Ownership concentration, foreign ownership and corporate performance among the listed companies in East African community: the role of quality institutions

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Abstract: This study examines the role of institutions to stimulate the relationship between foreign ownership and corporate performance for the panel data of 58 non-financial listed firms in EAC over 2007–2015. The panel unit root tests by Im-Pesaran-Shin and Fisher-ADF confirm that data are stationary and are also cointegrated according to Pedroni tests. The regression output using GMM estimator reveals that ownership concentration is negative and statistically significant determinant of corporate performance. Moreover, the significant positive relationship between the interaction term (foreign ownership and institution) and corporate performance indicates that quality institutions stimulate foreign ownership towards superior corporate performance and the protection of minority shareholders. Acknowledging the importance of minority shareholders for capital market development and economic output, this study recommends to the authorities to enforce ownership structure diversity and enforce quality institutions for accelerating the catching up of the potential foreign shareholders towards economic growth.

Keywords: ownership concentration; foreign ownership; quality institutions; corporate performance; panel data; East African community; EAC.

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1 Introduction

Financial sector reforms that were initiated in 1980s and 1990s focused on market developments through lessening barriers for international trade to easily access international markets (Mishkin, 2007). During this era, private flows and investments started to migrate within industry regions and towards developing economies (Prasad et al., 2003) including the partner states of East African Community (EAC). The EAC is the regional integration established in 2000 by Tanzania, Kenya and Uganda whereas Rwanda and Burundi joined the integration in 2007.

The initiatives for regional integration of EAC culminated into deepening the intra-regional trade by building competitive business environment for the listed companies to compete fairly and generate the value added products, trade and investment by year 2020. Moreover, the partner states initiated the functional public and private sector partnership by inculcating the efficacy corporate governance practices for attracting potential domestic and foreign investors (AfDB, 2011; EAC, 2011).

The pervasiveness of ownership concentration among publicly listed companies in developing economies including the partner states of EAC are associated with laxity to enforce legal and regulatory frameworks (Melyoki, 2005; Chakra and Kaddoura, 2015; Klapper and Love, 2004; La Porta et al., 2002; Luo et al., 2012; Young et al., 2008). This kind of ownership is argued to be the main source of poor protection of minority shareholders and poor corporate performance (Chakra and Kaddoura, 2015).

The East African countries are plagued with unstable politics, corruption, bureaucracy, weak legal systems and inefficient markets. These impediments have consequences of poor corporate governance practices (Rwegasira, 2000; Munisi et al., 2014; Mak and Kusnadi, 2005; Transparency International, 2017). The laxity to enforce legal and regulatory frameworks hinders investors from making investment decision in

the listed companies which in turn can be toxic to stock markets development and threatens the survival of companies (World Bank, 2015).

Moreover, with the exception of Rwanda other partner states Tanzania, Kenya and Uganda impose restrictive business environment for provision and deliverance of important professional services from outside the region (World Bank, 2015; Dihel et al., 2010). Regardless of the policies to reform institutions, there is laxity to enforce reforms in Africa (Asiedu, 2004). The recent study carried by Barasa et al. (2017) concluded on the pervasiveness of weak institutions among the partner states of EAC namely Kenya, Tanzania and Uganda. It is argued that the EAC has never been the good destination for potential foreign investors because of poor institutions. For instance, the capital market authority (CMA) of Kenya reports that an average of 17% foreign ownership were attracted among listed companies at Nairobi Securities Exchange attracted between 2007 and 2015 (CMA, 2015). Weak corporate governance hinders foreign investors and thus, foreign direct investment (FDI) among listed companies in EAC has been declining (EAC, 2016). The declining trend of FDI inflows in EAC is also reported by Eyster (2014) and Suleiman et al. (2013).

The dissemination of financial information among partner states of EAC to the investors of international community has been critical for the lack of transparency and information asymmetry. To this end the international financial investors have insufficient information and probably fear making investment decisions in East African markets (Asongu et al., 2016; Mugerwa, 2016). The institutional qualities are argued to restore transparency to opening doors for internal financial investor community including the African Development Bank (AFDB) towards capital market developments (Ahmed, 2011; Mugerwa, 2016).

Currently, EAC have four security exchanges the Dar Es Salaam Stock Exchange (DSE) in Tanzania, the Nairobi Securities Exchange (NSE) in Kenya, the Uganda Securities Exchange (USE) and Rwanda Stock Exchange (RSE) in Rwanda. In 2015, the number of listed companies among the four exchanges were about 111 such that Tanzania, 21; Kenya, 66; Uganda, 18 and Rwanda, 6. These companies contributed to low market capitalisation as reported US$9bn at DSE, US$19bn at NSE, US$7bn at USE and US$3bn at RSE.

