12. INTERNATIONAL ECONOMICS, FINANCE AND ACCOUNTING (COMPETITIVE)

THE INFLUENCE OF INSTITUTIONS ON THE PROPORTION OF SOCIAL ELITES ON BOARDS OF BUSINESS GROUP IPO FIRMS IN EMERGING ECONOMIES

Abstract

This study examines the differential impact of the quality and structure of institutional environment on proportions of boards comprised of social elites in business group constituents as opposed to unaffiliated firms. Using a unique sample of 136 private sector initial public offering (IPO) firms from 17 emerging African economies we find business group constituents are associated with marginally higher proportions of social elites in board roles. This is positively moderated by common law legal origin - underscoring the importance of elites in monitoring and oversight of market governance - and inversely moderated by institutional quality – reflecting narrow political economies.

INTRODUCTION

Prior research generally ties comparisons between civil code and common law institutional frameworks to systematic variation in national institutional quality (e.g., La Porta *et al.*, 1998, 2000). This tends to solely focus on the contrasting ability of rival civil and common law systems in supporting market-orientated notions of governance and economic development – through differences in protection of property rights of minority investors and creditors alike – with little recourse to the deeper societal system within which each legal system is inextricably embedded. Following the recent nascent advances in comparative corporate governance literature (Aguilera & Jackson, 2003, 2010) we are motivated to disaggregate legal origin from institutional quality and compare each in influencing the common environmental co-optation strategy of firms in emerging economies through their selective recruitment of indigenous social elites.

The overwhelming majority of the literature on individual firm's co-optation strategy involving the strategic recruitment of elites has focussed on their social connections – or social capital – in the provision of resources and information (c.f. Pfeffer & Salancik, 1978) ultimately leading to firm performance (e.g., Hillman, 2005; Hillman & Hitt, 1999; Hillman *et al.*, 2004). This has typically focussed on politically connected governmental elites although Peng et al (2001) studied military elites on boards of Thai firms. More recently Chizema *et al.* (2015) have extended these insights into the impact of politically connected board members on the executive pay-performance relationship in China. Hearn (2015) focusses on the social legitimacy conferred by social elites on boards of international joint ventures (IJVs) across Africa studying the impact of high and low institutional quality on their recruitment.

This study extends the prior literature in several ways. Prior research has largely omitted from consideration the deeper sociological context from which bespoke legal systems emanate. This is particularly evident in French and to a lesser extent Portuguese civil code law systems where these originate from distinctive *dirigisme* or state-led institutional frameworks. These are fundamentally different from the markets-orientated emphasis within Anglo-Saxon frameworks that adhere to common law. Thus these differences in themselves merit further study into the unique attributes conferred on firms by their fit within such rival national frameworks. This also has important inferences for bottom of the pyramid research in emerging economies – where a simplistic focus on institutional quality largely ignores the implicit differences of the national frameworks and how these impact on firms.

In order to elaborate on the differences between both the structure (civil *versus* common law) and quality of formal institutional frameworks in terms of their contrasting impact on the recruitment of social elites on the boards of directors of organizations, we focus on the distinction between firms constituent to business groups and their unaffiliated counterparts. A central aspect of business groups is the ability of constituent firms to drawn on internal markets for managerial labour as well as capital and products. These internally efficient markets parallel levels of unprecedented control across group-wide constituents where the extended group structure often

mirrors deeper sociological traits within indigenous society – such as clan or familial affiliations. Thus the distinction between business group constituents and their unaffiliated counterparts provides a natural experiment to distinguish between the external recruitment of managerial labour (social elites) as opposed to reliance on optimal internal resource coordination. Thus our study undertakes a unique focus on the dynamics of internal labour markets within business groups – which is a unique departure from the predominance of studies focussing on internal capital markets and external acquisition of resources.

Our study extends the nascent comparative corporate governance perspective of Aguilera & Jackson (2003, 2010) in adopting an institution-theoretic approach to rationalizing the association between business group constituents and recruitment of social elites with the institutional context within which they are embedded. This circumvents the limitations of socially under contextualized agency related perspectives (e.g., Claessens *et al.*, 1999, 2000). Our approach allows for the existence of multiple institutional frameworks co-existing within a given nation state and for potential incongruities between these. This provides a more adaptive and flexible theoretical perspective with much greater social context underscoring its applicability in theorising within often complex emerging economy settings.

Our empirical research is based on a unique hand-collected database of 136 African private sector initial primary offering (IPO) firms from January 2000 to January 2014 from 17 emerging African economies. These exclude state privatizations and international joint ventures. Our findings are supportive of prior research by Hearn (2015) where the strategic recruitment of social elites to boards of business group constituent IPO firms is greater in common law jurisdictions than their civil code law counterparts. However our finding that proportions of social elites on boards is lower in business group constituents within high institutional quality contexts is the opposite of Hearn (2015)'s findings regarding IJVs of multinational enterprise networks entering African markets. Instead our finding focusses on an emphasis on competitive efficiency within high quality institutional frameworks that are supportive of third party contracting and less dependent on dense social networks and relationships in attaining social legitimacy to mitigate transactions costs in

accessing resources. Thus increasing quality of formal state institutional quality infers less importance attached to acquiring regulatory legitimacy through the strategic hiring of indigenous social elites – which in turn infers business group constituent firms can rely more on the efficiencies of internal resource coordination systems.

The paper proceeds as follows. Section 2 presents the relevant theory and derives the hypotheses. Section 3 describes the data, defines the variables used and discusses the models used. Section 4 outlines the African institutional context. Section 5 presents the empirical results while Section 6 outlines theoretical contributions. The final section concludes.

THEORY AND HYPOTHESES

Prior literature on business groups has proposed a central rational for their formation and sustenance in being through the efficiencies of their internal managerial coordination of resources making up for deficiencies in external market intermediaries which are a function of "institutional voids". While extended business groups often mirror deeper sociological traits within indigenous societies – such as clan or familial groups – these act to facilitate trust (Khanna & Yafeh, 2007: 348; Granovetter, 2005) between group constituents and related altruistic bonds. These eschew control across otherwise disparate group members where this is practically realized through a combination of "hard" and "soft" means. The former relates to the concentration of control rights (voting control) at the expense of cash flow ownership - where this separation of ownership from control is effected by cross-shareholding networks and pyramids. The latter refers to extensive group-wide socialization through interlocking directorates, mandatory membership of presidential clubs (as in Japanese Keiretsu) and the permeation of family or controlling entity members across constituent member boards – which is particularly prolific in family-centred groups. Thus socialized control assists in the formation of effective internal capital, managerial labour and product markets – underscoring a minimal at best reliance on procurement of outside resources. The extensive internal resource coordination system of business groups underscores their use as an effective barometer with which to assess the implications of differences in institutional environment structure

and quality on organizations through their external co-optation strategy – namely the recruitment of social elites.

Hillman (2005) and Hillman & Hitt (1999) cite the importance of political connections in firm strategy leading to improvements in performance, developing arguments from a resource dependence perspective (c.f. Pfeffer & Salancik, 1978). However these studies are constrained from their application to developed country contexts – notably the US. North (1991, 1994) elaborates on the formation of social elites in the context of emerging economies. This follows an institutional perspective where it is argued that the transplantation of patriarchal formal institutions with a narrow control-orientated scope during European colonial rule were inherently at odds with indigenous informal institutional base. Independence then merely inferred the transition of formal state apparatus from imperial colonial rule to that of empowered social elites – mostly drawn from selective ethnicities subsumed into new nation states during colonial rule. Such social elites have a vested interest in maintaining their elevated control in order to maintain their access to considerable private benefits of control at state-level. Thus North (1991, 1994) argues equitable reform is stymied. Furthermore the power of social elites is bolstered by the relative disenfranchisement of indigenous populations from formal institutions – where this infers a hindrance on the endogenous updating and reform process of institutional frameworks. Finally nascent nation states access international trading arrangements, macroeconomic and monetary structures through the narrow set of transplanted European colonial institutions. These formal institutional frameworks are notably controlled and influenced by social elites – further engendering their power and influence over indigenous society. These arguments underscore the historical evolution and importance of social elites – particularly in the context of emerging economies.

