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Authors: Abongeh A. Tunyi, Henry Agyei-Boapeah, Geofry Areneke, Jacob Agyemang

PII: S0275-5319(18)30859-6
DOI: https://doi.org/10.1016/j.ribaf.2019.04.009
Reference: RIBAF 1032

To appear in: *Research in International Business and Finance*

Received date: 23 September 2018
Revised date: 19 April 2019
Accepted date: 23 April 2019

Please cite this article as: Tunyi AA, Agyei-Boapeah H, Areneke G, Agyemang J, Internal capabilities, national governance and performance in African firms, *Research in International Business and Finance* (2019), https://doi.org/10.1016/j.ribaf.2019.04.009

Internal capabilities, national governance and performance in African firms

Abongeh A. Tunyi[a1], Henry Agyei-Boapeah[b], Geofry Areneke[c], Jacob Agyemang[d]

[a]Accounting and Financial Management Division
Sheffield University Management School
University of Sheffield
Sheffield, UK

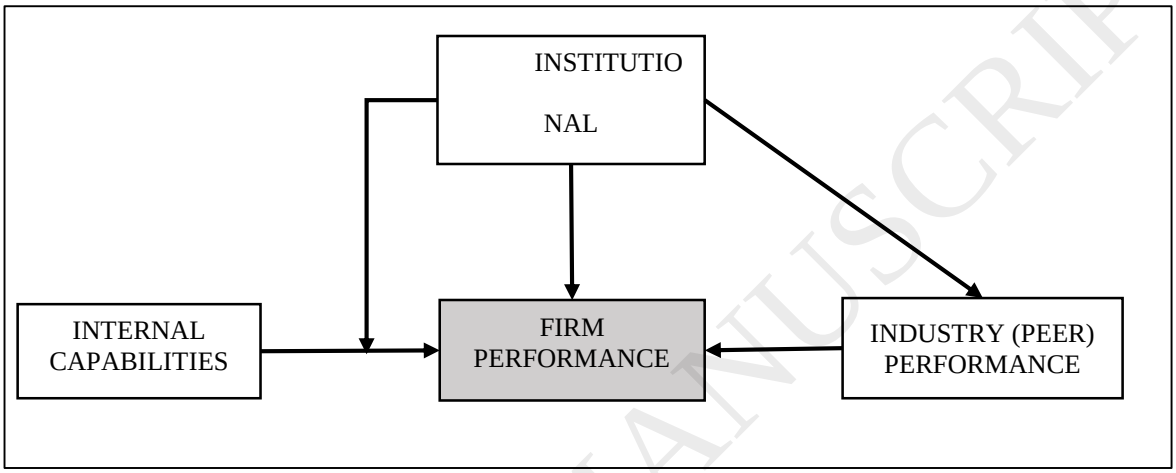
[b]Accounting and Finance Group
The York Management School
University of York
York, UK

[c]Accounting and Finance
The University of Northampton
Northampton Business School
Northampton, UK

[d]Accounting and Finance
Essex Business School
University of Essex
Essex, UK

[1] Corresponding author. Address for correspondence; Accounting & Financial Management, Sheffield University Management School, University of Sheffield, Conduit Road, Sheffield, S19 1FL, United Kingdom. Email: a.tunyi@sheffield.ac.uk. Tel: +44 (0)114 222 0989.

Graphical abstract



Internal capabilities, national governance and performance in African firms

Abstract

We explore the relations between firms' internal capabilities, national governance quality (NGQ) and performance in the African context using a dataset comprised of 11,183 firm-year observations (1,490 unique firms from 15 African countries over a 17-year period). Our study offers new insights into how interlinkages between firms' internal and external environment, shape corporate success. Specifically, we find that (1) firms' internal capabilities (captured by financial resource-availability and growth prospects)

are critical enablers of performance in both weak and strong institutional environments, (2) individual firms perform well in environments where their peers performs well, (3) NGQ directly enhances aggregate firm performance, and in tandem, the performance of individual firms, and (4) NGQ moderates the capability-performance nexus, by enhancing the translation of growth opportunities into profitability. The results highlight the critical role of firm-level financial resource availability and growth prospects in shaping corporate success in this challenging institutional environment.

Keywords: firm performance, national governance quality, internal capabilities, Africa.

1.0 Introduction

Organisational performance may be influenced by many forms of internal capabilities including organisational slack (Wiersma, 2017), borrowing capacity (Vo, 2018), liquidity (Yang et al., 2017; French and Taborda, 2018), capital structure (Le and Phan, 2017; Detthamrong et al., 2017) and growth opportunities (Agyei-Boapeah et al., 2018; Li and Kuo, 2017). However, the ultimate impact of firms' internal capabilities on performance is still debatable as the results of prior empirical studies vary with the types of internal capabilities examined and the context of the study. For instance, Agyei-Boapeah et al. (2018) provide evidence to suggest a positive impact of internal capabilities on the performance of British acquiring firms, while Yang et al. (2017) document a negative effect of firm internal capabilities on organisational performance by showing that highly liquid Chinese firms undertake value-destroying M&A deals. Furthermore, for a sample of US firms, Wiersma (2017) shows that firm capabilities (discretionary slack) has both positive and negative effects on performance.

Most prior studies on the capabilities-performance nexus share some common features, which may partly explain the mixed evidence they report, and offer us avenues to contribute to this strand of the literature. First, in the absence of a single, widely accepted proxy for firms' internal capabilities, each study focuses on a specific type of internal capability, mostly financial, ignoring other forms of capabilities in their analysis. Meanwhile, Barney (1991) offers a broader definition of capabilities as a pool of organisational resources that encompasses managerial skills/abilities, organisational culture/dynamism, technological know-how, innovation and financial capabilities. In view of this definition, the current article seeks to contribute to the literature on firm capabilities-performance nexus by utilising an array of empirical proxies that captures both financial and non-financial aspects of firms' internal capabilities. Through this approach, our study offers a more comprehensive view of firms' internal capabilities,

allowing us to robustly investigate the underlying relationship between firm capabilities and performance, and in the process, enhance our understanding on the subject.

Second, a majority of the existing studies are conducted within a single country context, limiting the generalisability of prior findings. It remains unclear whether, and to what extent, prevailing macro-environments moderate the results of prior studies on the capabilities-performance nexus. We address this concern by examining the impact of firm internal capabilities on performance in a cross-country framework that involves 15 African countries. Besides the obvious advantage of generating more generalisable results, our cross-country analysis has an additional benefit of producing more powerful statistical results by exploiting time-series, as well as cross-sectional variations at both the firm- and country-levels.

Third, we leverage on the significant variations in the quality of governance across African countries (see Figure 1) to explore the direct effect of national governance quality (NGQ) on firm performance, as well as the moderating role of NGQ on the firm capabilities-performance nexus. We motivate this part of our analysis using institutional theory (McGahan and Porter, 1997) and the strategy tripod perspective (Peng et al., 2009). To our knowledge, this makes our study one of the first in the capabilities-performance literature to explore how firms' internal and external environments interact to shape their performance. We thus extend the literature to show how NGQ enhances or dampens the effect of firm capabilities on performance. Additionally, our cross-country context allows us to address an important issue—why some firms continuously perform well despite institutional constraints.

Finally, we contribute more broadly to the literature on corporate performance by positioning our study in the African setting, which remains relatively understudied. Our focus on the African market is significant, partly because much of the literature on corporate performance focuses almost exclusively on the European (Hawawini et al. 2004) and Asian (Makino et al., 2004; Contractor et al. 2007; Chari and

Banalieva, 2015) institutional contexts, with the African context (Ngobo and Fouda, 2012) largely ignored. Meanwhile, the African continent, which is characterised by diversity in institutional quality (Areneke and Kimani, 2018), has experienced tremendous growth over the last two decades (Hearn, 2015).

[Insert Figure 1 about here]

Similarly, recent years have seen some improvements in governance in many African countries (Areneke et al., 2019), although some challenges remain. As can be seen from Figure 1, while countries such as Botswana, Mauritius, Ghana, Namibia, and South Africa exhibit high governance scores[2], others like Ivory Coast, Kenya, Nigeria, and Zimbabwe have poor scores. While this observation is widely documented (Biggs and Shah, 2006; Hearn, 2015), it remains unclear how this evolution and cross-country differences in institutional quality shape firm outcomes. Besides allowing us to explain the growth witnessed by African firms in recent years, this cross-country context, characterised by significant variability in NGQ, allows us to explore the impact of NGQ on the capability-performance nexus.[3]

Several other reasons make our chosen African context an interesting setting to undertake this study. In recent years, the African continent has gained increased prominence on the global front in terms of its contribution to the global economy. International Monetary Fund (IMF) GDP statistics over the 1996 to 2012 period suggest that average growth in sub-Sahara Africa (4.6%) dwarfed OECD member countries (2.1%) and the rest of the World (2.8%). Therefore, shifting more research attention to Africa by way of understanding the recent growth in the region, is warranted.

While Africa has enjoyed a significant inflow of foreign direct investment over the last decade, management research on Africa is still at its infancy (Areneke et al., 2019). Prior research on antecedents

[2] We discuss the generation of these scores later in our study.

[3] A western context (e.g., the European Union) will be characterised by countries with similar levels of governance quality, which does not change markedly over time. This lack of variability means it will be empirically difficult to tease out the impact of an increase in governance quality on aggregate firm performance.

of performance in African firms, for example, has primarily focused on small & medium-size enterprises (SMEs) and non-listed firms (Ramachandran and Shah, 1999; Biggs and Shah, 2006; Ngobo and Fouda, 2012). Thus, there is limited understanding about listed African firms, which typically tend to be larger, better governed, and form part of an international network (e.g. subsidiaries of well-established global companies).

Based on a large dataset of 1,490 listed African firms drawn from 15 African countries over a 17-year period spanning 1996-2012 (i.e., an unbalanced panel of 11,183 firm-year observations), we uncover the following four key findings. Firstly, we show that financial resources (i.e., a combination of high free cash flow, high liquidity and low leverage) and growth opportunities (i.e., a combination of low book to market values, high sales growth and low firm age) generally enhance a firm's performance and increases its likelihood of outperforming its peers. Secondly, we show that although our results on the capabilities-performance relation hold in both weak and strong governance environments, the relationship is stronger in better governance environments. Our finding of a positive capabilities-performance link in weak governance environments suggests that firms operating in poor governance environments use their superior capabilities to mitigate external institutional challenges. These results, in combination with additional case evidence, explain why some African firms perform well despite institutional constraints. Finally, we show that an improvement in country-level institutional environment directly enhances aggregate firm performance and, in tandem, the performance of individual firms.

Collectively, our main results suggest that internal capabilities and NGQ are two critical sources of competitive advantage for listed African firms and hence, differences in their distribution, partly, explain variations in performance across firms, countries and over time. Our results imply that firms' internal capabilities are critical to individual firms' performance in both strong and weak institutional environments. While an abundance in natural resources at the macro-level (Mehlum et al., 2006) leads to

negative outcomes in Africa —*the resource curse*— it appears that, high internal capabilities/resources at the firm-level yield net benefits to firms, irrespective of the quality of underlying institutions.

