Social Elites on the Board and Executive Pay in Developing Countries: Evidence from Africa

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Abstract

This study applies a new multi-focal actor-centered institution-theoretic approach to examine the association between executive pay and the recruitment of social elites to the board of directors in developing countries. We use a sample of 119 initial public offerings (IPOs) from 17 African stock markets to model this relationship. The results suggest that a higher proportion of elites on the board is associated with lower executive pay. This is moderated by institutional quality; that is, lower institutional quality is associated with more directors drawn from social elites and with higher pay, while the opposite is true in higher-institutional-quality environments. Our findings confirm the importance of the social environment within which governance is embedded.

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Acknowledgements

1. Introduction

Prior research on the determinants of executive and CEO salary has been overwhelmingly dominated by the adoption of either an agency-theoretic or a neoclassical lens. The former focusses on incentive alignment between shareholders and their managerial agents (Jensen & Meckling, 1976) as well as insider self-reward or appropriation tendencies (e.g. Doidge et al, 2007). The latter focusses on the pay-performance relationship (e.g. Buck et al., 2008; Liu et al., 2014) as well as salary premiums attributable to the supply or demand-side schedules of the managerial labor market (e.g. Oxelheim & Randoy, 2005). Both assume market-intermediated arms-length transactions and third-party contracting in the provision of resources, including capital and labor, to the firm. However, there is a lack of research focussing on the role of the underlying political economy in the determination of optimal executive salary levels. This is of particular importance in developing economies, where firms and their transactions are contextually embedded in institutional frameworks that promote extended socially conditioned relational contracting (Acquaah, 2007).

We follow North (1989, 1991)'s intuition that, in developing countries with weaker aggregate formal institutional quality, polities are demographically narrower and controlled by empowered special interest groups, or social elites, with considerable vested private benefits of control. These actors have a lack of incentive to initiate more equitable reforms in formal institutional frameworks, resulting in stagnation. However, while they usurp hegemonic control over the national polity, they are drawn from the underlying society, and in the case of much of the developing world this is based on extended clan and ethnic lineage rivalries that in effect form the underlying social fabric of emerging nation states. Our model extends the actor-centered institution-theoretic model of Aguilera & Jackson (2003, 2010) to a developing context. This involves considering the inter-relationship between the different stakeholders within the organizational structure of the firm, each having socially constructed preferences shaped by the prevailing institutional framework within the society from which they are drawn. In this way, our model accommodates a firm's active management of its legitimacy strategy (Suchman, 1995), which leads it to co-opt environmental contingencies arising from the demographic shape of polity, through the

3

recruitment of social elites to nonexecutive board roles. This legitimacy is essential in the acquisition of resources (Pfeffer & Salancik, 1978). However the recruitment of elites also introduces institutionalized incongruities into the firm through a conflict of their socially constructed norms and preferences with those of other stakeholders such as management, labor, suppliers and customers, these being unequivocally shaped by the underlying clan or ethnic lineage governance framework within the society. Following Aguilera & Jackson (2003), we argue that salary is a natural mechanism used to stabilize the firm's governance structure when otherwise irreconcilable tensions arise due to institutionalized incongruities between elites and management drawn from the underlying informal societal framework.

Using a unique sample of 119 initial public offering (IPO) firms from 17 African stock markets, we find that elevated proportions of social elites on boards of directors are associated with lower average executive salaries. We argue this is due to a tempering effect of all the powerful ethnic lineages and extended clan governance frameworks from which all stakeholders are drawn. This supports relational contracting and effectively reigns in appropriation motivations associated with social elites. Furthermore, this association is positively moderated by formal institutional quality. Consequently, in low formal institutional quality environments, higher proportions of social elites are associated with higher executive salaries, while the opposite is true in high formal institutional quality jurisdictions. Our findings and new theoretical approach yield valuable insights into the determinants of executive salaries in developing economies – where national governance frameworks can be very different from their counterparts in advanced economies. This also makes a valuable contribution to international business theorizing, in terms of underscoring the importance of explanations based on the contextual embeddedness of governance arrangements and utilizing under-used institution-theoretic approaches as opposed to notions of governance emanating from convergence processes and competitive efficiencies at a national level.

The paper is structured as follows. In section 2, we outline our model and derive the theoretically framed arguments underpinning our hypotheses. The following section discusses the appropriateness of the African context for this study, explains the characteristics of the sample,

describes the structure of the variables used in the estimation and presents some descriptive statistics. The estimation results are reported and discussed in section 4, and the final section summarizes the conclusions of the paper, lists the limitations of the study and suggests some avenues for future research.

2. Theory and Hypotheses

There is a considerable literature on executive and CEO pay, although the overwhelming majority of it is informed by a narrow set of theoretical perspectives. Most studies focus on a small group of developed nations, principally the US (e.g. Core et al., 2003, 2008), UK (e.g. Conyon & Murphy, 2000), Japan (e.g. Abe et al., 2005), and Scandinavia (Oxelheim & Randoy, 2005), and this is largely the reason for the limited range of theoretical applications, given that these countries all have institutional frameworks that extensively support external market intermediation of capital, managerial labor and products (Aguilera & Jackson, 2003; Hoskisson et al., 2004).

Neoclassical theory is fundamentally based on notions of efficient markets. For managerial labor, this implies the equating of supply of and demand for executive talent (Conyon, 2006). In this scenario, the marginal return on executive performance is equal to the marginal product (Mirlees, 1976). This has led to a host of studies focussing on pay that is related to individual performance (e.g. Buck et al., 2008), as well as the association between pay and firm performance (e.g. Carpenter & Sanders, 2002; Buck et al., 2008; Conyon, 2006). Agency theory extends this economic perspective by viewing pay as a form of incentive alignment between shareholder principals and their managerial agents (Jensen & Meckling, 1976). This has more recently evolved into tournament theory (Conyon et al., 2001; Main et al., 1993), relating to competition in internal labor markets, and CEO power theory (Ryan & Wiggins, 2004) that focusses on the self-reward tendencies of dominant CEOs.

However, a limitation of such neoclassical and agency perspectives regarding pay and governance is the exclusive focus on bilateral contracts between principals and agents, since notions of agency costs are based solely on differences in utility. While this has been argued to be akin to a

5

form of *dyadic reductionalism* (Aguilera & Jackson, 2003: 449), it also lacks any consideration of the social context within which business activities are embedded. A further limitation of such perspectives is their exclusive focus on external market intermediation. This severely curtails their application to emerging and developing economies, in which markets tend to be both inactive and segmented (see Hearn & Piesse, 2013; Hearn, 2014) and relational contracting is commonplace. Ownership structures also differ significantly from the traditional Berle & Means (1932) view of diversification as the sole means of achieving separation of ownership from control, which is a fundamental condition of agency theory (Aguilera & Jackson, 2003, 2010). Furthermore, agency theory has a restricted view on board composition in terms of the board's ability to monitor. Thus, interlocking directorships and the recruitment of directors from other backgrounds, while potentially beneficial for the firm, are generally viewed negatively in terms of their "*busyness*" that may inhibit effective monitoring (Fich & Shivdansani, 2006). Conversely, resource dependence theory is preoccupied with the social capital and networks that directors bring to the firm in terms of additional resources and information, which can be linked to higher performance (e.g. Pfeffer & Salancik, 1978). Hillman & Dalziel (2003) were the first to provide a theoretical integration of resource dependency's boundary-spanning directors and the incentives of executives, although this has not been developed further.

A recent study of the political economy related determinants of executive salary in Chinese listed firms, by Chizema et al. (2015), utilized social comparison theory where higher numbers of government officials as nonexecutives on boards of directors were found to be associated with lower executive salaries. Theoretically, the egalitarian nature of socialist government officials co-opted to boards of directors was argued to exert anti-inflationary pressure on executive self-reward tendencies. However, this perspective is very limited in its lack of consideration of the wider political economy within which all aspects of the firm's functioning are inextricably embedded. Given these constraints within prior theorizing, we propose an extension of the institutional actor-centered model of Aguilera & Jackson (2003, 2010). This is sociologically orientated and assumes the firm's organizational structure and boundaries are transcended by a number of distinct

stakeholders, each with their own socially constructed preferences. The emphasis on social construction of preferences underscores the importance of institutions in forming these, while at the same time underlining their importance in shaping overall firm strategy. Aguilera & Jackson's model assumes three principal stakeholder groups, namely those of capital, management and labor. These groups are in dynamic coalition and conflict with each other, owing to potential institutionalized incongruities, while at same time conceding concessions when conflicts arise between capital and management – over the design of management compensation, for example – in order to maintain the stability and integrity of the firm as a governance structure.

The model flexibly accommodates incongruities, deemed to arise through institutionalized differences in rationality (Lepsius, 1990). In this way, if capital, as a stakeholder group, takes the form of stock market financing through debt and equity claims, and contingent property rights emphasise liberalism and protection of minority outsider residual-risk holders, then management's preferences will be congruous through their adoption of performance-contingent compensation packages. On the other hand, if capital takes the form of extended interfirm networks – ubiquitous in Japan (Aguilera & Jackson, 2003) – then, through the "locked-in" commitment arising from the social multiplexity of interfirm networks, internal capital markets and relational contracting will be preferable. Management compensation is then structured in accordance to social status and responsibility, in conjunction with a more socialized definition of property rights. Salary awards are comparable to civil service salary scales. This is also mirrored by career trajectories for executives that emphasize longevity of service and the acquisition of job-specific skills, with the adoption of a distinct company focus (Sidani & Al Ariss, 2014; Sidani & Thornberry, 2009), as opposed to transferable skills that facilitate a more open and external labor market (Aguilera & Jackson, 2003).