Scott (1995) argued that national institutional frameworks could be rationalized by the application of a model based on three key "pillars". These provide "related but distinguishable bases of legitimacy" (Scott, 1995: 47). The first is *regulatory*, defined as rule-setting, monitoring and sanctioning activities, the second is *normative*, namely values and norms conditioning behaviour, while the third is *cognitive*, namely shared conceptions of reality and frames through

which meaning is inferred. DiMaggio & Powell (1983) advance a sociological approach to rationalizing isomorphic conformity in organizational structures – where three institutional "pressures" eschew conformity. These are *coercive*, defined in terms of formal government regulations and laws, *normative*, defined as cultural and societal expectations, and *mimetic*, defined as the need to copy other organizations within an industry or economic sector in order to alleviate environmental uncertainties. DiMaggio and Powell argue that the attainment of legitimacy through such conformity trumps concerns over operational efficiency.

We argue that business groups mirroring of deeper sociological societal traits – such as clans and extended families – infers the group attains considerable cognitive legitimacy. However despite this cognitive legitimacy the business group lacks regulatory legitimacy. This is the motivation behind group constituent's co-optation based on recruitment of indigenous social elites. However the strategic recruitment of social elites represents a trade-off between the need to attain regulatory legitimacy and the avoidance of adding "conflicting voices" (Hoskisson *et al.*, 2002) into the organizational structure. Hoskisson *et al.* (2002) first conceived the conflicting voices notion as arising from different shareholder owners with incongruous goals leading to conflicting priorities infusing through to executive decision-making and ultimately firm strategy. We argue that the considerable coercive influence of social elites arising from their controlling influence over regulatory institutional frameworks underscores their potential for conflicting goals with business group. These opposing motivations – between the need for accentuated control on one hand and the need for regulatory legitimacy on other – offset one another. However in a sample of emerging economies where political economies are narrower and social elites are more prevalent we propose the following hypothesis:

Hypothesis 1: There is a positive association between being a business group constituent IPO firm and the proportion of board comprised with social elites

National institutional framework structure: civil code versus common law

Comparisons between common law and civil code law institutional frameworks typically focus on their relative ability to protect the property rights of minority investors and creditors in the context of financial markets. Further comparisons have been made in terms of their comparable ability to protect intellectual property rights in terms of fostering innovation. These comparisons are linked to market-orientated notions of economic growth and development (Hoskisson *et al.*, 2004).

Two principal rationalizations have emerged to rationalize these differences. The first being adopting historical institutional evolution view. This focusses on the judiciary and legal system in England as having evolved from the power play between land owners on one hand and central authority of the crown on other. This interplay gave rise to the laws of the commons as well as a House of Commons – or parliament populated with their representatives – to uphold their rights vis-à-vis those of the central state or crown. The opposite is true of civil code law systems where nation-builders such as France's Napoleon and Germany's Bismarck sought to subsume judiciary and legal systems under central authority thereby relegating these to a more administrative role. Similar power consolidation and unification by the crown led to similarly centralized systems in Spain and Portugal (North, 1994). The second rationalization focusses on legal process. This is adversarial in English common law systems with a judge presiding over competing arguments with an emphasis on growing bodies of case law built up through precedent of judicial decisions. In civil code law systems there is a much greater emphasis on the written documentation of rival defence and prosecution – with a consequent emphasis on considerable supportive bureaucracy. The role of the judge is more administrative in applying the law passed down by state legislative bodies (law makers) through study of written arguments. In summary – the differences between civil code and common law systems focus on the "obligations of the individual to the central authority of the state" in the former and "the rights of the individual vis-à-vis the central state authority" in the latter.

Comparisons between the two legal systems is typically undertaken through contrasting the two in their ability to support markets-orientated governance and development models. We argue this is of inherently limited value – where a better comparison is through consideration of the deeper social context within which each system is embedded. While civil code law emphasises the

centrality of the role of the state – this is reflected in dirigisme or state-led capitalist model. This amounts to state control or influence over all of the factors of production as well as external markets for capital and managerial labour in the Fama & Jensen (1983) view of the firm as a nexus of contracts. Thus dirigisme involves the subsuming of the market mechanism under state control or influence. The opposite is true of comparable common law systems where these support markets across all factors of production, managerial labour and capital. These differences build on the distinction between transactional and relational capital markets made by Hoskisson *et al.* (2004) when contrasting common law and civil code law systems. The former being reflected in open market mechanisms while the latter emphasises relationship orientation.

We argue that through a combination of path dependencies and institutional complementarities, the formal or regulatory institutional frameworks of nation states largely reflect those originally transplanted at independence. Thus despite many formal institutional frameworks being incomplete at independence – a reflection of former narrow patriarchal colonial states – the core elements transplanted are a reflection of the civil code law or common law governance frameworks of European colonial metropoles. These national frameworks are reinforced through a combination of coercive and mimetic isomorphic pressures eschewing conformity via international trading arrangements as well as macroeconomic and monetary structures[1].

Markets-orientated national governance systems – supported by common law – emphasise a far greater role for government as well as regulatory and supervisory authorities in duties relating to the monitoring and oversight of market systems. This is largely lacking in dirigisme systems - supported by civil code law – where government is involved directly in provision of resources or in influencing these – inferring a lack of necessity in oversight owing to state control and influence over the roles undertaken by market systems in common law nations. On this basis we argue that

[1] This is exemplified by the presence of two extended economic and monetary union blocks encompassing much of Francophone West and Central Africa. The two franc-zones are Union Monétaire et Économique de l'Afrique de l'Ouest (UMEAO), including Cote d'Ivoire, Benin, Togo, Burkina Faso, Mali, Niger, Senegal and Guinea-Bissau, and Communauté Économique et Monétaire de l'Afrique Centrale (CEMAC), including Cameroon, Central African Republic, Chad, Republic of the Congo, Equatorial Guinea, and Gabon. Each maintains a fixed exchange rate with the Euro guaranteed by the French Treasury. Some two thirds of both monetary block's foreign currency reserves are retained by the French Treasury while central banks only relocated to Africa in 1969.

there is a prominent role for legal origin in moderating the association between business groups and proportions of social elites on board. As such we test the following hypothesis:

Hypothesis 2*: The association between business group constituent IPO firms and proportion of boards comprised of social elites is positively moderated in common law jurisdictions*

National institutional framework quality

North (1991, 1994) equates the demographic narrowness of indigenous political economies to their domination by social elites – with this reflected in contrasting levels of institutional quality. Social elites with considerable private benefits of control at state-level have vested interests not to enact reforms to institutional frameworks that would enable a more equitable dispersion of economic opportunities and wealth across wider population. Thus narrow political economies controlled by handfuls of elites – which are prevalent across emerging economies – have path dependent institutional trajectories that reinforce the benefits attributed to controlling elites. These arguments underscore the close association between social elites, narrow political economies and weak institutional quality. The dominance of social elites underscores their importance in terms of regulatory legitimacy for firms. However we argue that this importance is accentuated in emerging economies where social legitimacy is central to the attainment both of recognition but also in the accessing of resources. In this light we argue that social legitimacy is closely paralleled with accentuated social capital.

Contrastingly in high institutional quality frameworks there is ample support for extensive third-party contracting and thus minimal, if any, necessity for organizations to strategically hire social elites to their boards in order to co-opt environmental contingencies. Higher institutional quality can be equated to broader, more socially inclusive political economies, with few, if any, social elites. Thus organizations such as business groups maintain their cognitive legitimacy but in this context are lacking of a need to attain additional regulatory legitimacy through strategic recruitment of elites.

