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Unearthing the Integral Determinants of Foreign Ownership Prevalence of Companies in Africa: Role of Country-level Governance

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ABSTRACT

This study seeks to deepen our understanding on how country-level governance structures influence prevalence of foreign ownership of firms in Africa. This study reinforces the new institutional economics perspective by empirically highlighting that governance structures influence the prevalence of foreign ownership of companies in an economy. Using archival data from 39 African economies, we found that there is a significant positive association between regulatory quality and foreign ownership prevalence. Also, foreign ownership is prevalent in African countries that are politically stable and embrace rule of law. However, we found that countries with high voice and accountability structures are associated with low foreign ownership prevalence.

1. Introduction

At the onset of developing, it is anticipated that the prevalence of foreign ownership of companies would become one of the significant sources of growth and development in developing economies. Firms with a higher share of foreign ownership should be more efficient than companies with no or a small foreign stake (Blomstrom & Sjoholm, 1999). Foreign investments are anticipated to take the shape of transfer of new technologies and ideas, which eventually can be emulated by local corporate organizations (Naciri, 2008; Yudaeva, Kozlov, Melentieva, & Ponomareva, 2003). An opportunity to emulate Western style of managerialism is also a major reason for luring foreign investors into developing countries and economies in transition (Yudaeva et al., 2003). The prevalence of foreign ownership could possibly renew shareholders' meetings, which will eventually bring about a change in attitudes of management toward shareholders (Bien, Delga, & Ged, 2008). However, in an incrementally globalized economy, competition is fierce and country-level good governance can make an unambiguous difference, by influencing the way and manner in which domestic corporate organizations are perceived by foreign investors (Naciri, 2008; Jalilian, Kirkpatrick, & Parker, 2003; Rodrik,

2000; Campos, Lien, & Pradhan, 1999). National institutions, which include governance structures and practices based on international norms and standards would enable economies particularly, developing economies to post-modernize their corporate sector, which could possibly increase the prevalence of foreign ownership in their economies (Altomonte, 2000; Morisset, 2000; North, 1990).

A plethora of studies has examined the preferences of institutional investors and how economic factors tend to influence these preferences (Uhlenbruck, Rodriguez, Doh, & Eden, 2006; Kirkpatrick, Parker, & Zhang, 2006; Habib & Zurawicki, 2002). However, foreigners tend to invest less money in corporate organizations that reside in economies that are characterized by weak governance structures, weak investor protection and flawed accountability system (Kirkpatrick et al., 2006). This implies that foreign investors invest in companies that are resided in economies, characterized by strong governance structures, which can help ensure transparency, accountability, information symmetries, among others. Foreign investors shy away from firms located in economies with unsound governance structures, in that they are more likely to incur huge costs in relation to their information and monitoring costs (Wei, 2000; Shleifer & Vishny, 1993).

In this paper, we are concerned with how country-level governance structures influence the prevalence of foreign ownership instead of examining how economic factors influence the prevalence of foreign ownership, given that disparities across economies in economic circumstances offer only a fractional explanation of the locational choices of foreign investors and that the effectiveness and efficiency of an economy's governance structure could have a considerable influence on their choices (see Uhlenbruck et al., 2006: Kirkpatrick et al., 2006; Habib & Zurawicki, 2002). Without a doubt, our study offers insight into how institutional structures influence the holdings of foreign investors in African countries. Our aim therefore, in this paper, is to examine how country-level governance structures influence the prevalence of foreign ownership in African economies.

The choice of African economies is not uninformed. Currently, most African economies have been witnessing economic growth and development, which have added a lively impetus to the debate on the goad behind the prevalence of foreign ownership. Also, most African countries have transitioned from a one-party state (i.e., dictatorial regime) to a multi-party state (i.e., democratic regime) recently. This transition has played a significant role in the establishment and strengthening of state institutions in these economies, but as to whether these institutions, which include governance structures, are operational in ensuring the prevalence of foreign ownership in these economies is essentially empirical. Therefore, this study deepens our understanding of how country-level governance structures influence foreign ownership prevalence in African economies. Further, African economies have witnessed a massive arrival of foreign investors in the past decade, and as a consequence, there has been a call for examining the driving force behind this occurrence.

Corollary to this, we aim to make two main additions to the extant literature. First, our results add to the existing art of knowledge on corporate governance in Africa, which has been scarce. This scarcity of literature is further witnessed in terms of the association between country-level governance structures and the prevalence of foreign ownership in African economies. Second, we strive to add to literature on the

institutional framework of corporate governance, by divulging evidence from developing economies to explore the relation between governance structures and the prevalence of foreign ownership. In this instance, whilst quite a significant number of studies has explored how economic factors influence the prevalence of foreign ownership in African economies, it has become expedient to examine how institutional structures of these economies particularly, governance structures influence the prevalence of foreign ownership.

We thus examine this essential concern and focus on how country-level governance structures influence the holdings of foreign investors in companies situated in African economies. We take into consideration the germane governance structures such as control of corruption, government effectiveness, rule of law, voice and accountability, political stability and regulatory quality, and explore how these structures impact on the prevalence of foreign ownership in African economies. Our paper is structured as follows. We first present the trend of prevalence of foreign ownership in African economies from 2009 to 2012. It will be presented in both sub-regional and national levels, which we believe will divulge how countries and sub-regions in Africa are performing in regards to foreign ownership prevalence. Second, we will proceed to review the literature and develop testable hypotheses on this issue. Subsequent to this section, data, model specification and estimation techniques will be addressed. Finally, the findings and conclusions will be presented.

2. Trends of foreign ownership in Africa

Data on foreign ownership, unambiguously, is vitally important to aid formulate and test hypotheses on the investment preference of foreign investors in economies. In recent years, African economies have attracted much more foreign investment, but there are disparities in the prevalence of foreign ownership in these economies. Thus this section will present how countries in Africa fared in regards to foreign ownership prevalence from 2009 to 2013. Figure 1 demonstrates trends of foreign ownership prevalence among North African countries.

Prevalence of foreign ownership in North Africa varies across countries. As Figure 1 illustrates, Tunisia dominated from 2010 to 2011 but from 2012 to 2014, Morocco was
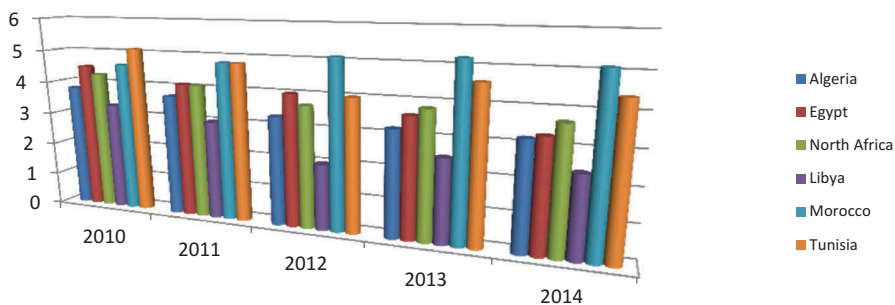

Figure 1. Trend of Foreign Ownership Prevalence in North Africa. Source: World Competitiveness report: How prevalent is foreign ownership of companies in your country? (2010–14) [1 = very rare; 7 = highly prevalent] weighted average.

the dominant country. Morocco's domination since 2012 could be as a result of the Arab Spring in 2011 that plunged Tunisia into political turmoil. Further, the performance of Egypt has been dwindling since 2010. From 2013 to 2014, the prevalence of foreign ownership in companies in Egypt was below that of the sub-region average, which could be as a result of the social unrest that bedeviled the country during this period. Algeria and Libya have fared below the sub-region average since 2010, signifying that these two countries have the lowest foreign ownership in companies in North Africa.

Like Northern Africa, there are discrepancies in the prevalence of foreign ownership among West African economies. As Figure 2 demonstrates, Cote D'Ivoire recorded the highest from 2010 to 2013, but in 2014, Gambia recorded the highest within the sub-region. Though Gambia recorded the highest in 2014, its performance from 2012 to 2014 was higher than the figure it recorded in 2014. Cape Verde, Cote D'Ivoire, Gambia and Ghana recorded figures higher than the average of the sub-region over the period in review. The continent's largest economy – Nigeria – until 2012, fared below the average of the sub-region. Guinea, Mali and Mauritania over the period in review fared below the sub-region average, denoting that they are characterized by lowest foreign ownership prevalence in West Africa.

