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Working Paper 07/2016

May 2016

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Olusegun Ayodele Akanbi

Abstract

This study examines the determinants of domestic investment in sub-Saharan African (SSA) countries with explicit focus on the role of governance/institutions. The literature has emphasizes more on the macroeconomic factors that explain investment, neglecting the non-economic causes that could be more important. A panel of 45 selected sub-Saharan African countries and the period 1996–2013 were considered in the estimations using the two-stage least-squares estimation techniques. The results are in line with the findings of existing literature. The study expands on the analysis that governance/institutions play an important role in explaining the long-term pattern of domestic investment in the region. In addition, the study identify that a sustainable level of domestic investment could be attained at a particular governance rating. Therefore, countries with better governance ratings will achieve higher investment levels and domestic investment tends to converge as poor governance is attained.

Keywords: convergence, domestic investment, GDP, governance and institutions, sub-Saharan Africa

JEL Classification: C23, E22, E13, G38, O55

1. Introduction and background

Investments in physical capital remain an important macroeconomic variable that is needed to create demand and increase the productive capacity of a country. Capital formation serves as a linkage between the demand-side and supply-side of the economy, because of its role in creating demand and as an important input into the production process. It is regarded as one of the major catalysts to achieving inclusive growth and development of any economy, given its multifaceted impact on both the economic and social wellbeing of the individual and society as a whole. Therefore, if investment is such an important macroeconomic variable, to ensure a good performance, a strong and stable institutional (governance structure) environment needs to be established (Acemoglu et al, 2004; North, 1990). This study investigates the impact of the various elements of governance on domestic investment in sub-Saharan Africa (SSA).

Empirical literature has identified some macroeconomic variables that are responsible for explaining the level of domestic investment in the economy. Many of these studies (i.e. Shafik, 1992; Oshikoya, 1994; Ghura & Goodwin, 2000; Ndikumana, 2000; Du Toit & Moolman, 2004; Bayraktar & Fofack, 2007) have concentrated on macroeconomic and financial variables using the Keynesian, the Tobin's Q and neoclassical theory of investment for a country-specific or panel of countries analysis. These studies found that both financial variables (i.e. profitability of firms, cost of capital and mark-up prices) and macroeconomic variables (i.e. GDP and rate of openness) are significant determinants of investment. However, more recent literature (i.e. De Mendonca & Da Silva Lima, 2011; Foster-McGregor, 2013; Ucan, 2014) continue to confirm this trend.

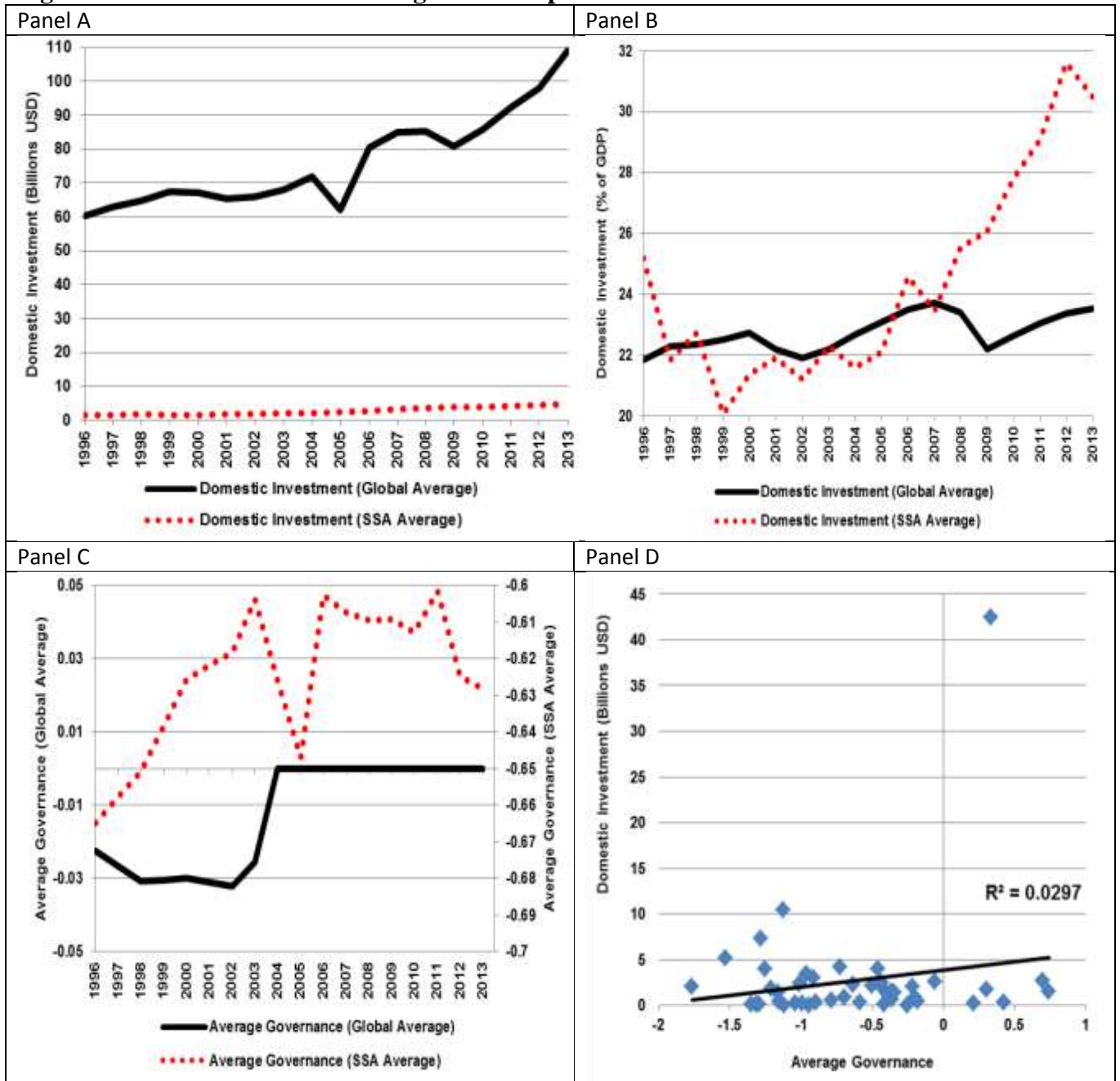
Few studies have emerged with regard to the role played by governance or institutions in explaining investment. Mody and Srinivasan (1998), Altomonte (2000) and Bevan and Estrin