In summary these arguments regarding high and low institutional quality and the lack of or prevalence of social elites suggest a moderating role of institutional quality in the association between the business group constituency and proportion of social elites on board. As a consequence of these arguments we test the following hypothesis:

Hypothesis 3: The association between business group constituent IPO firms and proportion of boards comprised of social elites is inversely moderated in high institutional quality contexts

AFRICAN INSTITUTIONAL CONTEXT

Africa is largely underrepresented in the literature and forms a unique backdrop for our study. There is a notably sharp divide between civil code law and common law legal systems across the continent (see La Porta *et al.*, 1997, 1998) while it has some of the highest variation in national institutional quality worldwide (Transparency International, 2014). This is also evident across our sample as detailed in Table 1. Formal political, governmental and legal systems are overwhelmingly French or Portuguese civil code law on the one hand and English common law on other (Hearn, 2014). These factors underscore the uniqueness and representativeness of Africa within emerging economies and developing world as a whole.

There is considerable variation within the generic classifications of civil code and common law jurisdictions. This is exemplified on the one hand by Algeria and three cantonments (provinces) of Sénégal that were administered by colonial authorities as an integral part of metropolitan France while on other hand national frameworks such as that of Egypt were established through Napoleonic conquest but then subject to substantive reform by English common law through incorporation into British empire. South Africa, and by virtue of colonization, its neighbour Namibia both adhere to Roman-Dutch civil code law – transplanted to Southern Africa prior to the

Napoleonic conquest of the Netherlands[2]. However these frameworks have themselves been subject to substantial influence by English common law (Hearn & Piesse, 2014). In summary – the legal frameworks across Africa vary from civil code to common law with a sizeable proportion of intermediary regimes.

The African institutional environment is characterised by distinctions in formal institutional frameworks between civil code and common law where these are superimposed on often complex informal frameworks. Religious affiliations across the continent are overwhelmingly dominated by Islam – predominantly in Northern and Eastern Africa (Hearn, 2014) – and a variety of traditional beliefs rooted on Ubuntu philosophy (West, 2014) - ubiquitous to Sub Saharan Africa. These are egalitarian and unifying in nature with a distinct moral emphasis on extended familial relations. African informal frameworks are characterised by clan-based feudal political economies – where these are often based on ethnicity reflecting in the continent having the highest ethnic fractionalization worldwide (Collier & Gunning, 1999). This is largely reflective of national boundaries having been drawn to delimit the extent of European colonial ambitions (Nunn, 2007; 2008). In this way multiple distinct pre-colonial indigenous national institutional frameworks were subsumed and dissected by seemingly arbitrary "national" boundaries (Nunn, 2007; 2008). This impacts on formal institutional quality in a number of ways. First such fractionalization and lack of cognitive legitimacy of transplanted state architecture hinders the endogenous updating and reform process within the path dependent evolution of institutional frameworks. Secondly it acts to consolidate the power and influence of social elites – where these are often drawn from a handful of clans or ethnicities – with these being dis-incentivized to instigate more equitable reforms.

African business groups

The overwhelming majority of business group constituent IPO firms are based in North Africa and Nigeria – where these account for the majority of new listings (see Table 1). This is largely

[2] South Africa and Namibia are examples of Easterly and Levine (1997)'s "settler based systems" where in these cases, following the initial transplantation of Roman-Dutch civil code institutional frameworks, these subsequently evolved indigenously through an active Afrikaans (an ancient form of Dutch language) speaking judiciary and population.

reflective of the dominance of these extended structures across North and West African economies (see Hearn & Piesse, 2013 and Hearn, 2014). Further study of our sample[3] – reveal that the overwhelming majority of business groups are centred on extended families or clan groups. The small remainder being based on quasi-state structures – such as the Malawian presidency's Press Trust group, corporate entities, or those of an informal nature (Hearn & Piesse, 2013). A more general comparison between business group constituents and their unaffiliated counterparts reveals that the former has an average of over twenty times as much ownership tied up in pyramids than the latter while both minimally use cross-shareholding networks. Finally three times as much ownership in unaffiliated firms is associated with concentrated block shareholders than their business group counterparts. It is notable that almost all business group constituent boards have group-member CEOs while boards are on average comprised of almost two thirds of group-member directors. Finally twice as many boards of business group constituents have a religious affiliation than their unaffiliated counterparts. This underscores the moral legitimacy conferred on extended group-structures within indigenous societies (Suchman, 1995).

Table 1

METHODOLOGY

Sample construction

The dataset was constructed in two stages. First, a list was created of Initial Primary Offerings (IPOs) on African markets between January 2000 and January 2014. In North Africa markets include Algeria, Egypt, Morocco and Tunisia, and in SSA Cape Verde Islands (Bolsa de Valores de Cabo Verde), Cameroon (Bourse de Douala), BRVM (Cote d'Ivoire), Sierra Leone, Malawi, Kenya, Uganda, Rwanda, Tanzania, Seychelles, Zambia, Namibia, Botswana, Mozambique, Mauritius and Ghana. Nigeria was also included but only data between January 2002 and January 2014 were available. National stock exchanges and their associated websites were the primary source and

[3] These are omitted for brevity but available from authors upon request

these were triangulated with lists from major brokerage houses to ensure accuracy. This resulted in a total of 280 listings.

In the second stage the IPO prospectuses were collected. These are for IPO firms or offerings with genuine ownership diversification amongst a base of minority shareholders as opposed to private placements that involve preferential allocation of stock with institutional or corporate block holders in pre-set quantities and prices. Care was taken to avoid misclassifications with registrations, introductions and secondary offerings as these are often also referred to as IPOs. IPOs being defined as listings of ordinary shares with single class voting rights, that is, excluding preferred stock, convertibles, unit and investment trusts as well as readmissions, reorganizations and demergers and transfers of listings between main and development boards. This led to a population of 202 genuine IPOs.

IPO listings prospectuses were collected from the financial market regulator websites for Algeria and Morocco as well as from both Thomson Corporation Perfect Information and Al Zawya databases while a combination of the Al Zawya database, the national stock exchange and direct contact with individual firms provided prospectuses in Egypt and Tunisia. Similarly a combination of the national stock exchanges, their associated websites, direct contact from individual firms and Thomson Corporation Perfect Information databases were used to source Nigerian, Ghanaian, Malawian, Ugandan, Rwandan, Tanzanian, Mozambique, Mauritius, Cape Verdean, Sierra Leone, Seychelles and Cameroonian IPOs. These also drew on the sources listed in Appendix Table 1. However in BRVM (Cote d'Ivoire), Namibia and Botswana's case direct contact with stock exchange personnel was essential in prospectus procurement. In the case of Zambia, direct contact with Pangea Stockbrokers (Zambia) was essential in procuring historical IPO prospectuses for the Lusaka stock exchange. Finally the African Financials website (African Financials website, 2014) provided detailed records of annual reports for firms surrounding the time of their IPO for a handful of firms where IPO listings prospectuses were unobtainable through all other available means.

Our final sample is comprised of private sector IPO firms – where state privatizations and joint ventures or affiliates with foreign multinational enterprises (MNEs) have been removed. This

results in a final sample of 136 private sector IPOs between January 2000 and January 2014 with a final distribution of IPOs undertaken per country detailed in Table 1. It should be noted that the very low populations of IPOs in the two largest African markets – namely Egypt and South Africa – is largely a function of liquidity concerns. This drives the overwhelming majority of firms to list via private placements, introductions and registrations in South Africa and for IPOs to be paired with private placements in Egypt.