The rest of the paper is organised as follows. We discuss our hypotheses in section 2.0, research design, variable selection and data, in section 3.0, empirical findings in section 4.0 and conclude our study in section 5.0.

2.0 Hypotheses development

2.1 The strategy tripod perspective

While the resource-based view is powerful, it does not sufficiently explain strategy and performance in complex institutional settings (Peng et al., 2009; Su et al., 2016). The strategy tripod (Peng et al., 2009) provides a theoretical framework for this study. The framework suggests that firm performance in an international setting is driven by a complex mix of internal firm resources and capabilities (resource-based view), industry characteristics (industry-based view) and the quality of institutions (institution-based view). The nature of these factors and the channels through which they influence strategy and performance are subject to debate (Meyer et al., 2009; Lu et al., 2010; Su et al., 2016), hence, we explore their interlinkages in a novel (African) setting. That is, we draw from this theoretical perspective, and an African institutional context to explore the role of: (1) firm financial resources and growth potential (resource-based factors); (2) the performance of peer firms (industry-based factor); and (3) governance quality (institutional-based factor) on the performance of firms. Our conceptual model is shown in Figure 2.

[*Insert Figure 2 about here*]

2.2 Internal capabilities

Grant (1991) contends that firm-specific resources could be tangible (e.g., financial resources) or intangible (e.g., skills, reputation, brands, networks and goodwill), and the differences in endowment of these resources explain differences in performance across firms. Consistent with this view, prior research draws on the resource-based view (RBV) to explain why firm performance varies across firms and over time (Gerschewski et al., 2015). RBV emphasises the importance of firm idiosyncratic resources and capabilities, particularly those that reside within the organisation, in shaping firms' competitive advantage, and hence, performance (Barney, 1991; Peteraf, 1993; Wernerfelt, 1984). This theory suggests that under certain circumstances, firms derive competitive advantage and enjoy superior performance through their ownership and control of specific firm resources including technological know-how, management skills, access to finance and raw materials, amongst others (Barney, 1991; Lee et al., 2001). Given that such resources are heterogeneously distributed and not easily transferable across firms, the RBV suggests that differences in firm resource endowments (and hence, internal capabilities) can explain variations in firm performance.

The challenge with applying the RBV in different contexts is to identify the specific set of resources that drive competitive advantage. Some studies stress the need for "resources" to be valuable, scarce, imperfectly tradeable and hard to imitate (Barney, 1991; Peteraf, 1993). Such resources include routines (Nelson and Winter, 1982), organisational culture (Fiol, 1991), dynamic capability (Teece et al., 1997), innovation capability (Henderson and Cockburn, 1994), technological know-how and quality control capabilities (Lee et al., 2001), amongst others. Hence, researchers adopting the RBV to explain performance, perhaps, overly focus on intangible resources as they are more likely to meet these criteria (Gerschewski et al., 2015). Financial resources are generally not considered to provide a sustainable competitive advantage in the RBV literature because they are neither rare, inimitable nor untradeable

(Barney, 1991; Peteraf, 1993; Lee et al., 2001). Nonetheless, a few studies including Roberts and Hauptmann (1987) and Lee et al. (2001) suggest that financial resources can be a source of sustainable competitive advantage and hence, positively impact firm performance in some specific contexts.

Emerging economies and their constituent firms often fail to attain high levels of development, competitive advantage, and performance partly due to resource limitations (Ngobo and Fouda, 2012). This suggests that, in this context, financial resources can be considered valuable (scarce and rare), and hence, critical to firm performance. Consequently, firms with more financial resources are, perhaps, more likely to pursue major capital investment projects, hire better management teams, engage in marketing campaigns, develop networks, acquire technology and fund expansion, distribution, R&D, product and market development programmes. Crucially therefore, in this context, financial resources can act as a proxy of a firm's ability to acquire strategic resources and capabilities required to develop and sustain competitive advantage. We, therefore, argue that African firms with access to sufficient financial resources will maintain a better competitive position, leading to better performance. Other vital, mainly intangible, resources and capabilities shaping performance in the African context could include management skill and ability (Ramachandran and Shah, 1999), firm lifecycle and potential for growth, quality of products, brands, networks, goodwill, services and competitive position in the market or industry. The importance of these resources and capabilities, and the permutations in which they occur is likely to be different from one firm, industry and country to the next. Nonetheless, these resources are critical for firm growth and, together, enhance growth prospects or potential. We, hence, focus on growth prospects as an envelopment of a variety of other (mainly intangible) firm resources that drive growth by converting tangible (financial) resources to unique value-enhancing capabilities (Grant, 1991). Our first general hypothesis is stated as follows:

H1: Ceteris paribus, African firms with high capabilities (specifically, generated from financial resources and growth prospects) perform better relative to those with low capabilities.

2.3 National governance quality (NGQ)

RBV looks inside the firm and, hence, does not explain why systematic differences in firm performance exist between firms in different institutional environments. Prior studies draw on different perspectives of the institutional theory to explain why the performance of firms within the same institutional environment may converge and why firms in specific institutional settings appear to do better than their counterparts operating elsewhere (Ngobo and Fouda, 2012). Institutional theory suggests that many aspects of firms are driven by the desire to achieve institutional fit (i.e., compliance with the structures, routines and systems prescribed by institutional norms) within the institutional environment (Volberda et al., 2012).

Institutional fit facilitates learning, increases legitimacy and the ability to attract high quality resources from the institutional environment (Volberda et al., 2012). This suggests that institutional pressures may have a significant influence on the performance of firms. Indeed, Hanousek and Kochanova (2016), for example, examine the relation between corruption and firm performance in 14 Central and Eastern European countries and document that bribery and corruption negatively impacts on firms' sales and labour productivity. Several other studies drawing on the institutional-based view or perspective (IBV) show that institutional context affects firm-level behavior (Tolbert and Zucker, 1996). Amongst others, Williamson (2000) builds on the observation that organisational forms and practices are largely heterogeneous across countries due to institutional differences in governance quality. This is even more pronounced in emerging economies characterised by institutional voids such as weak enforcement of laws and strong informal norms and beliefs (Kim and Ozdemir, 2014; Areneke and Kimani, 2018). Institutional voids are detrimental to markets and business growth as they increase firm risk, as well as operating and transaction costs (Khanna and Palepu, 2000). Li et al. (2006) find that law enforcement, corporate

governance disclosure regulations and shareholder protection across countries affect firm-level decisions, and by extension firm-level performance.

Consequently therefore, NGQ influences firm-level performance, perhaps, through its influence on internal governance structures, systems and decisions. High NGQ possibly enhances the protection of property rights, boosts investor confidence, facilitates efficient allocation of resources, and ultimately creates value for stakeholders. In weak NGQ environments (characterized, for example, by high levels of bribery), profitability weakens a firm's bargaining position (Svensson, 2003; Clarke and Xu, 2004) Overall, we argue that firms in high NGQ institutional environments will outperform their counterparts in low NGQ environments.[4] Our general hypothesis is stated as follows:

H2: Ceteris paribus, on aggregate, firms in institutional environments with high NGQ perform comparatively better than those in institutional environments with low NGQ.

2.4 The performance of peer firms

The literature on institutional fit suggests that firms tend to follow the behaviour of other firms perceived as "more legitimate or successful" (DiMaggio and Powell, 1983). This could be by mimicking the organisational characteristics and designs that produced positive outcomes in model firms (Haunschild and Miner, 1997). Failure to adopt "the norm" could signal "illegitimacy" to stakeholders within the institutional context as high-preforming firms are assumed to be effective in conforming to institutional requirements of the environment. As such, other firms tend to benchmark themselves in line with high-performing peers, resulting in a high fit within the institutional context. Empirical evidence shows a positive effect between conformity through mimetic process (i.e., institutional fit) and firm-level

[4]We do not argue that national governance is the only factor in the institutional environment which impacts on firm performance. Indeed, there is some evidence that other factors such as locational advantages and the level of stock market development are important to business development and growth (Tunyi and Ntim, 2016). Accordingly, our empirical analysis controls for such factors.

performance (e.g. Heugens and Lander, 2009). Consistent with this view, we argue that through a mimetic process, firms are likely to perform well when other firms (peers) within their institutional environment perform well. This hypothesis is formally stated as follows:

H3: Ceteris paribus, there is a positive association between individual firm performance and the performance of peer firms in the African context.

2.5 The moderating effect of NGQ

Our final hypothesis focuses on the mediating role of NGQ on the firm capabilities-performance nexus. Our first hypothesis (*H1*) argues that firms' internal capabilities are positively associated with performance. While we control for several firm-specific factors, we do not consider how the institutional context can mediate this relationship. Further, in our second hypothesis (*H2)*, we argue that firm performance will increase with the quality of national governance. Taken together, *H1* and *H2* suggest that both firm capabilities (*H1*) and a suitable institutional environment (*H2*) are important for firm performance. It may be the case that firms endowed with an abundance of internal firm resources and capabilities in weak institutional environments are unlikely to perform optimally. In weak NGQ environments, for example, firms may deliberately structure operations to report low profitability in order to reduce their liability and exposure to corrupt bureaucrats (Clarke and Xu, 2004). *Strong* NGQ, on the contrary, reduces firm risk and uncertainty, provides protection for firms and their investors and increases firm incentive to invest in growth enhancing and long-term projects. This implies that we are likely to find a stronger link between firm resources/capabilities and firm performance in high NGQ environments. Hence, we argue that internal capabilities and resources are better translated into superior performance in high NGQ environments. Consequently, our final hypothesis is stated as follows:

H4: Ceteris paribus, national governance quality (NGQ) moderates the relationship between firm capabilities and performance.

It is also plausible for some firms to perform very well in weak NGQ environments. Such firms may be able to use their financial resources and capabilities to circumvent the challenges of operating in particularly difficult environments. We therefore expect that top-performers in difficult environments will have significant financial resources and growth opportunities.