Developing economies are often characterized by considerable incongruity between formal and informal governance frameworks. This is exhibited by often narrow and control-focussed formal institutional architecture, inherited from the European colonial era, that has been assimilated into underlying feudal extended clan or ethnic lineage based societies. A further characteristic is that national boundaries are representative of the extent of colonial conquest, rather than delimiting

the underlying indigenous nation states – that often had their own political, legal dispute resolution and economic governance frameworks. North (1989, 1991) argued that demographically narrow polities, populated with social elites, inhibit institutional reforms that would lead to a more equitable redistribution of wealth and economic opportunities across society. Furthermore, the often limited formal institutional architecture transplanted to these nascent states, which formed the basis of indigenous polities, were taken under the hegemonic control of select ethnic groups, empowered at independence (Joireman, 2004; Kuran, 2009). In effect, this sustains the underlying feudal political economy through the *capture* of the machinery of state, despite the secular, impartial and individualistic nature of European institutions (Sidani & Thornberry, 2013). This questions the institutionalist distinction between "formal" and "informal" (e.g. North, 1991, 1994), in which formal can be viewed as having been superimposed onto informal and, at times, due to the lack of legitimacy of formal architecture, informal governance is upheld in preference to the formal governance apparatus, owing to extensive decoupling of the rival frameworks. Most importantly, it emphasizes the weak nature of formal institutional frameworks and their assimilation within the powerful underlying informal governance frameworks based on extended clan and ethnic lineages.

There is a considerable recent literature documenting the overwhelming prevalence of extended patriarchal clans and ethnic lineages and their dominance in the economies of the Middle East and North Africa (e.g. Sidani & Thornberry, 2013; Berger et al., 2015) and Sub-Saharan Africa (Joireman, 2001, 2004; Nunn & Wantchekon, 2011; Hearn et al., 2016). Sidani & Thornberry (2013) argue that clan affiliation is the single most dominant force in nascent Arab states, where state architecture and institutions adopt a distinct clan orientation (Berger et al., 2015). Furthermore, religious institutions and associated norms and values based on Islamic shari'ya in North Africa (Hearn, 2014) and traditional beliefs shaped on Ubuntu philosophy in Sub-Saharan Africa (West, 2014) emphasize the dominance of the extended family. This is particularly true as the indigenous "…African society is a system of mutually benefiting reciprocities" through which exchange within extended families takes place (Otite, 1978: 10 quoted in Darley & Blankson, 2008: 377). This forms

the basis of our claim that there is an underlying clan-centered institutional framework that transcends all other theoretical relationships.

The impact of national political economy on executive pay

So far, we have considered the structure of indigenous society. This yields two powerful sociological constructs: the first is social elites, who themselves are drawn from the underlying clan or ethnic system yet at the same time are characterized by their considerable vested interests. The second is the all-pervasive clan or ethnic lineage system that acts as the cohesive social fabric within society. In this way, stakeholders' participation within the firm's organizational structure can be thought of as either emanating from the underlying clan-based system or, if they are foreign, having to fit in with that system in order to attain legitimacy. Thus, the three stakeholder groups identified in Aguilera & Jackson's model, namely capital, management and labor, can all be viewed as being mutually influenced by prevailing clan-based institutions. As such, clan or ethnic-based sociological constructs act as a powerful counterbalance against potential incongruities introduced into firms from the conflicting priorities and preferences of otherwise very different stakeholder groups.

However, unlike in Aguilera & Jackson's actor-centered model, we follow Suchman (1995) in arguing that the firm is both an active manager of its legitimacy with external stakeholders, as well as being a passive recipient of institutionalized legitimacy concerns emanating from them. The latter is exemplified by the firm attaining cognitive legitimacy – through its adoption of extensive relational contracting amongst all stakeholder groups which emphasizes its comprehensibility and taken-for-granted nature (Suchman, 1995) among indigenous clan-based constituencies. However, the firm needs to actively seek moral legitimacy – where it conforms to the norms associated with societal expectations regarding its structure (Suchman, 1995) – and pragmatic legitimacy in which it actively seeks to exchange and influence legitimacy (Suchman, 1995). This takes the form of the co-opting of social elites into its organizational structure through their recruitment as nonexecutive

directors. Such co-optation leads the firm to have preferential access to resources and information, thereby ensuring its economic survival (Pfeffer & Salancik, 1978).

We argue that social allegiances to extended clan or ethnic lineages are of major importance in feudal political economies across much of the world, particularly in developing economies. These are characterized by closed and internal labor markets and pay determined through complex notions of social status. Furthermore, while social elites are important in providing regulatory, and to a lesser extent normative, legitimacy, they are inextricably embedded within the deeper clan-based system inherent in such societies. Thus, while wealth and economic growth may be concentrated in the hands of such extended clans, as argued by Fogel (2006), executive pay at the firm level is determined by the institutionalized rules of the socialized bureaucracy (Ocasio, 1999) of the internal labor market[1]. Social elites form part of the societies from which they emanate (Granovetter, 2005). Consequently, they are best considered not only in terms of their position and the institutionalized legitimacy conferred by it, but also in terms of their role in society and the underlying clan structure. This is an extension of the singular focus adopted by North (1994), in which such elites are considered solely in terms of their elevated position within indigenous polity.

Theory (Ocasio, 1999) implies that these strongly socialized norms infuse into the firm and shape the informal rules and routines associated with executives, including notions of appropriate remuneration. Furthermore, the powerful ubiquitous nature of clan or ethnic affiliation and its socialized relational contracting tempers the potentially incompatible preferences of social elites, which are shaped by their vested interests arising from their exalted status. Social elites thus impede inflationary executive pay awards through the consideration of this powerful and latent underlying clan or ethnic affiliation. Thus, we propose the following hypothesis:

Hypothesis 1: Average executive pay is negatively associated with the proportion of social elites on the board of directors.

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[1] It should be noted that our arguments relate only to the executive pay-setting process. We do not discount the possibility of wider expropriation by dominant family groups, both at the national and corporate levels, as argued by Fogel (2006).

The moderating influence of institutional quality

We propose that institutional quality moderates the theoretical association between executive pay and the proportion of social elites on the board of directors. This measure implies a range from high to low-quality institutional environments. In low-institutional-quality environments, North (1991, 1994) argues that state architecture is characterized as weak, with narrow, control-orientated polities, dominated by a small number of social elites. The latter have considerable state-level private benefits and lack any incentive to endorse more equitable institutional reforms that would broaden the underlying economy and empower the wider population through greater social inclusiveness. Fogel (2006) extends this view by arguing that polities dominated by extended family or clan groups concentrate wealth and economic opportunities in the hands of controlling families and this has a detrimental impact on institutional reform and societal inequality. Sidani & Thornberry (2013) claim that benevolence and patronage towards the wider clan and family members leads to what, in the West, is considered nepotism. This intra-clan benevolence, combined with notions of mutual co-ownership and extended reciprocity, is argued to underscore more visible signs of kickbacks and corruption carried out by individual clan members in empowered, social-elite positions on behalf of more distant clan members (Sidani & Thornberry, 2013). We argue that such behavior is also associated with ineffective monitoring that would otherwise inhibit executive self-reward tendencies. The institutional theory of action (e.g. Ocasio, 1999) considers that ineffective monitoring and inadequate surveillance of insider executives is reflected in weaknesses in the rules and routines associated with their roles. Thus, we argue that, at the lower end of the institutional quality spectrum, there will be higher proportions of social elites on boards and the aim of the firm will be to gain legitimacy and improve its access to resources. This will lead to higher levels of executive pay.

We argue that, as institutional quality improves, state architecture becomes more equitable and socially inclusive across the wider society (Aoki, 2001). The prevalence of institutional frameworks supporting third-party contracting is higher where there is a markedly lower influence

11

of feudal clan-based institutions. Such frameworks also reflect increased costs associated with expropriation technologies (Doidge et al., 2007), due to enhanced transparency and improved judicial and legal systems. Operational efficiency and profitability is favored over concerns regarding institutionalized social legitimacy within firms. This is reflected in both the formal and informal institutions in firms, and shapes executives' rules and routines. The lack of any necessity to attain legitimacy in the firm is linked to a lower level of importance being attached to social elites within societies characterized by stronger institutional frameworks and broader, more socially inclusive, polities. This then leads to a reduced need to co-opt and recruit social elites to boards. The greater emphasis on operational efficiency and profitability implies that executive pay will be determined more by individual performance and merit, with these norms shaping both the institutionalized rules and routines of executive roles (Ocasio, 1999), and notions of appropriate salary levels.

