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Financial Inclusion, Institutional Quality and Economic Growth in Sub-Saharan African Countries

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This study examines the impact of financial inclusion and institutional quality on economic growth in Sub-Saharan Africa (SSA). It finds that financial inclusion has a positive impact on SSA's economic growth irrespective of the measure of economic growth examined. The results also reveal varied effects of institutional quality on various measures of economic growth. The implication is that institutions and financial inclusion should not be ignored in growth policies.

I. Introduction

Two hypotheses are tested in this study to address the impact of financial inclusion and institutional quality on economic growth in Sub-Saharan Africa (SSA). The study is motivated by the work of North (1991) who holds that institutions provide an incentive structure that shapes the growth performance of an economy. The realities of volatile economic growth rates of SSA economies despite the recent years' efforts to achieve inclusive and sustainable growth need to be addressed. Ekpo (2020) notes that the growth rates in many SSA nations have swung between 4–6 percent yearly for the past two decades, making the region less developed notwithstanding its vast human, physical and natural resources. The region's dissatisfactory economic performance has been attributed to governance failure, institutional inequality and a lack of access to financial resources (Ajide, 2017; Ekpo, 2020). Thus, strong governance and institutions that provide guidance for economic activities to support and drive sustainable growth and development have been insufficient in many developing countries, particularly the SSA countries. Shchegolev & Hayat (2018) explore various institutional quality variables and find that the gross domestic product (GDP) increase of some selected nations is significantly affected by institutional quality variables including corruption control, government adequacy, rule of law and quality regulation but insignificantly affected by voice and accountability and political stability. Iheonu et al. (2017) discover that institutional quality has a positive and huge effect on economic progress in 12 West African nations. Grabowski & Self (2020) observe that policies aimed at influencing intermediary variables lead to improvements in governance and institutional quality, and hence economic growth. Adegboye et al. (2020) find that

institutional quality impacts growth through the inflow of foreign direct investment (FDI), while Kpognon, & Bah (2019) state that labour productivity through FDI impacts growth in sub-Saharan Africa.

There are also empirical pieces of evidence on how financial inclusion stimulates economic progress in SSA (see Balele, 2019; Dahiya & Kumar, 2020; Mwaitete & George, 2018; Odeleye & Olusoji, 2016; Zulkhibri & Ghazal, 2017). However, 1.7 billion people globally lack access to bank accounts (Demirguc-Kunt et al., 2018; Kama & Adigun, 2013). Additionally, financial inclusion is poor in SSA countries because the ratio of Automated Teller Machines (ATM) to adults is six ATMs to 100,000 adults (Ajide, 2017). According to Omar & Inaba (2020), inequality, poverty, low standard of living, and bad economic performance has been related to poor financial inclusion in developing nations, with negative implications on economic growth. Most studies from the literature reviewed used time-series analyses and were country-specific or focused on regions other than SSA. However, this study concentrates on 20 SSA nations and deploys panel data from 2004 to 2020 using a two-step system Generalized Method of Moments (SysGMM) approach introduced by Blundell & Bond (1998) to examine the impact of institutional quality and financial inclusion on economic growth in SSA countries. The findings reveal that financial inclusion has a positive relationship with economic growth irrespective of the measures of growth examined, while institutional quality reveals varying effects on the measures of economic growth employed.

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Table 1. Panel Unit Root Test

Variables	LLC	I(d)	IPS	I(d)
<i>FIINDEX</i>	-3.61168***	I(1)	-3.54626***	I(1)
<i>INSTDEX</i>	-4.60973***	I(1)	-5.76798***	I(1)
<i>L.RGDP</i>	-5.68075***	I(1)	-5.03561***	I(1)
<i>GDPGR</i>	-7.53995***	I(1)	-6.21315***	I(1)
<i>L.PCRGDP</i>	-5.79986***	I(1)	-5.09919***	I(1)
<i>INF</i>	-7.42197***	I(0)	-5.58246***	I(0)
<i>TOP</i>	-4.85710***	1(1)	-4.48596***	1(1)
<i>UER</i>	-3.74430***	I(1)	-2.82003***	I(1)
<i>L.INV</i>	-7.08923***	I(1)	-5.26073***	I(1)
<i>LIL</i>	-5.72671***	I(1)	-3.69455***	I(1)
<i>TNRR</i>	-13.9685***	I(1)	-8.44040***	I(1)

Notes: This table reports panel unit root test results. ***, **, * denote statistical significance at 1%, 5%, and 10% levels, respectively.

