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The impact of institutional quality on living standards: Evidence from 20 sub-Sahara African (SSA) countries

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After it has been hypothesized and empirically validated that institutional quality (InQ) is an essential ingredient for development, examining whether InQ impacts living standards (LStds) is a worthwhile exercise. Using data from 2000 to 2019 on 20 SSA countries, this study modelled the impact of InQ on LStds in a VAR framework, upon satisfactory data suitability tests. The impulse response functions and forecast error variance decomposition estimates provide evidence that InQ does not directly impact LStds but does so through its effects on financial development (FDI). As the forecast horizon moves from 1 to 5 forecast periods, InQ accounts for about 7.13% of FDI shocks, while FDI explains about 0.55% of LStd, and LStds account for about 1.13% of FDI shocks. Ultimately, InQ impacts LStds through FDI. This paper concludes that FDI optimizes inflation and improves LStds, while inflation retards FDI in the short-run. The autocorrelation LM and Eigen value tests confirmed the robustness of the results. Government in SSA should implement laws and policies that will strengthen institutions to improve the LStds of their people.

Key words: Institutional quality, living standards, stochastic trend, impulse response functions (IRFs), forecast error variance decompositions (FEVD).

INTRODUCTION

Over the years, there has been growing emphasis in literature on the role of institutions on economic growth and development. This has given birth to a new strand of economics; the new institutional economics (NIE) that

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looks at how laws, legal and social norms, property rights among others, affect business transactions, market activities and the efficiency of the overall economy (Ogbebor, 2021). The NIE according to Ogbebor (2021) determines the quality of a country's institutions (InQ) which could influence economic growth by reducing business risk and improving the efficiency of financial systems.

Literature established that institutions play an essential role in an economy as the strength and quality of a country's institutions reflect the ability of the authorities to identify various forms of anticompetitive conduct in the economy and impose appropriate sanctions (Kutan et al., 2017). The quality of a country's institutions (InQ) is measured by the quality of laws enacted, good enforcement of laws and regulations, ease of doing business, protection of property rights, effectiveness of parastatals, transparency, democratic practices and state protection of citizens against social and economic shocks (Ogbebor, 2021). Traditionally, government protection of citizens against social and economic shocks is through social and economic safety and security schemes that address welfare needs and improve living standards. However, all the InQ factors outlined suggest that improving InQ could be another means for addressing living standard problems as they work to enhance human freedoms, which is at the core of the strive for human welfare. According to Khan et al. (2019), sound InQ improves freedoms in the markets, reduces transaction costs and respects private property rights, and these could enhance the efficiency of the economic systems to propel growth. Thus, good institutions create the enabling environment that promotes the rule of law (RoL), regulation, economic transactions and innovations, market development, social conflict management and economic growth. All these factors work to address the welfare needs of the people by improving the economic, financial, monetary and fiscal freedoms of the people. In contrast, when the RoL is weak or non-existent, property rights will largely be unenforced, markets will be dysfunctional, contracts will most likely not be respected and this will constrain growth (Ogbebor, 2021). Anyanwu and Yameogo (2015) report that dysfunctional institutions are obstacles to the economy and disable financial intermediaries from efficiently financing productive economic activities. Similarly, economies with inefficient governments and weak RoL, have shown worse banking sector performance than their counterparts (Barry and Tacneng, 2014). Again, unstable governments cannot credibly commit to policies that can encourage and foster entrepreneurial and innovative activities, and may also result in an unstable macroeconomic policy that hampers financial development (Le et al., 2016). This shows how injurious poor InQ is to the financial sector and the economy at large.

