) for instance concluded that host country financial development is an important precondition for FDI to have a positive impact on growth. They argue that more developed financial systems enhance the process of technological diffusion associated with FDI. The general consensus in the literature is that FDI gains to host economies are mostly realised only when a certain level of financial development is reached by these countries. Azman-Saini et al. (2010) using a threshold regression model presents evidence that shows the positive impact of FDI on growth only setting in beyond a certain threshold of financial market development.

Additionally, country risk factors such as financial risk and sovereign credit ratings (Cai et al., 2018; Kellard et al., 2022) are acknowledged in the literature to affect FDI flows for both origin and host countries. In short, all FDI involve risk, a great chunk of which are related to the financial system. These risk factors in host countries, particularly in SSA, thus call for thorough investigation to determine if their presence matter for the relationship between FDI and growth. When a financial system is resilient to stress and is without system-wide episodes of functional failures and crises, it can be expected to carry with itself the ability to mitigate or undo both risks that arise from within the system itself and from exogenous sources. It can also through self-corrective mechanisms absorb shocks from unforeseen incidents, preventing the possible negative effects that such adverse occurrences may have on the real economy. Financial stability is therefore clearly a crucial element for economic growth. The actual value of stable financial systems can best be seen in periods of instability like in the case of the global financial crisis. Such situations have the potential to severely wreck confidence in the financial system and can even lead to hyperinflation, bank runs, and/or crash of stock markets.

Cihák et al. (2012) comment on the vast literature regarding the array of tools and methods in connection with attempts to quantify financial stability through measures of systemic risk, stress tests, and the like. They admit that financial stability is a critical feature of any financial system and although it is generally an aspect of financial development, it is treated a lot of times as a separate topic due to how crucial it is for macroeconomic stability. Their paper points to the bank Z-Score as a key measure of institutional stability in the literature. It is presented as a comparative measure of buffers (capitalization and returns) and risk potential (return volatility) and generally quantifies the soundness of financial institutions. Having an inverse relationship with the probability that a financial institution will become insolvent, it primarily shows the inverse of the probability that the value of the financial institution's assets will turn out to be lower than its debt value – also called the probability of default. The Z-Score shows the number of standard deviations by which returns would need to fall to completely drain equity, indicating that a high Z-Score means a low chance of becoming insolvent.

Alternative measures of stability such as nonperforming loans to total gross loans, regulatory capital to risk-weighted assets, “excessive” credit growth; and the asset value model measures such as “distance to default” are also used as measures of soundness, but not without their own limitations. Most of these alternatives are known to be lagging indicators of financial soundness (Čihák & Schaeck, 2010). Other systemic measures like the First-to-Default probability, the Systemic Expected Shortfall (SES) and its predictive version – Brownlees and Engle’s (2017) Systematic Risk measure (SRISK) – are also used in the literature as proxies of stability. It is important to note, however, that the SES and SRISK are typically daily measures which require daily market data for computing systemic risk. Moreover, only a few SSA countries have stock markets, and even those existing African financial markets are known for having less liquid trading and shorter time series which could result in faulty estimates of such high-frequency systemic risk measures.

Methods

Model specification

The specified model for this study closely follows that of Agbloyor et al. (2016), and is given by

$$y_{it} = \delta_1 y_{it-1} + \delta_2 FDI_{it} + \delta_3 Z_{it} + \delta_4 (FDI_{it} \times Z_{it}) + \delta_5 FD_{it} + \delta_6 \ln LAB_{it} + \delta_7 TR_{it} + \delta_8 NR_{it} + \delta_9 INS_{it} + \delta_{10} \ln HDI_{it} + \epsilon_{it} \quad (1)$$

where, $\epsilon_{it} = \alpha_i + \mu_t + \varepsilon_{it}$, α_i is the country fixed effect constant over time, μ_t is the time effect fixed across countries, and ε_{it} is the idiosyncratic error term which is independently and identically distributed.

Also, y_{it} is annual percentage growth rate of GDP per capita.

FDI_{it} is the measure of FDI, for which both the annual stocks and net inflows as a percentage of GDP are used in two different estimations of the model.

Z_{it} is the country wide bank Z-score (measuring financial stability). Firm-level stability measures like the Z-score are aggregated in the literature into system-wide measures by taking a weighted average of the institutions in that financial system based on their relative sizes.