It is also worth noting that attempts were made where possible to additionally verify information cited in prospectuses – owing to the significant variation in quality of reporting of these filings. The additional sources used in data triangulation are outlined in Appendix 1 – where these include firm websites, annual reports and mandatory filings of annual accounts. All balance sheet cash flow items were converted to their US$ equivalent – with US$ Exchanges rates sourced from Bloomberg.

Dependent variables

Maintaining our focus on firm's membership of a business group as being the central aspect of our test to elaborate distinctions between civil code and common law jurisdictions we employ a single binary dependent variable. This adopts the value 1 if IPO firm is constituent to a business group and 0 otherwise. Our use of such binary dummy variables follows research by Andersen *et al* (2003) where similar variables were employed to capture familial involvement in firms. The characterisation of individual firms as business group constituents or not is complicated in a region where there is considerable opacity in disclosure and reporting standards – such as the continent's minimal adoption of IFRS. Further opacity arises from a significant minority of business groups being informal in nature and using unlisted private entities to effect pyramiding and cross-shareholding networks. Thus our characterisation has been made through detailed analysis of individual listings prospectuses as well as the body of locally accumulated background information and sources outlined in Appendix Table 1.

The use of such a dummy circumvents contentious issues regarding minimum ownership thresholds used to characterize formal familial ownership within a firm. This shortcoming in the literature arises as "….some families are able to exert control with minimal fractional ownership, while others require larger stakes for the same level of control due to differences in firm size, industry, business practices, and product placement" (Andersen *et al.*, 2003: 269). This is a particularly acute issue in an African context where Khavul *et al.* (2009) elaborates on traditional African notions of family in being a much wider and more inclusive rubric than the limited nuclear family unit prevalent in Western literature. Property rights are shaped on social status and familial status is conferred on distant relatives well outside the traditional Western definition of family, where these typically have mutual co-ownership over assets owned or held by wider family or clan.

The complexity of analysing business group structure is exemplified in Figure 1. Here there is little, if any, direct ownership participation in group-constituent firms by the controlling Benjelloun family. However it is notable that there is a particularly high concentration of family members across boards of subordinate firms – engendering strong control through informal or "soft" means.

Insert Figure 1

Explanatory variables

The first explanatory variable is the proportion of social elites on board. This corresponds to *Hypothesis 1* as well as forming an integral part of *Hypotheses 2 and 3*. Following the reporting requirements used in the African IPO prospectuses, we are able to identify four different categories of social elites: senior military; government; commercial; and academic[4]. We also adopt a singular-dimensioned definition whereby an individual director is defined in terms of the social elite status or background as described in director profiles part of IPO listings prospectus. We also further

[4] The four elites are defined as: government elites drawn from senior civil service appointments, roles of former president, prime minister, diplomatic and ambassadorial roles. Commercial elites being drawn from prestigious blue-chip directorships, commercial attaché roles and board level roles in national chambers of commerce. Military elites are drawn from ranks of Air Force - Group Captain and above, Navy - Captain and above, and Army - Brigadier and above. Academic elites are drawn from professorial appointments and above.

verify this information from additional sources – as reported in Appendix Table 1. The adoption of a singular-dimensioned social elite i.e. defined as a director drawn from either military, governmental, commercial or university background – but not several of these backgrounds together is analytically tractable and is in line with the director profile descriptions – where a singular-definition is routinely applied. However we concede that it is quite possible for a director to emanate from a number of categories of elite – such as a former military background also having served in government and commercial roles. Our definition is drawn from the reporting prevalent in African IPO prospectuses. Furthermore the list of four identifiable elites may not be exhaustive but again it is based on those reported formally in the listings prospectuses and adhere to national regulatory requirements.

Moderation variables

We use two metrics to capture the institutional environment. The first is a binary legal origin construct adopting value 1 if jurisdiction is common law and 0 for the alternative civil code law. The second is that of institutional quality. This is an aggregate variable and 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 (see Liu *et al*., 2014 for details of institutional mediation using an index). These correspond to *Hypotheses 2 and 3* respectively.

Control Variables

A number of distinct sets of control variables are included. The first are two *institutional controls* where these are a binary legal origin dummy taking value 1 of jurisdiction is common law and 0 otherwise – i.e. is a civil code law jurisdiction. The second is the aggregate institutional quality index – comprised of the equally weighted average of the six underlying World Bank governance metrics. These must be included to facilitate the interactive analysis using methodology following Kim *et al.*, (2004) and Liu *et al*., (2014).

We introduce a set of four *board controls*. These are natural logarithm of board size, defined as total number of executive and nonexecutive directors and ratio outside nonexecutives defined as proportion of independent outsider nonexecutives to board size. The former accounts for enhanced access to resources – through director's personal networks in the form of human and social capital (Boyd, 1994; Pfeffer & Salancik, 1978) as well as the managerial and coordination capability of board in terms of communication and free-riding (Boyd, 1994). The latter accounts for the quality of monitoring – where independent nonexecutives are unaffiliated to insider networks and influence from controlling groups or CEO (Fama & Jensen, 1983). The third board control is the proportion of foreign nonexecutives that are unaffiliated to any multinational enterprise (MNE) or corporate block entity i.e. that are independently recruited to total board size. This control provides an indication of the degree to which the incumbent firm accesses foreign labour markets in recruiting talent. The final board control is that of board's dominant religion. This follows in the line of work using religion at a country level (see Guiso *et al*., 2003) as well as at individual director and CEO level (Hilary & Hui, 2009; Kumar *et al*., 2011). This is a binary variable taking value 1 if a majority of directors are affiliated to a religion – discernible from study of director profiles in prospectuses as well as sources outlined in Appendix Table 1. The alternative is for this variable to take value of 0 if no dominant religious affiliation is apparent.

In terms of *firm-specific controls variables* and in line with Sanders & Carpenter (1998) and Finkelstein & Boyd (1998) we use the natural logarithm of firm's pre-tax revenues (or sales) as proxy for size. This is representative of the complexity of a given firm's operations and thus mirrors complexity of task environment which in turn is reflective of information processing requirements of the board. We adopt the accounting return on assets (ROA)[5] as a measure of firm performance in line with Finkelstein & Boyd (1998) and Khanna & Palepu (2000). We also control for firm age where older firms are anticipated to have larger, more complex operations mirroring

[5] ROA is conventionally defined as ROA = ((Net Income + Interest*(1 – Tax Rate))/ Total Assets) (see Khanna & Palepu, 2000). However due to significant variation in the data arising from varying reporting standards across Africa with frequent omission of reported interest income and corporate taxation rates from listings prospectuses we use a modified version of this, namely ROA = (Net Income/ Total Assets). However while both measures suffer from business cycle affects and are not forward looking they provide a representative indication of firm performance subject to the data limitations prevalent to emerging economies.

more complex task environments. This also controls for the "liability of newness" and the considerable information asymmetries generated by a lack of operational and performance history (Arthurs *et al*., 2008). Finally following Andersen *et al* (2003) we introduce a financial leverage or gearing control which is the ratio of debt to equity[6]. This captures the differential use of debt as opposed to equity as a governance mechanism as well as the degree and type of financing corresponding to where the firm is positioned in its lifecycle of development.

We introduce three *ownership control variables* to account for concentrated holdings of aggregate board, corporate block entities and family. These represent the mechanism by which these entities can exert significant coercive institutional pressures into the firm's organizational structure (DiMaggio & Powell, 1983).

We introduce an *IPO specific control variable* to account for the demand for equity finance in terms of the demographic marketing of shares offered at IPO to foreign investors. Including this variable follows the intuition of Hoskisson et al (2002) in terms of the introduction of new owners within the firm generating "conflicting voices" in terms of firm strategy and executive decision-making. These conflicting voices arising from owners are also viewed as sources of coercive institutional pressures infusing into organizational structure.