Figure 3 shows the prevalence of foreign ownership among Central African countries. Gabon and Cameroon recorded figures above the sub-regional average over the period under review. Cameroon recorded the highest prevalence of foreign ownership until 2013, when Gabon took over. Although the performance of Angola from 2010 to 2012 was above the sub-regional average, it fared below the sub-regional average from 2013 to 2014. Chad has consistently fared below the sub-regional average over the period in review, meaning that the prevalence of foreign ownership in its economy is the lowest in Central Africa.
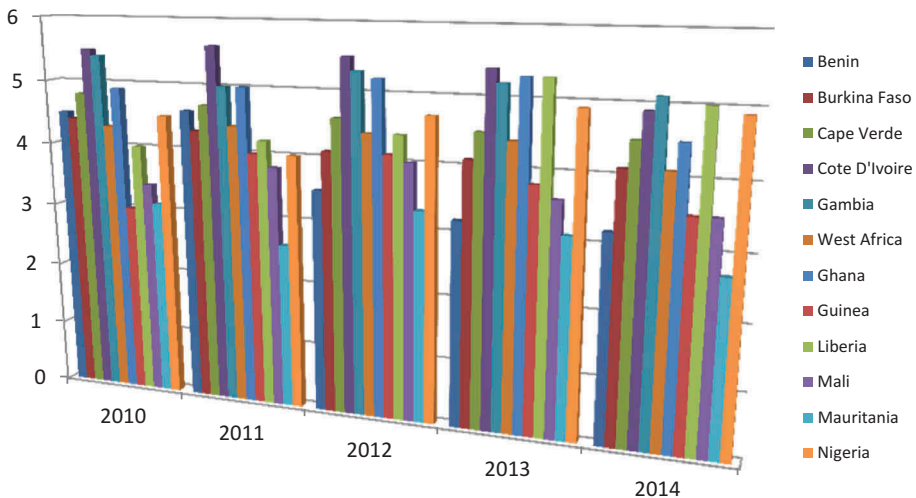

Figure 2. Foreign ownership prevalence in West Africa. Source: World Competitiveness report: How prevalent is foreign ownership of companies in your country? [1 = very rare; 7 = highly prevalent] weighted average.

Figure 3. Prevalence of Foreign Ownership in Central Africa. Source: World Competitiveness report: How prevalent is foreign ownership of companies in your country? [1 = very rare; 7 = highly prevalent] weighted average

Figure 4. Prevalence of Foreign Ownership in Southern Africa. Source: World Competitiveness report: How prevalent is foreign ownership of companies in your country? [1 = very rare; 7 = highly prevalent] weighted average.
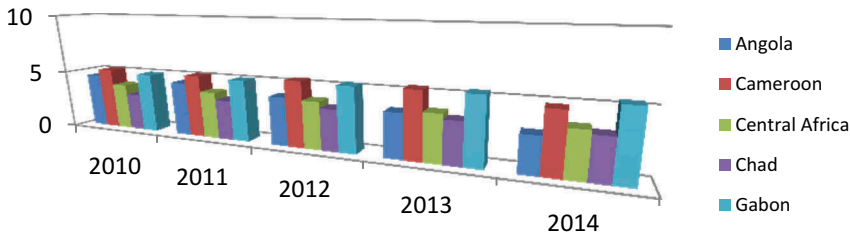
Among the Southern African countries, until 2014, Botswana performed above the sub-regional average, making it the country that recorded the highest prevalence of foreign ownership in Southern Africa (see Figure 4). However, in 2014, Botswana fared below the sub-regional average. With the exception of 2011, South Africa performed above the regional average in the period under review. In regards to Lesotho, between 2010 and 2011, it performed below the sub-regional average, but in 2012, its performance fell below the sub-regional average. Nevertheless, it bounced back to record a figure above the sub-regional average. Concerning Namibia, its performance between 2010 and 2011 stood below the average of the sub-region, but from 2012 to 2014, it recorded figures above the average of the sub-region.

Figure 5 indicates discrepancies in the prevalence of foreign ownership among Southern African economies. During the period under review, Uganda, Rwanda, Mauritius, Mozambique and Zambia recorded figures above the sub-regional average. Though the aforesaid countries recorded figures higher than the average of the sub-region, Zambia recorded the highest prevalence of foreign ownership in the sub-region over the period in review. Burundi and Ethiopia are the only economies that consistently fared below the sub-regional average during the period in review. By comparing the performance of Ethiopia to Burundi, the figure indicates that Burundi recorded the lowest foreign ownership prevalence in the sub-region during the period in review.

Figure 6 shows the prevalence of foreign ownership across sub-regions of Africa. The sub-region of Southern Africa has always fared above the regional average during the period in review. The other sub-region that has fairly fared above the regional average is
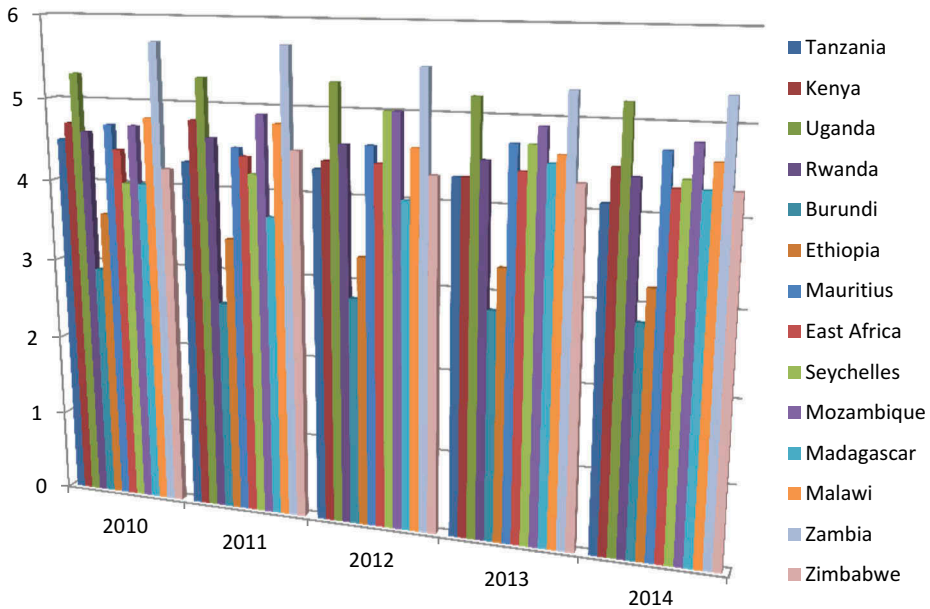
Figure 5. Prevalence of Foreign Ownership in Eastern Africa. Source: World Competitiveness report: How prevalent is foreign ownership of companies in your country? [1 = very rare; 7 = highly prevalent] weighted average.
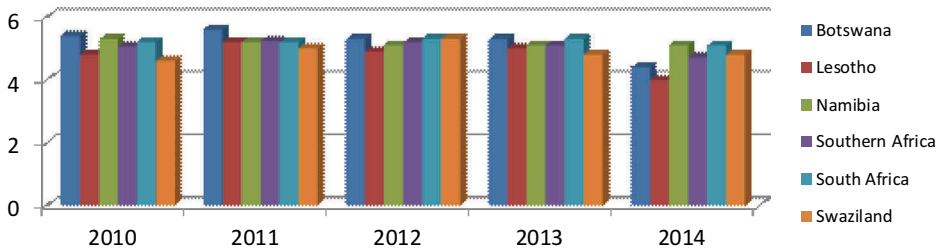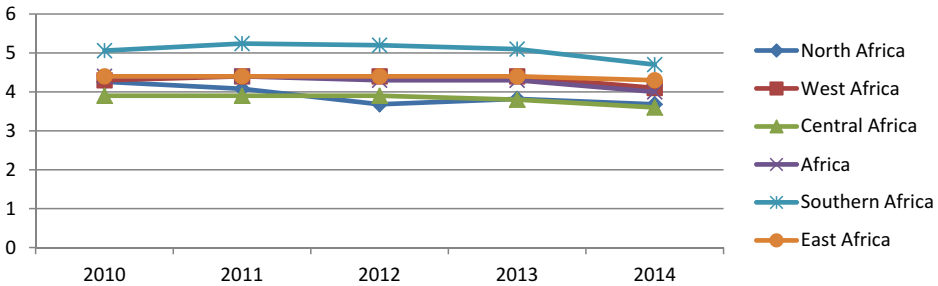

Figure 6. Sub-regional Evidence of the Prevalence of Foreign Ownership in Africa. Source: World Competitiveness report: How prevalent is foreign ownership of companies in your country? [1 = very rare; 7 = highly prevalent] weighted average.

the East African sub-region. In regards to West African sub-region, with the exception of 2010 and 2014, it recorded the same figure with the regional average. Central Africa and North Africa have consistently fared below the regional average during the period in review. On the basis of the above figure, it can be deduced that although East, Central, West and North African sub-regions are endowed with natural resources such as oil, the resources alone cannot serve as an inducement factor for foreign investors to invest in such sub-regions. The issue of sound governance and other institutional structures play an integral role in luring foreign investors into an economy. For instance, the region of Southern Africa has relatively performed better than other sub-regions in Africa in terms of their governance and institutional structures for the

past five years (see World Competitiveness Report, 2010–2014), and we thus argue that the sub-region's performance concerning foreign ownership prevalence is a reflection of its sound governance and institutional structures. However, this assertion is fundamentally empirical, which demands an empirical research. Thus the next section of this paper reviews literature on this assertion and eventually, formulates hypotheses.