(2000) have revealed the importance of a country-specific institutional and political environment as a determining factor in explaining investment. More relevant for this study, is the analyses of Globerman and Shapiro (2002), Anyanwu (2012), Bellos and Subasat (2012), Morrissey and Udomkerdmongkol (2012) and Akanbi (2012), who investigated how governance affects foreign direct investment (FDI) flows and total aggregate domestic investment in developed and developing economies. These studies confirm the significant role played by good governance in attracting investment, with the exception of Bellos and Subasat (2012), whose results suggest that the lack of good governance does not deter foreign direct investment. Most of these studies focused on the aspect of FDI.

The importance of good governance in the development of a nation remains a crucial debate among global policy makers in recent years and this aspect of policy paradigm is seen as the major stumbling block to the implementation of many macroeconomic policies in many developing and low-income economies (Globerman & Shapiro, 2002). Rodrik et al (2004) argue that the quality of institutions triumphs over any other factors that can drive the economy. In other words, to achieve any meaningful economic objectives a solid institutional framework should be embedded in the system. In their study, the quality of institutions, rather than geography and trade integration was found to have a positive and significant effect on economic performance.

Looking at the performance of investment and governance, the evolution of domestic investment in SSA countries has revealed some basic trends over the past two decades or two in relation to the level of governance. Figure 1 shows the averages of aggregate domestic investment and governance across both SSA countries and globally during the period 1996 to 2013. It also reveals the correlation that exists between investment and governance in SSA during the same period.

Figure 1: Domestic investment and governance performance in sub-Saharan Africa



Source: World Bank Databank (2015) and Worldwide Governance Indicator Database (2015)

Average domestic investment in SSA countries remains at a very low level in comparison with the global average (figure 1; panel A). In 1996, average domestic investment in SSA stood at about \$1.5 billion and it has only risen to about \$4.7 billion in 2013. Despite the steady average increase of about 7 per cent per year, the share of SSA domestic investment in global domestic investment remain very low at about 3.5 per cent per year on average. As a

share of GDP, SSA's domestic investment has been on its upward trend since 1999 rising from 20 per cent of GDP to about 32 per cent of GDP in 2012 while global trend remain subdued and rising only from about 22 per cent of GDP to 23.5 per cent of GDP between 1996 and 2013 (figure 1; panel B). Given the geopolitical significance of the SSA region in the global space, the picture has revealed serious structural impediments embedded in the region. These structural impediments are also embedded in the governance structures of SSA countries. In panel C of figure 1, it is revealed that the governance index in SSA countries has also remained significantly below the global averages. For instance, in 1996, the governance index in SSA stood at about -0.66 compared to global index of about -0.02 during the same period. Global governance has improved slightly, to 0 since 2004, while the governance index in SSA rose to about -0.63.ⁱ Comparing governance with domestic investment in SSA, panel D in figure 1 shows a very weak positive correlation between the two variables but at the same time revealed some important facts about causal effect. South Africa remain the best performing (outlier) economy in terms of level of investment (\$42.5 billion) and better governance rating (0.33).ⁱⁱ Generally, many SSA countries are clustered around low investment levels and poor governance ratings, an indication that poor governance will deter investment into the region. However, there are countries with better governance ratings (i.e. Botswana, Cape Verde, Mauritius, Namibia and Seychelles), but low investment. This can be attributed mainly to their small economic size.

The concept of governance/institutions, as used in this study, follows Kaufmann et al (1999) definition and cited in Akanbi (2015). It explains that governance consists of the “traditions and institutions by which authority in a country is exercised. This involves the process by which those in authority are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them”.