3.0 Data and methodology

3.1 Research design

We explore several models of performance that directly address our research hypotheses. To directly address *H1*, we model firm performance within each country as a function of firms' capabilities as in equation (1). In equation (2), we address *H2* by modeling the aggregate performance (proxied by median performance)[5] of firms in a country as a function of *NGQ*. In equation (3), we explore whether there is a direct relationship between individual firm performance and *NGQ*, as suggested by *H2*. In equation (4), we address *H3*, by exploring the relationship between a firm's performance and the performance of peer firms (proxied by median performance). Finally, in equation (5), we use standard interaction effects to explore whether *NGQ* moderates the relation between firms' capabilities and performance, as suggested by *H4.* Our baseline models are present below:

$$Performance_{it} = \alpha + \beta_1 Financial\ resources_{it} + \beta_2 Growth\ prospects_{it} + \sum_n \beta_n Controls_{it} + \delta_i + \delta_t + \varepsilon_{it} \quad (1)$$

$$Median\ performance_{jt} = \alpha + \beta_1 National\ governance\ quality_{jt} + \sum_n \beta_n Controls_{jt} + \delta_j + \varepsilon_{jt} \quad (2)$$

[5] In additional analyses, we use mean values and find qualitatively similar results.

$$Performance_{it} = \alpha + \beta_1 Financial\ resources_{it} + \beta_2 Growth\ prospects_{it} + \beta_3 National\ governance\ quality_{it} + \sum_n \beta_n Controls_{it} + \delta_i + \delta_j + \delta_t + \varepsilon_{it} \quad (3)$$

$$Performance_{ijt} = \alpha + \beta_1 Median\ performance_{jt} + \sum_n \beta_n Controls_{ijt} + \delta_i + \delta_j + \delta_t + \varepsilon_{it} \quad (4)$$

$$Performance_{ijt} = \alpha + \beta_1 Financial\ resources_{it} \times National\ governance\ quality_{it} + \beta_2 Growth\ prospects_{it} \times National\ governance\ quality_{it} + \sum_n \beta_n Controls_{ijt} + \delta_i + \varepsilon_{it} \quad (5)$$

In equations (1) to (5), the subscripts *i*, *j*, and *t* refer to firm-specific, country-specific, and time-specific characteristics, respectively. For robustness, we explore our results across several estimation strategies. Firstly, we run panel regression models with fixed effects where β_n are coefficients of the respective independent variables, δ capture firm, country and time fixed effects, and ε_{it} is a time-varying error term. The fixed effects models allow us to control for unobserved heterogeneity while also controlling for omitted variable bias.[6] Secondly, consistent with Tunyi et al. (2019), we partly address potential endogeneity issues (simultaneity) by lagging all our independent variables by one financial year. Thirdly, to derive more efficient estimates (robust to simultaneity and omitted variable biases), we use the Arellano and Bond's (1991) generalized method- of- moments (GMM) estimator to re-estimate our results.

[6] In each case, we first conduct Durbin-Wu-Hausman test to inform our selection of fixed over random effect panel regression specification. In additional tests, we derive (panel) logit probability models where we explore factors that may increase the likelihood that a firm reports a performance above a threshold value. Our conclusions do not change. We do not present these models here, for conciseness.

3.2 Data and variables

Our sample for empirical analysis covers 15 African countries with thriving stock markets (see Table 1). We exclude countries such as Cameroon, Sierra Leone, Libya and Sudan which have a stock market but no available data for listed firms. From the Thomson DataStream database, we first generate the list of all live and dead firms listed in these stock exchanges. We then identify suitable proxies for our constructs based on prior research (Danbolt et al. 2016; Tunyi et al., 2019). Variable definitions are provided in Appendix 1.

The dependent variable in our models is firm performance. For robustness, we explore alternative accounting and stock market measures of performance including return on assets (*ROA*), return on equity (*ROE*), return on sales (*ROS*), operating margin (*OPM*) and average abnormal return (*AAR*). Prior research suggests a high correlation between accounting measures of performance (Danbolt et al. 2016; Tunyi et al., 2019). Consistent with Elamer et al. (2017), we use *ROA* as our main measure of performance as it draws information from both the income statement and statement of financial position and is more analytically tractable when compared to *ROE*, particularly for firms with "negative" book value of equity.

To measure firms' financial resources, we use three accounting variables including firm-level free cash flow (*FCF*), liquidity (*LIQ*), and leverage (*LEV*). As will be discussed, the correlation between these variables is low as each variable captures a different dimension of the construct. A combination of high *FCF* and/or high *LIQ* and a low *LEV* will be indicative of high resources/capabilities. A low *LEV* implies that a firm has low interest commitments and limited debt covenants meaning that it has more flexibility to use the financial resources at its disposal. We also use three accounting variables including book to market value (*BTM*), sales growth (*SGR*) and firm age (*AGE*) to capture growth opportunities or prospects. A low book to market value, as well as, high sales growth is indicative future growth opportunities (Danbolt et al., 2016; Li and Kuo, 2017). Further, younger firms generally have newer technologies,

innovative products, contemporary business models, modern assets, and less rigid organisational structures and hence, greater opportunities for growth when compared to their older counterparts (Danbolt et al., 2016).

In the first instance, measures of firm resources (*FCF, LIQ, LEV*) and growth prospects (*BTM, SGR, AGE*) are included in our models as stand-alone independent variables and we interpret results by looking at the combination of variables. Additionally, we develop two proxies to capture individual firms' variable configurations of resources and growth opportunities. Our proxy for financial resources (high-resource dummy, *HRES*) takes a value of 1 if a firm has *LIQ* and *FCF* above the country-year median and its *LEV* is below the country-year median. Otherwise, *HRES* takes a value of zero. Similarly, our proxy for growth opportunities (high growth dummy, *HGRW*) takes a value of 1 if a firm's *SGR* is above the country-year median and its *BTM* and *AGE* are below the country-year median. Otherwise, *HGRW* takes a value of zero. We use these composite measures (*HRES, HGRW*) in place of the independent accounting variables in additional tests. We collect data on our firms' accounting variables including measures of firm profitability, abnormal stock market return, firm valuation, free cash flow, leverage, liquidity, sales growth, tangibility, size and age (detailed in Appendix 1) from Thomson DataStream. Our panel dataset covers the 17-year period from 1996 to 2012.[7] As detailed in Table 1, the dataset constitutes 1,490 unique African listed firms and 11,183 firm-year observations.

[Insert Table 1 about here]

Our main country-level variable is *NGQ* which measures the quality of the external institutional environment under which firms operate. Following Elamer et al. (2017) and Konara and Shirodkar (2018), we use the World Bank's Worldwide Governance Indicators (WGI) (Kaufmann et al., 2010) to capture

[7] We start from 1996 as data on World Governance Indicators (WGI) is only available from 1996.

NGQ. WGI (available via WorldBank.org) provides six cross-country time varying scores (indices) for items including Control of Corruption (*CCI*), Government Effectiveness (*GEI*), Voice and Accountability (*VAI*), Political Stability and Absence of Violence (*PSAVI*), Regulatory Quality (*RQI*) and Rule of Law (*ROLI*). These six variables, while highly correlated, capture different facets of national governance (Kaufmann et al. 2010).[8] Following Konara and Shirodkar (2018), we use Principal Component Analysis (PCA) to reduce the six national governance indices (*CCI, GEI, VAI, PSVAI, RQI* and *ROLI*) into one component (National Governance Quality Composite, *NGQC*) which we use in our multivariate analysis.[9] In addition, we construct a simple *NGQ* index (of indices) using the six national governance indices as our input variables. Notice that the Cronbach alpha measuring internal consistency between these six items is 0.95 with an average interterm correlation of 0.30. For simplicity, we allocate an equal weighting to these six indices (given that they have the same range). Our *NGQ* index (*NGQI*) is therefore simply the arithmetic mean of the six indices. Its distribution is, hence, similar to that of any of the 6 constituent indices with possible minimum and maximum values of -2.5 and +2.5, respectively. As we will show, our results remain unchanged when we use *NGQI* or *NGQC* as our measure of *NGQ*.[10]

In our regression models, we control for firm-specific factors that might influence performance including measures of operating efficiency (such as salary to sales ratio, *SALS*), measures of capital investments (including property, plant and equipment to total asset ratio, *TANG*) and measures of firm size (natural log of total assets, *SIZE*). This addresses research documenting that firm performance increases with operating efficiency (*SALS*) and capital investment (*TANG*) in the long run but declines

[8] Kaufmann et al. (2010, p.4) link the six measures to three important governance areas including: (i) the process by which governments are selected, monitored and replaced (VAI, PSAVI); (ii) the capacity of the government to effectively formulate and implement sound policies (GEI, RQI); and (iii) the respect of citizens and the state for the institutions that govern economic and social interactions among them (ROLI, CCI).

[9] PCA results are available on request. Eigenvalues suggest that the first principal component captures over 85% of the variance explained by each component, hence, we only use this component in our main analysis.

[10] Indeed, the two measures have a correlation coefficient (rho) of 99.9%.

with capital investment in the short run (Baik et al., 2013). Finally, given our African sample, we control for cross-listing (*CROSS*) following evidence that cross-listed firms from emerging markets enjoy better access to capital and hence, better value (Esqueda, 2017). These variables are fully defined in Panel D of Appendix 1. Notice that *CROSS* is a firm fixed effect and hence, does not enter into our fixed effects and GMM model specifications. Hence, later in our study, we conduct additional subsample (robustness) analyses to address the impact of cross-listing.

Following Tunyi and Ntim (2016), we also control for several country-level drivers of performance including measures of locational advantages (market size and market growth) and measures of stock market development (market capitalisation, market volatility and firm concentration). Demand and hence, firm performance, will perhaps be higher in larger markets (market size) and in periods of growth (market growth). Firms in more developed (stock market capitalisation), as well as, active markets (market volatility) can access external financing more easily, hence, might have less reliance on internal financial resources. Finally, a high concentration (firm concentration) of firms can spur competition and innovation with potentially positive effects on aggregate performance. These variables are fully defined in Panel E of Appendix 1. Our panel fixed effects specification allows us to control for any unobserved cross-sectional heterogeneity in firms and countries (which is constant over time).

4.0 Results and discussions

4.1 Descriptive statistics

We first explore the financial characteristics of African firms. We present descriptive statistics for firm financial characteristics for the pooled sample in Appendix 2. In untabulated results, we also explore variations in firm financial characteristics across countries and over time.[11] The results generally show a

[11] These country and year-level descriptive statistics (untabulated for conciseness) are available on request.

wide variation, specifically with respect to firm performance, across these countries (see Figure 3). Over the period 1996 to 2012, as shown in Appendix 2, listed firms in Africa achieve a mean (median) ROA of about 5.6% (5.3%). As shown in Figure 3, countries such as Botswana, Namibia and Tanzania report comparatively higher mean (median) ROAs of 9.4% (7.8%), 10.6% (10.5%) and 13.5% (21.2%), respectively. Other countries including Tunisia, Ghana, Nigeria and Mauritius report modest mean (median) ROAs of 3.5% (2.3%), 4.1% (3.8%), 4.5% (3.8%) and 4.6% (3.3%), respectively. In Appendix 4 and Figure 1, we establish the existence of wide between-country variation in NGQ across African countries, depicting the peculiarity of this context.

[Insert Figure 3 about here]

Using a univariate framework, we further explore firm-level drivers of performance by comparing the characteristics of well-performing firms (test sample) to those of their underperforming counterparts (control sample) in Table 2. We consider well-performing firms as those with performance above zero (ROA>0, AAR>0) in the first instance, and performance above the median performance (ROA>mROA, AAR>mAAR) in the second instance. That is, in models 1 and 3, we compare the characteristics of firms with performance above zero to firms with performance below zero. Then, in models 2 and 4, we compare the characteristics of firms with above-median performance to firms with below-median performance. For conciseness, we only report the difference in means for well-performing minus underperforming firms.