The term $(FDI_{it} \times Z_{it})$ is the interaction term between the various measures of FDI (both stocks and net inflows) and financial stability, while FD_{it} , $\ln LAB_{it}$, TR_{it} , NR_{it} , INS_{it} and HDI_{it} are control variables. These are measures of the level of financial development, labour force, trade openness, natural resource endowment, institutional quality, and the score of human development index (as a measure of human capital) respectively.

The coefficients δ_j , where $j = 1, \dots, 10$ are the parameters to be estimated, and the subscripts i and t are the country and time dimensions of the data.

The interaction term in the model is meant to provide further insight on the impact of FDI on growth in the presence of financial stability. This is further investigated by finding the effects of a marginal change in one of the interacted variables, FDI, on the explained

variable with respect to the other, Z-Score. These marginal effects are computed by assessing the partial derivatives of y_{it} with respect to Z-Score as shown in (2) below. The combined effects are evaluated at the mean value of the Z-Score and two standard deviations above and below the mean. This is meant to help further explore the regional characteristics that may be helpful in making sense of the outcome of this study for the

$$\frac{\partial y_{it}}{\partial FDI_{it}} = \delta_2 + \delta_4 \ln Z_{it} \quad (2)$$

The basic differences between the model specified in equation (1) above and that of Agbloyor et al. (2016) include the use of FDI stocks as one of the measures of FDI, as well as the focus on financial stability measured by the Z-score in this study. Their measure of FDI flows as a percentage of GDP clearly show that their focus was entirely on the impact of contemporaneous FDI flows on growth.

Data

A dynamic panel data estimation technique is employed in this study with data culled from the United Nations Conference on Trade and Development (UNCTAD) statistical database, the World Bank's World Development Indicators (WDI) and Global Financial Development (GFD) databases, as well as the Human Development Index (HDI) of the United Nations Development Programme (UNDP). Thirty-Four (34) out of the forty-eight (48) SSA economies are examined with annual data ranging from 2002 to 2021. The choice of countries is completely based on data availability. We duly acknowledge that this could lead to selection bias and may not be totally representative of the entire region. This is a major limitation of the study. We wish to indicate that although we initially included all SSA countries in the study, the estimators dropped all those with inadequate data, leaving only the 34 countries. This informed the decision to include only these economies having a complete dataset in the study. Our choice of estimator is also influenced by these dynamics as explained later in our empirical strategy.

The FDI Stocks and flow data are obtained from the UNCTAD Statistical Database and corroborated by data from the WDI. Annual inflows of FDI as a percentage of GDP as well as accumulated stocks of the same are used as alternative measures of FDI in the estimation. It is easy to see that stocks of FDI automatically incorporate both lags and contemporaneous values as well as remnants of past FDI which are not fully depleted yet, thus overcoming the challenge of using either lags or contemporaneous flows alone. Both measures of FDI are interacted with the Z-score to ascertain their combined effects on growth. It is expected here that the impact of FDI stocks on growth in the presence of financial stability will be significantly positive.

Countrywide aggregates of the Z-Score are obtained from the Global Financial Development database and used as a proxy for financial stability. Because the Z-Score is inversely related to the probability that an institution becomes insolvent, higher values thereof are desirable. Since the Z-Score for a country in a particular year describes

the state of the financial system, previous states of the system can be said to have been captured even in the annual estimates, for which reason it will not be necessary to add lagged values of the same to the model. It is important to acknowledge that the Z-Score as a measure of financial stability may appear a bit simplistic as it may not fully capture the multifaceted nature of the concept. We acknowledge this as a major limitation of the study. The exclusive use of the Z-score may potentially limit the robustness of the findings to the extent that it reduces the complex, multidimensional concept of stability to a function of return volatility, capital, and average returns, and potentially overlooks other critical sources of risk and instability.

Our conclusion that the Z-Score is the best choice of proxy for stability in this study is both based on its wider availability and its prevalence in the literature. Notable studies including Beck et al. (2013) and Čihák et al. (2016) have used the Z-Score as a proxy for financial stability and found it viable. As noted by Mare et al. (2017), the Z-Score combines leverage information (equity to assets) with performance (return on assets) and risk (standard deviation of return on assets). Čihák et al. (2016) similarly contends that this makes it able to more holistically capture the likelihood of insolvency in the banking sector than other measures of its kind. It is thus a more accessible and comprehensive measure of stability than other alternatives earlier highlighted.