Another consequence of ownership concentration is that majority shareholders occupy both the ownership and control rights of the company (World Bank, 2012; La Porta et al., 2000). Thus, the private benefit of control triggers the majority shareholders to expropriate the company assets at expenses of the minority shareholders (Chakra and Kaddoura, 2015; Filatotchev et al., 2003; Wright et al., 2005). The World Economic Forum in 2015 under the global competitive index and the doing business reported the extent of poor protection of minority shareholders in SSA including the EAC (World Bank, 2015). In 2015, the SSA was poorly ranked with 4.6 out of 10 for strength of minority investor protection index as compares with other regions which scored between 4.7 and 6.3 (World Bank, 2015).

In 2015, Rwanda had better ranking at 25 out of 140 countries for protection of minority shareholders. The rest East African countries were poorly ranked for protection of minority shareholders for instance Kenya was at 61, Tanzania at 104 and Uganda at 106. The poor quality institutions fuel for the ownership concentration towards poor protection of minority shareholders (Claessens and Yurtoglu, 2013; La Porta et al., 2000; World Bank, 2013, 2014b).

This study is guided by three objectives:

1 To examine the relationship between ownership concentration and corporate performance among the publicly listed companies in EAC.

2 To examine the relationship between foreign ownership and corporate performance among the listed companies in EAC.

3 To evaluate the differential impact of foreign ownership with or without interaction of quality institutions towards corporate performance among the listed companies in EAC.

This study is significant because ownership concentration among the listed companies in EAC is reported to deter capital market development and economic outcomes. Thus, this paper makes significant contribution to the literature by examining the differential impacts of foreign ownership with and without institutions towards the protection of minority shareholders and economic performance.

2 Literature review

2.1 Theoretical background

The agency theory, stewardship theory, stakeholders' theory and resource dependency theory are the most important theories for corporate governance (Nicholson and Kiel, 2007). The agency theory assumes that shareholders and managers have different interests. Thus, agency problems associated with conflict of interests creates agency costs (Jensen and Meckling, 1976). The theory harmonise company objectives by placing two different persons to hold positions of chairperson and CEO (Fich, 2005; Jensen and Meckling, 1976; Scott, 2003). Additionally, the Cadbury report 1992 insisted that the position of CEO and chairperson should be held by two different persons. On the other hand, the stewardship theory is built on the convergence of interests and holds trust between stewards and shareholders. Because of the trust, the position of chairperson and CEO is held by single person (Donaldson and Davis, 1991).

The stakeholder theory by Freeman (1984) argues that the successfulness of the business is achieved if all stakeholders are satisfied. Stakeholders include management, shareholders, governmental bodies, employees, trade unions, customers, suppliers, creditors, competitors and the community (Aduda et al., 2013; Freeman, 1984; Scott, 2003). Meanwhile, the resource dependency theory assumes that a company is an open system and that can benefit from external environment (Pfeffer and Salancik, 1978). The theory emphasise companies to exploit external resources for superior corporate performance (Douma et al., 2006).

Therefore, according to Rwegasira (2000) and Young et al. (2008) the African countries including East African countries should build a model that integrate inputs from various models in order to afford global market competition and improve economic growth. Premised on this argument, this study integrates the agency theory and resource dependency theory because the agency theory is meant for countries that practice standard corporate governance contrary to EAC. The agency theory assumes that there is a separation of ownership and control which is contrary in EAC because of poor

corporate governance. Thus, resource dependency theory argues that different ownership structure enhances corporate performance (Dalziel et al., 2011; Douma et al., 2006; Durnev and Kim, 2005; Nicholson and Kiel, 2007).

2.2   *Ownership concentration and corporate performance*

Ownership concentration is among internal mechanism aspects of corporate governance (Munisi et al., 2014). Pioneers of corporate governance (Berle and Means, 1933; Claessens and Djankov, 1999) argued that ownership concentration should result into superior performance because of concentrated monitoring. Moreover, Grossman and Hart (1986) argued that the majority shareholders are expected to work exclusively because of high stake invested into the company. The agency theory views the concentrated ownership as mitigating tool of the agency problems which skyrocket the performance of the company (Jensen and Meckling, 1976). Positive relationship was also reported for companies listed in Bahrain (Maskati and Hamdan, 2017).