II. Data and Methodology

A. Data

A sample of 20 countries – Ghana, Mauritius, Kenya, Uganda, South Africa, Nigeria, Botswana, Gambia, Gabon, Cameroon, Central Africa Republic, Equatorial Guinea, Tanzania, Zimbabwe, Guinea, Zambia, Angola, Rwanda, Namibia and Mozambique – were employed. The sample was obtained by grouping the region into four sub-regions (Southern, Eastern, Western and Central) to enable us utilise the stratified sampling technique for selecting at least four countries each from the sub-regions. This technique ensures an adequate representation of the region. The dependent variables, comprising real GDP, per capita real GDP and GDP growth rate, are used as proxies for economic growth. The policy variables include institutional quality and financial inclusion. The Principal Component Analysis (PCA) method was used to generate a single composite index for financial inclusion and institutional quality for all 20 countries. PCA is a data reduction method and the composite index is based on the correlation of the individual measures of financial inclusion (ATMs per 100,000 adults, bank branches per 100,000 adults, ATMs per 1000 km, bank branches per 1000 km and domestic credit to private sector) and institutional quality (voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, corruption control, rule of law, human rights protection, ease of doing business and civil liberties). These data were collected from the World Development Indicators (WDI) database, World Governance Indicators (WGI) and the International Monetary Fund (IMF) Financial Access Survey (FAS) over the period of 2004–2020. The period was selected based on the fluctuation of real GDP and GDP growth rate in 2000 and 2002 as well as a sharp decline in GDP in 2003 to 2020.

B. Methodology

The SysGMM estimator was used to explore the connection among financial inclusion, institution quality and eco-

nomical growth. For growth models (with dynamic specification), the GMM estimators are superior to other panel data estimators. The sysGMM panel estimator accounts for time and country-specific effects and addresses the endogeneity problem using appropriate lags of the regressors as instruments (Blundell & Bond, 1998). Thus, we represent the dynamic relationship linking institutional quality (*IQ*), financial inclusion (*FI*) and economic growth (*EG*) of the selected countries as follows:

$$EG_{it} = \beta_0 + \beta_1 EG_{i,t-1} + \beta_2 FI_{it} + \beta_3 IQ_{it} + \beta_4 (FI_{it} * IQ_{it}) + \beta_5 X_{it} + \mu_i + \omega_{it} \quad (1)$$

where $EG_{i,t-1}$ denotes the dynamic component of the relationship.

FI captures financial inclusion indicators; *IQ* represents institutional quality; X_{it} is the vector of the control variables; μ_i and ω_{it} are the unobserved country-specific effects and error term respectively. The equation (1) is augmented with an interaction between institutional quality and financial inclusion ($FI * IQ$). By adding the control variables, equation (1) becomes:

$$EG_{it} = \beta_0 + \beta_1 EG_{i,t-1} + \beta_2 FI_{it} + \beta_3 IQ_{it} + \beta_4 (FI_{it} * IQ_{it}) + \beta_5 IFR_{it} + \beta_6 TOP_{it} + \beta_7 UER_{it} + \beta_8 INV_{it} + \beta_9 LIL_{it} + \beta_{10} TNRR_{it} + \mu_i + \omega_{it} \quad (2)$$

where *IFR* is inflation rate, *TOP* is trade openness, *UER* is unemployment rate, *INV* is investment expenditure, *LIL* is the literacy level and *TNRR* is the total natural resources rent.

III. Results and Discussion

From the results of the unit root tests in [Table 1](#), it can be deduced that with the exception of inflation, which remained stationary across all tests, all other variables are of first order of integration.

The results in [Table 2](#) reveal the different economic growth measures and how they relate differently to explanatory variables. Financial inclusion has a significant positive relationship with per capita real GDP. As more economic agents have access to quality and formal financial