[Insert Table 2 about here]

In general, the results suggest the existence of a statistically significant difference in the characteristics of well-performing firms when compared to their underperforming counterparts. Compared to their underperforming counterparts, well-performing firms have higher levels of resources (i.e., a combination of higher *FCF*, higher *LIQ* and lower *LEV*) and higher growth prospects (i.e., a combination of lower *BTM*, higher *SGR* and lower *AGE*). These results are robust to our choice of proxies (ROA or

AAR) and strategies for identifying well- and underperforming firms (greater than 0, greater than median value). In un-tabulated results, we find that our conclusions do not change if we proxy *LIQ* with the current ratio, use Tobin's Q in place of *BTM*, or define *LEV* as the ratio of long term debt to equity. We do not report these results for conciseness. These preliminary results suggest that, consistent with our first hypothesis (*H1*), firms which hold higher levels of resources and have better growth prospects, tend to perform better than their counterparts. We will reassess this in a multivariate setting (controlling for other determinants of performance) in section 4.2. Our second hypothesis (*H2*) explores the relation between NGQ and firms' performance. Our measures for NGQ (i.e., NGQC and NGQI) are derived from the World Bank's WGIs (see Appendix 1 panel C for a description of these variables). In Appendix 4 and Figure 1, we present descriptive statistics (means) of our measures of NGQ (*NGQI* and *NGQC*) as well as the 6 fundamental WGIs across the 15 countries in our sample. Ivory Coast (*ICoast*), Nigeria and Zimbabwe have the lowest levels of NGQ on average, while Botswana, Mauritius, Namibia and South Africa (*SAfrica*) report the highest levels of NGQ.

4.2 Internal capabilities and firm performance

In Appendix 3, we explore pairwise correlations and variance inflation factors (VIF) for our firm- (panel A) and country-level (panel B) independent variables. We also compute VIF for our other firm- and country-level variables. While the correlation coefficients (rho) between several independent variables are significant (at least at the 10% level), the magnitude of rho is, perhaps, not large enough to be of concern. Additionally, we find that VIFs are below the threshold for multicollinearity to be a concern. Importantly, the correlation between our measures for firm financial resources (i.e., *FCF, LIQ, LEV*) and growth prospects (*BTM, SGR, AGE*) are quite low. This supports our assertion that these variables capture distinct dimensions of financial resource availability and growth prospects, hence, their combination in empirical analyses leads to a more comprehensive measure of these constructs.

In our multivariate analyses, we use *ROA* as our main performance measure.[12] We run a number of panel and logit regression models with fixed effects, as well as, dynamic GMM models to explore the relation between firms' internal capabilities and performance. Model (1) in Table 3, explores the relation between performance, measures of financial resources (*FCF, LIQ, LEV*) and measures of growth opportunities (*BTM, SGR, AGE*) using a panel regression with fixed effects framework. Model (2) is similar to model (1) but uses lagged independent variables to partly address endogeneity (reverse-causality) issues. Model (3) is a logit model which estimates the probability of reporting a positive *ROA*[13] as a function of firm resources and growth opportunities. Model (4) is a dynamic GMM model[14]. Model (5) explores alternative measures of financial resources and growth opportunities (i.e., *HRES* and *HGRW*) using an OLS framework (with Huber-White standard errors).

[Insert Table 3 about here]

The results from models (1) to (4) generally show that, consistent with *H1*, performance is positively associated with firm financial resources (i.e., increases with *FCF* and *LIQ* and decreases with *LEV*) and positively associated with growth prospects (i.e., increases with *SGR* and declines with *BTM* and *AGE*). In model 1, for example, everything remaining constant, a unit increase in *FCF* (*LIQ*) is associated with an 18.9% (8.7%) increase in *ROA* while a unit decrease in leverage is associated with a 0.6% increase in *ROA*. Similarly, everything remaining constant, a unit decrease in *BTM* (*AGE*) is associated with a 0.3% (1.3%) increase in *ROA* while a unit increase in *SGR* is associated with a 3.9% increase in *ROA*. The results from the fixed effect and logit regressions (models 1 and 3) are generally significant at the 1%

[12] As will be discussed, we run robustness tests using alternative measures. Our results are robust to the choice of proxy for firm performance.

[13] In untabulated results, we also estimate the probability of reporting a profit above the median of all firms in that year.

[14] We conduct the Arellano-Bond test for zero autocorrelation in first-differenced errors and find that the moment conditions for use of dynamic GMM are satisfied. There is a first order serial correlation (p-value of 0.000) of the differenced errors but not a second order correlation (p-value of 0.651).

level (*p-value* of 0.000). In model (2), *LEV*, *BTM* and *AGE* lose significance when we apply lagged independent variables but the signs of the coefficients are consistent with expectations. The results from the GMM specification (model 4) are also consistent with expectations and are qualitatively similar to the results from models 1 and 2. In model (5), we use alternative proxies to capture constructs of financial resources (high resource dummy, *HRES*) and growth opportunities (high growth dummy, *HGRW*). The results show that, consistent with our hypothesis (*H1*), these alternative measures of firm resources (*HRES*) and firm growth opportunities (*HGRW*) are positively associated with firm performance (*ROA*). A unit increase in *HRES* (*HGRW*) is associated with a 5.8 % (4.1%) increase in *ROA*.

Overall, our results are consistent with our hypothesis (*H1*), as they show that high firm financial resources (i.e., high *FCF*, high *LIQ* and low *LEV*) and high growth opportunities (i.e., low *BTM*, high *SGR* and low *AGE*) generally enhance a firm's performance (models 1, 2 and 4), increases its likelihood of reporting a profit (i.e., ROA>0 in model 3), as well as, its likelihood of outperforming the median firm (i.e., *ROA* > median *ROA* in untabulated results). This suggests that these internal capabilities are vital and critical to the development of competitive advantage. While these results seem inconsistent with Yang et al. (2017) who examine the Chinese context, they are in line with the UK study by Agyei-Boapeah et al. (2018). The results suggest that, in the presence of limited external financing due to weak financial markets (i.e., the African context), internal capabilities (internal financing and growth opportunities) enhance performance and competitive advantage. Our findings are robust to several controls including measures of firm size (*SIZE*), capital investment (*TANG*) and operating efficiency (*SALS*). Our models also account for firm fixed effects inherent in our panel data. Our dynamic GMM model and the use of lagged values, partly controls for typical endogeneity issues.

4.3 National governance quality, peer performance and firm performance

In model 1 of Table 4, we test hypothesis *H2* by exploring the relation between mean firm performance and NGQ using panel fixed- (country) effects models based on equation (2). Our dependent variable in model (1) is the median performance (*mROA*) of listed firms in each country in each year[15] and our main independent variable is NGQ (measured using *NGQC* and *NGQI*)[16]. The model controls for other potential (country-level) drivers of firm performance including market size, growth, capitalization, volatility and firm concentration (see Panel E of Appendix 1 for further details). The coefficients of these controls are suppressed for conciseness. The results show that, consistent with *H2*, NGQ is positively related to firm performance.[17] In essence, a unit increase in NGQ is associated with a 0.3% increase in aggregate performance (as measured by the median *ROA*). This suggests that firms in well-governed country-years generally outperform their counterparts in poorly-governed country-years. These results are consistent with prior empirical studies which highlight the importance of NGQ for firm success (Ngobo and Fouda, 2012; Bhaumik et al., 2018; Tunyi and Ntim, 2016).

[Insert Table 4 about here]

In models (2) and (3) of Table 4, we stretch our analyses by exploring whether NGQ and performance are related at the firm-level—not just at the country-level. Following equation (3), we model a firm's performance as a function of its internal capabilities and the external environment. In model (2), we explore the relation between NGQ (*NGQC*) and firm performance (*ROA*) using panel fixed (firm) effects models and in model (3) we conduct a re-test using lagged independent variables. The results from

[15] We also use the average performance of listed firms in a firm's industry in each year as an alternative proxy but results remain qualitatively similar.

[16] The results from NGQC and NGQI are similar (since these variables have a 99.9% correlation) so we only present results from NGQC.

[17] In untabulated results, we explore the relation between mean firm performance and components of NGQ. Similarly, we find that mean firm performance increases with improvements in the control of corruption (*CCI*), voice and accountability (*VAI*) and political stability and the absence of violence (*PSAVI*). We find a positive relation with other WGI (i.e., government effectiveness, regulatory quality, rule of law) but the results are not statistically significant at the 10 percent level.

models (2) and (3) are qualitatively similar. The results show that, after controlling for firm- and country-level determinants of firm performance, NGQ has a positive impact on firm-level performance as a unit increase in *NGQC* is associated with a 1% increase in firm's *ROA*. The results are significant at a 5% level.

In our computation of *mROA*, we use the sample of all firms within a firm's country while excluding the firm in question. This allows us to directly explore the relation between a firm's performance (*ROA*) and the performance of all the other firms within the country (*mROA*)[18] as in models (4) and (5) of Table 4. We find a positive relation between firm performance (*ROA*) and the median performance of peer firms (*mROA*). This relationship is robust to our estimation techniques (panel fixed effects in model 4 and GMM in model 5) and to our set of control variables (firm and country-specific)[19]. While we are cautious not to claim causation, our evidence of association has been controlled for several other firm- and country-level factors which might potentially explain performance, yet our findings remain robust. The results suggest that firms do well when their peers do well. In economic terms, a unit increase in peers' performance is associated with a 57.5 % (model 4) to 60.6% (model 5) increase in a firm's performance. This association does not appear to be driven by our firm- and country-level control variables (see Panels B, D and E of Appendix 1). This provides some evidence in support of our third hypothesis (*H3*).

4.4 The moderating effect of national governance quality

While we argue that governance quality impacts on performance of firms, anecdotal evidence suggests that many firms do well in weak institutional environments. To illustrate this point, in Figure 4, we plot

[18] We have also considered the performance of all firms within a firm's industry while excluding the firm in question, and the results are qualitatively similar.