Meanwhile, several studies have reported that the incentives of private benefit of control influence majority shareholders to expropriate company assets at expenses of minority shareholders which deteriorates company performance (Bebchuk and Fried, 2003, 2006; Jiang and Peng, 2011; La Porta et al., 2000; Villalonga and Amit, 2006; Young et al., 2008).

However, Demsetz (1983) argued that corporate performance can be attributed by some other firm specific factors referred to as endogeneity. The author argued that, factors like management skills, company philosophy, and technological innovations are specific to particular companies and impacts firm performance. In general, these factors are neither observable nor measurable and are the sources of unobserved heterogeneity.

2.3   *Foreign ownership, institutions and corporate performance*

The resource dependency theory argues that foreign ownership plays important role of monitoring and adhering to standard corporate governance practices which reduces the expropriation by majority shareholders who divert corporate assets at expense of minority investors (Bjuggren et al., 2007). Meanwhile, it is argued that domestic firms that embrace foreign ownership achieve superior performance compared to purely domestic firms (Pervan et al., 2012).

In general, healthy managed firms have superior exploitation of poor corporate governance environments. Premised on this, firms can somewhat balance the absence of enforced legal and regulation by instituting good corporate governance that offers protection to investors (Klapper and Love, 2004). This means that, institutions play significant role to accelerate investor protection because foreign investors exploit favourable environment for optimal maximisation.

It was argued that quality institutions explain country's economic growth (Acemoglu et al., 2003). Quality institutions are viable platforms to influence foreign investors to bring with them the technology, financial resources and human capital to mention few that in turn contribute towards the economic growth (Nasrin and Khan, 2016; Nondo et al., 2016). This was evidenced by Gui-Diby (2014) who carried a study to examine the influence of institutions on economic growth in Africa during the structural adjustment (SAPs) in 1980–1995 and during implementation of reforms in 1995–2009. The study

concluded that in 1980–1995 the economic growth was negatively impacted by foreign investment while in 1995–2009 the economic growth was positively impacted by foreign investment. It was argued that the period 1980–2005 was meant for reformation of regulations while the period 1995–2009 was for implementation of regulatory reforms which activated economic performance.

Moreover, the study carried in Romania, Poland and Bulgaria to examine the relationship between foreign ownership and performance concluded that foreign ownership influenced superior performance in Poland while Bulgaria and Romania experienced worse performance. The superior performance in Poland was engineered by enforcements of institutions reforms contrary to Romania and Bulgaria (Konings, 2001).

Several studies document that companies might have the same level of foreign ownership but experience different level of performance pioneered by indifferences to enforce institutions (Busse and Groizard, 2008; Farole and Winkler, 2014). Generally, quality institutions constitute: voice and accountability, political stability and absence of violence/terrorism, government effectiveness, and regulatory quality, rule of law and control of corruption (Kaufmann et al., 2010).

Aggarwal et al. (2011) argued that presence of foreign ownership in a targeted firm provide protection to shareholders especially in countries with weak investors protection. Furthermore, policy reforms of regulations for stable and favourable business environments motivate foreign ownership to excel corporate performance (Chakra and Kaddoura, 2015). Therefore, business environment of the host country influence the performance of foreign investors (Douma et al., 2006; Peng and Jiang, 2010).

3 Research methodology

This study employed panel data of 58 non-financial listed companies over the period 2007–2015. This period was chosen for reasons that Burundi and Rwanda joined the integration in year 2007. Meanwhile, Burundi has not yet established the stock market and was excluded in the study. Another reason is that the Worldwide Governance Indicators (WGI) releases governance data in September of the next year and currently there is data for year 2015. This study has chosen the EAC because the partner states of EAC have collective objectives of establishing common market and one currency for the economic growth of the region.

The panel data are employed in this study because can overcome for the heterogeneity among listed firms in EAC. Panel data can also accounts for spurious correlation by controlling factors that are unobserved and unmeasured and moreover panel data provide more informative data that allow for variability and less multicollinearity among variables while creating more degree of freedom. Furthermore, panel data is suitable for studying changes in economic policy (Hsiao, 2003; Baltagi, 2005).

3.1 Variables of the study

This section of the study reports the dependent variable, independent variables and control variables employed for the econometric estimation.

3.1.1 Dependent variable

The return on assets (ROA) was employed as the dependent variable which measures the corporate performance. The ROA was selected because it represents the efficiency of the management of the company to generate profit from the resources or assets employed (Aliabadi, 2013; Bahhouth and Gonzalez, 2014; Ekholm and Maury, 2014).