Table 2. Summary of the 2-Step System GMM Results

	2-Step System GMM	2-Step System GMM	2-Step System GMM
Variables	LRGDP	LPCRGDP	GDPGR
<i>L.LRGDP</i>	0.817*** (0.0481)		
<i>L.LPCRGDP</i>		0.727** (0.0488)	
<i>L.GDPGR</i>			-0.161* (0.0589)
<i>FIINDEX</i>	0.261* (0.102)	0.0185 (0.0249)	1.594 (4.062)
<i>INSTDEX</i>	-0.0605** (0.0200)	0.0245*** (0.00607)	3.003 (1.436)
<i>FIINDEXINSTDEX</i>	-0.137** (0.0475)	-0.00415 (0.00548)	0.348 (3.623)
<i>INF</i>	-0.000121 (0.000295)	-0.000681*** (0.000222)	-0.0473 (0.0573)
<i>TOP</i>	0.000116 (0.000129)	-0.000321 (0.000257)	-0.0240 (0.0259)
<i>UER</i>	0.00246 (0.00140)	0.000105 (0.000567)	-0.175 (0.0982)
<i>LINV</i>	0.0694*** (0.0108)	0.0464*** (0.00954)	7.704** (2.102)
<i>LIL</i>	-0.241 (0.142)	0.137 (0.0843)	-43.36 (8.009)
<i>TNRR</i>	0.00104*** (0.000304)	0.00173*** (0.000468)	0.533* (0.0570)
<i>DUMMY_GFC</i>	-0.000957*** (0.00383)	-0.00476*** (0.00147)	-0.991 (0.187)
<i>N</i>	300	300	300
<i>Instruments</i>	50	18	18
<i>Groups</i>	20	20	20
<i>AR(1)</i>	-1.68	-1.49	-1.88
<i>AR(2)</i>	-1.61	-0.56	-1.87
<i>Sargan test</i>	29.55	34.63	57.31
<i>Hansen test</i>	4.17	7.40	8.72

Notes: This table reports our main findings. *t*-statistics are reported in parentheses. *p*-values are reported for AR(2) and the Hansen Statistic. The Hansen statistic test for over identifying restrictions, which is asymptotically distributed as χ^2 under the null of instrument validity. ***, **, * denote statistical significance at 1%, 5%, and 10% levels, respectively.

products, there is a rise in their access to credits and propensity to undertake savings and investments, which increases economic activities and promotes economic growth. Odeleye & Olusoji (2016) and Balele (2019) had similar findings as opposed to those of Omar & Inaba (2020) and Ajide (2017). The difference in findings could be as a result of difference in scope, context and period of the studies. Generally, the findings indicate that the relationship between financial inclusion and economic growth is positive and insignificant when economic growth is proxied using real GDP and GDP growth rate, while it is positive and significant at 10 percent level of significance when measured by real GDP.

The findings reveal mixed but significant effects of institutional quality on economic growth. The results show that

institutional quality has a positive relationship with economic growth, particularly where economic growth is measured as per capita real GDP and GDP growth rate. This is in conformity with the findings of Grabowski & Self (2020), Shchegolev & Hayat (2018), Nguyen et al. (2018), Iheonu et al. (2017), Omoteso & Mobolaji (2014) and Abubakar (2020). However, the results of the study further reveal that, using real GDP as a proxy for economic growth, institutional quality has a significant negative effect on economic growth. The finding is, nevertheless, not alien to the literature as the results are in conformity with the findings of Yildirim & Gokalp (2016), who argued that institutional quality has a negative effect on economic performance. Furthermore, Radzevica & Bulderberga (2018) have maintained that, due to the difficulty in measuring and quanti-

fyng institutions, there is no established agreement on the impact of institutions on economic growth.

IV. Conclusion and Recommendations

Strong institutions and financial inclusion contribute positively to economic activities which support sustainable growth and development. However, developing countries, particularly Sub-Saharan African countries have not taken advantage of these important factors of development. This study sought to find out the relationship between institutional quality and economic growth as well as between financial inclusion and economic growth in 20 Sub-Saharan African countries from 2004 to 2020. Having established the variables, the sysGMM model was applied on the panel data and revealed that the financial inclusion index had positive effects on economic growth in SSA when it was regressed against real GDP, per capita real GDP and GDP growth rate. It was discovered that the institutional quality index relates differently to various measures of economic growth. IQ had a positive impact on growth when economic growth was measured in terms of per capita GDP and GDP

growth rate, but had a negative impact when growth was measured as real GDP. Therefore, policy makers in the selected countries are encouraged to formulate policies and programmes that promote access to financial services and strengthen financial institutions so that uncertainties are reduced, confidence is engendered and economic activities are promoted to generate economic growth. It is also necessary for intergovernmental efforts to focus on governance and quality of financial institutions as critical conditions for accomplishing sustainable growth and viable development for SSA economies either in the short, medium or long term.

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