This study offers a broader analysis of Akanbi's (2012) findings, which confirms the significant role played by governance in explaining domestic investment in Nigeria. In this study the important role of good governance on aggregate domestic investment in SSA countries is re-emphasized. What distinguishes this study from other related studies are:

- its ability to detect the impact of governance (using the different elements of governance indicators) on domestic investment; and
- identifying a threshold for sustainable domestic investment level at a particular governance rating after controlling for level of real output and other significant variables affecting investment within the region. Therefore, the study reveals that countries with a particular governance rating can achieve a particular level of domestic investment, if they operate at a particular income (GDP) level. It also reveals how domestic investment could tend to converge/diverge at lower or upper levels of governance ratings.

The results suggest that the GDP level, level of financial development, cost of capital, exchange rate and governance all have a major role to play in boosting domestic investment in sub-Saharan Africa. In addition to this, domestic investment convergence tends to occur as poor governance is ensued, but there exist a divergence in domestic investment when there is some political instability in the region.

The rest of the study is organised as follows: section 2 presents the theoretical framework, econometric methodology and the description of the data used in the study; section 3 analyses the various estimation results with a further step to identify a sustainable level of domestic investment at particular governance ratings; and section 4 concludes the study and also provides policy recommendations.

2. Theoretical framework, methodology and data analysis

The theoretical framework behind investment decisions began from the well-established capital stock identity in the literature, expressed as follows:

$$K_t = (1 - \delta)K_{t-1} + I_t, \quad (1)$$

Where K_t and K_{t-1} are the capital stocks in the current and previous period respectively, δ is the rate of depreciation and I_t is the gross domestic investment. δK_{t-1} is the replacement investment and $K_t - K_{t-1}$ is the net investment. Therefore, the following identity holds for gross investment:

$$I_t = \delta K_{t-1} + (K_t - K_{t-1}) \quad (2)$$

Equation (2) means that, gross investment is the sum of replacement investment and net investment. The methodology adopted in this study follows the neoclassical approach (i.e. Jorgenson, 1963) to domestic investment in SSA region. The neoclassical model is built on the strict assumption that firms maximise profits in a perfectly competitive environment. However, this study considers an augmented neoclassical approach, as adopted by Akanbi (2012), to be the most suitable approach in estimating the domestic investment function for SSA countries. Therefore, the model incorporates institutional features such as governance as part of firms' optimisation problem when making investment decisions. In line with empirical literature, the study explains domestic investment as a function of GDP, financial development, real interest rate, nominal exchange rate and the different forms of governance.

A panel data econometric technique is used to estimate the determinants of domestic investment in the selected sub-Saharan African countries over the period 1996–2013. The econometric models are presented alongside their a priori sign below:

$$\ln I_{it} = \beta_1 + \beta_2 \ln gdp_{it} + \beta_3 \ln m2_{it} - \beta_4 real\ int_{it} + \beta_5 \ln exch_{it} + \beta_6 gov_{it} \pm e_{it}$$

(3)

Where domestic investment (I) is measured by the gross fixed capital formation; gdp is the level of income (measured by gross domestic product); $m2$ is the level of financial development (measured by M2 money supply); $realint$ is the real interest rate (nominal interest rate minus inflation); $exch$ is the nominal exchange rate (domestic currency per US dollar); gov is the governance indexes; and e is the error term. The subscript, it , refers to the country and time period, respectively. All variables are presented in their natural logarithm forms, except for the governance indexes and real interest rate that have negative values. The gov variable is expressed in the different elements of governance indicators such as corruption control (cc), political instability (pi), government effectiveness (ge), rule of law (rl), regulatory quality (rq), voice and accountability (va) and the average governance (gov_ave). The focus of the study is to see the overall and individual effects of each elements of governance on domestic investment, after controlling for other possible transmission channels as additional explanatory variables in the model.

The GDP is expected to show a positive relationship with domestic investment, as evidenced in the literature. Likewise, the level of financial development should have a positive effect on domestic investment. Therefore, an increase in GDP and financial development should lead to a further increase in domestic investment. Real interest rate, a measure of cost of capital, is expected to pose a negative relationship with domestic investment. Rising real interest rate will discourage real investment decisions in the economy. Nominal exchange rate is included in the specification, because both domestic and foreign investors are more concerned about the absolute cost of making a real investment in an economy rather than relative cost, which is captured by the real exchange rate. In addition, the stability of a currency also plays an important role in attracting investment. Therefore, a depreciating (increase), exchange rate is expected to boost domestic investment irrespective of whether the real investment decisions are made locally or is from abroad. For a domestic investor, a depreciating exchange rate could encourage more capital formation in the production for more exports, while a foreign

investor will take the advantage of a depreciating currency to invest in an economy. With regard to governance, a better governance structure is expected to encourage more domestic investment into the country. Therefore, governance is expected to pose a positive relationship with domestic investment.