The level of financial depth measured by broad money (M2) is used as a measure of financial development (FD). A positive relationship between financial development and economic growth is hypothesised as much of the finance-growth literature so purports. Total labour force (LAB) as a measure of the supply of labour available to produce goods and services in a country is also used as a control variable. A larger labour force is expected to result in higher economic growth. Trade Openness (TO) is measured as the sum of imports and exports of goods and services in the economy. A positive relation is expected between trade openness and economic growth.

Additionally, total natural resource rents are used to measure the level of natural resource endowment. This comprises the sum of oil, natural gas, coal (hard and soft), mineral and forest rents. More natural resources in a country imply a larger resource base to scale up the output capacity of that country, hence a positive relationship with the regressand is expected. Corruption control, which is a part of the world governance indicators (WGI) is used as a measure of institutional quality and is expected to yield a positive impact on growth. Six governance dimensions including political stability and absence of violence/terrorism, voice and accountability, regulatory quality, government effectiveness, the rule of law, and control of corruption are measured by the WGI. Corruption control captures general perceptions of how far public power is exercised for private gain, including both petty and grand forms of corruption, as well as 'state capture' by elites and private interests.

We choose corruption control as a measure of institutional quality because it is at the centre of governance in SSA where the ability to handle corruption is pivotal to growth, and the perception of corruption affects both socio-political and economic

stability. It is important to note, however, that corruption control as a proxy cannot fully substitute for political stability, governance, conflict, and other variables which are important components of institutional quality. Future studies could consider these variables as possible confounders in response to this limitation of our study and expand our understanding of their roles. We believe that the potential omitted variable bias that could result is handled by the GMM estimator which uses moment conditions to estimate parameters consistently so far as the instruments are valid.

Finally, the human development index (HDI) is used as a control in this study to capture the level of human capital development. The index covers the average achievements of countries in the most fundamental dimensions of human development. The literature generally reports a significant and positive relationship between human development and economic growth. Presented below is a tabular summary of the variables described above.

Empirical strategy

The empirical strategy adopted here attempts to maximize the use of both cross-sectional and time dimensions of the available data; for which reason the annual frequency of data is used. This strategy is quite a departure from a lot of the available empirical works on economic growth. Many papers in the empirical growth literature average out the available data over the span of three, five or even ten-year horizons, aiming to capture the steady state relationships in the variables under study (see Agbloyor et al., 2016). This does not always achieve the said goal. Such smoothening out of the time series dimension of the data rather eliminates useful chunks of variation which could have aided the estimation of more precise parameters (Clayton et al., 2001; Granger, 2003). The literature presents empirical evidence that smoothing could artificially lessen standard errors and bias statistical inference, while also understating variability. Important papers like Working (1960), for example, demonstrate both mathematically and empirically that smoothing produces artificial correlations which could distort standard errors. The use of annual data for the study is therefore imperative and demands an allowance for the possibility of annual observations of economic growth being non-representative of long-run equilibrium rates for any particular year. This is possibly a result of the “not-too-swift” adjustment to fluctuations in other variables.

This possibility of partial adjustment is sometimes allowed for in the literature by including a lag of the dependent variable in the specified model (Baltagi et al., 2009). This is why a dynamic panel data econometric model is specified for this study. Due to the issue of possible endogeneity caused by measurement errors, simultaneity and the self-reinforcing nature of economic growth as reported in the literature, the two-step System Generalized Method of Moments (SGMM) estimator is employed, being a suitable and robust technique for finding the relationship this study seeks to establish. Two variants of the SGMM estimator exist – the one-step, and the two-step estimators.

The two-step estimator is used with Windmeijer (2005) corrected standard errors as it is asymptotically more efficient than the other variant. Orthogonal deviations are employed in the estimation to maximise the data.

The SGMM estimator is particularly suitable for this study due to many reasons. Primarily, the estimator is designed for data with short-time frame and a large set of individual units (small T, and large N dimensions). This study deals with a shorter time dimension (20 years) for a sample size of 34 countries. Next, the estimator allows for economic growth to be treated as a dynamic process, providing for the possibility that past states of an economy may influence its future. Its ability to mitigate the potential selection and omitted variable biases, as well as the Nickell bias associated with dynamic panel data is particularly crucial for our purposes in this study. Additionally, the GMM approach addresses issues of endogeneity, heteroscedasticity, multicollinearity, and serial correlation in the data. The presence of heteroscedasticity and autocorrelation are found in the data using the Breusch-Pagan/Cook-Weisberg and White tests for heteroscedasticity and the Wooldridge's test of autocorrelation for panel data respectively (see appendix B).