To the extent that poor InQ is empirically determined to be injurious to economic growth, it is logical and empirically backed that sound InQ is good for the economy. To this effect, Kutan et al. (2017) have established that financial development promotes economic growth only in a quality institutional environment. Indeed, sound InQ helps in mobilizing resources for the economy, facilitates growth and development, and thereby delivers the benefits of financial development through the enhancement of RoL, securing property rights, addressing corruption, reducing uncertainty and increasing investors' confidence (Wang et al., 2014). Again, Khan et al. (2019) contend that the effect of financial opening in stimulating equity market is only prominent among emerging markets with sound InQ. The positive effects of InQ on the economy and how crucial it is in the financial development and economic growth nexus have clearly been established in the literature (Khan et al., 2019; Kutan et al., 2017; Wang et al., 2014). That notwithstanding, it remains unclear whether this effects translate into improved living standards of citizens in such economies (Tran et al., 2021; Gyamfi et al., 2019). It is this gap in the literature that the present study seeks to fill by empirically examining InQ-living standard nexus. The study thus seeks to provide answers to the following questions: 1. Does InQ directly impact living standards? 2. To what extent does InQ explain shifts in living standards and financial developments? 3. Does inflation play a role in the InQ-living standards nexus? Therefore, the objectives of the study are to: (i) examine the effect of InQ on living standards; (ii) explain the extent to which InQ affects shifts in living standards and financial development; (iii) determine the role of inflation in the InQ-living standards nexus.

This study adopts a cross-country approach to examine whether InQ impacts living standards in SSA. The focus is on SSA because the sub region is poverty-endemic and remains the world's poorest region, despite decades of governments' efforts in fighting poverty. The focus of the study has been made more relevant considering reports that poverty reduction has been halting and irregular in Africa, relative to other continents with rapid growth and sound institutional quality (Sahn and Younger, 2009). Could the slow pace of growth and poor institutional environment be the reason for Africa's failed efforts at improving living standards? This paper seeks to provide government with alternative policy framework for fighting poverty and improving living standards by examining whether the influencing role of InQ on growth can enhance living standards in SSA.

LITERATURE REVIEW

The quality of a country's institutions is critical for the development of its financial sector, and the financial

sector is key to economic growth. By extension institutional quality (InQ) could be a key factor in a country's economic growth and could thus influence living standards since growth per capita, reflects standard of living. This review examines the foregoing analogy to empirically and theoretically frame the study, and also outlines the impulse transmission mechanisms of InQ. The review further sheds light on measures of living standards, considering the different dimensions of well-being: income, non-income (health and education), and the human development index (HDI). Then specify and justify their choice of indicator for well-being in the study.

Financial development (FDI) and economic growth

Extant literature established FDI as a means for economic growth and development (Gyamfi et al., 2019). Cherif and Gazdar (2010) capture the pivotal role the financial sector plays in the allocation of scarce economic resources, signifying the sector's growth supporting effects. Khan et al. (2019) established that efficiently functioning financial systems lead to economic growth. Other researchers described FDI as a means of improving and harmonizing financial systems, promoting competition, and to enhance economic growth. Further, FDI allows credit allocation across firms, thereby promoting investment efficiency and productivity (Khan et al., 2019). In another vain, the efficiency and competitiveness of financial markets are crucial dimensions of FDI that produce spill over effects on the economy, thus promoting economic growth (Yu et al., 2017). Again, the pace of financial market activities has growth supporting effects as the rapid pace of FDI corrects resource allocation disparities, thus enhancing total factor productivity growth. Importantly, FDI acts as a poverty reduction tool and an economic booster particularly when denoted by liquid liabilities and credit to private sector (Rashid and Intartaglia, 2017). Now, if institutional quality (InQ) is empirically established to influence FDI, and FDI acts as poverty reduction tool, then FDI could be acting as a conduit passing on InQ impulse to economic conditions and thus stimulating living standards. In all, the foregoing analysis points to FDI as means for economic growth but whether that can translate into improved living standards is not so explicit in literature (Gyamfi et al., 2019) and therefore needs further examination.

InQ, FDI and growth

Conceptually, InQ, FDI and economic growth are interrelated. Intuitively, by reducing financial risk and harmonizing financial systems, InQ stimulates economic growth. Le et al. (2016) studied FDI determinants in Asia

and the Pacific from 1995 to 2011 and established that InQ fosters financial sector development. Other empirical evidence revealed high-quality institutional environment as key for FDI, and that institutional factors influence financial and economic development by forcing reforms that reduce uncertainty (Jain et al., 2017; Gyamfi et al., 2019). Specifically, while high corruption index has positive significant impact on stock market developments, bribery has significant negative influence on financial markets (Jain et al., 2017). Other empirical works report that, improvements in democratic practices enhanced FDI via its influence on economic growth and that governance has played significant role in raising large trading monopolies that enabled the emergence of financial systems worldwide (Doan, 2019). Some other empirical strands show that financial sector development also affects institutional quality, as Nguyen et al. (2021) established that efficient allocation of bank credit to the private sector could be an effective way of controlling corruption, and that institutional quality and financial market returns are significantly positively related. They explained that countries with distinct levels of institutional development have differing degrees of FDI, which is attributable to their institutional quality level.