3. Literature review and hypotheses development

A considerable number of works have been conducted on the determinants of Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI) inflows to developing countries in particular, African economies. However, the focus on the rationale behind the decision of foreign investors to own shares in companies situated in African economies has been given little attention. Even the inconsiderable number of studies on the determinants of foreign ownership in African economies have focused essentially on economic factors that induce foreign investors to invest in these economies. This implies that a repertoire of factors can in principle explain foreign ownership trends. The possible determining factors include macroeconomic variables, tax variables, indices of market access for foreign investors and proxies for financial market development. The hypothesis that connects foreign ownership to these variables is, in some instances, rather immediate. In other cases, the possible association between foreign ownership and possible explanatory variables is not clear-cut (Huizinga & Denis, 2003). This is the case of the quality of governance and other institutional structures (among these are indicators of control of corruption, political stability, voice and accountability, rule of law, regulatory quality, government effectiveness, shareholder safeguard, and the quality of accounting and auditing standards), which are always given little or no critical attention by African academics, regulators, policymakers and professionals in their pursuit of examining the possible elements that drive the prevalence of foreign ownership in an economy.

Sound institutional structures (including sound corporate governance regulation) make it difficult for corporate managers and controlling shareholders to run corporations for their benefit to the disadvantage of minority shareholders (Agyemang & Castellini, 2015; Huizinga & Denis, 2003). This is factual for locally-owned and foreign-owned companies. If corporate managers and controlling shareholders are local and small shareholders are foreign, well-structured institutional framework assists in safeguarding foreign investors from expropriation by local agents, and therefore could lead to an increase in the prevalence of foreign ownership (Bénassy-Quéré, Coupet, & Mayer, 2007; Huizinga & Denis, 2003). Therefore, calls have been made to explore and examine the effect of institutional factors in explaining cross-country disparities in regards to the prevalence of foreign ownership in economies. Situating our argument on the insights of new institutional economics, it is worth considering that disparities across economies in economic circumstances offer only a fractional explanation of the locational choices of foreign investors and that the effectiveness and efficiency of an economy's institutional structures could have considerable influence on their choices (for recent reviews see Uhlenbruck et al., 2006: Kirkpatrick et al., 2006; Habib & Zurawicki, 2002).

Following North (1990), institutional structure or framework in this paper is defined as the set of formal and informal 'rules of the game' that limit economic, political and social interaction in an economy. From this viewpoint, a 'sound' institutional structure

is the one that sets up an inducement framework that mitigates uncertainty and enhances efficiency thus resulting in robust and sustainable economic performance (Kirkpatrick et al., 2006). Included in this institutional framework are laws, political and social norms, and conventions that serve as the foundation upon which successful market productivity and exchange can be achieved. A growing research on the prevalence of foreign ownership in an economy has adopted the concept of institutional structure employing a gamut of indicators. It is now not uncommon, for instance, to take account of a variable of control for cross-country disparities in the wider political setting (Kirkpatrick et al., 2006; Altomonte, 2000; Morisset, 2000).

The concept of 'governance' has been widely used in the extant body of knowledge to entail divergent dimensions of the quality and soundness of public institutions, including government effectiveness (Kirkpatrick et al., 2006) and judicial independence. A nascent and fledging number of studies has confirmed that country-level differences in growth and productivity are associated with disparities in quality of governance (see Anyanwu, 2012; Jalilian et al., 2003; Rodrik, 2000; Campos et al., 1999). Owing to this, there has been an extension of this approach to entail the influence of governance on country-level prevalence of foreign ownership. We therefore argue that in considering locational choices for foreign investors, the effectiveness of country-level governance plays a significant role, since foreign investors tend to invest in economies that are characterized by good governance. Globermann and Shapiro (2002) employ the six governance indicators estimated by Kaufmann, Kraay, & Zoido-Lobaton (1999) to examine how governance quality affects foreign ownership prevalence for a broad sample of advanced economies from 1995 to 1997. The authors merged the Kaufmann governance indicators with measures of environmental, human and physical capital to explain foreign ownership. The results divulge that governance quality is a significant determinant of foreign ownership in advanced economies. Stein and Daude (2001) employ a gravity model technique to test the role governance quality plays in influencing the prevalence of foreign ownership in Latin American economies for the period, 1997 to 1999. A set of four alternative measures of governance quality is merged with two other groups of factors and tested as possible determining factors of foreign ownership inflows. The first comprises factors that are essentially employed in gravity models of trade such as per capita GDP, GDP and distance between the host economies and source (Greenaway & Milner, 2002). The second set comprises factors, other than the governance ones, that can have a possible influence on the prevalence of foreign ownership (for instance, human capital, quality of infrastructure and level of taxes on activities of foreign investors). Their results lucidly illuminate that country-level governance variables virtually always have statistically significant influence on foreign ownership inflows in Latin American economies.

3.1 Hypotheses development

The role of country-level regulatory quality in the development and growth process of an economy has raised a considerable concern among policy-makers, academics and professionals in recent times. Regulation is related to correcting 'market failures' including reducing the negative impacts of activities of private enterprises on an economy (Kirkpatrick et al., 2006). Between 1960 and 1980, the discourse of market

failure was used to logically support the idea of government participation in economic activities in developing economies (for example, the promotion of industrialization via import substitution, direct investment in both agricultural and industrial sectors, and by increasing public stake in corporations). Majone (1997) however, postulates that the interventionist state policy model that was in existence between 1960 and 1980 has transformed into a regulatory state model in recent years. The regulatory state model states that productive activities in an economy should be left to the private sector where competition functions effectively while applying government regulation in times of considerable market failures (World Bank, 2001; Majone, 1997).

The prevalence of privatization in developing economies has necessitated a quality regulatory framework. This is because a major prerequisite for privatization success is the quality of the regulatory system in fostering competition or in controlling anti-competitive behavior of major corporate organizations. Corollary to this, a nascent number of developing economies particularly African economies have set up newly-committed regulatory bodies to oversee the activities of their corporations (Kirkpatrick et al., 2006). Most of these regulatory bodies are anticipated to have a certain degree of autonomy from political interference, though practically, political interference appears to happen in some economies (Cook, Kirkpatrick, Minogue, & Parker, 2004). Evidence on the influence of regulatory quality in African economies is scant, but few extant studies on regulatory quality and privatization indicate that privatization happens to bring a greater benefit for economies that are characterized by sound regulatory environment (Kirkpatrick et al., 2006; Zhang, Kirkpatrick, & Parker, 2003a, 2003b; Wallsten, 2001).

The purpose of regulation is to fashion out a policy atmosphere that sustains investor confidence. In the realization of this, the regulator needs to be independent of political intervention, and the government must support a regulatory atmosphere that is characterized by transparency, consistency, accountability (Parker, 1999), responsibility and probity. The implication is that the ability of the state to establish effective regulatory bodies will be a relevant determining factor of how well foreign investors will have strong confidence in the economy. Simply put, this kind of arm's length, non-dependent regulation is anticipated to induce foreign investors to have stakes in firms or to invest in the economy (Hart & Moore, 1988). Therefore, a certain form of independence regulation could re-guarantee foreign investors that outputs, profits and prices will not be manipulated politically (Kirkpatrick et al., 2006). However, in economies where regulatory bodies are considered not to be independent of the state and are always vulnerable to political intervention, foreign investors may be pessimistic in investing in those economies. Thus we argue that regulatory quality is a relevant determining factor of foreign ownership prevalence in developing countries and we would expect to find a positive association between, *ceteris paribus*, regulatory quality of an economy and the prevalence of foreign ownership. We therefore, hypothesize that:

Hypothesis 1: Regulatory quality is positively associated with the prevalence of foreign ownership in an economy

Corruption is now a major concern for many, interested in the way and manner companies are governed, particularly in the modern corporation. To find out how

corruption influences the prevalence of foreign ownership, we will first make the very effort to define the concept of corruption. A substantial number of research has defined corruption as something that happens at the interface of the private and public sectors where a public bureaucrat has unrestricted authority over access to, or the allocation of resources to the private sphere (e.g., Rose-Ackerman, 1999). We employ a trouble-free definition of corruption that agrees with this notion: a phenomenon that is profoundly embedded in an economy that defines how the public and private sectors associate to each other (Fleming & Zyglidopoulos, 2009), which is characterized by the abuse of public power for private self-interest (Bratsis, 2003). Existing studies on corruption divulge a number of direct and indirect costs borne by companies in economies where corruption is rife. Costs include bribes, queuing costs (Fisman, 2001), poor infrastructural facilities, a proclivity of channeling public funds towards projects in which bribes and kickbacks are concealed without any difficulties (Mauro, 1995) and a reduction of foreign ownership prevalence.