The use of ordinary least squares estimation is found to be inappropriate, since the specification of the model reveals a possible endogeneity problem among the regressors. In other words, there could be evidence that the explanatory variables in the model could be endogenous and correlated with the error term. In this scenario, the appropriate estimation technique will be an instrumental variable regression, in order to derive robust estimates of the parameters in equations (3). Therefore, a TSLS estimation method is adopted and, in order to correct for possible omitted variables and error in variables, suitable instruments are used that are assumed to be highly correlated with the observed explanatory variables and uncorrelated with the error term (Wooldridge 2010, pp. 89-115). The instruments used are one period lagged value of all independent and dependent variables in the model. These instruments enter into the below reduced-form equations for the endogenous variables:

$$\ln_gdp_{it} = \alpha_1 + \alpha_2 \ln_gdp_{it}(-1) + \alpha_3 \ln_m2_{it}(-1) + \alpha_4 real\ int_{it}(-1) + \alpha_5 \ln_exch_{it}(-1) + \alpha_6 gov_{it}(-1) + u1_{it}$$

(4)

$$\ln_m2_{it} = \chi_1 + \chi_2 \ln_gdp_{it}(-1) + \chi_3 \ln_m2_{it}(-1) + \chi_4 real\ int_{it}(-1) + \chi_5 \ln_exch_{it}(-1) + \chi_6 gov_{it}(-1) + u2_{it}$$

(5)

$$real\ int_{it} = \delta_1 + \delta_2 \ln_gdp_{it}(-1) + \delta_3 \ln_m2_{it}(-1) + \delta_4 real\ int_{it}(-1) + \delta_5 \ln_exch_{it}(-1) + \delta_6 gov_{it}(-1) + u3_{it}$$

(6)

$$\ln_exch_{it} = \gamma_1 + \gamma_2 \ln_gdp_{it}(-1) + \gamma_3 \ln_m2_{it}(-1) + \gamma_4 real\ int_{it}(-1) + \gamma_5 \ln_exch_{it}(-1) + \gamma_6 gov_{it}(-1) + u4_{it}$$

(7)

$$gov_{it} = \lambda_1 + \lambda_2 \ln_gdp_{it}(-1) + \lambda_3 \ln_m2_{it}(-1) + \lambda_4 real\ int_{it}(-1) + \lambda_5 \ln_exch_{it}(-1) + \lambda_6 gov_{it}(-1) + u5_{it}$$

(8)

Where $u1$ to $u5$ are the error term. However, if $\alpha_2, \chi_3, \delta_4, \gamma_5, \lambda_6 = 0$ and all other parameters in the reduced form equations are not equal to zero, then the structural equation is identified, because the instruments are relevant in the equation determining it. Furthermore, country-specific and time-specific characteristics were considered in the estimations under the assumption that, although these countries may have similar economic structures, there still exist major differences in their patterns of investment and are exposed to different exogenous shock at a particular point in time. Given this, the study carried out the TSLS with two-way (cross-section-specific) fixed effect estimation techniques.ⁱⁱⁱ

The data used in this study have been obtained from the World Bank Databank; African Development Indicators, International Monetary Fund; International Financial Statistics, and Worldwide Governance Indicators database. It covers the period between 1996 and 2013 and includes 45 selected sub-Saharan African countries. All data were accessed in 2015, measured in real-term (2005 prices) US dollars and expressed in natural logarithms, except for variables with negative values.

As mentioned earlier, the worldwide governance indicators developed by Kaufmann, Kraay and Mastruzzi (1999) were utilised in this study. The indices cover a wide range of policy and institutional outcomes and include the rule of law, corruption control, government effectiveness, regulatory quality, voice and accountability and political instability. These indices are also employed in Globerman and Shapiro (2002) and Akanbi (2015) as a measure of governance. The governance scores ranges from -2.5 to $+2.5$, with -2.5 representing the worst governance and $+2.5$ the best governance. Each of the six elements of governance mentioned above were used interchangeably in the model and, to capture governance in a broader context, the average value of the six elements were taken and used as an additional

variable to measure overall governance in the region. The period of investigation of the study was limited, as it started from 1996 onward, since the governance indicators' series is only available from that period. However, an interpolation of the series was done given the missing values for 1997, 1999 and 2001 that existed in the series.

3. Empirical analysis

Based on the framework adopted above, this section presents the estimation results and further extends to identifying the sustainable levels of domestic investment when governance are at particular ratings. In this analysis, domestic investment tends to converge at lower or poor governance ratings.

3.1. Estimation results

The estimations carried out confirm that the positive correlation exhibited between domestic investment and governance measures have translated into causation. Although, by removing the outlier (South Africa) from the panel, the trend in figure 1 changed to a weak negative correlation. However, this does not have any effect on the signs and causations in the estimation results due to the two-way fixed effect estimation technique adopted. Balanced panel estimations were carried out with 765 pooled observations after necessary adjustments had been made. After solving all the possible estimation problems (i.e. endogeneity) that could render the coefficients invalid, the entire explanatory variables examined in the estimations were found to be statistically significant determinants of domestic investment. These variables explained significantly well the level of domestic investment within the region except for financial development variable which is found to be statistically insignificant in almost all the estimations (table 1). This is an indication that the structural equation (TSLS) is identified and the instruments adopted are valid.^{iv}