The lagged dependent variable is used as GMM style instrument with the collapse option, while all lags of the other regressors are used as the IV style instruments. The Hansen test of overidentification restrictions and the Arellano and Bond test for second-order serial correlation bear out the choice of instrument sets used. Also, the postestimation diagnostics including the Wald Chi-Square statistic and its associated p-value as well as the lagged dependent variable which is significant at 1% level of significance (showing that growth is self-reinforcing and endogenous) lend support to the choice of estimation technique employed.

A non-linear combination of the significant coefficients and that of the lagged dependent variables were also computed as long-run estimates since GMM coefficients represent short-run effects. Long-run effects for the k^{th} parameter is computed as equal to

$$\delta_k \div [1 - \delta_1] \quad ((3))$$

where δ_1 is the coefficient estimate of the lagged dependent variable, and δ_k represent other significant coefficient estimates. After this, the marginal effects of the interacted variables in the model were computed as earlier described.

Results and discussion

Results obtained from the empirical analysis are presented and discussed in this section. From the summary statistics in table 1 below, the mean GDP per capita annual growth rate (γ) is 1.71% with overall standard deviation of 4.28%. This shows both the low rate and high volatility of economic growth in the SSA region. Most SSA countries are by this shown to be lower-middle-income countries according to World Bank classification. Countries in this category across the world are home to about 75% of the world's population, being a diverse group on many fronts. Although they also host about 62% of the world's poor, they produce about a third of global GDP being highly instrumental in global growth.

Stocks of FDI have a mean of 36.37% of GDP, which is almost ten times the mean annual FDI net inflows into the region which is only 3.72%. This reveals how FDI accumulates into huge chunks that constitute an important source of development finance for SSA countries, lending support to why the use of contemporaneous FDI flows is not optimal in establishing the relationship between FDI and growth. The minimum value of FDI net inflows is negative (-10.95 recorded by Mauritania in 2019). This indicates a high level of disinvestment in some countries, probably through closures and repatriation of returns from such countries which outweigh new investments received for the periods in question. A mean value of 0.507 for the human development index shows that on average, the SSA region falls below the UNDP cut-off point of 0.550 showing that the region has low human development. The Z-Score has a mean value of 14.599 which is far below the global average. The summary statistics of control variables can be seen in Table 1.

Diagnostics tests carried out to ensure the model does not suffer from any inconsistency and bias confirm predictions of the presence of heteroscedasticity and autocorrelation as well as the absence of cross-sectional dependence. Preliminary diagnostic tests show that there are no general concerns about multicollinearity in the data.

Table 1: Summary statistics

	y	SFDI	FDI	ZSCORE	FD	HDI	TR	INS	NR	LAB
Observations	680	678	680	594	659	679	673	680	680	680
Mean	1.714	36.373	3.720	14.599	31.483	0.507	68.073	-0.552	10.469	8260646.588
Median	1.997	24.895	2.528	14.275	24.865	0.496	61.795	-0.661	7.402	4600000
Maximum	27.831	461.741	46.275	38.683	159.329	0.817	175.798	1.245	52.561	71000000
Minimum	-22.488	0.599	-10.954	2.731	0.014	0.274	16.352	-1.581	0.002	169257
Overall Std. Dev.	4.281	50.697	5.142	5.881	22.730	0.103	27.477	0.621	9.239	10827395.97
Between Std. Dev.	1.250	36.697	3.081	5.539	20.941	0.096	25.253	0.600	8.052	10800000
Within Std. Dev.	4.099	35.458	4.149	2.360	9.021	0.039	13.074	0.188	4.726	1979817
Skewness	-0.389	5.037	3.317	0.468	2.132	0.537	0.839	0.628	1.605	2.890
Kurtosis	9.806	32.645	20.687	3.040	8.929	3.134	3.593	2.749	5.444	13.274
Jarque-Bera	1329.688	27693.414	10110.364	21.757	1464.284	33.167	88.880	46.457	461.117	3937.204
Probability	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sum	1165.35	24660.59	2529.48	8671.76	20747.00	344.16	45813.13	-375.06	7118.67	5617239680
Sum Sq. Dev.	12443.14	1740009.00	17954.81	20511.17	339950.70	7.17	507346.49	262.05	57953.12	79600869880642500

y, (S)FDI, FD, ZSCORE, HDI, TR, INS, NR, and LAB measure Annual % growth of GDP per capita, (Stock of) Foreign Direct Investments, Bank Z-Score (Financial Stability), Financial Development, Human Development Index, Trade Openness, Institutional Quality, Natural Resource Rents, and Labour Force, respectively.