[19] For robustness, we do not include NGQ in this model as this might result in multicollinearity issues—our previous results show significant association between mROA and NGQ. However, the results do not qualitatively change when we do so.

the long-term average and median ROA for the top five performers in each country.[20] The figure shows that the top firms in Egypt, Nigeria, Ivory Coast and Kenya (i.e., countries with low NGQ) are amongst the best performers in the continent. We outline the top five performers in the countries with the weak institutional environments (Egypt, Nigeria, Ivory Coast and Kenya) and provide some background information about their principal shareholders in Appendix 5.[21] Notice that Nigeria has one of the weakest institutional environments per our measures (an NGQC of -4.419). Nonetheless, firms such as Nestle Nigeria PLC and Dangote Sugar Refinery have consistently performed well with the former reporting a long run ROA of 22.8% and the latter, a long run ROA of 19.2%. These two firms are backed by significant resources; Nestle Nigeria is a partly-owned subsidiary of one of the world's largest food producers (Nestle S.A Switzerland), while Dangote Sugar Refinery is a subsidiary of Dangote Group (largely owned by the wealthiest African; Aliko Dangote). This is not unique to the Nigeria market. For example, East African Breweries—the top performing Kenyan firm with long run ROA of 19.7% over 9 years—is a subsidiary of Diageo PLC (one of the world's largest distillers of alcoholic beverages) and SAPH—the top performing firm in Ivory Coast with long run ROA of 20.9% over 7 years—is largely owned by Michelin Group (one of the world's largest automobile tyre manufacturers). These cases (see Appendix 5) provide some anecdotal evidence that financial resources are critical to sustaining performance in weak governance contexts.

[Insert Figure 4 about here]

[20] That is, we first compute the mean (and median) ROA of each firm in each country. Then we rank all firms in each country by their mean (median) ROA and identify the five best performers. The figure reports the average (of average) and median (of median) ROA of these five firms.

[21] Appendix 4 reports measures of the quality of the institutional environment (NGQC & NGQI) across countries. We do not focus on Zimbabwe due to its hyperinflation problems over the last decade. We also do not focus on Zambia and Uganda in this analysis due to insufficient observations.

In model (1) of Table 5, we empirically explore whether besides impacting performance at the firm level (*H2*), NGQ moderates the firm capabilities-performance nexus (*H4*) following equation (5). This can help us explain why some firms in weak institutional environments still perform well. The interaction terms in the model (*NGQC*HRES* and *NGQC*HGRW*) are positive and statistically significant at the 5% level. This suggests that firm capabilities-performance relationship is sensitive to the level of NGQ. In essence, consistent with our fourth hypothesis (*H4),* firms are better able to translate capabilities into performance in strong institutional environments.

In developing our fourth hypothesis (*H4),* we suggested that the moderating effect of NGQ on the capabilities-performance nexus is likely to be stronger for growth prospects than for financial resources since firms with sufficient financial resources are better able to shoulder the added risk and costs of operating in weak NGQ environments. To explore this issue, we test the relationship between firm capabilities (*HRES, HGRW*) and performance (*ROA*) across two different subsamples—strong and weak NGQ environments or institutional contexts. For robustness, we use alternative strategies to identify weak and strong institutional contexts. In our main results (Table 5), we define weak NGQ as country-years where NGQC<0, and strong NGQ if otherwise.[22] Following Esqueda (2017), we use seemingly unrelated regressions (SUR) to compare the coefficients of *HRES* and *HGRW* across the two subsamples (strong and weak NGQ environments) as in model 2 of Table 5. We find that the coefficient of *HRES* is marginally higher in weak NGQ environments (compared to strong NGQ environments) while the reverse is true for *HGRW*. This suggests that financial resources (*HRES*) has a relatively stronger (positive) impact on performance in weak NGQ environment while growth opportunities (*HGRW*) are more easily translated

[22] Additionally, we have used the median NGQC in each year as a benchmark and results remain robust. In additional tests (untabulated for conciseness), based on results in Appendix 4 and Figure 1, we define weak NGQ environments as countries with the lowest NGQC scores (including; Egypt, Zimbabwe, Ivory Coast, Kenya, Uganda and Nigeria) and strong NGQ environments as countries with highest NGQC scores (including; Botswana, Mauritius, Namibia and South Africa).

to performance in strong NGQ environments. This is consistent with our earlier suggestions that strong institutional environment enhances the translation of growth prospects (*HGRW*) into performance. The results are also consistent with our contention that financial resource-rich firms are better able to shoulder the added risk and costs of operating in weak NGQ environments. Overall, our results suggest that firm capabilities, particularly, growth opportunities, better translates to firm performance in country-years with better governance quality.

[Insert Table 5 about here]

4.5 Additional analyses and summary of robustness checks

We conduct two additional analyses. Firstly, we explore whether listing status matters i.e., whether our results hold for both cross-listed and non-cross-listed firms. Cross-listing is a firm fixed effect hence disappears when first difference is considered as in our panel fixed effects and GMM models. Prior studies (see, for example, Esqueda, 2017) suggest that cross-listed firms from emerging economies have better access to financial resources, which might lead to better performance and hence better firm value. It is therefore interesting to explore whether the effects we have documented hold for both cross- and non-cross-listed firms.

We define an indicator variable *CROSS* which takes a value of 1 for cross-listed firms and a value of 0, otherwise. In model 3 of Table 5, we interact *CROSS* with our measures of financial resources (*HRES*) and growth prospects (*HGRW*) to explore whether the capabilities-performance relation we have documented is moderated by listing status. The results suggest that the positive relationship between growth prospects (*HGRW*) and performance is moderated by listing status, with the relation being weaker for cross-listed firms compared to non-cross-listed firms. The coefficient of the interaction term is significant at the 1% level. The interaction effect between *HRES* and *CROSS* is negative but not significant

(at the 10% level) suggesting that financial resources are important for all firms in this context, irrespective of listing status. In model 4 of Table 5, we explore the issue further by using SUR in line with Esqueda (2017). The results from SUR analysis suggests that the capabilities-performance relationship is stronger in non-cross-listed firms. As suggested by prior research (Esqueda, 2017; Foerster and Karolyi, 2000), compared to the non-cross-listed counterparts, cross-listed firms have access to external resources which, perhaps, reduces the need for significant internal resources and capabilities. This may thus explain the comparatively weaker relationship between internal capabilities and performance in this subgroup of firms.

[Insert Table 6 about here]

As shown in Table 1, our sample is unevenly distributed across countries with South Africa and Egypt contributing a majority of observations (i.e., 56% and 14%, respectively). For our second additional analysis, we exclude South African firms from our sample and explore the extent to which our main results are generalisable beyond the South African context. As shown in models (1) and (2) of Table 6, we find that our conclusions with respect to *H1* are robust to the exclusion of South Africa. That is, financial resources and growth prospects are key determinants of firm performance in the African context. In model 3, we find a positive relation between NGQ and aggregate performance (*mROA*) but this relationship is not statistically significant at the 10% level. Nonetheless, in model 4, we find that the relationship between NGQ and individual performance (*ROA*) is positive and significant (at the 10% level) as expected (*H2*). In model 5, we again find that our main results in relation to our third hypothesis (*H3*) hold i.e., a positive relationship between individual firm performance (*ROA*) and the performance of peer firms (*mROA*). In model 6, we explore whether our results in relation to *H4* hold in this subsample but do not find evidence in support.

Before drawing our concluding remarks, it is worth highlighting some of the strategies we have used throughout this study to ensure our findings are robust. Studies of this nature general suffer from endogeneity biases (i.e., omitted variables, simultaneity and measurement error) hence we highlight the different ways we have addressed these issues. Firstly, in Tables 3 and 4, we have tested our hypotheses using different model specifications. For example, in Table 3, we present results for a panel fixed effect model specification with contemporaneous independent variables (model 1), a panel fixed effect model specification with lagged independent variables (model 2), a logit model specification (model 3) and a generalized method of moments specification (model 4). The fixed effect model specifications partly address problems of omitted variables while the use of lagged independent variables partly addresses the issue of reverse causality. Given that reverse causality is a major concern in research of this type, we also use a linear dynamic panel-data estimation technique, specifically, the generalized method of moments (GMM) specification to address this issue (Arellano and Bond, 1991). The model is estimated using an instrumental variable approach, where the lags and lag differences of the dependent and independent variables are used as instruments of the differenced and level equations.

Secondly, we have explored our results and found them to be robust to alternative variable definitions. For example, in Table 3 (model 5) and Table 5 (model 1) we have used aggregated measures of financial resources (*HRES*) and growth prospects (*HGRW*) as alternatives to standard measures (*FCF, LIQ, LEV, BTM, SGR* and *AGE*) and we find that our results are robust to this alternative specification. Given than financial variables are generally skewed (Tunyi et al., 2019), we have used the median values as cut-offs when generating our dummy variables. We find that our results remain qualitatively similar and our conclusions do not change when we use mean values. We have computed our measure of NGQ using two different approaches i.e., principal component analysis (*NGQC*) and equal weighted index (*NGQI*). We find that these two measures are highly correlated (rho of 99.9%) and our findings are robust

to the use of either measure. When deriving the performance of peer firms (*mROA*), we have considered (1) all firms in a firm's country and (2) all firms within a firm's industry and country, as peers. Our results are robust to these alternatives.

Finally, in all our regression analyses, we have considered several other firm- (e.g., inventory ratio, current ratio) and country-level (e.g., GDP per Capita, Patent, Resource Rent, Fuel Price, Average Wage, tax rate, R&D expenditures) control variables. We find that some of these additional control variables are highly correlated with other control variables and that their inclusion does not impact on our conclusions. For conciseness, we do not include these additional variables in our models. Beyond our core results, in untabulated results in Tables 4 and 5, for example, we also find that firm performance increases with stock market capitalisation (*MCAP*) and market volatility (*MVOL*) but declines with firm concentration (*FConc*). This suggests that active or developed stock or capital markets can play a role in enhancing firm performance. Our results on *FConc*, perhaps, capture the impact of competition on firm performance. That is, individual firm performance is dampened by the presence of other competing firms. These latter results for country-level control variables are suppressed for conciseness.

5.0 Conclusion

5.1 Summary of findings and concluding remarks

We argue that firm financial resources and growth prospects constitute critical resources for achieving competitive advantage and driving performance in the African context. Our empirical evidence is consistent with this hypothesis and holds for both strong and weak institutional environments. Firms that hold sufficient financial resources are better placed to shoulder added costs and risks of operating in this context. Such firms generally achieve comparatively better performance than their low-resource counterparts in both strong and weak institutional environments. Several African firms are cross-listed in

foreign markets giving them access to significant external resources. In support of our hypothesis, we find that the relationship between capabilities and performance is stronger for non-cross-listed firms (i.e., firms with comparatively limited access to foreign capital). Overall, our finding highlights the critical nature of financial resources and growth opportunities/prospects in shaping firm performance in the African context.

From an institutional perspective, we also contend that firms in countries with better governance quality are also more likely to achieve superior performance than their counterparts in weak governance countries. Our underlying argument is that strong national governance encourages long-term investment, entrepreneurship, innovation, and reduces operating risk and costs. This is particularly important given the ease of capital movement across national borders in an increasingly globalised world. We find evidence that aggregate performance of all firms in the country, as well as, individual firms' performance improves with the quality of governance at the macro-level. We also predict that firm performance increases with the performance of peer firms, perhaps, due to mimetic isomorphism, competition, and other spillovers. After controlling for firm- and country-level determinants of performance, we find some evidence to support this contention.