In summary, we argue that theory suggests a role for institutional quality as a moderator of the association between social elites on boards and executive pay. Consequently, we test the following hypothesis:

Hypothesis 2: Higher institutional quality moderates the inverse association between the proportion of social elites on the board of directors and average executive pay.

3. Data and Methodology

In this section, we discuss the appropriateness of the African context for studying this topic, explain the composition of the sample of firms, describe the data and model specification, and present the descriptive statistics.

African context

A central issue in the African institutional environment relates to the modern national boundaries that were drawn to accommodate European colonial ambitions. These frequently conflict with

established indigenous African nation states and ethnic groups (Joireman, 2001, 2004). Thus, the continent exhibits a sharp divide in formal institutions, between the French and Portuguese civil code and English common law, although all states originally established under colonial rule are patriarchal in nature (Hearn, 2015). Independence for the majority of African countries happened during the 1960s, and this resulted in a transition from an imperial system to local control by national social elites from empowered ethnic groups (see North, 1989 for a discussion on Latin America). This had a twofold impact. First, social elites were created from distinct ethnic groups, with vested interests and an aversion to institutional reform and an equitable allocation of resources. Second, large sections of ethnically fragmented societies were disempowered, and the formal political, governmental and legal institutions that were introduced had little social legitimacy. In addition, there are wide variations in institutional quality across Africa, which, combined with the importance of social elites in corporate life, suggests that Africa is an ideal context in which to test our model of executive remuneration.

Sample composition

The sample consists of 119 private-sector firms (state privatizations and joint ventures excluded) that underwent IPO on an African stock market between January 2000 and January 2014. The choice of IPO firms rather than larger and more established ones was made for two reasons. First, managerial labor markets in IPO firms are typically closed due to the overriding influence of the founder-entrepreneur and the lack of formal governance structures within such firms (Brav & Gompers, 2003). In contrast, older and larger firms often have more bureaucratic procedures for determining remuneration, and better-functioning internal labor markets (Beatty & Zajac, 1994). Second, IPO firms are largely a product of their indigenous political economies, whilst older firms have more deeply engrained bureaucracies and processes.

IPOs on 23 African markets were surveyed in the first stage of data collection. These markets were Algeria, Botswana, Cameroon, Cape Verde Islands, Cote d'Ivoire, Egypt, Ghana, Kenya, Malawi, Mali, Mauritius, Morocco, Mozambique, Namibia, Nigeria, Rwanda, Seychelles,

Sierra Leone, South Africa, Tanzania, Tunisia, Uganda and Zambia. IPO data for Nigeria were only available from January 2002 onwards. The data were sourced from national stock exchanges and their associated websites, and were cross-checked against lists from major brokerage houses to maximize the accuracy of the data. 280 listings were identified.

In the second stage, IPO prospectuses were collected from various sources (see Appendix 1 for details). We focussed on domestic private-sector firms, and include only those in which the IPO involved the listing of ordinary shares with single-class voting rights and genuine ownership diversification to minority shareholders. We excluded private share placements (involving a preferential allocation of stock to corporate or institutional block holders), registrations, introductions and secondary offerings such as rights issues that had been erroneously classified as IPOs. This reduced the total number of genuine private-sector IPOs to 136. Data were missing in several cases and those cases were dropped from the sample. Thus, the final sample consisted of 119 IPOs from 17 countries (see Table 1). It should be noted that there were few IPOs in the two largest African markets, Egypt and South Africa. This is due to concerns over the low levels of liquidity in these markets, which result in many firms listing either through private placements, introductions or registrations, or through an IPO and private placement undertaken together.

****** Table 1 about here *****

There was considerable variation in both the quantity and quality of the information in the IPO prospectuses. We also verified all the data from the prospectuses by cross-checking with firm websites and with mandatory filings of annual accounts. All financial and balance sheet data were converted to US dollars.

Dependent variable

The dependent variable was the average cash salary of the executive directors of each firm (SAL). Remuneration through stock options or bonuses was not included as such practices are rare in developing countries and particularly in Africa. Bonuses were only reported in a handful of firms,

and stock options declared in two Moroccan, two Egyptian, and four South African firms. Supplementary benefits were sometimes reported, but rarely enumerated. Details of the directors and the salary data were sourced from the director profile sections of IPO prospectuses and then verified, where possible, from annual reports and the African Financials website. Fees for attendance at board meetings (where appropriate) were added to the salary figures. Following Core et al. (2003), we used the natural logarithm of the average cash salary (SAL) to minimize the possible effects of heteroskedasticity. Detailed definitions for all variables are given in Table 2.

***** Table 2 about here *****

Explanatory variables

The first explanatory variable is the proportion of social elites on the board (ELT). This corresponds to *Hypothesis 1* as well as forming an integral part of *Hypothesis 2*. We identified four distinct categories of social elite – namely senior military, government, commercial and academic – from the inspection of directors' biographical sections in individual firms' IPO listing prospectuses. We also adopt a one-dimensional definition, whereby an individual director is defined in terms of the social elite status described in their director profile within the prospectus. We further verify this information from additional sources (see Appendix Table 1). We adopt a mutually exclusive definition of directors drawn from one of the four elite backgrounds. However, we concede that it is quite possible for a director to fit into a number of categories of elites. For example, a former military officer may also have served in the government and had a commercial role. Furthermore, the list of four identifiable elites may not be exhaustive but they are based on those reported formally in the listing prospectuses, which are contingent on firms' self-identification of elites subject to national regulatory requirements.

Military elites (ELTM) are defined as those with positions of admiral, general, brigadier, group captain and above in the national army, air force or navy. This is similar to the definition used by Peng et al. (2001) in a study of military elites on boards in Thailand. Government elites (ELTG) include those with senior civil service appointments, former presidents, prime ministers, and those

15

with diplomatic and ambassadorial roles. This follows Acquaah (2012) and Hillman et al. (2005), who study resource provision and social capital brought to boards by politically affiliated government directors in Ghana and the US respectively. Commercial elites (ELTC) are defined as those with prestigious blue-chip directorships, commercial attaché roles and board-level roles in national chambers of commerce. Academic elites (ELTA) are defined as those holding positions of professor and above. The aggregate social elites metric is created from the combination of all groups, expressed as a proportion of board size.

Moderation variables

The product of ELT and QUAL forms our moderation variable for *Hypothesis 2*. This is a measure of institutional quality and is constructed from an equally weighted average of six World Bank governance metrics (Kaufman et al., 2009). These metrics have been rebased to a $0 - 10$ scale. We follow Liu et al. (2014) in moderating a variable using an index. In the Liu study, an index was generated to capture elements of the institutional environment within which firms are embedded. We adopt a similar approach by capturing a broader, aggregate institutional environmental quality of the country in which the IPO is undertaken.

Control variables

We include a number of control variables. First, there are two *country-level control variables*. We control for any direct impact due to variations in the institutional quality (QUAL) variable. Income levels vary considerably across these countries and we might expect the salaries of executives to reflect these differences. Hence, we include the natural logarithm of GDP per capita (GDP) to control for these country-level differences.

Second, we include a set of four *firm-specific control variables*. We expect larger firms to pay higher salaries to board members because of the increased complexities of the tasks they have to undertake and hence the more sophisticated skills they need to possess (Sanders & Carpenter, 1998; Finkelstein & Boyd, 1998). We measure firm size (FSIZ) as the natural logarithm of pre-tax

16

(gross) revenues. We also expect better-performing firms to pay higher salaries. Hence, we include the accounting return on assets (ROA) as a measure of firm performance (Finkelstein & Boyd, 1998; Khanna & Palepu, 2000). The age of the firm (AGE), defined as the natural logarithm of age in years, may also have an impact, but the expected direction is unclear. Melkumov et al. (2009) argue that younger firms in Russia are less institutionally bound to older governance frameworks and thus adopt governance akin to market-orientated Western notions of best practice. Conversely, older firms are very much rooted in older institutional governance frameworks. However, such a distinguishable difference between "old" and "new" is less clear within a network economy context such as Africa. Finally, we control for financial leverage, as we expect higher levels of debt to impose greater financial discipline and lead to lower average salary levels. Leverage (LEV) is measured as the ratio of debt to total assets, following Bruton et al. (2010).

Third, we include a set of five *board control variables* relating to the composition of the board of directors. Firms with larger boards should pay lower average salaries as there are more directors to cope with the complexities of running the firm, and hence we expect a negative relationship between board size (BSIZ) and average salary. In so far as non-executive directors are truly independent, they will monitor and limit any self-rewarding tendencies among the directors. We would thus expect a negative relationship between the proportion of nonexecutive directors on the board (NEX) and the average salary bill. Long-serving directors are likely to become more entrenched, and this may have an impact upon their propensity to self-reward. Thus, we measure director tenure (TEN) by the average years of board service, and expect this to have a positive impact on average salaries. Many African firms are part of business groups (Hearn & Piesse, 2013; Hearn, 2014), and their governance is characterized by interlocking directorships across the group members. These interlocking constellations of firms form an effective internal group-wide labor market, where executive tenure, salary and contractual specifications are in accordance with the complex social dynamics within the group. Thus, given the powerful overarching nature of the socialized internal group-wide labor market, we would expect a negative relationship between the proportion of the board occupied by directors of business-group-affiliated firms (BUS) and average

salary. In line with He (2008), we argue that founders serving as CEOs in their IPO firms are less likely to seek salary and incentive rewards, where these financial incentives are offset by their personal satisfaction (or non-pecuniary private benefits) associated with created the firm initially. Thus, we would expect an inverse association between founders serving as CEOs (FD) and average salary. Finally, we introduce a binary control for whether the CEO is drawn from a social elite background. We would expect a positive association between the CEO being drawn from social elites and average executive salary.