Empirical Model

Binomial probit models are estimated to test each of the three hypotheses alongside our controls. Three distinct models are tested. The first includes proportion of social elites on board while the second concerns moderation by common law legal origin and third focusses on moderation by institutional quality. Additional country fixed effects are not used – given the differences between countries are accounted for by institutional quality or common law legal origin - so as to avoid the

[6] In contrast to Bruton *et al*. (2010) where the ratio of debt to assets was used, we use the debt-to-equity ratio. Whilst this is vulnerable to variations between the static accounting valuation of equity as opposed to market-valuation and is vulnerable to business cycles it captures both the preferences for the use of debt, and importantly captures the degree debt is used in conjunction with it being a "rules-based" governance instrument limiting managerial discretion and mitigating potential agency conflicts.

dummy variable trap (Wooldridge, 2009)[7]. However, industry and time (year) fixed effects are applied across all models. Industry controls capture industry diversification differences – a key feature in emerging economy business groups (Khanna & Palepu, 2000) while year effects relate to variation in institutional development and improvements in regulations, capital market culture, and surveillance environment. The industry definitions vary across each country (see Khanna & Rivkin, 2001 for details of similar issues in a comparable study of 14 emerging economies) leading us to adopt Bloomberg basic industry definitions – which equate to 2-digit SIC classifications[8]. Our probit model is:

$$y^* = \alpha + \sum \beta X + \varepsilon_{i,t},\ \varepsilon_{i,t} = N(0,1)$$

$$\begin{aligned} \beta X = \ & \beta_1 Explanatory\ and\ moderating\ variables_t \\ & + \beta_2 Institutional\ controls \\ & + \beta_3 Board\ controls_{i,t-1} \\ & + \beta_4 Firm\ specific\ controls_{i,t-1} \\ & + \beta_5 Ownership\ controls_{i,t-1} \\ & + \beta_6 IPO\ controls_{i,t-1} \\ & + \delta_1 Industry\ F.E. + \delta_2 Time\ F.E. \end{aligned} \qquad (1)$$

$$If\ y^* \geq 0,\ y = 1$$
$$If\ y^* < 0,\ y = 0$$

where *t* designates time at IPO, *t-1* denotes year preceding IPO event and *i* denotes individual firm level values. The dependent variable is a binary dummy (1/0) in each case for the likelihood of IPO firm being constituent to business group. F.E. denotes fixed effects. All other controls are as defined in preceding section.

[7] If dummy variables for all country (and time) categories were included, their sum would equal 1 for all observations, which is identical to and hence perfectly correlated with the vector-of-ones variable whose coefficient is the constant term; if the vector-of-ones variable were also present, this would result in perfect multicollinearity, so that the matrix inversion in the estimation algorithm would be impossible. This is referred to as the dummy variable trap (Wooldridge, 2009)

[8] Industry classifications are: Basic Materials; Consumer Goods Non-Cyclical; Consumer Goods Cyclical; Energy; Financials; Health; Industrials; Technology; Telecommunications; Utilities. The identification of firms according to their industry using broad Bloomberg definitions is in keeping with data limitations across our sample, which is a prevalent characteristic of emerging economies.

EMPIRICAL RESULTS

The descriptive statistics and correlation patterns within our sample are reported in Table 2. The correlation amongst our independent variables is very low and infer a lack of potential multicollinearity which is further confirmed by variance inflation factors (not reported). According to our data 44% of IPO firms are constituent to business groups while the mean proportion of nonexecutives on boards across the whole sample drawn from social elites are 13%. In addition 41% of firms had IPOs in common law jurisdictions while the mean institutional quality across Africa is 47% - according to the aggregated World Bank governance metrics.

The results from the hypothesis testing using binomial probit models are reported in Table 4. This reveals a lack of statistical support for the maintenance of *Hypothesis 1* (in model 2). This infers a lack of statistical support for the association between proportion of board social elites and likelihood of IPO firm being constituent to business group – our dependent variable in all cases. However when this association is moderated by common law legal origin (in model 3) it attains a large, positive association ($p \leq 0.05$) providing statistical support for *Hypothesis 2*. Finally when moderation by institutional quality (in model 4) is applied it attains a large inverse association ($p \leq 0.05$) supporting *Hypothesis 3*.

In terms of the associations between controls[9] and our dependent variable – the likelihood of IPO firm being constituent to a business group – and these are broadly consistent across all models 1 to 4. In terms of *institutional controls* and we find a large positive association between dependent variable and common law legal origin dummy ($p \leq 0.005$) while the association with institutional quality varies in statistical significance. Notably this lacks statistical significance in both moderating models (models 3 and 4). In terms of *board controls* and business group constituent firms are associated with lower proportions of outside independent nonexecutives on boards ($p \leq 0.05$) and independent unaffiliated foreign nonexecutives ($p \leq 0.05$) while they have a large, positive association with the majority of board having a religious affiliation ($p \leq 0.005$). In terms of

[9] It is worth noting that following Judge *et al.* (2015) we also ran all models including an additional control for the natural logarithm of stock market capitalization to GDP. However the coefficient against this control was very small in absolute terms and lacked statistical significance at any confidence margin.

firm controls and we find positive association ($p \leq 0.05$) between dependent variable and natural logarithm of revenues – a proxy for size and complexity of firm's operations – while in the context of *ownership controls* we find a consistently inverse association between executive ownership and dependent variable ($p \leq 0.005$) and a positive association between family ownership ($p \leq 0.05$). Finally in terms of *IPO controls* and business group constituents are negatively associated with the ratio of shares offered to foreign investors to total issued shares of firm ($p \leq 0.005$).

Generally all models have high McFaddon R^2 over 54%. However this is over 2% higher in the moderation models 3 and 4 in contrast to underlying models 1 and 2. The Likelihood ratio (LR) statistics also support the improved fit of models 3 and 4 with these having notably higher LR ratios (104.25 and 103.07 respectively) than models 1 and 2. However all three information criterion metrics – namely Akaike, Schwarz and Hannan-Quinn – are inconclusive across all four models. In conclusion and based on McFaddon R^2, likelihood (LR) ratio and models 3 and 4 (involving moderation by common law legal origin and institutional quality) yield an improved fit of the data than the first two underlying models.

Tables 2 and 3

As a final means of elaborating the contrasting moderation on association between business group affiliation and proportion of social elites on board by first the common law legal origin dummy and second the aggregate institutional quality we graphically depict the cumulative Normal distributions. These are between Figure 1 for moderation by common law legal origin and Figure 2 for institutional quality respectively. In order to ascertain the range over which to represent the proportion of social elites on board in its association with dependent variable of likelihood of business group affiliation we adopt a minimum of zero and a maximum of the nearest rounded value to the sum of the mean (0.13) and one standard deviation (0.18)[10]. While this upper bound is

[10] We follow Chizema *et al.* (2015) in providing a graphical display of moderating associations and in forming our upper and lower limits

0.31 we round this upwards to 0.40 – equating to 40% of a given board's nonexecutives comprised of social elites.

The probability surfaces displayed between Figures 1 and 2 reveal the very different effects arising from moderation by the *structure* of formal institutional framework and separately its *quality*. Figure 2 in particular demonstrates the opposing effects where on the one hand, under common law jurisdiction, the likelihood of IPO firm being constituent to a business group increases with likelihood of higher proportions of social elites on board. The opposite is true of civil code law jurisdictions where increasing social elites is associated with decrease in likelihood of business group affiliation. Figure 3 demonstrates that in low institutional quality contexts, higher proportions of social elites are associated with increased likelihood of business group affiliation. The opposite is true for high institutional contexts where elevated proportions of social elites are associated with minimal likelihood of business group affiliation.

Figures 1 and 2

DISCUSSION

Using a comprehensive sample of 136 private sector (state and joint venture excluded) IPO's undertaken across Africa between January 2000 and January 2014, we find evidence that the structure and quality of institutional environment have very different impacts on the composition of boards with indigenous social elites. Our findings question the singular view that civil code law is generically associated with weaker institutional quality in contrast to its common law counterpart – and instead posit that the two systems emanate from very different underlying institutional frameworks. These have very different inferences regarding firm and board governance with respect to organizations embedded within them.