Corruption differs widely across economies both in its reach across the economy (Transparency International, 2001), and in the amount of uncertainty it generates for foreign investors (Uhlenbruck et al., 2006). The uncertainty level related to corruption mirrors the extent of ambiguity related to corrupt dealings in a specific economy (Rodriguez, Uhlenbruck, & Eden, 2005). Economies that are characterized by overlapping and weak judicial system will probably lead to a multiplicity of corrupt practices, thus discouraging foreign investors from investing in those economies. State arbitrators on a whim enter the market of extortion and are willing to show a discrepancy on the set of essential approvals to extract substantial bribes (Shleifer & Vishny, 1993). Further, commerce is impeded by incomprehensible institutional structures. Corrupt regimes may be more extractive in financial terms and harmful to firm performance thus making economies and firms unattractive to foreign investors.

A considerable number of studies highlight that corruption significantly decreases the prevalence of foreign ownership in an economy (for recent reviews see Castro & Nunes, 2013; Fleming & Zyglidopoulos, 2009; Uhlenbruck et al., 2006; Habib & Zurawicki 2002; Bhardan 1997; Mauro 1995). Corruption minimizes aggregate prevalence of foreign ownership when controlling for cultural distance, level-of-corruption disparities between the home and host economies, and political risk (Habib & Zurawicki, 2002). It undermines a society's integrity, and development and growth of developing countries and countries in transition (Transparency International, 2001). And this stems from the assertion that corruption dissuades foreign investors who play an instrumental role in the developmental and growth process of an economy, thus impeding an economy's growth and development. Further, it reduces confidence in the ability and willingness of the state to safeguard property rights, and therefore mistrust becomes the new coin of the realm in the economy (Pearce 2001; Rose-Ackerman 1999). Wei (2000), using a sample of 45 host economies and 14 source economies for the period 1990–1991, highlights how significant corruption is in influencing the prevalence of foreign ownership.

However, some recent studies provide evidence of a negative association between corruption and foreign investment inflows (Al-Sadig, 2009; Voyer & Beamish, 2004; Habib and Zurawicki, 2002) whilst others have found an insignificant association (Abed & Davoodi, 2002; Akçay, 2001; Wheeler & Mody, 1992). These conflicting results will

probably depend on the extent of corruption (Castro & Nunes, 2013). Caetano and Caleiro (2007) and Han (2006) highlight that corruption is negatively related to the prevalence of foreign ownership in high-level corrupt economies, but in economies with low levels of corruption, the relationship is not all that clear. Since African economies are to a large extent characterized by corrupt practices, we anticipate that the pervasiveness of corrupt practices may be more extractive and impede the prevalence of foreign ownership. Thus we predict that:

Hypothesis 2:   The higher the control of corruption in an economy, the higher the possibility that foreign investors will operate in the economy

Africa is essentially open to investments in the form of foreign direct investment and portfolio investment. However, this openness has not resulted in an outcome where foreign investors own the large chunk of shares in companies situated in the continent. This relatively insignificant foreign ownership share reflects the well-known political instability in most African countries. Lucas (1990) argues that only political risk is a relevant determinant in limiting the prevalence of foreign ownership in an economy. Political stability has been relevant in explaining foreign ownership prevalence in economies that have traditionally attracted high FDI and FPI (Singh & Jun, 1995). For economies with comparatively low FDI and FPI, a major determining factor is the degree of political instability (Haksoon, 2010). A study by Chan and Gemayel (2004) finds that the degree of political instability is a much more vitally important determining factor of the prevalence of foreign investment in the Middle East and North African (MENA) economies.

   Even though a plethora of research has argued that political condition be it in the host country or investing country influences the prevalence of foreign ownership in the host country, results have been twofold. On the one hand, it is highlighted that politically stable countries tend to invest in politically unstable economies (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1999; Lucas, 1990; Haksoon, 2010; Chan & Gemayel, 2004). On the other hand, there is evidence that an economy that is politically stable has the tendency to attract foreign investors (Uhlenbruck et al., 2006; Chan & Gemayel, 2004; Smarzynska and Wei 2000). Political stability, which has been related to the desire to invest with domestic business partners (Smarzynska & Wei, 2000), and engaging in lawful dealings (Habib & Zurawicki 2002), influences the prevalence of foreign ownership in an economy. By looking at recent economic performance of the BRICS,[1] it is indubitable to anticipate that an economy that is characterized by political stability is closely related to the performance of the private sector at large, and it will also influence the prevalence of foreign ownership. We hypothesize therefore that:

Hypothesis 3:   Prevalence of foreign investors is high for politically stable economies

Even though the prevalence of foreign ownership is a germane component of economic growth and development in developing economies and economies in transition, a crucial element in persuading such foreign investors is a stable, reliable, just and transparent legal and judicial service. A World Bank (1999) publication summarized:

> The massive move by developing and transition countries toward market economies necessitated the adoption of strategies for the encouragement of private investment, domestic and foreign. Naturally, there was a general realization that such an objective could not be achieved without modifying and, sometimes, completely overhauling the legal and institutional framework and firmly establishing the rule of law, thereby creating the necessary climate of stability and predictability. (pp. 1–2)

A legal and judicial system that includes reliable, modern legislation, and sound and intrepid institutions that interpret and enforce laws in an unbiased and transparent way is a pleasing and ideal ambition and, *ceteris paribus*, an economy that is characterized by such a laudable system will potentially persuade more foreign investors (Hewko, 2002) than one that is deficient in a system of this sort. The rationale of this argument stems from new institutional economics theory of the behavior of economic forces, that states that sound and transparent legal and judicial system minimizes transaction costs for economic forces, including foreign capital providers (Salacuse, 2000; Tshuma, 1999; Seidman, Seidman, & Walde, 1999). Inasmuch as transaction costs raise the costs associated with direct investment, foreign investors shy away from economies with such higher costs and hence, inclined to make investments in more effective or sound legal and judicial system regimes (Hewko, 2002; Seidman et al., 1999; World Bank, 1999). This tacitly reveals that foreign investors desire to invest in economies with ideal legislation and effective enforcement institutions. Thus we hypothesize that:

Hypothesis 4:   An economy that is characterized by 'efficient' or 'effective' rule of law is poised to attract foreign investors

Government effectiveness is probably the most valuable internal condition of an economy in predicting the prevalence of foreign ownership. It includes quality of the civil service, degree of independence of political pressures, quality of program formulation, and execution and reliability of the government's commitment to such programs. The prevalence of foreign ownership is more effective at increasing GDP in developing economies and economies in transition. Nevertheless, in Africa where the majority of the economies are developing, it is estimated that the entire continent loses 25% of its GDP to corrupt practices. This shows the reason for which many African economies are struggling to grow and, as a result, why effective government is germane. Economies that are rich in resources like African economies can use their abundant supply to accelerate growth and development effectively if effective government is prioritized (Jadhav & Katti, 2012). 'Solid' and effective government is essential in persuading foreign investors, which will help initiate and sustain steady economic growth. The study by Kirkpatrick et al. (2006) on how regulation makes a difference in foreign investment in infrastructure in middle and developing economies during the period, 1990 to 2000 finds that government effectiveness is positive and statistically significant in influencing foreign investment in infrastructure. A related study by Jadhav and Katti (2012) on how institutional and political structures influence foreign investment in BRICS economies

illuminates that government effectiveness has positive and significant influence on foreign investment. Owing to this evidence, we hence hypothesize that:

Hypothesis 5:   Foreign investors tend to invest in countries which are characterized by government effectiveness