Table 1: Estimated coefficients for the determinants of domestic investment

Independent variables	Estimation 1	Estimation 2	Estimation 3	Estimation 4	Estimation 5	Estimation 6	Estimation 7
Real GDP	0.80*** (2.96)	0.50* (1.72)	0.98*** (3.91)	0.81*** (3.00)	0.77** (2.74)	0.88*** (3.13)	0.83*** (2.98)
Financial development	0.18 (1.32)	0.20 (1.53)	0.10 (0.75)	0.14 (1.01)	0.16 (1.19)	0.19 (1.35)	0.23* (1.70)
Real interest rate	-0.01*** (-4.70)	-0.01*** (-4.74)	-0.01*** (-4.63)	-0.01*** (-4.68)	-0.01** (-4.65)	-0.01*** (-4.63)	-0.01*** (-4.55)
Nominal exchange rate	0.33*** (3.12)	0.27** (2.55)	0.31*** (3.08)	0.35*** (3.29)	0.37*** (3.38)	0.36* (3.19)	0.33*** (3.03)
Average governance	0.68*** (3.34)						
Regulatory quality		0.98*** (3.87)					
Voice and accountability			0.77*** (3.98)				
Rule of law				0.71*** (3.37)			
Corruption control					0.79*** (3.37)		
Government effectiveness						0.83*** (3.28)	
Political stability							0.33*** (2.57)
Constant	-2.05 (-0.38)	4.74 (0.79)	-4.15 (-0.84)	-1.34 (-0.25)	-1.22 (-0.21)	-3.96 (-0.71)	-3.91 (-0.71)
Number of observations	765	765	765	765	765	765	765
R-square	0.79	0.80	0.81	0.79	0.77	0.77	0.78
Durbin-Watson statistic	2.34	2.32	2.28	2.34	2.34	2.32	2.27

Note: ***Significant at 1% level. **Significant at 5% level. *Significant at 10% level. T-statistics are recorded in parentheses.

Source: Author's calculation and analysis of data from Eviews 8.

The results show that an increase in average governance (better governance) by an index point will translate into about a 0.68% increase in domestic investment (Estimation 1). Using the different elements of governance (estimation 2 to 7), their impact on domestic investment remain significant. Therefore, an index point increases in regulatory quality, voice and accountability, rule of law, corruption control, government effectiveness and political stability will lead to increases of about 0.98%, 0.77%, 0.71%, 0.79%, 0.83% and 0.33% in domestic investment, respectively. According to Kaufmann, Kraay and Mastruzzi (2010)'s definition of these elements of governance, the above governance impact indicates that, investors' perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development (regulatory quality) and their perceptions of the extent to which a country's citizens are able to participate

in selecting their government, as well as freedom of expression, association and a free media (voice and accountability) are more important in the decision to invest in a country. This is followed by the extent to which agents have confidence in and abide by the rules of society and, in particular, the quality of contract enforcement, property rights, the police and the courts, as well as the likelihood of crime and violence (rule of law); the extent to which public power is exercised for private gain, including both petty and grand forms of corruption (corruption control); and government effectiveness, which reflects the quality of public and civil services and the degree of its independence from political pressures, the quality of policy formulation and implementation and the credibility of the government's commitment to such policies. However, the element of governance with the least impact on domestic investment is the political stability. This indicates that investors are more resilient to the likelihood that the government will be destabilised or overthrown by unconstitutional or violent means in their decision to make real investment in a country (Kaufmann et al, 2010).

All the macroeconomic variables (except for financial development) are found to be statistically and economically significant determinants of domestic investment in all the equations (table 1). For instance, the results (equation 1) show that a 1% increase in GDP will lead to an increase of about 0.8% in the level of domestic investment. This will lead to an increase of about 0.18% when financial development is increased by 1%. The economic significance of the real interest rate remains small in all the estimations and translates into a unit decline in real interest rate is expected to boost the level of domestic investment by about 0.01% among the selected sub-Saharan African countries. The depreciation of the local currencies against the US dollar by 1% will boost domestic investment by about 0.33%.