We use business group affiliation as a means to differentiate the impact arising from the moderation of the institutional environment on the proportion of social elites on boards. The distinguishing of IPO firms as constituents of business groups as opposed to their unaffiliated counterparts provides a clear barometer with which to assess the impact of institutional

environment. Our findings regarding the inverse moderation of institutional quality of the association between business group constituency and proportion of social elites on board question the universality of the "institutional voids" thesis rationalizing business group formation. We argue that our evidence is more supportive of North (1991, 1994)'s view of the evolutionary trajectory of national institutional frameworks being the result of the interplay between organizations, state rulers and populations. We argue that business groups in particular have considerable cognitive legitimacy amongst population – and largely as a result of this, extended social control engendered through trust amongst group constituents. While this provides the basis for efficient internal coordination – or intermediation – of resources (including managerial labour) it lacks regulatory legitimacy. We argue that the need for regulatory legitimacy – which is particularly acute in narrow political economies dominated by social elites – underscores the motivation of business groups to recruit these into its organizational structure at the expense of the control associated with using internal markets.

In this light our findings question Fogel (2006)'s view of large family groups simply permeating public-private sector boundaries in order to concentrate wealth and economic assets under their control. We view business groups as not necessarily overlapping with state architecture and ruling elites – although we don't discount that may occur. Our evidence affirms the importance of the external recruitment of social elites into the business group constituent's board – which underscores the importance of institutional quality in meriting the augmentation of internal labour markets. In this way our findings do not wholly discount institutional voids based arguments regarding the centrality of internal markets and resource coordination – but rather affirm the institutional conditions under which additional external augmentation takes place. In this way we find some support for business groups acting as "players" within the confines of the "rules of the game" inferred by institutions (Williamson, 1998, 2000).

Finally our evidence underscores the importance in considering the wider institutional framework from within which bespoke legal systems emanate – in terms of assessing the true impact on firms. This is particularly true in the limited comparisons between civil code and

common law systems in the literature – where comparison is often made on the basis of contrasting ability to support financial markets. Our consideration of the wider framework within which organizations are inextricably embedded reveals structural differences from dirigisme or state-led economic activity on one hand to market-orientated governance on other. These impact on the contrasting importance of recruitment of social elites to augment boards in business groups seeking regulatory legitimacy. Business group boards in civil code systems notably have lower proportions of elites than their common law counterparts. These findings support the evidence from Hearn (2015) in terms of the composition of boards of IJV entities across Africa with social elites.

Finally we acknowledge some limitations in our study. The first arises from our sample comprising of IPOs only. While IPO events provide a number of methodological advantages, in the sense that such firms are opening their organizational and ownership structures, a broader sample comprised of every listed firm would have been advantageous. The second concerns the need for a broader cross country comparative framework in order to provide further support for the generalizability of our findings across a wider worldwide sample of markets. A third limitation relates to the small sample size inasmuch that a useful future extension would be the disaggregation of business groups into family and various non-family counterparts.

CONCLUSIONS

While "institutional voids" arguments typically rationalize the formation of business groups, our evidence questions this traditional focus in terms of shedding light on the specific institutional frameworks under which internal markets are augmented with the external recruitment of indigenous social elites. This is particularly true of low quality institutional environments where boards are comprised of higher proportions of social elites than in their high quality counterparts. Our findings reveal substantive differences between conventional distinctions of civil code and common law – where the hiring of social elites is especially important to attain regulatory legitimacy in the latter. Finally we argue that our findings shed light on an under researched area – this being the institutional conditions under which boundary spanning co-optation strategies

involving external augmentation of internal managerial labour is undertaken by business groups. Thus we make a unique contribution in the context of internal labour market dynamics within an emerging economy context – where the overwhelming majority of prior research focusses on external labour markets.

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Table 1. African IPO equity market characteristics for sample period 2000 to 2014

This table presents the descriptive statistics for our sample of 136 private sector (state privatization and joint venture excluded) IPO firms. The legal origin is presented for each market alongside institutional quality. Legal origin is defined as per classifications in La Porta et al. (1997, 1998) although based on North (1994) we also distinguish Portuguese civil code law. It is also worth noting that South African and neighbouring Namibia are termed common law through they are mixed regimes – along with Roman-Dutch civil code. Institutional quality is the average of all six World Bank governance metrics rescaled first on a 0 to 1 scale and then converted to percentages. These were downloaded from http://www.govindicators.org. **N** is the final sample size of genuine private sector IPO firms while $\mathbf{N_{BG}}$ is the number of IPO firms that are constituent to business groups. Average proportions of social elites on boards are provided for overall sample – per individual market – and then for those IPO firms constituent to business groups and then for their unaffiliated counterparts. Proportions of social elites on the board is the percentage proportion of the board made up from nonexecutives drawn from the four classifications of social elites: military, governmental, university or commercial. Compiled by authors from IPO firm listings prospectuses obtained from Al-Zawya, national stock exchanges, and www.AfricanFinancials.com

Market	**Legal Origin**	**Institutional quality**	**N**	**N_{BG}**	**Average proportion of social elites on the Board**		
					Overall	Business Group	Non-Group affiliated
		%	#	#	%	%	%
North Africa							
Egypt	French civil code	42.89	7	3	11.02	6.67	14.29
Morocco	French civil code	46.98	35	20	4.65	2.84	7.06
Tunisia	French civil code	50.76	28	16	1.39	2.08	0.46
Algeria	French civil code	34.24	1	1	14.29	14.29	-- --
East Africa							
Kenya	English common law	39.45	5	1	38.91	62.50	33.01
Mauritius	French civil code	71.55	3	1	27.78	0.00	41.67
Tanzania	English common law	46.58	2	0	8.33	-- --	8.33
West Africa							
Nigeria	English common law	29.86	24	10	28.71	30.81	27.21
BVRM	French civil code	42.12	4	4	2.94	2.94	-- --
Ghana	English common law	53.37	10	1	14.28	16.67	14.02
Cape Verde Islands	Portuguese civil code	58.59	1	0	0.00	-- --	0.00
Sierra Leone	English common law	38.56	1	0	80.00	-- --	80.00
Southern Africa							
Botswana	English common law	69.09	6	1	17.68	12.50	18.71
Malawi	English common law	48.94	1	1	14.29	14.29	-- --
Zambia	English common law	47.34	1	0	33.33	-- --	33.33
Namibia	English common law*	61.84	2	0	25.60	-- --	25.60
South Africa	English common law*	61.36	5	0	12.67	-- --	12.67
Overall		46.78	136	59	13.08	9.33	15.96

Table 2. Correlations

Table outlining Pearson correlations between all variables. Business group is a binary variable taking value 1 if IPO firm is constituent to business group and 0 otherwise. Ratio government and commercial social elites are the proportions of social elites drawn from governmental and commercial backgrounds to total board size. We introduce two institutional controls: legal origin and institutional quality. Common law (legal origin) is a binary variable taking value 1 if jurisdiction within which listing took place is common law and 0 otherwise. Here a 0 would indicate civil code law – either French or Portuguese origin. Institutional quality is aggregate institutional quality of the average of six World Bank governance indicators. We use four board controls. Board size is total number of directors (executive and nonexecutive) serving on board. Outsider nonexecutive ratio is proportion of nonexecutives on board that are independent (i.e. outside) to total board size. Ratio foreign independent nonexecutives is the proportion of nonexecutives that are foreign and unaffiliated to business group or foreign multinational enterprise – i.e. independently recruited – to total board size. Board dominant religion is a binary variable taking value 1 if majority of directors serving on board have a recognizable religion – discernible from director descriptions in prospectus as well as from sources listed in Appendix Table 1. We also use four firm controls. Log (revenues) is the natural logarithm of firm pre-tax revenues and is indicative of firm size and complexity of director task environment. ROA is the accounting return on assets ratio and is indicative of firm performance. Log (firm age) is natural logarithm of firm's age, in years, from IPO date to date of establishment. Debt-equity ratio is ratio of debt to equity i.e. gearing or leverage of firm's financial structure. We use three ownership controls. These are the percentage cash flow ownership retained post-IPO of board of directors, corporate block entities and family. Our final IPO control is shares offered specifically to foreign investors to total shares issued and outstanding. Note that IPO firm revenues and age are converted to natural logarithms.