3.1.2 Independent variables

This study intends to examine the relationship between ownership concentration and foreign ownership on corporate performance. Moreover, the study intends to examine the role of institutions to stimulate the relationship between foreign ownership and corporate performance. It is worth to note that ownership concentration occurs when more of company shares are in the hands of few shareholders. It is measured as the percentage of shares owned by largest shareholders (Demsetz and Lehn, 1985; Demsetz, 1983; Earle et al., 2005).

Whereas, foreign ownership constitute the portion of ownership held by foreign investors. Thus, Lee (2008) and Kim and Yi (2015) argued that foreign ownership can be measured by the proportion of shares held by foreign investors. This study measures foreign ownership as the percentage of shares owned by foreign investors. The finding of Chari et al. (2012) concluded that foreign ownership and corporate governance are positively related. Thus, this study expects the positive relationship between foreign ownership and corporate performance.

3.1.3 Control variables

The control variables are included to control the relationship between ownership and performance. The endogenous problem from the unobserved heterogeneity which is associated with omission biasness can be controlled by introducing control variables. Demsetz (1983) argued that when regression is conducted without controlling for endogenous problem, there is a likelihood of reporting biased results. This is because ownership concentration is endogenous and past performance has a tendency to influence current performance. Thus, ignoring past performance effect which constitutes the dynamic endogeneity generates biased results (Hu and Izumida, 2008; Nguyen et al., 2015; Zhou et al., 2014).

The power of control variables is that they have an ability to influence both ownership and corporate performance but should not be correlated with the residuals (Flannery and Hankins, 2013; Thomsen and Pedersen, 2000). This study includes control variables of firm size, leverage, growth opportunity, and investment (Munisi et al., 2014; Munisi and Randoy, 2013). The firm size is included as a control variable because size of the firm predicts the ability of the firm to access the external source of financing. Extant studies report positive relationship between firm size and corporate performance because of the capability of large firm to exploit economies of scale (Beiner et al., 2006; Black et al., 2006b; Munisi et al., 2014). Thus, the proxy for firm size is taken to be the natural logarithm of total assets.

Table 1 Variables and data sources

Variables	Description	Source
Dependent variable		
Return on assets	Computed as the ratio of operating profit to total assets.	Bloomberg; stock markets of partner states
Independent variables		
X	The ownership concentration is the percentage of shares held by the largest shareholder (%).	Bloomberg; stock markets of partner states
FO	Foreign ownership: is measured by the proportion of shares held by foreign investors (%).	Bloomberg; CMA – partner states
Control variables		
Firm size (Siz)	Natural logarithm of total assets	Bloomberg; stock markets of partner states
Leverage (LEV)	Book value of total debts/book value of total assets.	Bloomberg; stock markets of partner states
Growth (Grow)	Average annual growth of sales to the past year	Bloomberg; stock markets of partner states
Investment (INV)	The Investment is computed by dividing the CAPEX to fixed assets	Bloomberg; stock markets of partner states
Quality institutions		
Government Effectiveness	Government effectiveness measures quality of public services, civil services and the quality of policy formulation and implementation	WGI World Bank
Regulatory quality	Regulatory quality measures the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development	World Bank
Rule of law	Rule of law measures an extent for agents to have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, the courts, as well as likelihood of crime and violence.	World Bank
Control of corruption	It is 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.	World Bank
Voice and accountability	Measures the freedom of expression, decision on the government, and alliance of freedom and media	World Bank
political stability	Measures the safety of the citizens and that there is no threat associated with any kind of violence and terrorism.	World Bank

Source: Author computation

The leverage is included in this study because leverage entails the creditworthy of the company. Companies that employ high level of debt are expected to have better performance than non-debt companies. Thus, regions which have strong protection of minority rights, leverage and performance are positively related (González, 2013). On this regard, the debt issuers impose scrutiny to monitoring the activities of the debt firm while the debt firm will want to keep its reputations. To proxy for leverage, the total debt to total assets is used (Colombo et al., 2014). The sales growth is another control variable to be introduced because sales growth explains growth opportunities (Black et al, 2006a). Thus, companies that aspire fast growth should have part of their financing from external sources (Durnev and Kim, 2005). Therefore, positive relationship between sales growth and corporate performance is expected (Gompers et al., 2003).

Investment is also included as a control variable provide by capital expenditure (CAPEX). The CAPEX allows the company to use capital to acquire new investments in property and equipment. Therefore, capital expenditure and firm performance are expected to be positively related (Akbar et al., 2016; Lang et al., 1989; Chen et al., 2010). Data and data source are described in Table 1.