Fourth, we include a set of four *ownership control variables*. Any IPO involves the previous owner diluting some or all of their control in exchange for external capital, and we would expect a larger dilution (DIL) to be associated with a greater tendency to self-reward through higher director salaries. Higher levels of executive shareholdings (EXEC) serve to align the interests of executives and shareholders, and should act as a constraint on self-rewarding tendencies. As noted above, block shareholders (BLOC) have both the incentive, because of their significant investments, and the authority to mitigate any self-rewarding tendencies on the part of the CEO and other directors. Concentrated family retained ownership (FAM) can either exert positive constraining influences on self-reward tendencies or encourage higher salary rewards, the distinction being based on family motives and intra-family social dynamics. We follow the first argument, assuming concentrated family ownership to be inversely associated with average salary.

Methodology

The model is estimated using pooled ordinary least squares (OLS), and includes a set of industry controls[2] and year controls. Different industries are subject to differing levels of regulation (Sanders & Carpenter, 1998), whilst the year controls are necessary because the IPOs take place across several years, during which macroeconomic conditions may have changed and during which there have been improvements to the regulatory environment. The model is stated as follows:

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[2] The eight Bloomberg industry categories used are non-cyclical consumer goods, cyclical consumer goods, energy, financials, health, industrials, technology and telecommunications.

$$SAL_{i,j} = \beta_0 + \beta_1 ELT_i + \beta_2 (ELT_i * QUAL_j) + \beta_3 QUAL_j + \beta_4 GDP_j$$
$$+ \beta_5 FIRM_{i.} + \beta_6 BOARD_i + \beta_7 OWN_i + \delta_1 IND_i + \delta_2 YEAR + \delta_2 COUNTRY_j + \varepsilon_{i,j} \qquad (1)$$

where i are firm-level variables and j country-level variables. $FIRM_i$ = the vector of firm-specific control variables for firm i, $BOARD_i$ = the vector of board control variables for firm i, OWN_i = the vector of ownership control variables, IND_i = the vector of industry dummies related to firm i, $YEAR$ = the vector of year dummies corresponding to the year in which the IPO took place, and $COUNTRY_j$ = the country cross-section fixed effects. It should be noted that the units of observation are the country and the IPO-firm observation, that is, countries form the cross-section and IPO-firm observations the vertical dimension of the panel.

Our choice of pooled OLS regressions with fixed effects and White-Huber clustering methods robust to standard errors and covariances is based on the structural features of the underlying data. Firstly, our data is nested between distinct levels, that is at aggregate country-level and then at firm-level. This is evident from our dependent variable, our independent variables and many of our controls that are based on observations at firm-level, while there are country-level observations (such as institutional quality) also included in the model. Clustering based on differences between the underlying levels in the data can be resolved by using hierarchical multilevel (HLM) linear regressions in Stata. HLM models yield a flexible and dynamic alternative to standard OLS modeling, although a significant shortcoming is their potential bias due to their inability to capture all unobservable variation, which can be done with OLS fixed effects (Skrondal & Rabe-Hesketh, 2010). Multilevel models are also more constrained in their treatment of heteroskedasticity and covariances, in contrast to the Huber-White robust methods (Chaplin, 2003) used in OLS models in Stata.

However, a more serious issue is the extreme skewed clustering of some of the independent variables, for example, the ratio of social elites and the four disaggregated components. It is harder to control for such deviations, which can lead to potential biases in either multilevel or OLS frameworks as both are based on the assumption of independent and identically distributed errors.

We follow the salary literature and use pooled OLS models (e.g. He, 2008; Core et al., 2003, 2008) with country fixed effects plus Huber-White robust standard errors and covariances. However, in addition, we estimate multilevel linear regression models, following Skrondal & Rabe-Hesketh (2010), as an additional robustness check. We also acknowledge that caution should be applied in the statistical interpretation of t-statistics where these both affect standard errors and associated p-values and statistical confidence in hypothesis testing. Thus, while the absolute sizes and signs of the coefficients are expected to conform to best linear unbiased estimates, their t-statistic values are likely to be lower than they would otherwise be (Wooldridge, 2002).

Descriptive statistics and correlations

Table 1 reports the descriptive statistics for the key variables. The sample of 119 IPO firms comes from 17 countries, with Algeria, Cape Verde, Sierra Leone, Malawi and Zambia each accounting for only a single IPO and others accounting for many more. The mean executive pay is US$141,300 but there is considerable variation around this mean, from a maximum of US$1.2m in Algeria to a minimum of US$9,442 in Sierra Leone. Clearly, these variations cannot readily be explained by differences in levels of national income or indeed by other macroeconomic variables, or by institutional quality, and this is what motivates our interest in this topic. In the full sample, the average direct salary is about 65 times the per-capita GDP, but this multiplier varies hugely between countries.

As noted above, there is considerable difference in institutional quality across the sample. Nigeria (29.86) and Algeria (34.24) report the lowest scores, Mauritius (71.55) and Botswana (69.09) the highest. Social elites account for 13.08% of directors across the sample, with the majority originating from government and commercial backgrounds. We point out that the proportions of directors drawn from among the four classes of social elites are particularly high in Sierra Leone (80.00%), Zambia (33.33%), Kenya (38.91%), Nigeria (27.58%), Mauritius (27.78%), and Namibia (25.60%), although with the caveat that some of these countries report very few IPOs. Furthermore, these very unequal distributions of social elites across countries reflect the skewed and

20

unequal distribution of values across the wider sample. It should be noted that a limitation in almost all empirical methods is their ability to handle such deviations from assumptions of distributional normality. This is particularly true in both multilevel and OLS modeling and underscores the need for caution in the interpretation of our empirical results.

Table 3 reports the correlations between the variables. They are generally small and lack statistical significance, suggesting that multicollinearity is not a concern. However, to confirm this, variance inflation factors (VIFs) were computed, and the values for all variables were found to be less than ten. They are not reported but are available from the authors.

***** Table 3 about here *****

4.   Regression Results

The regression results are shown in Table 4. Model 1 simply includes the array of general country-specific, firm-specific, board, and ownership control variables. The within (country) R^2 is 0.6273 while the between (country) R^2 is almost negligible at 0.0101. The overall R^2 is 0.2201. These results alone imply the model has high explanatory power within each country but poor explanatory power between countries, the latter in turn leading to a lower overall explanatory power. Most of the control variables have the expected signs, but few are statistically significant. This is most likely due to the small number of observations and the numerous explanatory variables, which results in too few degrees of freedom. Firm size (FSIZ) has a weakly significant ($p < 0.10$) positive impact on executive pay, while a similar association exists with firm performance (ROA). Larger firms involve greater complexity, and hence require suitably rewarded executives with the requisite talents. They are also associated with higher prestige and social status within smaller developing economies, and this leads to more social leverage in terms of higher pay awards. An inverse relation exists between three variables – the proportion of independent nonexecutives on the board (NEX), the proportion of directors drawn from business groups on the board (BUS) and the founder being retained as CEO at IPO – and executive pay, with coefficients only significant at the 90% level ($p < 0.10$). While independent nonexecutives are typically associated with monitoring effectiveness, the

21

inverse association between business group directors and pay fits with our argument that these directors form a constituent part of group-wide managerial labor markets. Salary levels are determined through socialized dynamics within the group, which inhibits individual executives' self-reward tendencies or the competitive inflationary pressures on salaries common in external labor markets. There is a positive association between concentrated retained ownership by both executives (EXEC) and family (FAM), and executive salary, which is statistically weak in both cases ($p < 0.10$). This suggests that higher personal executive ownership is associated with increased social leverage and consequently higher pay awards, while families tend to constrain executive self-reward tendencies to a lesser extent. These results are robust across all five models.

Furthermore, as an additional robustness check, we estimated an array of multilevel linear regressions using maximum likelihood estimators. The results for all models are in line with the findings reported for OLS methods and are not reported here but are available from the authors upon request. Interestingly, executive pay does not vary with the average level of per-capita GPD (GDP), nor with institutional quality (QUAL), although these effects are similar to those in the main models.

***** Table 4 about here *****

In model 2, the social elites (ELT) variable is added. This leads to a marginal increase, of 0.65%, in the within (country) explanatory power, to an R^2 of 0.6338. The between (country) R^2 increases by 0.46% to 0.0147, while the overall R^2 increases almost 15.09% to 0.3710. It also leads to a marginal decrease in the sum of squared errors (SSE) from 227.93 (model 1) to 223.92 (model 2). It can be noted that there is only a minimal decrease in the log likelihood ratio between models 1 and 2, from -207.53 (model 1) to -206.47 (model 2). The coefficient on the ELT variable is negative ($\beta_1 = -1.761$) and statistically significant ($p < 0.05$). This provides statistical support for *Hypothesis 1*. The associations between the different categories of control variables and average executive pay are the same as in model 1.