The foregoing review has not only succeeded in establishing the interdependence between InQ and FDI, but has provided empirical foundation for exploring the role of InQ via FDI in promoting growth. Even though, there exist strong interaction between the two magnitudes, how that nexus affects growth and thus living standards, under the influence of inflation has not been directly examined empirically. In other words, InQ, FDI, growth and inflation have not been directly captured in a single model to examine how each of them will respond to the others. The emphasis has been on the relationship between InQ and FDI, FDI and growth, and between InQ and growth separately (Le et al., 2016; Ogbebor, 2021); providing evidence that InQ through FDI leads to growth. On whether the resulting economic prosperity leads to improved living standards, Siyal et al. (2016) analysed the impact of the relationship between infrastructure investment and institutional quality on living standards (GDPpc) in Pakistan from 1990 to 2013 and found a long standing significant relationship between InQ and living standards (GDPpc). Doan (2019) studied trade, InQ and income in SSA from 1980 to 2013 and found that InQ affects economic development and living standards. Ferrara and Nistico (2019) investigated whether InQ matters for multidimensional well-being inequalities in Italy and found that InQ impacts regional multidimensional well-being inequalities. Considering the fact that emerging economies like SSA countries have had relatively unstable institutional frameworks due to the fact that some of those economies have undergone rapid development where InQ played a crucial role in cultivating positive economic outcomes from the financial

sector. Coupled with the fact that SSA countries are saddled with excruciating levels of poverty and deteriorating living standards. This study seeks to examine whether InQ could be a tool for improving living standards in SSA considering InQ, FDI, growth and inflation in a single PVAR model.

InQ impulse transmission mechanisms

Available literature captures four mechanisms by which InQ impulses are transmitted to the economy. First, sound InQ reduces the cost of economic transactions by enforcing contracts and increasing information availability, thus reducing investment risk (Doan, 2019). Second, Doan (2019) explains that sound InQ increases returns on investment through upholding the RoL and protecting property rights. Third, sound InQ reduces the tendency for the dominance of the powerful elite to the detriment of others as well as reducing the likelihood of inequalities among citizens (Khan et al., 2019). Lastly, sound InQ provides the enabling environment for businesses to thrive and improves the extent to which the resources of a nation can be exploited to create sustained levels of wealth thereby enhancing economic growth and development (Khan et al., 2019). It is worthy to note that the effectiveness of these transmission mechanisms is crucial in determining the impact of InQ on the economy and for that matter the standard of living. Clearly, weak transmission mechanisms weaken/derail the impact of InQ on the economy and the reverse holds.

Measures of living standards

Three dimensions of well-being as measures of living standards have been examined which include income/expenditure, education and health. Even though most empirical poverty researches have measured well-being in income dimension, there are equally good reasons for doing so in non-income dimensions. First, Sahn and Younger (2009) captured Amarte Sen's postulation that, well-being is multidimensional, comprising capabilities, and that even though many traditional money metrics of poverty are key to these capabilities, it is the capabilities themselves that matter, and merit recognition in their own right. Second, the same authors argued that non-income variables are relatively less prone to measurement errors: and that whilst data collection on income/expenditure is a complex process and may result in spurious outcome, that on non-income variables, especially anthropometry and years of schooling, are easy (respondents have relatively lesser incentive to misreport such data). Third, public policy addresses non-income well-being needs through publicly funded income transfers, which are rare in developing

countries, but easily accessible for targeted programs to improve non-income living standards (Sahn and Younger, 2009), whilst improvements in these areas have tangible externalities, including benefits for the non-poor that are not as manifest for income transfers. Forth, outcomes in non-income dimensions of well-being can be measured at the individual level but that income dimensions are measured at the household level. Where household income is unevenly distributed among household members, the use of income measures of well-being becomes problematic. Finally, many non-income measures of well-being are not strongly correlated with incomes; suggesting that the non-income variables contain additional well-being information not captured by income or expenditures alone, and therefore could measure well-being better than the income/expenditure variable.