Voice and accountability, most closely connected to democratic view of pluralism (i.e., political participation, freedom of speech, and so on) could possibly influence the prevalence of foreign ownership in economies (Castro & Nunes, 2013; Berden et al., 2012; Jadhav & Katti, 2012; Li & Resnick, 2003). Li and Resnick (2003) however, argue that because of the 'pluralism', the prevalence of foreign ownership in economies is low. The first logic behind this argument, stems from the discrimination against foreign investors in support of domestic investors by more protectionist members of society as a result of 'pluralism'. Second, voice and accountability are inclined to weaken the market powers of multinational corporations, resulting in a low prevalence of foreign ownership. Therefore, voice of citizens in tandem with accountability of government to citizens will probably increase unskilled workers' voices and be associated negatively with the prevalence of foreign ownership (Castro & Nunes, 2013). Similarly, a study by Jadhav and Katti (2012) on how governance structures influence the prevalence of foreign ownership finds that voice and accountability have negative and significant influences on the prevalence of foreign ownership in BRICS economies. Other extant empirical studies have revealed an insignificant relationship between voice and accountability, and the prevalence of foreign ownership. Bénassy-Quéré et al. (2007) in their study use a database with unprecedented detail on institutions of a set of 52 economies and document a non-significant relationship between voice and accountability, and the prevalence of foreign ownership. A study by Berden et al. (2012) on governance and foreign direct investment in 124 countries using 28 OECD countries as source countries for the period 1997 to 2004 also documented a non-significant relationship between voice and accountability, and the prevalence of foreign investment. Therefore, we predict that:

Hypothesis 6:   Foreign investors are not attracted to economies with solid and effective voice and accountability practice

Table 1. Summary of Hypotheses and Predictions.

Hypotheses		Expected Sign
Hp. 1	Regulatory quality is positively associated with the prevalence of foreign ownership in an economy	+
Hp. 2	The higher the control of corruption in an economy, the higher the possibility that foreign investors will operate in the economy	+
Hp. 3	Prevalence of foreign investors is high for politically stable economies	+
Hp. 4	An economy that is characterized by 'efficient' or 'effective' rule of law is poised to attract foreign investors	+
Hp. 5	Foreign investors tend to invest in countries which are characterized by government effectiveness	+
Hp. 6	Foreign investors are not attracted to economies with solid and effective voice and accountability practice	-

4. Data, model specification and estimation technique

In order to test these hypotheses, we acquired a broad set of country-level governance ratings by the World Bank and the prevalence of foreign ownership in African economies over time. We further focused on economies with the full country-level governance and prevalence of foreign ownership data required over the whole period (i.e., 2009 to 2012) available in the World Bank's governance indicators (Kaufmann et al., 2008) and World Economic Forum's Global Competitiveness Report's database. Table 2 presents the description and sources of our variables. We obtained the full data required for a total of 39 African economies out of the 54 (including 2 disputed) over the sample period for our analysis. Our variables of interest in our estimation are prevalence of foreign ownership, regulatory quality, control of corruption, political stability, rule of law, government effectiveness, and voice and accountability.

Table 2. Description of Variables and Sources.

Variable	Explanation	Description	Sources
Prevalence of foreign ownership	How prevalent is foreign ownership of companies in your country? [1= very rare; 7= highly prevalent] weighted average	Log of the prevalence of foreign ownership	Global Competitiveness Report, 2010–2014
Regulatory Quality	Regulatory quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.	Log of Regulatory quality	World Bank Governance Indicators, 2010–2014
Government effectiveness	Capturing perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.	Log of Government effectiveness	World Bank Governance Indicators, 2010–2014
Political Stability	Capturing perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism.	Log of Political stability	World Bank Governance Indicators, 2010–2014
Rule of Law	Capturing perceptions of 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.	Log of Rule of law	World Bank Governance Indicators, 2010–2014
Control of corruption	Capturing perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as 'capture' of the state by elites and private interests	Log of Control of corruption	World Bank Governance Indicators, 2010–2014
Voice and Accountability	Capturing perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media	Log of Voice and Accountability	World Bank Governance Indicators, 2010–2014
Real GDP growth	Gross domestic product in billions of current US dollars	Log of GDP growth	Global Competitiveness Report, 2010–2014
Market size index	Sum of gross domestic product plus value of imports of goods and services, minus value of exports of goods and services, normalized on a 1–7(best) scale	Log of Market Size index	Global Competitiveness Report, 2010–2014

(Continued)

Table 2. (Continued).

Variable	Explanation	Description	Sources
Prevalence of trade barrier	In your country, to what extent do tariff and non-tariff barriers limit the ability of imported goods to compete in the domestic market? [1 = strongly limit; 7 = do not limit] weighted average	Log of Prevalence of trade barriers	Global Competitiveness Report, 2010–2014
Inflation	Annual percent change in consumer price index (year average)	Log of inflation	Global Competitiveness Report, 2010–2014
General Government debt	General government gross debt as a percentage of GDP	Log of General Government debt (% of GDP)	Global Competitiveness Report, 2010–2014
Government budget balance	Government budget balance as a percentage of GDP	Log of budget deficit/surplus (% of GDP)	Global Competitiveness Report, 2010–2014
Quality of roads	How would you assess roads in your country? [1 = extremely underdeveloped; 7 = extensive and efficient by international standards] weighted average	Log of quality of roads	Global Competitiveness Report, 2010–2014
Mobile telephone subscriptions	Number of mobile cellular telephone subscriptions per 100 population	Log of mobile telephone subscriptions	Global Competitiveness Report, 2010–2014
Fixed telephone lines	Number of active fixed telephone lines per 100 population	Log of fixed telephone lines	Global Competitiveness Report, 2010–2014
Quality of electricity supply	How would you assess the quality of the electricity supply in your country (lack of interruptions and lack of voltage fluctuations)? [1 = insufficient and suffers frequent interruptions; 7 = sufficient and reliable] weighted average	Log of quality of electricity	Global Competitiveness Report, 2010–2014
Availability of skilled workers	Gross secondary education enrollment rate	Log of secondary school enrolment	Global Competitiveness Report, 2010–2014
Strength of investor protection	Strength of Investor Protection Index on a 0–10 (best) scale	Log of investor protection	Global Competitiveness Report, 2010–2014
Efficiency of legal framework in settling disputes	How efficient is the legal framework in your country for private businesses in settling disputes? [1 = extremely inefficient; 7 = highly efficient] weighted average	Log of efficiency of legal framework in settling disputes	Global Competitiveness Report, 2010–2014
Efficiency of legal framework in challenging regulations	How efficient is the legal framework in your country for private businesses in challenging the legality of government actions and/or regulations?[1 = extremely inefficient; 7 = highly efficient] weighted average	Log of efficiency of legal framework in challenging regulations	Global Competitiveness Report, 2010–2014
Time required to start business	Number of days required to start a business	Log of Time required to start business	Global Competitiveness Report, 2010–2014
Prevalence of Foreign Ownership_1	Lag of foreign ownership prevalence to capture agglomeration effect	First lag of prevalence of Foreign Ownership	Authors' transformation
Sub-regional dummies		West, North, Central, East and Southern Africa	Authors' transformation

4.1 Control variables

We include several economic variables in our regression to control for country-level economic characteristics. Among the economic explanatory variables is 'market seeking.' Anyanwu (2012) contends 'market seeking' is an important inducement factor of the prevalence of foreign ownership in developing economies, particularly Africa. Therefore, we control for market size by employing two surrogate measures of domestic market size index and Real GDP growth rate (level of economic activity)

(Anyanwu, 2012; Al-Sadig, 2009). The size of market of an economy plays an important role in luring foreign investors to invest in an economy since foreign investors chase readily available market for their products. Real GDP growth is employed to represent a country's economic progress and as an indicative of profitable investment opportunities (Anyanwu, 2012). It allows for a systematic association between cross-border financial activity and the level of economic growth. As a matter of fact, economic growth influences the domestic market, where countries with large domestic markets usually experience an influx of foreign investors. Also, market seeking foreign investors can also be induced by the desire to surmount external trade barriers thus the prevalence of foreign investors could possibly be influenced by the prevalence of trade barriers.

Macroeconomic stability also plays an instrumental role in attracting foreign investors into an economy. A stable macroeconomic environment fosters the prevalence of foreign ownership by showing less investment risk (Anyanwu, 2012). We therefore employ inflation (annual percentage change) (Jadhav & Katti, 2012; Anyanwu, 2012; Buckley, Clegg, Forsans, & Reilly, 2001), general government debt (as a percentage of GDP) and government budget balance (as a percentage of GDP) as a surrogate measure for macroeconomic stability. Also, quality of roads, mobile telephone subscriptions, fixed telephone lines and quality of electricity supply are used as surrogate measures for infrastructural availability and communication facilities in African economies; all are considered by foreign investors as relevant precondition for investing in economies (Anyanwu, 2012; Calderon & Serven, 2008; Khadaroo & Seetanah, 2007; Campos & Kinoshita, 2003). Availability of telephone phone lines is relevant to smooth the progress of communication between the home and host economies (Anyanwu, 2012).