3.2   Model specification

This study examines the role of institutions to influence the relationship between foreign ownership and corporate performance. However, this study starts by examining the relationship between dominant ownership concentration and corporate performance in EAC. The EAC is plagued with weak legal and regulatory framework among listed companies. Contrary to the agency theory, majority shareholders have both ownership and control of the company at the expenses of minority investors. Thus, the relationship between ownership concentration and corporate was examined using equation (1).

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \sum_{i=1}^{n} \gamma_i Z_{it} + \varepsilon_{it} \tag{1}$$

where

Y_{it} corporate performance

β_0 intercept term

β_1 coefficient for the ownership concentration

X_{it} ownership concentration

γ_i coefficient for control variables

Z_{it} control variables (firm size, leverage, sales growth and investment)

ε_{it} error term.

The resource dependency theory argues that enlarging ownership structure promote performance (Hillman and Dalziel, 2003). Foreign ownership are attached with monitoring capability, human capital, financial resources and investor protection in the company (Crook et al., 2008; Dalton et al., 2003; Douma et al., 2006). Thus, heterogeneity among shareholders in the company accelerates good governance and performance. Therefore, the foreign ownership is accommodated in equation (1) to yield equation (2).

$$Y_{it} = \alpha_0 + \alpha_1 X_{it} + \alpha_2 FO_{it} + \sum_{i=1}^{n} \gamma_i Z_{it} + \varepsilon_{it} \qquad (2)$$

where *FO* is foreign ownership and the coefficient; where α_2 is expected to be positive. Furthermore, to evaluate the role of institutions to boost foreign ownership toward performance the interactive variable is formulates by interacting foreign ownership and quality institutions ($FO_{it} * Ins$) and included in equation (2) to yield equation (3).

$$Y_{it} = \alpha_0 + \alpha_1 X_{it} + \alpha_2 FO_{it} + \alpha_3 \left(FO_{it} * Ins \right) + \sum_{i=1}^{n} \gamma_i Z_{it} + \varepsilon_{it} \qquad (3)$$

The interaction between foreign ownership and institutions is linked with less information asymmetry by foreign ownership to create good conduct of corporate governance practices (Chen et al., 2014). Thus, positive relationship between interactive variable and ROA is expected.

It is worth to note that, the six components of quality institutions as highlighted by Kaufmann et al. (2010) are highly correlated with one another. For instance, between 1996 and 2005 the correlation between government effectiveness and regulatory quality was about 0.96. Thus, employing all six components into a single model would generate biased results. Therefore, this study employed the principal component analysis (PCA) to generate an index that overcomes the problem of multicollinearity (Buchanan et al., 2012; Globerman and Shapiro, 2002; Nondo et al., 2016; Radaelli and Francesco, 2010).

3.3 *Panel unit root and panel cointegration tests*

Variables have the tendency to fluctuate overtime, thus data stationarity were tested (Gujarati and Porter, 2009; Mahadeva and Robinson, 2004). Factors like firm size, industry classification and investor protection contribute to the optimal ownership level but these factors fluctuate overtime (Demsetz, 1983). It was argued that if regression is applied to non-stationarity parameters, spurious results can be reported (Mahadeva and Robinson, 2004).

Therefore, the panel unit root tests of Im-Pesaran-Shin (IPS) and Fisher-ADF tests that accounts for the heterogeneity among listed companies were applied. The validity for panel unit root tests lies on the size and the power they provide when explaining and reporting results. The size of panel unit root test explains the level of the probability to commit type I error, while the power dictates the probability of committing type II error (Baltagi, 2005; Gujarati and Porter, 2009). Moreover, the panel cointegration tests by Pedroni (2004) were employed to examine the existence of long run relationship of the variables. These tests are employed because are based on the null hypothesis of no cointegration for heterogeneity.

3.4 *Generalised method of moments*

The generalised method of moments (GMM) was employed to encounter endogenous problems associated with unobserved heterogeneity. The endogenous problems occur when residuals correlate with independent variables to influence dependent variable. OLS cannot control for the endogeneity problems and generates biased estimates (Gujarati and Porter, 2009; Wooldridge, 2002).