The Human Development Index (HDI) aggregates the income, education and health dimensions of welfare as an index of well-being. Todaro and Smith (2015), described the HDI as a composite index of life expectancy, education, and per capita income indicators. Higher HDI means higher standard of living, and this is attained when the lifespan, the education level, and the gross national income GNI per capita of the people are all high. Even though significant amount of literature consider HDI as the best measure of welfare, most empirical poverty researches today still employ income dimensional living standards in examining the subject matter. The reason is that income is a key component of all the other dimensions of welfare and may exert greater influence on living standards than the other dimensions. It is for this reason and in line with Siyal et al. (2016) and others that income dimensional welfare (GDPpc) was employed as proxy for living standards in this study.

METHODOLOGY

This study analysed InQ, GDPpc (GDP per capita), FDI and inflation (Inf) data spanning 2000-2019 on a sample of twenty (20) sub-Sahara African (SSA) countries, using panel VAR framework. The researchers sourced data from the International Financial Statistics database of the IMF and WDI of the World Bank. The data is sourced on Algeria, Botswana, Cameroon, Côte d'Ivoire, Egypt, Ghana, Kenya, Libya, Malawi, Morocco, Mozambique, Namibia, Nigeria, South Africa, Sudan, Tanzania, Tunisia, Uganda, Zambia and Zimbabwe. The study is limited to these countries because of data availability. The annual data used could be the major limitation of this study, as more frequent data might produce better results but are difficult to obtain.

Measurement of variables

Following standard practice in literature, the researchers employed some indices to assess InQ, FDI, standard of living (GDPpc) and macroeconomic environment. In line with Kaufmann et al. (2011), we measure InQ as an index of transparency, bureaucratic quality,

law quality, and legislative quality, all obtained from the International Country Risk Guide (ICRG). Transparency is an inverse of corruption within the political system. Financial corruption makes financial markets less efficient by generating networking effects that leads to anticompetitive behaviour. Highly corrupt countries (low transparency) tend to have low competitive conditions, and this is more pronounced for large banks with greater political power. Our corruption variable captures the extent to which public power is exercised for private gain. Bureaucratic quality represents the quality of administrative infrastructure. The quality of the judicial system and the general observance of law measures law quality. The quality and relevance of laws enacted measure the legislative quality. In all, higher values for these indices reflect higher InQ. Values for transparency and legal quality range from zero to six. Bureaucratic quality and legislative strength variables range between zero and four. Malawi, Cote d'Ivoire and Zimbabwe, respectively score the lowest in legislative strength, bureaucratic quality, and transparency index.

Financial sector development was measured using combination of stock market capitalization and credit to private sector. The ratio of a country's stock market capitalization to GDP measures contribution from the capital market, whilst the ratio of credit to private sector to GDP measures the banking sector contribution. The study also employed GDP per capita (GDPpc) as proxy for standard of living. Our assumption is that, since GDPpc is a financial metric that breaks down a country's economic output per person; it may be the indicator that best reflects the general standard of living of the citizens. GDPpc is measured as the ratio of GDP to population. The researchers accounted for the effect of the macroeconomic environment characteristics that could impair our model's ability to capture the true relationship between InQ and growth, by controlling for inflation. As the rate of annual growth in the consumer price index (CPI), inflation can dampen banking sector activity rendering it non-competitive, in that, prices of financial products and services such as interest rates will be less informative.

Model specification

The study adopts a panel VAR framework in analysing the dynamic link capturing the variables: InQ, FDI, GDP$_{pc}$, and Inf in a model, with structural representation:

$$M_0 y_{it} = \sum_{j-1}^{P} M_j y_{t-j} + \mu_{it} \qquad (1)$$

where $M_0 = 4 \times 4$ contemporaneous matrix of coefficients estimated from the reduced form of the model, where j = 0, using OLS estimator.