Regression results

The second and fourth columns of table 2 shows SGMM estimates while the third and fifth columns shows the long-run estimates of the coefficients that are significant for FDI stocks and annual net inflows respectively. Columns 5 and 6 are the corresponding results from a fixed-effects estimation of the model. Our discussion, however, focuses largely on the SGMM estimates since the fixed-effects estimates are directionally consistent with the SGMM estimates. Meanwhile, the results for the marginal effects of the interacted variables are presented in table 3.

FDI stocks are found to have a negative effect, statistically significant at 1%. Both FDI annual inflows and financial stability on the other hand have no significant impact on growth. The combined effects of FDI stocks and annual inflows, however, have significant positive effects on growth at a 1% level of significance. The directions of these relationships at least tell us there is some value in having a stable financial system.

The negative effect of SFDI on growth is contrary to expectations but can be easily attributed to the kind of FDI that flow into the region. The subtle suggestion from the results is that in the absence of stable financial systems, the impact of FDI may be more detrimental to SSA economies than we imagine. This particularly makes sense in the SSA context seeing that majority of FDI that come into the region is resource seeking, which as explained earlier, typically yields negligible returns to host economies (Meier zu Selhausen, 2009). Coupled with the intense level of returns repatriation by multinationals beyond investment inflows (Bos et al., 1974), monopolization, and the subsequent crowding out of local investments in the region, this helps to make almost perfect sense of the situation as observed in reality.

Additionally, financial stability on its own is shown to have no significant impact on growth. This is also very contrary to expectation, but begins to make sense when assessed in light of previous evidence from studies like Batuo et al. (2018). They provide insight into the phenomenon of financial systems becoming more unstable as countries liberalise their financial sectors to enhance financial development in SSA. Countries seeking to liberalise their financial sectors and thereby boost financial development must forego some restrictions that keep their financial systems stable, exposing them to higher instability. On the other hand, countries that strive to attain financial stability by enforcing or tightening regulations and restrictions that enhance stability end up having their financial systems repressed, hindering financial development and hence, the adverse effects on growth. It is interesting however, that despite having no significant impact on growth by itself, financial stability is still necessary to glean positive gains from FDI. This is a definite call for policymakers to design more effective means of ensuring financial stability without repressing the financial system.

What is more shocking is that financial development happens to insignificant at a 5% level of significance, contrary to what the general growth literature suggests. What is important to note here however is that, although financial development is accounted

for, financial stability still had a significant role to play in explaining the regressand. This further to explains the observed phenomena in the region as it corroborates the explanation offered earlier on why financial stability must still be investigated even when of the literature predicts what financial development may lead to.

The obvious question that follows is: at what level of financial stability will FDI begin to have a positive impact on growth? In other words, how stable must a financial system be for the effects of FDI on growth to become significantly positive as shown in the results? Further examination of the interaction between the FDI and stability measures helped to discover that FDI stocks had a significant negative impact on growth at lower levels of financial stability. Annual inflows of FDI on the other hand have significant positive impact on growth at levels of financial stability above the mean.

The implication of this is that SSA countries need a level of financial stability which is at least as high as the regional mean to be spared the significant negative effects of accumulated FDI on their economies. Table 3 shows the marginal effects of FDI stocks and annual inflows on growth generated at the various values. The estimated regression coefficients reveal the average relationship between our regressors and the outcome variable. The marginal effects of the interactive term simply depict the extra change our dependent variable when the interacted regressor changes slightly while keeping everything else the same.

From our results, it is important to note that even at levels of financial stability that are above the regional mean, FDI stocks at best have no significant effects. This is a disturbing discovery which simply goes to show that the level of financial stability within the SSA region is still not high enough to help its economies reap the potential positive effects of FDI on growth as theory suggests. This is a serious wake-up call for policymakers to understand that the dynamics of the region demand levels of financial stability far higher than the present state to benefit from the stocks of FDI accumulating more and more in the region.