Therefore, GMM accounts for the potential sources of endogeneity problems and hence escapes the possibility of subjecting the corporate governance into possible shocks. The GMM does so by including the lagged performance into the model. Moreover, GMM is even consistent with small sample size (Arellano and Bond, 1991; Blundell and Bond, 1998; Keong, 2007). The GMM estimator accounts for problems of endogeneity using the following dynamic model

$$\Delta Y_{it} = k_p \Delta Y_{it-1} + \beta_1 \Delta X_{it} + \gamma_{it} \Delta Z_{it} + \Delta \varepsilon_{it} \tag{4}$$

Note that $p > 0$, and Δ is an operator for the first difference, ΔY_{it-1} is lagged dependent variable. The lagged performance in equation (4) is used by GMM as an instrument of endogenous explanatory variables and should not be correlated with the residual term but correlated with the regressors (Wintoki et al., 2012).

4   Findings and discussion

4.1   Descriptive statistics

The descriptive statistics for this study are reported in Table 2.

Table 2   Descriptive statistics

Variable	ROA	X	FO	LEV	SIZ	INV	GROW
Mean	20.07	51.41	11.43	14.71	18.06	13.83	7.82
Median	15.06	55.15	24.92	5.62	17.99	11.01	5.19
Maximum	531.55	93.69	98.17	108.84	21.96	72.32	227.48
Minimum	–462.9	15.49	0.01	0.22	13.24	0.04	–66.62
Std. Dev.	67.32	1.51	8.05	21.82	1.70	11.82	25.80
Skewness	2.34	0.28	0.23	2.39	–0.10	1.65	1.84
Kurtosis	29.46	60.05	113.05	5.00	–0.19	3.83	12.38
Observations	522	522	522	522	522	522	522

Notes: The notation: ROA = return on asset (%), X = ownership concentration (%),
FO = foreign ownership (%), LEV = leverage (%), SIZ = firm size (US$ m),
INV = investment (%), GROW = sales growth (%).
Source: Author computation

In Table 2 there are 522 observations associated with 58 non-financial listed companies among partner states of EAC over the period 2007–2015. This observation is generous to provide brief status of listed companies in EAC towards the value added products for the economic growth.

Results show that the average ownership concentration among listed firms in EAC is 51.41%. Numerous empirical studies including the World Bank through Doing Business argued that the dominant ownership concentration among partner states of EAC fuels the weak protection of minority shareholders (Chakra and Kaddoura, 2015; Eyster, 2014). Moreover, Morck et al. (2005) and Young et al. (2008) argued that the inefficacy and unpredictable rule of law among emerging economies including partner states of EAC engineers the conflict between the majority and minority shareholders.

Moreover, Table 2 reveals that the partner states of EAC have an average of 11.43% of foreign ownership. Although the EAC region has revoked the restriction on foreign shareholdings, the region requires scrupulous efforts to attract potential foreign investors. The fewer foreign investors among listed companies in EAC are associated with higher cost for doing business in the region (Eyster, 2014; World Bank, 2014a, 2016; Barasa et al. 2017). In general, the enforced quality institutions would enhance the lowering of the transaction costs (Skoog, 2005).

4.2 Panel unit root tests

The results for IPS and Fisher – ADF tests for panel unit root are reported in Table 3.

Table 3 Individual panel unit root tests results

Variables	Im, Pesaran and Shin tests		Fisher – ADF tests	
	Level (trend and intercept)	*First difference (intercept)*	*Level (trend and intercept)*	*First difference (intercept)*
ROA	−0.272	−9.442***	185.497	450.607***
	(0.392) (1)	(0.000) (1)	(0.373) (0)	(0.000) (1)
X	−0.080	−7.323***	167.316	313.195***
	(0.467)(1)	(0.000) (1)	(0.109) (1)	(0.000) (1)
FO	−0.949	−8.405***	130.849	383.425***
	(0.171) (1)	(0.000) (1)	(0.988) (0)	(0.000) (1)
FO*INS	−1.155	−10.820***	177.118	480.219***
	(0.123) (1)	(0.000) (1)	(0.546) (0)	(0.000) (1)
LEV	−0.745	−10.426***	209.607	462.147***
	(0.228) (1)	(0.000) (1)	(0.064) (0)	(0.000) (1)
SIZ	−0.054	−8.115***	170.870	406.122***
	(0.478) (1)	(0.000) (1)	(0.675)	(0.000) (1)
INV	−0.369	−17.297***	203.573	633.628***
	(0.355) (1)	(0.000) (1)	(0.110) (1)	(0.000) (1)
GROW	−0.164	−16.662***	204.275	660.162***
	(0.434) (1)	(0.000) (1)	(0.103) (1)	(0.000) (1)

Notes: Null hypothesis: unit root (individual unit root process); Asterisks *** implies rejection of null hypothesis at 1% significance level. Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. IPS tests statistics are computed using asymptotic normality. Automatic lag length selection based on SIC for both IPS and Fisher ADF tests. The notation: ROA = return on assets, X = ownership concentration, FO = foreign ownership, FO*INS = interaction between foreign ownership and institutions, LEV = leverage, SIZ = firm size, INV = investment and GROW = sales growth.