The availability of skilled workers in a host economy plays relevant role in influencing foreign investment. Markusen (2001) finds that knowledge capital is relevant for the prevalence of foreign ownership in an economy while Rodriguez and Pallas (2008) highlight that availability of human capital or skilled workers in a country is pertinent to attracting foreign investors. Alsan, Bloom, & Canning (2006) in a panel data analysis of 74 developed and developing countries from 1980 to 2000, find that the prevalence of foreign ownership is strongly and positively associated with population health as a surrogate measure for knowledge capital in both low and middle income countries. Availability of skilled workers is measured by gross secondary education enrollment. Secondary education attainment of the host economy serves as gathered stock of human capital, which is a surrogate measure for quality of labor and sign of the education level and skills of the workers in an economy. Other factors such as strength of investor protection, efficiency of legal framework in settling disputes and in challenging regulations, number of procedures required to start business, and time required to start business also play a significant role in attracting foreign investors.

A number of African countries attract foreign investment in sectors that are basically connected to natural resources. As a matter of fact, both theoretical and empirical work has highlighted that the need to secure access to natural resources is one of the key inducement factors that attract foreign investors to African economies. Following Anyanwu (2012) natural resource endowment is proxied by a binary number of 1 if an economy is a net exporter of oil and 0 otherwise. Finally, in order for the study to

capture any other unmeasured factors that influence the prevalence of foreign ownership in sub-regional and continental investment terrain, and also to allow for sub-regional effects, we include dummies for the sub-regions.

Finally, in order to test for agglomeration effects, we relate current prevalence of foreign ownership to previous prevalence of foreign ownership and other explanatory variables. Agglomeration economies may be present given that foreign investors will probably be lured into countries with many foreign investors. So long as they have little knowledge about the economy, foreign investors tend to view investment decisions of others in the economy as an inducement mechanism to invest in such an economy to mitigate uncertainty. We employ the lag of foreign ownership prevalence as a surrogate measure for the agglomeration effect.

4.2 Model

On the basis of the hypotheses formulated above and the structure of African economies, we employ the following model in estimating how governance structures influence the prevalence of foreign ownership in African economies:

$$
\begin{aligned}
Foreign\ Ownership_{it} = {} & \beta_0 + \beta_1 (Regulatory\ Qual.)_{it} + \beta_2 (Control\ of\ Corrpt.)_{it} \\
& + \beta_3 (Political\ Stab.)_{it} + \beta_4 (Law)_{it} + \beta_5 (Government\ Eff.)_{it} \\
& + \beta_6 (Voice\ \&\ Acc.)_{it} + \beta_7 (Control\ Var.)_{it} + \psi (Sub-Regions)_{it} \\
& + \eta (Foreign\ Ownership\_1)_{it} + \varepsilon_{it}
\end{aligned}
$$

Where i represents countries, t denotes time, and the variables are defined as:

- Foreign Ownership$_{it}$ denotes the Prevalence of Foreign Ownership
- Regulatory Qual. Denotes Regulatory quality
- Control of Corrpt denotes Control of Corruption
- Political Stab denotes Political Stability
- Law denotes Rule of Law
- Government Eff. denotes Government Effectiveness
- Voice & Acc. denotes Voice and Accountability
- Control var. denotes our Control Variables
- Sub-Regions denote a binary variable of the various Sub-Regions of Africa (West Africa, East Africa, North Africa, Central Africa and Southern Africa).
- Foreign Ownership_1 denotes lag of prevalence foreign ownership
- B is a vector of coefficients, and
- $\mathcal{E}_{ijt}$ represents the disturbance term (which refers to the innumerable of other influences on the Prevalence of Foreign Ownership, assumed to be well behaved).

With the exception of dummy variables, all variables are expressed in natural logarithm. Table 2 shows the description and sources of the variables.

Looking at the nature of our sample, we carry out four estimation techniques to fortify our empirical results. First we carry out robust pooled Ordinary Least

Squares (OLS). Second, we carry out Feasible Generalized Least Squares (FGLS). This technique allows estimation in the presence of AR(1) autocorrelation within cross-sectional correlation and heteroscedasticity across panels (Anyanwu, 2012). Third, to check for robustness of our results, we take notice of the notion that the prevalence of foreign ownership within an economy may result from historical data and therefore, all the exogenous variables are lagged by one period for all variables and re-estimated using OLS/FGLS estimation techniques. Lastly, to surmount any possible endogeneity in the Real GDP growth, we use the two-step (IV) efficient Generalized Method of Moments (GMM) estimation technique on the lagged specifications.

This study only examines African countries since the institutional structures that determine the prevalence of foreign ownership in African economies differ from that of other regions, in addition to the evidence that the structure and characterizing features of countries in Africa differ from other developing economies. Also, undoubtedly, this choice will ensure that the findings are vitally important to Africa, its sub-regions and various countries.

5. Empirical results

Table 3 shows descriptive statistics for the full sample. We present means, medians, minimums, maximums and number of observations for our variables of interest. On average the prevalence of foreign ownership in the 39 African economies recorded a figure of 3.5 during the period under review. Voice and accountability of the median economy was about –0.495. In regards to rule of law in these economies during the period under review the weakest country recorded –1.84, whilst the strongest country chalked 0.95. Regulatory quality of the average (mean) economy was –0.48. In regards to government effectiveness and political stability, the average (mean) economy recorded –0.55 and –0.39 respectively. The median country among these economies recorded –0.55 in terms of control of corruption during the period under review.

Table 3. Descriptive Statistics.

	Median	Mean	Min.	Max.	St.dev	No. Of Obs.
Prevalence of foreign ownership	3.500	3.50	3.200	3.800	0.256	156
Voice & Accountability	–0.495	–0.530	–1.890	1.000	0.675	156
Rule of Law	–0.495	–0.530	–1.840	0.950	0.586	156
Regulatory quality	–0.450	–0.483	–2.100	0.980	0.547	156
Government effectiveness	–0.575	–0.546	–1.520	0.930	0.546	156
Political stability	–0.330	–0.389	–2.190	1.110	0.830	156
Control of corruption	–0.550	–0.479	–1.460	1.000	0.593	156

Source: Authors' computation.
Note: This table presents descriptive statistics for the sample used in our analysis. This sample includes 39 African countries for the period 2010–2014. These are; Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Chad, Cote D'Ivoire, Egypt, Ethiopia, Gabon, Gambia, Ghana, Guinea, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Nigeria, Rwanda, Senegal, Seychelles, South Africa, Swaziland, Tanzania, Tunisia, Uganda, Zambia and Zimbabwe.

6. OLS/FGLS results

Table 4 indicates the results of our model employing robust Ordinary Least Squares (OLS). Regulatory quality has significant positive relationship with the prevalence of foreign ownership. Thus, the sampled African countries' ability to establish sound regulatory environment is a relevant determinant of how well foreign investors have confidence in their economies. This result is consistent with the findings of Kirkpatrick et al. (2006), Zhang et al. (2003a, 2003b) and Wallsten (2001), and hence supports our hypothesis that regulatory quality leads to the prevalence of foreign ownership in an economy. The coefficient on control of corruption overtly indicates that though the relationship between control of corruption and the prevalence of foreign ownership is negative, it is insignificant as well. This finding is inconsistent with our hypothesis that control of corruption can lead to the prevalence of foreign ownership in an economy. The resulting explanation could be that though the sampled African economies are characterized with corruption, the degree of their corrupt activities have not reached a point, which can dissuade foreign investors into their economies (Castro & Nunes, 2013). This result is consistent with the findings of Abed and Davoodi (2002), Akçay (2001), and Wheeler and Mody (1992).

The positive significant association between political stability and the prevalence of foreign ownership indicates that greater political stability leads to higher prevalence of foreign ownership, similar to the results of Uhlenbruck et al. (2006), Chan & Gemayel (2004), and Smarzynska and Wei 2000, and in accordance with our *a priori* expectations. This result confirms the hypothesis that political stability has an influence on the prevalence of foreign ownership in an economy. This implies that political stability has been relevant in explaining foreign ownership prevalence in economies that have traditionally attracted high FDI and FPI (Singh & Jun, 1995). For economies with comparatively low FDI and FPI, a major determining factor is the degree of political stability (Haksoon, 2010).