Finally, our study explores whether governance quality moderates our earlier finding of a positive capabilities–performance relationship. Our argument is that firms' internal capabilities (captured by financial resource availability and growth prospects) are more likely to translate to superior performance in strong governance environments. Consistent with this, we find evidence suggesting that NGQ enhances the translation of internal capabilities, particularly firm growth prospects, into firm performance. Linking these findings together, we conclude that governance quality impacts on the performance of individual firms directly (by enhancing firm growth prospects) and indirectly (by enhancing the performance of peer firms and by moderating the resource-performance nexus).

By way of extensions, our results can further explain several stylised facts. For example, it explains why firms in countries with strong NGQ will, on average, outperform firms in countries with a weak NGQ and why different firms within the same country will achieve different levels of performance despite sharing a similar institutional environment. It also explains why, in the long run, firm performance within a country can be expected to converge towards the mean.

Our findings are robust to endogeneity concerns, as well as, alternative model and variable specifications. The fact that South African firms constitute a majority of firms in our sample might limit the generalisability of our findings beyond South Africa. To address this issue, we explore the extent to which our main results hold out of South Africa. We find that our main results generally hold beyond South Africa. Specifically, we find that financial resources and growth prospects are key determinants of firm performance in other African countries besides South Africa. Similarly, NGQ leads to better aggregate and individual firm performance outside South Africa. Nonetheless, our results on the extent to which NGQ moderates the capability-performance nexus beyond South Africa are not statistically significant. One potential explanation for this latter finding is that several African countries (besides South Africa) experience only small changes in the NGQ from one year to another and this might not be sufficient to drive marked increases in performance.

5.2 Limitations

In this study, we focus on two main internal sources (financial resources and growth opportunities) and one external source (NGQ) of competitive advantage. While we have attempted to control for several factors in our analysis, we do not argue that financial resources, growth prospects and governance quality are the only determinants of firm success in this context. There are opportunities to explore whether other firm characteristics, particularly internal corporate governance mechanisms, are critical for performance. We do not pursue this line of testing due to data restrictions. Nonetheless, our measures of growth

prospects, perhaps, also act as a noisy proxy for internal governance quality as firms with strong governance are more likely to have better growth prospects. While our measure of NGQ draws from 6 widely used WGIs, there other measures such as the World Bank's Ease of Doing Business rankings and Distance to Frontier scores, which could be further explored. Again, we are unable to pursue this line of inquiry due to data restrictions.

Prior studies have also suggested that access to financial networks, credit, information and technology could play an important role in shaping firm performance (Ramachandran and Shah, 1999; Biggs and Shah, 2006). The latter two studies use the World Bank's enterprise surveys to collate their information for SMEs. While we do not explore this line of argument due to data unavailability for our sample, there are opportunities to further explore this in future research. Nonetheless, our use of a sample of public limited companies partly controls for this effect. Public limited companies are significantly larger than SMEs, and are likely to have better access to credit, information and technology than their SME counterparts. Hence, access to these resources might not result in competitive advantage at this level.

Appendices

Appendix 1: Measures of performance, capabilities and governance

Panel A – Alternative measures of firm performance

Variable	**Proxies**	**Definition**
Return on assets	*ROA*	Net income to total assets.
Average abnormal returns	*AAR*	Average excess monthly stock returns over the last 12 months, measured against the Morgan Stanley Capital International (MSCI) Emerging Markets Index
Median return on assets	*mROA*	The median ROA (net income to total assets) of all firms (except the firm in question) in a specific country in each year.
Dummy	*ROA>0 [AAR>0]*	A dummy variable which takes avalue of 1 if a firm has a positive *ROA* [*AAR*] and a value of zero, otherwise.
Dummy	*ROA>mROA [AAR>mAAR]*	A dummy variable which takes a value of 1 if a firm's ROA [*AAR*] is greater than the median *ROA* [*AAR*] in that year, and a value of zero, otherwise.

Panel B –Measures of firm internal capabilities

Variable	**Proxies**	**Definition**
Financial resources	*FCF*	Free cash flow: Ratio of operating cash flow less capital expenditures to total assets
	LEV	Leverage: Long term debt to total assets ratio
	LIQ	Liquidity: Cash and equivalents to total assets ratio
	HRES	*HRES* (high resource dummy) takes a value of 1 if a firm has *LIQ* and *FCF* above the country-year median and its *LEV* is below the country-year median. Otherwise, it takes a value of 0.
Growth prospects	*BTM*	Ratio of total assets less intangibles to market value
	SGR	Sales growth: Percentage change in sales
	AGE	Number of days since incorporation/365
	HGRW	*HGRW* (high growth dummy) takes a value of 1 if a firm's *SGR* is above the country-year median and its *BTM* and *AGE* are below the country-year median. Otherwise, it takes a value of 0.

Panel C –Alternative measures of National Governance Quality

Variable	**Proxies**	**Definition**
National Governance Quality Index	*NGQI*	An index of indices (*CCI, GEI, VAI, RQI, PSAVI, ROLI*). Computed as the arithmetic mean of the above 6 equally-weighted indices.
National Governance Quality Composite	*NGQC*	A composite measure of governance quality derived through principal component analysis (PCA). Input variables include *CCI, GEI, VAI, RQI, PSAVI* and *ROLI*.

Panel D –Firm control variables

Variable	**Proxies**	**Definition**
Tangible assets	*TANG*	Property, plant and equipment to total assets
Firm Size	*SIZE*	Natural log of total assets
Operating efficiency	*SALS*	Salary to sales: Total salary and benefit expense to net sales
Cross-listing	*CROSS*	Dummy variable which takes a value of 1 if a firm has a secondary listing outside its main (African) market, and a value of 0, otherwise.

Panel E –Country control variables

Variable	***Proxies***	**Definition**
Market size	*LnGDP*	Natural log of GDP.
GDP Growth	*GDPGr*	Percentage chang in GDP from previous year
Market capitalisation	*MCAP*	Natural log of stock market capitalisation in USD
Stock market volatility	*MVOL*	Market volatility is the average of the 360-day volatility of the national stock market index.
Firm Concentration	*FConc*	Number of stocks traded on a country's stock market as a proportion of total listed firms in Africa.

Notes: Data for estimating variables presented in Panels A, B and D is collected from Thomson DataStream. The dataset for Worldwide Governance Indicators (WGI) including Control of Corruption index (CCI), Government Effectiveness Index (GEI), Voice and Accountability Index (VAI), Regulatory Quality Index (RQI), Political Stability and Absence of Violence Index (PSAVI) and Rule of Law Index (ROLI) used in Panel C is compiled by Kaufmann et al. (2010). The data for Panel E is obtained from the World Bank's World Development Indicators (WDI). WDIs and WGIs are freely obtainable from the World Bank Group (Worldbank.org).

Appendix 2: Descriptive Statistics of firm-level variables

	N	Mean	SD	skewness	p25	Median	p75
AAR	8,868	-0.003	0.040	-0.445	-0.025	0.001	0.023
ROA	11,090	0.056	0.094	-0.492	0.013	0.053	0.112
FCF	10,390	0.015	0.111	-0.422	-0.039	0.021	0.082
LIQ	9,570	0.123	0.128	1.263	0.026	0.077	0.179
LEV	11,023	0.294	9.728	102.631	0.013	0.109	0.263
HRES	11,183	0.243	0.429	1.196	0.000	0.000	0.000
BTM	8,825	3.894	5.665	2.421	0.773	1.647	3.966
SGR	9,519	0.206	0.410	1.502	-0.001	0.123	0.294
AGE	9,363	1.791	1.195	-1.978	1.245	2.109	2.576
HGRW	11,183	0.128	0.334	2.229	0.000	0.000	0.000
SIZE	11,111	13.829	2.356	0.125	12.067	13.748	15.522
TANG	10,964	0.290	0.263	0.698	0.048	0.221	0.478
SALS	6,823	0.170	0.404	29.283	0.061	0.127	0.204

Notes: This table presents descriptive statistics for the pooled sample of African firms. Full variable definitions are provided in Appendix 1.

Appendix 3: Collinearity diagnostics

Panel A: Rho and VIF - firm variables

	FCF	**LIQ**	**LEV**	**BTM**	**SGR**	**AGE**	**SIZE**	**TANG**	**VIF1**
FCF									1.190
LIQ	0.260*								1.260
LEV	-0.030*	0.025*							1.010
BTM	-0.062*	-0.079*	-0.008						1.020
SGR	-0.011	-0.010	-0.017*	-0.042*					1.010
AGE	0.087*	-0.007	0.001	-0.009	-0.096*				1.040
SIZE	0.117*	-0.134*	-0.022*	0.172*	0.027*	0.118*			1.130
TANG	-0.102*	-0.326*	-0.006	-0.108*	0.015	0.077*	0.028*		1.190
SALS	-0.086*	-0.007	-0.001	-0.013	-0.030*	0.016	-0.054*	-0.015	1.020

Panel B: Rho and VIF- country variables

	NGQI	**NGQC**	**LnGDP**	**GDPGr**	**MCAP**	**MVOL**	**VIF2**	**VIF3**
NGQI							1.290	-
NGQC	0.999*						-	1.280
LnGDP	-0.019	-0.002					2.640	2.610
GDPGr	0.058	0.052	0.134				1.090	1.080
MCAP	0.127	0.127	0.392*	-0.123			2.080	2.080
MVOL	0.297*	0.309*	0.579*	-0.008	0.289*		1.660	1.660
FConc	0.245*	0.251*	0.648*	-0.020	0.699*	0.493*	3.760	3.740

Notes: The table presents correlation coefficients (rho) and variance inflation factors (VIF) for the independent and control variables. Full variable definitions are provided in Appendix 1. VIF1 refers to variance inflation factors computed using only firm-specific variables in Panel A. VIF2 and VIF3 are computed using only country variables in Panel B. We exclude NGQC when computing VIF2 and NGQI when computing VIF3. * indicates significance at the 10 percent level.