Table 3 reveals the presence of unit root at level and thus, the first difference was conducted. At first difference, all variables became stationary and statistically significant at 1% level of significance on both intercept and trends. The stationarity implies that data are stable and can be used for making forecasts. Thus, any effects brought by shocks can be immersed and become part of the working system.

4.3   Pedroni cointegration tests

The data stationarity is necessary for the long run relationship among the variables. The Pedroni cointegration tests analysis was employed and results are reported in Table 4.

Table 4   Pedroni panel cointegration

Pedroni tests	Statistics	P-value
1 Panel v-statistic		
Individual intercept and trend	5.678***	0.000
No intercept or trend	−442.221	1.000
2 Panel rho-statistic		
Individual intercept and trend	6.364	1.000
no intercept or trend	0.501	0.692
3 Panel PP-statistic		
Individual intercept and trend	−16.175***	0.000
No intercept or trend	−15.615***	0.000
4 Panel ADF-statistic		
Individual intercept and trend	−13.366***	0.000
No intercept or trend	−14.255***	0.000
5 Group rho-statistic		
Individual intercept and trend	10.596	1.000
No intercept or trend	6.824	1.000
6 Group PP-statistic		
Individual intercept and trend	−17.768***	0.000
No intercept or trend	−18.8985***	0.000
7 Group ADF-statistic		
Individual intercept and trend	−7.178***	0.000
No intercept or trend	−10.728***	0.000

Note: Null hypothesis: no cointegration. The asterisks *** implies the rejection of null hypothesis at 1% significance level, Automatic lag length selection based on SIC.

Results on Table 4 show that the null hypothesis of no cointegration was rejected at 1% significance level because more than half of seven tests rejected the null hypothesis in favour of the alternative and therefore, long run relationship exists among variables.

4.4   Regression results from dynamic GMM estimator

The regression output by GMM estimator in Table 5 reports the relationship between independent variables (ownership concentration, foreign ownership, interactive variable, and control variables) and dependent variable (corporate performance). The first and foremost is that dynamic GMM estimator is attached with instrumental variables. These instrumental variables are supposed to be valid on the basis of relevance and exogeneity which accounts for the endogeneity problem triggered by dynamic endogeneity and unobserved heterogeneity (Hu and Izumida, 2008; Nguyen et al., 2015; Thomsen and Pedersen, 2000; Wintoki et al., 2012).

Table 5 Regression results by GMM

Variables	Model I		Model II		Model III	
	Coefficient	Test statistics	Coefficient	Test statistics	Coefficient	Test statistics
ROA(–1)	–0.276	–11.72***	–0.180	–11.80***	–0.152	–11.92***
		(0.000)		(0.000)		(0.000)
X	–0.778	–14.87***	–0.015	–4.31***	0.034	6.62***
		(0.000)		(0.000)		(0.000)
FO			0.003	8.27***	–0.054	–57.89***
						(0.000)
FO*INS				(0.000)	0.082	46.85***
						(0.000)
LEV	–0.177	–5.14***	0.033	13.99***	0.041	20.64***
		(0.000)		(0.000)		(0.000)
GROW	0.200	15.47***	0.022	14.69***	0.017	17.47***
		(0.000)		(0.000)		(0.000)
INV	0.052	4.32***	0.016	20.69***	0.019	13.01***
		(0.000)		(0.000)		(0.000)
SIZ	–0.266	–12.58***	0.007	3.67***	0.008	4.98***
		(0.000)		(0.003)		(0.000)
Cross – section fixed (first difference)						
S.E. of regression	0.031		0.029		0.038	
J-statistics	25.797		30.578		22.867	
Prob (J-statistics)	0.173		0.105		0.351	

Notes: The asterisks *** implies significant at 1% significance level, dynamic panel data
are reported with t-statistics and p-values (brackets). The notation: ROA (–1) =
lagged performance, ROA = return on assets, X = ownership concentration,
FO = foreign ownership, FO*INS = interaction between foreign ownership and
institutions, LEV = leverage, SIZ = firm size, INV = investment and
GROW = sales growth.