Rule of law is found to have a positive significant association with the prevalence of foreign ownership in Africa (which confirms our hypothesis), meaning that a legal and judicial system that includes reliable, modern legislation, and sound and intrepid institutions that interpret and enforce laws in an unbiased and transparent way is a pleasing and ideal ambition and, *ceteris paribus*, an economy that is characterized by such a laudable system will potentially persuade more foreign investors to invest in it (Hewko, 2002). This finding supports the new institutional economics theory of the behavior of economic forces, that sound and transparent legal and judicial systems minimize transaction costs for economic forces, including foreign capital providers and therefore, foreign investors are attracted to economies with such structures (Salacuse, 2000; Tshuma, 1999; Seidman et al., 1999). This result also confirms the assertions of Hewko (2002) Seidman et al. (1999) and the World Bank (1999) that inasmuch as transaction costs raise the costs associated with direct investment, foreign investors shy away from economies with such higher costs and hence, are inclined to make investments in more effective or sound legal and judicial system regimes.

The coefficient on the government effectiveness variable shows a positive association between government effectiveness and the prevalence of foreign ownership in the sampled African countries. However, this relationship is not statistically significant.

Table 4. Ordinary Least Squares and FGLS Estimation.

Variable	(1) (OLS)	(2) FGLS
Regulatory Quality	0.231	0.231
	(2.15**)	(2.11**)
Control of Corruption	−0.934	−0.935
	(−1.01)	(−1.03)
Political Stability	0.659	0.659
	(3.72***)	(3.84***)
Rule of Law	0.211	0.211
	(4.92**)	(4.76***)
Government Effectiveness	0.071	0.071
	(1.62)	(1.54)
Voice and Accountability	−0.438	−0.438
	(−2.12**)	(−2.08**)
Real GDP growth	0.912	0.912
	(2.59**)	(2.47**)
Market size index	0.175	0.175
	(0.73)	(0.84)
Prevalence of trade barrier	−0.146	−0.146
	(−1.53)	(−1.43)
Inflation	−0.509	−0.509
	(−1.13)	(−1.24)
General Government debt	−0.856	−0.856
	(−0.30)	(−0.41)
Government budget balance	0.823	(0.823
	(0.85)	(0.90)
Quality of roads	0.768	0.768
	(3.45***)	(3.65***)
Mobile telephone subscriptions	−0.419	−0.419
	(−0.90)	(−0.82)
Fixed telephone lines	0.007	0.007
	(0.10)	(0.10)
Quality of electricity supply	0.355	0.355
	(3.83***)	(4.77***)
Availability of skilled workers	0.080	0.080
	(0.05)	(0.09)
Strength of investor protection	0.901	0.901
	(2.76**)	(3.66***)
Efficiency of legal framework in settling disputes	0.801	0.801
	(0.914)	(0.855)
Efficiency legal framework in challenging regulations	−0.711	−0.711
	(−0.13)	(−0.15)
Time required to start business	0.743	0.743
	(3.71***)	(3.62***)
Oil Exporters	0.814	0.814
	(2.40**)	(2.62**)
Prevalence of Foreign Ownership_1	0.375	0.375
	(5.34***)	(6.36***)
North Africa	1.568	1.568
	(4.93***)	(6.90***)
West Africa	1.309	1.309
	(3.90***)	(4.89***)
East Africa	0.816	0.816
	(2.72**)	(3.90***)
Central Africa	1.045	1.045
	(2.83**)	(3.78***)
Southern Africa	1.785	1.785
	(5.85***)	(7.90***)
R-Squared	0.6207	Wald chi2 = 463.57
F-Statistic	20.21	Prob > 0 = 0.00000
Prob > 0	0.000	
N	156	N = 156

Note: *** = 1% significant level, ** = 5% significant level, * = 10% significant level.
Source: Authors' estimation.

This result is inconsistent with the findings of Kirkpatrick et al. (2006) and Jadhav and Katti (2012) that government effectiveness influences foreign investment. In regards to the voice and accountability variable, the findings indicate that it has significant negative influence on the prevalence of foreign ownership, which is consistent with our hypothesis that foreign investors are not attracted to economies with solid and effective voice and accountability practice. This finding is consistent with the results of Castro and Nunes (2013), and Jadhav and Katti (2012) that voice accountability is inclined to weaken market powers of multinational corporations, resulting in low prevalence of foreign ownership. Therefore, voice of citizens in tandem with account-ability of government to citizens will probably increase unskilled workers' voice and be associated negatively with the prevalence of foreign ownership.

Real GDP growth, quality of roads, quality of electricity, strength of investor protection and time required to start business attract foreign investors to Africa. The agglomeration effect seems to have great influence on where foreign investors go in Africa. Also, natural resources endowment (particularly, oil) attracts foreign investors to Africa. The sub-regional dummies for North, West, East, Central and Southern Africa have strong significant positive influence on the prevalence of foreign ownership, depicting that reforms being implemented by countries in these sub-regions are paying off in persuading foreign investors. The other control variables are insignificant in attracting foreign investors to Africa.

7. Robustness checks employing lagged data

7.1 OLS/FGLS results

As argued earlier, there is a hypothesis that foreign investors' decisions to go where they do on the basis of historical data and thus all the exogenous variables that are supposed to influence the prevalence of foreign ownership will become visible next period onward. Hence for a robustness check, we present findings of which all the exogenous variables are lagged by one period (see also Anyanwu, 2012).

Table 5 highlights the results when the paper's model is estimated employing one-period lagged variables of the exogenous variables and with OLS and FGLS. The findings validate the continued significance of regulatory quality, political stability, rule of law, quality of roads, quality of electricity supply, strength of investment protection, time required to start business, natural resource endowment and agglom-eration in influencing the prevalence of foreign ownership in Africa. They also validate the continued significance of sub-regional dummies for West, East and Southern Africa.

7.2 IV-GMM Results

One probable deficient of our model is that it assumes that all of the right-hand side variables-including real GDP growth are independent to the prevalence of foreign ownership, even when the lagged exogenous variables are employed. There is a possi-bility that real GDP growth may be dependent on the prevalence of foreign ownership. Reverse causality will probably take place – real GDP growth may be leading to the

Table 5. OLS and FGLS Results.

Variable	(1) (OLS)	(2) FGLS
Regulatory Quality_1	0.741	0.741
	(2.64**)	(2.85**)
Control of Corruption_1	−0.835	−0.835
	(−0.91)	(−1.07)
Political Stability_1	0.867	0.867
	(3.65***)	(3.78***)
Rule of Law_1	0.579	0.579
	(2.82**)	(3.81***)
Government Effectiveness_1	0.616	0.616
	(0.952)	(1.02)
Voice and Accountability_1	−0.584	−0.584
	(−2.31**)	(−2.59**)
Real GDP growth_1	0.862	0.862
	(2.01**)	(2.42**)
Market size index_1	0.835	0.835
	(0.78)	(1.08)
Prevalence of trade barrier_1	−0.661	−0.661
	(−1.08)	(−1.52)
Inflation_1	−0.915	−0.915
	(−0.828)	(−1.01)
General Government debt_1	−0.785	−0785
	(−1.05)	(−1.25)
Government budget balance_1	0.577	0.577
	(0.82)	(1.04)
Quality of roads_1	0.119	0.119
	(2.86**)	(3.41***)
Mobile telephone subscriptions_1	−0.717	−0.717
	(−0.45)	(−0.78)
Fixed telephone lines_1	0.067	0.068
	(1.03)	(1.25)
Quality of electricity supply_1	0.221	0.221
	(3.46***)	(3.56***)
Availability of skilled workers_1	0.652	0.652
	(0.04)	(0.16)
Strength of investor protection_1	1.267	1.267
	(2.48**)	(2.67**)
Efficiency of legal framework in settling disputes_1	0.722	0.722
	(0.85)	(1.24)
Efficiency legal framework in challenging regulations_1	−0.921	−0.921
	(−1.09)	(−1.14)
Time required to start business_1	0.959	0.959
	(3.45***)	(3.77***)
Oil Exporters	0.570	0.570
	(2.12**)	(2.54**)
Prevalence of Foreign Ownership_1	0.371	0.371
	(4.35***)	(5.29***)
North Africa	0.545	0.452
	(1.21)	(1.35)
West Africa	0.347	0.453
	(2.85**)	(3.04***)
East Africa	2.561	1.907
	(2.88**)	(3.02***)
Central Africa	−0.144	−0.126
	(−1.20)	(−1.34)
Southern Africa	1.350	0.534
	(4.90***)	(5.01***)
R-Squared	0.4436	Wald chi2 = 288.52
F-Statistic	10.34	Prob > 0 = 0.000000
Prob > 0	0.0000	
N	156	N = 156

Note: *** = 1% significant level, ** = 5% significant level, * = 10% significant level.
Source: Authors' estimation.

prevalence of foreign ownership, but the prevalence of foreign ownership will probably influence real GDP growth.