Another important thing to note from the results is that although a few tend to be insignificant at the 5% level of significance, most of the long-run estimates generated for the significant GMM estimates turn out to be statistically significant and in the same direction as the GMM estimates. These long-run effects interestingly happen to have greater coefficients indicating that in the long run, the effects of these variables are in the same direction with even greater magnitudes. This implies that in the absence of stable financial institutions, the negative impact of piling FDI stocks will be more ominous in the long run.

Table 2: Two-step system GMM regression output

Variables	Model (1) GMM Estimates	Long-run Estimates	Model (2) GMM Estimates	Long-run Estimates	Model (3) FE Estimates	Model (4) FE Estimates
y Lag 1	0.281*** (0.080)		0.291*** (0.081)			
FDI Stocks	-0.020*** (0.005)	-0.028*** (0.007)			-0.030** (0.013)	
Z-Score	-0.053 (0.042)		-0.046 (0.054)		-0.055 (0.071)	-0.049 (0.071)
FDI Stocks x Z-Score	0.001** (0.0003)	0.001** (0.0005)			0.001** (0.001)	
FDI Flows			-0.053 (0.076)			-0.057 (0.082)
FDI Flows x Z-Score			0.009** (0.005)	0.013* (0.007)		0.010* (0.006)
Financial Development	-0.022* (0.0120)	-0.031* (0.01579)	-0.029* (0.015)	-0.041** (0.020)	-0.062** (0.029)	-0.075*** (0.029)
Labour Force	0.578*** (0.170)	0.804*** (0.210)	0.496*** (0.171)	0.670*** (0.213)	1.920 (2.467)	1.343 (2.442)
Trade Openness	0.035** (0.015)	0.048** (0.019)	0.025* (0.014)	0.035* (0.012)	0.069*** (0.014)	0.054*** (0.0144)
Natural Resources	0.012 (0.027)		0.006 (0.026)		0.074* (0.040)	0.061 (0.038)
Institutional Quality	1.252** (0.460)	1.742*** (0.614)	1.269*** (0.461)	1.790*** (0.633)	1.482* (0.897)	1.669* (0.887)
Human Development	-3.316 (2.017)		-3.072 (2.018)		-17.25* (9.231)	-16.93* (9.234)
Constant	-5.824* (3.090)		-4.427 (3.160)		-20.20 (33.67)	-10.59 (33.19)
Observations	556		557		575	576
R-squared					0.126	0.124
Number of Groups	34		34		34	34
Number of Instruments	29		29			
Hansen test: Prob. > Chi-sq.	0.272		0.235			
AR (1) Pr. > z	0.002		0.002			
AR (2) Pr. > z	0.330		0.355			
Wald Chi-sq. (Prob. > chi2)	23.19 (0.000)		20.68 (0.000)			

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 3: Average marginal effects of SFDI and FDI

Z-Score _at		Delta-method	
		SFDI	FDI
1	2.99	-0.0177*** (0.0043)	-0.0250 (0.0646)
2	8.73	-0.0128*** (0.0032)	0.0278 (0.0473)
3	14.47	-0.0079*** (0.0032)	0.0807*** (0.0403)
4	20.21	-0.0031 (0.0042)	0.1335*** (0.0484)
5	25.94	0.0018 (0.0057)	0.1863*** (0.0661)

Standard errors in parentheses; *** p < 0.01, **p < 0.05, *p<0.1

Conclusion and recommendations

The place of financial stability in the relationship between FDI and economic growth in SSA was examined by investigating the effects of SFDI on growth, as well as the role of financial stability in shaping the effects of FDI on economies in the region. The estimation results testing the hypothesis that SFDI will positively affect SSA economies only in the presence of stable financial institutions was confirmed through the investigation. At the margins, however, a level of financial stability that is above the SSA regional mean is required for an economy to be spared significant negative effects of FDI stocks on growth. The levels of stability in the SSA region are sadly found to fall far short of a level that will procure significantly positive returns from FDI stocks for its economies. At best, countries in the region with relatively higher levels of financial stability will record positive effects of FDI on growth.

These very sobering findings must bring all stakeholders to the realisation that the dynamics of the region demand levels of financial stability far higher than the present state to benefit from the FDI. The role of stable financial institutions in ensuring sustained growth can thus not be overemphasized. The importance of financial stability stems from the fact that its absence allows for other factors to impact these economies rather negatively. As it stands now, it can only be imagined how many other factors are negatively impacting economies in the region because of the low level of financial stability aside FDI stocks. These may be factors which would have otherwise immensely benefitted such economies in the presence of stable financial institutions.