In model 3, the social elites (ELT) variable and its interaction with institutional quality (ELT*QUAL) are added. This leads to a significant improvement in the explanatory power of the model and the within (country) R^2 increases by almost 10% to 0.6588 while the between (country) R^2 increases substantially, by almost 24%, to 0.2539. The overall R^2 increases by 9% to 0.4616. It also leads to a large decrease in the SSE, to 208.64, and a reduction in the log likelihood ratio (-202.26) compared to the values for both models 1 and 2. The coefficient on the ELT variable is positive and statistically significant ($\beta_1 = 11.052$, $p < 0.05$), whilst the coefficient on the interaction term (ELT*QUAL) is negative and statistically significant ($\beta_3 = -28.211$, $p < 0.05$). The control variables noted above retain their statistical significance. These results lend support to *Hypothesis 2*. It appears that social elites on the boards of directors of firms in countries with weak institutional environments not only provide influence, preferential access and social legitimacy, but also allow executives to self-reward through higher salaries. In contrast, the influence of social elites is lower in countries with higher-quality institutions, where we would expect to see a greater degree of competitive market efficiency in executive pay and the objective of operational efficiency to be more important than social legitimacy. These findings are clearly illustrated in Figure 1, which shows the expected average executive pay in firms in different institutional contexts (0.3 < QUAL < 0.7) and with different proportions of social elites on their boards of directors (0 < ELT < 0.3)[3]. The figure shows that, in countries with higher levels of institutional quality, a higher presence of nonexecutives drawn from the social elites leads to better monitoring of executive remuneration and hence more competitive levels of executive pay. However, in countries with lower levels of institutional quality (i.e. those for which QUAL is about 0.35 or less), higher proportions of social elites among the nonexecutives on boards of directors simply reinforce the existing social relationships and facilitate executive self-reward, and hence higher salaries.

***** **Figure 1 about here** *****

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[3] The proportion of social elites on a board ranged from a minimum of 0 to a maximum of the mean of the proportion of social elites (0.13) plus one standard deviation (0.18).

We also estimated two further models (models 4 and 5), which are shown in the final two columns of Table 4. Model 4 differentiates between the different categories of social elites, and includes social elites with military (ELTM), government (ELTG), commercial (ELTC), and academic (ELTA) backgrounds separately. This results in a marginal increase in the within (country) R^2 of approximately 1% to 0.6720 (from the preceding model 3) but a decrease of 2% in the between (country) R^2, to 0.2378. The overall R^2 is 0.4678. The SSE is also the lowest of all the models, at 200.58, while the log-likelihoods are the lowest of all the models. The coefficients on both the underlying and moderating terms on military (ELTM) and academic (ELTA) elites are extremely high in comparison to the other elite categories. Given that these two categories of elite are extremely skewed and clustered within the sample, as is shown by the descriptive statistics in Table 1, we argue that these overly high coefficient estimates are a reflection of non-normality and the violation of the distributional assumptions central to the models. Consequently, we re-estimated the model omitting military and academic elites, in model 5, and only included government (ELTG) and commercial (ELTC) elites. This led to only a minor increase in the SSE (222.24) and log-likelihood (-202.99), and a decrease in the within (country) R^2 of approximately 1.5% to 0.6546 (compared to model 4) and in the between (country) R^2 of almost 4% to 0.1932. However, this is offset by a substantial increase in the overall R^2 of 0.4834. The underlying and moderating coefficients are more stable for government elites (7.139) and government elites moderated by institutional quality (-20.887), with both statistically significant ($p < 0.10$).

We carried out two final robustness checks. The first was a re-estimation of the models on a smaller sample comprised of the markets with more than three IPOs during the period, to address concerns over the time-clustering of observations. However, the results were not qualitatively different from those of the full sample. The second was to configure an array of equivalent multilevel linear regressions using maximum likelihood estimation[4]. The results were essentially the same as those in Table 4 and are not reported here for brevity but are available from the authors.

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[4] These regressions maintained all the parameters of our OLS models, but in place of OLS fixed country effects, they used a configuration of random intercept and slope parameters based on the levels within the data. Our data consisted of two levels, namely country and firm. We experimented to find the model of best fit based on log-likelihood ratios and stability of the coefficient estimates.

5. Discussion and Conclusions

This study has examined the determinants of executive pay using a multi-country sample of IPO firms listed on African stock markets. We have used both the institutional theory of action (Ocasio, 1999) and the actor-centered multi-focal, institution-theoretic perspective proposed by Aguilera & Jackson (2003, 2010). This captures the incongruity between formal and informal institutions and the mutual co-existence of rival governance frameworks within a single national setting, following Aguilera & Jackson (2003, 2010). The institutional theory of action states that the hierarchical bureaucratic organizational control structure of a firm is shaped by influences from formal and informal institutions, and these infuse into the firm from a socially embedded context (c.f. Granovetter, 2005). Thus, while formal institutions that arise from national regulatory and normative frameworks shape the rules and routines associated with executive roles, informal institutions also influence the norms within the firm and the degree to which executives adhere to formalized organizational structures. In the same way, informal institutions determine notions of appropriateness. For example, they inhibit or constrain executive self-reward tendencies over pay. By considering the social context within which firms are embedded, we have adopted a framework with which we can extend the insights of the institutional theory of action.

We have considered a heterogeneous sample of African countries, all of which are based on feudal-clan political economies, whose communitarian institutions are offset to varying degrees by the contrasting adoption and assimilation of European formal institutional frameworks. The dominant control over national regulatory institutions underscores a formal governance system based on individual firms' environmental co-optation of contingencies (Pfeffer & Salancik, 1978). This necessitates the strategic recruitment of social elites to board-level positions, which provides them with access to resources and information through their enhanced institutional legitimacy and recognition (Suchman, 1995). However, such social elites on boards are also affiliated to empowered clans, families or tribal groups in these economies, and this constrains executive self-reward tendencies within the extensive socialized extended clan system. Therefore, on the one hand

firms are more likely to recruit higher proportions of their boards from among social elites, while on the other executive salaries are lower.

The empirical results support this theoretical prediction. Our findings are similar to those of Chizema et al. (2015), who used a similar empirical design but one based on social comparison theory and the impact of board political connections on the average executive salary in Chinese listed firms. Political connectivity in China's case refers to the communist party, which is argued to have socialized bureaucratic notions of equality as well as viewing executive decision making as a way to implement government-determined goals. We argue that our findings are based on an institution-theoretic approach that effectively encompasses the social comparison perspective, according to which institutions are infused into every aspect of individual perceptions of reality and rationality. However, an important caveat in our study is that our arguments relate to the pay-setting process that arises through a socialized bureaucracy. Thus, we avoid making any inferences about the impact of such extended clan groups in terms of exacerbating expropriation and economic inequality, as highlighted by Fogel (2006). It is also worth noting that Aguilera & Jackson (2003) and Hoskisson et al. (2004) both conducted comparative studies between the US and the essentially feudal, clan-based economy of Japan. In this context, managerial labor markets are fundamentally closed and internal in nature, with executive salaries determined through a complex socialized bureaucracy. Both studies argue that executive pay is commonly lower in Japan than in the US as a result of the pervasive influence of socialized clan-based norms.

Finally, we argue that the association between social elites on firm boards and executive pay is moderated by institutional quality. Specifically, in low-institutional-quality contexts, social elites have concentrated state-level private benefits of control based on their empowered position in demographically narrow polities. In this institutional context, firms are more likely to co-opt elites to their boards to attain institutionalized legitimacy and, in consequence, preferential access to resources and information, thereby alleviating environmental contingencies. However, it is important not to overlook the fact that, while social elites have considerable empowerment, they are also affiliated to dominant clan, tribal or ethnic lineages that underscore the fabric of indigenous

26

societies. While we consider this an important latent factor that underpins the social context within which firms are inextricably embedded, the notions of reciprocity and mutual, extended co-ownership of assets increase the likelihood that such elites will engage in visible signs of wealth transfer or corruption (Sidani & Thornberry, 2013). We argue that such behavior can take the form of ineffective monitoring and an inherent weakness in the execution of formal rules and routines within the firm. Thus, executive self-reward tendencies are exacerbated rather than curbed.

Higher institutional quality results in less incongruity being infused across firm boundaries and shaping the rules and routines associated with internal bureaucratic organizational structure. In particular, higher institutional quality implies the prevalence of increasingly sophisticated third-party contracting within the wider economy, while the polity is more demographically inclusive of the broader population. This, in turn, means there is significantly less incongruity in national governance frameworks and more successful adoption and assimilation of formal institutions in the societal matrix. This suggests a greater emphasis on operational efficiency and profitability, rather than the institutional legitimacy that follows from the recruitment of social elites in lower-institutional-quality environments. These characteristics reduce the need for social elites on boards, and lead to executive pay being determined by ideas around individual merit and performance. Thus, higher pay is associated with fewer social elites on the board when there is higher institutional quality.