Without taking into consideration this reverse causality, all of the estimated parameters in Table 4 will probably be biased. One way of taking this into consideration is to apply an instrumental variables technique. Thus following Aggarwal, Demirguc-Kunt, & Peria (2006) and Anyanwu (2010; 2012) in estimating the model instrumentalizing the real GDP growth variable with its associated lagged levels, employing a two-step (IV) Generalized Method of Moments (GMM) estimation technique.

Table 6 presents the first-stage results from the IV-GMM computation employing the lagged exogenous variables. We first present the F-statistic for weak instruments – a test to examine the significance of the instruments in predicting real GDP growth. The F-statistic is greater than the critical value, indicating that the instruments do not suffer from the issue of weak instruments. We then detail the Hansen J test of over-identifying restrictions. The joint null hypothesis is that the instruments are not correlated with the

Table 6. First-Stage IV-GMM Estimates for Real GDP Growth Employing the Lagged Independent Variables.

Variable	Coefficient
Instruments second lag of real GDP growth	0.354
	(5.87***)
Fourth lag of real GDP growth	0.192
	(3.18***)
Regulatory Quality_1	0.209
	(1.94*)
Control of Corruption_1	−0.707
	(−0.22)
Political Stability_1	0.688
	(4.65***)
Rule of Law_1	1.089
	(2.34**)
Government Effectiveness_1	0.367
	(0.06)
Voice and Accountability_1	−0.918
	(−2.01**)
Market size index_1	0.658
	(0.36)
Prevalence of trade barrier_1	−0.743
	(−0.90)
Inflation_1	−0.734
	(−0.06)
General Government debt_1	−0.183
	(−0.97)
Government budget balance_1	0.465
	(0.56)
Quality of roads_1	0.811
	(2.56**)
Mobile telephone subscriptions_1	−0.970
	(−0.36)
Fixed telephone lines_1	0.112
	(0.66)
Quality of electricity supply_1	1.763
	(2.16**)
Availability of skilled workers_1	0.889
	(1.05)
Strength of investor protection_1	0.912
	(2.71**)

(*Continued*)

Table 6. (Continued).

Variable	Coefficient
Efficiency of legal framework in settling disputes_1	0.820
	(0.50)
Efficiency legal framework in challenging regulations_1	−0.430
	(−1.12)
Time required to start business_1	0.492
	(1.82*)
Oil Exporters	0.669
	(2.13**)
Prevalence of Foreign Ownership_1	0.740
	(3.89***)
North Africa	0.884
	(0.96)
West Africa	0.443
	(1.91*)
East Africa	1.901
	(2.96**)
Central Africa	−0.653
	(−0.30)
Southern Africa	1.409
	(2.62**)
N	156
Shea Partial R-Squared	0.4721
F-Statistic of excluded instruments	107.34
P-value	0.0000
Wu-Hausman F Test	0.4468
P-value	0.606745

Note: *** = 1% significant level, ** = 5% significant level, * = 10% significant level.
Source: Authors' estimation.

disturbance term and that instruments that are excluded are properly excluded from the computed model. Yet again, these tests confirm the appropriateness of the instruments.

Table 7 shows the second-stage IV-GMM estimation results. Real GDP growth has still been documented as having significant positive effect on the prevalence of foreign ownership. These results fail to disconfirm that the positive effect of real GDP growth on the prevalence of foreign ownership in Africa is not as a consequence of endogeneity issue. Additionally, Table 6 highlights that our results concerning our variables of interest are not influenced by the IV-GMM technique. For instance, regulatory quality, political stability and rule of law continue to significantly influence the prevalence of foreign ownership in Africa as in the OLS results employing lagged exogenous variables.

8. Conclusions

Do country-level governance structures influence the prevalence of foreign ownership in African countries? To shed light on this, we carry out pooled Ordinary Least Squares and feasible Generalized Least Squares (FGLS) estimation for our specified model. To test for the robustness of our results, we take into consideration the notion that the prevalence of foreign ownership will probably be based on historical data and thus we employ one-period lag of exogenous variables for re-computation using OLS/FGLS estimation techniques. To advance the robustness check and to avoid any probable endogeneity in the real GDP growth variable, we further employ the two-step (IV)

Table 7. IV-GMM Estimation Results.

Variable	Coefficient
Instruments dependent variable real GDP growth_1	0.294
	(2.27**)
Regulatory Quality_1	0.642
	(2.47**)
Control of Corruption_1	−0.440
	(−0.34)
Political Stability_1	0.501
	(2.56**)
Rule of Law_1	0.431
	(1.95*)
Government Effectiveness_1	0.479
	(0.04)
Voice and Accountability_1	−0.414
	(−3.90***)
Market size index_1	0.109
	(0.06)
Prevalence of trade barrier_1	0.659
	(0.11)
Inflation_1	0.903
	(0.45)
General Government debt_1	−0.961
	(−0.29)
Government budget balance_1	0.445
	(0.28)
Quality of roads_1	0.688
	(2.14**)
Mobile telephone subscriptions_1	−0.119
	(−0.20)
Fixed telephone lines_1	0.284
	(0.10)
Quality of electricity supply_1	0.096
	(1.89*)
Availability of skilled workers_1	0.715
	(0.62)
Strength of investor protection_1	1.63
	(3.86***)
Efficiency of legal framework in settling disputes_1	0.511
	(0.71)
Efficiency legal framework in challenging regulations_1	−0.653
	(−0.88)
Time required to start business_1	0.554
	(2.92***)
Oil Exporters	0.719
	(2.45**)
Prevalence of Foreign Ownership_1	0.614
	(2.52**)
North Africa	0.223
	(0.80)
West Africa	0.509
	(1.83*)
East Africa	1.844
	(2,14**)
Central Africa	−0.489
	(−0.09)
Southern Africa	0.983
	(1.93*)
N	156
Centred R-Squared	0.4728
Hansen J Statistic	0.034
P-value	0.854198
Pagan-Hall Statistic	185.620
P-value	0.9521

Note: *** = 1% significant level, ** = 5% significant level, * = 10% significant level.
Source: Authors' estimation.

Generalized Method of Moments (GMM) computation technique on the lagged exogenous variables.

The empirical model attempts to predict the prevalence of foreign ownership as a function of governance variables such as regulatory quality, control of corruption, political stability, rule of law, government effectiveness and voice accountability. The model controlled for other factors such as market size index, real GDP growth, prevalence of trade barrier, inflation, government debt, government budget balance, quality of roads, quality of electricity supply, and time required to start business, among others. Also, we examined sub-regional-specific effects. Our results highlight that West, East and Southern African sub-regional parameters are consistently significant in influencing the prevalence of foreign ownership, meaning that these sub-regions' performance is encouraging, given their governance structures and other control factors.

Our major results are as follows: (1) there is a significant positive association between regulatory quality and the prevalence of foreign ownership in Africa; (2) political stability has a positive influence on the prevalence of foreign ownership in Africa; (3) foreign ownership is prevalent in economies that embrace rule of law; (4) foreign ownership lessens in economies with high voice and accountability measures; (5) agglomeration has strong positive influence on the prevalence of foreign ownership in Africa; and (6)West, East and Southern African sub-regions seem to attract many foreign investors.

Our results have relevant policy implication for African countries. Given that governance structures especially, regulatory quality, political stability and rule of law not only attract foreign investors to Africa, but also fashion structures under which domestic multinational corporations crop up and invest abroad, it is thus relevant that African countries and development partners of Africa, in particular the multilateral development banks and institutions such as the African Development Bank, channel their knowledge, finances and capacity development to the development of sound institutional structures in African economies. However, this will be effectively developed and sustained when channeled via regional economic communities and institutions such as Arab Maghreb Union Arab Maghreb Union (UMA), Common Market for Eastern and Southern Africa (COMESA), Community of Sahel-Saharan States (CEN-SAD), East African Community (EAC), Economic Community of Central African States (ECCAS), Economic Community of West African States (ECOWAS), Intergovernmental Authority on Development (IGAD), Southern African Development Community (SADC), and New Partnership for Africa's Development (NEPAD).

Note

1. BRICS is the acronym for an association of five major emerging economies: Brazil, Russia, India, China, and South Africa.

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