Appendix 4: Average of measures of NGQ across countries

Panel A –Countries A to N

	Botswana	**Egypt**	**Ghana**	**ICoast**	**Kenya**	**Mauritius**	**Morocco**	**Namibia**
CCI	0.966	-0.515	-0.083	-1.100	-0.950	0.511	-0.213	0.295
GEI	0.537	-0.372	-0.040	-1.189	-0.579	0.773	-0.113	0.117
PSAVI	0.992	-0.696	-0.024	-1.678	-1.244	0.822	-0.370	0.892
RQI	0.543	-0.366	-0.061	-0.872	-0.213	0.734	-0.158	0.104
ROLI	0.637	-0.100	-0.037	-1.349	-0.933	0.925	-0.103	0.170
VAI	0.501	-1.019	0.314	-1.173	-0.339	0.837	-0.644	0.402
NGQI	0.696	-0.511	0.011	-1.227	-0.710	0.767	-0.267	0.330
NGQC	3.054	-1.644	0.211	-4.671	-2.645	3.329	-0.716	1.455
Years	10	16	12	8	13	8	16	8

Panel B –Countries N to Z and full sample

	Nigeria	**SAfrica**	**Tanzania**	**Tunisia**	**Uganda**	**Zambia**	**Zimbabwe**	**All**
CCI	-1.110	0.339	-0.518	-0.055	-0.853	-0.660	-1.109	-0.352
GEI	-1.020	0.566	-0.509	0.348	-0.528	-0.778	-1.005	-0.258
PSAVI	-1.889	-0.142	-0.178	-0.004	-1.042	0.257	-1.132	-0.392
RQI	-0.902	0.502	-0.420	-0.036	-0.185	-0.472	-1.796	-0.251
ROLI	-1.249	0.089	-0.437	0.074	-0.396	-0.499	-1.524	-0.332
VAI	-0.754	0.657	-0.186	-0.989	-0.493	-0.325	-1.344	-0.322
NGQI	-1.154	0.335	-0.375	-0.110	-0.583	-0.413	-1.318	-0.318
NGQC	-4.419	1.575	-1.360	0.008	-2.050	-1.564	-5.147	-1.035
Years	11	17	8	10	8	15	14	17

Notes: The table presents means of measures of National Governance Quality (NGQ) across 15 African countries. The following abbreviations are used: Control of Corruption (CCI), Government Effectiveness (GEI), Voice and Accountability (VAI), Political Stability and Absence of Violence (PSAVI), Regulatory Quality (RQI), Rule of Law (ROLI), National Governance Quality Index (NGQI) and National Governance Quality Composite (NGQC). Their full definition is provided in Appendix 1. All, presents the sample mean for each variable.

Appendix 5: Cases of top performers in weak institutional environments

Firm	mROA	Years	Principal shareholders (affiliations)
Egypt			
*SIDI KERIR PETROCHEM.	23.4%	8	Suez Bags: Subsidiary of SUEZ Cement whose parent company is Heidelberg Cement.
*ALEXANDRIA CONTAINERS	23.4%	7	MISR: Of national interest as the Kuwaiti Egyptian Investment Company (investment holding company for Kuwaiti and Egyptian government) is a major shareholder.
*SUEZ BAGS	22.8%	7	
*MISR DUTY FREE SHOPS	22.0%	8	
*MISR CEMENT (QENA)	22.0%	7	
Ivory Coast			
*SAPH	20.9%	7	SAPH: Largely owned by Michelin Group.
*SONATEL	17.2%	8	SONATEL: Controlling stake held by Orange SA.
*SOLIBRA	15.7%	7	
*SOGB	14.5%	7	SOGB: Majority owned by SOCFINAF SA (Luxembourg)
*SIVOA	9.9%	7	SIVOA: Majority owned by Air-Liquide SA.
Kenya			
*EAST AFRICAN BREWERIES	19.7%	9	East African Breweries: subsidiary of Diageo PLC.
*NATION MEDIA GROUP	18.9%	8	BAT Kenya: Subsidiary of British American Tobacco.
*BAT KENYA	17.9%	8	
*SAFARICOM	14.9%	10	Safaricom: Largely owned by Vodafone Group PLC.
*BAMBURI CEMENT	14.8%	8	Bamburi cement: Subsidiary of LafargeHolcim.
Nigeria			
*NESTLE FOODS NIGERIA	22.8%	9	Nestle Nigeria: Subsidiary of Nestlé S.A Switzerland.
*DANGOTE SUGAR REFINERY	19.2%	6	Dangote Sugar Refinery: Subsidiary of Dangote Group.
*NIGERIAN BREWERIES	17.3%	9	Nigerian Breweries; Largely owned by Heineken Brouwerijen BV.
*SC.IVOIRIENNE DES TABACS	17.0%	7	Guinness Nigeria: Subsidiary of Diageo PLC.
*GUINNESS NIGERIA	15.3%	8	

Notes: The table reports firm's median return on assets (mROA) over a number of firm-years (Years). The firms included are the best performers in each market over the period (firm-years).

Declarations of interest: non

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Tables

Table 1: Distribution of sample by country

Country	Firms	Total Obs.	Prop. %	Country	Firms	Total Obs.	Prop.%
Botswana	17	120	1.07	*Nigeria*	106	653	5.84
Egypt	217	1,570	14.04	*South Africa*	795	6,225	55.66
Ghana	29	209	1.87	*Tanzania*	5	36	0.32
Ivory Coast	29	192	1.72	*Tunisia*	53	362	3.24
Kenya	54	387	3.46	*Uganda*	6	41	0.37
Mauritius	41	296	2.65	*Zambia*	15	113	1.01
Morocco	79	681	6.09	*Zimbabwe*	37	247	2.21
Namibia	7	51	0.46	*Total*	1,490	11,183	

Notes: Firms denote the number of unique firms in the sample for each country. Total obs. (observations) denote the number of firm-year observations for each country.

Table 2: Firm internal capabilities and performance

		(1) ROA>0	(2) ROA>mROA	(3) AAR>0	(4) AAR>mAAR
Firm resources	*FCF*	0.091***	0.070***	0.026***	0.025***
	LIQ	0.023***	0.041***	0.007**	0.007***
	LEV	-0.777***	-0.289***	-0.124***	-0.152***
Growth prospects	*BTM*	-0.800***	-3.146***	-0.521***	-0.695***
	SGR	0.147***	0.080***	0.108***	0.106***
	AGE	0.000	0.007	0.111***	0.076***

Notes: The table presents univariate difference of means tests comparing the characteristics of well-performing and poorly-performing firms. Our measure of performance is return on assets (ROA) and the average monthly abnormal return (AAR). The following abbreviations are used: free cash flow (FCF), liquidity (LIQ), leverage (LEV), book to market ratio (BTM), sales growth (SGR), firm age (AGE) and median return on assets (mROA). Full definitions of these variables are provided in Appendix 1. In column (1), we compare the characteristics of loss-making (ROA<0) to those of profit-making (ROA>0) firms. In (2), we compare firms with ROA<mROA to firms with ROA>mROA. (3) and (4) are similar to (1) and (2) but here we use AAR as our measure of performance. ***, ** and * indicate statistical significance at the 1, 5 and 10 percent levels, respectively.

Table 3: Firm-level characteristics and performance

	(1) ROA (FE)	(2) ROA (FE-Lagged IVs)	(3) ROA>0 (Logit)	(4) ROA (GMM)	(5) ROA (OLS)
L.ROA				0.286***	
				(0.000)	
HRES(+)					0.058***
					(0.000)
FCF(+)	0.189***	0.127***	6.624***	0.149***	
	(0.000)	(0.000)	(0.000)	(0.000)	
LIQ(+)	0.087***	0.074***	0.563	0.055*	
	(0.000)	(0.000)	(0.330)	(0.073)	
LEV(-)	-0.006***	-0.001	-1.620***	-0.006***	
	(0.000)	(0.675)	(0.001)	(0.000)	
HGRW(+)					0.041***
					(0.000)
BTM(-)	-0.003***	-0.001**	-0.045***	-0.004***	
	(0.000)	(0.022)	(0.000)	(0.000)	
SGR(+)	0.039***	0.022***	1.134***	0.034***	
	(0.000)	(0.000)	(0.000)	(0.000)	
AGE(-)	-0.013***	-0.004	-0.216***	-0.012***	
	(0.000)	(0.121)	(0.003)	(0.003)	
SIZE	0.004**	-0.009***	0.240***	-0.001	0.006***
	(0.010)	(0.000)	(0.000)	(0.776)	(0.000)
TANG	-0.082***	-0.022	0.022	-0.128***	0.007
	(0.000)	(0.137)	(0.941)	(0.001)	(0.196)
SALS	0.002	-0.002	-0.503	0.007	-0.011
	(0.505)	(0.508)	(0.675)	(0.412)	(0.204)
CROSS			0.134		0.017***
			(0.431)		(0.000)
Const.	0.047*	0.192***	-0.670	0.129*	0.024***
	(0.050)	(0.000)	(0.328)	(0.084)	(0.003)
Obs.	4,266	3,650	4,266	3,306	6,811
Rsquare	0.191	0.073			0.126
#Panel	772	704		652	

Notes: The table presents regression results for determinants of performance proxied by return on assets (ROA). The independent variables in model 2 are lagged by 1 year. See Appendix 1 for variable definitions. We run fixed effects (FE), dynamic generalised methods of moments (GMM), ordinary least squares (OLS) and logistic regression (Logit) models. Expected signs are shown in parenthesis. ***, ** and * indicate statistical significance at the 1, 5 and 10 percent levels, respectively. In all models except (4), we control for industry, country and year fixed effects.

Table 4: Firm performance, internal capabilities and governance quality

	(1) mROA (FE)	(2) ROA (FE)	(3) ROA (FE-Lagged IVs)	(4) ROA (FE)	(5) ROA (GMM)
NGQC(+)	0.003**	0.009*	0.010*		
	(0.045)	(0.062)	(0.053)		
mROA(+)				0.575***	0.606***
				(0.000)	(0.000)
L.ROA					0.302***
					(0.000)
FCF(+)		0.177***	0.117***	0.185***	-0.009
		(0.000)	(0.000)	(0.000)	(0.718)
LIQ(+)		0.093***	0.073***	0.080***	0.038
		(0.000)	(0.000)	(0.000)	(0.291)
LEV(-)		-0.006***	-0.001	-0.006***	0.001
		(0.000)	(0.580)	(0.000)	(0.395)
BTM(-)		-0.003***	-0.001*	-0.003***	0.003***
		(0.000)	(0.097)	(0.000)	(0.001)
SGR(+)		0.036***	0.022***	0.034***	-0.001
		(0.000)	(0.000)	(0.000)	(0.819)
AGE(-)		-0.012***	-0.005*	-0.011***	0.000
		(0.000)	(0.078)	(0.000)	(0.873)
Firm controls	NO	YES	YES	YES	YES
Country controls	YES	YES	YES	YES	YES
Const.	-0.077	-0.039	0.021	-0.102	-0.086
	(0.594)	(0.773)	(0.887)	(0.409)	(0.676)
Obs.	143	3,653	3,351	3,976	2,786
Rsquare	0.105	0.207	0.087	0.216	
#Panel		758	697	765	584

Notes: The table presents regression results for determinants of performance. The dependent variable in model (1) is median ROA (*mROA*) and the dependent variable in models (2) to (5) is *ROA*. The firm controls in the model (suppressed for conciseness) include *TANG*, *SIZE* and *SALS*. Country controls in the model (suppressed for conciseness) include *lnGDP*, *GDPGr*, *MCAP*, *MVOL* and *FConc*. All variables are fully defined in Appendix 1. The independent variables in model 3 are lagged by 1 year. We run fixed effects (FE) and dynamic generalised methods of moments (GMM) models. Expected signs are shown in parenthesis. ***, ** and * indicate statistical significance at the 1, 5 and 10 percent levels, respectively.