These arguments have been supported by our empirical analysis, with elites from government or commercial backgrounds shown to be the most influential. The existing empirical literature on the determinants of executive pay uses data on firms from single, developed economies. In contrast, our sample of 119 firms comes from 17 African economies with very diverse levels of economic development and institutional quality. This has enabled us to take a novel approach and combine empirical analysis and theory in an explanation of executive pay. This is the first study to explicitly consider the influence of the underlying feudal clan institutions within which firms are embedded in many emerging and developing countries. Our theoretical model provides a manner in which to analyze aspects of internal governance structures and the formal and

informal controls in the firm. In this way, it marks an important departure from much of the salary literature, in which frameworks are typically agency-based.

The implications of our findings are important. We show the influence of the underlying political economy within which firms are socially embedded to be a central determinant of executive pay. Informal governance frameworks across the overwhelming majority of developing and emerging economies, as well as many developed economies, are based on extended-clan-based feudal systems. Affiliation to dominant clan, extended familial or ethnic groups characterizes the institutional frameworks of many nascent nation states. Firms embedded within these frameworks often recruit elites to their boards due to their social connections, in order to facilitate access to resources and co-opt their environmental contingencies. However, such elites, as well as the firms and executives within them, are typically affiliated or socially connected to dominant clans. This is particularly evident in Africa, where shareholdings are frequently tied up in dense systems of cross-shareholding networks and pyramiding, while directors' socialization and interlocks infuse control. These network economies have closed managerial labor markets and internal salary-setting processes based on bureaucracy and social status.

For investors and regulators, a major contribution of our study is the emphasis on institutional quality. It is important to differentiate between low-institutional-quality environments in which the social elites on boards of directors are associated with higher self-reward tendencies, and high-institutional-quality environments in which the converse is the case. Therefore, potential investors would be wise to identify other mechanisms for monitoring and controlling executives in contexts of low institutional quality. This is especially necessary for those who have previously confined their investments to higher-quality institutional environments.

Clearly, our study has several limitations. The sample size was small, and the controls necessary to counter the heterogeneous nature of the countries involved presented us with inevitable problems with respect to the degrees of freedom. This affected the statistical significance of some explanatory variables. Our sample was restricted to IPO firms listing on African markets. This choice was made because the prospectuses (that are a legal requirement prior to IPO) contain

considerable amounts of information that would not be transparent at any other time. IPOs are not very common in Africa and moving to other regions of the world would expand this coverage considerably. This was never the intention for this paper, but would be a suitable area for further study.

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Table 1: Descriptive Statistics for the Sample of Firms

Details of private-sector (state privatization and joint ventures excluded) IPO firms: average executive salary in US$ '000; the average proportion of directors on the board who are social elite non-executives (%); the percentage institutional quality (equally weighted mean of six World Bank governance indicators (http://www.govindicators.org)); and GDP per capita (US$) for each country. The last line (Total) is the sum across all IPOs in the first data column, and the average values for the sample in the subsequent columns.

Country	Number of IPO firms in the sample	Average Executive salary (US$000)	Average proportion of social elites on the Board (%)	Average score for institutional quality (max=100)	GDP per capita (US$)
North Africa					
Egypt	6	131.79	12.86	42.74	1,370.76
Morocco	32	94.49	5.08	47.14	2,122.86
Tunisia	22	59.99	1.52	50.48	3,659.23
Algeria	1	1,224.00	14.29	34.24	3,143.63
East Africa					
Kenya	5	443.14	38.91	39.45	568.85
Mauritius	3	70.95	27.78	71.55	5,992.36
Tanzania	1	104.52	16.67	44.98	466.37
West Africa					
Nigeria	20	221.14	27.58	29.72	841.57
Cote d'Ivoire	2	247.44	0.00	33.79	948.26
Ghana	10	25.31	14.28	53.37	540.49
Cape Verde Islands	1	25.80	0.00	58.59	2,030.66
Sierra Leone	1	9.44	80.00	38.56	435.41
Southern Africa					
Botswana	6	268.42	17.68	69.09	5,567.07
Malawi	1	18.48	14.29	48.94	235.92
Zambia	1	34.15	33.33	47.34	668.64
Namibia	2	103.76	25.60	61.84	3,944.32
South Africa	5	297.29	12.67	61.36	5,372.25
Total	**119**	146.68	13.65	47.06	2,325.60

Table 2: Variable Definitions and Data Sources

Variable definitions and the expected association between each independent and the dependent variable (+/-). All variables are from IPO listing prospectuses in the first instance, with additional sources outlined.

Variable	Definition	Expected impact
Dependent variable		
SAL	Natural logarithm of the average executive cash salary. This is expressed in US$.	
Explanatory variables		
ELT	Ratio of the total number of non-executives drawn from senior military, government, commercial and university backgrounds divided by board size. Sourced from combination of director profiles in IPO listings prospectuses and indigenous sources outlined in Appendix Table 1.	-
ELTM	Ratio of the total number of non-executives drawn from senior military backgrounds divided by board size. Senior is defined as at or above the level of admiral, general, brigadier and group captain in national navy, army, and air force. Sourced as for ELT	-
ELTG	Ratio of the total number of non-executives drawn from senior government backgrounds divided by board size. Senior is defined as at or above the level of president, prime minister, diplomatic and ambassadorial positions. Sourced as for ELT	-
ELTC	Ratio of the total number of non-executives drawn from senior commercial backgrounds divided by board size. Senior is defined as at or above the level of prestigious blue-chip directorships, commercial attaché roles and board level roles in national chambers of commerce. Sourced as for ELT	-
ELTA	Ratio of the total number of non-executives drawn from senior commercial backgrounds divided by board size. Senior is defined as at or above the level of professor Sourced as for ELT	-
Country-level control variables		
QUAL	This measure of institutional quality is constructed from an equally weighted average of six World Bank governance metrics (Kaufman *et al.*, 2009). These six have been rebased to a 0 – 10 scale. These were downloaded from http://www.govindicators.org	-
GDP	Natural logarithm of GDP per capita. GDP is in US$ at constant 2000 prices. Sourced from World Bank	+
Firm-specific control variables		
FSIZE	Natural logarithm of pre-tax revenues in pre-IPO year. Revenues are measured in US$000. Sourced direct from IPO listings prospectuses as well as from Al-Zawya, national stock exchanges, and www.AfricanFinancials.com	+
ROA	Accounting return on assets (ROA) is defined as (Net Income/ Total Assets) owing to frequent omission of taxation and interest income from listing prospectuses and filings. It is more commonly (e.g. Khanna & Palepu, 2000) defined as ((Net income + interest*(1 – tax rate))/ total assets). However, interest income and corporate taxation rates are frequently omitted from listings prospectuses in Africa	+
AGE	Natural logarithm of firm age – measured in years from IPO year to year of establishment of firm.	+/-
LEV	Ratio of total debt liabilities to total asset size of firm. Asset size is inclusive of tangible and intangible assets. Debt is inclusive of short and long term interest bearing liabilities. Both are sourced from IPO listing prospectuses or annual reports at time of listing and expressed in US$.	_
Board control variables		
BSIZE	The total number of directors on board – including both executives and non-executives.	-
NEX	Ratio of independent non-executives – unaffiliated to any inside group within firm or CEO – to board size.	-
TEN	Natural logarithm of average executive tenure (expressed in years).	+
BUS	Ratio of non-executives affiliated to same business group as the focal firm to total board size.	-
CEOFD	Binary dummy taking value 1 if founder is CEO and 0 otherwise	-
CEOELT	Binary dummy taking value 1 if CEO is drawn from social elite background and 0 otherwise	+
Ownership control variables		
DIL	Ratio of shares offered at IPO to total shares issued and outstanding in firm post-IPO.	+
EXEC	Percentage ownership of executive director's post-IPO.	-
BLOC	Percentage ownership of aggregate block shareholders post-IPO. Block shareholders include Business Angels, Venture Capitalists, Corporate block entities.	-
FAM	Percentage ownership of family post-IPO	

Table 3. Correlation Matrix
Pearson correlations. All variables are defined in Table 2.

	Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1	SAL	10.751	2.532	1.000								
2	QUAL	0.137	0.186	-0.097	1.000							
3	ELT	7.468	0.800	0.009	-0.324***	1.000						
4	GDP	0.471	0.111	-0.163	-0.189*	0.625***	1.000					
5	FSIZ	4.337	0.852	0.362***	-0.037	0.174*	-0.029	1.000				
6	ROA	0.109	0.157	0.172*	0.015	0.098	0.104	0.055	1.000			
7	AGE	1.246	0.418	0.090	-0.181*	-0.028	-0.055	0.289***	-0.137†	1.000		
8	LEV	0.636	0.956	0.100	0.066	0.026	-0.115	0.071	0.430***	-0.095	1.000	
9	BSIZ	2.174	0.390	0.059	-0.090	0.140†	-0.119†	0.239***	-0.235	0.315***	0.137†	1.000
10	NEX	0.236	0.239	-0.009	0.139†	0.006	0.250***	0.136†	0.062	-0.098	0.022	-0.222**
11	TEN	0.550	1.042	0.045	-0.173*	-0.107	-0.134†	0.065	0.024	0.304***	-0.064	-0.052
12	BUS	0.265	0.369	-0.003	-0.141†	0.110	-0.084	0.174*	-0.068	0.020	0.112	0.194*
13	CEOFD	0.496	0.502	-0.146	0.005	-0.070	-0.130†	-0.159*	0.149*	-0.377***	0.087	-0.086
14	CEOELT	0.160	0.368	0.151*	0.325***	-0.229**	-0.240***	-0.068	0.131†	-0.170*	0.224***	0.002
15	DIL	0.330	0.217	-0.065	0.255***	-0.292***	-0.178*	-0.155*	0.086	-0.056	0.062	-0.081
16	EXEC	16.595	24.373	0.019	0.154*	-0.050	0.090	-0.137†	0.104***	-0.248***	-0.067	-0.308***
17	BLOC	7.656	17.356	0.067	0.049	-0.003	0.203*	-0.005	-0.075	0.032	-0.020	-0.120†
18	FAM	30.075	32.650	-0.019	-0.310***	0.190*	-0.017	0.084	0.103	0.098	0.064	0.119†

† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.005$

Table 3. Correlation matrix continued

	Variable	10	11	12	13	14	15	16	17	18
1	SAL									
2	QUAL									
3	ELT									
4	GDP									
5	FSIZ									
6	ROA									
7	AGE									
8	LEV									
9	BSIZ									
10	NEX	1.000								
11	TEN	-0.103	1.000							
12	BUS	-0.305***	-0.053	1.000						
13	CEOFD	-0.054	0.161*	-0.004	1.000					
14	CEOELT	-0.163*	0.042	-0.061	0.164*	1.000				
15	DIL	0.164*	-0.193*	-0.213**	-0.034	0.084	1.000			
16	EXEC	0.076	0.066	-0.282***	0.359***	0.107	0.048	1.000		
17	BLOC	0.314***	-0.179*	-0.225**	-0.299***	-0.068	-0.031	-0.214**	1.000	
18	FAM	-0.317***	0.224**	0.553***	0.206*	-0.078	-0.317***	-0.298***	-0.399***	1.000

† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.005$
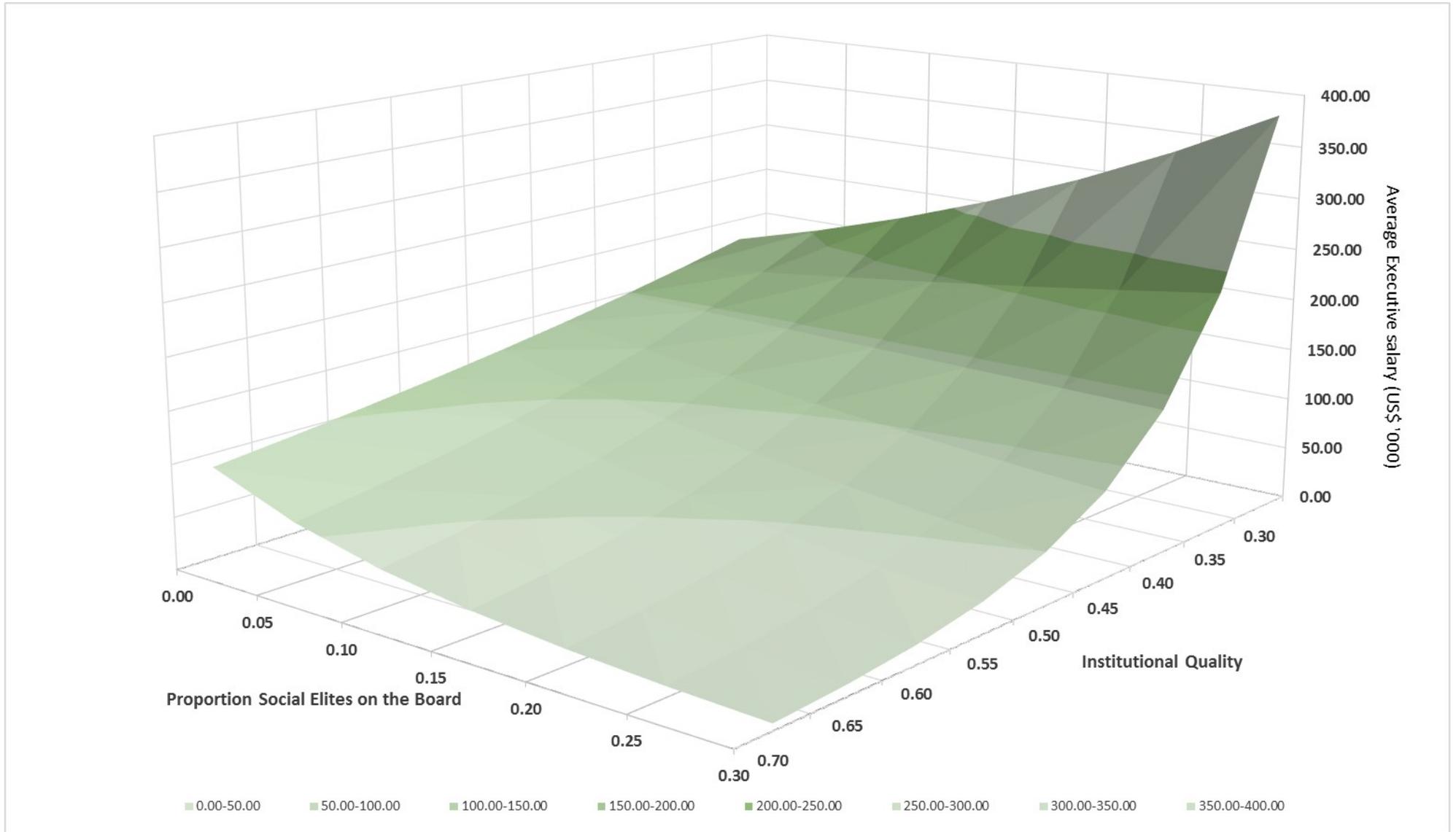
Table 4. Empirical Results[a, b, c]

OLS regression results. The dependent variable is the natural logarithm of average executive salary (SAL). All independent and control variables are defined in Table 2.

| | Dependent variable: SAL | | | | |
	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	4.131 [0.07]	9.954 [0.14]	4.131 [0.06]	4.544 [0.09]	4.544 [0.09]
Explanatory variables					
H1: ELT	-- --	-1.761 [-1.78]*	11.052 [1.79]*	-- --	-- --
H2: ELT x QUAL	-- --	-- --	-28.211 [-1.93]*	-- --	-- --
ELTM	-- --	-- --	-- --	28.293 [1.53] †	-- --
ELTM x QUAL	-- --	-- --	-- --	-47.865 [-1.34] †	-- --
ELTG	-- --	-- --	-- --	5.646 [1.11]	7.139 [1.39] †
ELTG x QUAL	-- --	-- --	-- --	-18.316 [-1.37] †	-20.887 [-1.42] †
ELTC	-- --	-- --	-- --	-2.939 [-0.50]	0.570 [0.11]
ELTC x QUAL	-- --	-- --	-- --	-2.138 [-0.18]	-8.212 [-0.73]
ELTA	-- --	-- --	-- --	25.503 [3.58]***	-- --
ELTA x QUAL	-- --	-- --	-- --	-72.572 [-3.65]***	-- --
Country-level controls					
GDP	-2.829 [-0.26]	-1.720 [-0.16]	-0.687 [-0.07]	-0.538 [-0.08]	0.334 [0.04]
QUAL	3.471 [0.17]	3.882 [0.20]	-1.794 [-0.11]	-3.251 [-0.18]	-1.998 [-0.12]
Firm-specific controls					
FSIZ	0.954 [1.64] †	0.971 [1.69]*	1.091 [1.76]*	1.071 [1.41] †	1.090 [1.51] †
ROA	1.457 [1.37] †	1.724 [1.30] †	2.921 [1.78]*	3.023 [2.74]***	2.869 [2.24]*
AGE	-0.466 [-1.09]	-0.502 [-1.28] †	-0.321 [-0.70]	-0.555 [-1.32] †	-0.426 [-0.82]
LEV	-0.750 [-1.04]	-0.449 [-0.62]	-0.404 [-0.74]	-0.365 [-0.66]	-0.364 [-0.63]
Board controls					
BSIZ	0.310 [0.45]	0.419 [0.63]	0.096 [0.17]	0.381 [0.69]	0.285 [0.54]
NEX	-1.505 [-1.44] †	-1.658 [-1.62] †	-1.032 [-1.29] †	-0.979 [-1.37] †	-1.610 [-1.61] †
TEN	-0.238 [-0.74]	-0.279 [-0.89]	-0.282 [-0.86]	-0.259 [-0.73]	-0.351 [-1.05]
BUS	-0.500 [-1.38] †	-0.487 [-1.52] †	-0.801 [-1.45] †	-0.92 [-1.39] †	-0.754 [-1.47] †
CEOFD	-0.584 [-1.33] †	-0.693 [-1.49] †	-0.711 [-2.08]*	-0.999 [-2.67]***	-0.810 [-2.33]**
CEOELT	0.606 [0.86]	0.802 [1.33] †	0.884 [1.41] †	1.086 [1.97]*	0.929 [1.71]*
Ownership controls					
DIL	-1.008 [-1.19]	-0.792 [-0.91]	-0.857 [-1.29] †	-1.695 [-1.41]	-0.671 [-0.76]
EXEC	0.016 [1.44] †	0.018 [1.53] †	0.019 [1.65] †	0.019 [1.54] †	0.021 [1.74]*
BLOC	-0.005 [-0.38]	-0.001 [-0.09]	-0.006 [-0.41]	-0.004 [-0.25]	-0.001 [-0.06]
FAM	0.012 [1.36] †	0.011 [1.38] †	0.015 [1.32] †	0.013 [1.39] †	0.014 [1.54] †
Observations	119	119	119	119	119
F-test	2.96 [0.00]	2.92 [0.00]	3.12 [0.00]	2.60 [0.00]	2.82 [0.00]
Log-likelihood	-207.53	-206.47	-202.26	-199.92	-202.99
SSE	227.93	223.92	208.64	200.58	211.24
Durbin-Watson statistic	2.350	2.283	2.185	2.345	2.151
Within R^2	0.6273	0.6338	0.6588	0.6720	0.6546
Between R^2	0.0101	0.0147	0.2539	0.2378	0.1932
Overall R^2	0.2201	0.3710	0.4616	0.4678	0.4834