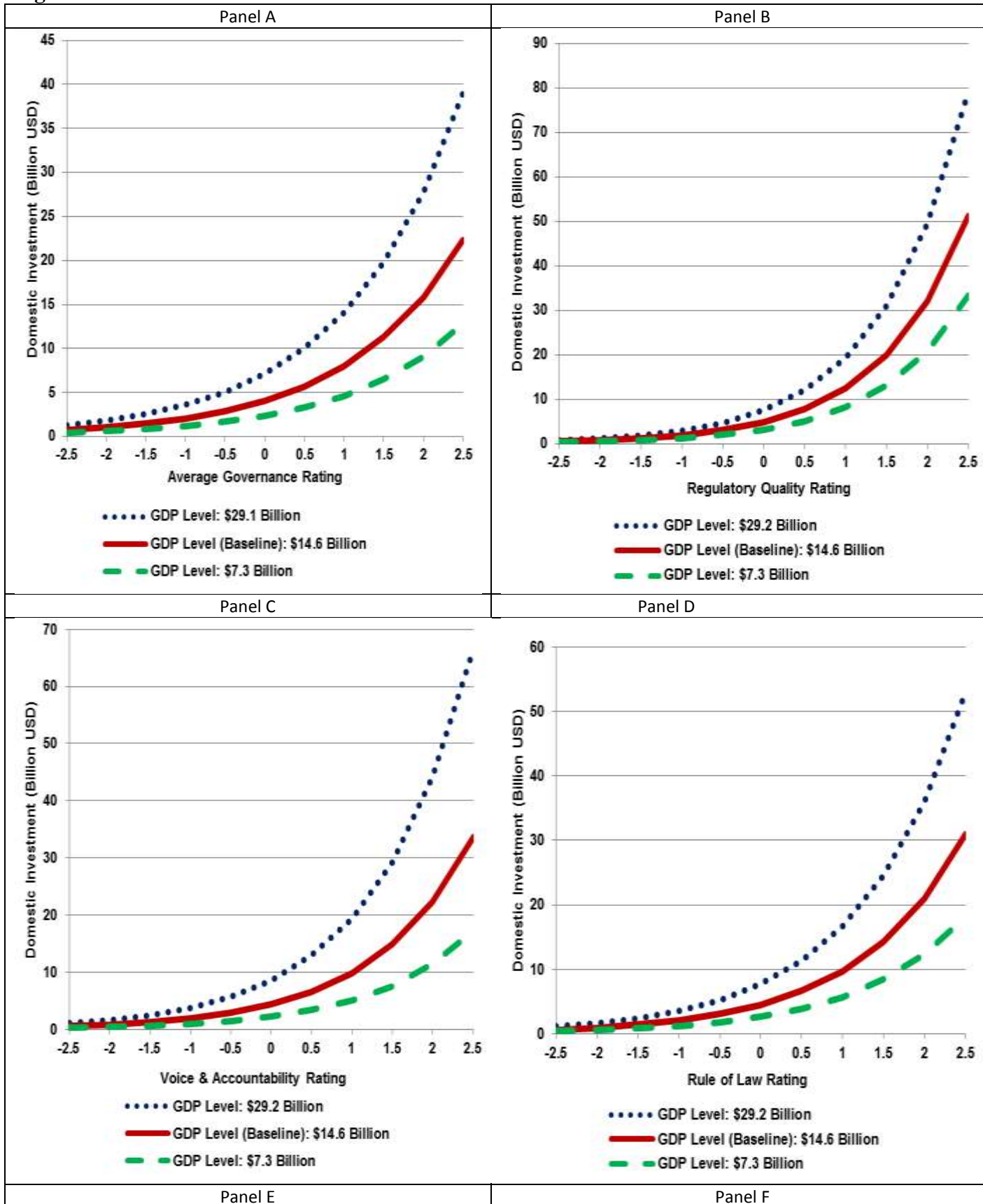
3.2. Policy implications: detecting a "sustainable" level of domestic investment in relation to governance ratings

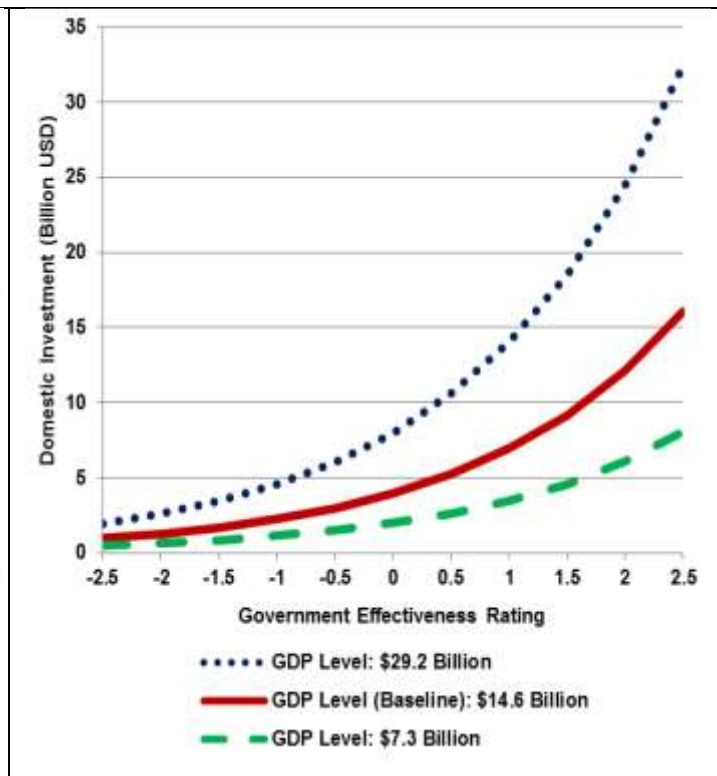
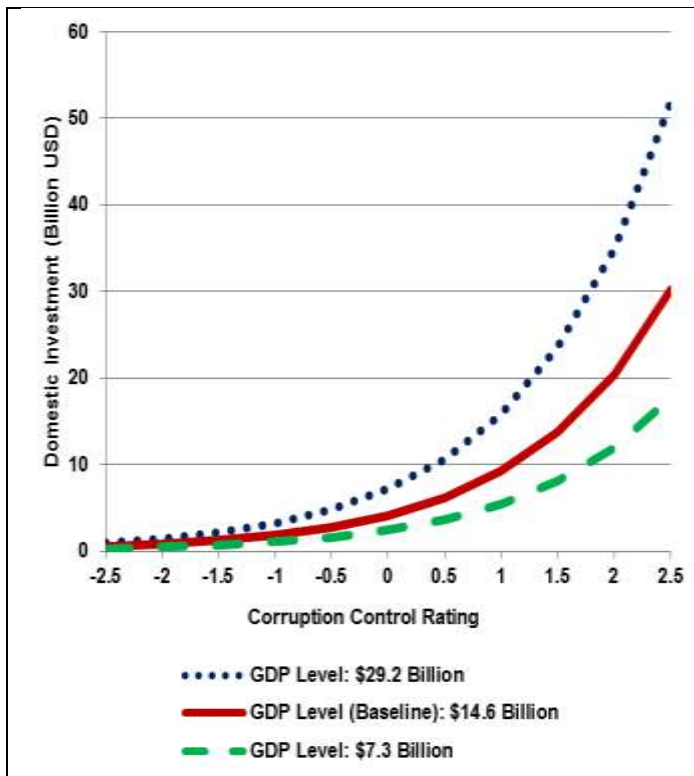
To boost domestic investment among the developing and low-income countries, this study has estimated that a higher and sustained economic growth, a well-developed financial system, low cost of capital, an attractive exchange rate and a good governance structure are needed simultaneously. Previous studies, highlighted above, have also confirmed these results, but none have taken it a step further by identifying a sustainable domestic investment that could be useful for policy guidance. In this section the findings generally indicate that countries with an initially lower (poor) level of governance tend to operate at lower and similar domestic investment levels, even when GDP differs among them –suggesting a domestic investment convergence–. Therefore, working towards achieving better governance could be the necessary first step to boosting domestic investment.