$y_{it} = 4 \times 1$ vector of endogenous variables, that is, $y_{it}=$ [FDI$_{it}$, GDPc$_{it}$ InQ$_n$, InfR$_{it}$], FDI, GDPc (GDP per capita), InfR and InQ are proxy for financial development, economic growth, inflation

rate, and institutional quality, respectively. $M_j = 4 \times 4$ autoregressive coefficient matrices for the jth lag, and j = Number of lags (j = 1,2 …..K), where $y_{it-j=} 4 \times 1$ vector of the lags of the endogenous variables (dynamic interdependences) for each country i, and $\mu_{it} = 4 \times 1$ vector of structural disturbances assumed to have zero covariance and generally correlated across each country, i (static interdependences). The contemporaneous covariance matrix of the structural disturbances takes the form:

$$E[\varepsilon_t \varepsilon_t'] = \sigma^2 \times I \qquad (2)$$

where I = identity matrix of order 4×4, and

$$\sigma^2 = \begin{pmatrix} \sigma_1^2 & 0 & 0 & 0 \\ 0 & \sigma_2^2 & 0 & 0 \\ 0 & 0 & \sigma_3^2 & 0 \\ 0 & 0 & 0 & \sigma_4^2 \end{pmatrix} \qquad (3)$$

and

$$\varepsilon_{it} = M_0^{-1} \times \mu_{it} \qquad (4)$$

Equation 1 is decomposed into Equation 5 by multiplying through by M_0^{-1}:

$$y_{it} = \sum_{j=1}^{P} N_j y_{i,t-j} + \varepsilon_{it} \qquad (5)$$

where

$$N_j = M_0^{-1} \times M_j \qquad (6)$$

and

$$\varepsilon_{it} = M_0^{-1} \times \mu_{it} \qquad (7)$$

The decomposed errors ε_{it}, are linear combinations of the structural errors μ_{it}, with a covariance matrix of the form:

$$E[\varepsilon_{it} \varepsilon_{it}'] = M_0^{-1} \sigma^2 M_0^{-1} \qquad (8)$$

The specific estimable system of equations to which model 2 is subject are:

$$FDI_t = \sum_{j=1}^{p} \beta_{11j} FDI_{t-j} + \sum_{j=1}^{p} \beta_{12j} GDPc_{t-j} + \sum_{j=1}^{p} \beta_{13j} InfR_{t-j} + \sum_{j=1}^{p} \beta_{14j} InQ_{t-j} + \mu_{1,t} \qquad (9)$$

$$GDPc_t = \sum_{j=1}^{p} \beta_{21j} FDI_{t-j} + \sum_{j=1}^{p} \beta_{22j} GDP_{t-j} + \sum_{j=1}^{p} \beta_{23j} InfR_{t-j} + \sum_{j=1}^{p} \beta_{24j} InQ_{t-j} + \mu_{2,t} \qquad (10)$$

$$lnfR_t = \sum_{j=1}^{p} \beta_{31j} FDI_{t-j} + \sum_{j=1}^{p} \beta_{32j} GDPc_{t-j} + \sum_{j=1}^{p} \beta_{33j} InfR_{t-j} + \sum_{j=1}^{p} \beta_{34j} lnQ_{t-j} + \mu_{3,t}$$

(11)

$$lnQ_t = \sum_{j=1}^{p} \beta_{41j} FDI_{t-j} + \sum_{j=1}^{p} \beta_{42j} GDPc_{t-j} + \sum_{j=1}^{p} \beta_{43j} lnfRI_{t-j} + \sum_{j=1}^{p} \beta_{44j} lnQ_{t-j} + \mu_{4,t}$$

(12)

where $\mu_{1,t}, \mu_{2,t}, \ldots. \mu_{4,it}$ are the respective shocks of FDI, InfR, GDP$_{pc}$ and InQ. These disturbances are assumed to be serially uncorrelated and uncorrelated with each other.

Shocks

Consistent with literature, we identified and estimate shocks of the model variables in their respective equations.

The VAR (p) framework employed in this paper is to help deal with endogeneity problems among the study variables, considering the fact that information systems around the world vary due to differences in institutional quality and regulatory frameworks.

Preliminary tests and statistic for analysis

To determine the suitability of the data for the study, a series of panel unit root (stationarity) tests, and Pedroni residual panel cointegration tests were performed. If the results of the stationarity test suggest the existence of a possible long-run relationship (that is, unit root) among the variables, co integration test is then conducted for confirmation. If the result of the cointegration test proves the presence of cointegration, a panel VECM is estimated, otherwise we estimate panel VAR.

The lag length selection test is performed to determine the optimum lag for the model, we estimated the model and then generated the impulse response functions (*irf*) and forecast error variance decompositions (*fevd*) from the resulting residuals.