Table 5: The impact of institutional environment and cross-listing

	(1) ROA (FE)	(2) ROA (SUR) Strong	Weak	(3) ROA (RE)	(4) ROA (SUR) Non-CROSS	CROSS
*NGQC * HRES*	0.002**					
	(0.033)					
*NGQC * HGRW*	0.004**					
	(0.018)					
*CROSS * HRES*				-0.004		
				(0.389)		
*CROSS * HGRW*				-0.025***		
				(0.000)		
HRES	0.030***	0.071***	0.080***	0.038***	0.069***	0.054***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
HGRW	0.022***	0.059***	0.038***	0.034***	0.045***	0.027***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
NGQC	0.019***					
	(0.000)					
CROSS				0.025***		
				(0.000)		
SIZE	0.000	0.010***	0.005***	-0.001	0.006***	0.004***
	(0.859)	(0.000)	(0.000)	(0.308)	(0.000)	(0.002)
TANG	-0.081***	0.006	0.020**	-0.010*	0.016*	0.009
	(0.000)	(0.603)	(0.023)	(0.098)	(0.071)	(0.274)
SALS	-0.003	-0.024***	-0.050***	-0.008***	-0.027***	-0.109***
	(0.259)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.073***	-0.111***	-0.022*	0.054***	-0.035**	0.025
	(0.000)	(0.000)	(0.089)	(0.000)	(0.029)	(0.154)
Industry FE	YES	NO	NO	YES	NO	NO
Country FE	YES	NO	NO	YES	NO	NO
Year FE	YES	NO	NO	YES	NO	NO
Observations	6,321	1,172	1,172	6,811	1,306	1,306
R-squared	0.068	0.210	0.245	0.100	0.112	0.129

Notes: Models (1) and (3) of the table present panel fixed (FE) and random effect (RE) regression results for determinants of firm performance (ROA). Models (2) and (4) present results from seemingly unrelated regressions (SUR) exploring firm performance across two subsamples; strong and weak NGQ environments (in model 2) and non-cross-listed and cross-listed firms (in model 4). See Appendix 1 for full variable definitions. ***, ** and * indicate statistical significance at the 1, 5 and 10 percent levels, respectively.

Table 6: Main results without South Africa

	(1) ROA (FE)	(2) ROA (FE)	(3) mROA (OLS)	(4) ROA (FE)	(5) ROA (FE)	(6) ROA (FE)
HRES		0.017***				0.011***
		(0.000)				(0.004)
HGRW		0.013***				0.008
		(0.001)				(0.150)
NGQC			0.002	0.009*		0.011***
			(0.228)	(0.055)		(0.000)
mROA					0.688***	
					(0.000)	
*NGQC * HRES*						-0.003
						(0.130)
*NGQC * HGRW*						-0.003
						(0.260)
FCF	0.070***			0.058***	0.062***	
	(0.000)			(0.001)	(0.000)	
LIQ	0.095***			0.066***	0.078***	
	(0.000)			(0.007)	(0.001)	
LEV	-0.082***			-0.091***	-0.090***	
	(0.000)			(0.000)	(0.000)	
BTM	-0.002***			-0.001**	-0.001**	
	(0.001)			(0.018)	(0.011)	
SGR	0.016***			0.011**	0.009*	
	(0.001)			(0.027)	(0.091)	
AGE	-0.007***			-0.006**	-0.007***	
	(0.001)			(0.017)	(0.008)	
Firm controls	YES	YES	NO	YES	YES	YES
Country controls	NO	NO	YES	YES	YES	NO
Constant	-0.050	0.079***	-0.096	-0.090	-0.482**	0.065***
	(0.207)	(0.000)	(0.587)	(0.676)	(0.032)	(0.000)
Observations	1,283	3,169	130	1,175	1,196	3,071
R-squared	0.203	0.061	0.079	0.243	0.259	
Firmid	303	524		300	300	523

Notes: The table presents panel fixed effects (FE) and ordinary least squares (OLS) regression results for determinants of performance (*ROA*) and median performance (*mROA*). The firm controls in the model (suppressed for conciseness) include *TANG, SIZE* and *SALS*. Country controls in the model (suppressed for conciseness) include *lnGDP, GDPGr, MCAP, MVOL* and *FConc*. All variables are fully defined in Appendix 1. Expected signs are shown in parenthesis. ***, ** and * indicate statistical significance at the 1, 5 and 10 percent levels, respectively. In all models, we control for industry, country and year fixed effects.

Figures

Figure 1: NGQ across African countries

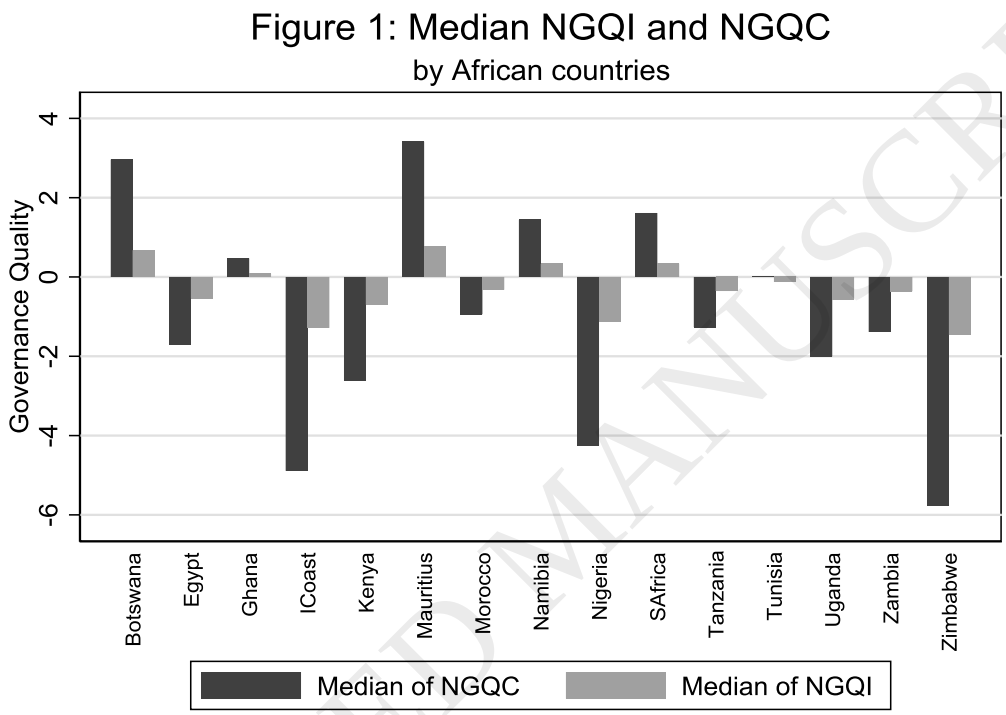

Figure 2: Conceptual model

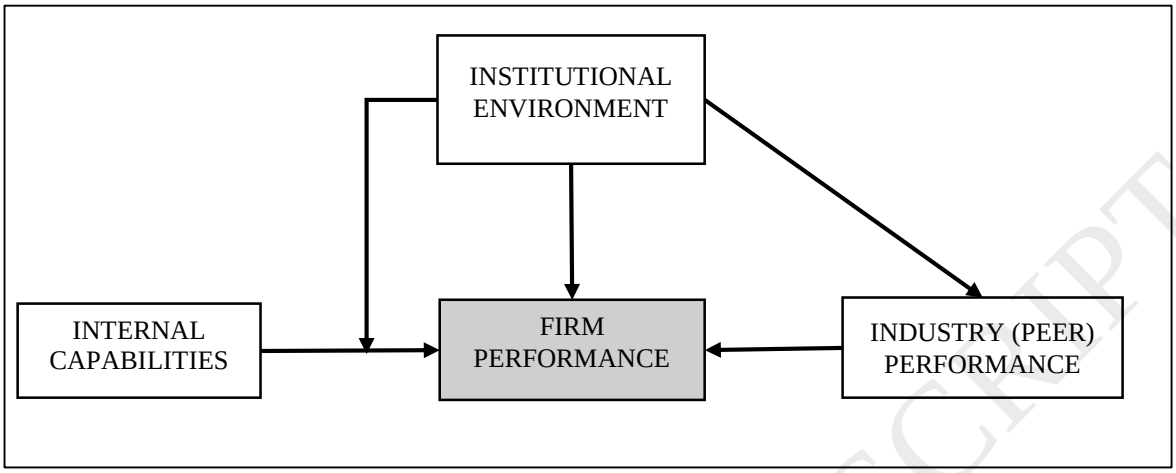

Figure 3: Mean performance of firms by country

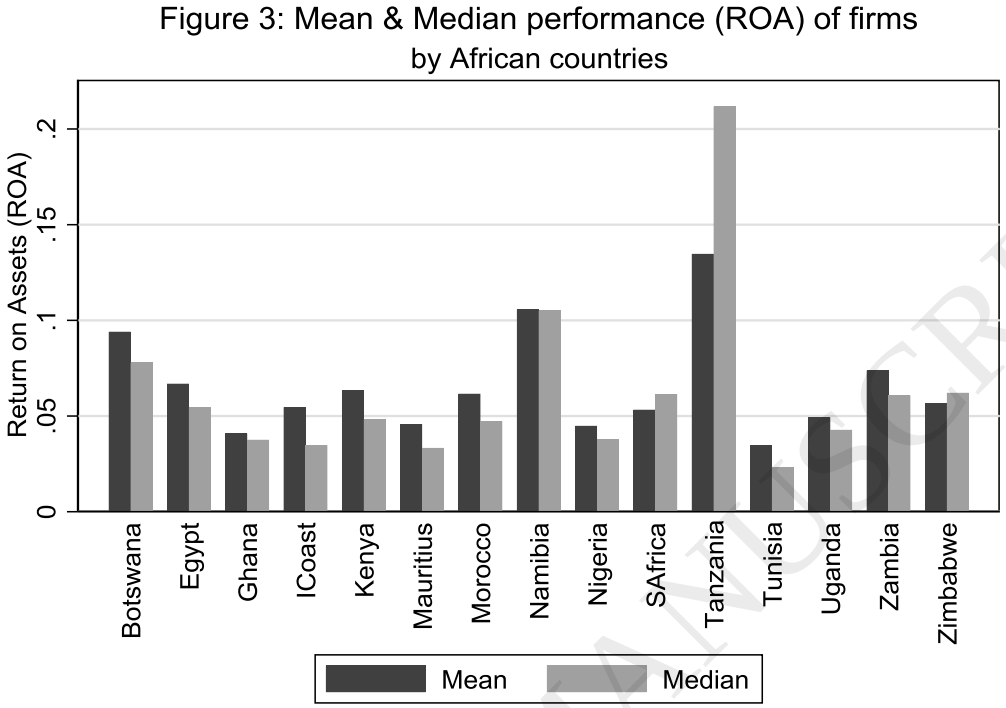

Figure 4: Mean performance of top 5 firms by country