The regressions above have clearly shown that increases in output (GDP), financial inclusion, low cost of capital and depreciating currency are of importance where the aim is to boost domestic investment. At the same time, governance is important where the aim is to increase the level of domestic investment; thus, thresholds for domestic investment are derived as a function of governance.^v

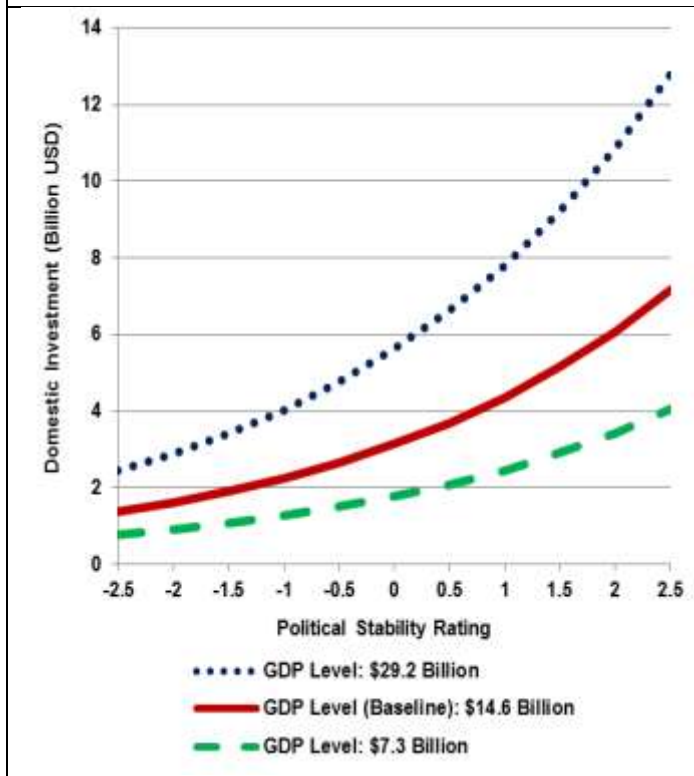
Following the idea in Akanbi (2015), since the governance scores range from -2.5 to $+2.5$ and in order to categorise governance at different levels, the range between -2.5 and -1 corresponds to “poor governance”, between -1 and $+0.5$ corresponds to “average governance”, and between $+0.5$ and $+2.5$ corresponds to “good governance”.^{vi}

Figure 2: Governance and domestic investment levels





Panel G



Source: Author's calculation and analysis of data from Eviews 8

To derive the threshold of domestic investment at a given level of governance rating, averages across time and cross-sections for the entire dependent and independent variables were taken. These averages are substituted into estimated equations (3) and repeated for the

varying governance ratings (from -2.5 to +2.5) and different elements of governance.^{vii} Therefore, for a given average GDP level ranging from US\$7 to US\$29 billion (figure 2A–2G), countries with poor governance ratings will sustain a lower level of domestic investment, while those with good governance ratings will be able to sustain a higher domestic investment level.

From figure 2, operating at a higher level of GDP will bring about a higher domestic investment level. In relation to domestic investment and the elements of governance in figures 2A–2F, there seems to be an existence of convergence in domestic investment as governance deteriorates. Irrespective of the level of GDP, domestic investment levels tend to converge at their lowest as poor governance are attained. This convergence is most visible in relation to regulatory quality rating in figure 2B. For instance, countries at a -0.5 governance rating, in figure 2B, will still have similar domestic investment levels, even when GDP levels differ. In addition, these trends are very non-resilient to changes in the elements of governance presented in figure 2B–2F. Meaning that, a small change in the governance ratings will lead to a larger change in domestic investment. With the baseline GDP level (figure 2A-2F), the level of domestic investment will rise from US\$0.74 billion to US\$22.28 billion as average governance improves within the region. Looking at specific elements of governance, the level of domestic investment will rise from US\$0.47 billion to US\$51.23 billion, as better regulatory quality is being pursued; from US\$0.56 billion to US\$33.7 billion, as voice and accountability improves; from US\$0.66 billion to US\$30.93 billion, as rule of law is being pursued; from US\$0.58 billion to US\$30.22 billion, as corruption is being controlled; from US\$0.98 billion to US\$16.1 billion, as government effectiveness improves; and from US\$1.38 billion to US\$7.16 billion, as political environment stabilises. This indicates that the governance elasticity of domestic investment differs for the six elements of governance measures.