		Mean	Std. Dev.	1	2	3	4	5	6	7
1	Business group	0.44	0.50	1.000						
2	Ratio social elites	0.13	0.18	-0.180**	1.000					
3	Common law (legal origin)	0.41	0.49	-0.326††	0.520††	1.000				
4	Institutional quality	0.47	0.11	-0.141*	-0.221††	-0.171**	1.000			
5	Log (Board size)	2.20	0.38	0.193†	-0.050	-0.212†	-0.116*	1.000		
6	Outsider nonexecutive ratio	0.22	0.23	-0.205†	0.165**	0.259††	0.248††	-0.247††	1.000	
7	Ratio foreign independent nonexecutives	0.05	0.12	-0.202†	-0.002	0.160**	0.147**	0.000	0.071	1.000
8	Board dominant religion	0.64	0.48	0.440††	-0.390††	-0.813††	-0.030	0.203††	-0.214††	-0.184**
9	Log (revenues)	10.01	1.68	0.186**	0.111	-0.003	-0.056	0.150**	0.132*	0.155**
10	ROA	0.10	0.15	-0.096	0.049	-0.034	0.089	-0.261††	0.075	-0.050
11	Log (firm age)	2.85	0.89	0.103	-0.135*	-0.126*	-0.101	0.225††	-0.111*	0.110
12	Debt-equity ratio	6.11	35.23	-0.074	-0.059	0.096	-0.109	-0.092	0.070	-0.028
13	Executive ownership	15.15	23.46	-0.344††	0.138*	0.197†	0.079	-0.318††	0.107	0.081
14	Corporate block ownership	7.13	16.66	-0.100	0.065	0.132*	0.201†	-0.129*	0.328††	0.088
15	Family ownership	30.77	32.45	0.412††	-0.315††	-0.483††	-0.009	0.087	-0.298††	-0.110
16	Shares offered to foreign investors to total shares	0.26	0.23	-0.320††	0.300††	0.415††	-0.128*	-0.043	0.156**	-0.092

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

Table 2. Correlations - continued

		8	9	10	11	12	13	14	15	16
1	Business group									
2	Ratio social elites									
3	Common law (legal origin)									
4	Institutional quality									
5	Log (Board size)									
6	Outsider nonexecutive ratio									
7	Ratio foreign independent nonexecutives									
8	Board dominant religion	1.000								
9	Log (revenues)	0.070	1.000							
10	ROA	-0.070	0.048	1.000						
11	Log (firm age)	0.115*	0.234†	-0.136*	1.000					
12	Debt-equity ratio	-0.113*	-0.015	-0.051	-0.043	1.000				
13	Executive ownership	-0.224††	-0.084	0.129*	-0.202†	-0.017	1.000			
14	Corporate block ownership	-0.206††	-0.019	-0.068	0.034	-0.014	-0.193**	1.000		
15	Family ownership	0.458††	0.115*	0.096	0.143**	-0.100	-0.272††	-0.394††	1.000	
16	Shares offered to foreign investors to total shares	-0.307††	-0.202†	-0.020	-0.070	-0.011	0.082	-0.081	-0.342††	1.000

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

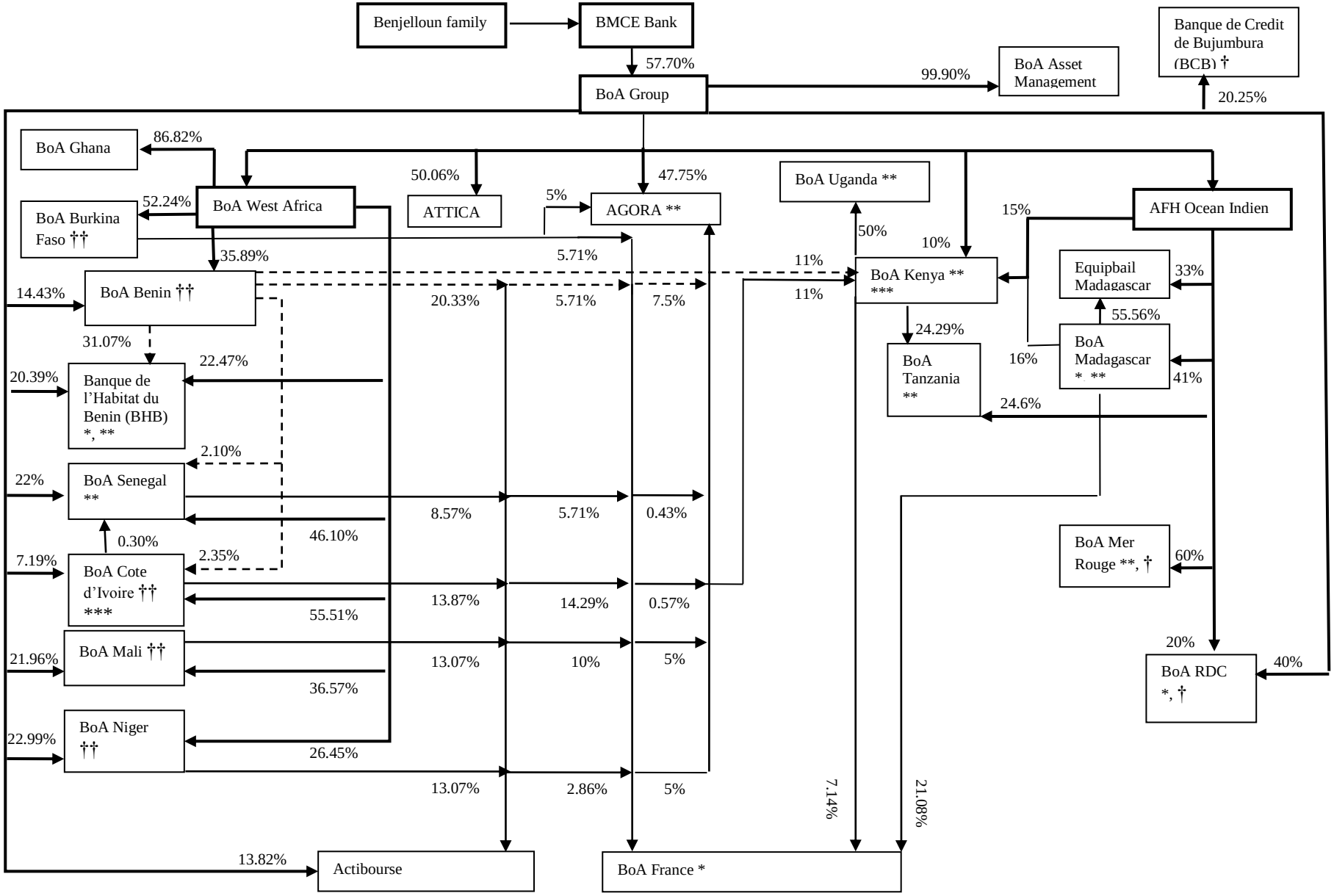
Table 3. Institutional determinants of likelihood of business group affiliation[a, b, c]

Table presenting the associations between dependent variable of likelihood of whether IPO firm is constituent to a business group and explanatory variables, moderating variables and controls. All variables are as defined in Table 2.