[a] Industry, country and time (year) fixed effects included in all models but not reported; [b] t-statistics are in parentheses; [c] Stata's Huber (1967) and White (1980) clustering by country cross sections
† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.005$

Figure 1: The Relationship between the Proportion of Social Elites on the Board of Directors, Institutional Quality, and Average Executive Pay

Appendix 1: Data Sources

Market	Information source
North Africa	Databases: Al Zawya (see website at: http://www.zawya.com/); Mubasher investment reporting (http://www.mubasher.net/en/Index.aspx); Bloomberg LLP; Business Week
Algeria	Websites: Bourse d'Algérie [SGBV] (htp://www.sgbv.dz); Commission d'Organisation et des Surveillance des Opérations de Bourse [COSOB] (http://www.cosob.org/) Telephone interviews and direct correspondence: M. Hamdi and Mme. Haffar (Bourse d'Alger)
Egypt	Websites: Egyptian Stock Exchange [EGX] (http://www.egx.com.eg/english/homepage.aspx); The Egyptian Financial Supervisory Authority (http://www.efsa.gov.eg/content/IFIE/about_efsa.html); Central Bank of Egypt (http://www.cbe.org.eg/English/) Telephone interviews (unstructured) to obtain data: Mohammed Omran (Chairman, EGX) Cairo-based interviews: Ayman Raafat (Market Control, EGX); Hebatallah El Serafi (Research & Market Development, EGX); Yasmin El-Khatib (PR & Communications, EGX)
Morocco	Websites: Bourse de Casablanca (http://www.casablanca-bourse.com/); Le Conseil Déontologique des Valeurs Mobilières [CDVM] (http://www.cdvm.gov.ma/) Casablanca-based interviews to obtain data: Mme. Meryem Tazi (Chef de Produits, Service Marketing, Bourse de Casablanca); Mme. Amina Zouaoui (Analyste, Service Négociation, Bourse de Casablanca)
Tunisia	Websites: Bourse de Tunis (http://www.bvmt.com.tn/); Conseil du Marché Financier [CMF] (http://www.cmf.org.tn/); Central Bank of Tunisia (http://www.bct.gov.tn/) Tunis-based interviews: M. Hatem Zribi (Direction de la Promotion du Marché, Bourse de Tunis); Mme. Maher Chtourou (Banque Centrale de Tunisie library) Tunis-based procurement of data from library of African Development Bank
Sub-Saharan Africa	Databases: African financials annual reports (http://www.africanfinancials.com/); Invest Africa annual reports (http://investinginafrica.net/african-stock-markets/); Thomson Perfect Information portal; Bloomberg LLP; Business Week
East Africa Kenya	Websites: Nairobi securities exchange (https://www.nse.co.ke/); Capital Markets Authority Kenya (http://www.cma.or.ke/); Daily Nation business journal (http://www.nation.co.ke/) Local Nairobi-based interviews: Public relations officer, Nairobi Stock Exchange; Investment Manager, Suntra Investment Bank, Kenya
Mauritius	Websites: Stock Exchange of Mauritius [SEM] (http://www.stockexchangeofmauritius.com/)
Seychelles	Websites: Trop-X Seychelles stock exchange (http://www.trop-x.com/)
Tanzania	Websites: Dar Es Salaam stock exchange (http://www.dse.co.tz/) Telephone procurement of listing prospectus from M. Stimali, Tanzania Tea Packers Ltd
Rwanda	Websites: Rwanda stock exchange (http://rse.rw/); Capital Market Authority (http://cma.rw/)
Uganda	Websites: Uganda securities exchange [USE] (http://www.use.or.ug/); Capital Markets Authority (http://www.cmauganda.co.ug/) Procurement of annual reports: Kampala-based USE library Kampala-based interviews: Investment Management team, Crane Bank, Kampala; Head of trading, USE trading floor, Kampala; Investment Manager, African Alliance Securities, Kampala; Head of equities trading, Standard Chartered Bank, Kampala
West Africa Nigeria	Websites: Nigerian stock exchange [NSE] (http://www.nse.com.ng/Pages/default.aspx); Securities and Exchange Commission Nigeria (http://www.sec.gov.ng/) Lagos-based procurement of annual reports and listings prospectuses from NSE library, Lagos Lagos-based interviews: M. Obaseki (President of Operations, NSE); Mme. Hauwa M. Audu (Founder CEO, Amyn Investments and stockbroking, Lagos)

Cote d'Ivoire	Websites: BRVM main site (http://www.brvm.org) Cote d'Ivoire: Procurement of annual reports: Abidjan (Cote d'Ivoire)-based library for BRVM Abidjan-based interviews: BRVM exchange: Emmanuel Zamble (Market operations manager, BRVM); Khassim Diop (Chargée de développement du Marché, BRVM); Abdoulaye Sogoba (Assistant chargée de la formation, BRVM) Abidjan brokers: M. Auguste Kouakou (Gniman-Finance SA, Abidjan); M. Hermann Boua (Hudson et Cie, Abidjan) Mali: Bamako-based interviews: M. Amadou Djeri Bocoum (Directeur de l'Antenne Nationale de Bourse du Mali, Bamako); M. Alassane Sissoko (Responsable des études et de la négociation, Société de Gestion et d'Intermédiation (SGI) du Mali SA, Bamako)
Ghana	Websites: Ghana stock exchange (http://www.gse.com.gh/) Accra-based interviews: Ghana stock exchange: Worlanyo Amoa (Senior Manager, Research and Product Devlopment, GSE) Ghana Brokers: Armah I. J. Akotey (Vice President, Databank Brokerage and Investment Banking, Accra, Ghana); Edem Akpenyo (HFC Brokerage Services, Accra, Ghana); Kafui Asare (Head of Client Relations, SAS Investment Management, Accra, Ghana); Haruna Gariba (Head of Client Relations, Merchant Bank of Ghana Ltd, Accra, Ghana)
Cameroon	Websites: Doula stock exchange (http://www.douala-stock-exchange.com/)
Cape Verde Islands	Website: Cape Verde stock exchange [BVC] (http://www.bvc.cv/) Telephone based interviews and procurement of data: Edmilson Mendonça (Operations Manager, BVC); Ronnie Machado (Compliance Manager, BVC)
Sierra Leone	Telephone-based interviews and procurement of data: M. Gibrilla Sesay (Operations Manager, Sierra Leone stock exchange); M. Michael Collier (Deputy President, Rokel Commercial Bank, Freetown, Sierra Leone); Jacob Kanu and Daniel Thomas (CEO's of independent local licensed stockbrokers, Freetown)

Southern Africa

Botswana	Website: Botswana stock exchange [BSE] (http://www.bse.co.bw/) Telephone interviews and data procurement: Kopane Bolokwe (Operations officer, BSE) Gabarone-based interviews with Head of Operations, BSE; President of Stock Brokers Botswana
Malawi	Websites: Malawi stock exchange [MSE] (http://www.mse.co.mw/); The Nation business journal (http://mwnation.com/)
Zambia	Websites: Lusaka stock exchange [LuSE] (http://www.luse.co.zm/); The Post business journal (Zambia) (http://www.postzambia.com/) Telephone-based procurement: Mme. Sitali Mugala (Operations Manager, Lusaka stock exchange) Lusaka-based interviews: LuSE operations personnel
Namibia	Websites: Namibia stock exchange [NSX] (http://nsx.com.na/) Windhoek-based data procurement from NSX building and library Telephone based procurement: John Mandy (CEO, NSX); Loide Nakanduungile (Research Manager, NSX); Manda Steynberg (Operations Manager, NSX)
Mozambique	Websites: Bolsa de Valores de Maputo [BVM] (http://www.bvm.co.mz/) Maputo-based interviews: Señor Bruno Tembe (Técnico Superior, BVM); Señor Felisberto Navalha (Operations Manager, Central Bank of Mozambique) Maputo-based procurement from Central Bank of Mozambique annex library, Baixa, Maputo
South Africa	Websites: Johannesburg stock exchange [JSE] (https://www.jse.co.za/)