The variable coefficients in PVAR model are not able to capture fully the complicated dynamics in the model. We therefore employed the impulse response functions and forecast error variance decompositions statistics which are more informative than the regression coefficients.

RESULTS AND DISCUSSION

Unit root test results

Table 1 presents summary of results of various panel unit root tests conducted on all the variables under the hypothesis; H$_0$: panels have Unit root (assumes common unit root process).

Since P< 0.05 for all variables except InQ (that is, P > 0.05 for InQ), the null hypothesis cannot be rejected. This suggests the existence of a possible long-run relationship within and across the panels since the variable InQ is non-stationary at level.

Panel cointegration test

To ascertain the presence of long-run relationship within and across the panels as envisaged, the researchers employed Pedroni residual cointegration test with three trend assumptions. The results revealed that most of the test statistics have probability values greater than the 5% significant level in all the three trend assumptions, thus the null hypothesis of no cointegration cannot be rejected.

Lag-order selection test

To obtain an optimum model, we conducted the optimum lag length selection test and the results indicate that the optimum lag length for the PVAR model is 1. We then proceed to estimate the decomposed model via the system of specific Equations 9 to 12.

Robustness test

Autocorrelation lagarangian Multiplier (LM) test was performed on the residuals generated from the PVAR model estimation under the hypothesis; H0: no autocorrelation at lag order. We found evidence to reject the null hypothesis and conclude that there is significant correlation of all series within and across panels. Therefore, the findings for these studies hold for all sampled countries.

Model stability test

The eigen value stability condition test results showed that all the eigen values lie within the unit circle, indicating that the PVAR model estimated is stable and robust.

IRFs

Graphs of impulse response functions (irf) were generated from the residuals of the model estimates to

Table 1. Panel unit root test: Summary.

Variable	Levin, Lin & Chu t*		Im, Pesaran and Shin W-stat		ADF - Fisher Chi-square		PP - Fisher Chi-square	
	Statistic	Prob.**	Statistic	Prob.**	Statistic	Prob.**	Statistic	Prob.**
FDI	-9.72031	0.0000	-9.56561	0.0000	180.070	0.0000	211.918	0.0000
GDPpc	-21.5972	0.0000	-17.0226	0.0000	283.692	0.0000	406.781	0.0000
InfR	-19.5515	0.0000	-15.6120	0.0000	274.299	0.0000	401.248	0.0000
InQ	-4.46051	0.0000	3.7101	0999[#]	50.4885	0.0551[#]	50.8196	0.0518[*]

*Not statistically significant, **Statistically significant; Probabilities for Fisher tests are computed using an asymptotic Chi.

Table 2. Variance decomposition analysis; Variation in the row variable explained by column variable (in %, 5 periods ahead).

Response	Years	FDI	GDPc	InfR	InQ
	1	100.0000	0.000000	0.000000	0.000000
	2	95.58831	0.709211	3.669537	0.017661
FDI	3	92.06257	0.533428	7.313746	0.064736
	4	89.71629	0.456418	9.636998	0.136520
	5	88.11374	0.404700	11.14981	0.233951
	1	1.060208	97.99786	0.000000	0.000000
	2	1.203575	96.16717	1.634678	0.029611
GDPpc	3	1.203585	96.14802	1.643096	0.041680
	4	1.202985	96.11805	1.660675	0.054515
	5	1.203451	96.10544	1.662362	0.065108
	1	1.876489	0.871743	96.56694	0.000000
	2	1.673168	2.710583	94.72989	0.000847
InfR	3	1.721268	2.704647	94.60654	0.004652
	4	1.850748	2.712534	94.40728	0.009342
	5	2.004970	2.705968	94.21322	0.014654
	1	7.066438	0.115621	0.090459	92.43675
	2	7.380966	0.430022	0.068513	91.76675
InQ	3	7.354667	0.407590	0.066201	91.81581
	4	7.286507	0.417566	0.073167	91.87011
	5	7.193435	0.418082	0.080466	91.96240

determine how changes in one variable affect changes in another. Table 2 presents the graphs, the interpretation and analysis (Figure 1).