Policymakers should begin to adopt measures to streamline the kinds of FDI that flow into SSA; that is, more of efficiency and market seeking, and less of resource seeking FDI. Investments in agribusiness and the services sector for example will likely result in the creation of more jobs and productivity spillovers through transfer of technology and improvement in management techniques; as against investments in sectors like mining

and real estate which may either require more specialized and/or unavailable skills, or experience mass repatriation of returns.

Targeted investment incentives like tax breaks, infrastructure support, and fast-track permits for firms seeking to invest in sectors like ICT, manufacturing, renewable energy, and agro processing, rather than extractive sectors, can be employed to streamline the kinds of FDI SSA economies attract. The special economic zones (SEZ) initiative implemented by Rwanda is an example of policies that can be replicated by other SSA economies in this direction. The SEZ program, designed to tackle private sector constraints including limited access to industrial land, bureaucratic hurdles, and high energy costs, offer various incentives including tax advantages, streamlined administrative processes, and customs duty exemptions through a one-stop service centre. When such initiatives are targeted at the right kind of investments, investors may want to channel their investments to those sectors.

Additionally, policies can be enacted to screen investment frameworks by establishing FDI classification mechanisms which identify efficiency and market-seeking FDI as desirable, as against purely resource-seeking FDI which can be tagged less-desirable investments. Such screening frameworks can be implemented while attaching conditionalities including local sourcing or skills transfer before permitting resource-seeking FDI on a large scale. Along with this, performance requirements can also be implemented alongside to mandate foreign firms in extractive industries to contribute to technology transfer, local content development, and industrial linkages. Ghana's petroleum local content law which mandates joint ventures with local firms is an example worth emulating. This law, established through Legislative Instrument (LI) 2204 in 2013, requires foreign companies operating in the Ghanaian oil and gas sector to incorporate local expertise, goods, services, and financing into their operations, with a requirement for at least a 5% equity stake for indigenous Ghanaian companies in every petroleum agreement or licence.

Also, SSA economies can leverage regional integration incentives like the African Continental Free Trade Area (AfCFTA) to promote FDI that serves multiple markets, and not just extractive enclaves. Such policies must be intentional about offering preferential treatment for investments seeking to build regional supply chains such as auto parts, agribusiness, and pharmaceuticals. This will force capital towards investments that will benefit the region most. These policy proposals can move SSA economies from receiving FDI that is dependent on extractive industries to diversified and productive FDI via selective incentives and by leveraging AfCFTA.

Furthermore, policymakers should focus on building very solid and stable financial systems by adopting approaches that will not keep the financial systems repressed and underdeveloped while attempts are being made to attract the right kinds of FDI. Economies should aim at levels of financial stability higher than the current regional average to be spared the negative effects of FDI stocks on their economies. This calls

for regulatory approaches that will ensure financial institutions act in ways that will not destabilise the financial system. Otherwise, the unstable financial systems will keep providing an incentive for foreign investors to repatriate their returns to places they would feel safer keeping them.

Definitely, SSA economies must begin by strengthening regulatory frameworks through improved prudential regulations (capital adequacy, stress testing, liquidity ratios) to align with Basel III/IV standards. There is also a strong need to empower central banks to act independently and enforce compliance by reducing political interference. Banking sector reforms carried out in good faith to consolidate undercapitalized banks and reduce fragility are also necessary. Incentivizing mergers and stronger governance through access to central bank liquidity facilities and tax reliefs will go a long way to help improve financial stability. Additional measures to promote financial inclusion by scaling up digital financial inclusion to improve access to financial services among low-income and rural populations. National strategies for improved microfinance and SME credit facilities can be introduced to reduce the over-dependence on informal finance. These policies can help move SSA countries from fragile and narrow financial systems to resilient, inclusive, and regionally integrated ones.

The interlinkages between FDI, growth and financial stability in SSA must be further studied using other measures of stability to confirm whether the findings here do hold or otherwise. It appears even more imperative to further explore the dynamics that play out in how financial stability interrelates with financial development and liberalisation as well as economic growth in the region, especially on country basis. This was carried out for the entire region by Batuo et al. (2018). It will, however, be more rewarding to know the dynamics for each country as it will bring out further insights on to how to handle their respective financial systems. This study can also be replicated in other regions aside SSA to check if the findings hold elsewhere or are peculiar to the SSA region.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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