	Likelihood of Business Group Firm			
	Probit Controls	Probit Underlying	Probit Legal system	Probit Institutional quality
	Model 1	Model 2	Model 3	Model 4
Intercept	-2.920 [-1.32]*	-3.207 [-1.43]*	-4.907 [-1.97]**	-5.901 [-2.18]**
Firm-level governance				
H1: Ratio Social Elites	-- --	1.031 [0.76]	-3.005 [-1.46]*	13.060 [2.09]**
H2: Ratio Social Elites x Common Law	-- --	-- --	7.483 [2.13]**	-- --
H3: Ratio Social Elites x Institutional Quality	-- --	-- --	-- --	-27.890 [-2.08]**
Institutional Controls				
Common Law (Legal Origin)	2.701 [2.92] ††	2.687 [2.86] ††	2.101 [2.05]**	2.591 [2.72] ††
Institutional Quality	-3.126 [-1.80]**	-2.912 [-1.60]*	-0.443 [-0.21]	1.33 [0.53]
Board Controls				
Log (Board Size)	-0.138 [-0.25]	-0.108 [-0.19]	0.046 [0.08]	0.105 [0.18]
Outsider Nonexecutive Ratio	-1.859 [-1.93]**	-1.811 [-1.83]**	-1.929 [-1.93]**	-1.387 [-1.35]*
Ratio foreign independent nonexecutives	-4.540 [-1.96]**	-4.642 [-2.05]**	-4.836 [-2.36] †	-4.346 [-2.40] †
Board Dominant Religion	3.331 [3.60] ††	3.438 [3.89] ††	3.731 [4.24] ††	3.612 [4.13] ††
Firm Controls				
Log (Revenues)	0.345 [2.49] †	0.336 [2.33] †	0.33 [2.17]**	0.349 [2.16]**
ROA	-1.119 [-0.57]	-0.713 [-0.33]	0.615 [0.25]	0.851 [0.35]
Log (Firm Age)	0.090 [0.36]	0.114 [0.44]	0.316 [1.09]	0.209 [0.77]
Debt-Equity Ratio	-0.003 [-0.85]	-0.002 [-0.59]	0.003 [1.00]	0.001 [0.38]
Ownership Controls				
Executive ownership	-0.024 [-3.07] ††	-0.026 [-3.00] ††	-0.026 [-2.63] ††	-0.024 [-2.59] ††
Corporate block ownership	-0.010 [-0.73]	-0.012 [-0.89]	-0.020 [-1.24]	-0.014 [-0.98]
Family ownership	0.019 [2.26]**	0.021 [2.21]**	0.021 [2.15]**	0.021 [2.28]**
IPO Controls				
Shares offered to foreign investors to total shares	-3.878 [-4.37] ††	-3.97 [-4.37] ††	-4.110 [-4.12] ††	-4.383 [-4.54] ††
No Obs. = 0	75	75	75	75
No Obs. = 1	58	58	58	58
No. Obs.	133	133	133	133
Akaike criterion	1.121	1.132	1.112	1.121
Schwarz criterion	1.838	1.871	1.873	1.882
Hannan-Quinn criterion	1.413	1.432	1.421	1.430
LR statistic (prob.)	99.09 [0.00]	99.65 [0.00]	104.25 [0.00]	103.07 [0.00]
McFadden R^2	0.5439	0.5469	0.5722	0.5657

[a] Industry and time (year) fixed effects included in all models; [b] Z-statistics are in parentheses; [c] QML (Huber/White) standard errors & covariance;
*p<0.10; **p<0.05; †p<0.01; ††p<0.005

Figure 1. Extent of control of Bank of Africa business group, 2011



Notes: (1) * PROPARCO; ** Netherlands FMO; *** AGORA; † Belgian BIO; †† ATTICA

Figure 2. Probability of association between likelihood of IPO firm being a business group constituent, social elites and legal system

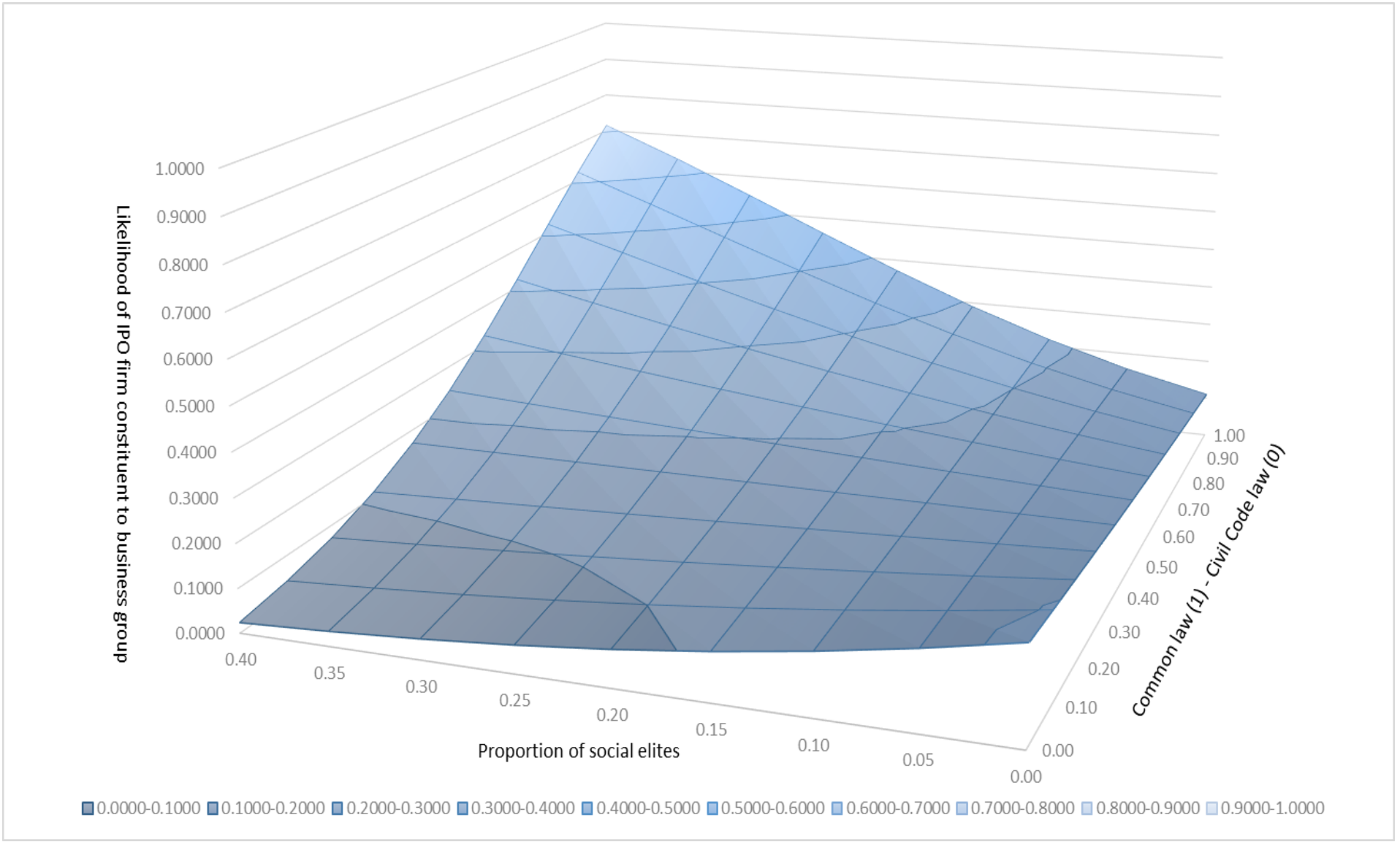


Figure 3. Probability of association between likelihood of IPO firm being a business group constituent, social elites and institutional quality