Figure 1 shows that, InQ and GDPpc negligibly respond to shocks from one another and thus, have virtually no effect on each other. Table 2 (FEVD estimates) confirms this results showing that as the forecast horizon moves from 1 to 5 forecast periods ahead, living standards on average explain about 0.21% of InQ shocks, whilst InQ explains about 0.27% of shifts in living standards on average. This finding is not only contrary to Siyal et al. (2016)'s finding of a long standing relationship between InQ and living standards but also contrasts Doan (2019)'s finding that InQ affects living standards. This contrasting finding could be due to the less frequent data used in this study.

Again, FDI respond positively to shocks in InQ and the response increases as time passes. However, InQ does not respond to FDI shocks. Thus, only InQ affects FDI, not the reverse. Table 2 confirms these results showing that, on average FDI explains only about 0.13% of InQ shocks, whilst InQ explains about 7.13% of FDI shocks.
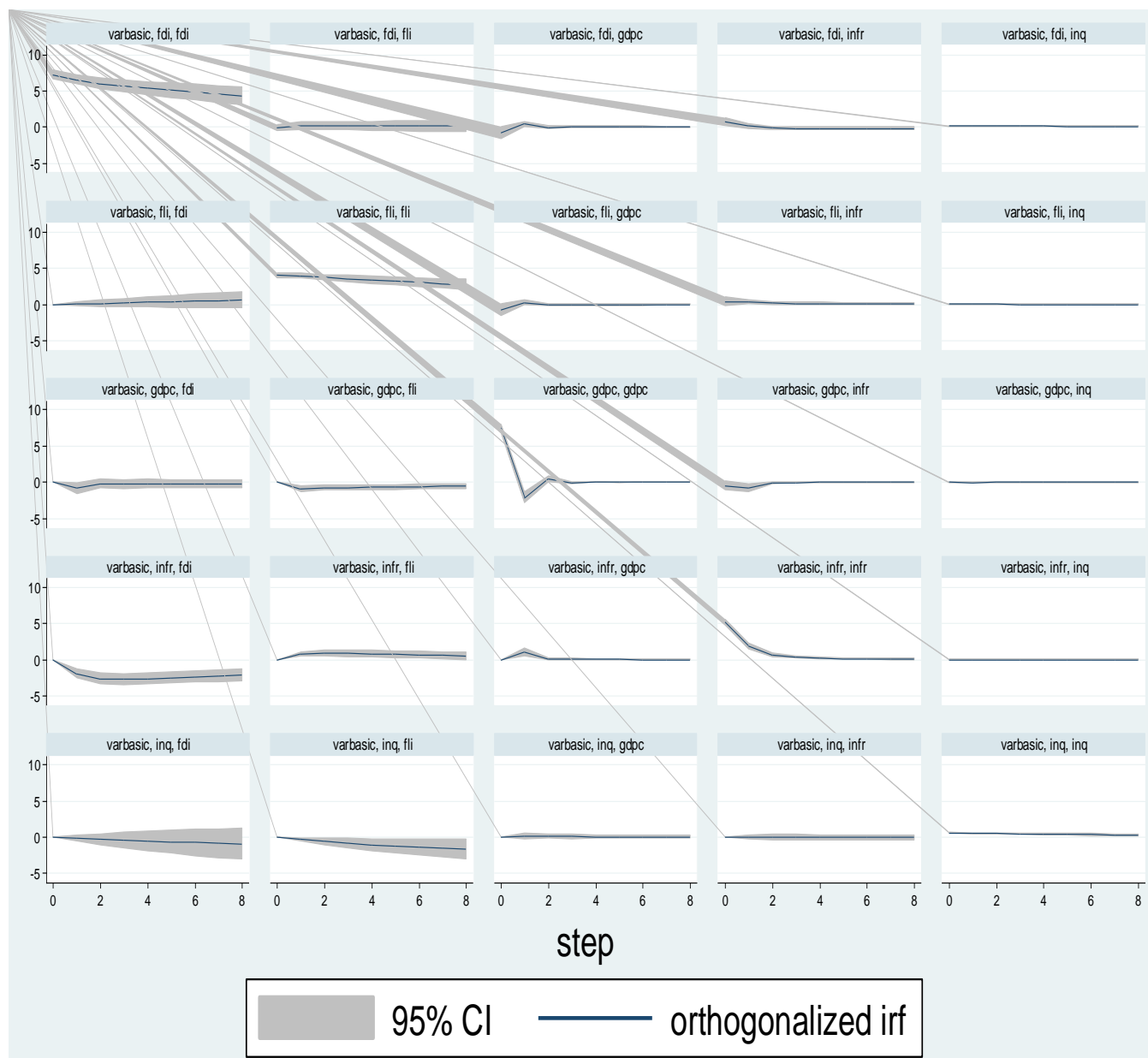
Figure 1. Graphs of impulse response functions of the set of endogenous variables FDI, GDPpc, InfR and InQ.
Source: Authors' own construct (2020).