The results show that the lagged dependent variable namely ROA(–1) is statistically significant at 1% and the probabilities of J-statistics are above 10% to suggest that the instrumental variables that are attached to the GMM estimator are valid instruments and offer stable estimates for reporting unbiased results. This argument is in line with the arguments by Flannery and Hankins (2013), Law and Azman-Saini (2008), Wintoki et al. (2012), Roodman (2009), Nguyen et al. (2015) and Zhou et al. (2014). Premised on this remark, the empirical results that are attached with this study are appropriate for making statistical inferences.

Results displayed in Table 5 are for models I, II and III for achieving objectives one, two and three. Model I shows that ownership concentration and ROA are negatively and statistically significant at 1%. This implies that ownership concentration worsens corporate performance and the majority shareholders pursue the private benefit of control by expropriating corporate assets at expense of minority investors. In general, 1%

increase in ownership concentration worsens performance by 0.778%. This result is in line with (La Porta et al., 2000, 2002; Ongore, 2011; Yartey and Komla, 2007; Young et al., 2008) who noted that horizontal problem associated with poor protection of minority shareholders in developing economies including EAC are prevalence and expropriation by controlling shareholders deters corporate performance.

Model II accommodates the foreign ownership in the relationship between ownership concentration and ROA. The result shows that the magnitude of expropriation by majority shareholders has reduced by 0.763%. The foreign ownership and ROA are positively and statistically significant at 1% significance level. An increase by 1% in foreign ownership improves performance by 0.003%. Thus, foreign ownership creates interest-alignments for all stakeholders. The resource dependency theory argues that diversifying the ownership structure by including foreign ownership has positive impact on performance. This findings is in line with (Aggarwal et al., 2011; Douma et al., 2006; Peng and Jiang, 2010; Randøy and Goel, 2003; Young et al., 2008).

Model III introduces the institutions on the relationship between foreign ownership and corporate performance. Thus, the interactive term of foreign ownership and institutions ($FO * INS$) was introduced in the model. Results show that the ownership concentration became positive and statistically significant at 1% significance level. This implies that ownership concentration has become part of a working system. However, the significant drop for foreign ownership to –0.054 implies that the threshold level of institutions of at least 0.66 is required to achieve optimal performance. For ROA, the threshold of efficiency which is required to affect performance is calculated as follows.

$$ROA_{it} = -0.152ROA_{i,t-1} + 0.034X - 0.054FO + 0.082(FO * INS)_{it} + \sum Z_{it}$$

Then, ROA is differentiated with respect to FO and find the value of INS at stationary point where $\dfrac{\partial ROA_{it}}{\partial FO_{it}} = 0$.

Thus, $\dfrac{\partial ROA_{it}}{\partial FO_{it}} = -0.054 + 0.082INS = 0 \Rightarrow INS = 0.658 = 0.66$

The coefficient for the interactive variable is positively and statistically significant at 1% significance level. This implies that favourable business environment activates foreign ownership towards superior corporate performance. More explicitly, results show that 1% change in quality institutions amplifies corporate performance by 0.082%. Results of this study are in line with Chen et al. (2014). In general, it is argued that efficiency of foreign ownership is contributed by quality institutions available in the host country (CPIA Africa, 2016). Furthermore, Buchanan et al. (2012) argued that good institutions influence foreign ownership.

5   Conclusions and policy implications

The agency and resource dependency theories were integrated to examine the role of foreign ownership and when interacted with institutions to accelerate corporate performance among public listed companies in EAC.

This study revealed that the relationship between dominance ownership concentration and corporate performance is negative and statistically significant in EAC. This result

validates reports that in developing economies including EAC region there is poor protection of minority shareholders and the principal-principal conflicts are dominant because of the tunnelling effect created by majority shareholders.

However, the presence of foreign ownership has positive implication on corporate performance and reduces the scale of expropriation by majority shareholders. Moreover, the introduction of quality institutions as catalyst of foreign ownership has amplified the ownership concentration to become part of working system.

Therefore, by recognising the importance of minority shareholders for meticulous capital market developments for country and company levels, this study suggest to the authority for the need to enforce the diversity of ownership structure for good conduct of corporate governance practices. The experience and expertise by foreign ownership acquired from different countries would facilitate performance and provide protection of minority shareholders. Also, the authority is advised to reinforce quality institutions among the partner states of EAC for attracting FDI which accelerates corporate efficiency and increase liquidity to companies for fostering the economic growth.

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