With the political stability measures there seems to be differing investment levels, even when countries are operating at poor governance ratings. This divergence at poor governance ratings is attributable to the resilient effects of political stability ratings on domestic investment. With regard to domestic investment and political stability, in figure 2G, convergence at a lower (poor) ratings could not be achieved; instead domestic investment levels seems to differ as GDP differs. This indicates that, to a certain degree, investors could overlook political instability in a country and invest more as long as there is evidence of a higher level of income (GDP). In this scenario, countries with higher levels of GDP will continue to attract more investment, even when they are operating at the same political stability rating. Looking at the baseline trend in figures 2G, at the poor governance rating of -2.5, real domestic investment will stand at about US\$1.38 billion, while at a good governance rating of +2.5, real domestic investment will stand at about US\$7.16 billion. Despite the resilience of domestic investment to changes in the political stability rating, attaining a good political stability rating of at least +0.5 could still produce, at the very least, an extra US\$790 million real investment in the region.

4. Conclusions and policy recommendations

This study has been able to empirically examine the importance of governance in boosting the level of domestic investment in sub-Saharan Africa. In order to incorporate all cost-minimising and profit maximising decision-making processes of the firm, an augmented neoclassical (Jorgenson) approach was adopted as the most suitable theoretical framework for estimating domestic investment in the region. The analysis was carried out on a panel of 45 selected sub-Saharan African countries, starting from 1996 to 2013. Due to the endogeneity problem that could exist among the regressors, the study resolved to use the TSLS fixed effect estimation techniques. The estimations performed (after controlling for other factors) portray a robust estimate of the parameters in the domestic investment equations. However, better governance structures have again been confirmed to significantly boost the level of

domestic investment in these countries. The stylised facts presented show a serious structural and institutional bottleneck hindering the decision of investors to make real investment in the region.

The main findings of the study have revealed the following:

- Other than real output (GDP), financial development, cost of capital, exchange rate, and the level of governance are also significant determinants of domestic investment within the region. Therefore, positive investment strategies should focus more on institutional impediments, but without undermining the macroeconomic factors.
- The study reveals that establishing a strong institutional framework within an economy is the first necessary step to boost domestic investment in the region. This, therefore, confirms the argument that governance holds sway over all economic objectives.
- There exists a convergence in domestic investment levels as poor governance (i.e. regulatory quality, rule of law, voice & accountability, corruption control and government effectiveness) ensued even when GDP levels differ across countries. The disappointing historical data of low domestic investment in SSA and other developing economies could be eradicated if all economies strive to achieve the best level of governance.
- Convergence in domestic investment does not occur when political stability deteriorates, even at differing levels of GDP. To a certain extent, investors are found to be resilient to changes in the political stability rating. They could tend to invest more, depending on the severity of the instability, in as much as there is an attractive market size (higher GDP level) in the country.

From a policy perspective, to ensure an inclusive growth and development trajectory, establishing good governance structures should precede all other objectives. There is a need

to continue to strengthened government institutions by improving coordination within government structures. To boost domestic investment in the region, government capability to be able to formulate and implement sound policies and regulations, which will permit and promote private sector development, is urgently needed. There is also the need to establish a culture of respect for the rule of law, zero tolerance on corruption and an improvement in the ability of governments to provide quality public goods and services for its citizens.

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Endnotes

ⁱ The governance scores ranges from -2.5 to $+2.5$, with -2.5 representing the worst governance and $+2.5$ the best governance.

ⁱⁱ Detailed analysis on how governance is measured is presented in section 2.

ⁱⁱⁱ This technique will also circumvent the outlier detected in the case of South Africa's better than others levels of domestic investment and governance rating (as reported in figure 1) within the region.

^{iv} It should be noted that in the case of a TSLS estimation, the coefficient of variations (R-square) and other diagnostic tests presented are no more valid since we can no longer decompose the variation in domestic investment into different independent components (Wooldridge 2010, 89–115).

^v The computed domestic investment from the estimation results is about US\$2.70 billion (based on the mean of the pooled sample of all countries). The computed domestic investment is very close to the actual values (US\$2.74 billion) from the mean of the pooled sample.

^{vi} A similar idea was adopted in Kraay and Nehru (2006) when categorising weak, medium, and strong policy using the Country Policy and Institutional Assessment.

^{vii} The regression results presented in table 1 (estimation 1–7) are used to calculate the thresholds. The thresholds for domestic investment are obtained by controlling for average GDP levels, financial development, real interest rate and nominal exchange rate (figures 2A–2G). This is based on the mean of the pooled sample of selected SSA countries. In addition, the obtained thresholds also controlled for all other unobserved variables in the estimations, which is captured through the error term.