This finding supports Le et al. (2016)'s finding that InQ fosters financial sector development. It is also consistent with Jain et al. (2017)'s finding that high-quality institutional environment is good for FDI. The findings also supports Cherif and Gazdar (2010)'s finding that institutional factors influence FDI, as they influence financial and economic development by forcing reforms that reduce uncertainty.

Living standards (GDPpc) and FDI, respectively respond positively and negatively to each other only in

the short-run, but only the effects of FDI on GDPpc is significant. This means development in the financial markets has significant positive effects on living standards, whilst living standards have insignificant negative effects on FDI. Table 2 confirms this by showing that on average GDPpc accounts for about 1.13% of FDI shocks, whilst FDI accounts for about 0.24% of shocks in living standards. This finding is contrary to that of Batayneh et al. (2021), of a statistical significant long and short-run positive impact of economic growth

on financial sector performance. The finding is however in line with Cherif and Gazdar (2010) who established the growth supporting effects of financial development. It is also consistent with Khan et al. (2019)'s finding that efficiently functioning financial systems lead to economic growth and by far standards of living of the people.

FDI negatively affects inflation in the short and long-runs, but GDPpc positively affects inflation only in the short-run. On the other hand, inflation has insignificant negative and positive effects on GDPpc and FDI, respectively only in the short-run. This means financial development and improved living standards harmonize and optimize the inflationary environment, whilst high inflation is injurious to living standards but aids financial development in the short run. Table 2 supports this finding by showing that inflation accounts for about 1.95 and 1.79% on average of FDI and GDPpc shocks, respectively, while FDI and GDPpc account for about 7.41 and 1.65% of inflation shocks, respectively. This finding of an insignificant positive effect of inflation on financial development contrasts Batayneh et al. (2021)'s finding of inflation having a statistically significant negative effects on financial sector development. It is important to note that inflation is employed as controlled variable here, therefore its effects on other model variables is not the focus of discussion.

Overall, institutional quality does not affect living standards, but affects financial development, which intends affect living standards. Thus, institutional quality does not affect standard of living directly but does so through its effects on financial development; and this finding could be due to the presence of inflation in the model.

Table 2 presents the forecast error variance decomposition (FEVD) estimates which explain how changes in one variable account for changes in other variables.

Table 2 shows that, generally as the forecast horizon moves from 1 to 5 forecast periods ahead, the predictive power of one variable over another improves, whilst that of each endogenous variable over its own shocks declines. All model variables are strongly endogenous with InQ, FDI, GDPpc and inflation accounting for about 92.27, 100, 97.06, and 95.39% on average of their past shocks. The rest of the variables are highly exogenous.

Conclusion

This study examined the impact of institutional quality on living standards, using a sample of twenty (20) sub-Sahara African countries in a dynamic PVAR framework over the period: 2000-2019.

The study finds evidence that institutional quality does not directly lead to improved living standards but does so

through its effects on financial development. It also shows that, only institutional quality affects financial development, not the reverse, and that as the forecast horizon moves from 1 to 5 forecast periods ahead, institutional quality accounts for about 7.13% of financial development shocks on average. Furthermore, financial developments have significant positive effects on living standards, while living standards have insignificant negative effects on financial development; and that as living standards account for about 1.13% of financial development shocks, financial development accounts for only about 0.55% of shocks in living standards. Finally, the study established that financial development optimizes inflation and living standards, while inflation shocks retard financial development only in the short-run.

This paper recommends that to stimulate and enhance growth in living standards, governments and their development partners should strive towards strengthening and improving the quality of their institutions. Improving institutional quality will not only facilitate economic growth but will enhance national living standards through its effects on financial development. Future research should use more frequent data for improved precision of estimates.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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